

FIG. 1.—CORSTOPITUM—THE PORTICOES BEFORE THE SOUTH FRONT OF THE GRANARIES.

VI.—CORSTOPITUM: REPORT ON THE EXCAVATIONS IN 1909.

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I.—INTRODUCTION.

Work began at Corbridge in 1909 on July 1 and was continued till the beginning of October, or, if the fortnight required for 'filling in' be included, till the middle of that month. During the three months the excavators were able to examine thoroughly the ground lying between the area explored in 1908 and the modern road from Corbridge to Beaufront and Hexham, which probably coincides approximately with the northern limit of the Roman occupation. They also found time to work out some details of the granaries and fountain which had been left unfinished in the preceding autumn.

The results obtained are striking and important, though they differ markedly in character from the results of 1908. In that year we uncovered a broad and well-made street, and by the side of it, elaborate, extensive and even massive buildings, the granaries, fountain and so-called 'forum,' which surpass in many respects all previous discoveries of the kind in Roman Britain, while the interest of the buildings was enhanced by one or two notable inscriptions, a sensational hoard of late Roman gold coins and several noteworthy pieces of sculpture. As we moved away north from this fertile quarter, we entered a different region. The buildings found in 1909 were small and poorly built and, with one exception, ill-preserved: one or two of them had plainly been destroyed within the Roman period. Only two could be assigned, with any approach to certainty, to a definite use. One of these was a granary resembling the two

granaries unearthed in 1908, but smaller and less finely constructed: its erection dated perhaps from the earlier part of the second century, and it had been destroyed before the fourth century (site xiv). The other—the only well-preserved building in the whole series—served apparently as a bath-house in the later age of Corstopitum (site xvii). The rest were confused and puzzling structures, generally showing signs of successive rebuilding, but in their existing form practically unintelligible. Even their positions were irregular, and little trace could be found of definite streets. Plainly the northern side of Corstopitum, so far as it has been yet uncovered, never contained buildings of great importance or solidity.

In contrast to this poverty we have many single finds to record which deserve full notice. Close to the bath-house just mentioned was a clay-built furnace or forge, remarkable for a huge 'pig' of raw iron which was found standing upright in the middle of it. This 'pig' weighs upwards of three and a half hundredweight, and is doubtless the largest single piece of Roman iron yet found in Britain. Its use is open to doubt. It has been thought by some that iron ore from neighbouring ironstone outcrops was brought to Corbridge to be there smelted and that this 'pig' is one of the results. Others prefer to suppose that the ironstone was smelted where it was dug up, and that the 'pig' was utilized at Corbridge as an anvil in a smithy. Whatever the truth—and we hope to be able to say more next year—the find indicates iron-smithying of some sort at Corbridge, and cannot fail to throw light on ancient metallurgy in England.

Another interesting structure was a curious aqueduct, formed of a stone water-channel laid on a substantial clay embankment. This was found to have supplied the water for the fountain in the latest Roman period and, though a somewhat rude work, deserves attention as a novel form of water supply. The water was brought, doubtless, from the rising ground north or north-

east of Corstopitum, but the site of the spring, the line of the channel from it to the beginning of the aqueduct and the nature of the channel—whether stone or an earthen bank or wooden landers on trestles—remains to be determined later.

A third structural discovery was made in front of the two granaries uncovered in 1908. Here, facing the main street, we were able to trace the bases and lower parts of the columns of two massive porticoes, one for each granary. Each portico had four columns, which presumably supported a pediment, and the whole fitted in well with the general scale of the granaries. The porticoes, like the granaries, seemed of different dates and bore marks of restoration in certain places.

Besides these single structural finds, evidence was accumulated to throw light on the development and character of Corstopitum. In the first place, the assured beginning of its history was thrown back some fifty years. Beneath the granaries and also beneath site XIV, Samian and other potsherds were detected at a considerable depth, and these potsherds may be ascribed with reasonable certainty to the age of Agricola. With the potsherds were a few postholes, and in them the remains of posts, showing that—as we might expect—the earliest Romans at Corstopitum made use of wood for some at least of their buildings. Less sensational discoveries have been made in respect to Corstopitum chronology during the second and following centuries. But we are beginning to feel our way towards a more definite sequence of buildings and periods, and to lay the foundations of a relative, if not of a positive, chronology. It is interesting, too, to note that the demolition of the great building on site XI was due, at least in part, to Romans of the third or fourth century seeking building stone.

The small finds of the year also claim a word. Coins have been numerous, if less overwhelmingly plentiful than in 1908, and a larger proportion of them than hitherto belongs to the first

and second centuries. Samian ware has also been abundant, and included the almost wholly new element of first-century fabrics: on the other hand, the East-Gaulish or German products which occurred to some extent in 1908 were almost wholly absent in 1909. Of individual objects the most noted, if not the most noteworthy, is a terra-cotta mould found on site xiv which has become popularly associated—even in *Punch*—with the name and fame of Mr. Harry Lauder. Its more serious aspects are dealt with below (p. 224). Notice is also due to a small Anglo-Saxon urn, from site xiv, and a piece of a sword scabbard of a kind which was in use on the other side of the North Sea in the fourth or fifth century. These fit in with the two Anglian *fibulae* and beads found in 1908, and may belong to the same grave.

The excavations were again superintended by Mr. R. H. Forster, while Mr. W. H. Knowles again undertook the planning and measurement of the buildings and structural remains. Mr. Forster was also assisted by Prof. Haverfield, Mr. H. H. E. Craster, Fellow of All Souls College, Oxford, Mr. G. L. Cheesman, Fellow of New College, and Mr. J. P. Bushe-Fox, who were resident in Corbridge for large parts of the season. Other friends gave valuable assistance. It is only by abundance of helpers that the many activities involved in an extensive excavation can be adequately provided, and while it is indispensable that one competent archaeologist should give personal and continuous supervision to the actual digging, it is equally necessary that others should be present to share in the supervision of special buildings and pits, and to record and classify the mass of objects found.

The illustrations contained in the present report are taken from photographs by Mr. Bushe-Fox and Mr. J. P. Gibson, and from drawings by Mr. Knowles.

The work will be resumed in July, 1910, on the portion of

Corstopitum which lies directly east of the area explored in 1908. This portion includes the hitherto unexcavated part of the great building on site XI. It is therefore certain that the work will be difficult and costly, but it is hardly less certain that it will reveal important structural remains and yield very valuable results.

II.—THE GRANARY PORTICOES.

The chief event of 1909 from an architectural point of view was the discovery of a pro-tetrastyle portico before the south front of each of the granaries (fig. 1). The bases remain *in situ*, with the exception of the westernmost column of the west granary portico, where only the square plinth is left. The east granary portico had a projection of nine feet six inches (fig. 2). Its colonnade consists of four columns; the bases of the two outer columns are at the level of the earliest road, and may be considered as original and contemporary with the main building: the others rest on foundations large enough to have carried columns of the same design, but the surviving bases are of a different type, and seem to indicate a later restoration. The outer columns have a plinth three feet eight inches square by twelve inches in height, with a circular moulded double torus thirteen and a half inches high: the latter is rudely worked, and the members, being of similar section and undivided by fillets, lack refinement. The shafts, which measure two feet six inches in diameter, are composed of built-up courses of masonry, four inches in thickness, and have been covered with a coating of cement, of which some traces remained. The middle columns have bases formed of single stones, the shafts measuring only one foot eleven inches in diameter. If we are right in regarding this portico as contemporary in origin with the east granary, it is not unlikely that these two columns were damaged at the time of a disaster which occurred perhaps

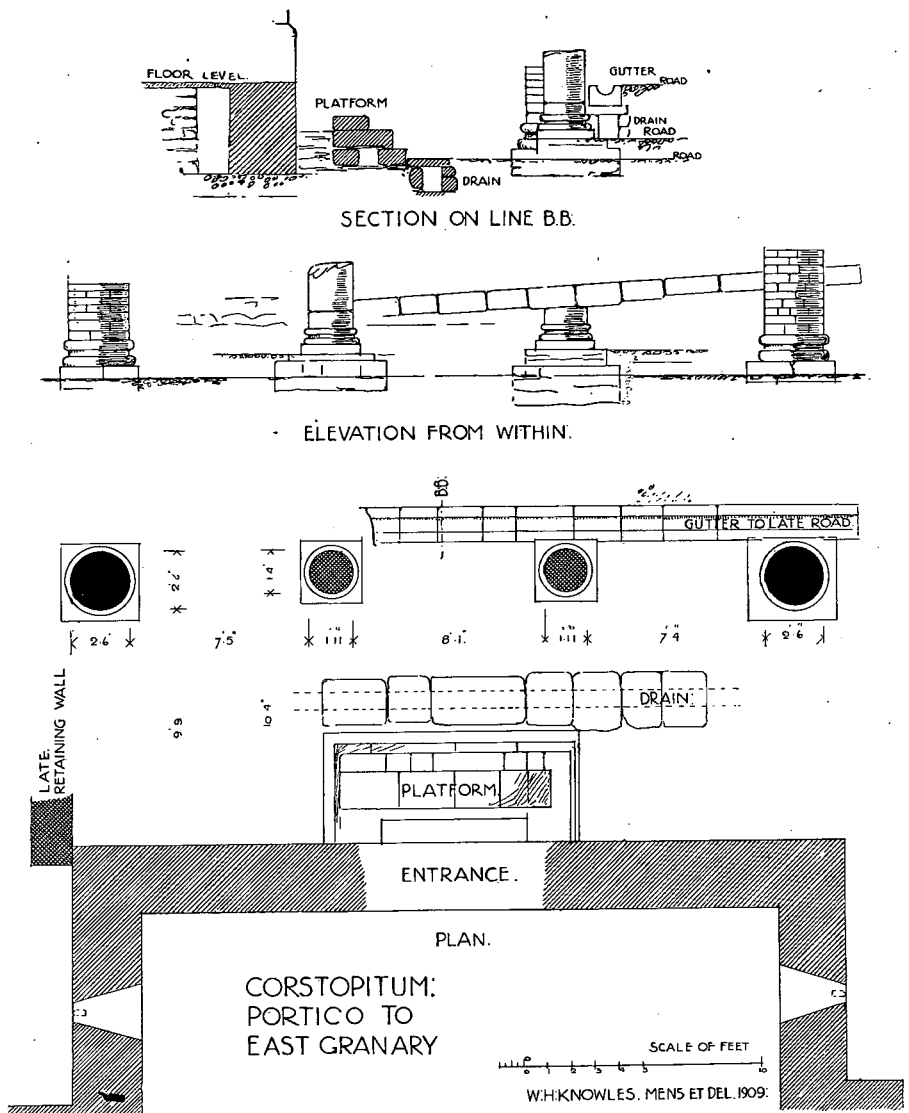


FIG. 2.

in the reign of Commodus, and we may conjecturally ascribe their restoration to Septimius Severus.

The colonnade of the west granary (fig. 3) projects only eight feet six inches. But it will be seen from plate XXII of the report for 1908 that the south wall of this granary is in advance of the south wall of the neighbouring building, so that both colonnades are approximately in the same line. The portico of the west granary is at the level of the middle or second period road, which envelopes the bases of the outer columns of the other portico: the foundations have been carelessly laid, and the whole structure is certainly of later date than the building to which it was attached. The discovery of a silver coin of Commodus at a level slightly lower than the foundations of one of the columns perhaps gives a clue to the date of the portico, which may have formed part of an extensive restoration carried out under Severus. Such a restoration might have included a considerable amount of rebuilding in the granary itself, and would thus help to explain the puzzling features mentioned in last year's report.*

The bases of the west granary columns are single stones and similar in section to the two middle bases of the east granary portico. But the columns are only one foot seven and a half inches in diameter: their intercolumniation is also irregular, the space between the side columns being five feet nine inches, as compared with nine feet ten inches between the two centre columns. Probably this was for the purpose of facilitating access to the loading platform. Between the two westernmost columns was what appeared to be a couple of rough steps, leading downwards towards the granary, the upper surface of the higher step being about on a level with the lower surface of the adjacent gutter-stones of the latest (probably fourth century) street, which thus formed a third step.

* *Arch. Ael.*, 3 ser., vol. v, p. 308 *et seq.*

CORSTOPITUM PORTICO TO WEST GRANARY

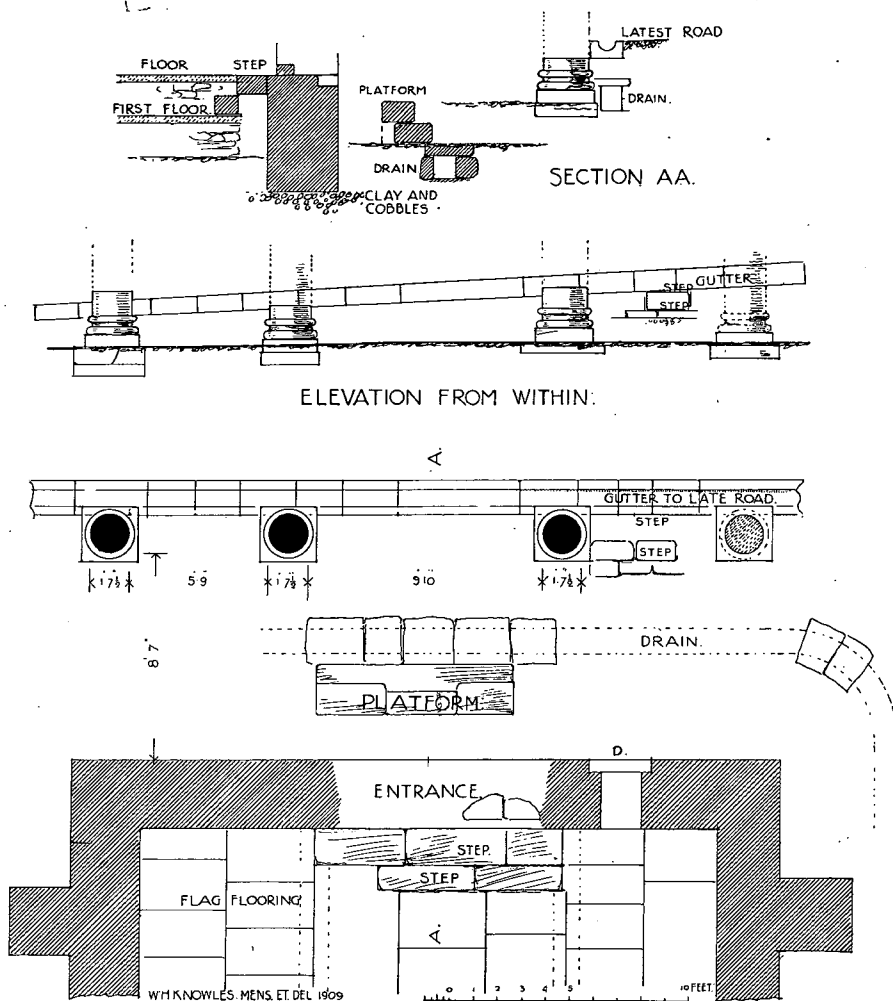


FIG. 3.

