



## Excavations at Heronbridge

(1930 and 1931).

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### I. INTRODUCTION.



EXCAVATION of portions of the Roman site at Heronbridge was carried out in September, 1930, and September, 1931, under the auspices of the Chester Excavations Committee. The work was rendered possible by the gracious permission of the landowner, the Duke of Westminster, and the generous and ready consent of the successive tenants, the late Mr. Albert Johnson and his widow. The Excavation Committee of the Manchester and District Branch of the Classical Association was the largest individual subscriber towards the expenses.

To many who rendered most valued assistance thanks are due; especially to Mr. W. J. Williams who each year was present throughout the whole period of the work and took charge of the work of filling in, to Mr. P. H. Lawson to whom are due the drawings upon which plates XVII, XVIII and XIX are based and who most energetically assisted in numerous ways, to Professor H. J. Fleure who gave valuable assistance and advice in connection with skeletal remains and to Mr. Elwyn Davies who examined, restored and commented upon them (page 46), to Emeritus Professor R. Newstead and Mr. W. O. Howarth for advice on botanical remains, to Professor F. C. Thompson for help with metallurgical problems, to Mr. J. W. Jackson for his report on the animal remains (page 49), to Mr. W. Millar for drawings of coarse pottery sections, and to Mr. W. J. Varley

who not only rendered much appreciated service as needs arose but in addition undertook responsibility for the handling of the skeletons raised in 1930, in which process Mrs. Varley most ably and enthusiastically assisted. To many others who have helped by their advice, encouragement or financial assistance acknowledgement though it perforce cannot be detailed is made.

## II. HISTORY OF THE SITE.

Red House Croft lies at a distance of just under two miles from Chester Cross on the Eaton Road immediately beyond "Heronbridge." The modern road, the successor of the Roman road from Chester to Wroxeter, forms the western limit of the field; the eastern limit is the banks of the Dee.

There was no modern knowledge of the existence of Roman remains in this field until Mr. W. J. Williams made his discoveries. The legend of Gormundus (*Harleian Miscellany* 473) almost certainly refers to this site but the sketch maps illustrating the legend are crude and not very illuminating. The "earthwork" on Primrose hill is some hundreds of yards to the south and although Roman pottery was found early in the nineteenth century during the reconditioning and partial remaking of the old Roman road, the site of the interment or interments indicated by the find appears to have been some hundreds of yards to the south of the portion of Red House Croft so far examined though to the north of Primrose hill.

The new site occupies a pleasant position, sloping gradually down to the river and sheltered to the north, east and west. The most noteworthy surface feature of the field is a mound which, starting near the river towards the north-eastern corner, runs for about seventy yards in a direction somewhat south of west and then swings round to run practically due south and parallel to the road; it becomes more and more indistinct as it reaches the middle of the field where surface traces are very slight indeed. Towards the

southern end of the field there are considerable surface irregularities more or less in line with the southward running portion of the mound. These surface features generally are referred to by Ormerod in his history of the county (II, 583-4).

Attracted by the appearance of this mound, which he believes to continue into the next field on the south and finally to swing round in order to meet the river, thus forming an extensive crescent, and after finding much Roman pottery in the small stream which forms the southern boundary of Red House Croft, Mr. Williams determined to examine the site. In spite of much disappointment in the early stages and though working under grave difficulties Mr. Williams dug numerous exploratory trenches during the winter of 1929-30 and succeeded in locating the position of an extensive burial area and of masonry of the Roman period. It was as a direct result of these discoveries that the Chester Excavations Committee decided to make a systematic exploration of portions of the site under the direction of the writer of this report with the collaboration of Mr. Williams.

### III. REPORT ON THE WORK OF 1930 AND 1931.

The work covered by the report falls under three main heads: (a) the mound, (b) masonry remains, (c) the burial.

(a) *The mound.* A trench was cut from south-east to north-west in the north-eastern corner of the field where the mound is more prominent than elsewhere on the site (page 6). The section revealed by this trench is given on plate XVIII.

In the north-western half of the trench an artificial depression nine feet six inches deep from the modern surface and nineteen feet three inches from lip to lip was found (plate I, fig. 1). Traces were found of what appeared to be a similar depression between the end of the "long wall" (page 9) and the road. It may be therefore that a ditch runs at the foot of the mound on the outer, that is on the

north and west, side. It was not found possible completely to clear a section of the ditch without pumping, but there was reason to believe that the bottom was approximately V-shaped. The south lip of the ditch was abrupt, the north slightly rounded.

