



J. P. GIBSON, PHOTO.

THE PRETORIUM BORCOVICUS LOOKING SOUTH.

XIII.—EXCAVATIONS ON THE LINE OF THE ROMAN WALL IN NORTHUMBERLAND.

THE ROMAN CAMP AT HOUSESTEADS.

BY R. C. BOSANQUET, F.S.A.

HISTORY OF THE SITE.

The recent history of the Roman station of BORCOVICIUM begins almost exactly two hundred years before the excavations which it is the purpose of this report to record, on April 2nd, 1698, when Thomas Gibson agreed with Nicholas Armstrong and John Mitchelson for the purchase of Housesteads, which estate, on May 10th and 11th in the same year, was conveyed to his son, George.¹

A hundred years earlier Camden had to forego visiting this part of the Wall. He speaks of the district between Caervoran and Walwick much as we speak of Albania to-day—'I could not with safety take the full survey of it; for the rank robbers thereabouts.'² The Nicholas Armstrong who sold Housesteads in 1698 was amongst the last of those lawless thieves and robbers, commonly called moss-troopers, who infested Tynedale up to the close of the seventeenth century.³ The change of ownership brought Housesteads within the pale of civilization, and it was not long before its Roman remains were made known to the learned world in a letter from Christopher Hunter to Dr. Martin Lister, printed in the *Philosophical Transactions* of the Royal Society (vol. xxiii. p. 1131). It is dated Stockton, May 15th, 1702, and is accompanied by sketches of inscriptions. After speaking of an inscribed slab and a vaulted room discovered at Chesterholm, 'in a field called the *Bower*,' he proceeds:—

¹ Hodgson, *Northumberland*, part II. vol. iii. pp. 393—5, pedigree of Gibson of Corbridge, Stonecroft, and Stagshaw-close-house, a family which in the eighteenth century gave several bishops to the Roman Catholic church. George Gibson, the first of Housesteads, joined in the rising of 1715, and died in prison the following year.

² It is thought that he refers to Housesteads under the name of Chester-in-the-Wall. Stukeley, however, gives the name of Chester-on-the-Wall to Æsica.

³ Hodgson, *loc. cit.* p. 334. 'A notorious thief, and under sentence of death in 1703.'

The other inscriptions were all found near the *Housesteads*, a Place so called from the abundance of Ruins; this is about half a mile from *Bisy Gap* towards the West, and is placed just within the *Roman Wall*. Among the Ruins I found several Pedestals, two or three Pillars, two Images, but somewhat defaced. The Stone Tab. 1, No. 2, lies against a Hedge a quarter of a mile from this place. That marked Tab. 1, No. 3, tho' only part of an Altar, I thought worthy transcribing, because I am in hopes of recovering the other part as soon as Harvest is over, this part having been tore up by the Plough. The two Altars, Tab. 1, Nos. 4 and 5, are very legible; I found them on a rising ground South of the *Housesteads*; they call it *Chapel hill*, and suppose a Foundation, which is visible there, to have been a Chapel; and say that within the memory of their Fathers they used to bury their dead here: I dare not determine in this point.⁴

The mention of the 'plough' and of 'harvest' goes far to explain how the 'inscriptions, broken pillars, statues, and other pieces of sculpture,' which so astonished Alexander Gordon a few years later, came to be 'all scattered along the ground.' In 1698, to judge from the modest sum of £58 which Thomas Gibson paid for it, the estate of *Housesteads* may have been an unenclosed and uncultivated waste. But in 1702 the new tenant was growing corn in the rich valley to the south of the camp. That implies some sort of enclosure, which again implies search for stones with which to build a wall, and accounts for the two 'very legible' altars which Hunter saw on the *Chapel-hill*. Year by year, as spade and plough explored the burial-ground and the forgotten shrines of the Roman garrison, the number of these monuments increased. Six years after Hunter's visit the anonymous author of *Certain Observations upon the Picts-wall, in a Journey made between Newcastle and Carlisle, in the year 1708, on purpose to Survey it*, which are incorporated in the later editions of *Camden*, gives a far longer catalogue:—

Vast quantities of Roman altars with inscriptions have been dug up, as also abundance of images of their gods, several coins, etc. Seven or eight Roman altars are standing there now, being lately dug up, three or four of which have their inscriptions pretty plain and legible; one is dedicated to Hercules, another to Jupiter and Numinibus, others to other deities, and all by the Cohors Prima *Tungrorum* which kept garrison here. I saw there also a great number of statues.

⁴ Of the inscriptions referred to, No. 2 is *C.I.L.* VII, 693, a long and obscure tomb-inscription. No. 3, *C.I.L.* 658, a dedication mentioning the Sixth Legion. Nos. 4 and 5, *C.I.L.* 640 and 638, altars dedicated *I.O.M. et numinibus Aug.* by *Q. Verius Superstes* and *Q. Julius Maximus* respectively. *Lapidarium*, pp. 197, 194, 172 and 173.

To quote the whole of this description, or of those which Gordon, Stukeley, and Horsley have left us, would take up too much space.

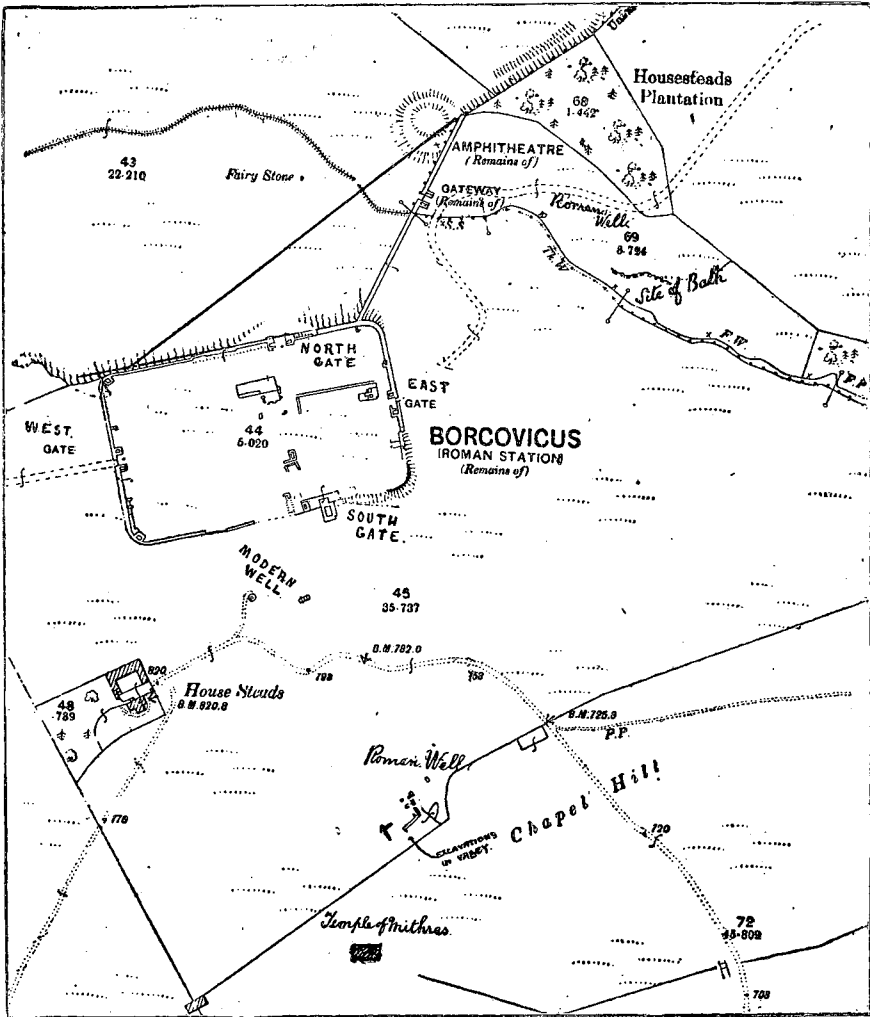


FIG. 1.—HOUSESTEADS AND ITS SURROUNDINGS (Scale about 1:5000).

The monuments which they saw have been identified, and for the most part figured, in the *Lapidarium Septentrionale*. It will be sufficient to state the results of a careful comparison of the five accounts. The

dates of their visits are : Hunter 1702, the Anonymus 1708, Gordon 1724, Stukeley 1725, and Horsley before 1730.

(1) Although nowadays there is little to see outside the actual fort, the early visitors saw traces of buildings extending far along the hill-side and valley to the south and east. 'The extent of this city,' according to the Anonymus, 'is almost seven hundred yards one way and about four hundred from north to south the other; it lies all along the side of a pretty steep hill; but that part of the valley where the vallum or square trench seems to have been, is not by far so large.' The 'vallum' is here the camp-wall, which encloses an area of two hundred by one hundred and twenty yards. Gordon mentions 'vestiges of streets which appear to cover above eight acres of ground in one place,' and Horsley 'visible ruins of streets and buildings' in 'a field south-east of the station.'

(2) The altars and sculpture which they saw were then lying in the valley, and had been found there, not in the camp.⁵ We can determine with some probability the spots from which they came. Thus, all accounts concur in placing at least two altars dedicated *I.O.M. et numinibus Aug.* on the Chapel-hill, in connexion with a supposed temple of which the foundations were still visible: and the figures of the Mother Goddesses on the bank of the Knagbörn, at the spot where a column of great size figured with other stones in Bruce's *Roman Wall* (plate xi.) is still lying. The two sites are expressly distinguished by the Anonymus, who, after describing several pieces of sculpture, including a relief of Victory and another of an archer, which are now in the Blackgate museum, and the group of *Matres*, which is now at Minsteracres, continues:—

Near the place where all these and other rarities were found there was also a column above two yards in length and two feet in diameter, lying sunk in the ground at one end. The people of the place have a tradition of some great house or palace that was at this place. This is at the southernmost part of the east end of the city in a bottom; three hundred yards west of which, upon a little eminence, are to be seen the foundations of a Roman temple but the inhabitants call it the Chapel-steed. Here lie two Roman altars, etc.

Horsley describes the group of *Matres* as lying 'about a furlong or less to the east, near the side of a brook, and close to a hedge.'

⁵ The relief (*Lap. Sept.* 234) of three nymphs is an exception. Horsley expressly states that he saw it in the camp.

Hodgson noticed that here, 'on the west side of the Knagg-burn, where it enters the inges, the ground is irregular, with the remains of considerable buildings.'⁶ Gordon saw this triple group as well as two single figures of the same type 'in a field at the east end of this old town.' Three other single figures have come to light since, and the five are now in the Blackgate museum. It has been conjectured that the column which alone remains upon the spot had rolled down the hill; but the evidence rather indicates that a temple of the Mother Goddesses, such as is known from inscriptions to have existed at Benwell and at Castlesteads,⁷ once stood here upon the bank of the stream. As for the altars and supposed temple⁸ on the Chapel-hill, the discovery in 1822 of the altars and temple of Mithras at its west end, and in 1885 of the altars of Mars Thingsus on its northern slope, and the fact that at other stations similar groups of altars have been found outside the camp, make it clear that this hillock was the religious centre of the settlement. The series of altars dedicated by successive commanders of the garrison, which came to light in the early years of the eighteenth century, may have stood in a conspicuous position on its top, while the shrines of Mars and Victory, Mithras, and others, occupied lower ground in the immediate neighbourhood.

(3) The discovery of these monuments, and the partial obliteration of the extensive *house-steads* which the early travellers noticed, seem to have been due to the process of bringing waste land under cultivation, to the removal of foundations that impeded the plough and the collection of materials for walls, not to direct antiquity-hunting. There was a little desultory digging.⁹ Gordon and sir John Clark 'caused the place to be dug where we were then sitting amidst the ruinous streets of this famous *oppidum*, and found another small statue of a soldier,' which the engraving enables us to identify with

⁶ *Arch. Ael.* o.s. I. 271.

⁷ Benwell, *C.I.L.* VII, 510, a temple of the three *Matres Campestres*, restored by a prefect of Ala I-Asturum in 238 A.D. Castlesteads, *ib.* 887, a temple of the *Matres omnium gentium* restored by a centurion. *Lapidarium*, pp. 22 and 441.

⁸ Gordon says that the foundations were circular, and this is not improbable. For circular buildings, which may have been temples, see the excavations at Ellenborough and Hardknott, *C. and W. Trans.*, vol. v. p. 244 and vol. XII. p. 412.

⁹ 'Researches for antiquities,' says Hodgson, 'seem to have been first and afterwards more frequently made here than at any other station on the line of the Wall.' But anyone sufficiently interested to dig would have thought it worth while to carry off the spoils.

a figure now at the Chesters. And Warburton, who certainly dug with some success at VINDOLANA, is said to have opened the tumulus beside the military road at Housesteads. Otherwise we hear nothing of excavation, and it is plain that antiquities were tolerated when chance brought them to the surface rather than deliberately sought for. Here is Stukeley's account of the state in which he found them :—

When we were led lower down into the meadow we were surprised with the august scene of Romano-British antiquities, all in the most neglected condition: a dozen most beautiful altars; as many fine *basso-relievos*, nearly as big as the life, all tumbled in a wet meadow by a wall-side, and one on the top of another, to make up the wall of the close; the *basso-relievos*, some with their heads down the hill, particularly an admirable image of Victory, both arms knocked off; one large soldier, a sepulchral stone, with his short sword hanging at his right side, the man told us was condemned to make a pig-trough on; but some gentlemen, full timely, with a small sum for the present relieved him.

This pitiful description is borne out by plate 76 of his *Itinerarium Curiosum*, which is a very rough sketch of the site, entitled *A Cumulus of Roman Antiquities at Housteads*, taken from the east end of the Chapel-hill ridge in September, 1725. In the foreground on the left is the 'Chapelstead' strewn with altars, in the centre funeral monuments and other sculptures piled against the wall, to the right a group of *Matres*, while in the background rises the camp, brought unduly near, with a farmhouse standing in the south-west corner just where our excavation exposed its foundations.

Proprietor succeeded proprietor, and still that wonderful collection of monuments was left lying in the open. A new farmhouse was built towards the end of the century, and one of the Chapel-hill altars was dragged up to form the 'mantle-tree' of the hearth. The group of Mother Goddesses found its way to the home of the Silvertops, who were connected with the Gibsons by marriage, at Minsteracres. But in 1810 Hodgson found most of the stones seen and described by Horsley still lying in the same field, and it was only about 1813 that George Gibson, the great-great-grandson of the original purchaser, removed them to Stagshaw-close-house. His name deserves to be held in honour, for he afterwards gave the whole series to the Newcastle Society of Antiquaries, and so established the nucleus of the present collection. During that century of exposure

few had been broken up, despite Stukeley's ominous story of the pig-trough, fewer still removed from the ground, though in the last century it was quite the fashion to transport such antiquities to country houses. If the Gibsons took little interest in their open-air museum, they at least had some idea of its value and would neither have it destroyed nor dispersed. The orders under which George Gibson's dykers were working in 1822 when they discovered the Mithraeum—they might dig up 'any loose stones or old walls, on condition that they neither used nor destroyed any that were inscribed or curiously carved'—must have been traditional on the estate.

The era of scientific enquiry began with John Hodgson, vicar of Hartburn, and author of the *History of Northumberland*. He had visited the camp in 1810; there is a graphic description of its ruins in the volume on Northumberland which he soon afterwards contributed to *The Beauties of England and Wales*. In June, 1822, his attention was specially drawn to the site by the discovery of the temple of Mithras; and on July 23rd he undertook a small excavation, the first of several short campaigns. 'At four different times,' he writes, 'I have attended researches at this station, thrice in company with the late Rev. A. Hedley, and once or twice with the Rev. James Raine, Mr. Thomas Hodgson, and Mr. Henry Turner, but was each time driven from the ground by heavy rains.' He was a close and accurate observer, and his published descriptions of what was then discovered furnished useful clues to the excavators of 1898. By the kindness of his grandson, Mr. J. G. Hodgson, I have since been allowed to make extracts from a journal containing sketches, plans, and rough notes jotted down upon the spot, which in some respects supplement the record in the *History*. These will be quoted in the description of the buildings to which they refer. Meanwhile it will be convenient to summarise the work done by these pioneers.

1822, July 23. The western half of the South Gate was opened, and some steps near the middle of the camp, probably those on the north side of the Praetorium, were examined.—*Arch. Ael.* 4to, i. 266.

1830, July 7-9. Four men were employed in examining the projecting chamber on the east side of the South Gate, the kiln built into the gate-tower, and the building north of the Praetorium containing a similar kiln (block VIII). The face of the Wall was cleared on Cuddy's Crag.—*Journal*, Z, 75-82. *Memoir*, II. 175, 177.

1831, June 13-15. Thirteen men were employed in continuing the excavation of the South Gate, and uncovering a hypocaust (block xv.) near the East Gate.—*Journal*, Z, 264-272. *Memoir*, II, 206.

1833, July 15-19. The East Gate, a tower to the north of it and the West Gate were examined.—*Journal*, Z, 504-514.

Although the very idea of excavation was new and strange, and Hodgson at first met with little local support, he was encouraged to persevere by the enlightened generosity of Henry Petrie, keeper of the records in the Tower of London.¹⁰ In 1830 he notes in his journal that of the friends for whose help and companionship he had hoped not one had come to join him. But enthusiasm such as his is contagious. In the following year his friends mustered in some force, and in 1833 the 'houking,' as he calls it, was no longer a private enterprise, but 'a great digging,' undertaken and organized by a committee of the Newcastle Society of Antiquaries.¹¹

In consequence, it may be supposed, of the death, in June, 1834, of George Gibson, the owner of Housesteads, who had given his cordial support to the excavations, work was not resumed that summer. Opposition on the part of the farmer at Housesteads, and the death in the following January of Anthony Hedley who had entertained the excavators at Chesterholm, contributed further to interrupt the researches that had been so successfully begun. In the last instalment of the *History* which Hodgson lived to see published (part II. vol. iii. 1840), the memorable volume in which he declared Hadrian to have been the builder of the Wall, the results of the excavations of 1830-1833 were printed for the first time.

'Thos. Gibson, merchant, inherited Housesteads from his brother George; and in 1838 sold it to John Clayton, of Newcastle, esq.' This, one of the latest entries in Hodgson's latest volume, marks the

¹⁰ Raine's *Memoir*, II. p. 206; see also p. 152, a letter from Hodgson to Henry Petrie, written during a visit to London in May, 1829:—'As soon as I get home I will endeavour to embody the unpublished information I have respecting the Roman history of Britain, and will also seriously set about some diggings in our northern Roman stations, the result of which shall be communicated to you,' and later letters, pp. 160, 165, 177, and 289.

¹¹ At the annual meeting on February 5th, 1834, Hodgson read 'an elaborate report . . . with respect to the discoveries made in the month of June last by the committee appointed to superintend the investigation . . . for defraying the expenses of which a subscription had been entered into by the members of the Society and a few public-spirited individuals. Further proceedings in this celebrated station are contemplated during the present year.'—(*Gentleman's Magazine*, 1834, I. p. 316).

beginning of that period in the annals of the Roman Wall which will always be associated with the names of John Clayton and John Collingwood Bruce. The disinterment of the walls and gates of Housesteads was one of the great public services by which Mr. Clayton earned the gratitude of his own and future generations. Disinterment, his own word, most aptly describes the distinguishing characteristic of his excavations, the unflinching thoroughness which his labourers were taught to expose walls down to their footings, replace fallen stones, cope the top with protecting turf, and remove all unsightly *débris*. Now it was a mile-castle, now a long stretch of the



FIG. 2.—THE WEST GATE FROM THE INSIDE.
(Excavated by Mr. John Clayton.)

great Wall, now, as in the case of BORCOVICIUM, the ramparts, gates, and towers of a whole camp. Where Hodgson with his slender resources could only probe and trench, John Clayton, working on a larger scale, revealed and restored to his countrymen one of the greatest of our national monuments.

Work at or near Housesteads seems to have been begun in 1849 or 1850, and continued almost every summer until 1858. Progress was slow, Mr. Clayton's method being to entrust the excavation to a small number of highly-skilled workmen, whose accumulated experience in some measure made up for want of supervision. Dr. Bruce credits

two of them—Anthony Place, whose grandson worked for us in 1898, and Walter Rutherford—with having carried out a large proportion of the work at Housesteads. Unfortunately they do not seem to have thought of recording the dimensions of the buildings which they uncovered, as was done by William Tailford, the skilled excavator who for many years worked under Mr. Clayton's orders at CILURNUM and PROCOLITIA, and is now custodian of the Chesters museum. In the absence of a contemporary plan it is impossible to define the exact extent of the work done within the camp. The following clues are drawn from Dr. Bruce's *Roman Wall*, the editions of 1851, 1853, and 1867 being referred to as (1), (2), and (3), the *Archaeologia Aeliana*, and the isolated volume of *Proceedings* which was printed from 1855 to 1857 :—

1850. The west gate partly excavated. Plan and views in Bruce, *Roman Wall* (1), p. 216 (preface dated January 1st, 1851).
- 1851, June. The west gate 'was being further and carefully excavated.' C. Roach Smith in *Gentleman's Magazine*, November, 1851, p. 504.
1852. The south gate. 'The rubbish had been partially removed in 1830; in 1852 it had been wholly removed.'—Bruce, *Roman Wall* (2), p. 185 (preface dated November 5th, 1852; title page, 1853).
The north gate 'has but just been disclosed to the eye of the antiquary.' 'At the time of writing the excavations are not yet complete.'—*Ibid.* pp. 186, 187.
'The recent excavations at this station have been confined to its outline, and the curtain-wall, with the gates and guard-towers, have been satisfactorily disclosed. . . . The space within the walls of the station remains unexplored. The labours of the excavator are restricted by the climate to the summer; shortly before the close of the last season they were applied for a few days within the walls of the station.'—*Ibid.* appendix, p. 447.
1853. 'Notes on the Disinterment of the Mill Castle immediately West of the Roman Station of Borcovicus,' by John Clayton, in *Arch. Ael.* (4to ser.), IV, p. 269.
1854. 'A few days before Christmas an altar dedicated to Cocidius Silvanus was found accidentally when removing an accumulation of ruins from the side of a wall to provide a fence against cattle' (*Proceedings*, 1855, p. 4), in the south-west corner of the station.—*Roman Wall* (3), p. 193. This discovery probably directed the excavations of the following year to that point.
- 1855, August 6th. The society visited Housesteads. The west wall and the buildings against it, from the tower at the south-west corner to the west gate, had recently been laid bare.—*Proceedings*, 1855, p. 45.

- 1856, November 5th. Mr. Clayton read a paper, illustrated by plans, on a passage through the Roman Wall, in the valley of the Knagburn, which had recently been discovered and explored.—*Proceedings*, 1856, p. 186. The plan is given in Maclauchlan's *Memoir*, p. 93.
- 1857, May 6th. Dr. Bruce described the progress of the excavations. 'The wall between the recently discovered turret on the east side of the Knagburn and the station has been cleared of its rubbish, and the fallen stones replaced. The interior of the north wall of the station has been entirely cleared, and the whole of the north gateway . . . completely displayed.'—*Proceedings*, 1857, p. 234.
1858. 'Not far from the southern gateway are some buildings which in 1858 were freed from the enormous mass of *débris* which enveloped them.' This refers to the east end of block XII.—Bruce, *Roman Wall* (3), p. 188.

For the next twenty-five years there is but little record of excavation on this site.¹² Mr. Clayton was exploring other parts of the great barrier, especially the fort of CILURNUM, and it was only in the evening of his life that an accidental discovery recalled his attention and that of many other scholars to the ruins of BORCOVICIUM. In November, 1883, the shepherd at Housesteads noticed a carved stone projecting from the foot of the northern slope of the Chapel-hill. Digging revealed two altars of unusual size and a sculptured stone in the form of an arch or door-head, all of which are now preserved in the museum at the Chesters. The dedication to deities hitherto unknown, Mars Thingsus and the two Alaisiagae, Beda and Fimmilena, and the bas-relief representing an armed god attended by a goose and approached from either side by a worshipper carrying a wreath, gave rise to a prolonged discussion among students of Teutonic antiquities.¹³ Further excavations in June, 1884, led to

¹² In November, 1863, however, Mr. Clayton exhibited to the Newcastle Society of Antiquaries two coins 'found within the last few days' at Housesteads. *Arch. Ael.* vi. 195, and *cf.* 200 and 225.

¹³ See *Arch. Ael.* vol. x. pp. 148-172, especially the papers by Clayton and Hübner, with plates I-III; Haverfield's account of the inscriptions in *Ephemeris Epigraphica*, vol. vii. pp. 1040, 1041; and the article, *Alaisiagae*, by Ihm in Pauly-Wissowa, *Real-Encyclopädie*. The dedicators of one altar are described as *cives Tuihanti cunei Frisiorum ver. ser. Alexandriani*. The words *ver. ser.*, which had baffled the commentators, have recently been explained by Mommsen as perhaps standing for *veredarii servi*. An inscription found at Walldürn on the German *Limes* associates *Brittones et dediticii* and seems to justify *servi*. *Veredarii* (from *veredus*, a fast horse) appear among the frontier-troops in the second and third centuries. A *numerus burgariorum et veredariorum* formed the garrison of a fort in Lower Dacia about 140 A.D. In late authors the name has the special meaning of 'despatch-riders,' but the *veredarii* of the inscriptions may, at any rate in some cases, have been irregular cavalry. See *Limesblatt*, 659 ff.

the discovery of a missing piece of the sculptured stone, of two uninscribed altars, and of a Roman well. The remains of the supposed temple of Mars on the Chapel-hill were examined without result, and trenches were cut round about it, 'but no buildings could be found *in situ*, and the very foundation stones had been taken up and removed.'

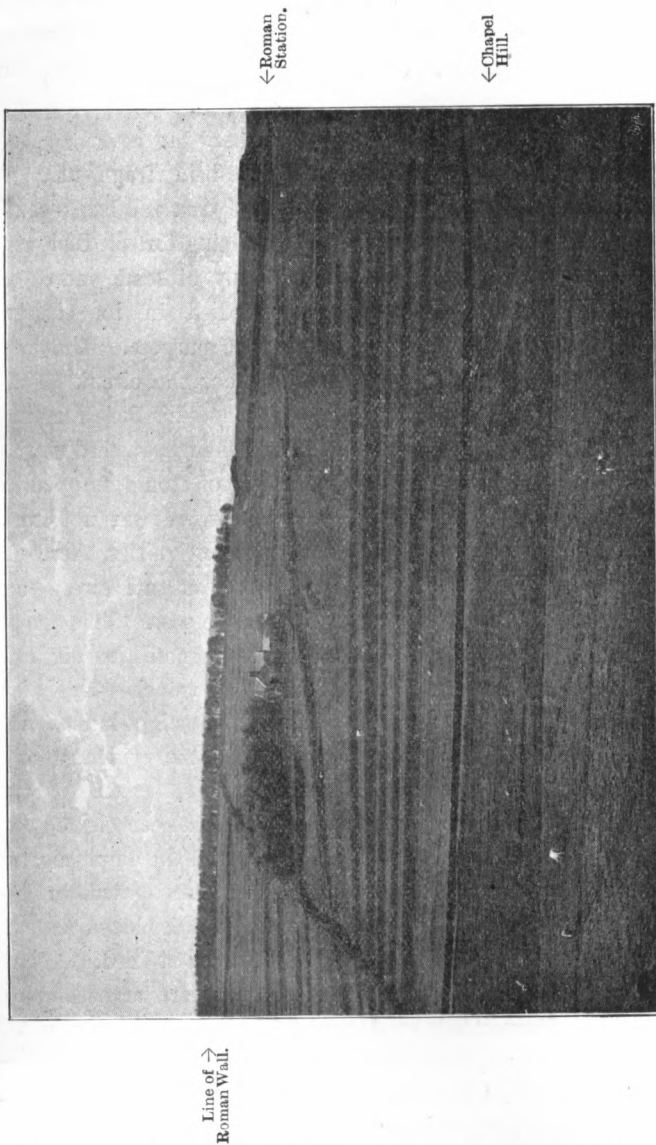
The next excavations at Housesteads were those undertaken by the Newcastle Society of Antiquaries, in the summer of 1898.

THE EXCAVATIONS OF 1898.

Work was begun on June 21st, and came to an end on October 29th, the last four weeks being devoted to filling in the trenches. The excavations were supervised throughout by the present writer. Very valuable aid was rendered by Mr. A. C. Dickie, formerly architect to the Palestine Exploration Fund, who undertook the task of preparing plans and drawings, and spent the greater part of July and August at Housesteads. We had an experienced foreman, Mr. Thomas Smith of Haltwhistle, and, when he was obliged to leave us to fulfil another engagement, an efficient successor was forthcoming in John Nicholson, one of our workmen. At first only ten men were employed; later the number was increased to fifteen.

The fort of BORCOVICIUM stands on the brow of the basaltic cliffs which here interpose a natural barrier, sloping up from the south, and falling in abrupt precipices to the north, between the rolling sandstone uplands bordering South Tynedale and the desolate tract of moor and moss known as the Forest of Lowes, which extends northward to the Scottish border. The north gate opens almost upon the face of the cliff, the south gate upon a grassy hill-side descending to the valley which has yielded so many sculptures and inscriptions. Fig. 3, from an admirable photograph by Mr. J. P. Gibson, to which the reproduction does less than justice, shows this valley in the foreground, a hollow marking the sight of the Mithraeum on the right, and, farther to the right, the lowest part of the Chapel-hill, the fruitful scene of former excavations. In the background rises the green ridge, crowned by the ramparts of the camp. Along its foot extend five well-marked and apparently artificial terraces, relics, perhaps, of Roman cultivation. It would be interesting to ascertain their real nature—indeed, the whole slope between the south gate and the

valley deserves exploration. A trial trench showed the level bottom between the terraces and the field-wall to the south of them to be full



Line of ↑
Roman Wall.