In the course of our excavation the three successive street levels, with the drains belonging to each, were clearly exposed. They will be best understood by a reference to the plans and sections (figs. 2 and 3). The earliest and second period streets had covered drains; the street of the latest period has been bounded by an open channel, composed for the most part of re-used material, in part, at least, brought from the large building on site XI. One or two of the stones in which the channel had been cut, still retained the rock-faced projection characteristic of the masonry found on that site, and in many other cases the projection had been chiselled away, but the original arris was clearly distinguishable.

As will be seen from figs. 2 and 3 the columns of the two porticoes, or such parts of them as then remained, had been used as supports for the roadway of the latest and highest street, this roadway had been further strengthened between each pair of columns by large flat stones, placed on edge in a nearly upright position and backed with clay. It was necessary to remove these stones in order to expose the columns.

A further examination was made of the loading platform of the west granary. This appeared to be of later date than the main building and may be contemporary with the portico. In the course of this operation the masonry of the whole of the south front of the granary was exposed, and an opening, one foot ten inches in width, with checked jambs and sill for a timber door-frame, was discovered at the point marked D on the plan (fig. 3). The sill had been below the level of the original floor of the granary, and just above the level of the earliest street; and the opening had been at some time walled up without removal of the timber door-frame, which had rotted away, leaving a few small fragments adhering to the masonry.

III.—SITE VIII. THE 'FOUNTAIN': FIRST CENTURY AND OTHER
REMAINS.

A considerable space was excavated immediately to the south of the tank of the 'fountain.' Clean sand was reached at a depth of ten feet below the present surface, and the tank was found to rest on a clay and cobble foundation placed on the surface of the road running to the north, the lower side of the stones being five feet below the present surface. Just to the south, and at a lower level, were the remains of a wall about two and a half feet thick, which was traced for a distance of about fifteen feet. Its extent roughly corresponded with the front of the tank: the portion remaining was one foot six inches in height, and its foundation level was three feet four inches below the bottom of the tank, or rather more than eight feet below the present surface. From this wall a cross wall of the same thickness ran south for about eight feet, and was then cut away to permit a drain to cross in continuation of that passing in front of the east granary (plate XXI, report for 1908, and section of the porticoes in the present report); the west side of the cross wall lined with the centre of the 'fountain.' There was some trace of the clay and cobble foundation of another cross wall running parallel to that just mentioned, about in a line with the west side of the tank.

Below the foundations of these walls, and resting on the clean sand, was a layer, one foot eight inches thick, of mixed earth containing evidence of a still earlier occupation. Several pieces of decorated 'Samian' of shape 29 (first century) were found at or near the lowest level, as well as fragments of other wares which appear to be of first century date. Nine post holes, which must have belonged to a timber structure of the same period, were also discovered. Of those situated to the west of the cross wall, a row of three was carefully excavated and measured. Their

depth when excavated was about two feet, but some of the upper part was necessarily removed in the process of discovery, and it seems likely that their original depth was two feet six inches, and that their tops, which were surrounded by a burnt layer, had been about on a level with the foundations of the walls just described. The holes, which were pointed at the bottom and penetrated some inches into the clean sand, measured as follows:—North hole, three inches north and south by two inches; centre hole, three and a quarter inches north and south by two inches; south hole, three and a half inches north and south by two inches. Small fragments of wood were found adhering to the sides of the holes. Three other postholes were found to the east of the cross wall, two of them being close to the line of that wall, and one of these under a drain which will presently be described. These two were of larger size, that under the drain measuring seven and a half inches north and south by seven inches east and west.

A somewhat complicated system of drains was found in this area. Further investigation will be necessary before it can be thoroughly understood, as during the past season the task of finishing the northern part of the field made it advisable to do less than was desired here, where work will be possible in the future. It seems probable, however, in the first place, that even after the final raising of the street level in front of the granaries, the fountain remained in use, and that there was a slope from the north side of the street to the front of the tank. This certainly suggests that the stretch of walling shown on the plan in the report for 1908 and fig. 2, just to the south of the south-east corner of the east granary, was not the remains of a forecourt to that granary, as was at one time supposed, but formed a boundary or retaining wall on the west side of this sloping access to the fountain. The wall in question, to judge by its construction and the level of its foundations, is of late date. Up to the present no trace has been found of a corresponding wall on the east, but

on this side the ground, for the reasons above stated, has not yet been thoroughly explored.

The drain belonging to the earliest street level in front of the granaries passes under this retaining wall. Two and a half feet to the east, it is joined by the drain from the north, into which, as observed in 1907, the outlet of the 'fountain' tank had flowed. From the point of junction the drain curves southwards, and then runs straight, at an acute angle with the direction of the street, for twenty-eight feet, till its line is cut by that of another drain at a somewhat higher level, which comes from under the south-east angle of the 'fountain' tank: possibly the latter drain ran into the former, but, with so much heavy stonework to be removed, it was necessary to postpone further investigation. To the east of the junction with the drain from the north, the construction of these drains was comparatively poor. With regard to the masonry foundations discovered in front of the 'fountain,' there is not sufficient evidence to show their original extent or purpose; they may have formed part of a building erected here after the timber structure was destroyed and before the main street was laid out. This, however, is merely a suggestion, and the point may be further investigated, if the investigation, which must necessarily be expensive, is considered to be worth the cost.

An important question, on which some light has been thrown, is the date of the construction of the 'fountain,' and the duration of its use. Judging by the comparative levels, we should say that the 'fountain' must be of later date than the east granary, which has been assigned to A.D. 140 on the evidence of an inscribed slab. Very probably it is contemporary with the portico of the west granary, which seems to date from the time of Severus, and it may be more than a mere coincidence that a stone with the figure of a boar, the badge of the twentieth legion, was found during the excavation of the portico, while the 'fountain' site

has yielded fragments of two inscriptions by the same legion. If we consider the workmanship, we cannot well put the 'fountain' earlier than Severus, and the quality of the work is not inconsistent with an even later date. If the existence of a sloping approach from the late period street level can be satisfactorily established, it would seem that the 'fountain' remained in use practically up to the end of the Roman occupation, and this agrees with the level of the watercourse at the point where the stones were found in position.

IV.—THE WATERCOURSE.

In cutting a trial trench to the north of site XIV, an embankment of clay and rough masonry, with a slight batter to both sides, was found and followed for some distance to the north and south (see plan, fig. 13). It ran in a somewhat irregular line for about one hundred and seventy feet, the remains being of the average height of about three feet, and for this distance the masonry, five to six courses in height, was backed on the west side by an embankment of clay about five feet in width. This clay was yellowish in colour and of moderate quality, less tenacious than the blue clay used in the foundations of the buildings of the earlier period. To the south, the last twenty feet of the retaining wall lined up with a gutter or watercourse composed of channelled stones averaging twenty-two inches in breadth and a foot in thickness, with a channel about nine inches wide and four deep: it appeared to have had a covering of large flat stones, but of these only two were found in position. This watercourse, which had a fall from north to south, was traced southwards to a point opposite the middle of site XII: beyond this the stones had been removed, but a continuation of the line exactly coincided with the top of the sloping retaining wall discovered in 1908 on the east side of the east granary.* The latter wall faces

* See *Arch. Ael.*, 3 ser. vol. v, p. 344, and report, p. 40.

the west, but on examination it was found to be backed on the east side by clay of a quality very similar to that of the clay embankment already mentioned, and it seems probable that it supported the southern end of the watercourse which, presumably during the later period of the occupation, carried the water supply to the 'fountain.'

To the north the retaining wall discovered in 1909 is broken away near the north-west corner of the building on site xvii, but it appears to have been continued as a mound of clay and stones, shown on the plan by a dotted line, over the filled-in ditch and so in a straight line northwards till it butts up against a line of kerb-stones, or possibly the foundations of another retaining wall running east and west about eighteen feet from the hedge: three channelled stones were found lying in the soil at various points adjacent to the line indicated, and two others were found just to the west of the clay bank near the point at which the retaining wall is broken off beside site xvii, while a broken channelled stone was found close to the same bank during the excavation of the building on site xiv. All these stones were of similar dimensions to those found *in situ*.

The question of levels, unfortunately, is not free from difficulty. The present surface to the north of site xvii is lower than the level of the stones found in position. The latter have sunk in several places, owing to their being laid on made ground of varying hardness; but their covering stones seem to have been on a level with the latest surface of the street between sites xi and xii, which is probably not earlier than the middle of the fourth century. If, as has been suggested, the watercourse carried water by gravitation southwards, it is necessary to suppose that in the northern part of its course the stone channel rested on an embankment of some height, and that their level was from four to five feet above the present surface. This, however, appears to be not impossible, since the area to the west of

the line seems to have been unoccupied during the later period, and an embankment of the necessary height would naturally be levelled or removed when the land was brought under cultivation, if not before that.

Another difficult question is the way in which the water reached the point where the remains of this watercourse cease. The sharp drop of the ground northwards at about the line of the hedge precludes the idea that it was brought directly from the north. But there is at the present day a good source of supply at Milkwell farm, to the north of the modern village and distant a little more than half a mile from the north-east corner of the area excavated in 1909,* or Aydon burn may have been tapped at some point where a sufficiently high level could be obtained. In either case the supply would approach the town from the east, or a little north of east, and it is perhaps not an unfeasible suggestion that the kerb upon which the 'fountain' watercourse abuts may represent the southern edge of an embankment carrying the main aqueduct, which here threw off a branch to the south and passed on to the western quarter of the town. This, however, is a suggestion only. We must wait for further light until the ground east and west of last year's area is excavated.

The watercourse to the 'fountain,' if such it be, appears to be of comparatively late date, though it may have been preceded by an earlier aqueduct. It is clear, in the first place, that at the date of its construction the building on site xiv was practically destroyed; and the coins and other objects found in this building tend to show that it was probably erected in the first half of the second century, while its remains had become covered

* The line from these springs to the suggested embankment would pass the spot in the angle between Cow lane and the Stagshaw road, where channelled stones were found *in situ* some years ago. The levels are said to be favourable for a watercourse following this route.

with two to three feet of earth before the clay embankment was carried over its site. It is also clear that at the same date the building on site XVII was still standing, as the line of the watercourse is diverted to avoid it: the coins found in this building range from Gallienus (A.D. 260-268) to Gratian (A.D. 375-383). Six coins of the first half of the fourth century were found beside the retaining wall of the watercourse, and of these one *Urbs Roma* (A.D. 335-337) and one of Constans (A.D. 340-342) were found on the bed of clay. These facts, taken in conjunction with the level of the channelled stones found *in situ*, tend to show that the watercourse was constructed, or more probably reconstructed, in the fourth century.

V.—SITE XIV.

The northern part of this site (fig. 5) had been occupied by an oblong rectangular building, measuring externally fifty-four feet by twenty-three. Except at one or two points towards the west end, practically nothing of it remained above the foundation course, and the east end was traced by the clay and cobble foundation. The clay was blue and very tough, and waterworn cobbles had been used, some of them being of fairly large size.

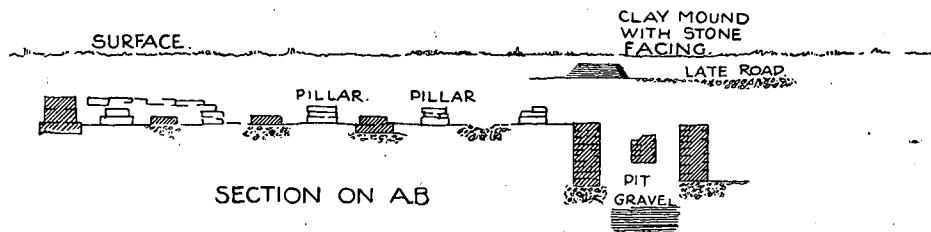
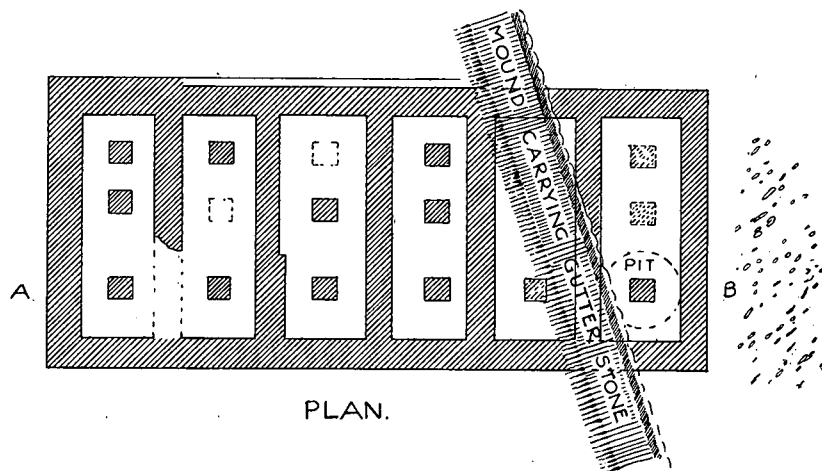
At the foundation level the building had been divided internally into six compartments of approximately equal size by cross walls two feet thick, resting on clay and cobble foundations. In each compartment there had been three masonry pillars, about two feet square, on foundations of the same kind: two of these pillars were standing to a height of about three feet, while many had entirely disappeared but could be traced by means of the clay and cobbles. It is to be noticed that the space between the northern and centre pillars is in every case less than that between the centre and southern. As the compartments measure internally only sixteen feet by six, it is fairly clear that they cannot



FIG. 4.—CORSTOPITUM. SITE XIV.

represent separate rooms into which the building was divided; for in that case the masonry pillars would only form a useless obstruction. It is probable that some of the cross walls and all the pillars were of no great height, and that they supported a raised floor, similar to those of the east and west granaries, but arranged on a different system: the space beneath this floor may have been ventilated by openings similar to those found in 1908, but unfortunately there was no point at which the outer wall remained standing to a sufficient height to show whether such openings had originally existed or not. There were the remains of what appeared to be a buttress opposite the north end of the first cross wall from the west, and traces of something similar were found opposite the south end of the same cross wall. On the whole it seems likely that we have here the remains of some kind of storehouse or granary erected in the first half of the second century. The top of the clay and cobble foundation was from six to seven feet below the present surface, and no late coins were found on the site, except in the surface soil; of the coins which occurred at a lower level seven were minted under Trajan and ten under Hadrian, five are earlier than Trajan, and the only coins later than Hadrian are two of Antoninus Pius and one of Severus Alexander.