The section (plate XVIII) afforded ground for the belief that the mound is not natural. At about seventeen feet from the southern lip of the ditch and four inches beneath the modern surface there began a layer of clay of irregular dimensions. Mixed with the clay throughout its extent were a few cobbles while beneath the clay and above the undisturbed natural clay was a layer of black soil. From this black soil came the metal objects nos. 8 and 9, page 43.

It will be seen from the section that the top surface of the clay layer towards the south-east end showed a trough-like depression six feet across. Mr. Williams reports a similar configuration of the upper surface of a layer of clay at a spot where he dug an exploratory trench partly into the mound.

The stratification in this section is clearly not natural. If however the mound in its present state represents the remains of a rampart, the exact dimensions of the rampart could not be determined owing to the spread of the material of which it was constructed. There was what appeared to be a shallow ditch inside the line of the supposed rampart and thirty-nine feet six inches from the south lip of the outer or main ditch, but if the rampart was of any considerable height it was probably at least faced with masonry. No such masonry was found *in situ* nor were any vagrant masonry remains to be recognised with certainty.

The interior ditch was about seven feet across the top and four feet eight inches deep from the modern surface, the natural clay having been cut into to a depth of one foot nine inches. There was at eighteen inches from the bottom a thin layer of coal one to three inches thick.

No date can as yet be assigned to these works. A fragment of decorated Samian ware, one of the earliest pieces from the site as a whole (no. 13, page 25), was found above the outer ditch a few inches from the modern surface, while



the base of a Caistor ware vase came from the ditch itself at a depth of six feet from the modern surface. The pottery from the section as a whole was mainly of the second century with a few fragments which might belong to the last years of the first century and more which might be ascribed to the first part of the third (group (xiv), page 38). The relation between these works and the remains discovered in other parts of the field is also not yet determined.

(b) *Masonry remains.* The most extensive masonry remains found were the "long wall" which runs practically due east and west across the middle of the area excavated in the centre of the field. As found the wall was eighty-four feet long with one return, twenty feet long, near the east end. Possibly a further length of the wall at the west end had collapsed into a depression the lip of which almost coincided with the west end of the wall as found. It was not possible to examine this depression without pumping; it is however tentatively suggested that it may be a continuation of the ditch found in the section across the mound (page 7).

The long wall was of sandstone roughly dressed (plate I, fig. 2). The masonry rested on six inches of puddled clay. The greatest width over the footings was two feet eight inches. In one short length three walling courses remained *in situ* with a height of one foot four inches and a width of two feet five inches over all. The slab with a rough moulding and the large block of masonry which are seen in plate I, fig. 2, resting upon the wall were found amongst the masonry debris over and alongside of the wall itself.

In places the footings of the wall on the south side lay under a layer of burnt clay twenty to twenty-two inches thick. This clay dipped towards the west and was laminated in such a way as to suggest that it had been tipped here. At C and D (plan, plate XIX) were two partially rounded layers of stone disintegrated by heat; they were possibly the remains of fireplaces but more likely perhaps part of the tipped material. In the burnt clay were found fragments of pottery, all before *ca.* 160 A.D. (groups (i) and (ii), page 32),

and a large disc of lead (page 44). The burnt clay extended with somewhat varying depth to the southern extremity of the area examined.

To the north of the wall the lowest levels above the natural clay consisted of sand and sandstone rubble, above which at several places (*e.g.* plate VII, fig. 2, A and B) were remains of clay layers, apparently floors. From this low level came the pottery described under groups (iii), (iv), (vii) and (viii), pages 33 *et seq.*; *cf.* group (v).

It is suggested that the long wall represents the remains of a large shed. Over an extensive area to the south (plan, plate XIX) and level with the footings of the wall there was sandstone pitching such as might well have formed the rough paving of a shed used for industrial purposes. A more or less definite edge to this pitching was found on the south in 1930, and in 1931 the only return wall found ended level with the edge of this paving. No pitching was found to the east of the return. Whenever this layer of sandstone was broken through water at once oozed up in great quantity. This provides a satisfactory explanation for the existence of such a heavy flooring as probably the site was no dryer in Roman times than it is to-day.

The layer of tipped burnt clay referred to above may by reason of the relative levels on the site (section, plate XIX) be taken as associated with the three structures marked A, B and J on the plan and the fourth which underlies the angle of H.

Three sides of B were uncovered. The west wall was not examined as there appeared to be human remains near or over it which it was not desired to disturb. The north wall was twenty inches wide and built of small stones, sandstone and clay with a patch of disintegrated stone on the top (plate II, fig. 1; the point of the trowel rests upon this fired stone). The east wall was built of rough stones, was two feet wide and four to six inches high and rested on eleven to twenty-one inches of puddled clay, the top five to six inches burnt a dark red. The south wall stood to a height of fourteen inches over this clay and was two feet to two

feet six inches wide. The over-all dimensions of the structure were from east to west seven feet, from north to south nine feet six inches.