↑
Temple of Mithras.

FIG. 3.—HOUSESTEADS FROM THE SOUTH.

of Roman remains, walls, pottery, and even leather and woodwork well preserved in the deep wet peat.

Rich and tempting as these remains of the civil settlement appeared, it was decided, with good reason, to devote the first season to the internal buildings of the camp. No systematic exploration of the whole internal area of a Roman camp in the north of England had ever been undertaken. BREMENIUM, CILURNUM, AESICA, and South Shields, had been partially excavated, but in each case the work had stopped short when little more than half the area had been cleared, and the published plans were only tantalising fragments. On the other hand, the Society of Antiquaries of Scotland had recently secured a remarkably complete plan of the outlying fort at Birrens in Dumfriesshire. It was time that the anatomy of some one of the camps on Hadrian's Wall should be studied in its entirety. BORCOVICIUM seemed a promising site for the purpose. Thanks to the judicious enthusiasm of Mr. John Clayton, the circuit of the ramparts and the gates had been excavated, so that little remained except to plan them. The internal buildings, though much disturbed by desultory digging and the wholesale removal of stones for walling and draining, lay near the surface, and while there was not much hope of finding inscriptions or important minor antiquities, there was every reason to believe that the plan of the internal streets and buildings could be obtained at comparatively little cost. This proved to be the case. When the work began it was proposed to dig only for one month, and to determine by means of trenches the broad outlines of the anatomy of the camp. When, a fortnight later, it was decided to clear the Praetorium completely, it became evident that a much longer time was needed. Nevertheless, at the end of two months the Praetorium and six barrack-rooms had been cleared out, some points of special interest outside the camp, the amphitheatre, two wells, and the shrine of Mithras, had been investigated, and the course of the streets, the number and outline of the blocks, and the internal arrangements of some of them had been ascertained. A wish was then expressed, at a joint meeting of the northern archaeological societies, held at Housesteads on August 25th, that the blanks in the plan should be filled up, doubtful points determined, and conjectures verified. Accordingly, I devoted a third month to the task of completing the plan, which is now as perfect as anything short of entirely digging out the whole camp could make it. There is only

one point within the walls where further excavation is urgently needed, in the south-east corner, the lowest part of the whole area, where, in a 'pocket' of deep earth, a cistern and other buildings were discovered in the last weeks of the excavation, but were only imperfectly investigated.

Reference to the plan of the site as a whole (fig. 1, p. 195), and to the longitudinal sections (fig. 4), shows that the site chosen for the camp slopes gradually from west to east, and somewhat steeply from north to south. Its longer axis runs along the ridge, and while the northern half of the enclosure is comparatively level, the southern half falls away at an inconveniently sharp angle. With lower ground on north, east, and south, it certainly occupied a strong position. It is true that a more level platform might have been found on the higher ground to the west, near the adjoining mile castle. But there were two reasons for preferring the site actually selected, which outweighed the disadvantages of irregular levels. First, the camp in its present position commands the pass through the depression immediately to the north-east, where the barrier of basaltic cliffs disappears. Secondly, the Knagburn, which forces its way through this opening, and several springs on the adjoining slopes, afford an abundant water supply which would have been lacking on the higher ground.

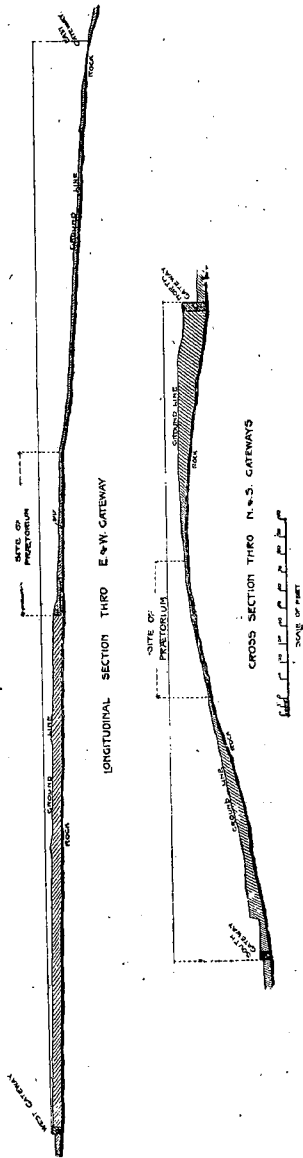


FIG. 4.—SECTIONS THROUGH THE CAMP.

The conditions of the site may have influenced the form of the camp, which is unusually narrow in proportion to its length. It measures six hundred and ten feet from east to west, and three hundred and sixty-seven from north to south ; the area enclosed is nearly five acres.

THE PRAETORIUM.

THE EXTERIOR.

Owing to the slope of the rock on which the Praetorium stands, the southern half of it and in a special degree the south-east angle,

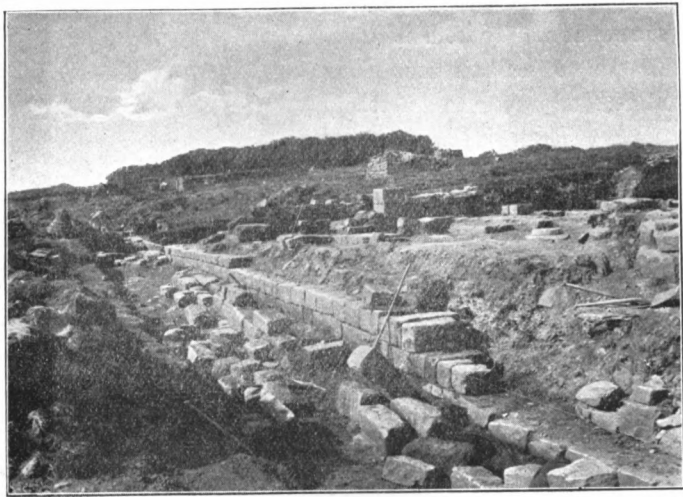


FIG. 5.—SOUTH WALL OF PRAETORIUM FROM THE SOUTH-EAST

rests on an artificial platform composed of whin and freestone chippings mixed with yellow gravel, and the south wall, which had to hold up this substructure, is built of very large blocks laid as headers and extending nearly three feet inwards (fig. 5). At the south-east angle the footings of the outer wall lie as much as seven feet below the floor level of the interior. In consequence of its height and larger masonry, this half of the building was especially exposed to the ravages of builders in search of material. Fortunately these plunderers seldom do their work thoroughly. Two, in one place three, courses of

the south wall survived, and scores of blocks from the upper courses were found piled up ready for removal in the narrow roadway beside it. At the end of the excavation it was decided to replace them and rebuild the retaining wall up to the floor-level of the interior. Photographs were taken to record the remnant of the wall and the mass of made-ground rising above it as they appeared before the reconstruction.

Of the west wall, the very foundations had for some distance been rooted up; fortunately the mass of clay with which the outer face was puddled remains as a record of its position and thickness. At the north-west angle, where the ground outside is considerably above the floor-level, the west and north walls are standing ten courses high. They are two feet thick, built in rudely coursed rubble-work. The remainder of the north wall, which was more visible, is built of large headers in regular courses.

Of the east wall there remains only the foundation course, and of the main entrance only some pavement, including one slab with a pivot-hole. It may be assumed that the gateway was arched, as at BREMENIUM, where arch-stones were found lying in the entrance. The disappearance of the principal façade of the most important building in the camp is a serious misfortune, since here if anywhere we might expect some sculptured ornament to relieve the utilitarian monotony of the surrounding architecture. It can hardly be a coincidence that here was found the most important of the few pieces of sculpture that have come to light within the camp. This is a large relief, five feet high by three feet broad, representing Mars armed with shield and spear, which was found in fragments some forty years ago during Mr. Clayton's excavations, 'at the south-west angle' of block xv, 'very near the point where the streets dividing the station, laterally and transversely, cross each other,' in other words, a few yards north-east of the principal entrance of the Praetorium.¹⁴ It may, therefore, have fallen from the wall to the north of the gateway, and a corresponding figure, probably a Victory, may have adorned the wall to the south.¹⁵

¹⁴ Bruce, *Roman Wall*, (3 ed.), p. 186, and full-page illustration. *Lapid. Sept.*, p. 238, where it is stated 'search has been made for the missing fragments.' In all probability this excavation extended to the east end of the Praetorium, where we found no depth of soil and few loose stones.

¹⁵ It is tempting to suppose that we have this second figure in the relief of Victory, 'found inside the eastern gate of BORCOVICUS by the late Mr. Clayton's excavators in 1852.' Bruce, *Handbook*, p. 113. The other Victory from House-

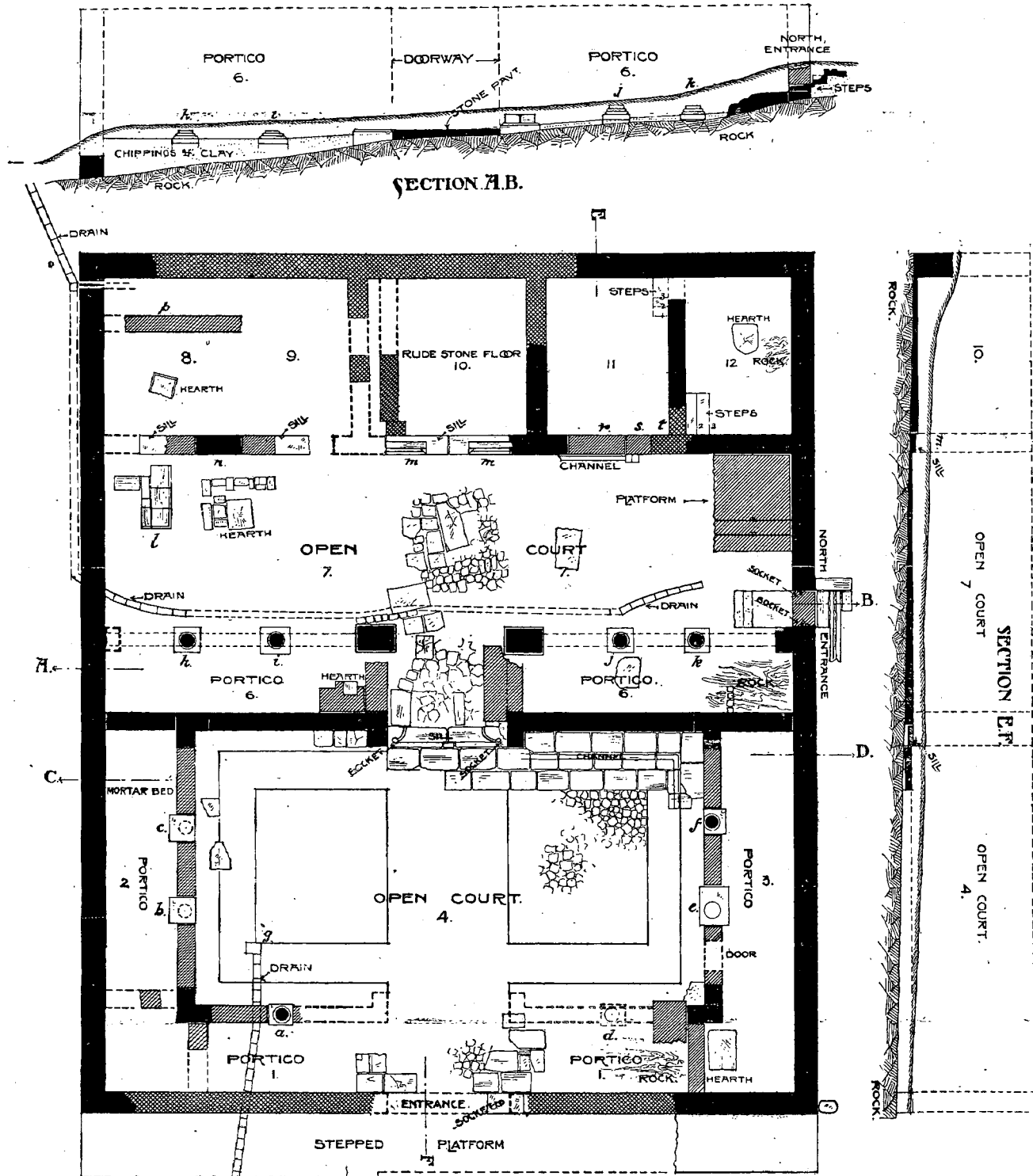
The Praetorium measures externally eighty-nine feet six inches by seventy-six feet four inches, and is therefore much smaller than the corresponding building, the 'forum,' at CILURNUM, which measures about one hundred and twenty-five feet by eighty-five feet. The plan is much the same, an outer and an inner court leading to a row of five chambers.

THE INTERIOR.

The Outer Court.—An arched main-entrance opened from the broad space formed by the meeting of main streets into an outer court (4), bordered on three sides by a portico (1, 2, 3), and on the fourth by a plain wall, through which an archway opposite to the entrance led into the central bay of an inner portico. Opposite to this gateway, beyond the narrow inner court, rose the arched entrance of the *sacellum*, which in these frontier-camps served at once as the official chapel and the treasury of the regiment. This vista of arches, terminating in the shrine, must have been an impressive architectural feature as seen from the outer street.

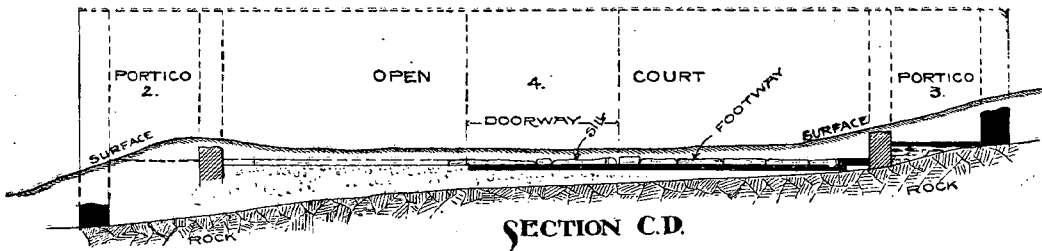
The portico, nine feet six inches deep, was supported by stone columns with moulded bases. The return of the colonnade at the angles was formed by L-shaped piers, built up of large blocks of light-coloured freestone, one of which measures thirty-eight inches by twenty inches by thirteen inches. The roof must have sloped inwards and was composed of stone slates, which were frequent among the débris. A flagged footway, two feet six inches wide and raised five inches above the pavement, ran round the court sheltered by projecting eaves and made it possible to pass dry-shod in front of the pillars. The depth of the covered passage, portico plus footway, was twelve feet, while the open area measured forty-eight feet by twenty-four feet, and was therefore only half the size

steads, now in the Blackgate (*Catalogue*, p. 138; *Handbook*, p. 157), which Gordon quaintly describes as 'attired with a flying loose Drapery, standing upon a *Mound* or *Globe*, executed with a very Gentile Taste in *alto-relievo*, cut out of a hard free Stone, about 4 Foot 7 Inches in Length, and standing within a hollow Nitch,' came from the valley south-east of the camp. Fragments of similar figures have been found at Birrens and Stanwix. There are abundant parallels for the association of Mars and Victory. On two inscribed slabs from HABITANCUM these deities stand to right and left like heraldic supporters. Joint dedications to them occur at Ribchester (*C.I.L.* 220) and Birrens (*C.I.L.* 1068), as well as at Housesteads.

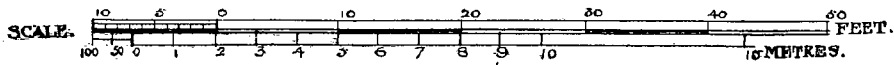


GROUND PLAN.

..NOTE..
 ■ DENOTES EARLY WORK
 ▨ LATER "
 ▩ TRACES OF FOUND?
 - - - - - INFERRED WALLS
 ▩ ROCK



SECTION C.D.



THE PRAETORIUM AT HOUSESTEADS.



of the outer court at CILURNUM, which is fifty feet square. Below the flagged footway the outer court (4) was bordered by a strip of similar flagging three feet nine inches wide, provided with a shallow channel, which received the rain-water from the eaves and carried it to an underground drain in the south-east corner. The square pit (*g*) from which this drain starts may once have been protected by a pierced drain-cover or sink, now in the Blackgate, which is known to have been found at House-

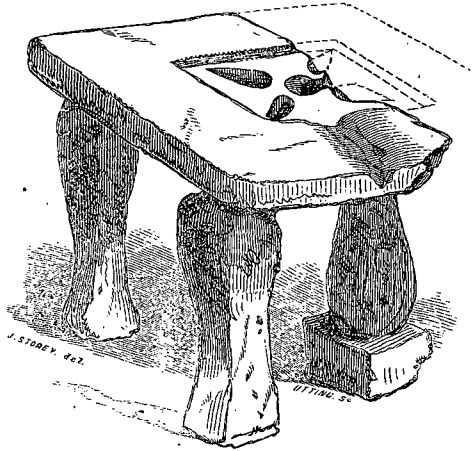


FIG. 6.—PIERCED DRAIN-COVER.*

steads and closely resembles the adjacent flagging. It will be seen from the plan that the greater part of the flagging has been removed, probably many years ago, for among the remains of the seventeenth-century farmhouse (block VI) we were able to identify a slab from this court. Fortunately the well-preserved strip in the north-west corner enables us to reconstruct the plan of the whole. There are indications that the internal area, within the border of flags, was originally laid with two-foot squares of sandstone, but little thicker than stone slates. These were frequently broken, and latterly the pavement became a mere patchwork.

Of the column-bases in the outer court, *a* is the best; *f* is much injured; both, like the bases in the inner court, have square plinth, torus-mouldings, and lower part of shaft formed out of a single block; *b*, *c*, are plinths on which a circular base rested; *d* is missing altogether, but its position has now been indicated by placing there a base, similar to those of this building, which lay on the surface of block XII, and may have rolled down from the Praetorium. It is

* The hypocaust pillars shewn above have nothing whatever to do with the sink-slab they support.

figured in Bruce's *Roman Wall*, p. 193. No column or capital was found that at all agreed in diameter with these bases.¹⁶

Open colonnades were ill-suited to those bleak and wind-swept heights, and it is not surprising that after a time the spaces between the columns were walled up and the porticoes turned into rooms. Of these 1 and 2 yielded nothing of interest. The pavement of the latter had mostly perished, that of the former was partly flagging,

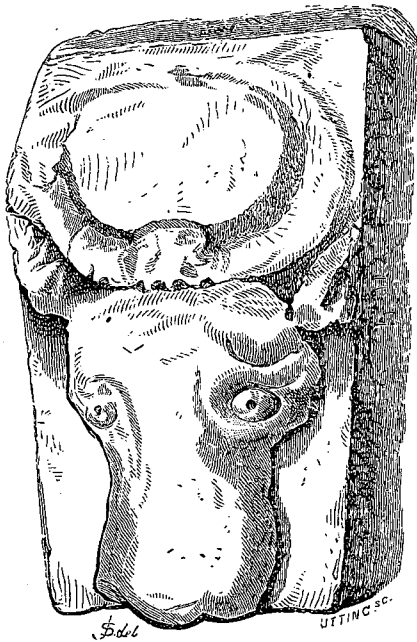


FIG 7.—KEYSTONE FOUND AT SOUTH SHIELDS

partly the natural rock which rises to the surface throughout the northern half of the Praetorium. Room 3 was more fruitful. Its original floor had been of clay, laid on the roughly levelled rock. Above it was a later floor of flags, with a large hearth-stone at the east end. The higher level yielded a silver brooch of late-Celtic openwork, a pair of bronze tweezers, and a bronze lid with sunk vine-pattern. A broken column-shaft lay against the west wall as if to serve as a seat.

The Inner Court.—The bay, about twelve feet wide and twelve feet long, which

¹⁶ Stukeley may have seen some. 'As for fragments of pillars, or rollers, as they call them, they lie scattered all over the place. A large part of a Doric capital lies by the door' of the farm-house, 'consisting of two *thori*, or swelled mouldings, in architectonic language.' The base *a* was partly visible before we began work, and may have suggested Horsley's remark: 'I think the Praetorium is visible, and the ruins of a temple near it.' According to the notions of those days Horsley would look for the Praetorium in the highest part of the camp, where the two granaries (block VIII) form a conspicuous mound, and would take the building with pillars, the real Praetorium, for a temple. Hodgson refers to it as 'a square mass of ruins' which 'seems to have had pillars round it internally, like the cloisters of a monastery.' *History*, p. 187. He describes it as near the north-west corner of the north-east division or quarter of the station. Read south-west for north-west.

led into the inner court, seems to have been spanned by an arch at either end; near the corresponding archway at South Shields was found a keystone sculptured with a bull's head (fig. 7). The inner arch sprang from piers of which the splayed bases remain. Very similar pier-bases were found in the line of the colonnade at the main entrance to the Praetorium at BREMENIUM. The opening between the courts was furnished with doors which closed against a raised sill, much worn by traffic. The pivot-holes and the tracks for introducing the pivot are shown on the plan. The passage is roughly paved, and a still rougher pavement of very miscellaneous material, including the coved top of a grave-stone, extends across the inner court to the Sacellum. The remainder of the inner portico and court had no regular pavement. Their original floor, composed of fine red clay well rammed down, was renewed from time to time until successive layers completely covered, and did much to preserve, the bases of the two southernmost columns.

All four column-bases in this court, like two of those in the outer court, have plinth, *tori*, and part of the shaft formed out of a single block. The disregard for rule and symmetry shown in the irregular levels, unequal spacing and dissimilar forms of these bases was one of the reasons which early in the excavation suggested to Mr. Dickie that the construction of the building had been interrupted and afterwards completed by inferior workmen. He has developed this view more fully elsewhere. The frontispiece shows the present condition of this colonnade, and should be compared with fig. 8, in which Mr. Dickie has recorded our idea of its original appearance.¹⁷

The intervals between these columns were never blocked up, but walls were built at either side of the passage between the two courts. In the sheltered angle thus formed on the south side a fireplace was constructed, which was probably in use up to the last occupation of the fort. An iron bar, perhaps part of a grate, lay

¹⁷ The projection of the eaves is justified by the distance of the gutter in the outer court from the bases of the columns. The still greater projection of the roof over the central passage is suggested by the fact that at CILURNUM the channelling which runs round the square centre court, returns outward at the gateway leading to the inner court, showing that the roof at this point projected outwards in a kind of porch. It may be noted in passing that this channelling at CILURNUM is secondary work, being above the level of the pier-bases, and that an older pavement may be preserved below it.

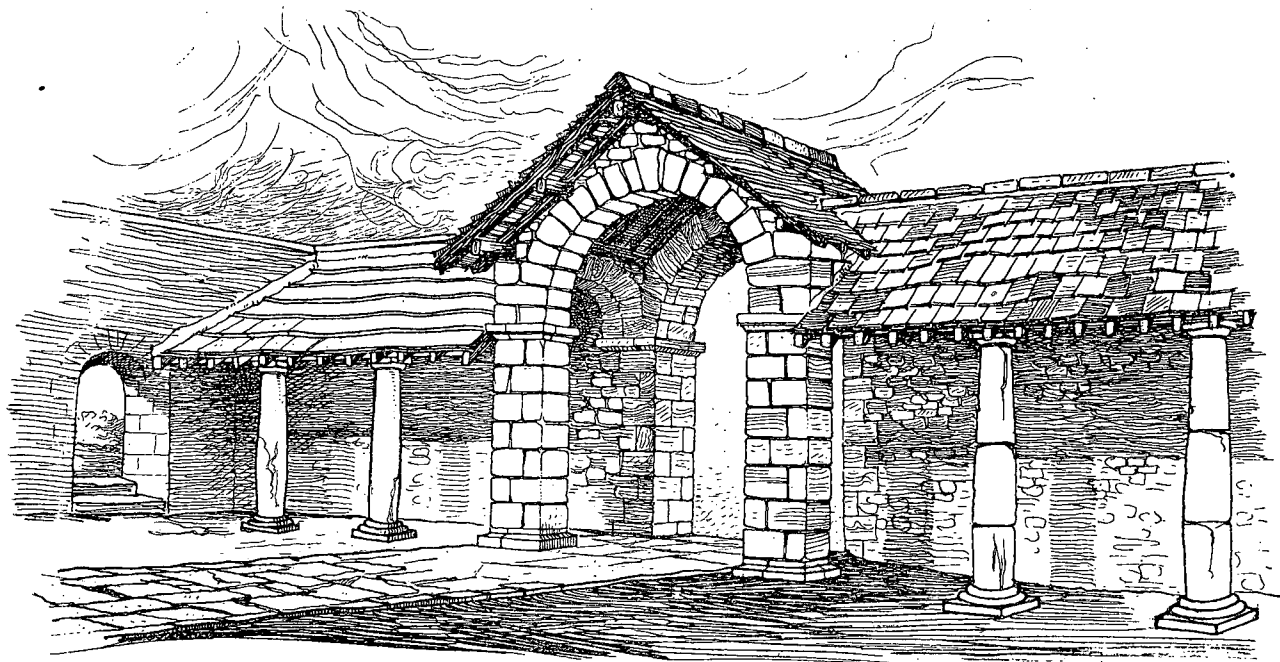


FIG. 8.—COLONNADE IN THE INNER COURT, RESTORED.

behind some fallen stones. Round about was a deep stratum of coal-cinders, bones and broken pottery. A pot which was reconstructed out of fragments found in this refuse-heap, can hardly, to judge from this circumstance, be of earlier date than the fourth century. On the other side of the passage the dividing-wall was doubled, it is impossible to say why, so as to narrow the gateway from twelve feet six inches to ten feet and prevent the opening of the northern half of the door.

In the Praetorium at CILURNUM, BREMENIUM, and BIRRENS there are side-entrances from the lateral streets into the inner court. At Housesteads a flight of steps leads down from the higher level of the road on the north, and possibly—though all trace of it has perished with the south wall—a similar flight led down from a corre-

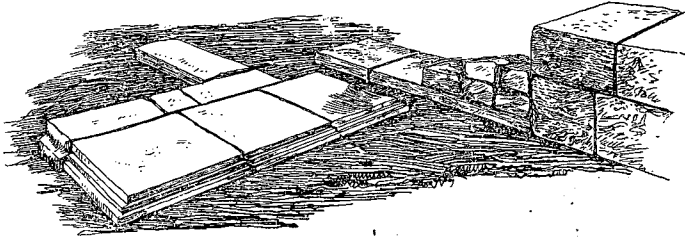


FIG. 9.—MOULDED PLINTH.

sponding side entrance to the lower level of the road on the south. The doorway on the north side is well preserved, and had been built up, perhaps in modern times. A pivot-hole in the threshold shows that it was provided with a door. Some flags and a piece of channelling were fitted together to form a doorstep on the outside. The western side entrance at CILURNUM is similarly provided with steps down from the street and gutter-stones on the outside, 'showing,' says Dr. Bruce, 'that the gateway has been roofed.'

The steps and the space to the west of them had so scanty a covering of turf that they must have been explored before, probably by Hodgson:—

I found on the spot a traditionary belief that there were subterraneous chambers near the middle of it; and employed some workmen to clear away the ruins and rubbish near the remains of a flight of steps, which were supposed to lead downwards. They, however, soon came to the face of the whin-stone rock.

. . . . At the foot of these steps we found a heap of decayed mineral coals, and a quantity of such ashes and scoria as are produced in smitheries in which mineral coal is used. *Arch. Ael.* o.s. I. p. 266.

His reference to the kiln, 'a little to the east of the steps'—it is really a few yards to the north in block VIII—helps to determine the part of the camp referred to. The identification was confirmed by our finding a quantity of coal and some scoriae near the foot of the steps. The smith who made the arrows stored in room 12 may have had his temporary forge here.

The inner court, besides being less carefully paved was less thoroughly drained than the outer. A rock-cut drain, flagged over, takes a sweeping course from the steps on the north along the front of the portico to the west wall, the latter part of it being merely a V-shaped channel lined and covered with stone slates. It probably joined a large drain, covered with heavy flags, which starts from the south-west angle of the Praetorium and skirts the outside of block XII. A similar slate-built channel runs in front of room 11, and probably joined that just described.

In the south-west angle of this court stands a moulded plinth or basis (fig. 9, *l* on plan), six feet six inches long, three feet broad, six and a half inches high. It was originally longer, since the moulding at the west end is missing: there is room between the broken end and the adjoining wall for a further length of six inches or one foot. It may have supported a monumental inscription, as did somewhat similar bases found in the Praetorium of several frontier-forts in Germany.¹⁸ Its west end is slightly worn by the tread of feet, which may indicate that the door of room 8 was still used for a time after it was placed here. The stones to the rear of the basis are a later addition. The moulding is continued on one of them, but in the rudest fashion.

A solid platform in the north-west angle, raised four feet above the ground with a surface originally measuring at least ten feet by eight feet, is less easily accounted for. It consists of large blocks of freestone, packed with gravel and chippings, and covered by massive flags, and is not bonded into the adjacent walls. Part of it was destroyed by the plunderers who tore away the jamb from the blocked-up doorway of room 12.

¹⁸ *E.g.*, at the Saalburg, Butzbach, and Buch.