The building was almost completely destroyed and its materials to a large extent removed during the Roman occupation, though the site may have been occupied for some outdoor purpose after the destruction, as two or three small areas of flag pavement were found at from eighteen inches to three feet below the present surface. The lower part of the site was covered with a stratum, about three feet thick, consisting largely of lime and broken stones, surmounted by a thin layer of burnt bones, which was specially noticeable in the eastern half: above this was about two feet of made earth and stones, and then twenty to twenty-four inches of black soil.



CORSTOPITUM SITE XIV



W.H.KNOWLES, F.S.A.
MENS ET DEL 1909.

FIG. 5.

。 The site, down to the foundation level of the building, yielded a considerable amount of 'Samian' and other pottery, the 'Samian' including no fragments that could be assigned to an earlier date than the second century. The other minor finds included a few bronze *fibulae*, an engraved stone from a ring, bearing a figure of Mars, two small lamps, one bearing the stamp FORTIS, both of which occurred in the upper soil, and about the usual quantity of small objects of iron.

The most noteworthy object discovered was a baked red clay mould, measuring five and three-quarter inches in length, three and three-quarter inches in breadth, and about three-quarters of an inch in thickness, for the production, presumably on pottery of local manufacture, of a figure in relief, four and a half inches high. The illustration (fig. 6), on the opposite page, is reproduced from a photograph of a cast taken from the mould. The figure is that of a bearded male, clad in an undergarment, possibly of skin or hide, which falls over the right knee and may have been fastened by a brooch on the left shoulder, and a shorter upper garment, apparently of some textile fabric, which is fastened by a brooch on the right shoulder and falls a little below the waist. His legs and feet are bare, and on his head he wears a hat or helmet, terminating in a large round knob. His right hand rests on the handle of a curious crooked club, which may be intended to represent a piece of roughly trimmed tree-branch. On his left arm he carries an oblong and apparently convex shield, on which is incised a line forming a segment of a circle and extending from the upper to the lower right-hand corner: the space so enclosed is ornamented with incised circles, and about the centre of it is shown the boss of the shield, which appears to be more or less conical, with a flange at the base. The position of this boss, which appears to be nearer to the right than to the left edge of the shield, might perhaps indicate that the shield had two bosses; but on the whole it seems much more



FIG. 6.—ROMANO-BRITISH GOD (?). $\frac{1}{2}$.

likely that the artist did not possess sufficient skill to show the proper perspective, and that he has placed the boss in the centre of the part of the shield visible to the spectator. To the left of the left leg of the figure is a representation of an eight-spoked wheel. The mould has evidently been made from a modelled figure, and has been touched up with a graving tool. In style and workmanship the figure bears a strong resemblance to that which appears on two fragments of dark-grey pottery found in 1908 on site XII, at a point not many yards distant from site XIV.*

On the subject of this figure professor Haverfield thus writes:—

‘The figure shewn by the mould seems to represent, or to be based on a representation of a figure of a Romano-British god, though here, as in so many minor classical remains, the line between a religious figure and mere ornament is not easy to draw. We have a warrior armed with a metal cap on which the fitting of the plume and crest is plain, a shield shewn perhaps in half—that is, in barbarous perspective—and a crooked stick, to which I can cite no parallel. In addition, he is accompanied by a wheel which is a well known and familiar Celtic religious emblem. The fragments found in 1908 represent part of a similar figure, differently capped and armed with a brandished axe. A similar mould, but more classical in style and art, has been found in London, and is now in the Guildhall Museum. The plaques made in such moulds were, I imagine, affixed to the outsides of large vases and similar surfaces, in the manner of *reliefs d'applique*, but I have no definite facts to quote in this respect.’

A yet more important feature of site XIV was a pit containing first-century relics. In excavating the eastern end of the building it was found that while the clay and cobble foundations of the four cross walls nearest the west end rested on, or very near, the undisturbed sand, to the east of the fourth there appeared to be a sharp dip. Accordingly, that end of the building was carefully examined, though this necessitated very heavy work, and the results gave ample compensation. It was found that the masonry pillar in the south-east angle of the building had sunk

* See *Arch. Ael.*, 3 ser. vol. v, p. 116.



FIG 6A.

ROMANO-BRITISH MOULD IN THE GUILDHALL MUSEUM, LONDON.

(See opposite page.)

The block lent by Prof. Haverfield.

about two feet below the level of its neighbours, and it became evident that it had been set over a filled-in rubbish pit. This pit, when cleared, was found to be six feet six inches in diameter, and the bottom of it was fourteen feet six inches below the present surface: the original surface level, of the date when the pit was dug, was found at a depth of ten feet, and the pit penetrated the hard gravel at a level two feet one inch lower.

Besides a quantity of bones, the pit contained fragments of a decorated 'Samian' bowl of shape 29, and about two-thirds of a decorated bowl of shape 30, both of which may safely be regarded as first-century work. With these were found a few fragments of grey and buff wares closely resembling specimens found by Mr. James Curle at Newstead in the earliest fort ditch. Mr. Curle has examined the pottery found in this pit and elsewhere at Corbridge at low levels, and agrees with the conclusions expressed in this report as to its early date. The pottery will be more fully described in a future report.

Another pit was found and cleared, a few feet to the north of the pit just described. At the original surface level, which was here about nine feet below the present surface, this pit was about six feet in diameter, but it diminished in width as it went down, coming almost to a point at the bottom, which was twelve feet six inches below the present surface. Probably it had been only partially dug; certainly, nothing was found in it but one small piece of plain 'Samian' of an early shape.

The area immediately to the south of the building just described appeared to have been an open court or yard. One or two small patches of rough flag pavement, found about eighteen inches below the surface, probably belong to the latest period of the occupation. A stretch of wall, about twenty-four feet in length and two in thickness, found on the west side in line with the west wall of the building to the north, appeared to be of earlier date, as its foundations lay between five and six feet

below the present surface. On the east side was a fragment, fifteen feet long, of a covered stone drain: no more than this fragment was found, and possibly we have here the remains of an earlier watercourse, the rest of which was destroyed when the later watercourse was constructed on the clay embankment at a higher level.

The soil covering this area was very black and particularly rich in small finds, including a number of bronze *fibulae*, a bronze ring with a small stone showing a figure and a larger bezel-stone engraved with a figure.

The pottery included pieces of a small vase of black ware with incised ornament, which appears to be of Anglo-Saxon origin. One of these pieces was found inside a small, cist-like receptacle at A, near the southern edge of the site. This receptacle measured two feet three inches by one foot six inches; its sides were formed of flat slabs of stone, and its bottom was the hard gravel which here forms the subsoil. Its contents were quite miscellaneous and plainly fortuitous: they included the piece already mentioned, a few fragments of 'Samian' and other Roman pottery, a large knife, several lumps of rusted ironwork, and many bones—pig, sheep or cattle—most of which had been broken for the purpose of extracting the marrow. To the east and north-east of the spot, iron objects and pieces of what appeared to be thin bar iron were abundant, and suggested that some kind of smith-work had been carried on there. In this case the stone receptacle may have been a small cooling or tempering tank, though it cannot easily have been made watertight.

VI.—SITE XV.

This site included a considerable space of ground adjacent to the west hedge of the field. Traces were found in it of a continuation northwards of the street dividing sites X and XII from sites IX and XIII, but the remains were meagre and most of

the cobble pavement had been removed. A paved street was also found running westwards, about at right angles to the line of the street already mentioned. The only building remains discovered were those of a roughly circular kiln or furnace, about six feet in diameter, constructed of stones put together with clay, and showing strong signs of burning. The rest of the area was carefully trenched, and was found to be covered with disturbed earth which increased in thickness towards the west, reaching a depth of seven feet six inches close against the hedge; but though it produced some coins and a fair quantity of pottery and other small objects, no traces of buildings were discovered, and it seems probable that in Roman times this was an open space.

VII.—SITE XVI.

This site, measuring about ninety feet by eighty, lies immediately to the north of site XI, and was found to be in a state of almost hopeless confusion, due not only to post-Roman digging for stone, but also to the fact that in Roman times there had been at least three occupation levels, and the buildings or other structures of the different periods had not occupied the same sites. The lowest foundations discovered were those of a rectangular building, one of the chambers of which was twenty-five feet square, the north wall being continued on either side: at the north-east, where shown on the plan, there was walling at the same level and of similar construction, rough flagged pavement also occurred where indicated. These foundations were on a level with the foundations of the north wall of the building on site XI, about seven and a half feet below the present surface, and the two buildings had been separated by a paved street sixteen feet in width. The northern part of the site had also been occupied at an early period, but no definite trace of any building could be found. Near the north-west corner a small rubbish pit was discovered.

About the middle of the site, and at a higher level than the foundations already mentioned, were two rough stone structures, approximately circular in plan and about four feet in diameter, resting on made ground: possibly they may have been tanks or vats of some kind, but there was no indication of their having been made water-tight. A little to the south-east of these were the remains of a circular building, measuring fifteen feet in internal diameter; the foundations were about three feet below the present surface, and the walls, which remained standing to a height of from one to two feet, were two feet in thickness and of poor quality. Nothing was found in the interior of the building which gave any clue to its use. Between this and the square building, at B on the plan (fig. 13), was a small cist or cistern 20 inches by 13 inches by 15 inches in height with flagged sides and bottom. To the east and north-east of this building was a stretch of wall-foundation, running north-east and south-west, and not parallel or at right angles to any other foundation on the site; it was broken away at either end, and its level was about the same as that of the foundations of the circular building. Just below the present surface a stone channel or drain, evidently of the latest period, was found crossing the southern part of the site: about seventy feet from the eastern limit of the reserved area it was joined by a similar but smaller drain from the north, and about thirty feet further to the west it curved southwards and had apparently passed along the street between sites XI and XII, but it was broken away before the curve was completed. The sides were composed of fairly heavy stones, and the bottom was of earth or gravel: one or two heavy covering slabs were found in position.

Pottery was fairly abundant on this site, and some fragments of decorated 'Samian' of shape 30 came from the lowest level; these, however, do not appear to be of quite so early a date as the bowl of the same shape found in the rubbish pit on site XIV.

A silver coin of Galba came from the small rubbish pit, and one of the rough tanks produced a coin of Nero and a silver coin of



FIG. 7.—CORSTOPITUM. SCULPTURED PANEL. $\frac{1}{4}$.

Julia Domna. A considerable number of coins, ranging from Vespasian to Marcus Aurelius and including nine of Trajan, came from the low levels or the earth just above them: a number of

later coins were also found, beginning with Septimius Severus and ending with Gratian, but these were all found within three feet of the surface.

The most remarkable object found on this site was the sculptured panel (fig. 7), measuring sixteen inches in height and fifteen and a quarter inches in breadth, which was discovered a little more than a foot below the surface near the south side of the circular building. It bears a representation in relief of two draped female figures of unequal size: the larger figure, on the right, is seated, and in her right hand, which rests on her lap, she holds a round or oval object, the nature of which is not clear, while her left hand, which is raised to the level of the face, grasps an upright rod or wand, which seems to have had some sort of ornament at the top; on her right is a pedestal, or possibly an altar, on which is perched what may possibly be a cock. The other figure, which is standing, appears to be a representation of Fortune; in her right hand she holds a rudder, and in her left a cornucopia, which rests against the left shoulder.

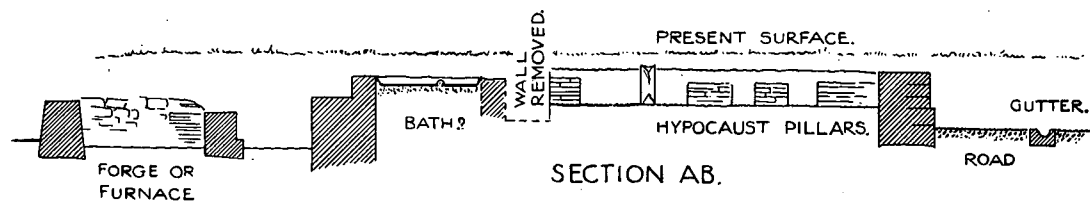
VIII.—SITE 'XVIII.

Of this site, which may most conveniently be taken next, there is little to be said, as much the same confusion existed here as was found on site xvi. The remains of a small oblong building, measuring internally seventeen feet six inches by twelve feet, were traced, and as the floor level was over four feet below the present surface, it may be of comparatively early date, but nothing was found to throw any light on its character. A little to the west of this were the remains of a wall of very poor masonry, with a buttress on the east, and on the west, near the north end, some flag pavement and the remains of a trough made of flat stones. A coin of Antoninus Pius was found by the base of this wall at a depth of four feet, but the only other coins unearthed were one of Constantius II (after A.D. 350), two of Valens,

and two of Gratian. These were all found less than two and a half feet below the surface.

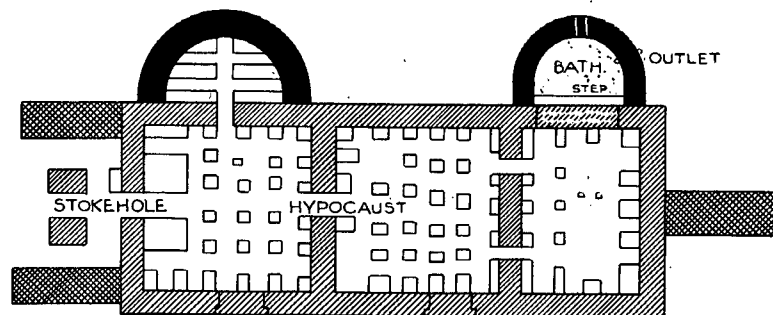
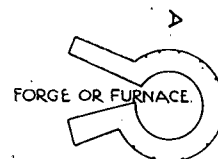
IX.—SITE XVII: BATH-HOUSE AND FURNACE.