Immediately to the east were four small flag stones lying over twelve inches of clay and burnt material in layers the colours of which varied from red to grey and black (plate II, fig. 1). Similar traces of flagging were found in association with J and the structure under H (below, and page 12).

The remains of J were more intricate, suggesting a rectangular structure with a channel leading outward from the centre through the east side (plate II, fig 2). Except for a tile which formed the western extremity of the floor of the channel the whole of the masonry was of sandstone with traces of mortar in the outer east face.

Three feet of the south side, consisting of small blocks of sandstone, remained *in situ*. Nine feet six inches from the eastern end of the channel there were fragmentary masonry remains which may represent the west wall. No definite remains were found of the north wall. The interior was a confused mass of heavily burnt clay with some burnt sandstone, the interior dimensions being approximately three feet from east to west and perhaps four feet from north to south. Including the tile at the west end the length of the channel was three feet six inches, the width eleven to fourteen inches.

The whole structure was heavily burnt, many of the sandstone blocks being bright red and powdery, while the tile in the floor of the channel was grey and crumbling. At the east end of the channel there were stone slabs still in position set in and on clay which was burnt bright red (plate II, fig. 2). Evidently intense heat had been applied and as there was more than one burnt layer associated with the structure (below) it would appear that this heat had been applied over a period of time.

Immediately to the south of J there was a deposit containing burnt layers (plate III, fig. 1). It extended for ten feet to the south gradually diminishing in depth in such a way as to suggest that it was composed of furnace remains which

had been raked out at intervals and piled against the south wall. A similar deposit on the north side of the structure was covered by K. The section of the deposit on the south was approximately as follows :—

Top soil	-	-	-	2 feet
Black layer	-	-	-	1 in.
Clay burnt red	-	-	-	1 in.
Sandy clay with charcoal	-	-	-	3 in.
Bright yellow clay	-	-	-	2 in.
Sandy clay	-	-	-	4 in.
Black layer	-	-	-	1 in.
Clay burnt bright red	-	-	-	3½ in.
Natural clay.				

Specimens of the black layers were examined by Professor Robert Newstead and Mr. W. O. Howarth. They report that they were able to identify burnt oak, straw, grains of wheat, small calcined bones, possibly of fowls, and iron nails.

Two further structures similar in type were found. It was not possible completely to uncover A (plan, plate XIX) but it would appear that it also was rectangular and had been subjected to intense heat. Fragmentary remains under the angle of H also belonged to a structure of similar type (plate III, fig. 2). The resemblance between the orifice of this structure and that of J was particularly noticeable (plate III, fig. 2, *cf.* plate II, fig. 2); the pointed stones at each side and the slabbing outside left little room to doubt that they had both been built for a similar purpose.

What that purpose was is at present very doubtful. The evidence of intense heat suggests that all the structures were furnaces. If however metal working of any description had been carried out here, ore and slag would have been much more abundant than they were. There were in fact only one or two small fragments possibly of iron ore and a dozen or so of slaggy matter all of which could be satisfactorily explained by accidental firing of vagrant pieces of metalliferous material. Professor F. C. Thompson visited the site when J was fully exposed and also examined all

the "metallurgical" finds. He was not satisfied that there was any evidence of metal working having been carried out on the site. If it was, the workers were superhumanly tidy in their work and removed all slag and *scoriae* to some place of concealment which has not yet been found.

Further it is exceedingly unlikely that pottery or tile making was pursued here, for over the whole site only a few fragments of over-baked pots were found and only one piece of an actual waster, a *mortarium*. On a site where pottery or tiles have been made in any quantity great quantities of wasters are to be expected.

The only conclusion that it is possible to reach from the evidence at present available is that some activity was followed on the site which called for a number of furnaces or ovens in which the heat was considerable and recurrent.

As to the structures themselves the channels may be run-offs or alternatively stokeholes; that in J seems rather long for the first purpose and no slaggy deposit was noticeable. The mass which filled the interior of this structure when it was uncovered suggests that the chamber or oven portion was of clay upon a base of rough masonry.

It is possible to be somewhat more definite as to the date of the structures as a group. The pottery from this level generally (page 32) together with the evidence afforded by the burial (page 18) and the superimposition of H dates the "industrial" occupation to the period from the closing years of the first century A.D. to *ca.* 160. To this industrial occupation the long wall, A, B, J and the remains under H may all be ascribed. As the footings of the long wall lie partly under the burnt clay (page 9), the long wall itself was perhaps the earliest of this group of buildings.