The chambers 8-12 which face the inner court have undergone so many alterations in ancient times and been so much plundered in our own day that it is not easy to unravel their history. It is clear that they were originally five in number, arranged like the corresponding chambers at Birrens. Four of them (8-11) had broad

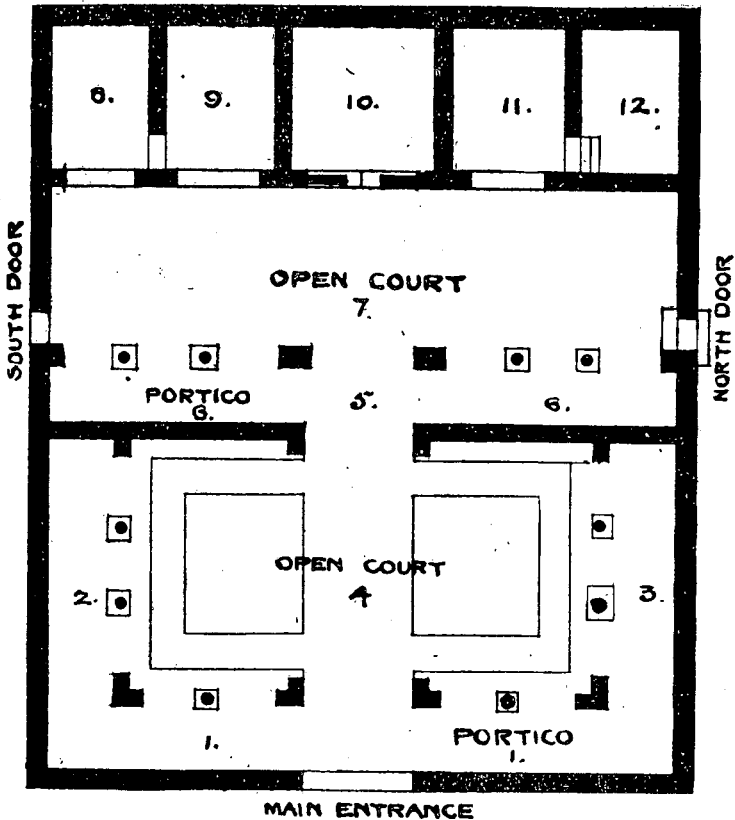


FIG. 10.—ORIGINAL PLAN OF THE PRAETORIUM AT HOUSESTEADS, RECONSTRUCTED.

doorways, divided by T-walls of large ashlar, opening on the court, while the corner-chamber on the right (12) was entered from 11. The original design freed from later modifications is shown in fig. 10.

The central chamber or Sacellum, sixteen feet square, communicated with the court by a doorway twelve feet six inches wide, which, as at

CILURNUM, was perhaps spanned by an arch. The pier is two feet thick, and a voussoir measuring one foot eleven inches was found in the area before it. The sill is composed of two blocks respectively six feet and six feet six inches long, two feet broad and four and three-quarter inches thick, and exhibits at either end a shallow sinking four feet long and seven and a half inches broad (*m, m*), which may be explained as intended to receive the base of a low stone screen or balustrade. The pier on the north is cut to receive the end of the screen; that on the south, with the greater part of the T-wall between rooms 9 and 10, has disappeared. The part of the sill in front of the screen was moulded (fig. 11, *cf.* plate XVI). No part of the screen was found, but some idea of its character may be got from a

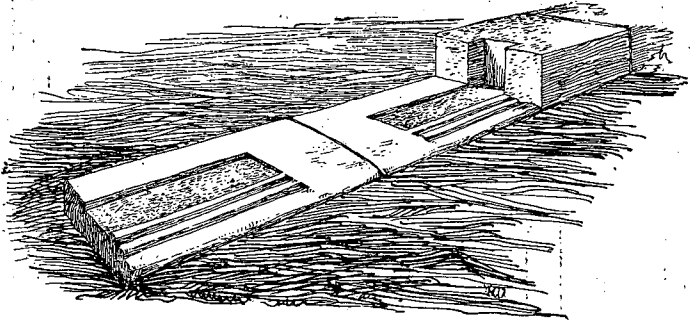


FIG. 11.—MOULDED SILL WITH SINKINGS FOR PARAPET.

moulded coping which was found in the corresponding chamber at Birrens, and was interpreted as the coping of a balustrade by Mr. Barbour, who surveyed the excavations there. Upon seeing the sill just described, during a visit which he paid to our excavations, Mr. Barbour was able to account both for the socket at Housesteads and for the coping at Birrens. There are indications of a low screen-wall or parapet with splayed cope at either side of the corresponding doorway at CILURNUM.

The walls of the Sacellum had been systematically demolished. The fact that even the foundations were found worth removing indicates that they were composed throughout of fine large blocks like the few which remain in place. The floor is of walling-stones



HOUSEHEADS. CENTRAL CHAMBER OF PRAETORIUM FROM THE FASTI.



roughly fitted together and levelled over with clay. Under this are the disintegrated remains of an earlier floor of *opus signinum* (a cement of broken tile and lime) immediately overlying the rock. Search was made for the strong-room, which is commonly found in the floor of this chamber, but without success. The solid whin was found to extend across its length and breadth, with the exception that along the south side a foundation had been cut for a wall of large ashlar, running nearly parallel to the south wall and about one foot to the north of it. A part of the foundation course is *in situ*, and the rock-cut bed of the remainder was traced up to the west end. This wall may represent an earlier Sacellum on the same site, or it may have been a dwarf-wall or bench for the reception of a row of altars. The whole area had been ransacked. A *denarius* of Caracalla lay among the stones and clay of the later floor. Among the débris, perhaps thrown in by recent plunderers to fill the hole formed by the demolition of the walls, was a short column with a sinking for an iron cross-bar, which may have formed part of a window.

The rooms 9 and 11 measured sixteen feet by twelve feet six inches, the narrower corner-rooms 8 and 12 measuring sixteen feet by twelve feet. There is proof of an original division between 8 and 9 in the wall *n* four feet nine inches long, built of fine large ashlar still standing three courses high. It ends in a straight joint both to north and south and can be nothing else than the cross-piece of a T wall, the stem of which is now destroyed. For some reason it was found convenient to do away with the division between the rooms, and the door of 8 was built up with small stones.

The original floor of 8 and 9 was of whin and freestone chippings covered with clay. Successive renewals so raised the floor-level, that a clean-cut section shows at least three successive beds of clay, each burned and discoloured towards the top and largely intermixed with coal-cinders.

It is hard to say at what stage in the camp's history the entrance to room 9 was remodelled. A slab seven feet long, which had previously served as a cornice, was now laid down to form a threshold, the original threshold being removed, and the doorway, originally eight feet six inches wide, was contracted to five feet, a wall three feet six inches long being built on the south end of the new

threshold. A drain, cut through the top of the slab, passes under the new wall. The relations of the old wall of large masonry and the new wall built on the later threshold are shown in fig. below. For the cornice-moulding on the lower side of the threshold, which is ten inches thick, see fig. 12.

The wall, *p*, which cuts off a strip four feet wide from this room (8 and 9), may indicate either a passage leading to a door in the south wall, or—since evidence of the existence of an upper storey was found in rooms 11 and 12—a staircase leading to first-floor rooms. It is founded upon the clay floor and must be of late date. Contemporary with it was a pavement of thin fire-reddened sandstone, in the middle of which was a hearth, measuring two feet four and a half inches by one foot eleven inches, formed out of the half of a moulded slab with sunk panel. It may once have borne an inscription, but no trace of lettering survives. An oyster shell and a quantity of bones occurred at the highest level.

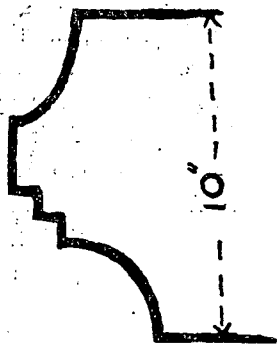
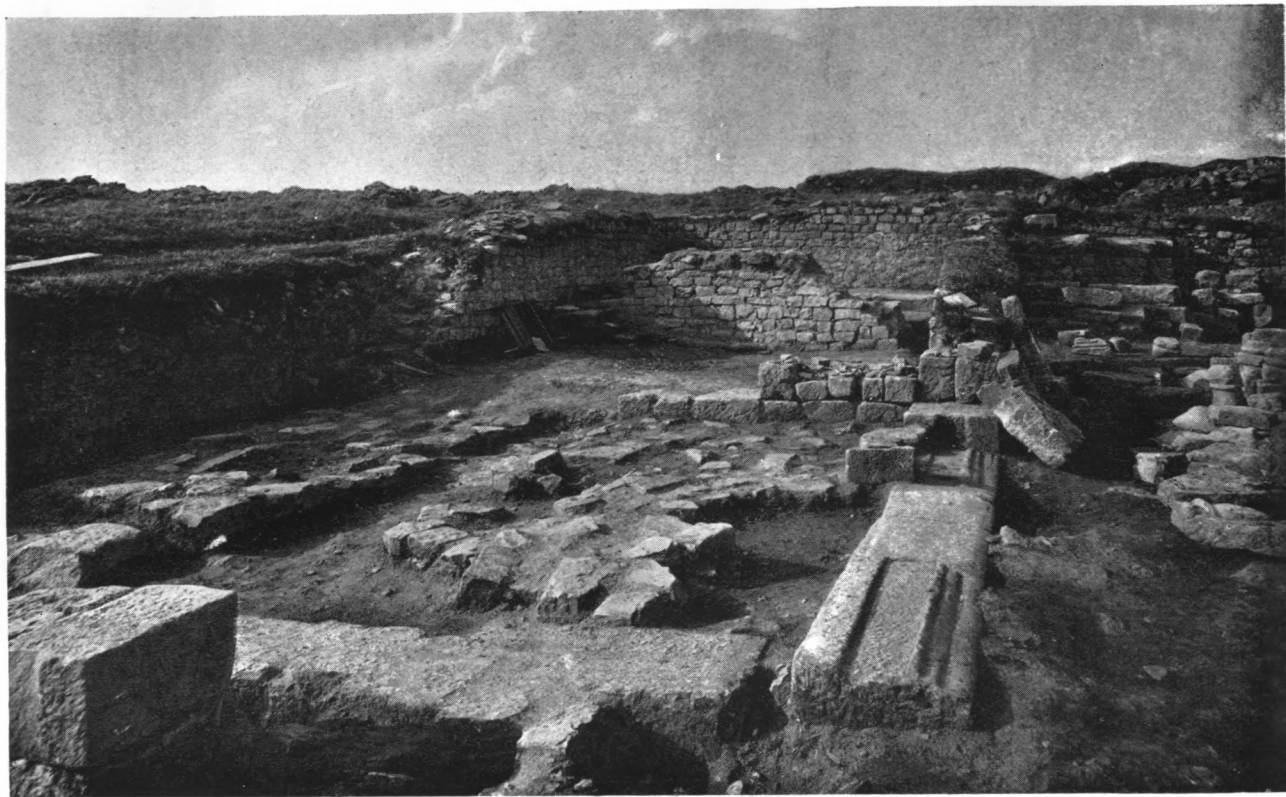


FIG. 12.—MOULDING ON THRESHOLD OF ROOM 9.

The doorway of room 11, like that of 9, was originally eight feet six inches wide, was then contracted, and finally built up. The threshold, consisting of two long slabs, is still in place, and so far as can be seen is but little worn. It is not certain whether the longer or the shorter of the two sections of wall *r* and *s*, respectively six feet and two feet six inches long, was the earlier. The analogy of the door into room 9 suggests that *s* was the earlier, and that the door was first narrowed to six feet and afterwards closed altogether. The puzzle is complicated by the fact that whilst these two sections of 'blocking-up' survive, with a straight joint between them, the jamb of the original wall at *t* has been torn away in recent times, for the sake of the large blocks of which it was composed. This should be remembered when the remains are examined upon the spot, for at first sight the gap thus formed resembles a doorway.¹⁹

¹⁹At the time of our excavation the trench cut by the stone-hunters alongside the wall *r*, *s*, was quite recognizable. It was filled with fragments of the platform, a part of which they had hacked to pieces in order to extract the finely-squared masonry of the jamb.



HOUSESTEADS. CENTRAL CHAMBER OF THE PRAETORIUM FROM THE SOUTH.



What was gained by thus closing up the entrance from the court? The effect was to make rooms 11 and 12 inaccessible except through the Sacellum. The object of the change was doubtless to provide a strong-room for the custody of money and documents which would in some degree share the inviolable sanctity of the central shrine. At South Shields and at BREMENIUM this need was foreseen at the original construction of the Sacellum, and a vaulted cellar or basement was provided under its floor. At CILURNUM a similar vaulted cellar was constructed at some later date under the floor of the room adjoining the Sacellum, and was entered by steps from the latter. At Housesteads, where the solid basalt floor would have made the construction of an underground chamber difficult, the need was met by cutting off room 11 (and consequently also room 12) from the court and connecting it by a door with the Sacellum.²⁰ As to the date of these structural changes we can only conjecture. The Praetorium at BREMENIUM was built, according to an inscription found near its main entrance, under Antoninus Pius, and that of South Shields cannot be much later. On the German *Limes* an underground strong-room was often provided in camps built towards the end of the second century, and such a room is found at Birrens, which was abandoned about that period. Further, 'on the floor' of the vault at CILURNUM 'were found a number of base *denarii*, chiefly of the reign of Severus.' We may conclude that about the beginning of the third century measures were taken to provide a strong-room in such camps as were originally constructed without one.²¹

The wall dividing 11 from 12 is very rough rubble-work, and is pierced by two doorways. The earlier door, like that between the corresponding chambers at CILURNUM and Birrens, adjoined the entrance from the court into 11. The rock, which here rises to the surface, was not quarried away, but the floor of 12, originally of *opus signinum*, was laid at a level eighteen inches above that of 11, and

²⁰ This is conjecture. Part of the wall between 10 and 11 is destroyed, so that we cannot say with certainty whether or no there was ever a doorway in it.

²¹ This applies also to the vault at AESICA. Its small size and inferior masonry show that it was a later insertion, like the vault at CILURNUM, which it so closely resembles. At South Shields and BREMENIUM, as at Murrhardt in Germany, the strong-room is a basement of almost the same area as the shrine over it. That at Butzbach, sunk in the floor of the Sacellum, is an insertion of the third century—*O. R. L. Butzbach*, 9.

was reached by three steps. Later, a second door was broken through the west end of the same wall, steps being placed outside it in 11, and in all probability the earlier door was walled up. A hearth-stone of irregular shape is set in the middle of the floor, and there are marks of fire against the north wall. To conceal their poor construction the walls were originally plastered.

Rooms 11 and 12 were filled by a high mound which had remained undisturbed not only when parts of the surrounding walls were removed in recent times, but ever since the Praetorium fell into ruin. This mound contained more than the usual quantity of building-stones, the usual admixture of broken slates, and one unusual element—a quantity of fallen flue-tiles of the form shown in fig. 13. The evidence points to the existence of an upper storey.

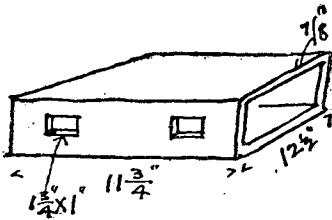


FIG. 13.—FLUE-TILE FOUND IN PRAETORIUM.

The flue tiles in room 12 extended in a line from east to west, starting from a point near the north-east angle; those in room 11 were more scattered, but all lay in the northern half and most in the

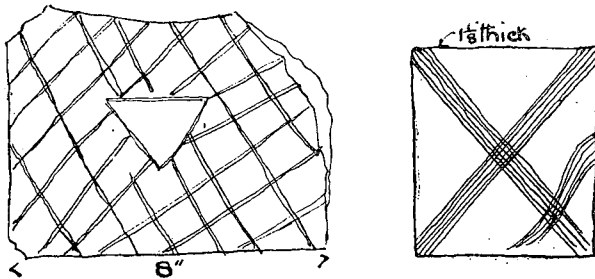


FIG. 14.—BACKS OF FLUE-TILES.

north-east quarter of the room. Round them was the clay in which they had been bedded and soot shaken from them by their fall. They were black with smoke inside, and there can be no doubt that they had formed heating-flues in the east wall of a room forming an upper storey above 11 and 12. The furnace must have been placed on the solid platform outside 12. We can only conjecture that the

missing southern part of it, which has been demolished for the sake of the large stones of which it was built, included a flight of steps and so supplied an access to the upper floor. I have already referred to the coal and scoriae found in this corner of the court.²² The flags composing the top of the platform show marks of fire.

There is no parallel elsewhere, so far as I know, for an upper storey in the inner court of the praetorium,²³ and at Housesteads it formed no part of the original scheme. The angle-chamber happened to be sunk about four feet below the adjacent ground-level on the north and west, and it was easy to wall it off and convert it into something corresponding to the underground strong-rooms of other forts; then the space thus sacrificed was recovered by the construction of a room or rooms above it, and the exposed eastern wall was rendered impregnable by the construction outside it of a massive platform which at once increased the security of the strong-room and provided the means of approaching and heating the upper storey. It must be remembered that the five chambers, which are a uniform feature in the Praetorium of so many forts, must have had their separate functions, and that if one of them was adapted to some other use another would have to be provided in its stead. There is abundant evidence that in one or more of these chambers was situated the *tabularium* or office of the regimental book-keepers.²⁴ In the climate of Northumberland such an office would require heating in winter; accordingly when we

²² To the question why the flue-tiles may not have warmed the ground-floor rooms, the answer is that there is no trace of attachment for them on the walls, and no suitable place for the furnace.

²³ Herr Jacobi's restoration of the Saalburg is not supported by sufficient evidence.

²⁴ Brambach 695, dedication *genio tabularii* by a *librarius* found at Niederbieber in a room corresponding to our room 12. A small room opening from it contained remains of cupboards and locks, 'eine Menge zn Schränken, Kisten, und Kasten gehörendes Eisenwerk,' (Dorow, *Röm. Alterthümer in und um Neuwied am Rhein*, Berlin, 1826). A recent re-excavation of this praetorium has shown that the three rooms r. and l. of 'the Sacellum had hypocausts (*Limesblatt*, p. 825). This exceptionally large camp (about 850 × 650 feet), on the extreme north-western flank of the frontier beyond the Rhine, was held in the third century by two corps, a *numerus Brittonum* and another of *Divitienses*; hence no doubt some of the offices were duplicated, which accounts for the unusual number, three instead of two at either side of the Sacellum. For other evidence that the *tabularium* of Limes-camps was in the inner court, see Hettner, *Westdeutsche Zeitschrift*, vol. xvii. p. 346.

In the legionary camp at Lambaesis, the *tabularium* has been found in the angle of the inner court, and there too it has an archive-room opening from it in which were found the substructures of large safes or presses (Besnier, *Mélanges d'Arch. et d'Hist.*, vol. xix. pp. 199-258).

find a hypocaust in the room adjoining the Sacellum at BREMENIUM, and a cruciform heating-flue underlying the right-hand angle-chamber at South Shields, we may reasonably infer that these were the rooms in which the *librarii* wrote.

Below the flue-tiles was a *stratum* of fallen slates, lying so flat that at first they were taken for a secondary floor-level; as the excavation proceeded it became evident that they represented the fall of a part of the roof. Immediately below them, in the last foot of rubbish above the original floor, iron arrowheads began to come to light, some of them adhering to the underside of the slates; further west, where there were no slates, one was found adhering to a flue-

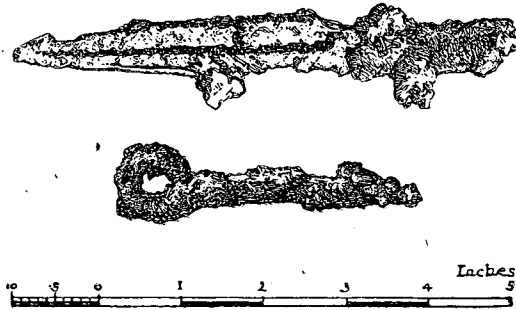


FIG. 15.—IRON COMPASSES AND STAPLE, FOUND IN ROOM 12.

tile. They were found in all parts of the room and at various levels, but lay thickest about six inches from the floor over an area measuring about four feet north and south and three feet east and west, in the middle of the room, nearer to the east than to the west wall. Mixed with them were many nails and other scraps of iron. As much as thirty inches above the floor-level and close to the north wall there was found a rusty lump as big as a man's fist, which proved after careful cleaning to be a mass of nails attached to a large hook; they retained the shape of the bag or wrapping in which they had been hung up. There was also a large mass of iron, possibly an anvil, a pair of compasses (fig. 15), a bone button, a fragment of yellow and red wall-plaster, two ribs of a pig, and a piece of window-glass. The only coins found were an illegible first brass (floor-level of 12), and a coin of Constantius (filling of 11). The position of these

arrowheads was carefully noted ; though they lay in considerable confusion, there was some reason to think that they might originally have been arranged in bundles. The shafts had rotted, with the exception of the inch or so of wood that was in contact with the tang and was preserved by a deposit of oxide. More than 800 were counted. Fig. 16 shows typical specimens and illustrates their variety of size and form. All seem to have been hammered ; we may conjecture that the nails and scraps of iron found with them were

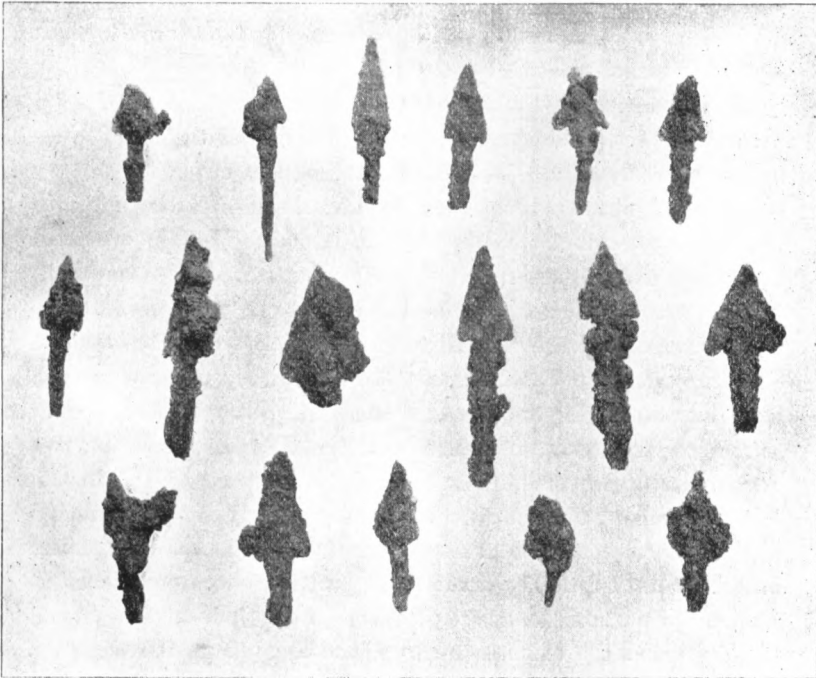


FIG. 16.—ARROWHEADS FOUND IN ROOM 12.

brought there to be converted into similar arrowheads. The presence of the anvil seems to show that the angle-room was in use as a workshop, not merely as a magazine, in the period immediately preceding the destruction of the fort ; but this circumstance proves nothing as to its original destination, and it would be rash to identify it with the *Armamentarium*, or store of arms and equipment, known to have existed elsewhere.

The Praetorium: its Name and its Use.—As considerable progress has recently been made in the comparative anatomy of Roman camps, it may be convenient to append to the description of the praetorium at Housesteads a brief account of common features of such buildings elsewhere.

The first advance towards a sound knowledge of the arrangement of Roman camps was made in 1852, when the excavations of the duke of Northumberland, at BREMENIUM (High Rochester) in Redesdale, brought to light in the centre of the camp a building surrounded on four sides by streets, and divided into an inner and outer court, which Dr. Bruce identified as the praetorium.

In 1870, Mr. Clayton's excavations at CILURNUM revealed a far better preserved building of the same type; but, as the name 'praetorium' had been given, in 1843, to another block of buildings in the same camp, it was found convenient to call the new block the 'forum'; the name was recommended by the general resemblance it presented to the forum at Silchester, then recently excavated. The resemblance is more than accidental. So far as military can be compared with civil organization, the central building, which archaeologists have agreed to call the praetorium, was the forum of the camp, not so much in the sense of a market-place as of an administrative centre. So far as classical usage goes, we do not know that the name praetorium was ever applied to any building in such camps as those on the Roman Wall; and if it had been, it is perhaps more likely to have been used in the sense of commandant's quarters than in the sense of central offices. However, it has become the practice, on the continent as well as in England, to apply the name praetorium to the central building; and the name is a convenient one, because it records the development of this headquarters building out of the praetorium described by Polybius, Hyginus, and Josephus. It was the general's tent, and in the camp of a field force described by Hyginus occupied the corresponding position, facing along the Via Praetoria towards the Praetorian Gate. In like manner it is convenient to use the name *sacellum* for the central chamber of the inner court of the praetorium, although there is no ancient authority for it.

How far are we justified in applying to the permanent camps of auxiliary cohorts terms which had a fixed value for field camps?

When we remember that castrametation was a regular science, that such forts were often built by detachments from legions, and that in the main lines of their plan the permanent camps of cohort and legion show a very close correspondence, it is not difficult to believe that their gates, roads, and such other features as they had in common, were named alike: just as, in spite of the widest differences in scale and organization, the same names are applied to parts of a metropolitan cathedral and a village church. There is sufficient resemblance of plan to show that Hyginus, in describing the camp of his imaginary field force, was bound by the same general rules as the designers of Neuss and of Housesteads.²⁵

We now come to the use of the five or more chambers which are so constant a feature of the inner court. Briefly, the result of recent research is to show that the middle chamber was a sanctuary, in which honours were paid to the standards which were exhibited within it, to the Genius of the regiment, and to the Imperial House; and that the chambers at either side were offices, corresponding to our orderly-rooms, for the transaction of regimental business. The discipline and *esprit de corps* of the Roman army were closely bound up with the worship of the standards, and the worship of the standards with the worship of the emperor.

At Housesteads the so-called sacellum or shrine of the standards is open across its whole breadth to the east. A part of this archway was closed by a low parapet to right and left, leaving an entrance in the centre. There is no sign of any door. Fig. 17 (p. 300), shows what we may suppose to have been its appearance. In many of the German camps the importance of this chamber is emphasized by the addition of an apse at the back. In certain camps, especially at BREMENIUM and South Shields, its foundations are of stronger masonry than those of the surrounding rooms; and where this is so there is found under the sacellum a cellar or strong room. The standards themselves—not flags like our modern ‘colours’ but glittering clusters of emblems,

²⁵ In time inscriptions may come to our aid. One found in the cohort camp of Kutlovica, in Roumania, records the building of a *porta praetoria*. The mention of a *platea quintana* and a *platea praetoria* at Novus Vicus (Heddernheim) suggests that the military nomenclature was to some extent applied to the divisions of towns which grew up under military influences. It would not be surprising if the forum at Heddernheim were found, like that at Silchester, to bear a definite resemblance to the central building of a legionary fort.

often of precious metals, affixed to a pole—had an intrinsic as well as a sentimental value. There is mention in an inscription of a guard-house for men who watched them at night; and it is likely that the need of a place in which they could be kept locked up first led to the creation of a strong room. Then, by a process which would take too long to trace, the standard-bearer, the officer chosen for his integrity to take charge of the precious *signa*, became the banker of the regiment; and, under the empire, we find him in charge of a sort of compulsory savings bank, in which the rank and file were compelled to deposit a certain proportion of their pay. Although the buildings remain, the worship of the standards and of the Imperial House have left few traces in the forts along the wall, the reason being apparently that they continued to be garrisoned in the fourth century, when the traditional religion of the army had been extinguished, though perhaps not replaced, by Christianity. To find evidence of it, we must go to forts which were destroyed or abandoned when this worship still flourished.

BUILDINGS WITHIN THE CAMP.

The Barracks.—The excavations at BREMENIUM, which threw so clear a light on the destination of the central chamber in the inner court of the praetorium—the shrine of the standards with its subterranean strong room—yielded no satisfactory evidence about the quarters allotted to the troops. There, as at South Shields and AESICA, only a part of the camp has been examined, and the incomplete plan exhibits an appearance of irregularity which would to some extent disappear if the whole area were explored, and the original constructions distinguished from the later.

The fort of BORCOVICIUM was garrisoned, we have reason to believe, from first to last by one and the same corps, the first cohort of Tungrians. This regiment was one of those entitled *milliaria*, that is to say, it was nominally one thousand strong and consisted of ten companies or *centuriae*; but unlike the second cohort of Tungrians, which served at Birrens and at Castlesteads, it was not *equitata*, that is to say it did not include a proportion of horsemen.

No ancient author tells us how the permanent barracks of legion,

or cohort, or century, were arranged, but we know that on active service a definite space in camp was allotted to each legion, to each of the ten cohorts in the legion, to each of the six centuries in the cohort, and to each of the ten tents allotted to the century, and, though Hyginus does not mention it, to each of the eight *contubernales* or occupants of a common tent.

The camping ground of an auxiliary cohort was planned (due allowance being made in the case of a milliary cohort for the increased number of centuries) exactly like that of one of the cohorts of the legion. That is to say, the centuries were grouped two and two, the tents of each company pitched in line, and the two lines placed parallel and divided from one another by a road twelve feet wide. Behind each row of tents a strip five feet wide was occupied by arms and baggage, and behind that, on a strip nine feet wide, the horses and baggage animals of the company were picketed. The rectangle occupied by two centuries encamped in this manner was 120 feet long by 60 feet wide, and was technically known as *striga*, an obscure term borrowed from the nomenclature of that most pedantic corporation the *gromatici* or land surveyors. The system which treats two centuries as the unit takes us back to the armies of the Roman republic, in which each cohort was divided into three *maniples* of two hundred men, and carried its own standard. Under the early empire the maniple disappears, and we find each century a complete unit carrying its own standard and furnished with a graded hierarchy of petty officers.