This site (fig. 8), lying to the north of sites XIV and XVIII, produced more definite and interesting remains. Close to the eastern side of the watercourse embankment was a building measuring originally forty-six feet from east to west and eighteen feet from north to south: the main walls were two feet in thickness, and remained standing to an average height of two feet, the foundations being three feet ten inches below the present surface on the north side and two feet eleven inches on the south. The interior of the building had been divided into three rooms, that to the east measuring fourteen feet by nine feet six inches, and the others about fourteen feet square, and each room had been heated by a pillared hypocaust, the furnace for the whole building being at the west end, while the hypocausts were connected by a single opening through the party wall between the west and centre rooms, and two openings in the other party wall. The *pilae* were very roughly built of stone, except in the case of a few in the east room, where single stones had been used, and their foundations, as well as the floor level of the hypocausts, were about ten inches above the foundation level of the main walls. Only a single broken flagstone of the flooring was found, but there were many fragments of the upper layer, which seems to have been of hard white cement, faced with *opus signinum* of good quality. The flue, by which the heat passed through the west main wall, had been faced on both sides, and probably also turned, with what at first sight appeared to be flat bricks; but on further examination they proved to be flanged roofing tiles: in some cases the flanges had been broken off, but in others the space between the flanges had been filled up with cement.



CORSTOPITUM SITE XVII

W.H. KNOWLES F.S.A. MENS ET DEL.



TO PLAN
TO SECTION

SCALE

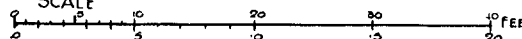


FIG. 8.

At some date subsequent to the original construction of the building important alterations had been made. Apsidal additions had been constructed on the north sides of the east and west rooms, the new walls, which are of fairly good masonry, being butted against the original north walls, a portion of which, where it adjoined the chord of the eastern apse, was found to have been removed down to the foundation level. This apse (fig. 9), which is twelve feet in width and projects eight feet, had a flagged floor, without hypocaust, with a fillet of *opus signinum* at the junction of the floor with the inner face of the wall, not only on the semicircular side, but also along the chord, where presumably there had been a low wall dividing the apse from the east room, and so forming a tank or bath, having an outlet by a pot pipe drain through the east side of the curved wall. The level of the floor of this tank was about a foot lower than what, so far as could be calculated, must have been the floor level of the main building. In the case of the apse added to the west room, the original main wall had been pierced and the hypocaust extended as shown on the plan. This apse was fourteen feet wide, with a projection of eight feet.

About the centre of the main east wall a buttress of solid masonry, nine feet long and four feet thick, had at some period been added, probably because the walling of the building showed signs of slipping; and there was evidence that in Roman times the ground here sloped towards the east. At the other end of the building the stokehole seems at some date to have been enlarged: two side walls were built of poor masonry, about in line with the original north and south walls, and two blocks of similar masonry were added near the main flue of the hypocaust. Possibly this may have been done for the purpose of increasing the heating power and for the support of water cisterns by making a triple furnace in place of a single one: at any rate the heavy black deposit of the stokehole covered the whole space



FIG. 9.—CORSTOPITUM. SITE XVII, SHOWING APSE ON NORTH SIDE.

between the side walls, just to the west of the blocks of masonry in question.

An examination of the south wall of the original building showed traces of a slightly splayed doorway with recesses for jambs, which had opened into the centre room but had subsequently been walled up. More doubtful traces of another walled-up doorway were found about the centre of the south wall of the west room. In either case the sills had been removed and it was difficult to determine exactly the sill level. It could not, however, have been as high as the level of the tops of the *pilae*, and this may possibly suggest that the building in its original state had no hypocaust. Indeed, it is possible that the hypocausts were introduced when the apsidal additions were made, and that the tile-faced flue through the west wall was of later date than the wall itself. This latter conclusion is not at all improbable in itself, as the blocks of masonry, which prolong the flue after its passage through the main wall, did not appear to be bonded to the wall.

The doors mentioned, if they in fact existed, seem to have opened upon a walk or terrace along the south front of the building, where we found both traces of cobble pavement and about forty-eight feet of stone gutter, broken away at each end. Near the south-east corner of the building, and nine feet to the south of its south wall, a long stretch of wall, about two feet thick with a footing on the south side, was discovered and traced in an easterly direction for eighty-six feet: probably it had also extended farther towards the west, but beyond the point shown on the plan no trace of it was to be found. At its east end another wall was butted against it at right angles, and appeared to be the boundary of a paved road or path, but sixteen feet from the point of junction this second wall made a return to the west, and at the end of about another sixteen feet was completely broken away. It seems possible that the longer wall may have been the

retaining wall of a terrace forming a continuation of the walk in front of the main building, but trenches cut through the area to the north of it failed to produce any evidence bearing on the point.

The coins found inside the building were all of comparatively late date; they are seven in number, ranging from Gallienus to Gratian. A silver coin of Vespasian was found on the gravel on the south side of the building, at a depth of four feet, and a silver coin of Titus occurred at a depth of about four feet outside the west apse, but these cannot be taken as proof of the early construction of the building, though there may well have been some kind of occupation before its erection, as on the north side three and on the south four feet of made earth was found below the foundations of the main walls before the clean sand was reached. Pottery was not abundant on this site, but from the interior of the building came a large number of fragments of what have been termed 'hand-bricks,' and appear to have been used as stands for pottery in process of manufacture, either during the drying previous to firing, or in the kiln. These objects have apparently been made of brick-earth burnt hard: most of them have been more or less barrel-shaped, the barrel being slightly thickened at the lower end, with a roughly chamfered flange at each end and a flat, roughly circular surface at top and bottom; and each has a cylindrical hole pierced through its axis. The dimensions taken from an average specimen are as follows:—Height, four and a half inches; diameter of upper surface, three to three and a quarter inches; diameter of lower surface, three and a half inches; diameter of barrel, two and an eighth to two and a half inches; diameter of hole, three quarters to seven eighths of an inch.*

* In his book on *Vinovia* (London, 1891), the Rev. R. E. Hoopell mentions the discovery on the floor of the circular hypocaust at Binchester of 'a number of objects of terra cotta, made exactly after the fashion of a modern bobbin; that

Heavy signs of burning were found in the angle between the north of the building and the west side of the east apse, and a further investigation of the adjacent ground was made, which resulted in the discovery of remains which appear to be those of a bloomery or furnace for smelting iron (figs. 8 and 10). The body of the furnace was roughly circular, with a diameter of nine feet three inches over all and five feet three inches internally, and it was divided from the exterior face of the eastern apse of the building by a space of two feet: on the west side the circular wall was interrupted by an opening about eighteen inches wide, narrowed at the bottom to ten inches, from the sides of which two straight wing walls had been carried in a westerly direction for about four feet, forming between them a fairly acute angle, as shown on the plan. The remains of the enclosing wall were constructed of rough stones, put together with clay, which, where it appeared at the joints on the inner side, had been burnt hard and to a bright red; at the exterior joints the clay had been turned by the heat to a dull red, and was still fairly soft. The bottom of the furnace appeared to have been formed by the hard natural gravel, but there were traces of a ring of clay round the base of the wall. The fire seemed to have been situated in the very jaws of the opening, where there was a thick deposit of black burnt matter, containing many fragments of charcoal (see figs. 8 and 10).

Some fragments of ironstone, a good deal of broken up limestone, and a few pieces of slag were found in the immediate neighbourhood of the furnace, but the most important object discovered was the large lump of iron shown in fig. 15. The lump is three feet four inches long, seven inches square at the

is, of a reel, intended for receiving, by winding, thread or yarn. There were seven or eight of them, none of them quite perfect, but several very nearly so. They are about six inches in height and about three inches across at the ends. They are perforated also throughout their entire length.'



FIG. 10.—CORSTOPITUM. THE FURNACE NEAR SITE XVII.

thicker end, and about four and a half inches square just above the rounded foot: the thicker end is ragged, and that part of the metal appears to have small fragments of slag embedded in it; its weight has been calculated at about three and a half hundred-weight. The lump was found standing in the soil in a nearly upright position in the centre of the circular part of the furnace, with the rounded thinner end resting in a hollow in the gravel which had apparently been formed by the weight of the iron.

So far as we are aware, this is the largest mass of iron, presumably of Roman manufacture, which has yet been discovered in this country, and several points have already been raised in connexion with it. In shape and size it resembles the pigs made at the iron furnaces near Bellingham in the North Tyne valley about sixty years ago, and also, we are informed, the 'single-run pig' which was in former times produced in Sussex. Professor Louis, however, takes a different view with regard to the furnace, the lump of iron, and the 'hand-bricks.' His report is printed on page 265, but only as a statement of one side of a highly controversial question. It is hoped that a mass of expert opinion may be obtained on the subject during the present year, and that the matter may be more fully dealt with in the next report.

It seems fairly clear that, at any rate after the addition of the two apses, the building was used as a small bath-house. Some difficulty, indeed, arises from the fact that no trace was found of vestibule or dressing-rooms or latrines, but their apparent absence is not wholly without precedent, and it is possible that in the present case they may have been of wood. On the other hand, the fragments of 'hand-bricks,' which with the exception of two pieces found just outside the west end, occurred only within the hypocaust, may just possibly mean that at a still later period the bath was abandoned and the building used as the drying room of a pottery. The mould found on site xiv (fig. 6, p. 225)

suggests that pottery was locally manufactured; drying by artificial heat is a not uncommon practice in pottery-making, and is, indeed, not infrequently used to-day in brickmaking in the north of England. Here it may have been resorted to in consequence of the climate. This suggestion, however, is merely offered in default of a better explanation. It must be admitted that the absence of anything resembling a pottery kiln is against it.

X.—SITE XVII, WEST.

This site adjoined site XVII, being separated from it by the watercourse embankment. It had originally been occupied by a buttressed building, eighteen feet four inches in width on the interior and of uncertain length (fig. 13): the east wall was in line with a stretch of wall found further to the north, which had been carried across the filled-in ditch; but as the farthest point at which this latter wall was traced—and even there no return was found—was one hundred and twelve feet from the south-east corner of the building, it is not likely that they are parts of the same structure, though there were strong traces of a clay and cobble foundation connecting them: it may be noticed that the southern portion of the wall has a footing on the east side, whereas the northern stretch has none. It is perhaps safer to put down the latter part as a boundary wall used in connexion with the building, or a reconstruction of the building, at a comparatively late date. A reconstruction or alteration of some kind seems certainly to have been made. The cross wall, nine feet north of the original south wall, must be an addition, as it spanned the remains of the east wall, leaving a narrow opening or drain adjoining the east wall and beneath the portion of the later wall which projects beyond it, and there were also traces of another foundation a little further to the south, not at right angles to the east and west walls; but the evidence obtainable

was meagre and confused, and afforded no clue to the nature of the building or the purpose it had served at any period of its existence. The four coins found on the site—Nerva, Trajan, Faustina II, Tetricus II—are too few to date the building. A fair amount of 'Samian' and other pottery was unearthed here, but the finds included nothing that could be dated as earlier than the second century. Perhaps the most noteworthy object was a barbed bronze fish-hook, about half an inch in width, with a shank of square section, about an eighth of an inch thick, terminating in a loop of flat metal.

XI.—SITE XIX.

This site, which lay to the north-east of site XVII, had been occupied by an almost square building, measuring about seventeen feet square on the interior, with an apse on the north side, measuring seventeen feet across the base and projecting five feet. The walls were fairly massive, being two feet six inches thick, but the stones were very roughly dressed and the masonry poor: the ends of the apse wall had been bonded into the main north wall (fig. 13). The floor was of plain gravel, and there seemed to have been a depression or shallow pit near the north-west corner. About the centre of the west side was an opening five feet wide, which appeared at one time to have been arched: indeed, on the south side the springers and two voussoirs of the arch remained in position, though all traces of the north side had vanished. As the arch sprang practically from the foundation level, the crown would not have been high enough to form a doorway; on the other hand, it is rather too large for a furnace flue, and we detected no trace of a hypocaust within the building. The apse is irregularly placed and its interior space was very small. A considerable amount of burnt clay was found in this part of the building, and this may suggest that the apse formed some kind of kiln or oven.

The opening on the west side had been, probably at a late period, blocked by a rough wall which formed one side of the flue leading from a small furnace to a little hypocaust, of which very fragmentary traces remained on the west side of the main building; a few pieces of box-tile were found in this quarter. About twelve feet to the east of the north-east corner of the main building was a small receptacle, measuring sixteen inches by fourteen on the inside; the sides were formed of slabs of stone two inches thick with a gravel bottom and showed strong traces of burning.

As to the purpose of the building, there was no evidence to justify any positive conclusion, though its position and the roughness of its masonry would harmonise with the idea that it was of an industrial character. Here again the scanty coins give us no guidance. Only four—two of Marcus Aurelius, one of Salonina, and one of Constantine II (A.D. 337-340)—were found within the building, from one to two feet below the surface.

XII.—THE NORTH DITCH.

In following the stretch of wall to the north of site xvii west, we observed that one part of the foundations had sunk. Search was accordingly made below this part, and the existence of a ditch was proved by a series of cuts at frequent intervals carried right across the field (figs. 11 and 13). This ditch varied a little in contour, and averaged about twelve feet in width and four and a half feet in depth from lip to lip of the original surface, the bottom being at an average depth of eight feet below the present surface. Near the west side of the field it made a slight bend towards the south, and the configuration of the ground in the next field makes it probable that this bend is increased further to the west.

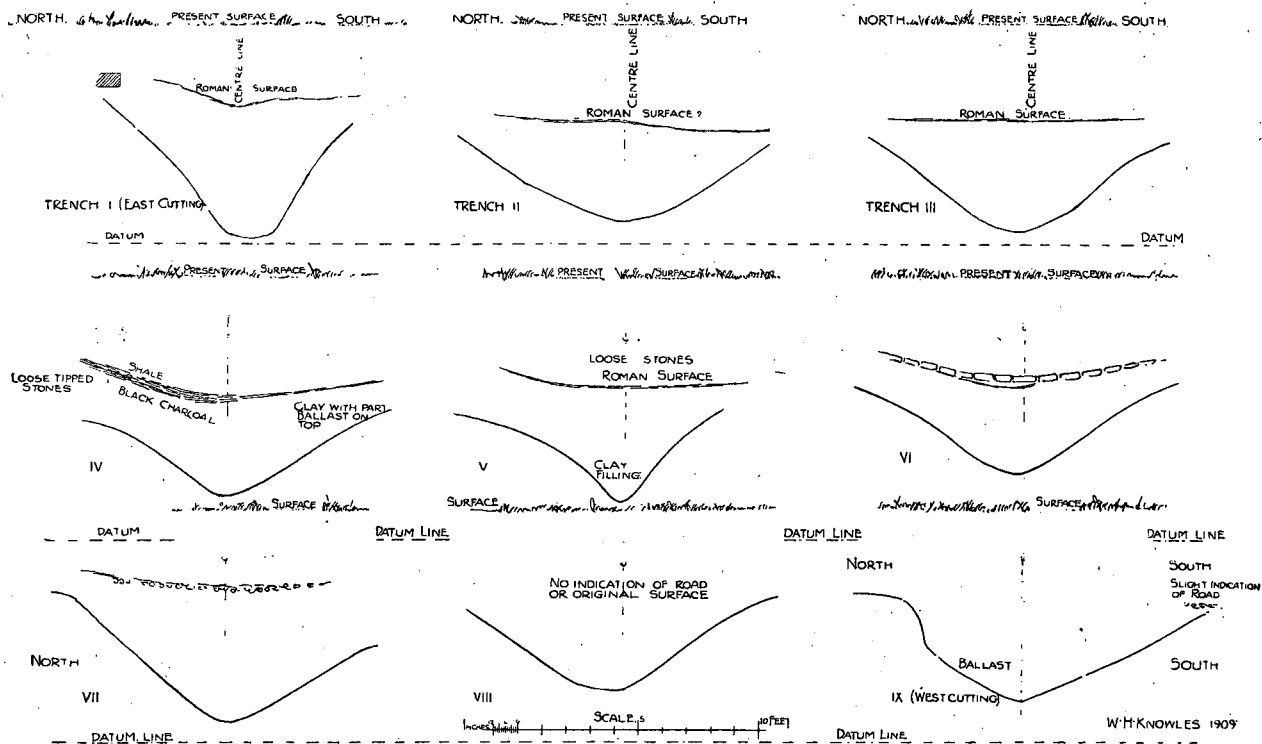


FIG. 11.—SECTIONS OF DITCH INDICATED ON GENERAL PLAN FIG. 13.

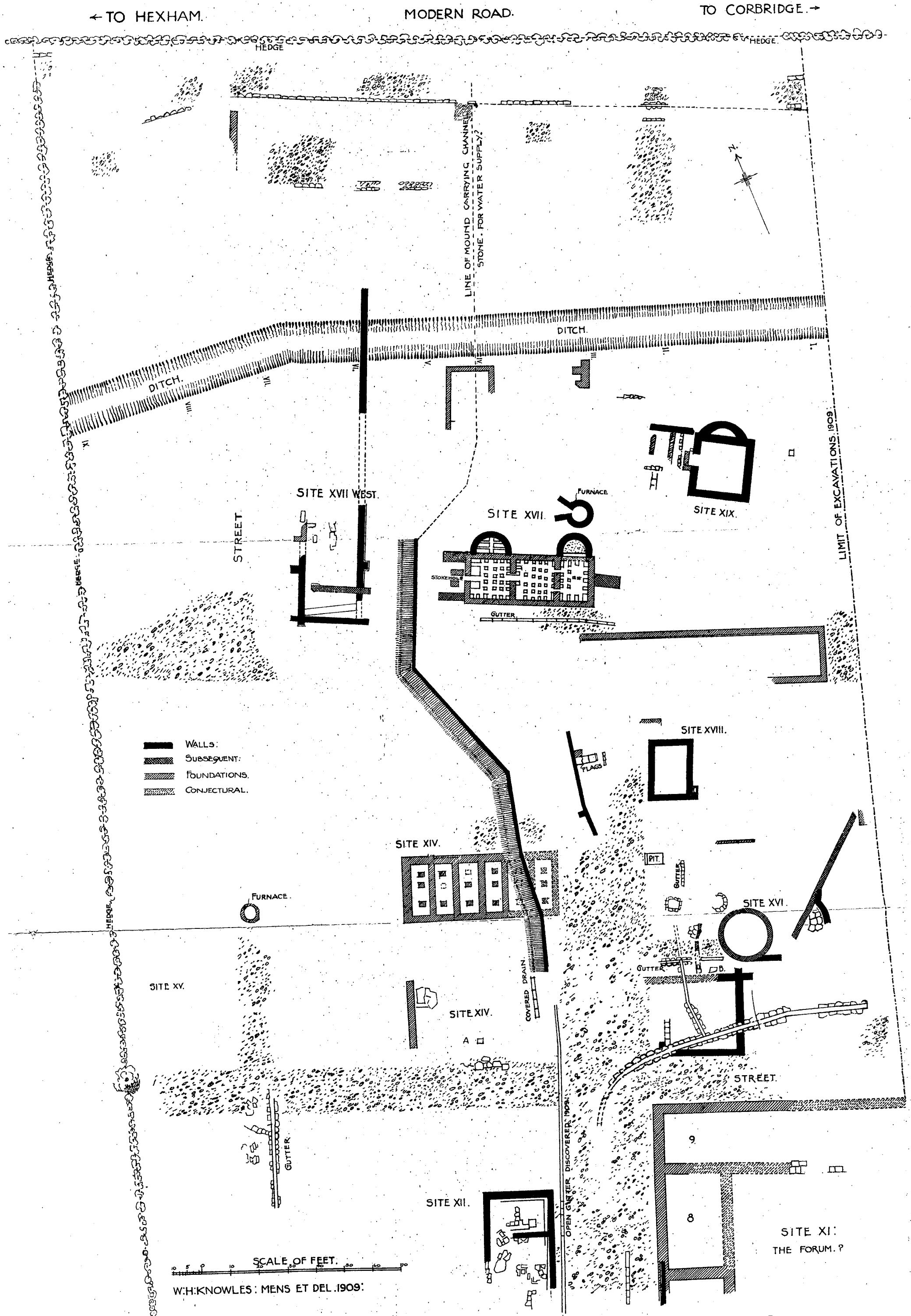
W.H. KNOWLES 1909

No trace was found of any rampart. But the ditch had evidently been filled up in Roman times, and the material of a rampart, if any existed, would naturally have been used for that purpose. The ditch itself produced practically no pottery or other objects; in one cut there was a deposit of black matter, apparently sewage. In cut iv (figs. 11 and 13), on the new surface formed by the filling-in, was a deposit of charcoal and above it a quantity of partially burnt shale.

XIII.—THE NORTH AREA.

The space between the line of the ditch and the north hedge of the field yielded a considerable amount of evidence of occupation, or perhaps of use rather than of occupation, in Roman times. Only one small fragment of walling was found, but several stretches of cobble pavement lay within a short distance of the present surface, and running nearly parallel with the ditch was the kerb or foundation of an embankment which has already been mentioned in section iv. This kerb is laid upon made ground, and it appears probable that the brow of the north slope was gradually pushed forward during the course of the Roman occupation; but the existence of the slope was clearly proved by cuts close to the present hedge, and the foot of it was marked by a peaty deposit, which lay about eight feet below the present surface. It has been suggested that this slope was in fact the scarp of another ditch, but the bottom of the peaty deposit, so far as it could be traced, was flat, or still sloping slightly downwards, and in the absence of any trace of a counter-scarp it seems more probable that the slope was a natural one, with marshy ground at its foot. Immediately to the north of the hedge is the Corbridge and Beaufront road, and the field on the farther side, extending from the road northwards to the Cor-burn lies at a lower level, and is still rendered swampy by

CORSTOPITUM (CORBRIDGE) PLAN OF EXCAVATIONS 1909.



heavy rains. Although the question needs further investigation, it seems at present to be probable that in the direction we have reached the limits of the Roman town, and that on the north, as on the south, the lines laid down in Maclauchlan's survey are approximately, though only approximately, correct.



FIG. 12.

THE COINS.

BY H. H. E. CRASTER, M.A.

Although the excavations of 1909 produced no find of coins so remarkable as the hoard of *aurei* unearthed in the preceding year, numerous coins were discovered in the course of the season. The total number amounted to over four hundred and fifty, as compared with nearly eight hundred (apart from hoards) found in 1908. The decrease is mainly due to the absence of intact buildings, like the granaries, from the year's field of operations; for it is on the floor of such buildings that coins are apt to be particularly numerous. What is chiefly noticeable in the year's finds is the large proportion of coins of the first and second centuries. Putting aside forty coins which could not be identified (many of them *ases* of the first two centuries), and between sixty and seventy coins of barbarous fabric,¹ there are, among the remaining 353 coins, 136 prior to Septimius Severus and 217 coins of later date; a proportion of seven to eleven as compared with a proportion of one to eleven for 1908. Here the numismatic evidence is in accord with that furnished by the pottery, early specimens being much more numerous than in previous years.

The prevalence of coins of the Flavian emperors, now for the first time found in any number at Corstopitum, favours, though it cannot be taken to prove, first-century occupation. The following table summarises the finds of coins, earlier than Severus, made in the whole course of the excavations:—

¹ Two English halfpennies—one of William III and one of George II—were also found, but no other post-Roman coins.

	Denarii.	Sesterces.	Dupondii.	Ases.
Republican coins	2	—	—	—
Mark Antony	8	—	—	—
Augustus	1	—	—	—
Nero	—	—	—	2
Galba	1	—	—	—
Vespasian	9	1	—	16
Titus	1	—	3	2
Domitian	4	4	1	6
Nerva	1	5	1	—
Trajan	14	19	10	7
Hadrian	5	19	4	2
Sabina	—	—	1	—
Pius	5	11	5	9
Faustina I	3	2	2	3
Faustina II	1	5	1	2
Marcus Aurelius	3	2	1	3
Commodus	5	1	1	—

The evidence of coins is more satisfactory for fixing the termination than it is for establishing the commencement of occupation. A coin of Arcadius with *SALVS REIPVBLICAE* reverse, a type not used by the moneyers of Maximus, appears to carry the occupation up to and after 388; for, though it is rash to draw inferences from a single coin, the present example is simply the latest in a consecutive series; and its evidence is supported by the presence of coins of Valentinian II and Arcadius bearing the slightly earlier reverse—*VICTORIA AVGGG*. It follows that the gold hoard had been deposited in its hiding place, or had ceased to be added to, three or four years before Corstopitum was finally abandoned.

A full list is given below of all coins earlier in date than A.D. 260 found in the course of the past season. References for fuller description are made to Babelon's *Monnaies de la République Romaine* (cited as B) and to Cohen's *Médailles Impériales*, second edition (cited as C). In place of the old classification into silver and first and second brass, the coins are given the values which

they possessed in the Roman monetary system—*denarius* (D), *sesterce* (S), *dupondius* (Du) and *as* (As). By way of explanation it may be stated that the *dupondius* and the *as*, usually confounded under the title of 'second brass,' are distinguishable, in the case of coins of reigning emperors, by the character of the head on the obverse; and that the emperor's head is radiated on the *dupondius* and laureated on the *as*. The figures within square brackets show the number of examples of each type.

To catalogue in full, year by year, all the coins of the second half of the third, and of the fourth, centuries, found in the course of the season, may be thought unnecessary. The long list printed in the report for 1908 will serve to indicate the emperors, types, and mints represented; and these are likely to recur, as they recurred during the past year, with slight variation. Examples of the common types of the fourth century—GLORIA EXERCITVS, VICTORIAE DD. AVGG. Q. NN., FEL. TEMP. REPARATIO, GLORIA ROMANORVM, and SECVRITAS REIPVBLICAE, depend for their interest upon the proportions in which the various mints and issues occur. A detailed classification of last year's finds would add little, if anything, to the knowledge given to us by the previous year; and the further examination of fourth century coins can therefore be safely deferred until a later stage in the excavations, when the results can be summarised with less labour and with greater certainty. The second table is therefore confined to those types, later in date than A.D. 260, which have come to light in the course of 1909, but have not been previously met with at Corstopitum.

A word may be said on the subject of mints. Up to the time of Gordian III the bulk of the currency was minted at Rome, and it is still open to doubt whether there were provincial mints in western Europe regularly operating before his reign. With more material to work upon, it may become possible to assign to local mints certain types of frequent occurrence on British sites, but rare in other parts of the empire. Thus eight *ases* of the

reign of Pius were found at Corstopitum in the past year, of which three bore the BRITANNIA reverse struck in 155; and this fact supports the theory recently advanced by Mr. F. A. Walters, upon the evidence of a hoard found at Croydon, that the BRITANNIA coins were minted in Britain.² Another case in point is provided by a rare, and possibly unpublished, *denarius* of Vespasian, with COS. ITER TR. POT. reverse. Out of nine *denarii* of Vespasian found at Corstopitum we get three examples of this type.

The supply of coins minted at Rome comes to a sudden stop with the death of Claudius Gothicus, a circumstance probably due to the establishment of mints at Trier in 273 and at London in 287. From this time onward, as might be expected, the British and Gallic mints hold the field. Coins from Tarraco in Spain are not uncommon, but, with one exception, they all fall within the years 260 and 270. Aquileia is represented by coins of Valentinian I, and of that emperor only. On the other hand, there is a constant though small infiltration of coins from Siscia in Pannonia.

As was pointed out in the last report, copper coinage, as represented upon this site, becomes rare under Marcus Aurelius; and *sestertius*, *dupondius* and *as* are not met with at all after the reign of Commodus. Similarly the *denarius aeris* instituted by Aurelian and the *folles* introduced by Diocletian, are almost wholly absent. The reason for this gap in the coin-series is probably the same in both cases. It is not necessary to suppose that the debasement of the copper coinage under Constantine, or the conversion of a silver into a copper coinage under Gallienus, was accompanied by any systematic withdrawal of the heavier types of copper coin then in circulation, although an instance of such an order exists in Honorius's and Arcadius's

² *Numismatic Chronicle*, 4th ser., vol. VII, pp. 359-363.

rescript of 397.³ Without any specific enactment natural causes would operate to send the good coins across the frontier or into the melting pot; for Gresham's law is more potent than the rescript of any Roman emperor.

At both these epochs the reduction in weight of the copper coinage was followed by unlimited government issues; and on both occasions the government was unable to check the uttering of forged coin upon a large scale. The presence of a considerable amount of base money of the Constantinian period is one of the features of the Corstopitum coin-series, as it is of the Constantinian hoards found upon the Rhine frontier.⁴ Probably in either instance the forged coins are not barbaric imitations which have found their way across the frontier, but are the work of provincial forgers who found a happy field for their operations on a frontier garrisoned by a large army; for in such a district an extensive copper currency would be required for trade purposes. It has yet to be proved that any of the so-called barbarous coins, found at Corstopitum or elsewhere on the line of the Wall, are of post-Roman date.