Hyginus, writing in the second century of our era, still assumes the pairing of two centuries into *strigae* as the most convenient formation for the tents of his imaginary field force, but he explains that the *striga* could be divided into two *hemi-striga*, each 120 feet by 30 feet. This allowed nine feet for horses as before, five feet for baggage and arms, ten feet for tents, and six feet for a road before the tent doors. The centurion occupied a tent to himself at the end of the row, and it is probable that a second tent was allotted to the *principales* or petty officers of the company: *signifer* or standard-bearer, *optio*, *tesserarius*, and *custos armorum*.

Just as in legionary and cohortal camps alike the general plan of the permanent stone camps can be shown to have originated in that

of the camps thrown up night after night in the field, so the traditional 'lines' of the paired centuries were reproduced in the stone-built barracks of first and even second century forts.

Here, as usual, it will be best to look first at a typical legionary camp. The best for our purpose is *NOVAESIUM* (Neuss), a camp which has a special interest for us, because the sixth legion lay there from the time of the rebuilding of the fort under Vespasian until Hadrian moved it to York. The normal barrack block at Neuss measures 240 feet by 80 feet, and consists of two long buildings face to face, separated by a road 16 feet wide. Each building is in two parts. At the end nearest the rampart was a wing 80 feet long divided into numerous rooms, in some of which we are inclined to recognize common kitchens and mess rooms. The remainder—a strip 165 feet long—is divided into twelve exactly similar compartments, each consisting of a front and a back room. Their front wall is considerably behind that of the 'mess-house wing,' leaving room for a verandah nine and a half feet wide.

The camp at Neuss has not yet been completely excavated, but already some dozens of such blocks have come to light, and there can be no doubt that they correspond with the *strigae* and *hemi-strigia* of Hyginus. In the permanent camp the length and breadth of the *hemistrigium* is about doubled, but the proportions remain approximately the same. An inscription found in the camp of the twentieth legion at Caerleon makes it highly probable that these buildings were known as *centuriae*.²⁶

It is a peculiarity of Housesteads and a consequence of the elongated form of camp, which in turn was determined by its position on a narrow ridge, that the buildings in the *praetentura* and *retentura* lie parallel to the longer axis of the fort and not, as is usually the case, at right angles.²⁷ There are twelve of these long buildings, I-VI and XIII-XVIII, a group of three in each angle of the camp; and of these two are always placed back to back, separated by a passage only four or five feet wide, while the third is divided from

²⁶ It is *C.I.L.* VII. 107, and records that about 253 A.D. the emperors Valerianus and Gallienus rebuilt the company barracks of the seventh cohort, *cohorti vii. centurias a solo restituerunt*.

²⁷ Camelon is an exception; there the buildings in the *praetentura* are at right angles to the *via principalis* as at Housesteads.

them by a street of some width, varying from eighteen to twenty-four feet. In the central division of the camp there is one block (VII), which conforms to the same type and must be discussed with them. These thirteen buildings vary in length from 152 feet to 169 feet, and in breadth from 33 feet to 37 feet.

There are two among them which obviously differ from the rest: IV, which seems to have been given up to smelting operations, and XV, a buttressed building, which is constructed in large ashlar masonry, and contains a small set of baths at its east end. They will be described separately. There remain eleven blocks, all subdivided by numerous partitions. It is probable *a priori* that ten of them are the company barracks of the ten *centuriae* composing the military cohort. The use of the eleventh must remain uncertain.

The investigation of these barrack blocks did not give very satisfactory results, for several reasons. First, the walls were often destroyed down to their footings; secondly, the partition walls dividing them were of different periods, and where only foundations remained it was impossible to say whether one wall had preceded the other or both had existed side by side; thirdly, irremediable harm had been done by previous excavators, who had traced the outline of the buildings much as we were doing, and in their search for inscribed stones had ruined whole strips of wall. Thus along the north part of block I we were only able to determine the position of two doorways, although it is practically certain that there was one in each compartment, the reason being that the door sills and any large stones in the wall had been violently extracted and thrown on one side when they proved blank. Our workmen who knew that Anthony Place had taken a leading part in these operations would say, when the confusion was worse than usual, 'There's nae dout auld Antony's been here before us.'

In describing these buildings, I shall number the rooms from left to right, and where the rooms of a block are divided into north and south compartments, I shall describe the northernmost as (*a*), the southernmost as (*b*), and so on. It will be seen that they are all divided into ten or eleven rooms, and that in blocks I and VI there was a cross-division of rooms into compartments. In block I, compartment (*a*) usually measures 16 feet by 11 feet and (*b*) $12\frac{1}{2}$ feet by

11 feet; and in block VI the inner room has the same proportions, $12\frac{1}{2}$ feet by 11 feet, and the outer room measures 14 feet by 11 feet. Where cross-divisions exist in the remaining barrack-blocks, they are less regular and probably of later date. Division into compartments is characteristic of the legionary camp at Neuss, where the inner room measures $14\frac{1}{2}$ feet by $11\frac{1}{2}$ feet, and the outer 8 feet by $11\frac{1}{2}$ feet; but along the front of the Neuss barracks runs a veranda $9\frac{1}{2}$ feet wide, and if this be added to the outer room the dimensions will be found very nearly equal to those of the barracks at Housesteads.

One was on the look-out for an L-shaped building, like those previously discovered at Neuss, CILURNUM, and subsequently at Camelon,



FIG. 18.—PILLAR BUILT INTO ANGLE OF A BARRACK-BLOCK.

north of the Antonine Wall in Scotland, and at Gellygaer, in South Wales. Although no L-shaped barrack survives at Housesteads, it would be rash to assert that none ever existed there. Several stone columns found built into the walls of these blocks seem to attest to the former presence of verandahs; and in blocks II, III, VI and XVI II, we several times found the footings of a wall parallel to the present front wall, and only three or four feet behind it. The evidence is clearest in the case of block VI, which seems originally to have been a *hemistrigium* facing south. Traces of an older front wall appear in rooms 3, 4, 5 and 9, but were not found, in spite of careful search, in

rooms 1 and 2, which may therefore be supposed to have formed a projecting wing at the outer end of the L-shaped block.

If we take these buildings in succession, we shall find that in their present form they are grouped in pairs, back to back, whereas in the *striga* system proper the pairs are face to face. Although it was seldom possible to discover the doorways, the fronts of the buildings having been more or less ruined by injudicious digging, there was seldom any doubt as to the side on which the doors had been, since on that side there was generally a line of stone channelling to catch the drip from the roofs. Blocks I, VI, XIII and XVIII, face the adjacent rampart; II and III face one another, in the fashion of a regular *striga*. In the case of V, which was much destroyed, the channelling was not found, but there can be no doubt that the doors faced south; the same remarks hold good of XVII, with the difference that here there was one door at the east end. XIV must have faced north. The guiding principle at Housesteads seems to have been that the barrack doors faced the rampart, so that, in case of sudden alarm, the men would go straight to their places; and it will be noted that blocks I, VII, and XIII, cover the whole length of the exposed northern front. On the other hand, in a camp laid out on the *striga* system, the barracks opened upon closed streets; from the point of view of the drill-sergeant this plan had its advantages, more particularly in the field camp of a column on the march, where each company would pack its baggage and form up on its own line, and issue as a complete and disciplined unit in the main street outside. But in case of a night attack, the barracks at Gellygaer, with their backs to the ramparts, are much less practical than those at Housesteads.

Most of these blocks were explored only by trenches. The following were completely excavated: Block I, 1 and 2; II, 8 and 9; III, 4; and IV, 2. Excavation by trenching is always unsatisfactory, more especially in a wet climate; without clearing them completely it is hardly possible to recover the life-history of buildings such as these, which have been altered and rebuilt several times.

In the time and with the funds at our disposal, and in view of the unusual shallowness of the soil and the disturbed condition of the remains, it seemed best to stick to our original scheme, and to trace out the anatomy of the camp as a whole. It would be interesting

to undertake a complete excavation of some of these blocks—VI is the most promising—but there are many forts which would yield better results, because their soil is deeper and less disturbed.

Construction.—In most cases the foundations rest upon whin rock, but clay puddling, usual in the foundations of the central buildings (VIII-XII), is rarely found in those of the barracks. Blocks of whin often appear in the lower courses, but these mainly consist of freestone dressed to the same size as the blocks in the camp wall. In block II (8 and 9), the fourth course consists of flags laid as ‘thruffs’; elsewhere this bonding course was not observed. The floors were almost always paved with flags fitted together in irregular fashion; above these there was often a later floor level of stamped clay, and in one case a higher flagged floor (east end of XVII). Hearths of large flags reddened by fire were usually in a corner, sometimes in the middle of the rooms. A very curious hearth was found in VI (2), and is shown on the plan. It is a shallow pit (depth just over one foot) in the middle of the roughly-paved floor. A channel or flue, lined with stone slates set on edge, connected it with the south wall, and had probably served to introduce a current of air. The flue was beneath the level of the floor. The pit contained coal and wood ashes, and showed marks of fire. It contained, also, a quantity of pottery, including fragments of three Samian vases* which must have been thrown in when the hearth was disused and the later floor constructed over it. This find is of importance, since, sooner or later, when more is known of the chronology of *terra sigillata*, these vases will furnish an approximate date for the reconstruction of this part of the camp.

Were these buildings constructed throughout in stone, or were only the lower courses of stone and the upper structure in wood? This problem was constantly in our minds during the excavation, but no satisfactory evidence was forthcoming. I am inclined to believe that the original barracks were wooden huts raised on stone foundations, and that, at some period after the principal buildings had been ruined, the barracks were restored in stone: the evidence being that in different parts of these blocks two semi-circular stone door-heads were found built into the fourth or fifth course of the foundation.

* See p. 295.

The use of the door-heads as building material indicates that pre-existing stone buildings had been thrown down ; but it is difficult to believe that if the barracks had been constructed of stone throughout it would have been necessary, even after a sack, to rebuild them from the fourth course upwards. If, however, a wooden superstructure had been burned, it would be natural to use damaged members from the principal buildings of the camp in the restoration of the barracks. Their imperfect alignment is easily accounted for. Thus it is evident that the west ends of IV, V, and VI, were originally in alignment, but at the reconstruction the end wall of V and VI was moved out, perhaps because the drain which skirts them had weakened their foundations. IV was never rebuilt.

Do these stone foundations represent the earliest barracks, or were they preceded by ranges of wooden sheds framed on vertical posts and horizontal sleepers such as we know existed at Ardoch ? We cannot say ; but such a mode of construction, suitable enough on deep soil and level ground, offered especial difficulties on the basalt of Housesteads and along the sloping sides of the ridge ; and it is possible that in this bleak region freestone was more easily obtained than timber.

It is to be noticed in some of the barracks at Neuss that the second of twelve consecutive rooms, each divided into two compartments, had its inner compartment better paved than the rest, and it has been conjectured that the first and second rooms may have been occupied by the centurion, whose tent in the field encampment certainly occupied a corresponding position. It is possible that the two end rooms of VI, one of which has the sunken hearth already described, may have been the quarters of the officer commanding the *centuriae*. In any thoroughgoing excavation of buildings of this type a good look-out should be kept for such differences.

Were women and children at any time resident within the camp ? The comparatively frequent occurrence within the barrack rooms of fragments of bracelets made of glass, paste, and jet, and of beads and similar trinkets, suggests that in the later years of the Roman dominion there may have been 'married quarters' within the walls.

Block VIII.—The Storehouses.—North of the praetorium and parallel to it lie two long narrow buildings, the construction of which

makes it probable that they were storehouses. Their walls are exceptionally thick and are strengthened by buttresses, and their floors were raised above the ground, with the difference that the floor of the northern compartment rested on square stone pillars, that of the southern on parallel dwarf walls. No trace of soot was found in either basement, nor did we find any place for a furnace, consequently these were not hypocausts. The object of elevating the floor was to protect the contents of the buildings from damp. The pavement throughout had been removed ; it probably consisted of stone flags.

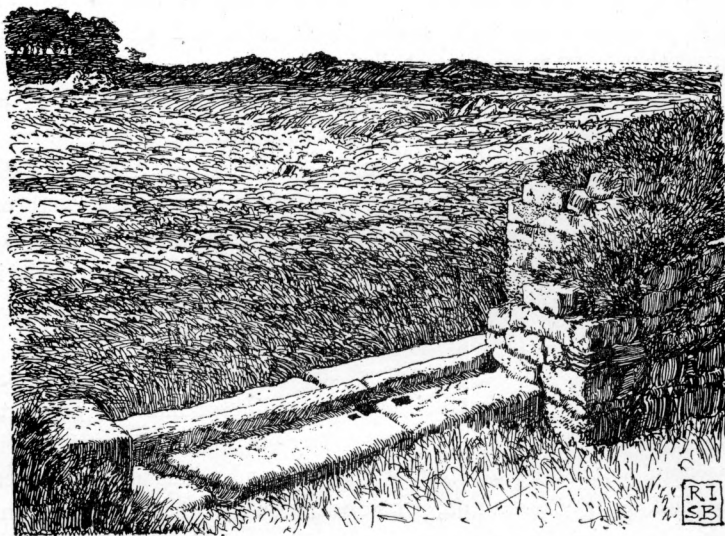


FIG. 19.—THRESHOLD OF BLOCK VIII SEEN FROM INSIDE.

The doors of these buildings open, contrary to expectation, not on the *via principalis* but on the vacant piazza to the west. The entrance in each case is at the west end, and was closed by two doors. The well-preserved threshold of the northern compartment, with its check, pivot sockets, and bolt-holes for two doors is shown in fig. 19.

The doorway and steps at the east end, and the kiln in the middle of the southern compartment, are insertions of comparatively recent date. It was probably at the time when the kiln was built that the western half of this compartment was razed to the ground. The kiln

was excavated by Hodgson, as has been mentioned on page 199.²⁸ The kiln inserted in a similar way in the east tower of the south gate is discussed on page 282.

The closest parallel to this double storehouse is furnished by two similar blocks, each consisting of two warehouses, which stand at either side of the praetorium at BREMENIUM. One or more buildings of this type have been found in almost every fort hitherto examined in the north of England, but it does not seem to be common on the German frontier. The following table shows the principal instances:—

Camp.	Praetorium.		Granary.		Buttresses: centre to centre.
	Breadth.	Length.	Length.	Breadth.	
	Feet.	Feet.	Feet.	Feet.	Feet.
Housesteads	77	90	84	22	14
Chesters... ..	90	125	{ 52 48	{ 33 29	{ 10½ 12
South Shields	80	90	75	21	10
Cappuck ... ..	...	...	59	22	7½
Bremenium	73	76	76	21	9½
Do. ... ..	...	...	76	20½	...
Do. ... ..	...	...	76	20½	...
Do. ... ..	...	...	76	20½	...
Birrens (xv)	70	80	77	24	8½
Do. (xi) ... ..	...	...	71	25	8
Lyne	102	97	97	20	9
Camelon	120	92	106	20	9½
Ardoch	76	88	...	...	...

It will be seen that their dimensions exhibit remarkable uniformity. Their width varies between 20 feet and 25 feet, while their length seems to be governed by the length of the praetorium, or, in other words, by the distance between the *via principalis* and the *via quintana*, for they are usually placed in the *latera praetorii*. The uniformity observed in their dimensions and position appears also in their construction: the floor is raised upon dwarf walls or stone pillars. The walls are strengthened with buttresses, and the doors, when their position is known, are at the end, never at the side. Arguing from the thickness of the walls, the strength of the buttresses, and the

²⁸ He cleared a part of the adjoining buildings.

narrow proportions of the buildings of this type at Birrens, Mr. Barbour has inferred that they were spanned by stone vaults. In any case it is clear that they were intended to support a heavier superstructure, if not a vault, then perhaps a pitched timber roof with stone slates.

The following considerations suggest that these buildings were storehouses:—

1. Whereas most of the stone buildings in the forts had floors resting on earth and roofs of inflammable thatch, these buildings are practically damp-proof and fire-proof. Now it was of the first importance to the garrisons to have storehouses for grain and other provisions which could defy these two dangers.²⁹

2. *Horrea* or storehouses are known to have existed in Roman forts. An inscription found at AESICA³⁰ records the rebuilding of a *horreum* by the garrison in 225 A.D. At Niederbieber we find a dedication, 'GENIO HOR[REI] N[UMERI] BRITTONUM.' That fort was held by two corps, a *numerus* of Britons, and one of scouts, and it may be inferred that each possessed its own storehouse. In like manner at BREMENIUM, where two corps were stationed, it is likely that the two blocks of storehouses placed symmetrically east and west of the praetorium are those of the Varduli and of the local scouts respectively. Finally, at Capersburg, an inscription found before the door of a building measuring 52 feet by 26 feet identifies it as *horreum*. Its proportions are not those of the British examples, excepting those at Chesters. But, as I have said, the standard pattern of praetoria and other buildings are remarkably diverse in Germany and in Britain. Supposed granaries have come to light there in the forts at Pfünz, Theilenhofen, and Ruffenhofen.³¹

²⁹ The Gauls attempted to set on fire the buildings inside Caesar's camp by slinging red-hot pellets of clay upon the roofs; and just such fire-hardened pellets were found in the camp at Ardoch.

³⁰ The region of the fort at AESICA, where this inscription is said to have been found—'the northern part' of the station—was not examined in the recent excavations, but it is likely that a storehouse stood on the north side of the praetorium. At AESICA and CICURNUM, as at BORCOVICIUM, a large house-like building extends from one side of the praetorium to the rampart. It is likely enough that the space on the other side of the praetorium in those camps will be found to contain the buildings which I take to be *horrea*.

³¹ A room adjoining the praetorium at Würth exhibits superficial resemblance in plan to the British *horrea*, owing to the rows of square stone piers on its floor, but these are much larger as well as further apart than our *pilae*, and the editor is probably right in thinking that they supported posts and shelves.

Block IX.—The West Central Building.—This, a parallelogram $87\frac{1}{2}$ feet by 62 feet, seems to have consisted of a narrow central court, a corridor round it, and numerous small rooms entered from the corridor. It stands on a slope, and was more completely destroyed than any other of the central buildings. The well-preserved walls in the southern half of it are only substructures and do not rise to the floor level. It yielded only one object of any interest—an intaglio of glass paste, engraved with the figure of Victory.

Block XI.—This is a small building, 89 feet by 24 feet, constructed in the same poor style as the barracks. It was entered by a doorway at the south-east end, which led into the largest of its four compartments—a room containing an apsidal structure, possibly the remains of a bath. The south-west angle of XI and the south-east angle of VI were completely obliterated, this having been the site of a seventeenth century farm house.

Block XII.—The Commandant's House (?)—This is a building 124 feet from east to west, and $82\frac{1}{2}$ feet from north to south, lying south of the praetorium and separated from it by a road 12 feet wide. Its east front is in true alignment with that of the praetorium, and its masonry, though smaller, exhibits the same careful dressing. The two buildings were nearly contemporary. It seems to consist of a central court, a corridor round it, and a series of chambers, three at least of which opened into the surrounding streets. The eastern rooms were explored by Mr. John Clayton in the fifties, and have remained open ever since. Dr. Bruce describes them as follows:—

‘Proceeding once more to the intersection of the main streets, we make our way to the southern gate. We soon come to a considerable mass of building on our right hand. Part of it was excavated in 1858, an enormous mass of debris having been removed. It is not easy to assign a use to each apartment. One of them, when first opened, strongly resembled (though on a small scale) an Italian kitchen; there were marks of fire on its raised hearth. In this part of the camp the ordinary soldiers would dwell. No remains sufficiently perfect exist to give us a complete idea of a Roman house in these military cities. Judging from the remains which do exist, they seem to have been of a dark and gloomy character. No windows have been found; but in most of the stations window glass is met with in the debris.’³²

Here, too, as in block IX, the walls that could be traced in the southern half of the building were only substructures. It is natural

³² Bruce, *Handbook to the Roman Wall*, 2nd edition, 134, 135.

to compare it with the better preserved house which occupies a corresponding position at CILURNUM ; with the hypocausted building south of the praetorium at AESICA, and with the small house built round the central court on the opposite side of the praetorium at Gellygaer. Farther afield, a parallel is furnished by the large house, also built round a central court, which lies north of the praetorium of Wiesbaden, and was explained by Von Cohausen as a military hospital. It seems probable that in each case this house-like building was the residence of the officer commanding the station.

Block XV.—Before the excavations this was a very conspicuous ruin, the east end, which had been laid bare by Hodgson, standing high above the rest. It had seven (originally eight ?) buttresses on the north side, and originally, no doubt, also on the south. It was explored by trenches, but no partition wall could be discovered other than those at the east end enclosing the suite of baths described by Hodgson in the *History of Northumberland* (pt. II, vol. iii. p. 187).

‘Some of the stones of the pillars of the stove had elegant mouldings upon them, and had plainly been used in former buildings. It consisted of two apartments, divided by a party wall of two feet. The first, or anteroom, which was supported by six pillars, was $11\frac{1}{2}$ feet by 8 feet, and floored in the ordinary way with freestone flags, covered with a composition of lime and pounded tile. The second was 7 feet square within, and wholly covered, floor and sides, with a similar cement six inches thick, the last coating being finer than the rest, and polished. On its north side, immediately under the mouth of the flue, were thin stones set on edge between the outward wall and the plaster : and on the west side, two upright rows of tufaceous limestone, porous as pumice-stone, one six inches, the other 5 inches broad, were inserted in the wall, apparently for allowing heat to rise from below without the smoke. As the mouth of the stove was over this division of the building, it would have more advantage of the fire than the ante-room, especially as the opening for the smoke seemed to be behind a wall of pillars at the north-east corner of the building, and quite near the mouth of the furnace. Adjoining to the entrance into the anteroom was a large and perfect cistern, apparently for cold water, and formed in the inside of the usual Roman composition of pounded tile and lime, and probably often having in it a portion of pounded limestone.’

The thickness of the walls, and the excellent quality of the masonry, which consists of large well-fitted blocks, distinguish it from the barracks, which it resembles in general proportions. It measures $162\frac{1}{2}$ feet by $35\frac{1}{2}$ feet, and is therefore identical in length with XIV and XVI, the barracks at either side of it. I have little doubt that it is the oldest building of the three. If XIV and XVI had been in

existence when it was built, it would not have been set so far to the north, with its buttresses almost touching the wall of XIV. There was no reason why its south wall should not have been aligned with the south wall of the north tower of the east gateway. Further, the use of buttresses seems to be characteristic of the architecture of the Antonine period; this, however, is a point upon which it is desirable that further evidence should be collected. As to the use of block XV, I can offer no satisfactory suggestion; a somewhat similar building, with baths at one end, has been discovered at a fort in Germany, and interpreted as an officers' mess-house.

Block IV.—The Iron Works.—The foundations of this block were found at an unexpected depth, but in good preservation, wherever we sought for them. The soil covering them contained only a small proportion of fallen stones, and we inferred that the original wooden superstructure had been destroyed, and that the building was never restored. On its north side there were considerable bodies of clay, and these extended across the road almost to the wall of III, while within IV, and especially at its west end, pieces of slag and masses of burnt clay were encountered in the trenches. Specimens of the slag were submitted to professor Lebour, whose report on them is as follows: 'At my request and through the kindness of professor P. P. Bedson of Durham College of Science, an excellent analyst—Mr. H. E. Watt—made a careful qualitative examination of the slags, with the result that they are proved to be iron slags, and not to be connected with smelting for either lead or copper.' Writing somewhat later, professor Lebour adds: 'There is plenty of ironstone in the neighbourhood of the Roman Wall, whence material for smelting could be procured, e.g., close to Chesterholm, where indeed clay-ironstone of good quality was worked within the last sixty years.'

Late buildings.—At a somewhat late date, a long chamber was built right across the south gate, on the road, leaving a narrow space for foot passengers between itself and the guard chamber. The exact date for this change cannot be given, but a *terminus ante quem* is furnished by the pottery found in connexion with it. There are specimens of a type of dish of which many fragments were found hereabouts and at higher levels all over the camp. It is possible that in the fourth century accommodation had to be found within the

walls for the population of the civil settlement which had grown up outside. It will be interesting to see, when the suburban buildings are examined, how far the latest pottery found in them agrees with the pottery found in the intrusive structures within the camp; in other words, how far the desertion of the civil settlement outside the wall synchronized with the extension of the buildings within. Another instance of the north and south road being blocked by a late building occurs at the east end of block I. There the outlet between I and VII is closed by a long chamber with the remains of an apse towards the west. It has a rude pavement of massive building stones and flags roughly fitted together. The walls, as far as can be judged from their remains, had no proper foundation, but rested directly on the pavement; part of them may have been of wood, for at the east end a layer of wood was found lying on the pavement. Below the pavement was an accumulation, eight or ten inches thick, of black mud, and below that the original rough paving of the street, and the continuation of the channelling which skirts the walls of the barrack. Probably this was a post-Roman building; it is plain that when it was built I and VII were to some extent ruined.

Work still to be done.—Should further investigations be undertaken at Housesteads, attention should be directed to the following points: (1) Within the camp: Blocks I, VI, XII and XV, would repay further investigation; block IV should be further excavated with a view to determining the nature and extent of the smelting operations carried on there, and obtaining confirmatory evidence of their Roman date. The drains should be traced and their outfall examined. It would also be worth while to get a complete plan of the latrines and to clear the ground between them and the south gate. There appears to be a greater depth and a greater accumulation of rubbish here than in any other part of the camp, and interesting conclusions might be drawn from the stratification of the remains; elsewhere materials for stratigraphic study are very scanty. (2) Outside the camp: the ditch, the roads approaching the camp, the supposed banks and ditches outside the west gate, and the buildings outside the south gate, one of which, to the west, is Roman work of good period, while others may or may not be medieval. The course of the vallum is still to be traced, and the remains of the settlement on the slope

between the camp and chapel hill would certainly yield interesting results. The trial trenches in the valley brought to light in a few hours more Samian pottery of good quality than was found in weeks of excavation in the camp above; pieces of oak posts and various objects of leather were preserved here in the damp peaty soil. It was in this region that the inscriptions and sculptures which made the name of BORCOVICUS famous were discovered. There is reason to suspect the existence of a large building, perhaps the temple of the Mother Goddesses, at the east end of the valley near the Knag burn, where the drum of a large column lies on the surface. Higher up the burn, the baths of the station might be examined, but part has been destroyed by the stream, and it would be impossible to recover the complete plan.

The Camp as a whole.—The unusual length of the camp (610 feet), in proportion to its width (367 feet), raises an interesting question: Was it of this abnormal shape from the first, or has it been lengthened? Mr. Haverfield has shown reason for thinking that in the case of CILURNUM and AMBOGLANNA the portion of the fort which projects to the north of the wall is an addition to the original enclosure. It is a strong confirmation of this theory that the portion of CILURNUM south of the line of the wall measures about 435 feet from east to west, and 330 feet from north to south—dimensions which correspond very nearly with those of AESICA, PROCOLITIA, VINDOBALA, and several other northern forts.³³ Now the length of Housesteads from north to south (367 feet) corresponds pretty well with that of AESICA (351 feet), and of the hypothetical early camp at CILURNUM (330 feet). AESICA, in fact, retains the original dimensions of the forts along the turf wall, which once, as I believe, extended from sea to sea. If AESICA were enlarged towards the north, the result would be a camp of the general proportions of CILURNUM; enlarged to the west it would resemble Housesteads. There are two other camps, South Shields and VINDOLANA, the proportions of which approximate to those of Housesteads. Of the internal arrangements of VINDOLANA (about 495 feet by 300 feet) we know nothing. It is possible that it was originally about the same size as another presumably earlier fort, Castlesteads

³³ Moresby falls into this group if its reported area, 440 feet by 358 feet, be correct.

(about 390 feet by 300 feet), and owes its present abnormal proportions to an extension; the reason for not extending it in a direction along its shorter axis being, perhaps, that there was a ravine on one

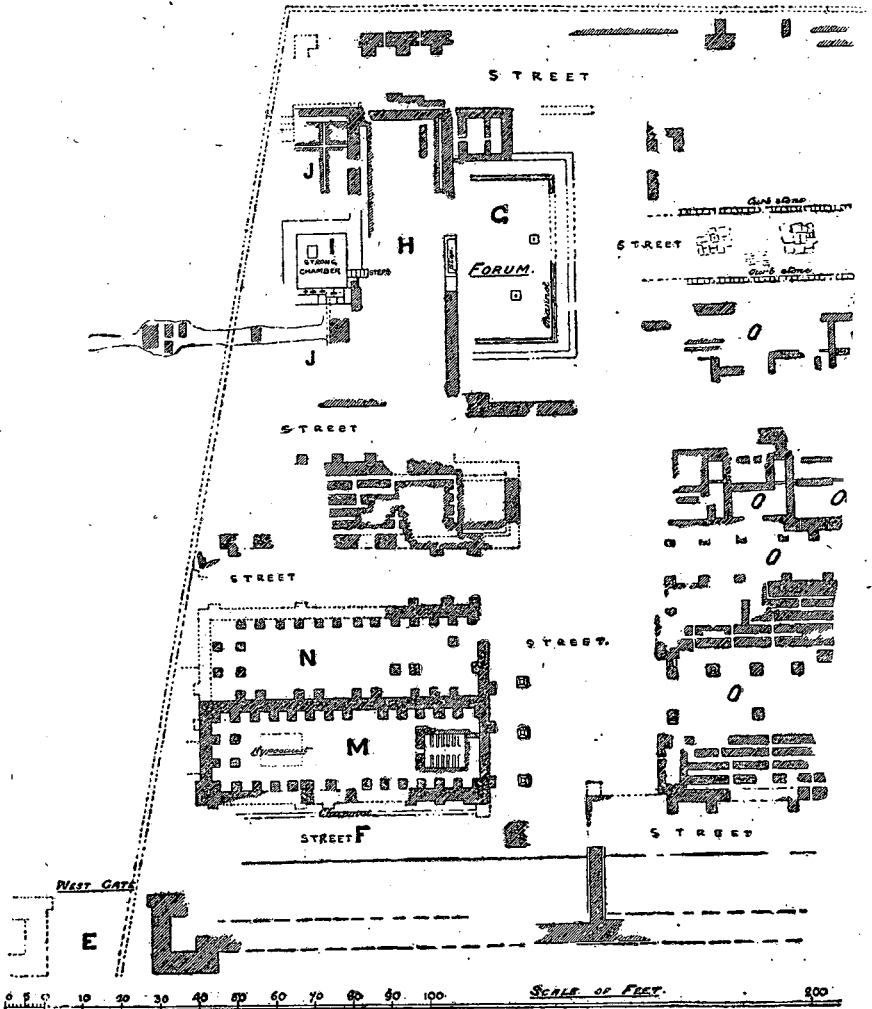


FIG. 20.—PLAN OF CENTRE OF SOUTH SHIELDS CAMP.

side and the baths of the station on the other. At South Shields (624 feet by 370 feet) we cannot guess at the local conditions which

may have made it necessary to extend along the longer axis ; but, fortunately, we know the ground plan, which is so abnormal as to require some such explanation as this. The praetorium, and consequently the fort, originally faced south ; in due course the camp was enlarged, and a new praetorian gate and *via principalis* were constructed north of the praetorium, the intention being, no doubt, to erect a new and enlarged praetorium facing north ; but this change was never carried out, and so we have at South Shields the curious anomaly of a praetorium turning its back on the praetorian gate. These are speculations, but a little study of the plan of CILURNUM will show that the present praetorium there (the so-called 'forum') cannot be older than the enlargement of the camp ; the whole interior must have been remodelled, and the previous buildings, whether of wood or of stone, swept away when the camp was extended. Traces of earlier buildings, or, failing buildings, of earlier roads, should be looked for in future excavations there.

Evidence suggesting these speculations, in particular the ditch in the line of the Wall ditch which crosses the fort at Chesters, has accumulated since the excavation at Housesteads. But the possibility that the extension of the camp to the west might account for its abnormal proportions was present in the minds of the excavators. No evidence in favour of such a theory was observed. If, as is probable, the original camp had a wall of turf, this would have been obliterated where it crossed the enlarged camp, and its ditch might be overlooked.

The Walls and Gates ; the Earthen Rampart.—The four gates and the greater part of the walls had been excavated by Hodgson and John Clayton (see pp. 199 and 202) and we only re-examined them as much as was necessary for the purpose of making a plan. The buildings on the west wall, certainly of very late construction, had been cleared out by our predecessors, and we could glean no evidence as to their use. Our chief discovery was a tower on the south wall midway between the south-west angle and the south gate. It seemed possible, on the analogy of CILURNUM and AMBOGLANNA, that there had been two gates on each of the long sides, and we examined this part of the south wall in order to settle the point. There is now a breach through which a modern cart road passes ; but in Roman times there was no

gateway, only the tower shown on the plan. A strip of wall east of the south gate, as far as the south-east angle tower, has never yet been excavated, and as this part of the enclosure has deep supersoil it should repay exploration. The strip from the angle tower to the east gate had been excavated previously, and we contented ourselves with reopening the foundations of several buildings, among them one that looks like a remarkably small tower. The corresponding part north of the gate had been excavated by John Clayton, but to no great



FIG. 21.—THE CAMP-WALL NORTH OF THE EAST GATE, SEEN FROM INSIDE.

depth, and here we found the remains of a rough retaining wall, which had evidently supported a bank of earth behind the rampart. A similar retaining wall was uncovered to the west of the north gate. Hodgson observed 'a terrace, made of earth and clay, which ran from tower to turret along the inside of the wall to the height of about five feet above its foundation,' and noted that the insides of the towers of the gates and of the turrets between them and the corners of the walls were filled up with clay to the same level. The greater part of

this bank seems to have been dug away by our predecessors, in the process of laying bare the walls and towers. It can never have been continuous—the latrines, for instance, interrupted it—and it must have varied in width. A solid body of chippings and clay runs along the south wall to the west of the south gate, and a deposit of the same material, thrown back by the workmen who cleared the face of the wall fifty years ago, covered part of VI and XII. Quite distinct from this earthen rampart are certain strips of wall built close behind the original stone rampart in order to strengthen it. They occur at the south-west angle, midway along the north side, and immediately south of the east gate. At the south-east angle the wall has been thickened, at what date it is difficult to say; there certainly was some rebuilding during the last century. The normal construction of the camp wall as seen from inside is shown in fig. 21.

Roads.—In constructing the roads at Housesteads, the Romans availed themselves where possible of the rock, a good instance being the road from the east gate to the praetorium. Elsewhere there was usually a pitching of rough whins covered with masons' chippings; and over these in some cases was laid a pavement of flags. Between II and III there was regular 'cobble' paving. Common building stones were frequently used in later repairs. In the roadway between XVII and XVIII there survives a large patch of flagged paving (shown in the plan), and there can be no doubt that such paving once existed in many parts of the camp from which it has now disappeared. Along the front of each block there ran a line of stone channelling; there seems to have been a gutter, less well constructed, along the margin of the made roads; and these were in communication with a system of underground drains, which it would be interesting to explore further than we could do in our one season's digging. Three main drains were located: (1) running down the slope from north to south, at the west end of the camp, and presumably issuing into the camp ditch; (2) draining blocks IX and X and descending the hill in the same direction as the former; (3) draining the buildings in the north-east quarter of the camp, and issuing at the junction of the great wall with the rampart. These drains were constructed alike, of sandstone flags set on edge, with cover stones of the same material; the bottom was sometimes rock, sometimes rammed clay and stones, sometimes flagging.

Whin boulders were sometimes put at the angles of the buildings as though to protect them from the wheels of passing carts.

The Open Area.—West of VIII and north of IX lies a large open area, not a street, which was never built upon. To the west it has a pavement of natural rock, and farther east, where the rock descends, the ground has been brought up to the same level and the surface formed with chippings and gravel. It is skirted on the west by a street which corresponds with the *Via Quintana* of Hyginus; and consequently it is hereabouts that we might expect to find the *Forum Quintanum*, of which, unfortunately, we know little beyond its name and the fact that in some sense it was a market. The corresponding part of the camps at AESICA and CILURNUM has not yet been examined. There is a somewhat similar open area behind the praetorium at Gellygaer; and at South Shields, though there is not the same square space, there is an unusually wide street, flanked at either side by three long narrow buttressed buildings. At Housesteads there are only two such buildings—those which together form block VIII; and their doors open directly on this open space.³⁴ If, as seems almost certain, they were store houses, the open space would be used for loading and unloading carts, and troops might parade there when supplies were served out. The fact that during the prolonged occupation of the camp, while subsidiary buildings sprang up elsewhere, one of them completely blocking the south end of the *via principalis*, there was never any encroachment upon this open space, indicates that it played some definite and permanent part in the life of the garrison.

Water Supply.—The fort was probably placed where it is with a view to the water obtainable from the burn on the east and from springs and wells on the adjacent slopes. It is possible that water was brought into the camp by a conduit. We learn from an inscription that this was done at CILURNUM³⁵; while at AMBOGLANNA, VINDOLANA, and AESICA we have remains of the actual water-courses. If this was done for CILURNUM, which lies within a furlong of the inexhaustible Tyne, Housesteads would not have been left dependent on the outlying wells had it been possible to conduct water from a higher

³⁴ As I have already pointed out, the door and steps at the east end of VIII are post-Roman, contemporary with the construction of the kiln and demolition of the south-west quarter of the building.

³⁵ Also at the South Shields camp.—*Arch. Ael.*, XVI, 157 [ED.]

level. No trace of a conduit has been found; judging from the level, if any existed it must have entered the camp from the west. When the supposed earth works outside the west gate are examined, trenches should be cut from north to south, parallel to the front of the camp, to ascertain whether any water channel entered the camp from that side. Several cisterns were found in the eastern half of the camp.

One such, about which Dr. Bruce recorded the opinion of one of Mr. Clayton's workmen that the Romans used it for washing their Scotch prisoners in, is lying open and visible at the north gate; two others, of about the same dimensions, 10 feet by 5 feet, lie near the north-east and south-east angles; and part of a fourth near the south gate. Their construction is shown in fig. 22, which represents the one at the east end of block XIII. A fifth, about three times as large, 15 feet by 10 feet, a well-preserved specimen of Roman construction, was discovered built against the south-east angle-tower, the ground floor of which seems

to have been filled up when the cistern was constructed. The overflow water from it was used for flushing the latrines adjoining it to the south-west. A detailed description and drawing of this cistern, by Mr. Knowles, are appended. Failing evidence of a conduit, we must suppose that these tanks were reservoirs for rain water, and that they were once much more numerous. In I, 4, there is a roughly constructed cistern below the floor-level, with a square opening in the adjoining wall, through which it received the surface water from the street behind.

The Latrines.—Mr. W. H. Knowles, F.S.A., made plans of this building and has kindly furnished the following notes :

‘In the last weeks of the excavation a building containing latrines was discovered at the south-east corner of the camp. The building

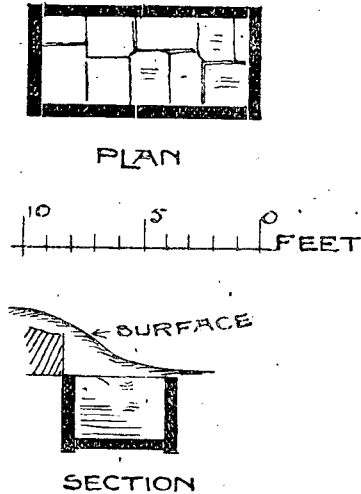


FIG. 22. CISTERN AT EAST END OF BLOCK XIV.

is a parallelogram measuring internally about thirty-one feet by sixteen. The sides abut on the south wall of the camp, within a few feet of the angle-tower. Although no similar structure has hitherto been opened out in the stations on the Wall, it is not difficult to determine the purpose for which the building was erected, its details being very similar to the 'latrine-blocks' discovered in the Roman cities of Silchester and Wroxeter.³⁶ At Housesteads the fall of the land is from north to south, and the latrines are consequently in the

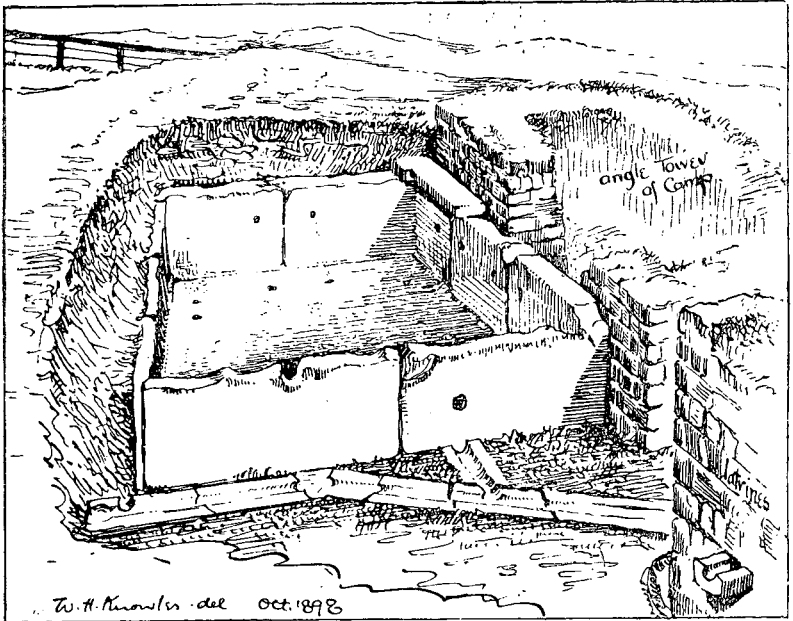
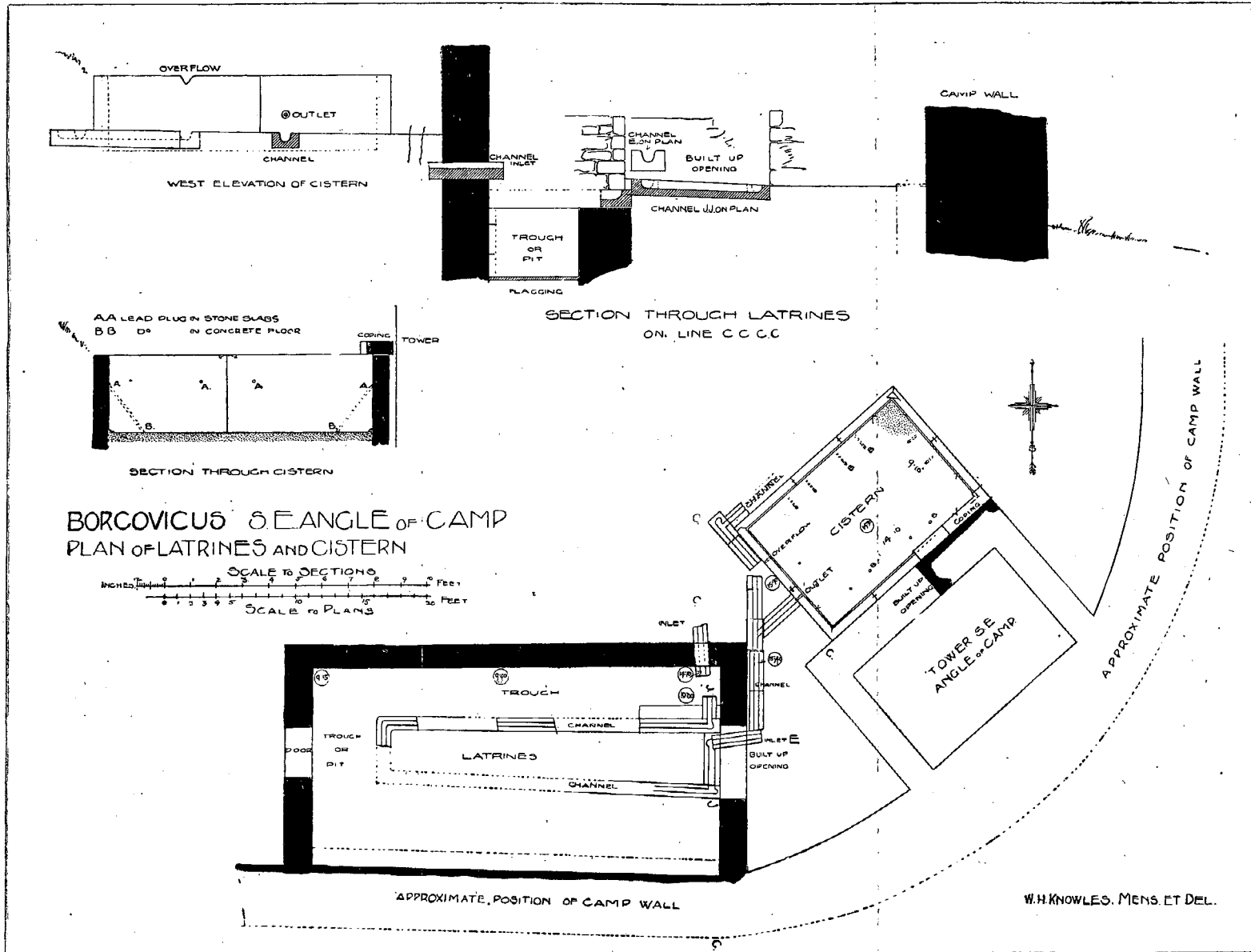


FIG. 23.—SKETCH OF STONE CISTERN.

position best calculated to receive the surface water which was needed for flushing purposes. The openings giving access to the parallelogram are at the ends, in the middle of the east and west walls. A trough (see the plan, plate XVIII) three feet wide and two feet six inches deep, passes along the sides, and across the west end; it is formed with stone side-walls and flagged bottom.

³⁶ [Less complete examples have been excavated in a private house at Caerwent and in the fort at Gellygaer.—R.C.B.]





Above these troughs, seats were doubtless arranged in the same way as at URICONIUM, but there is no visible provision for the woodwork beyond a large rebate (see section C C) formed on the top of the inner trough wall, which may have supported a sill-piece. The floor of the passage between the troughs is made of flagging, bordered by a channel stone. Some gutters or channels at the height of the exterior ground level emptied into the trough and served to flush it.

'Near to the latrines, but erected at a later date, is a stone tank or cistern; it is placed against the angle tower and has blocked the original entrance to it. The tank is fourteen feet ten inches by nine feet ten inches, by three feet in height. The sides and ends are formed with ten large stone slabs, six inches in thickness, and the

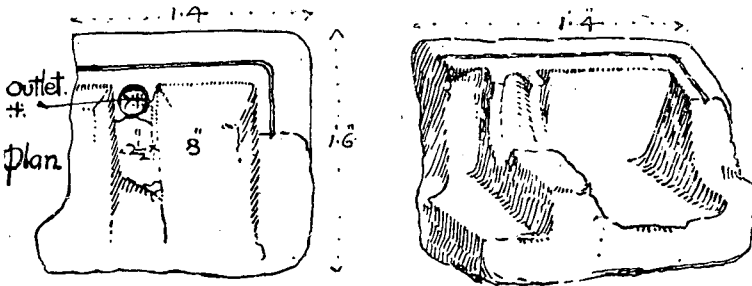


FIG. 24.—FRAGMENTS OF STONE TROUGH.

bottom with cement finished in the angle with the usual quarter-round moulding. The slabs are shouldered and mitred at the external angles, and abut against each other elsewhere. The sides of the stones are grooved and run with lead, and on the top secured with dove-tailed iron cramps. Two coping-stones fourteen inches by six inches remain on the south-east side. On the stone slabs, and in the cement floor (see the small section A A) are some lead plugs, they are placed on either side of the vertical joints of the side slabs, and opposite thereto in the cement; no doubt the ends of iron stay-bars were therein secured. There is no indication of an inlet, the water must, therefore, have passed over the top of the tank. An overflow is provided (see section and sketch) in the west (actually south-west) side by sinking the upper edge of one of the slabs, and about midway in the height

is a hole for an outlet pipe or plug ; both deliver into a hollow stone channel which continues to the door opening (then built up) at the east end of the latrine, and passes, one foot above the floor level, into the stone gutter of the passage. This gutter is laid with a fall to the west, then to the north, and flowing eastwards the water is thus made to pass round the passage, and delivers into the trough at the north-east end ; possibly the cistern was provided to afford a flush when the surface water failed.'

Two stone troughs found in the paved gangway of the latrines building are shown in figs. 24 and 25. The former had a partition and an outlet starting from the top of it ; the latter has a round orifice at one end for the admission of a pipe and an overflow-opening at the other end. They look like washing

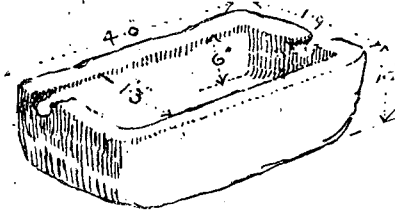


FIG. 25.—STONE TROUGH.

troughs, but as they were not in their original positions we cannot say how they were supplied with water.

EXCAVATIONS OUTSIDE THE FORT.

1.—THE SO-CALLED AMPHITHEATRE.

About one hundred and fifty yards north-east of the camp, and on the north side of the Wall, just beyond the gateway in the valley of the Knag-burn which Mr. John Clayton explored in 1856, there is an artificial hollow commonly known as 'the Roman Amphitheatre.' The first suggestion of the name came from Hodgson, coupled with a hint that the place might equally well have been a quarry, and later writers have recurred to the alluring idea, John Clayton with decided reserve, MacLauchlan and Bruce with increasing confidence.³⁷

³⁷ 'Apparently made by human labour ; but whether it was used . . . as an amphitheatre, or is merely the alveus of an ancient quarry, it is vain to conjecture.'—HODGSON.

'Scarcely of sufficient dimensions to justify the title of amphitheatre.'—JOHN CLAYTON.

'It is circular and, though north of the Wall, was perhaps an amphitheatre.'—MACLAUCLAN.

'Probably an amphitheatre on a small scale.'—BRUCE.

At the request of some members of the society's council, the hollow was trenched in two directions. The sections obtained are shown in the annexed drawing (fig. 26). Upon the slope nearest to the wall a thick bed of freestone chippings lay quite near the surface; it probably dates from the building of the Wall. At the bottom of the hollow quantities of similar chippings were met with everywhere under a foot-and-a-half of blackish top-soil, which yielded some scraps of Roman pottery. There was no level floor in the centre, and nothing that could be construed as seats or supports for seats on the surrounding slopes. All the appearances were those of a shallow quarry. It is to be noticed that this is almost the only point for some distance

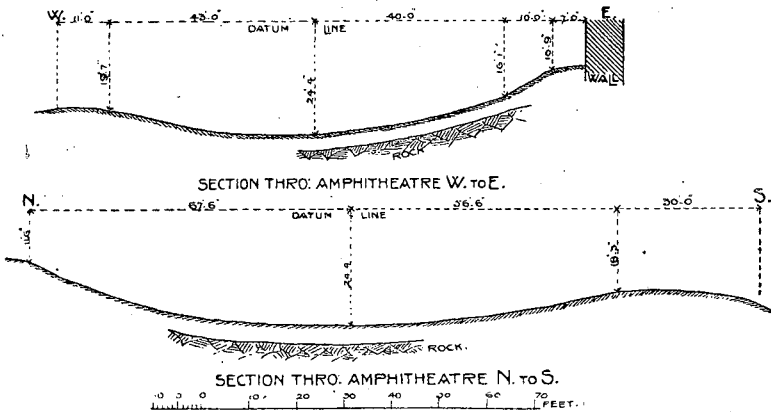


Fig. 26.

along the line of heights where the freestone underlying the basalt crops out so that it can be quarried within a few yards of the Wall.

2.—THE WELL BESIDE THE KNAG-BURN (FIG. 27).

A few yards east of the Knag-burn and south of the gateway in the Wall 'is a powerful spring carefully cased in Roman masonry. It was discovered,' says Bruce in his *Handbook*, 'in the summer of 1844.' As this had never been cleaned out since its discovery, it seemed possible that it might yield objects of interest. The excavation disclosed the admirable quality of its Roman masonry, but nothing whatever in the way of antiquities except a home-made

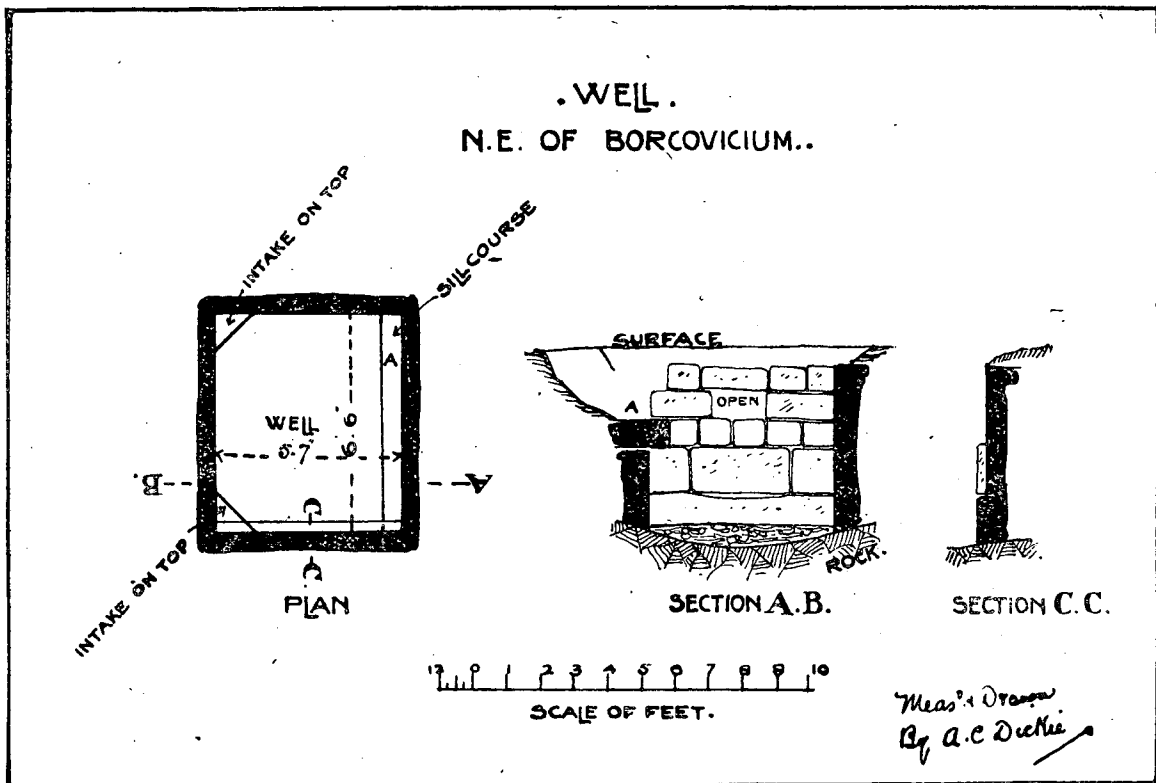


FIG. 27. WELL NEAR THE KNAG-BURN.

counter or draughtsman of red pottery. A local workman informed us that he had once seen part of a line of stone channelling to the south of the well, half-way between it and the ruins of what were probably the baths of the station in a sheltered hollow to the east of the burn. If so, the main use of the spring probably was to supply the baths with water. It would seem that these baths were not so completely destroyed as Hodgson believed. A few years ago, some workmen prospecting for lead made an experimental cutting here and exposed some well-built Roman walls which disappear into the face of a steep bank of accumulated *débris*. Part of a large armlet of Kimmeridge shale was picked up here by one of our workers.

3.—THE TEMPLE OF MITHRAS.³⁸

The cave or temple of Mithras at Housesteads was accidentally discovered in June, 1822, by workmen digging for stones in the side of a hillock opposite the west end of the Chapel hill. The dimensions of the little cell, including its walls, were barely thirteen feet from north to south by ten from east to west, and its only features were a recess, seven feet by two-and-a-half, on the west and a doorway

³⁸ Recent researches, especially those of professor Franz Cumont of Ghent, who has collected and analysed an immense amount of evidence in his great book, *Les Mystères de Mithra*, have cleared up much that was obscure about the history and nature of Mithras-worship. Derived with considerable modifications from the cult of Mithras, the Persian god of light, it first appeared in the Roman empire towards the end of the first century of our era. Oriental auxiliaries introduced it into the army, where it took root and spread rapidly through the camps and garrison towns of the Danube provinces, Germany, Britain, and North Africa. The new faith travelled with time-expired soldiers to their homes in all parts of the empire, with Oriental merchants to the ports and trading-centres of the Mediterranean. For a time its influence was confined to the lower orders, but it became fashionable at the end of the second century when the emperor Commodus was initiated. Thenceforward inscribed monuments of Mithraism become common and the names of the highest officials appear on them. Even after the conversion of Constantine to Christianity the upper classes remained faithful to Mithras, and a dedication in his honour is known to have been made as late as the year 387.

The sacrifice of the bull, which is the subject of a great number of Mithraic sculptures, refers to a Persian myth of the creation in which the bull, the first created of living things, is slain that the remainder of animals and plants may be born of its blood. At the end of the world a similar sacrifice was to renew the life of mankind. Mithras was revered as Creator, Redeemer, and Mediator. It is not surprising that the early fathers, some of whom tell us that the followers of Mithras believed in a resurrection and in the immortality of the soul, and celebrated a kind of sacrament, should have regarded a cult which had so many points of contact with Christianity as a most dangerous rival.

facing it on the east. Within the recess—it was this that constituted the unique interest of the discovery—a figure of the god and two altars



FIG. 28. THE GOD MITHRAS, WITH THE SIGNS OF THE ZODIAC.

were found standing in their original positions. They had remained undisturbed and unsuspected, their heads only a few inches below the turf, since the third or fourth century of our era. The sculptured figure represents Mithras at the moment of his miraculous birth springing, torch and sword in hand, from the rock, encircled by an oval frame engraved with the signs of the Zodiac. Its top, and those of the altars at either side, had suffered somewhat from the weather, but 'their lower parts were as fresh and perfect as on the day they were turned off the bench of the mason who carved them.' A

headless figure holding a torch lay behind the altars, and before them were some fragments of the sculptured slab, representing the mystical sacrifice of a bull, which usually covered the end wall in temples of Mithras. The workmen supposed that this great altar-piece, which must when perfect have been six feet in height and as much or more in width, had been broken up twelve years before, when the cave was drained and the dyke on the west was built; 'consequently,' says Hodgson, 'the parts wanting may probably be found either as covers to the drain or in the field wall.'³⁹

The re-excitation of the site in August, 1898, was prompted in some degree by the hope of recovering these fragments, still more by

³⁹ John Hodgson gave a full account of the discovery in *Archæologia Aeliana*, 4to, I. p. 263, and in his *History of Northumberland*, pt. II, vol. iii. p. 190. Another contemporary report is reprinted in *Lapidarium Septentrionale*, p. 96, from the *Newcastle Chronicle*.

a conviction that the little cell opened in 1822 was only the inner sanctuary, not the main body of the temple. Hodgson, whose sketch-plan is here reproduced (fig. 29), heard that when the drain just referred to (shown by a dotted line on the plan), was being made, 'great quantities of stones were dug out of the foundations of very extensive walls to the east of the room containing the altars,' and satisfied himself that its eastern door must have communicated with other buildings. The excavators of 1898 did not succeed in finding the inner shrine, which must have been demolished for the sake of its stones soon after 1822, nor did they recover any fragments of the great sacrifice slab. But they traced the adjoining foundations and ascertained that they were those of a Mithraeum of normal type, and were rewarded by finding two inscribed altars and three sculptured figures in the ruins.