It is more difficult to account for the survival of the heavy copper coinage of the second century. Possibly this may be found to be due in part to local causes. The first period of occupation of Corstopitum may be taken to close with the rising in North Britain in the reign of Commodus. It was succeeded by a raising of the level of streets and buildings, possibly under Severus, which would have for one of its results the burial of stray coins of earlier date under two feet of soil. There is no reason for supposing any similar disaster to have overtaken the town between the reigns of Severus and Gallienus. Consequently, it

³ 'Centenionalem tantum nummum in conversatione publica tractari precipimus, majoris pecuniæ figuratione submota.' *Codex Theodosianus*, ix, 23.2.

⁴ Hettner, 'Römische Munzschatzfunde in den Rheinlanden' in *Westdeutsche Zeitschrift*, vol. vii, p. 129; Maurice, *Numismatique Constantinienne*, pp. cxx, 425.

may be argued, it is natural for the débris of the first occupation to provide a coin-series ending with Commodus; while there would be less likelihood of coins being lost during the earlier part of the second occupation, and the copper coins then current would be driven out of circulation by the monetary changes of Gallienus.

Among the issues of the London mint there are several new minor varieties which will be collected and illustrated in a subsequent report. One is of sufficient interest to be noted here. The occurrence of Christian emblems upon the coinage of Constantine the Great is a subject which has attracted considerable attention,⁵ but numismatists have hitherto failed to establish the existence of such marks on the products of the London mint. 'Aucun signe chrétien,' writes M. Maurice, the leading living authority upon Constantinian coinage, 'ne paraît avoir été frappé dans l'atelier de Londres.'⁶

London, like other western mints, issued, between the years 317 and 324, coins bearing on the reverse the inscription VICTORIAE LAETAE PRINC. PERP. Two victories place a shield upon an altar. The face of the altar is ornamented, on some examples, with a lozenge set between four points, on other examples with a crown. In the past year a coin of Crispus with VICTORIAE LAETAE PRINC. PERP. reverse was discovered at Corstopitum, having upon the face of the altar a crown, and, within the crown, an equilateral cross. It bears the London mint mark P LON. A coin with an exactly similar reverse, but having upon the

⁵ Garrucci, 'Des Signes de Christianisme qui se trouvent sur les monnaies de Constantin et de ses fils,' in *Revue Numismatique*, 2nd ser., vol. XI; Madden, 'Christian Emblems on Coins of Constantine I,' in *Numismatic Chronicle*, 2nd ser., vol. XVII; Voetter, 'Erste Christliche Zeichen auf römischen Münzen,' in *Numismatische Zeitschrift*, vol. XXIV.

⁶ *Numismatic Chronicle*, 3rd ser., vol. XX, p. 138.

obverse the head of Constantine II (Cohen 219), is in the British Museum.⁷ No other example of this variety is known to exist.

Here, then, we have direct evidence that Christian symbols were used in the London mint in the reign of Constantine, and that, too, at a time when they had not yet been introduced at Rome or into the three Gallic mints of Trier, Lyons and Arles. The little coin constitutes an interesting, if slight, addition to our knowledge of Romano-British Christianity.

One other coin found last year deserves to be specially mentioned. This is a Greek medal struck at Hadrianeia in Helle-spontus in the reign of Septimius Severus. It is in bronze, weighs approximately 423 grains (27.4 grammes) and measures 37 millimetres (1.45 inches) in diameter. On the obverse it has a laureated and draped bust of Severus facing to the right, with the inscription ΑΥΤ ΚΑΙ Α ΣΕΠ ΣΕΟΥΗΡΟΣ ΠΕ. The reverse presents a river-god reclining under a tree. His right arm rests on an urn; his left hand is placed on his left knee. Facing him, and standing to the left, is Hermes, holding a purse in his right hand and a caduceus in his left, and having a chlamys depending from his left shoulder. Behind Hermes is a dog (not a goat as stated in the British Museum catalogue). The inscription round the reverse records the name of the local magistrate, ΕΠ ΜΗΝΟΦΑΝΟΥΣ ΤΕΙΜΟΚΡ ΑΡΧΑ. In the exergue is the name of the town in which the medal was struck: ΑΔΡΙΑΝΕΩΝ. (See fig. 12A on opposite page.)

⁷ Reproduced in *Numismatic Chronicle*, 2nd ser., vol. xvii, plate I, No. 5. Two other examples of the VICTORIAE LAETAE PRINC. PERP. reverse with London mint-mark should be noted here. Both specimens are stated to have the equilateral cross on the face of the altar, apparently without the crown. One, bearing the head of Constantine I (Cohen 635), is noted by Hardouin, 'Numismata Seculi Constantiniani,' *Opera Selecta*, 1709, p. 478; the other bears the head of Constantine II (Cohen 224), and is described by Tanini, *Numismatum Imperatorum Romanorum Supplementum*, 1791, p. 289. These two coins cannot now be traced, and their ascription to the London mint must therefore rest upon the authority of Hardouin and Tanini.

There are several known examples of this type. One, now in the British Museum, not so well preserved as the present specimen, was noted by Sestini as long ago as 1720,⁸ and is described in the British Museum catalogue of Greek coins under the head of Hadriani in Mysia.⁹ Since the publication of that catalogue Mr. G. F. Hill has shown that numismatists have confounded two distinct towns in Asia Minor—Hadriani in Mysia and Hadrianeia in Hellespontus; and that the type in question belongs to Hadrianeia.¹⁰



FIG. 12A.—GRECO-ASIATIC MEDAL OF SEPTIMIUS SEVERUS.

These large Greek imperial bronzes were not a normal currency, but were struck to commemorate some local festival, and bear the name of the magistrate who defrayed the expense of its celebration.¹¹ It follows that such a medal could not have made its way from Asia Minor to Northumberland in the ordinary course of circulation, since it is a far cry from Hadrianeia to

⁸ *Lettere e dissertazione numismatiche di continuazione*, part VIII, p. 16, no. 6.

⁹ Wroth, *Mysia* (British Museum Catalogue of Greek Coins), *sub* Hadriani, no. 7; plate XVII, no. 9.

¹⁰ *Journal International d'Archéologie Numismatique*, vol. I, pp. 241 *et seq.* The type is no. 17 in Mr. Hill's list.

¹¹ George Macdonald, *Coin Types*, pp. 160-166. The writer is indebted to Mr. Macdonald for assistance in the description of this coin.

Hadrian's Wall. In all probability it was brought to Corstopitum by some soldier or trader who attended the festival which the medal commemorated—possibly by one of the soldiers who accompanied Severus to Britain upon his Caledonian campaign.¹²

There are very few well-authenticated cases of the discovery of Greek coins in Britain, although several other examples of Greek imperial medals exist in local museums. A medal of Pius, from Magnesia in Ionia, was discovered in Carlisle in 1857 by workmen engaged in making a sewer, and is now in the Tullie House museum.¹³ In the same collection are two medals, of Antinous and of Aurelius and Verus respectively, which are said to have been found in Carlisle or the district, but there is no corroborative evidence of the place of this discovery. A medal of Elagabalus, struck at Ephesus, with the figure of Tyche and the legend ΕΦΕCΙΩΝ Δ ΝΕΟΚΟΡΩΝ on the reverse, is believed to have been picked up on or near the Lawe at South Shields some years before that Roman station was excavated;¹⁴ it is now in the South Shields museum. In addition to these bronze medals, a billon tetradrachm of Gallienus, from Alexandria, now in the possession of Miss Greenwell of Corbridge, deserves mention as having been probably found at Corstopitum. The medals of Pius and Severus have alone been noted at the time of their discovery and have thus acquired an authenticity superior to that of the other examples.

¹² For other examples of Greek Imperial medals found at a distance from the city of origin see Pick in *Numismatische Zeitschrift*, vol. XXIII, pp. 84 *et seq.*

¹³ Described and engraved in Bruce, *Roman Wall*, 3rd edition, p. 333.

¹⁴ *Transactions Tyneside Naturalists' Field Club*, vol. VII. (1877), p. 127; *Arch. Ael.*, 2nd series, vol. X, p. 310, note. The coin is No. 304 in the British Museum Catalogue of Greek Coins, *Ionia*, p. 91.

COIN TABLES.

TABLE I.

ROMAN REPUBLIC.

MAN. ACILIUS GLABRIO (B.C. 54).

SALVTIS, laureated head of Health; *rev.* III VIR VALETIV. M. ACILIVS; Health feeding serpent and leaning on column; Babelon 8. [1 D.]

C. CASSIVS LONGINVS (B.C. 42).

C. CASSI IMP. LEIBERTAS, veiled head of Liberty; *rev.* LENTVLVS SPINT.; sacrificial instruments; B. 18, Cohen 3; eastern mint. [1 D.]

TRIUMVIRATE.

MARK ANTONY (B.C. 31). Legionary coins.

ANT. AVG. III VIR R.P.C., praetorian gallery; *rev.* LEG. XVI; B. 126, C. 48. [1 D.]

Same obverse; *rev.* LEG. XVII; B. 127, C. 49. [1 D.]

Same obverse; *rev.* LEG. XIX; B. 133, C. 55. [1 D.]

EMPIRE.

AUGUSTUS (B.C. 27—A.D. 14).

Head r., behind it an augur's baton; *rev.* illegible. [1 D.]

NERO (A.D. 54-68).

NERO CLAVD. CAESAR AVG. GER. P.M. TR. P. IMP. P.P., bare-headed; *rev.* S.C., Victory l. with shield; C. 292; Lyons mint. [1 As.]

GALBA (68-69).

IMP. SER. GALBA CAESAR AVG., laureated head r.; *rev.* SALVS GEN. HVMAN.; C. 238. [1 D.]

VESPASIAN (69-79).

IMP. CAESAR VESPASIANVS AVG.; *rev.* COS. ITER TR. POT.; Fortune seated l., holding branch and caduceus; specimen in British Museum and one found at Corbridge in 1908; date A.D. 70. [2 D.]

Same obverse; *rev.* PON. MAX. TR. P. COS. II; Victory standing l. on prow of vessel; C. 359; A.D. 71. [1 D.]

IMP. CAES. VESPASIAN. AVG. P.M. TR. P.P.P. COS. III; *rev.* ROMA S.C.; Rome standing l.; C. 419; A.D. 72. [1 S.]

IMP. CAESAR VESPASIANVS AVG.; *rev.* PON. MAX. TR. P. COS. VI; female figure seated l., left arm resting on chair; C. 371; A.D. 75. [1 D.]

IMP. CAESAR VESPASIAN. AVG. . . . ; *rev.* VICTORIA AVGVSTI S.C.; Victory l.; variety of C. 607; Lyons mint. [1 As.]

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IMP. CAES. VESPASIAN. AVG. COS. ; *rev.* AEQVITAS AVGVST. S.C.; Equity l.
[1 As.]

Illegible (Vespasian or Titus) [6 As.]

DIVVS AVGVSTVS VESPASIANVS; *rev.* S.C. on buckler supported by two capri-
corns; C. 497; A.D. 79. [1 D.]

TITUS (69-81).

T. CAES. IMP. AVG. F. COS. VI. CENSOR; *rev.* illegible; A.D. 77-8. [1 Du.]

Same obverse; *rev.* illegible. [1 As.]

Illegible. [2 Du.]

Illegible. [1 As.]

DOMITIAN (81-96).

IMP. CAES. DIVI VESP. F. DOMITIAN. AVG. P.M.; *rev.* TR. P. COS. VIII. DES. VIII.
P.P.S.C.; Pallas fighting; C. 581; A.D. 82. [1 As.]

IMP. CAES. DOMITIAN. AVG. GERM. COS. [XI.]; *rev.* illegible; A.D. 85. [1 S.]

IMP. CAES. DOMIT. AVG. GERM. P.M. TR. P. XI.; *rev.* IMP. XXI. COS. XV. CENS.
P.P.P.; Pallas fighting; C. 269; A.D. 91. [1 D.]

IMP. CAES. DOMIT. AVG. GERM. COS. . . . CENS. PER. P.P.; *rev.* illegible;
A.D. 85-95. [2 S.]

Same obverse; *rev.* FORTVNAE AVGVSTI S.C.; Fortune l. with rudder and
cornucopia. [1 As.]

Same obverse; *rev.* Moneta (?); Standing l. [1 As.]

Same obverse; *rev.* illegible. [1 As.]

IMP. CAES. DOMIT. AVG. GERM. P.M. TR. P. XV.; *rev.* IMP. XXII. COS. XVIII. CENS.
P.P.P.; Pallas fighting; C. 282; A.D. 95-96. [1 D.]

Illegible. [1 D.]

Illegible. [2 As.]

NERVA (96-98).

IMP. NERVA CAES. AVG. P.M. TR. P. COS. II. P.P.; *rev.* FORTVNA AVGVST.; C. 59;
A.D. 96. [1 D.]

IMP. NERVA CAES. AVG. ; *rev.* Fortune or Equity standing l. [2 S.]

Same obverse; *rev.* illegible. [1 Du.]

TRAJAN (98-117).

IMP. CAES. NERVA TRAIAN. AVG. GERM. P.M.; *rev.* TR. POT. COS. II. S.C.; Piety l.;
C. 613; A.D. 98. [1 As.]

IMP. CAES. NERVA TRAIAN. AVG. GERM.; *rev.* P.M. TR. P. COS. III. P.P.; Peace l.
with olive-branch and cornucopia; C. 222; A.D. 100. [1 D.]

IMP. CAES. NERVA TRAIAN. AVG. GERM. P.M.; *rev.* TR. POT. COS. [III.] P.P. S.C.;
Fortune seated l.; C. 637 ?; A.D. 98-100. [1 Du.]

Same obverse, radiated bust; *rev.* TR. POT. COS. III. P.P. S.C.; Victory l.; *cf.*
C. 640; A.D. 100-101. [1 Du.]

Same obverse; *rev.* illegible. [1 S.]

IMP. TRAIANO AVG. GER. DAC. P.M. TR. P.; laureated bust; *rev.* COS. V. P.P. S.P.Q.R. OPTIMO PRINC.; Rome holding Victory and spear; C. 68; A.D. 104-110. [1 D.]

Same inscription; *rev.* Victory standing l.; C. 76. [1 D.]

Same inscription; *rev.* Peace firing spoils; C. 82. [1 D.]

Same inscription; laureated head; *rev.* Equity standing l.; C. 86. [1 D.]

IMP. TRAIANO AVG. GER. DAC. P.M. TR. P. COS. V. P.P.; laureated bust; *rev.* S.P.Q.R. OPTIMO PRINCIPI; Mars with spear and shield; kneeling captive; C. 377; same date. [1 D.]

Same inscription; laureated head; *rev.* Valour with spear and parazonium; C. 402. [1 D.]

Same inscription; laureated head; *rev.* Peace with caduceus and cornucopia; C. 412. [1 D.]

IMP. CAES. NERVAE TRAIANO AVG. GER. DAC. P.M. TR. P. COS. V. P.P.; laureated bust; *rev.* S.P.Q.R. OPTIMO PRINCIPI S.C.; Rome holding Victory and spear; C. 383; same date. [2 S.]

Same inscription; laureated head; *rev.* Peace standing l.; C. 406. [1 S.]

Same inscription; laureated bust; *rev.* Fortune standing l.; C. 477. [1 S.]

Same inscription; *rev.* Trajan on horseback; C. 504. [1 S.]

Same inscription; *rev.* the Circus Maximus; C. 546. [1 S.]

Same inscription; radiated bust; *rev.* Fortune (?) standing l. [1 Du.]

IMP. CAES. NERVAE TRAIANO AVG. GER. DAC. P.M. TR. P. COS. VI. P.P.; *rev.* S.P.Q.R. OPTIMO PRINCIPI S.C.; in exergue ALIM. ITAL.; Abundance standing l.; C. 10; A.D. 112-117. [2 S.]

Same inscription; but in exergue ARAB. ADQVIS.; C. 34 or 37. [3 S.]

Same obverse; radiated bust; *rev.* FELICITAS AVGVS. S.C.; Felicity l. with caduceus and cornucopia; C. 146. [1 Du.]

Same obverse; *rev.* illegible. [1 S.]

IMP. CAES. NER. TRAIAN. OPTIM. AVG. GER. DAC.; *rev.* [PARTHICO P.M. TR. P. COS. VI. P.P. S.P.Q.R.]; A.D. 116. [1 D.]

Illegible. [1 S.]

Illegible. [1 Du.]

Illegible. [1 As.]

HADRIAN (117-138).

IMP. CAESAR TRAIAN. HADRIANVS AVG.; *rev.* P.M. TR. P. COS. III.; Mars marching r.; C. 1072. [1 D.]

Same inscription; *rev.* Rome seated l.; C. 1098. [1 D.]

Same inscription; in exergue SALVS AVG.; Health seated l.; C. 1353. [1 D.]

IMP. CAESAR TRAIANVS HADRIANVS AVG.; *rev.* PONT. MAX. TR. POT. COS. III. S.C.; Rome seated l.; C. 1187. [1 S.]

Same inscription; *rev.* Abundance standing l., holding ears of corn and cornucopia; type not included in Cohen. [2 S.]

Same inscription; in exergue FORT. RED.; Fortune seated l.; C. 759. [1 Du.]

IMP. CAESAR TRAIANVS HADRIANVS AVG. P.M. TR. P. COS. III.; *rev.* MONETA AVGVSTI S.C.; Moneta standing l.; C. 973. [2 S.]

Same type, radiated head; C. 976. [1 Du.]

Same type; radiated bust; C. 977. [1 Du.]

HADRIANVS AVG. COS. III. P.P.; *rev.* AEQVITAS AVG. S.C.; Equity standing l.; C. 125. [1 S.]

HADRIANVS AVGVSTVS; *rev.* COS. III.; Rome standing l.; C. 346. [1 D.]

Same inscription; *rev.* Seven stars and crescent; C. 465. [1 D.]

Same obverse; *rev.* COS. III. S.C.; Health standing r.; C. 370. [1 Du.]

Same obverse; *rev.* S.C.; Diana standing l.; C. 1367. [1 S.]

Illegible. [2 S.]

Illegible. [1 As.]

ANTONINVS PIVS (138-161).

IMP. T. AELIVS CAESAR ANTONINVS; *rev.* illegible; A.D. 138. [1 As.]

ANTONINVS AVG. PIVS P.P.; *rev.* MONETA AVGVSTI S.C.; in exergue COS. II.; Moneta standing l.; C. 561; A.D. 139. [1 As.]

ANTONINVS AVG. PIVS P.P. TR. P. COS. III.; *rev.* AVRELIVS CAESAR AVG. PII F. COS.; head of Pius on *obv.*, Aurelius on *rev.*; C. 15; A.D. 140. [1 D.]

Same obverse; *rev.* IMPERATOR II. S.C.; Bona Fides with ears of corn and basket of fruit; C. 426; A.D. 140-143. [1 S.]

Same obverse; *rev.* SALVS AVG. S.C.; Health feeding serpent and holding rudder; C. 715; same date. [1 S.]

Same obverse; *rev.* SECVRITAS AVG. S.C.; Security standing l.; C. 780; same date. [1 S.]

Same obverse; *rev.* GENIO SENATVS S.C.; Genius with branch and sceptre; C. 404; same date. [1 Du.]

ANTONINVS AVG. PIVS P.P.; *rev.* TR. POT. COS. III.; Clemency with patera and sceptre; C. 906; same date. [2 As.]

ANTONINVS AVG. PIVS P.P. TR. P. XVI.; *rev.* LIBERTAS COS. IIII. S.C.; Liberty standing r.; C. 534; A.D. 153. [1 Du.]

ANTONINVS AVG. PIVS P.P. TR. P. XVIII.; *rev.* LIBERTAS COS. IIII. S.C.; Liberty standing l.; C. 543; A.D. 155. [1 S.]

Same obverse; *rev.* BRITANNIA COS. IIII. S.C.; Britannia seated l.; C. 117; same date. [3 As.]

ANTONINVS AVG. PIVS P.P. IMP. II.; *rev.* TR. POT. XIX COS. IIII.; Abundance seated r.; C. 985; A.D. 156. [1 D.]

ANTONINVS AVG. PIVS P.P. TR. P. XIX.; *rev.* LIBERTAS COS. IIII S.C.; Liberty standing l.; C. 546; same date. [1 Du.]

Inscription illegible; *rev.* Mars marching r. [1 D.]

Inscription illegible; *rev.* Victory l. [1 D.]

Illegible. [1 Du.]

Illegible. [2 As.]

FAUSTINA I (died 146).

DIVA FAUSTINA; *rev.* AVGVSTA; Ceres standing l. with ears of corn and torch;

C. 78. [1 D.]

Same inscription; *rev.* Vesta standing l. with palladium and sceptre; C. 109.

[1 D.]

Same inscription; *rev.* Piety standing l. by an altar; C. 124. [1 D.]

Same obverse; *rev.* AETERNITAS S.C.; Eternity standing l., raising r. hand and holding sceptre; C. 29. [2 Du.]

Same obverse; *rev.* illegible. [2 As.]

FAUSTINA II (died 175).

FAVSTINA AVGVSTA; *rev.* IVNO; Juno standing l., at her feet a peacock; C. 120.

[1 D.]

Same obverse; *rev.* HILARITAS S.C.; Hilaritas l. with palm and cornucopia;

C. 112. [1 S.]

Illegible; *rev.* female figure standing l. [1 As.]

MARCUS AURELIUS (138-180).

AVRELIVS CAESAR AVG PII F.; *rev.* COS DES. II(?). [1 D.]

AVRELIVS CAESAR AVG. PII F. COS; *rev.* Hilaritas (?) standing l. [1 Du.]

M. AVREL. ANTONINVS . . . *rev.* Pallas standing l. [1 S.]

[M. ANTONINVS AVG. TR. P. XXVII.]; *rev.* SECVRITAS PVBLICA IMP. VI. COS. III. S.C.; Security r. crowning herself and holding palm; C. 584; A.D. 173.

[1 As.]

Illegible. [2 As.]

COMMODUS (166-192).

COMMODVS AVG. FIL. GERM. SARM.; *rev.* PRINC. IVVENT.; Commodus standing l., behind him a trophy; C. 609; A.D. 175. [1 D.]

M. COMMODVS ANTONINVS AVG.; *rev.* LIB. AVG. V. TR. P. VII. IMP. IIII. COS. III. P.P.; Liberty standing l.; C. 311; A.D. 182. [1 D.]

M. COMMODVS ANTONINVS AVG. PIVS.; [*rev.* TR. P. VIII. IMP. VI. COS. IIII. P.P. S.C.]; Jupiter standing l.; C. 877; A.D. 183. [1 Du.]

L. AEL. AVREL. COMM. AVG. P. FEL.; *rev.* P.M. TR. P. XVII. IMP. VIII. COS. VII. P.P.; Victory marching l., in the field a star; C. 568; A.D. 192. [1 D.]

SEPTIMIUS SEVERUS (192-211).

IMP. CAE. L. SEP. SEV. PERT. AVG. COS. II.; *rev.* BONI EVENTVS; Bona Fides standing l. with basket and ears of corn; C. 68; A.D. 194. [1 D.]

L. SEPT. SEV. PERT. AVG. IMP. III.; *rev.* LIBERO PATRI; Bacchus standing l., at his feet a panther; C. 301; A.D. 194. [1 D.]

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SEVERVS PIVS AVG; *rev.* PONTIF. TR. P. XIII. COS. III.; female figure seated l., holding patera and cornucopia; new and unpublished variety; A.D. 205. [1 D.]

IULIA DOMNA (died 217).

IVLIA AVGVSTA; *rev.* DIANA LVCIFERA; Diana standing l., holding torch; C. 27. [1 D.]
Same obverse; *rev.* PIETAS AVGG.; Piety sacrificing l.; C. 150. [1 D.]
Same obverse; *rev.* VESTAE SANCTAE; Vesta l. holding patera and sceptre; C. 246. [1 D.]

CARACALLA (197-217).

M. AVR. ANTON. CAES. PONTIF.; *rev.* DESTINATO IMPERAT.; sacrificial instruments; C. 53; A.D. 197. [1 D.]
ANTONINVS AVGVSTVS; laureated bust r.; *rev.* MATER DEVM; Cybele seated l., between two lions, holding branch and sceptre, and resting left elbow on drum; new and unpublished variety; A.D. 198-200. [1 D.]
ANTONINVS PIVS AVG.; *rev.* VOTA SVSCEPTA X.; Caracalla standing l. by lighted altar; C. 688; A.D. 202. [1 D.]

GĒTA (Augustus 211-212).

IMP. CAES. P. SEPT. GETA PIVS AVG.; PONTIF. TR. P. II. COS. Genius standing l. by altar; C. 140; A.D. 210. [1 D.]

JULIA MAESA (Augusta 218-223).

IVLIA MAESA AVG.; *rev.* PVDICITIA; Chastity seated l.; C. 36. [1 D.]

SEVERUS ALEXANDER (222-234).

IMP. SEV. ALEXAND. AVG.; *rev.* P.M. TR. P. VIII. COS. III. P.P.; Romulus marching r.; C. 375; A.D. 229. [1 D.]
Same obverse; *rev.* illegible. [1 D.]

JULIA MAMAEA (Augusta 222-234).

IVLIA MAMAEA AVG.; *rev.* PIETAS AVGVSTAE; Piety standing l.; C. 48. [1 D.]

TABLE II.

LIST OF TYPES SUBSEQUENT TO A.D. 260 NOT PREVIOUSLY FOUND AT CORSTOPITUM.

GALLIENUS.

IMP. GALLIENVS AVG.; *rev.* VICTORIA AVG. III.; Victory moving l.; mint-mark T; Rome mint; C. 1119.
GALLIENVS AVG.; *rev.* VIRTVS AVGVSTI; Valour standing l.; mint-mark X; Rome mint; C. 1322.

GALLIENVS AVG.; *rev.* DIANAE CONS. AVG.; Deer l. looking back; [mint-mark ϵ ;] Rome mint; C. 156.

GALLIENVS AVG.; *rev.* DIANAE CONS. AVG.; Antilope moving l.; [mint-mark XI]; Rome mint; C. 165.

SALONINA.

SALONINA AVG.; *rev.* PIETAS AVGG; Piety seated l.; C. 84.

COR. SALONINA AVG.; [*rev.* FECVNDITAS AVG.]; C. 40.

CLAUDIUS II.

IMP. C. CLAVDIVS AVG.; *rev.* IOVI STATORI; Jupiter standing l. with sceptre and thunderbolt; Rome mint; C. 124.

IMP. CLAVDIVS AVG.; *rev.* FIDES EXERC. I.; Faith standing l. holding two standards; mint-mark XI; Rome mint; C. 87.

IMP. CLAVDIVS AVG.; *rev.* P.M. TR. P. II. COS. P.P.; Claudius standing r., holding sceptre and globe; Rome mint; C. 216.

IMP. CLAVDIVS AVG.; *rev.* APOLLINI CONS.; Apollo standing l. holding laurel branch; mint-mark H; Rome mint; C. 25.

IMP. CLAVDIVS AVG.; *rev.* VIRTVS AVG.; Valour standing l.; mint-mark * II; Siscia mint; C. 318.

POSTUMUS.

IMP. C. POSTVMVS P.F. AVG.; *rev.* ORIENS AVG.; Sun hastening l.; mint-mark (in field) P; Lyons mint; C. 213.

IMP. C. POSTVMVS P.F. AVG.; *rev.* FIDES EQVIT.; Faith seated l. holding patera and standard; mint-mark (in exergue) P; Tarraco mint; C. 59.

IMP. C. POSTVMVS P.F. AVG.; *rev.* VIRTVS AVG. (?).

CARAUSIUS.

IMP. C. CARAVSIVS P.F. AVG.; *rev.* PAX AVG.; Peace with vertical sceptre; mint-mark $\frac{S}{ML} \frac{P}{ML}$; London mint; Webb 139.

IMP. CARAVSIVS AVG.; radiated and cuirassed bust r.; *rev.* VICTORIA AVG.; Victory moving l.; no mint-mark; new variety.

ALLECTUS.

IMP. C. ALLECTVS P.F. AVG.; *rev.* LAETITIA AVG.; galley; mint-mark $\frac{S}{C} \frac{P}{C}$; Colchester mint; Webb 119. This coin was found in 1908 but was omitted from that year's report.

Same obverse; *rev.* PAX AVG.; Peace with vertical sceptre; mint-mark $\frac{S}{MSL} \frac{A}{MSL}$; London mint; Webb 38.

Same obverse; *rev.* VIRTVS AVG.; galley; mint-mark CL (new variety of mint-mark); Colchester mint; Webb 186.

CONSTANTINE I AND CONTEMPORARIES.

(a) LONDON MINT.