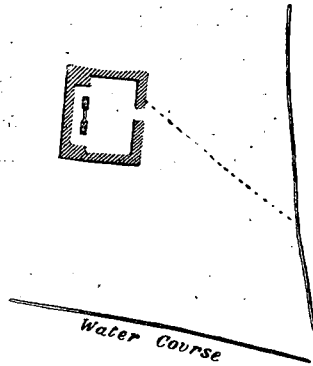


FIG. 29.—HODGSON'S PLAN OF THE MITHRAEUM.

The two essentials for a temple of Mithras were that it should be at least partly underground and should be supplied with water, if possible direct from a natural source. In the present case the builders chose a spot where there was a small spring beside a hillock, and produced the semblance of a cave by excavating a strip of ground some fifty feet long and twenty wide, and lining it with rough walls. Its depth was slight at the east end and increased as the ground rose towards the west; the floor of the west end, now destroyed, must have been five feet below the outer ground-level.⁴⁰ Internally, the

⁴⁰ The walls which Hodgson found standing five feet high in 1822 were faced only on the inside. This is true of the remaining fragments of wall, except at the east end where the ground slopes away. The cave-like aspect of the inner shrine may have been increased by heaping earth against the walls so as to mask them completely, and the roof may have been so contrived as to assist the illusion. Hodgson suggested that it was of thatch. Some pieces of tile were found, but not enough to indicate a roof of that material. A layer of charcoal above the pavement was probably the remains of the burned roof-beams. The construction throughout was rude, the walls being without much foundation, and consisting of rough whins and small undressed pieces of freestone bonded with clay. Two large stones projecting from the south wall, near its eastern end, may be remains of buttresses.

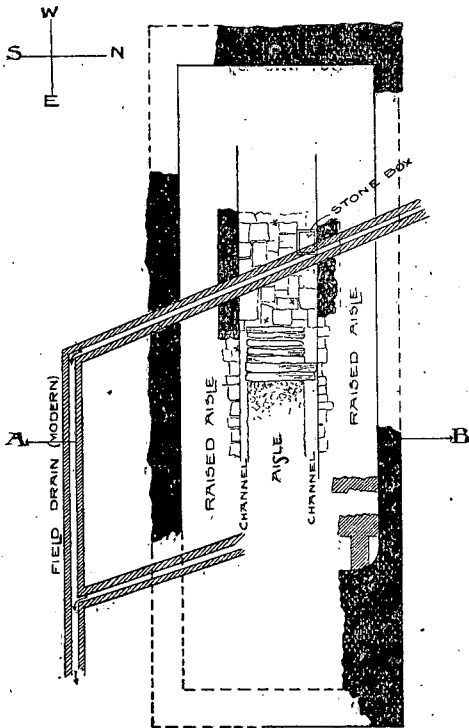
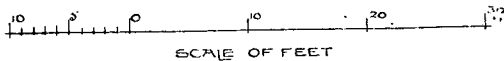
temple measured about forty-two feet by sixteen, and probably consisted originally of a small vestibule, a long nave with raised aisles, and an inner shrine. All that can now be made out with certainty is the paved central passage, six feet six inches wide, and fragments of the dwarf-walls, roughly built and faced only on the side towards the nave, supporting the raised lateral platforms or aisles upon which the worshippers knelt during the celebration of the mysteries. The



FIG. 30.—SCULPTURED SLAB REPRESENTING THE MYSTICAL SACRIFICE OF A BULL.

northern aisle-wall is still in one place nearly two feet high, and the aisle-floors, of stamped clay on a bed of stone-chips, must have risen at least this height above the floor of the nave. Each aisle was about five feet broad, if, as is probable, the top of the retaining-walls was flush with the floor—somewhat narrower if there was a parapet. The nave has a pavement of flags, two to four inches thick, which extends

CAVE OF MITHRAS.



GROUND PLAN



SECTION A.B.

*Measured & drawn by
A. C. Macdonald A.R.S.M.
Sept 1898*

FIG. 31.—PLAN OF THE MITHRAEUM AT HOUSESTEADS.

with interruptions nearly the whole length of the building. At one place there were found remains of a later floor, consisting of planks of oak and small birch logs laid on stone-chippings, which in turn rested on the original pavement. The planks were too rough to have formed a floor themselves, and were probably meant to support a pavement of flags, the object being to raise the floor above the overflow of the spring. The receptacle into which the spring rises is a stone box formed of flags jointed with clay and sunk in the pavement. It is seventeen-and-a-half inches deep and twenty-one by fifteen inches at its mouth. The presence of this spring greatly hindered the excavation, since part of the area was constantly under water. The bedding under the wooden floor is so arranged as to leave a channel or gutter at either side; but this disappears towards the west end, where the pavement is higher and comparatively dry.

The east end is almost obliterated. The mass of masonry shown in the plan at the north-east angle may have been below the floor-level of the porch and vestibule; or it may represent a raised platform in front of the entrance.⁴¹ In either case its object was to protect this end of the building from the flow of water which in winter finds its way through the hollow between the Chapel hill and the Mithraeum from a large spring cased with Roman masonry in the field on the north.

Of the west end, also, practically nothing survives, but it was proved that the building extended no farther to the west than the foundations shown in the plan, and it is certain that the plan made by Hodgson in 1822 must be fitted, despite some discrepancies in dimensions, into the gap at the west end of ours.⁴² The little cell with the group of images and altars standing in the recess of its west wall was the inner shrine, the holy of holies, which can be recognized in several other temples of Mithras. Recent research has shown

⁴¹ In the Mithraeum at Ober-Florstadt (*O.R.L.* xviii.), there is a raised vestibule of about the same proportions as are indicated by this substructure. I have to thank Mr. Blair for calling my attention to the likeness.

⁴² The plan reproduced in fig. 29 is taken from *Archaeologia Aeliana*, 4to, I. It is only a rough sketch-plan. The plan in the *History of Northumberland*, pt. II, vol. iii, facing p. 190, differs a little. The north and south walls are prolonged to the east beyond the cross-wall, and there is a second door, of which Hodgson says, 'immediately behind the altars there were indications of a passage by stone steps or stairs through the west wall.' This is not probable, and there is no hint of it in his earlier account.

that these buildings usually conformed more or less to the same plan, consisting of a small vestibule, a long nave with a raised aisle or platform at either side, upon which the worshippers knelt, leaving the central passage free for the officiating priest, and an inner sanctuary containing a representation of the mystical sacrifice of the bull. In some cases there is proof that the sanctuary was separated chancelwise from the body of the building by wooden rails. Presumably, the lateral platforms of which we found traces were continued up to the cross-walls seen by Hodgson; and these latter are to be thought of as screen-walls dividing nave from chancel.

Cumont, in his study of the existing remains of temples of Mithras, summarises their dimensions as follows:—

Breadth of nave, 4 ft. 3 in. to 13 ft. 9 in.	(Housesteads, 6 ft. 3 in.)
Breadth of aisle, 3 ft. 6 in. to 6 ft. 3 in.	(" " 5 ft. 0 in.)
Height of aisle, 2 ft. 0 in. to 3 ft. 9 in.	(" " 2 ft. or more.)

It follows that the Mithraeum at Housesteads was small, but by no means one of the smallest.

Near the centre of the nave, where three crosses are marked upon the plan, there were found three figures carved in coarse freestone. All were headless and much broken, and were lying face downwards. One is a male figure, clad in a short tunic, with bare legs and feet, and stands 'at attention' with clenched hands. It is twenty-eight inches high. The others are a pair of those torch-bearing satellites of Mithras which are so often found in his temples. Fortunately, the head of one of them was found a few feet away. A precisely similar figure was found in 1812 with the altars, and is now in the Blackgate. They stand with legs crossed, holding a torch, which in one case is lowered, in the other uplifted. The headless figure measures thirty-one inches, including a six-inch plinth, the other is thirty-eight and a half inches high. The latter has a pointed cap, long hair, a tunic, loose trousers, shoes, and over all a mantle, in fact the Persian costume in

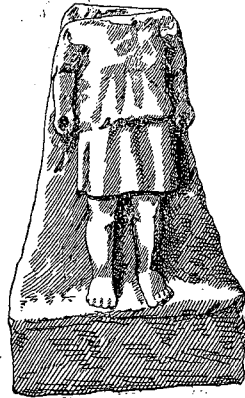


FIG. 32.—SCULPTURE FOUND IN THE CAVE.

which Mithras is commonly represented. There is reason to believe that these genii were worshipped with him under the name of Cautes and Cautopates respectively,⁴³ and that as he was god of the sun in all his aspects, so they with their raised and lowered torches personified him as he is seen when his powers are at their highest and lowest at the summer and the winter solstice.

The worshippers of Mithras were not exclusive in their religion, and allowed the figures and altars of other gods to be dedicated in his temples, especially, Cumont notes, those of Mars and Silvanus. It is possible, therefore, that an altar dedicated to Cocidius, a local god identified on inscriptions with both those classical deities, which was



FIG. 33.—FIGURES OF TORCH-BEARERS FOUND IN THE CAVE.

found in 1898 at the west end of the Mithraeum, may have been set up there in ancient times. It is dedicated by soldiers of the second legion, serving apparently in garrison at BORCOVICIUM (see Mr. Haverfield's note, p. 277). It may be added that a similar and rather

⁴³ In a well-preserved temple of Mithras at Aquincum, near Buda-Pest, which the writer lately visited, four small altars were found built into the face of the aisle-platforms. All bear the name of the same donor. The upper part of one is missing. The others are dedicated to Cautes, to Cautopates, and to the Perennial Spring, *Fonti perenni*. The missing dedication may have been *Petrae genitrici*, to the Birth-giving Rock.

illegible altar, also dedicated to Cocidius by a soldier of the sixth legion, seems to have been found in the same part of the building in 1822.⁴⁴

The altar dedicated *Marti et Victoriae* (also discussed by Mr. Haverfield), found near the beginning of the shorter drain towards the east end, may have strayed here from some neighbouring shrine. But dedications to Mars are not unknown in other temples of Mithras, and honours might appropriately be paid to the goddess of victory within the precinct of one who appealed to the soldier's devotion as *Deus Invictus*, the invincible god.

Our only clue to the date of the building is the fact that one of the altars found in 1822 was dedicated in the year 253. The other, judged by its lettering, belongs to the same epoch. We found a silver coin of Faustina the younger in clearing the floor. There was not much pottery—a few fragments of late plain 'Sāmian' bowls and of thin, black-glazed ware with pinched-in sides, types which point to the third century. Hodgson tells us that 'some fragments of vessels of red earthenware were found among the rubbish near the altar.'

The main part of the building seems to have been burned. We noted 'much burning to a somewhat high level, and large lumps of charcoal in central area.' The inner shrine may have escaped through being half underground.

ARCHITECTURAL NOTES.

BY A. C. DICKIE.

I.—THE PRAETORIUM.

The architectural interest of the site is centred in the praetorium. Now that a careful and complete excavation has laid bare the whole of its remains, it is possible to study the design and history of this building in detail. The surviving masonry is of three different types :

- (1) What seems to be the earliest is seen in the south wall, with

⁴⁴ See *Lapidarium*, 183, where Bruce argues from a comparison of Hodgson's account with that in Richardson's *Table-book*, III, 244, that this is the 'illegible altar' found at the point marked 4 on Hodgson's plan of the 'cave.'

its return-angles (fig. 34). It consists of good, large, well-set stones, squared on beds and joints, and pick-dressed on face, bedded without

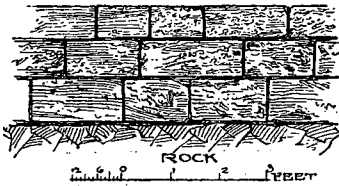


FIG. 34.

lime. Headers are used throughout, and run through the entire thickness of the wall. The same large and careful masonry appears in certain internal features, viz., the four angle-piers of the outer court, the piers of the interior gateway, and the piers

between the doorways of the *sacellum* and the adjoining chambers. There is, however, some variety in the tooling, hammer-dressing, pick-dressing, and, in one case, sunk marginal-dressing, occurring side by side.

(2). A quite different, inferior and, probably later, type of masonry occurs at the north-west angle in the walls of rooms 11 and

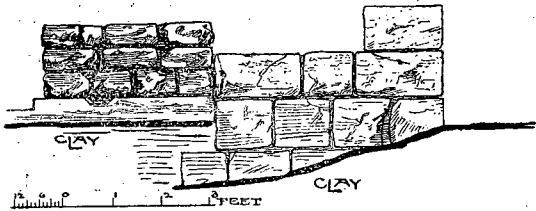


FIG. 34A.

and rudely coursed. Fig. 34A, representing the door-pier between rooms 8 and 9, with an early walling-up of part of the door-way, shows the two types of masonry side by side.⁴⁵

From the north-west corner the small masonry continues only to the doorway at the north end of the inner court. The remainder of the north wall consists of large headers, laid without lime like those of the south wall. It is true that they are less carefully squared and

⁴⁵ It is unfortunate that the greater part of the west wall has been destroyed, even to its foundations; along most of its course only the clay bed and outer puddling survive. The fragment remaining at its south end is in the first or massive style, the fragment at the north, which breaks off at room 11, is in the second style of masonry. It cannot be said with certainty how the missing part (cross-hatched on plan) was built, but the fact that it was so systematically uprooted leaves little doubt that it was built of the same large headers as in its southern extremity, and that it was demolished in recent times when these large blocks were wanted for the quoins of farm-buildings. The north-west corner, which still rises nearly five feet above the rock, has probably survived because its small stones were not worth taking.

jointed than the other masonry of the first style, but the fact that such courses as survive were never visible from outside (the floor of the praetorium being at a lower level than the road on the north), may explain the less careful workmanship.

In the large plan of the praetorium (p. 210) no attempt is made to distinguish the masonry of the first and second styles, which are both shown in solid black.

(3) Walls of a third and much later style are distinguished on the plan by diagonal hatching. These are built with small stones without lime in courses averaging seven inches. The walls built to close the openings between the columns are all constructed in this way, and are evidently modifications of the original plan, made, perhaps, at some period when the building was used for domestic purposes.

To recapitulate, we have

(1) Large stones, well-dressed and laid without lime.

(2) Small stones, rudely dressed and laid with lime.

(3) Small stones, rudely dressed and laid without lime.

Of the masonry of the third class it is unnecessary to say more. An examination of the two earlier styles leads to some interesting results.

It is improbable that the inferior work at the north-west corner, consisting of small stones laid with lime, can be contemporary with the fine massive masonry of the first style. How can we account for its presence?

No theory of destruction and subsequent restoration will fit the case. This is the best protected angle of the building, and the small masonry starts from the rock nearly four feet below the outer ground level. The angles in which the massive masonry has survived were more exposed, and ran greater risk of such destruction.

There are indications which point to a simpler solution. Reference has already been made by Mr. Bosanquet to the symmetrical plan and masterly setting-out of the praetorium as a whole, and to the preliminary labour which was expended in order to make possible the erection of an imposing building on a difficult site. The care and expense devoted to the masonry of the south wall, to the levelling-up of the slope, to the construction of a stepped platform at the east front, are reflected in the accurate levelling and careful paving of the outer court (marked 4 on plan). We recognize the

handiwork not only of an able designer but of skilful and thorough workmen. But on entering the inner court (marked 7 on plan) we are met by a complete contrast. The foundations of the piers at either side of the entrance are at different levels; the bases of the columns on the left are two feet six inches lower than those on the right; three of these column-bases are rude and debased imitations of the model-base, marked *h* on the plan; there is no trace of any regular pavement, and the rock cropping up in the northern half of the court has not even been levelled. The contrast is brought out in sections *A B* and *C D*.

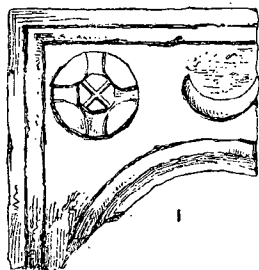
The relative positions of the first and second classes of masonry cannot be accounted for by the theory of restoration following destruction, unless it is argued that the whole of the walls (on the lines of which now stand the secondary building) were first entirely removed down to the rock. For many reasons this is unlikely. The evidence of the sculptured stones point in a like direction, and supports the conclusion that the original design was never completed. There is abundant proof that it was by the hand of a capable architect, and the building was commenced by skilled craftsmen. Soon after that commencement the work was interrupted and its later completion is plainly the efforts of unskilled builders, who followed on the original lines and failed to carry out the scheme in a worthy manner. Their clumsy attempts to copy the old models are shewn in the rude remains which are so out of harmony with the stone-cutting of their more able predecessors.

We may characterize the three classes of masonry as indicative of:—

- (1) A masterly beginning.
- (2) A hasty or incompetent completion of the original design.
- (3) Later modifications and additions interfering with the original design.

2.—SOME ARCHITECTURAL DETAILS.

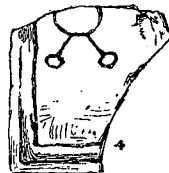
The illustrations on p. 267 show practically all the carving in relief discovered during the excavations. Nos. 1, 4, 6, 7, 9 and 10 are fragments of door or window heads, and give a good idea of the treatment of these features. The openings are invariably semi-circular-headed, cut out of a single stone from six to eight inches



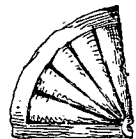
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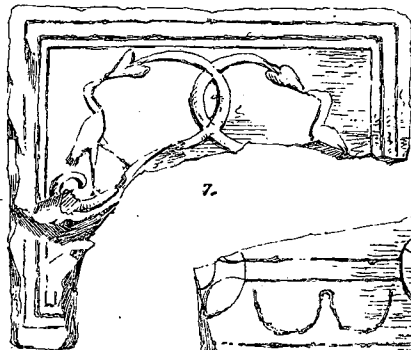
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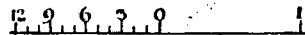
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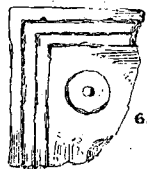


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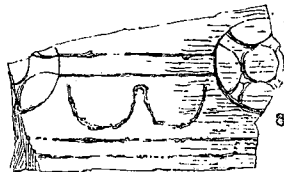


SCALE OF INCHES

Drawn by
A. C. DICKINSON
Sept. 1896



6.



8.



9.



10.

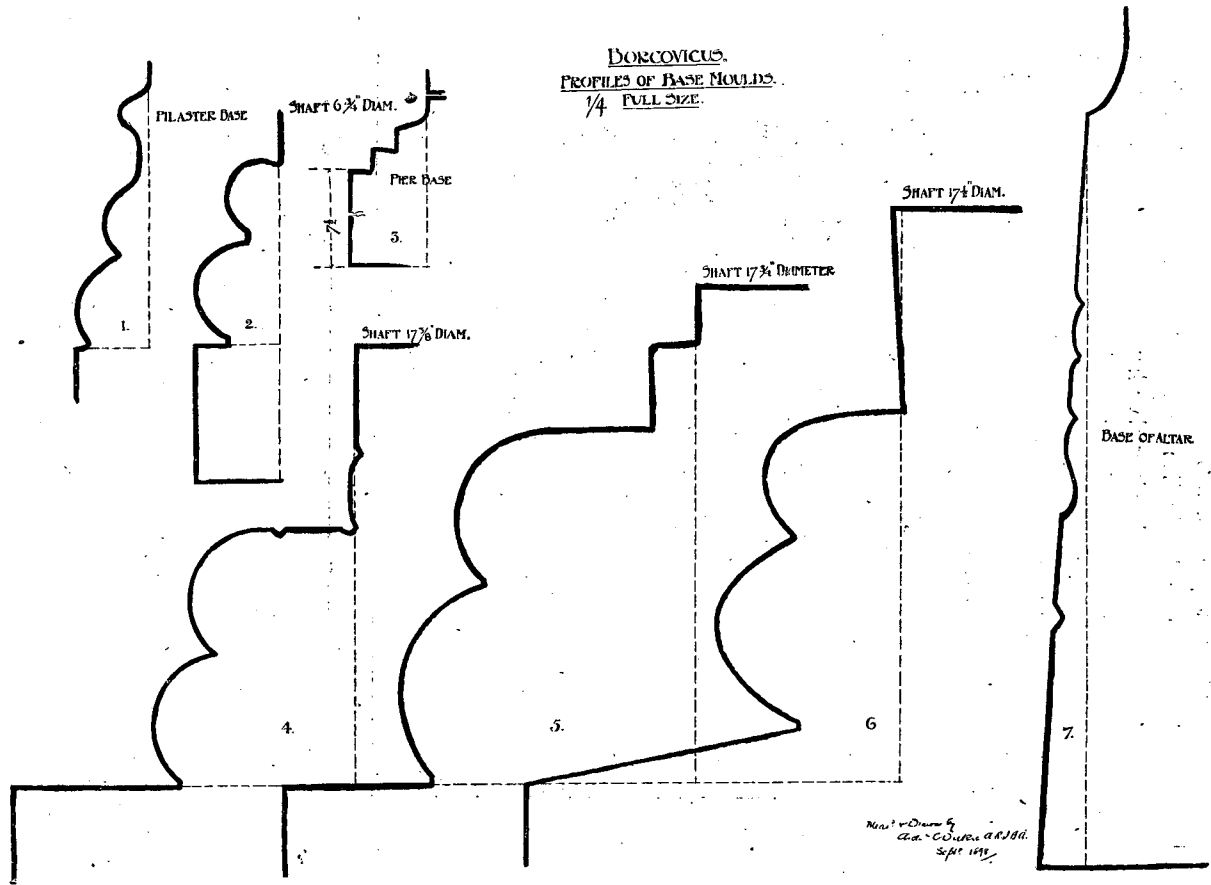
thick. The face is often decorated and is usually surrounded by a low marginal moulding. They show considerable variety in design, and are exceedingly interesting. No. 1 is one of several which have a crescent in the centre, and in the spandril an effective boss decorated with a cross within a circle. No. 4 has a rude figure of uncertain meaning, and no. 6 a simple raised circle in the spandril. No. 7 is the most complete, and also the most interesting. The symmetrically-grouped birds and snakes are cleverly designed, and drawn with considerable vigour. One admires the skill which has made the bird on the left so life-like, although the tiny figure is only roughly blocked out in the rough sandstone and no detail whatever is shown beyond a faint indication of the fold of the wing. This stone was found built into the south-west angle of the small projecting annexe at the west end of Block II (plate XIX).

Nos. 2 and 3 are fragments with marginal rope ornaments, the former probably part of an inscribed slab, the latter of a coved tombstone. On the other stones here figured the marginal ornament consists of incised lines, which are really a debased form of the flat rounded moulding so generally used in the top members of cornices. The variety of the returns and stops of these incised borders is illustrated by 7, 9, and 10.

PROFILES OF BASE-MOULDS (see p. 269).

1. From a small pilaster-base lying near the south gate. 2. From one of the many small column-bases found in different parts of the camp (never *in situ*), all about six inches in diameter. 3. From a rude pier-base, one of a somewhat numerous class. 4, 5 and 6 gives the mouldings of three of the bases in the praetorium. They are marked *h*, *i* and *j* respectively on the plan. The base and plinth are in one stone. No. 4, by far the best of them, is represented also in a photograph (fig. 35). It is worked sharp and clean to a delicately-designed profile, consisting of two tori above a square projecting plinth. Noticeable peculiarities are the great projection of the upper torus, and the V-shaped sinkings on it and the drum of the column. The whole is in excellent preservation, and shows unmistakable signs of having been turned in a lathe. The effect of the double torus without any fillet,

DORCOVICUS.
PROFILES OF BASE MOULDS.
1/4 FULL SIZE.



and of the great projection of the upper member—so strikingly suggestive of the Early English base—is very unusual and quaint, and, although it may not be altogether happy, yet in this instance is simple and refined, and immediately associates itself with design and workmanship of a high standard. The treatment recalls the shaft-beading so general in Anglo-Saxon work.

Nos. 5 and 6 are fair examples of all the other bases in the praetorium, which are evidently more or less unsuccessful imitations



FIG. 35.—COLUMN-BASE IN THE INNER COURT.

of 4. 5 is more carefully worked than 6, but is not turned like 4, and is slightly different in section. 6, like all the other bases, is exceedingly rude, and plainly betrays the hand of an unskilled workman, who, in attempting to imitate his model, has produced a curiously barbarous result. It is difficult to suppose that the model and the copies can be contemporary work. This variation of form and workmanship, like other irregularities in the details of the praetorium, demands an explanation, which may best be furnished by supposing that the work of building it was interrupted and afterwards resumed under less favourable conditions.

No. 7 is from the base of an altar found lying outside the south gate. Its mouldings are shallow and expressionless.

COPINGS, CORNICES, AND OTHER MOULDINGS (see p. 272).

These show considerable variety in design and workmanship.

Nos. 8, 9, and 10 are pier-capitals which were found lying in line inside the camp near the south-west tower. They were quite near the surface, and had probably come to light in earlier excavations, and been buried and forgotten.

Of these 8 and 9 are moulded on three sides only, and are caps of attached piers measuring thirty-four and a half inches by twenty-eight inches, and thirty-four inches by twenty-six inches, respectively, while 10 is moulded on four sides, and measures thirty-six inches by thirty-four inches. All three are well designed and worked, and may fairly be classed with the fine base, no. 4, on p. 269.

The shallow sinking on the face of the upper member forms part of almost every moulding found in the course of the excavation. In the best examples this feature is carefully worked to a low segmental section sunk in the flat, while in ruder examples it degenerates into two rows of incised lines.

No. 11 is the cap of a detached pier, twenty-five by twenty-seven inches. It has no two sides alike in section, and on one side the lower member is omitted altogether. It is a very clumsy piece of work, and may rank with the ruder series of column-bases (5 and 6 above.)

Nos. 12, 13 and 14 are selected specimens of the many coping-stones found all over the camp. The majority are well worked and of good design, though there are plenty of rude examples.

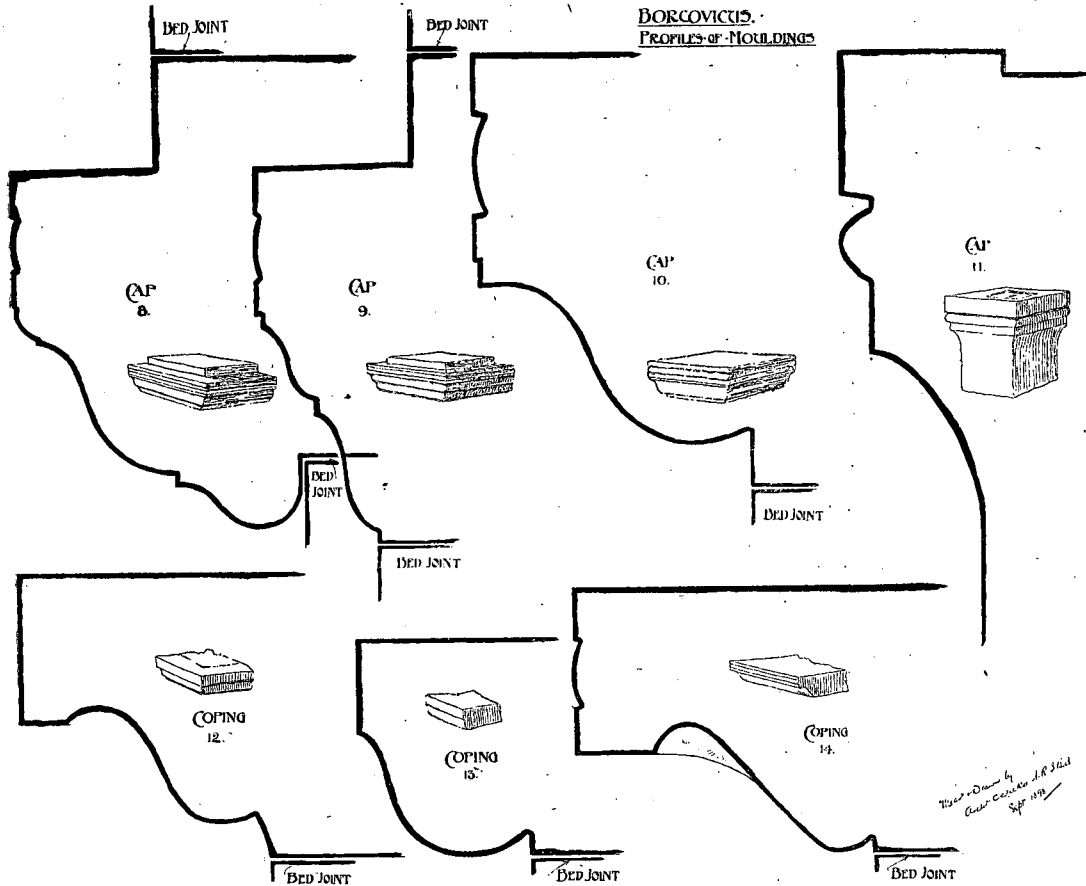
SECTIONS OF CAPITALS AND COPINGS (see p. 273).

15 and 19 are further specimens of coping-stones. The former has a rope-pattern enrichment on the soffit at the termination of the ogee, and the latter exhibits the 'quirk' moulding often found in Roman camps.

16 is a beautifully-worked panel moulding on a slab which may originally have been intended to bear an inscription, but has been used as a hearthstone in room 8 of the praetorium.

17 and 20 are cornices. 17, found lying at the east gate, is exceed-

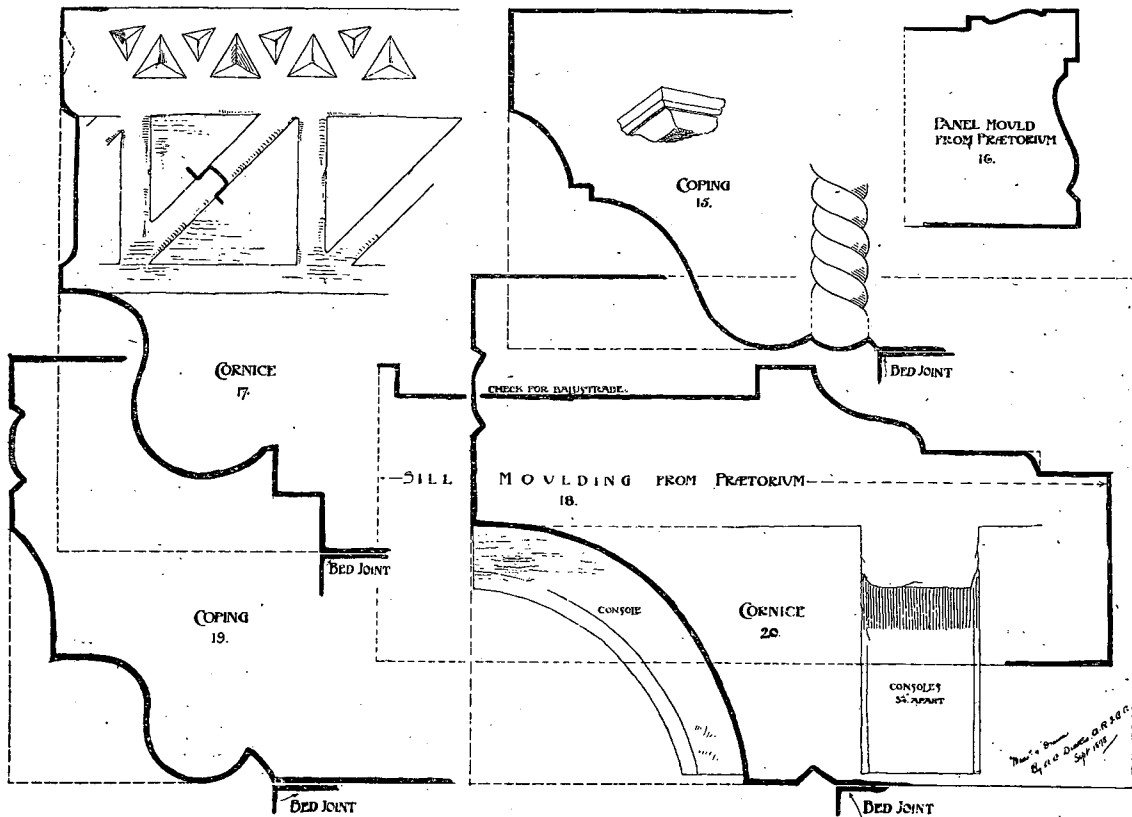
BORCOVICUS
PROFILES OF MOULDINGS



Designed by
Carl Corcoran J.R. Smith
Sep 1922

BORCOVICUS.
PROFILES OF MOULDINGS FULL SIZE.

PL. XXXI.



36

273

ingly interesting as showing the zig-zag, the triangular sunk ornament and the 'quirk' moulding, all of which are characteristic of Romano-British architecture, though usually associated with Norman work.

20 is more rudely worked. It exhibits a row of consoles placed three and a quarter inches apart. It was found in the inner court of the praetorium, and may have formed part of the cornice above the colonnade.

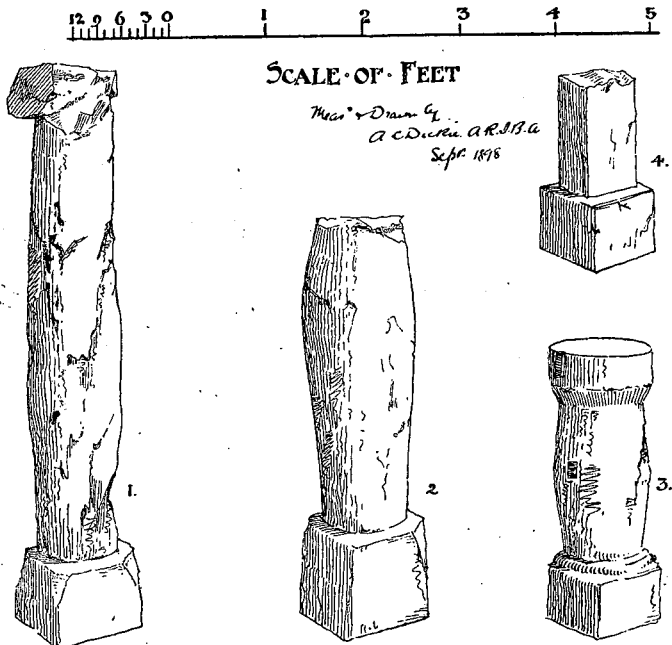


FIG. 36.—COLUMN SHAFTS.

18 is a section of the sill-moulding at the entrance to the *sacellum* (praetorium plan, p. 210, *m* in room 10). It probably served, as has been pointed out, as a base to a low balustrade which screened the room from the inner court.

The columns discovered are practically all of one class (fig. 36).

No. 1 is the most complete of the larger columns found within the camp. The shaft is forty-nine inches high, the base nine and a half inches, the broken cap five and three-quarter inches, all in one stone. There is no indication of any carving in the cap, and the base is square with diagonal chamfers on upper arrises.

No. 2 is a fragment of similar form.

These two, found in block VII and block I (plan, p. 300) respectively, are fair examples of many such shafts, all equally rude, and varying considerably in size, which occurred in the soldiers' quarters. In all probability, they originally served as verandah supports. The stumps of such pillars are to be seen in the pavement outside the barracks at CILURNUM. None as found *in situ* at Housesteads. Some were built into walls, others lay inside the small rooms of the barrack-blocks.



FIG. 37.

No. 3, found, in the rubbish thrown into the *sacellum* after the removal of the back-wall at some recent date, is thirty-five and a half inches high, all in one stone. There are sunk dowel-holes for iron fastenings in the shaft. It is a baluster closely resembling those used in windows in Anglo-Saxon times.

No. 4, found lying at the south gate, measures seven inches on the side, and is the only square shaft found in the excavations.

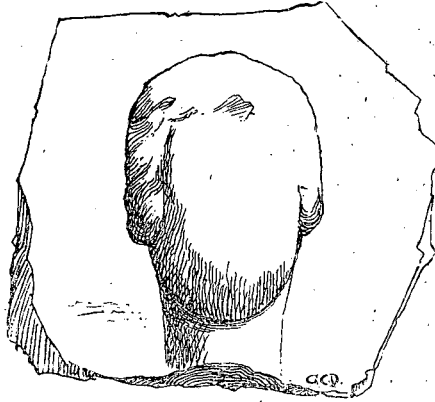


FIG. 38.

A number of shafts similar to 1 and 2 have been brought from various parts of the camp into the praetorium.

Fig. 37 is a small fragment of low relief carving, representing what seems to be a bird in a cage, from the indication of a vertical bar dividing the panel. It is carved in freestone and is well modelled.

Fig. 38 is the very much decayed head of a small figure in low

relief. The head only measures $2\frac{1}{2}$ inches, and the features have entirely disappeared, and a faint indication of the modelling of the hair is the only detail which remains.

Fig. 39 is a fragment of a column from the praetorium, and is unlike the other examples, in so far as it has a square base, worked on the same stone as the column. It is very rudely cut, and measures $9\frac{1}{4}$ inches square at base and 2 feet 8 inches high over all. The diminution under the torus is unexpected and there is just the possibility that it is a cap. Either theory seems possible in such curiously fashioned detail as this excavation has revealed. If the latter is correct it is the only example found within the camp and is therefore of special interest.

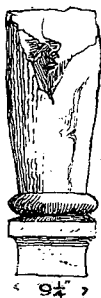


FIG. 39.

This completes my notes on the sculptured stones, and a more curiously assorted lot cannot well be imagined. Such an unusual mixture of forms familiarly classified as Byzantine, Anglo-Saxon, and Norman, occurring in Roman times seems scarcely credible.

The character of the whole work is strongly Byzantine, and except for those traits of origin which lurk in all architectural detail, there is an entire lack of pure Roman feeling. Here is a style of architectural detail (existing at a time when Roman architecture was still pure), similar to what only became known in the East, centuries later, and incorporated in it are features, usually attributed to Anglo-Saxon and Norman times. This peculiarity has been noticed in the remains at other Roman camps, both in this country and in Germany, and also in a less marked degree at Silchester and Bath, as shewn in the works of Mr. St. John Hope and Mr. Fox. Mr. Fox in his descriptions of the remains at URICONIUM and Leicester gives sections of mouldings, consisting chiefly of caps and bases of columns, which show great variety and individuality, but which cling more closely to their classic origin than those found at BORCOVICIUM and the other camps on the Wall.

There is little doubt that architectural detail of the Roman occupation had a character distinct from pure Roman work, and this is most strongly emphasized in the BORCOVICIUM remains. That this Roman provincial style, at its best, was one of distinct individuality

it clearly shown, and its subsequent decay (inevitable in these unsettled times), can be as surely traced in the debased later imitations. Without a far wider knowledge than it is possible to get of Roman provincial architecture, as it existed in the wealthy cities of Gaul, and the great military stations of Germany, it is difficult to establish the exact relationship between the strictly classical method pursued in Italy and the widely divergent styles which recent discoveries proved to have existed in Britain.

THE INSCRIPTIONS.

BY F. HAVERFIELD.

The excavations at Housesteads produced nine inscribed stones, of which seven were found in the fort and two in the Mithraeum at the bottom of the hill. I have examined these inscriptions, some on the ground where they were discovered, and all in the museum at the Chesters, where they are now permanently preserved. I have also had the advantage of squeezes, readings, and help from Mr. Bosanquet. The texts were published provisionally by me in the *Proceedings* of this Society, vol. viii. (1898) pp. 208, 253.

1. Altar (centre figure, p. 278), thirteen inches high by eight inches broad with one inch letters in the first line, and three-quarter inch letters in the other lines. Found lying face downwards on the flagged floor of a room in the south-west part of the fort (block VI.).

DEO	<i>Deo n(umini?) Vit(e)ri Aspuanis</i> or <i>Aspuavis pro [se] et suis vot(um) sol(vit)</i> .
—————	
HVITRI	
ASPVANIS	
PROETSVIS	
—————	
VOT	
SOL	

‘Aspuanis pays his (or her) vow for himself and his to the God Vetus.’ The god Vetus, or Vitus, also found in the plural, Di Viteres or Veteres, had many worshippers in the military posts of North Britain, but none, as it seems, elsewhere in the length and breadth of the empire. Either we have here a local worship, British or imported German, or we have the ‘old gods,’ the pagan deities who were being displaced by christianity. The dedications have mostly the marks of a late date which would agree with the latter hypothesis.

The letter H is probably a late form of N, produced by a gradual approximation of the cross stroke to a horizontal position. It occurs also on two other dedications to the deity here worshipped, (*Lapidarium Septentrionale*, 280, *C.I.L.* VII, 502*b*, and *Ephemeris*, VII, 1087), and, with more resemblance to an ordinary N, on a third (*Lap.* 312, *C.I.L.* VII, 502*a*). It is singular, however, that no 'Vetus' dedication actually has N prefixed for *numen*, and that H for



FIG. 40.

N, though attested in other lands, is otherwise uncommon among Romano-British inscriptions. The explanation here given must not, therefore, be taken as certain.

I have been unable to trace the name *Aspuanis* (or *Aspuavis*) elsewhere. It is disowned both by Celtic and by Germanic philologists, nor do even the students of Pictish claim it.

The omission of SE in line 4 is a mere error.

2. Altar (first figure, p. 278), eight inches high by four-and-a-half inches wide, with small letters. Found in a small closet, in the same block as the preceding altar, but in another part of it.

DEO | VETERIB | VS VOTV | M, *Deo veteribus votum*; 'Dedicated to the God Veteres.' The stone cutter has made a strange blunder between the singular and the plural, between *deo veteri* and *dibus veteribus*. I can quote no parallel.

3. Small red sandstone altar (third figure, p. 278), seven inches high by four inches wide. Found lying loose on its face on a flagged floor inside (block XIII) in the north-east corner of the fort. It is nearly illegible, as such small altars often are, and the first line is defaced. ΔIC Δ | CALVE | ÇER; no interpretation of this is possible.

4. Two fragments of what was evidently once a fine slab with a cable border, bearing an imperial inscription which commenced with letters three-and-a-quarter inches high; two other pieces of the slab were also found, but uninscribed. Found lying loose in the Praetorium. The chief fragment contains a cable border, and below a bit of the first line—IM—the M being imperfectly preserved. This doubtless signifies *im(perator)*. The other fragment contained only part of one letter and what letter is uncertain. The stone seems to have been of the type which recorded building or restoration.

5. Building stone, eighteen inches long by fourteen inches high by three inches thick, with a rough undressed surface on which a *graffito* has been picked with a pointed instrument, in two lines of letters two-and-a-half inches high in the first, and three inches in the second line. The first two letters have a double row of pickmarks. Found loose just below the turf and above the south wall of the building N.E. II. IMPE | RATOR *Imperator*, probably a passing whim of a workman.

6. Similar fragment, nine inches long by seven-and-a-half inches high by three-and-a-half inches thick, with two lines of letters about three inches high, picked like the preceding, but ruder. Found at the same time and place as the preceding, but one foot deeper in loose soil, AVR SCAL. At first I thought this might be part of *Aur(elius) Cae(sar)*, the other letters having been on a now lost stone. I now incline to explain *Aur(elius) or Aur(elianus) scal(psit)*, 'Aurelius cut

this,' another workman's whim. Certainly I should not explain, as has been proposed, 'the century of Aurelius Caius,' and I quote the version only as a warning.



FIG. 41.

Though this and the preceding stone are in many respects similar, they do not seem to belong together.

7. Building stone, eighteen inches long by eight inches wide by seven inches deep. Found in the south wall of the praetorium, near

its south-west corner. Some letters have been picked by a pointed tool along two sides of its face, but their meaning is unascertainable.

8. Altar (fig. 41), eighteen inches high by nine inches wide, with small letters, difficult to read. Found lying loose in the western part of the Mithraeum. It had been, doubtless, overlooked when the Mithraeum was excavated in 1822, and its original position cannot now be fixed. It may have strayed to the Mithraeum from some shrine near it.

I O M

EDEOCOCIDI

GENIOQHVIS

LOCIMILLEG

IIAVGΔGVES

INPRAESIDIO

*I(ovi) o(ptimo) m(aximo) et deo Cocidi[o]
genioq(ue) hui(us) loci mil(ites) leg(ionis) ii.
Aug(ustae) ... in. praesidio, v(otum) [s(olvunt)]
l(ibentes) m(erito).*

V S L M

‘To Juppiter Optimus Maximus and Cocidius and the genius of this site, the soldiers of the Second Augustan Legion ... in garrison, pay their vows.’ The altar was erected by soldiers of the legion stationed at Caerleon (ISCA SILURUM) in Monmouthshire, temporarily in garrison at BORCOVICIUM. Cocidius is a native god, much worshipped by the troops quartered in North Britain and usually combined with Mars. The text of the inscription is unfortunately not quite certain. In 3, I think the cutter put *huis* for *huius*. In 5, the letters after *ii. Aug.* are undecipherable to me; the penult letter is E, the last R or S, probably S. *Agentes*, with the aid of tied letters, would be a conceivable reading, and would make sense with *in praesidio*, ‘serving in garrison.’

9. Upper portion of an altar, seventeen inches high by twelve inches wide across the inscribed portion. Found lying loose in the eastern part of the Mithraeum. It had been, doubtless, overlooked in 1822, like the inscription just described, and like that may have strayed to the Mithraeum from elsewhere.

MARTI

· ETVII

TORIAE

Marti et Vi(c)toriae ...

‘Dedicated to Mars and Victory ...’ The lettering is poor and may be comparatively late; in particular, the centre angle of the M is not brought down as low as the two upright strokes.

LATE BUILDINGS AT THE SOUTH GATE.

In late Roman or more probably in medieval times some remarkable alterations were made in the eastern tower of the south gate. A round kiln was constructed in the guard-chamber, the doorway was blocked up and a new doorway broken through the south wall to connect the kiln with an oblong building which projects at right angles from the south side of the camp.

Dr. Bruce, who saw these remains when they were completely excavated, supposed that some mosstrooper had converted 'the guard-chamber and contiguous buildings' to his own uses, implying that the walls at any rate of the outer building were Roman. 'The byre in which he folded his cattle at night, the kiln in which he dried his unripened grain, and the lower part of the flight of steps by which he ascended to the little fortress that was his own habitation, may all, though perhaps with difficulty, be distinguished.'

Beyond clearing out the kiln to obtain measurements, no work was done in 1898, but as conflicting opinions have been expressed regarding its date, and as an intrusive structure of the same kind appears in Block VIII within the camp, it seems worth while to describe the kiln and projecting chamber in detail.

The kiln is tolerably well built, and has the form of an inverted cone, three feet in diameter at the bottom. Its sides and rough pavement are much reddened by fire. Hodgson found in it the débris of an upper floor, constructed of flagstones covered with a cement of lime and pounded brick,⁴⁵ which had fallen in, and outside the door, at A on our plan, 'a lintel of oak very much guttered with decay, especially at each end,' measuring five feet four inches, by six inches by six, which had probably formed the top of the doorway into the kiln. Hard by was an oven, which is described as vaulted and having 'a sandstone bottom very much burnt, and sandstone sides, and a passage for air between it and the kiln.' Remains of it are perhaps recognizable to the east of the kiln, in the angle formed by the gate-tower and camp-wall.

⁴⁵ Cement of this kind, Mr. Fox tells me, was in use through the Middle Ages; it does not therefore prove anything as to the Roman date of the construction.

The oblong room, measuring twenty-seven feet by twenty-one, into which the kiln faces, is built against the south wall of the tower, its west wall being flush with the eastern jamb of the gate. Its walls, from three to four feet thick, are pierced by three splayed loopholes, fifteen inches high, eighteen wide within and six without. Outside the east wall there remains part of an outer stair, not shown on the plan, which partially blocks the loophole on that side and may therefore be a later addition. It attests the existence of an upper storey, which no doubt communicated with the drying-room over the kiln.

The simplest and most satisfactory explanation of this group of remains is to go further than Dr Bruce and to suppose that we have here a medieval homestead, built of Roman stones and consequently presenting a general resemblance to late Roman work. In any case it is difficult to believe that the kiln can be Roman. It bears too close a resemblance to the kiln in the southern half of the granary (Block VII) which seems to be contemporary with the demolition of

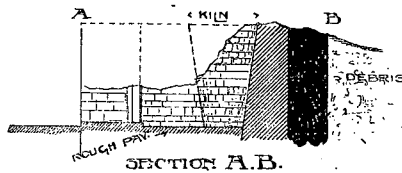
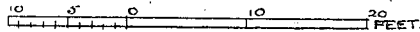
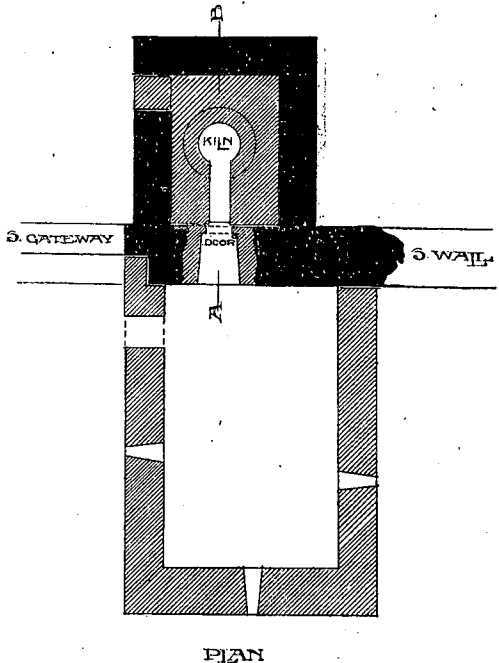


FIG. 42.—PLAN AND SECTION OF GATE-TOWER (LATER STRUCTURES IN HATCHED LINES).

the western end of that building, and the construction of the rude steps at its eastern end, and was pronounced by Hodgson, who excavated it, to be of modern construction and probably 'intended for a kiln for drying malt, or for some such purpose.' The juxtaposition of kiln and oven recalls the somewhat similar discovery made by Mr. Glasford Potter on the west side of the south gate at AMBOGLANNA ; there the kiln was outside and the oven inside the guard-chamber. (*Arch. Ael.*, 4to. IV, 74.) The foundations of a kiln not unlike ours were found east of the east guard-chamber of the south gate at AESICA.⁴⁶

At first sight it seems a remarkable coincidence that in three different camps kilns should have occurred in or near the south gate. But, when the plans are compared, it will be found that there is very little real correspondence in the three discoveries. Nor have these kilns, at any rate the large ones at Housesteads, much in common with the ovens which were found in the thickness of the rampart at Birrens. The decayed lintel found by Hodgson at the door of the kiln by the south gate is a strong proof that the building had been in comparatively recent use, for the alternately dry and damp soil of the hill-top is very unfavourable to the preservation of wood-work, and hardly a trace of it was found in the excavation of the camp, although it had survived in abundance in the peaty soil of the valley below.

Even if we admit the kiln to be medieval or recent, it is possible that the projecting rectangle, and the door in the south wall of the guard-chamber may date from Roman times. The good construction of this doorway, with its massive jambs, is certainly in favour of this view, although the jambs might have been brought bodily from some other building. In this case the rectangular building might be regarded as a flanking tower, such as it would not surprise us to find in a Roman fortress of the third or fourth century. Here again we are met by difficulties. The *eastern* half of this gate was found built-up ; it would have been more natural to close up the western portal, and keep the entry immediately under the flanking tower, had one

⁴⁷ Near Heddon-on-the-Wall 'the remains of a circular chamber appear in the substance of the wall, having a diameter of seven feet, with a small aperture leading out of it in a slanting direction.' (Bruce, *Handbook*, 1895, p. 55.) Was this a structure of the same kind ?

existed. Again, it is improbable that special defensive works should have been erected at this gate, which was neither the chief entrance to the camp (since the long late building on the north was allowed to block it), nor the most exposed to attack. Moreover the loopholes in its walls are too low down (breast-high from the outer ground-level) to have been intended for defence.

MINOR OBJECTS FOUND IN THE EXCAVATION.

It remains to deal briefly with the minor objects.

Stone.—A flint arrow-head, probably pre-Roman. Three flint flakes, perhaps recent, and a gun-flint. A slate palette; a polished egg-shaped toy or amulet of red and white veined agalmatolite (identified by professor Lebour), foreign to the district, length $1\frac{1}{4}$ inches, found in a barrack-room, VI, 2. Numerous querns, fragmentary for the most part, and presenting only the usual types. A whinstone mortar (fig. 43); a large series of discs, mostly made out of broken roofing-slates, and small balls, probably used in games; larger balls and flat slabs used for rubbing and pounding; thirty hones and whetstones. Professor Lebour, who has been so good as

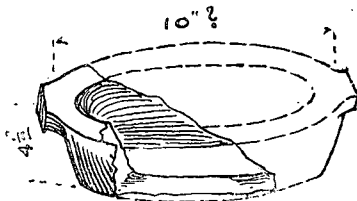


FIG. 43.—WHINSTONE MORTAR.

to examine this series of worked stones, tells me that the material is, in every case, sandstone, grit, or whin, such as are found in place in the immediate neighbourhood of Housesteads, or could be picked up as loose fragments. 'Some may have come out of the glacial boulder-clay or later river-gravels, but all are derived from local rocks.'

Jet was comparatively abundant, as is usually the case on Romano-British sites. What appeared to be small unworked pieces occurred, suggesting that the raw material was worked up into beads and pins on the spot. Two pins of the usual type with faceted heads, one finger-ring with bezel, three spindle-whorls, a large pierced ball, eleven beads, and parts of six armlets, the largest of which had originally

had an opening 3 inches in diameter, the smallest only $1\frac{9}{16}$. Part of a large armlet of *Kimmeridge shale*, the opening $3\frac{3}{4}$ inches in diameter, found near the baths by the Knag-burn.



Silver.—Openwork brooch of 'late Celtic' design, the pin detached but found with it, from the praetorium, room 3 (fig. 44).

Glass.—Neck and one handle of a delicate dwarf-vase. Part of an

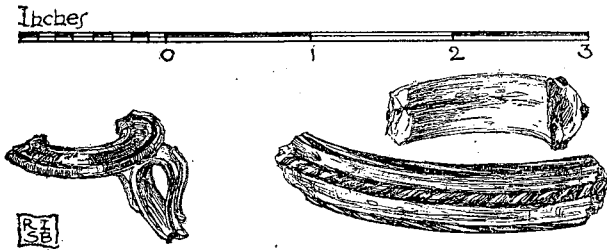


FIG. 44.—SILVER BROOCH, GLASS VASE, AND ARMLET.

armlet with blue and white rope-pattern, original diameter of opening $2\frac{3}{16}$ inches. This, and two of the jet armlets described above, were found in a secondary clay floor of the barrack-room, VI, 2. The other examples of jet and a number of fragments of similar armlets in greenish-white glass paste were found in and about the other 'barrack-blocks.' Their diameter is in some cases so small that they can only have been worn by women or children.⁴⁷ The finding of these trinkets raises the question whether during part, at least, of the Roman occupation of the fort the soldiers' families may not have lived with them in barracks.

Fragments of square bottles were frequent in the lower *strata*; I noted no instance of their occurrence at the higher, approximately fourth-century level. On the other hand, window-glass was found at all levels, and in all parts of the camp, and must have been in general use up to the last; there could be no greater mistake than to speak of it as a rare luxury. Among the finer glass-fragments is part of an amber-coloured bowl, of a type familiar in the south of England. The

⁴⁸ The internal diameter of the largest was 3 inches, of the smallest $1\frac{9}{16}$.

typical first- and second-century pillar-moulded bowl did not occur, nor the beaker with cut ovals, characteristic of the late third and early fourth centuries; but there were several fragments of the cylindrical cups of white glass, the common trade-goods of about 300 A.D., which found their way far north of the Roman frontier, and appear in barbarian graves in Denmark and in eastern Scotland.

Part of a signet of blue glass-paste, representing Victory. Twelve beads, all of familiar types.

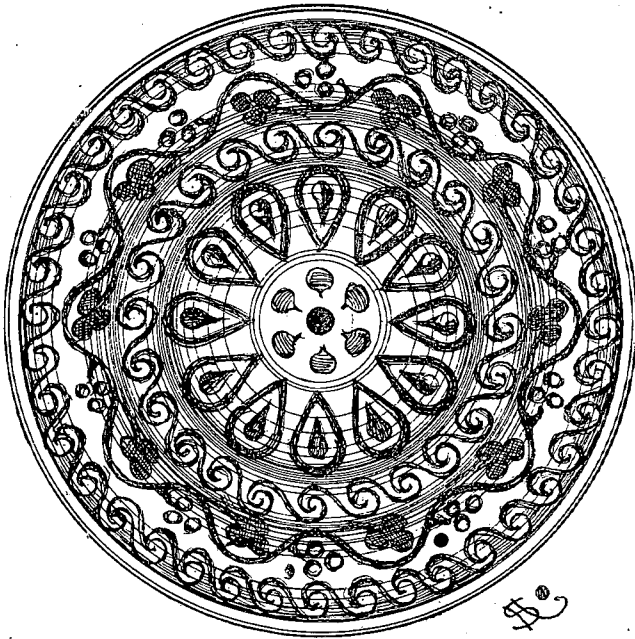


FIG. 45.—BRONZE LID WITH SUNK ORNAMENT (*full size*) RESTORED.

Bronze.—Fig. 45 represents the design, in sunk-work that was originally filled with coloured enamels, of a bronze lid found in the north portico of the outer court of the praetorium. The art of enamelling in colours, originally a special possession of the Celts, was practised in many parts of the Roman empire, and the design before us with its vine-pattern and ‘reciprocal’ wave-ornament is Greco-Roman, not Celtic.

Another very fine specimen of Roman provincial enamel work, unfortunately so much injured that it has not been found possible to reproduce it, was found in the chink of a wall in a barrack-room of block V., where apparently it had been concealed by the Roman owner. It is a slightly convex plate of bronze, $2\frac{1}{8}$ inches in diameter,

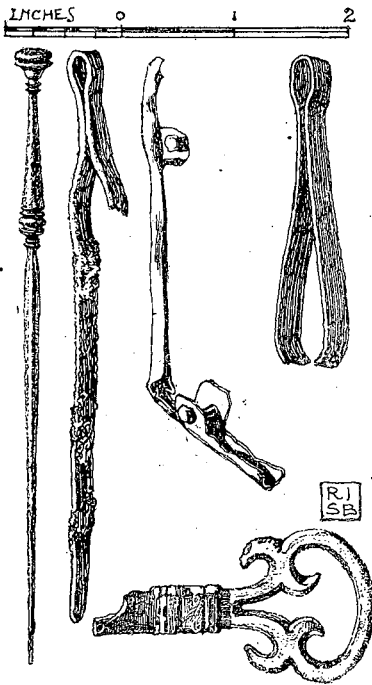


FIG. 46.—SMALL BRONZES.