- IMP. MAXIMINVS P.F. AVG.; *rev.* GENIO POP. ROM.; mint-mark $\frac{1}{\text{PLN}}^*$; struck in copper; C. 69; A.D. 309-313.
- CONSTANTINVS AG.; cuirassed bust with laureated helmet r.; *rev.* VICTORIAE LAETAE PRINC. PERP.; two Victories placing shield on altar; on the face of the altar a lozenge; mint-mark PLN; C. 633; A.D. 317-324.
- FL. CL. CONSTANTINVS IVN. N.C.; radiated and cuirassed bust l.; same reverse; on the face of the altar a crown; mint-mark PLN; C. 219; A.D. 317-324.
- FL. IVL. CRISPVS NOB. CAES.; laureated and draped bust r.; same reverse; on the face of the altar a crown *within which is a cross*; mint-mark PLN; *cf.* C. 152; A.D. 317-324.
- IMP. CONSTANTINVS MAX. AVG.; cuirassed bust with laureated helmet r.; same reverse but cippus in place of altar; mint-mark PLN; new variety; *cf.* C. 640; A.D. 317-324.

(b) TRIER MINT.

- IVL. CRISPVS NOB. CAES.; laureated and cuirassed bust l., holding spear over shoulder and shield; *rev.* BEATA TRANQVILLITAS; mint-mark STR; C. 22; A.D. 320-324.
- CONSTANTINVS AVG.; laureated head r.; *rev.* CAESARVM NOSTRORVM VOT. X.; mint-mark STR; C. 34; A.D. 320-324.
- FLAV. MAX. FAVSTA AVG.; *rev.* SPES REIPVBLICAE; Fausta holding the two princes in her arms; mint-mark PTR \smile ; C. 15; A.D. 324-326.

(c) ARLES MINT.

- CRISPVS NOB. CAES.; laureated head r.; *rev.* CAESARVM NOSTRORVM VOT. V. mint-mark TA; C. 30; A.D. 320-324.
- CONSTANTINVS AVG.; laureated head r.; *rev.* D.N. CONSTANTINI MAX. AVG. VOT. XX.; mint-mark P A ; C. 123; A.D. 320-324.

(d) TARRACO MINT.

- IMP. CONSTANTINVS MAX. AVG.; cuirassed bust with laureated helmet r.; *rev.* VICTORIAE LAETAE PRINC. PERP.; on face of altar +; mint-mark sr; C. 640; A.D. 317-324.

(e) SISCIA MINT.

- IVL. CRISPVS NOB. C.; laureated head r.; *rev.* CAESARVM NOSTRORVM VOT. X.; mint-mark ASIS A ; C. 44; A.D. 320-324.

CONSTANS.

- D.N. CONSTANS P.F. AVG.; *rev.* FEL. TEMP. REPARATIO; emperor standing in galley holding phoenix and the labarum; mint-mark TR; Trier mint; C. 9; A.D. 347-350.

MAGNENTIUS.

D. N. MAGNENTIVS P.F. AVG.; bareheaded bust r.; behind head A; *rev.* GLORIA ROMANORVM; the emperor galloping r.; mint-mark TRP; Trier mint; C. 20. Same obverse; *rev.* VICTORIAE DD. NN. AVG. ET CAE.; mint-mark AMB; Amiens mint; C. 68.

VALENTINIAN I.

D. N. VALENTINIANVS P.F. AVG.; *rev.* RESTITVTOR REIP.; emperor standing holding labarum and Victory; mint mark SLVG; Lyons mint; silver coin; C. 18.

VALENTINIAN II.

D. N. VALENTINIANVS P.F. AVG.; *rev.* VICTORIA AVGGG.; mint mark PCON; Arles mint; C. 46.

ARCADIUS.

D. N. ARCADIVS P.F. AVG.; *rev.* SALVS REIPVBLICAE; the emperor l. dragging a captive; mint-mark illegible; Sabatier 41.

METALLURGICAL NOTES.

BY HENRY LOUIS, M.A., D.SC., A.R.S.M.

The most interesting object found was a block of iron (see fig. 15) 3 feet 4 inches long by 7 inches square at one end, which was rough and rather spongy, tapering down to about $4\frac{1}{2}$ inches square at the other end, which was well rounded. In order to get samples for metallographic examination, pieces were cut out with chisels and hack saws; underneath a superficial skin of hard rusty scale, about $\frac{1}{4}$ inch thick, the metal was found to be quite clean, sound, soft and tough; to obtain samples for chemical analysis, $\frac{1}{2}$ inch holes were drilled about 10 inches from the smaller end and 2 inches from the edge of the block; for the first $1\frac{1}{4}$ inches the metal was clean and sound, but on drilling deeper, the interior of the bar was found to be honey-combed and spongy. Only the outer sound portion of the metal was subjected to a complete analysis, which gave the following results:—

Carbon	...	...	...	...	0.061 per cent
Silicon	...	...	...	...	<i>Nil.</i>
Manganese	...	...	...	...	<i>Nil.</i>
Sulphur	...	...	...	...	0.008 per cent
Phosphorus	...	...	...	...	0.063 per cent.
Silica in the form of slag	...	...	...	...	0.32 per cent.

The inner spongy portion of the block contained 0.14 per cent. of carbon.

The microstructure showed characteristic grains of ferrite, with the planes of separation of the crystals very well marked. Some of the grains of ferrite show a well defined series of parallel lines running across the crystals. The outer edge of the sample shews a small quantity of pearlite between the grains of ferrite; there are also numerous patches of slag, generally elongated in the direction of the longer axis of the block.

I have little doubt that this block was made by welding together comparatively small lumps of iron produced by a direct reduction process in small charcoal fires; there is no reason why the ores employed may not have been the local black-band ironstones of the Carboniferous Series, some of which outcrop in this part of the country. The block of iron was probably used for an anvil, and I am inclined to think that the iron was probably smelted in the woods, probably near the outcrop of a seam of ironstone, and was brought into the Corbridge settlement to be there worked up and forged into various articles; the anvil block would in that case have been used for such forgings. I believe that the furnace (see figs. 8 and 10), close to which this block was found, was a smith's fire used for making forgings, and was not an iron smelting furnace; I have come to this conclusion because there are no indications of any tuyere holes near the base of the furnace. This view is supported by the absence of any slag, such as would necessarily be produced abundantly in smelting operations. There seems no good reason

why the practical Romans should have brought their ore and charcoal into the township to smelt them there, instead of erecting smelting works on a more convenient spot, as the condition of the country seems to have been peaceable enough to allow them to carry on their smelting in the woods. The short earthenware pipes found abundantly, and some of them near the anvil block, are evidently tuyere nozzles; they were probably made here to be taken out to the smelting works, and were very likely used in the forge also.

One of the large iron nails found here was examined: it contained 0.045 per cent. of carbon, and was practically pure ferrite, showing a little pearlite on its outer edges. This seems to point to iron made by a direct process in a small charcoal fire in the presence of a rich slag, when pure ferrite would be produced; this, if heated repeatedly in a charcoal fire for forging into a nail, would probably absorb some carbon, producing a little pearlite near its surface.

It is interesting to note that a quantity of small coal, evidently obtained from one of the coal-seams in the Mountain Limestone series, was found lying on one of the Roman



FIG. 15.—BLOCK OF IRON, 3' 4" LONG.

pavements; the nearest outcrop of such is about a couple of miles from Corbridge, and from the position in which the coal was found, it is difficult to avoid the conclusion that it was brought in by the Romans for use in the township. There is, however, nothing at all to shew that it was used for metallurgical purposes, and the purity of all the iron found would appear to preclude the possibility of its having been so employed.

A very interesting find was a mass of oxide of iron, the outer surface of which presented all the appearance of chain mail; it was found on analysis to contain a great deal of organic animal matter, losing 20 per cent. on ignition; the analysis of the ignited matter was as follows:—

Iron	...	...	...	...	61.90 per cent.
Phosphorus	...	...	...	...	0.86 per cent.
Insoluble matter	...	...	...	...	8.00 per cent.

A good deal of iron was present in the form of ferrous oxide. This analysis seems to point conclusively to this really being a piece of chain mail, and that it was buried enclosing animal remains—whether human or not it is impossible to say: we know of no natural product that would correspond to the above composition, and it is almost certain that this mass was produced by the oxidation of metallic iron. The organic matter was probably the source of the phosphorus found in the analysis, as iron containing so much phosphorus could not have been forged into chain.

Several leaden bullets have been found, evidently hammered into shape, and probably used for throwing from slings or catapults; one of these gave on assay 0 oz. 14 dwt. 9 grs. of silver. If this lead had been smelted from the local lead ores, it would probably have contained a good deal more silver than this, hence I have little doubt that this lead had been submitted to a process of desilverisation before being worked up into a bullet.


All the above analytical and micrographical work was done in the Metallurgical Laboratory of Armstrong College by my assistant, Mr. H. Dean, M.Sc., A.R.S.M.

SMALLER FINDS (EXCEPT COINS).

BY F. HAVERFIELD.

A complete catalogue of the smaller finds made at Corbridge in 1909 would fill a volume of *Archaeologia Aeliana* and at the end perhaps serve no sufficient purpose. We content ourselves, therefore, with a brief summary which will emphasize only the most important points.

I.—STONE.

No inscribed stones were found in 1909. But one or two more fragments of the Pius monument came to light. One bit added A to the last line: with the aid of another, Prof. Bosanquet and myself were able to fit the right-hand top corner together, with the result that the mark taken as O at the end of line 1 appears to be the end of line 2 and possibly not a letter at all.* Of carved work in stone we have a complete relief in a triangular-topped frame, resembling the front of a shrine, showing perhaps Aesculapius and Hygieia (fig. 7, p. 231); a torso of Mercury (fig. 12, p. 247); a boar, badge of the twentieth legion, of which we have other signs at Corbridge, and a crudely-chiselled 'idol,' if it be not rather a *jeu d'esprit*. Notice is also due to a stone ball, more like a *ballista* missile than a weight, on which the device  is deeply scored.

II.—POTTERY AND OTHER EARTHENWARE

(1) *Samian* pottery was exceedingly and indeed inconveniently abundant. Nearly twice as much was found as in 1908, and some of it was remarkable as belonging probably or certainly to an earlier date than previous discoveries. Most of the Samian seemed to come from one or other of the Gaulish factories. Some seems German, but this was rarer than in 1908.

* *Arch. Ael.*, 3 ser. iv, 263; Report (overprint), 1907, p. 59.

Of the *Decorated Samian*, 8 pieces belonged to form XXIX. These occurred in a pit under the small granary and in a deep cutting sunk in front of the large granaries. In both cases we plainly tapped the earliest stratum of Corstopitum, and as in each case form XXIX was proportionately well represented, we may assume that it was still in common use in the first period of the existence of the place—that is, as we should naturally think, in the age of Agricola. Form XXX was represented by about 40 pieces, some of them almost certainly of the first century. Form XXXVII defied counting. Only a small fraction—all of it of form XXXVII—bore stamps. The potters represented were: Advocisus (4 specimens), Albucius (3), Cinnamus (12 but some doubtful), Doeccus (1), IANVF (1 certain, 1 doubtful), Iustus, Paternus (4 or 5), while 5 specimens were mere fragments. All these potters, so far as we can date them, seem to belong to the second century.

Plain Samian ranged over many forms. The familiar XXXI and XXXIII were naturally far the commonest, but XXVII was represented by some 93 pieces, XXXVIII by 100, XLV by 65, while small globular vases were not rare. Other forms which occurred comparatively seldom were XVIII (once only), XX, XXXII, XXXV and XXXVI (not always distinguishable), XL, XLIII, LXXII, LXXIX, LXXX, and those numbered by Ludovici Bb, Bc, Sm, Tc, Tg. We met also a few forms to which we have as yet found no recorded parallels. Incised Samian also occurred, but only a small quantity. The stamps on the plain Samian numbered nearly 400, including fragments. One may be cited for its early date, LOGIRNI, found in the early pit on site XIV. Some of the pieces bore *graffiti* of which the most intelligible are *Minerv* . . . , probably a dedication; *Firm* . . . ; *Viator*; *Attiani*.

(2) Of other, *coarser, wares* there was an abundance not to be described in these pages. We may note some specimens of a hard grey ware with rude barbotine decoration found in the pit



CORSTOPITUM: FIGURED SAMIAN WARE.

of site xiv and found elsewhere in first century deposits, and a face-urn much broken of the type of which a Lincoln example bears the inscription *D(e)o Mercurio*. Mortaria (*pelves*) were naturally common. They grouped themselves principally into two types corresponding to the two types found in the pottery store in 1907. These types may be ascribed to the second century. A few specimens resembled rather a type which is sometimes dated to the late third or fourth century.

(3) Of *earthenware* other than pottery, there were several interesting finds. The 'Harry Lauder' mould has been noted at pp. 224 *et seq.* Here we may record a lamp stamped FORTIS and therefore datable; eight more examples of 'cheese-squeezes,' of which several specimens have occurred here previously; some candlesticks of the usual shape; parts of two 'Gaulish' statuettes in white clay, one of Cybele, the other of Mercury, both executed in good classical style.

III.—METAL.

Of *iron* we have to notice the bar or anvil already described (p. 265), and a multitude of lesser pieces, less alike in size and in importance, calthrops such as were found in 1908, more arrow-heads of various types, and the like. A piece of chain-mail, found in 1908, but omitted accidentally from our last report, may also be here included. Of *bronze* much was found, but most of it was sadly perished. The fibulae seemed to belong chiefly if not wholly to the second and early third centuries. One interesting piece was a small horse-fibula with traces of red enamel. Interesting, too, is a fragment of pierced work, perhaps intended to be sewn on a leathern belt or the like, with the letters OMNIA VOS. Similar pieces have been found at Aldborough and on the German Limes. They are quite different in style and form from the common bits of pierced work with VTERE FELIX and the like.

IV.—ANGLO-SAXON REMAINS.

A separate notice may be due to two bits of 'Anglo-Saxon' work, to be put beside the two fibulae and beads discovered in 1908. One is a small urn found near a stone cist (if cist it was). The other is a long slender mount for a sword-scabbard. It is cast, not hammered, and consists of a narrow flat bar raised in the centre to form a long loop: through this loop was passed the strap by which the scabbard hung from the belt. Similar scabbard mounts occur, as Mr. A. T. Leeds, assistant curator in the Ashmolean museum, has pointed out—with the confirmation of Prof. Montelius, who has seen the object—among the earlier Danish peat-moss finds. They are, for example, represented by over 100 examples in the deposits at Thorsbjerg in Slesvig and Vimose in Fyen, but are absent from the later finds of Nydam. They seem to belong, as Prof. Montelius has argued, to the beginning of the fourth century, while the Nydam finds are later than A.D. 400. They were doubtless made in Danish lands, and are uncommon, if not indeed almost unknown, in our islands. Whether our specimen be due to a mercenary or a pirate, or to a visitor who was indifferently the one or the other, is a problem which belongs rather to the domain of Puck of Pook's Hill.