(The second object from the left is of iron.)

furnished behind with a stem for attachment to a backing of leather, and decorated in front with a minute mosaic-like design in four colours, blue, red, green, and white, which for the most part are still vivid. The round central field, $1\frac{1}{4}$ inches across, is divided into a chess-board of red and blue squares, which diminish in size as they approach the circumference, so that with a little distortion the eight rows of eight squares are fitted into the circle. Each of them is sub-divided by minute white squares placed quincunx-fashion, five on each red and thirteen on each blue square. Round this principal field are two zones, the inner of red and blue, the outer of green and blue

squares, the blue chequered as before with white. These mosaic ornaments, not uncommon in the northern province of the Roman empire, were made by a process still used in the Venice glass-works. Thin sticks of glass of the required colours are grouped in a bundle the section of which would give the required pattern, and fused together. The rod thus obtained is heated and drawn out, so as to reduce its thickness without changing the pattern. Then the workman cuts thin sections from several such rods and arranges them mosaic-fashion. In this way the most microscopic chequer-work of the ornament before

us could be executed with square sections cut from only four rods, two plain and two particoloured. A very similar disc, found with *fibulae* and other ornaments at Pont-y-saison in Chepstow park, and now in the British museum, may furnish an indication of date; the *fibulae*, as I learn from Mr. Reginald Smith, are of the Brough type assigned by Dr. Arthur Evans to the period about 200 A.D. Smaller discs with similar chequer-work are figured in Jacobi; *Saalburg*, Taf. lxxviii.

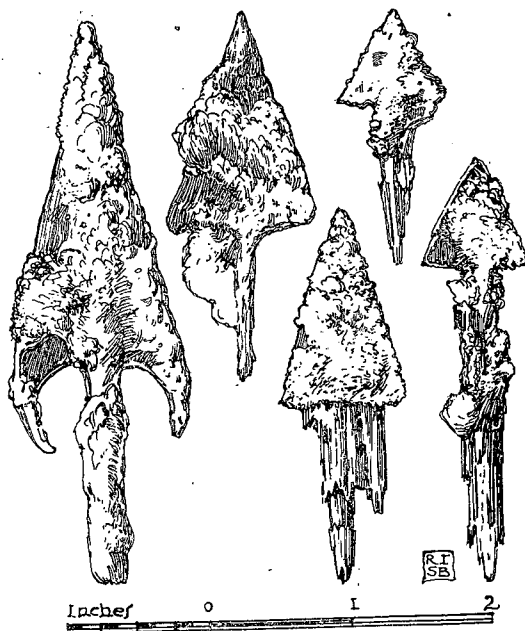


FIG. 47.—IRON SPEARHEAD AND ARROWHEADS.

Some smaller bronzes are shown in fig. 46. They are: a pin with golden-yellow patina from a trial-trench in the valley south of the fort; a pair of tweezers from later clay floor in room 9 of the praetorium (and a larger pair made of iron for comparison); a strip of bronze mounting, with two rivets, apparently an edging for the rim of some leather article such as a saddle, from room 11 of the praetorium—similar pieces were found elsewhere; and an openwork key-handle—two specimens found.

Two gilded *fibulae* of cross-bow type ; one from the earthen rampart opposite N.E. angle of block XVIII.

Fragment of drapery from a statuette.

Sword-chape (*cf. Arch. Ael.* x, p. 258).

Fragments of strainers and other vessels. Conical steelyard weight, found immediately above the drain outside the N.E. angle-tower.

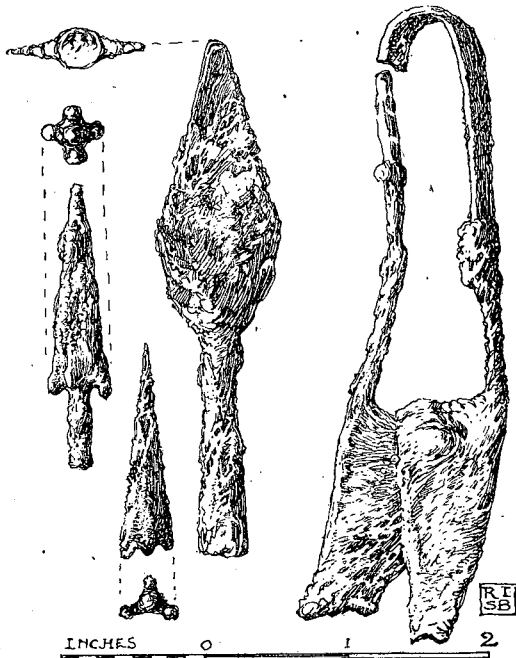


FIG. 48.—IRON SPEARHEAD, ARROWHEADS, AND SHEARS.

Wire armlets, various rings and studs and rivets ; a strip of thick wire bent to form a 'dress-fastener,' the ends hammered flat and crossed ; scraps of waste from a furnace.

Iron.—The find of over 800 arrowheads in the praetorium has been described. Specimens of them are shown in figs. 16 and 47, and should be compared with two very different arrowheads in fig. 48, which were found in other parts of the camp, those from the praetorium have

flat points quite roughly hammered into shape, but these others are beautifully formed, one quadrangular, the other triangular in section (cf. Jacobi, *Das Römerkastell Saalburg*, Taf. xxxix, 31).

A spearhead with unusually long barbs, now bent inwards (fig. 47), was found outside the north wall of block I, near the surface. A smaller spearhead (fig. 48) and two larger ones.

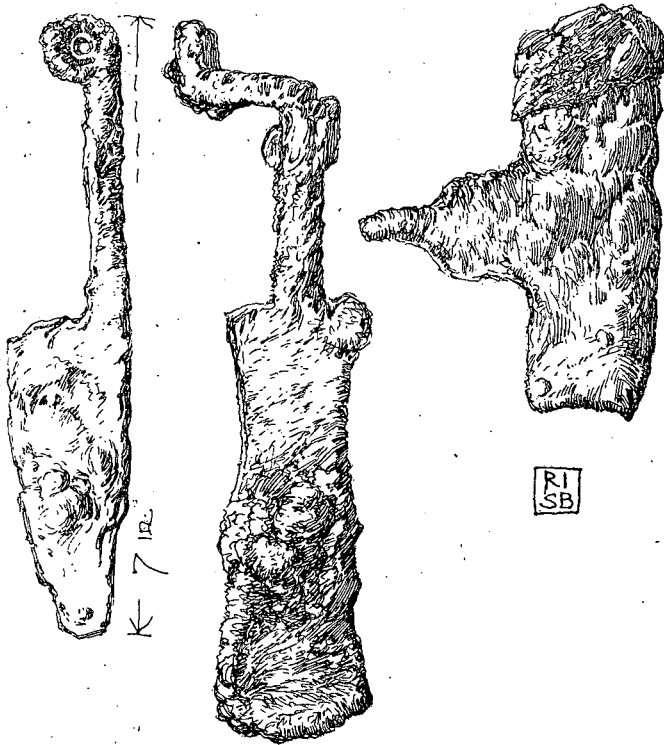


FIG. 49.—IRON KNIFE, KEY, AND TOOL OF UNKNOWN USE

(Scale, about 1 : 2.)

A pair of shears (fig. 48, p. 290), an axe-hammer, a wedge, a pair of tweezers (fig. 46), and a series of seven knives which deserve a detailed description.

The largest is a régular cleaver (like Jacobi, *op. cit.*, Taf. xxxvii. 2), with a blade $5\frac{1}{2}$ inches long and 3 inches wide ; the handle is hollow,

$3\frac{1}{2}$ inches long and $1\frac{1}{4}$ inches in diameter, with a rivet through it and traces of wood preserved inside. The next in size has a blade 5 inches by 2, and a long tang with traces of wood on it. The next, slightly smaller, shows remains of a bone or horn haft adhering to the tang. Another (fig. 49), of the same size as the last, has a tang ending in a ring. Two others are between $6\frac{1}{2}$ and 7 inches long, the seventh somewhat less; the blade of one of them expands from $\frac{7}{8}$ inch near the haft to $1\frac{1}{8}$ inches and is then tapered to a sharp point from both edges. Most of these knives were found in or near the barracks.

Several keys, one of which is shown in fig. 49. The object drawn to the right of it may perhaps have been used as a curry-comb; it is an oblong and slightly curved plate to which a handle was fitted at one side.



FIG. 50.—IRON CHISEL, HOOK, AND ANCHOR-LIKE OBJECT.
(Scale, 1 : 2.)

Fig. 50 shows a mason's chisel with octagonal shaft, found at the base of a late partition-wall in block I, a hook found with numerous nails and other scraps of iron in room 12 of the praetorium, and an anchor-like object with a projecting loop on one side of the stem, the use of which I cannot divine.

Six horse-shoes; it is probable that some of them are Roman. Two, both small, were found low down in block IV. The slag and other traces of iron smelting observed in the same region have been discussed above (p. 241).

Styli (pens), nails, fragments of various tools, rings and other small objects of iron were found in considerable numbers.

The following were found together in the smaller cistern south of block XVIII:—2 *styli*, $4\frac{1}{2}$ and 4 inches long, and a half of a third; pair of shears (fig. 48); staple or holdfast, $1\frac{3}{4}$ inches long; 2 nails, $4\frac{1}{4}$ and $3\frac{1}{4}$ inches; knife, $5\frac{1}{2}$ inches; broken tool, butt quadrangular in section, $3\frac{3}{4}$ inches.

THE POTTERY.

INSCRIBED POTTERY.

(a) *Amphora-handles found inside the fort.*

1. F · SCI...
NIAN...
2. IVNI · M
ELISSI · P

(b) 'Samian' found inside the fort.

3. [L]VCINVS F (fig. 53, p. 295) in large well-formed letters on a flat base without the usual boss. The ware is clear brick-red in the break, the surface smooth dark-red with less metallic lustre than most of the Samian here. Found on N. side of turret between S. gate and S.W. angle, in foundation clay.

4. GENIALIS · F, small well-formed letters on a bossed base.
Found near N.E. drain.

5. QUINT . . faint, on bossed centre of a plate.

6. ATTIA . . faint, on bossed fragment.

7. PRIM . . . on bossed fragment, found in block IV., at same level as coal and slag.

8. MAR . . . on bossed fragment.

9. ...TALIS F, on flat centre; dull red ware, much like 3, and very thin.

10. SEM . . BI M, bossed, with outer circle of rays.

11. ...ERI M.

12. ADVT . . . FII, in hollow centre of bowl found in block VI, 2.

13. MATERNI in curve, inverted, on margin of fragment of (probably) a hemispherical bowl, found in block I, 6.

14. PATTO . . VS.

15. MATERNMA, on a small, quite plain bowl, at the S.E. angle.

(c) 'Samian' found in the valley south of the Camp.

16. PATE . . on bossed centre.
17. VERECVNDI, good lettering.
18. . . . CVS F.

Of the pottery found in these excavations, only a small proportion was in good condition ; a fact which may be explained by the shallowness of the soil over a great part of the site, and by the amount of disturbance which it has suffered.

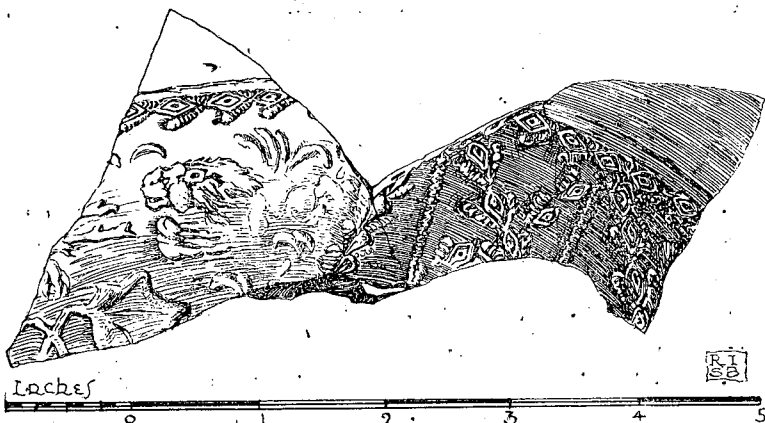


FIG. 51.—'SAMIAN' FRAGMENT WITH LOZENGE-BANDS.

'Samian' Ware or *Terra sigillata*.—This was found most abundantly, and in best condition, in trial-trenches cut across mossy ground near the well, in the valley south of the camp: Of 110 fragments found here in one morning, about 30, or 27 per cent., were figured, while of a total of 365 fragments collected in the camp during three months only 63, or 17 per cent., were figured. In some parts of the camp the percentage was very low ; thus of 100 pieces from the neighbourhood of the cistern in the S.E. angle, all except 9 were plain.

From the ground near the well came the fragment of a hemispherical bowl shown in fig. 51, remarkable because in place of the usual 'egg-and-dart' band there is a band of lozenges ; bands of lozenges are also introduced into the panels below, on one of which is

a lion charging to the left. This lozenge frieze is so unusual that it may some day furnish an indication of date. Here too was found part of a cylindrical cup of the shape which has sometimes been supposed to be characteristic of the first century.⁴⁸ There can be no doubt that these cylinder-cups were in use during the second century ;

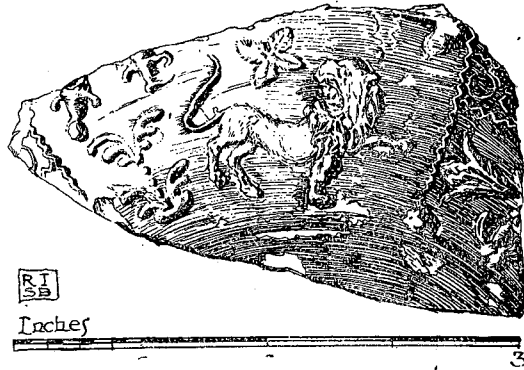


FIG. 52.—FRAGMENT OF HEMISPHERICAL BOWL.

in a section cut through a Roman rubbish-heap in Alderney, by baron A. von Hugel, a very cautious observer, a bronze coin of Commodus was found lying between two pieces of 'Samian,' one a piece of a cylindrical cup, the other of a normal hemispherical bowl with a band of egg-and-dart below the margin. Fragments of the latter type were fairly plentiful, both in the valley and in the camp ; fig. 52 shows a characteristic piece of the ornamentation of such a bowl.

Fig. 53 shows the potter's stamp ...*ucinus* or ...*uginus f[ecit]* on the vase-bottom already mentioned (p. 293) as having been found in the clay puddling at the foundations of the tower on the south wall. It should, probably, as Mr. Blair suggests, be completed *Lucinus*.

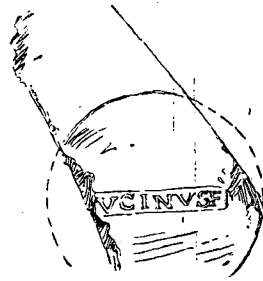


FIG. 53.—POTTER'S STAMP, PROBABLY CONTEMPORARY WITH CAMP-WALL.

The Samian vases (fig. 54) 1-3 were found in fragments in the square sunk hearth of the second room in block v. No. 1 is a somewhat uncommon shape. No. 4 is of Caistor ware with chocolate surface, yellowish white in the break, with a spiral ornament of barbotine work. It was found beside the cistern in the S.E. angle.

⁴⁸ See Mr. Haverfield's remarks in *C. and W. Transactions*, xv, 194, and (*New Series*) III (1903), 348, on Dragendorff's dating of this form.

No. 5 (fig. 55), dull grey-black 'late Celtic' ware. Found in the conduit adjoining N.E. tower. Drawn from fragments.

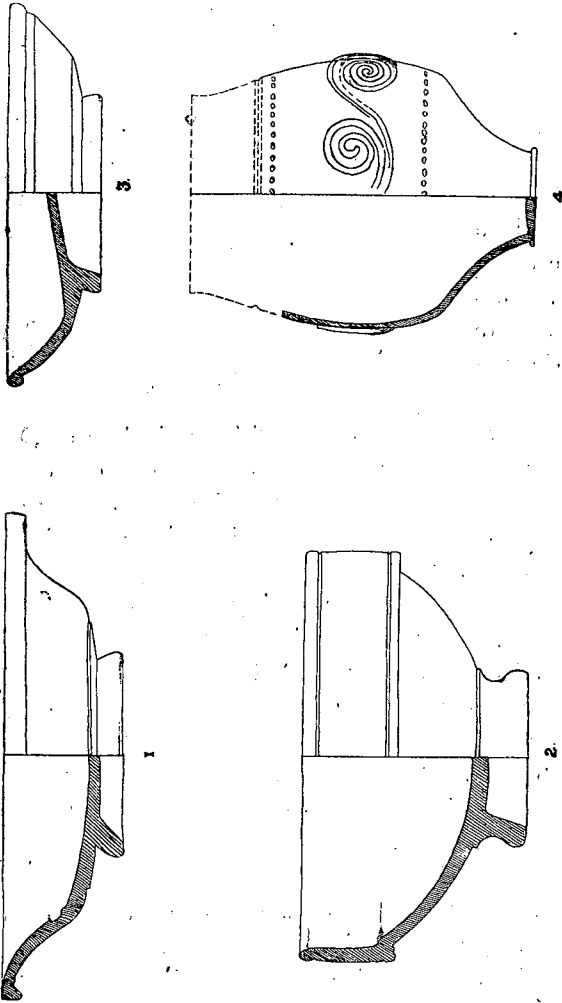


FIG. 54.—1-3, 'SAMIAN' WARE. 4, 'CAISTOR' WARE. Scale 1:4.

No. 6, pale-grey ware, white in the break. Found in the rubbish by the hearth on the east side of the inner court of the praetorium.

No. 7, bluish-grey ware, made of micaceous clay, white in the break. Found upright in the clay-floor of a barrack-room (block 1, 1).

No. 8 (scale 1 : 8), large bowl of grey ware, white in the break. From a barrack-room in block II, upper floor-level. A somewhat similar vessel, found between Benwell and Rutchester, and dated to the end of the third century by the fact that it contained a hoard of 6,000 coins ending with Aurelian, is figured in *Arch. Ael.*, VIII, 256.

No. 9, large deep platter of grey-black ware. Found near the cistern in S.E. angle.

No. 10, large shallow platter of brown ware. Found outside the late building which blocks the south gate.

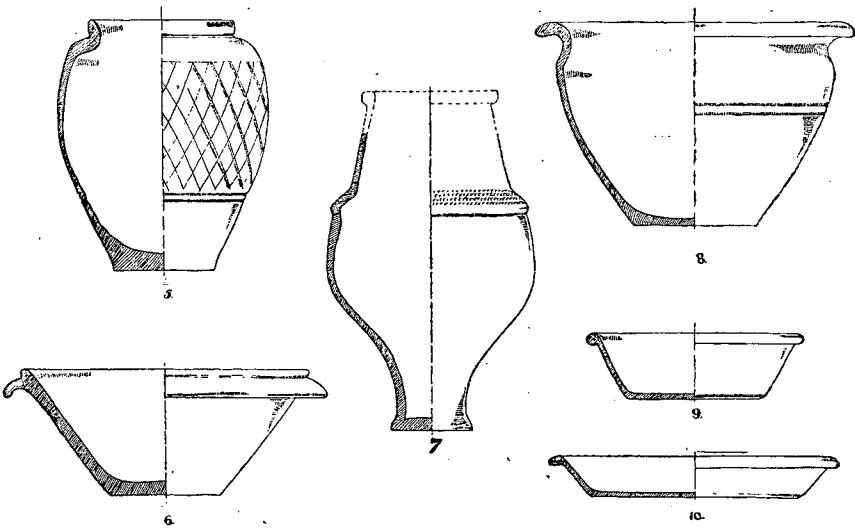


FIG. 55—VARIOUS WARES. SCALE FOR 5, 6, AND 7, 1:4. FOR 8, 9, AND 10, 1:8.

Coins.—I am much indebted to Mr. Blair for help in drawing up the following list :—

	Silver.	Copper.	
Vespasian (Cohen, 123) ...	1	—	Trench north of Mithraeum, near well.
Nerva (Cohen, 20) ...	1	—	Praetorium, room 12.
Trajan ...	1	4	
Hadrian ...	1	—	Block I.
„ (Cohen, 717) ...	1	—	Block VI., in surface-earth thrown back by previous excavators from the inner face of the rampart.
„ ...	—	1	

	Silver.	Copper.	
Antoninus Pius	—	1	
Faustina I.	—	1	
Faustina II. (Cohen, 71) ...	1	—	Mithraeum.
” (Cohen, 283)	—	1	Block III.
Commodus (Cohen, 1001) ...	1	—	Praetorium, room 2, at higher floor-level.
Elagabalus (Cohen, 276 or 277)	1	—	Praetorium, room 10, under latest floor.
Julia Mamaea (Cohen, 55)	1	—	Block XV.
” ” (Cohen, 81)	1	—	Trench north of Mithraeum, near well.
” ”	(1 base)		Block XVI.
Gallienus	—	4	
Tetricus (and imitations) ...	—	12	Chiefly in the barracks.
Victorinus	—	1	
<i>Minimi</i>	—	6	
Claudius Gothicus	—	2	
Probus	—	1	Block I, 2, at higher floor-level.
Diocletian	—	1	Block XIII.
”	—	1	Block XVI.
Carausius	—	2	
Theodora	—	1	
Allectus	—	1	Block I. 1.
Licinius I.	—	—	Between blocks XIV. and XV.
Constantine I.	—	.5	One in Praetorium, room 11.
Constantius II.	—	1	Block V. 2.
”	—	1	Block XIV.
Constantine II.	—	2	
Constans	—	4	One in drain W. of Praetorium, one in block XV.
Decentius	—	1	In drain S. of block IX.
<i>Urbs Roma</i>	—	2	
<i>Constantinopolis</i>	—	4	
Constantine family	—	9	
Valeus or Valentinian	—	1	
Valentinian	—	3	
<i>Illegible</i>	—	44	
	<hr/>	<hr/>	
	11	118	Total 129.

The most remarkable feature about this list is the absence of coins of Severus and his immediate successors.

REPORT ON BONES FOUND AT HOUSESTEADS.

BY MR. A. MEEK, M.Sc.,

Lecturer in Zoology at the Durham College of Science, Newcastle-upon-Tyne.

The following is a list of the skeletal remains submitted to me :—

Package I.—Scapula of pony ; ribs of *bos taurus* (var. ?) ; tibia of sheep or other similar-sized ruminant ; tibia of dog (?)

Package II.—Tines of red deer ; lower articular epiphysis of left fore cannon bone of ox ; last right molar tooth of ox ; left first pre-molar of ox ; lower end of tibia of red deer ; left pre-molars of pig ; 5 incisor-teeth of ox ; canine and molar teeth of pig ; canine and pre-molar of dog ; 7 teeth of very old cow ; 3 molar teeth of pig ; canine tooth of dog.

Bone (3).—Tines of red deer ; humerus and tarso-metatarsus of bird ; molar of sheep or other small ruminant ; rib of ruminant ; lower end of radius of ox ; tibia of ox ; metatarsus of red deer ; cannon bone of sheep (?) ; astragalus of cow ; ribs of ox ; ribs of sheep right fore pastern (proximal phalanx) bone of ox ; neural spine of thoracic vertebra of ox ; sternum (part of) of ox ; tibia of dog ; radius of small ruminant (sheep ?) ; chip of long bone (radius ?) of ox ; lower end of tibia of sheep or other small ruminant ; last and second last lower right molars of pony ; part of radius of ox ; remnants, likely belonging to sheep ; metacarpal bone of dog ; molar of ox.

The package of large remains contained :—(1) scapula of red deer ; (2) 6 parts of antlers of red deer ; (3) 2 horn cores of *bos taurus*, small variety ; (4) 1 horn core of *bos taurus*, large variety ; (5) part of frontal of *bos taurus* (var. ?) ; (6) left cannon bone of calf of the small variety of *bos taurus*.

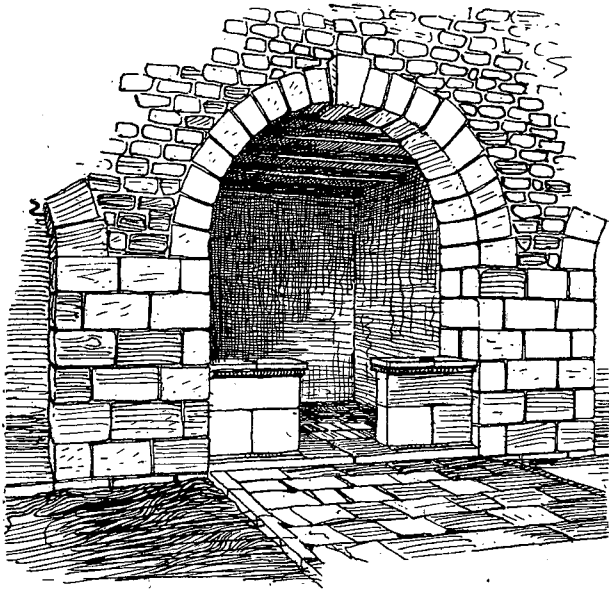
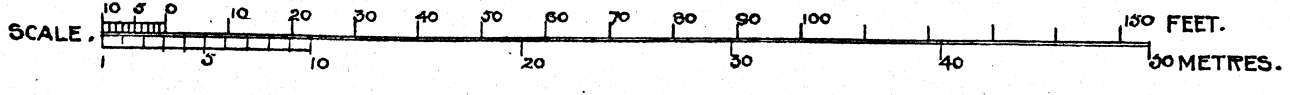
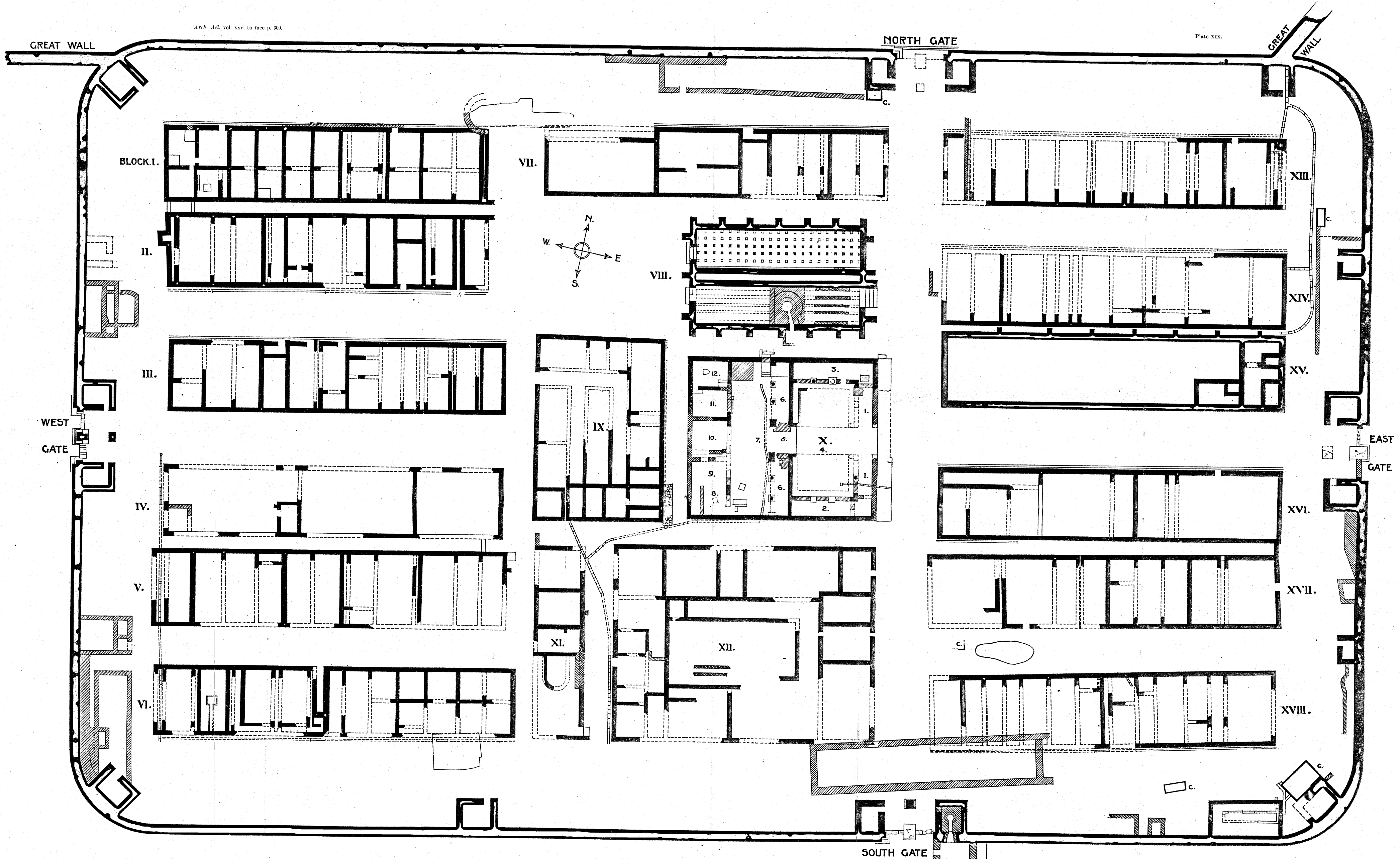


FIG. 17.—*SACELLUM* RESTORED (see p. 227).



. BORCOVICIUM. (HOUSESTEADS)

MEASURED AND DRAWN BY
A.C. DICKIE AND R.C. BOSANQUET.
1898 - 1899.

ADDITION AND CORRECTION.

The walls on plate XIX are indicated in the same way as on plate XV, where a key is given.

Solid black	denotes	early work.
Hatching	„	later work.
Cross-hatching	„	traces of foundations.
Dotted lines	„	inferred line of wall.

On page 196, for Anonymous read *Anonymus*.