The remaining masonry found comprised the L-shaped building H and the two fragments of walls K and L (plan, plate XIX). That this group is definitely later than the buildings of the period *ca.* 100-160 A.D. is proved by the facts that H was built over the remains of a furnace or oven and upon the deposit associated with it and with J, that K was built over the northern portion of J and its deposit to

the north, and that L, included reused material, was built on made up ground and in addition had its footings at a slightly higher level than any other remains found (section, plate XIX).

Of this group the best preserved was H. The east to west limb was twenty-three feet in length but the west end was broken and possibly some portion had been removed by stone robbers, traces of whose activities were evident a few feet from the present west end; or else a portion may have collapsed into the ditch which is presumed to be present here (page 9). The north to south limb was ten feet in length.

Of the two limbs the better preserved was the east to west (plate IV, fig. 2). It was well built of sandstone blocks and mortar and rested upon eighteen inches of sand, clay, cobbles and burnt material. The footings were of cobbles set in and on clay, the footing course being eight to nine inches deep with a projection of three to six inches beyond the walling courses. The lowest masonry course was built of well dressed stones, mostly stretchers, three to four inches high and seven to fifteen inches long. The course immediately above left an offset on the outer face of four to five and a half inches and consisted of blocks more square in face than those of the bottom course. The height of this second course was eight inches. The two courses above were again set back to leave an offset of four and a half to five inches, and were built of much smaller blocks four and a half to five and a half inches high. The cavity between the two faces was filled with rubble and mortar. The width of the wall at the highest point preserved was nineteen and a half to twenty-one inches. There were no offsets on the inside, that is on the north, face

The top of this wall was found immediately under the turf. The field may have gained its name of Red House Croft because within comparatively recent times there were visible remains of this building constructed of the local red sandstone.

Only a fragment eight feet in length was found representing the building of which L had formed a part. It was by no means so well built as was H but the cobble footings were very similar and the level only slightly higher than that of H. The east end of the fragment as found had been built over a portion of a pointed oak stake which lay in a pocket of sand and had sunk in consequence. At the west end a well moulded though incomplete column cap was built in with the remains of the shaft downwards (plate IV, fig. 1; the trowel rests upon the fragment: *cf.* plate XVII).

Of the third wall in this group, K, a fragment six feet long, little can be said except that it ran apparently from north to south; as most of the facing stones had been removed all that was left was a rather confused jumble of stones built over the northern edge of J (plate II, fig. 2, centre background). What did remain suggested a rather more substantial structure than was found elsewhere on the area examined.

To the east of H and on a level with its cobble footings was a small patch of cobbling lying upon made up material and suggesting a cobbled yard in association with the building (plan, plate XIX, F). The patch was small and irregular in outline and upon it lay a large amount of fallen masonry.

As already stated (page 13) this group of remains appears to belong to a later time than that of the first industrial period on the site. The latest pottery from the site is generally speaking earlier than *ca.* 250 A.D.; the sherds which are later in date than this are too few to afford grounds for prolonging the actual occupation of the site beyond this time. The nature of the masonry remains in this group is such as to suggest small sheds used possibly for industrial purposes. Provisionally therefore they may be assigned to a second industrial period ending *ca.* 250 A.D. The date to be assigned to the beginning of this occupation depends upon answers to problems which arise in connection with the burial (page 20).

(c) *The burial.* Human remains were found over an extensive area. The long wall marks the northern limit of the main deposit while somewhat scattered remains extended to the southern edge of the area examined. In 1931 an isolated skeleton was found immediately to the east of E (plan, plate XIX). In the southern half of the area examined the western limit of the completely excavated portion almost coincided with a line of skulls; there appeared to be some evidence that there were more skeletons to the west.

Two groups of skeletons, as indicated on the plan (plate XIX), were removed. There were certain archaeological differences between the two groups. The northern group (group I) lay very closely packed together, the skeletons lying alternately on the back and on the side (plate V, fig. 1). Some of the feet lay upon the layer of fired stone D. All the bodies were complete even to the small bones of the hands and feet. Over this group there was about two feet of humus with the modern turf above. There was no sign whatsoever of any kind of built grave chamber.

The skeletons in the southern group (group II) were not so closely crowded together and each one lay on its back (plate V, fig. 2). Not all of these skeletons were complete. One had no legs while its neighbour had only one leg (plate V, fig. 2), two had no heads (plate VI, fig. 1). There was also a small heap of detached bones (plate VI, fig. 2). Finally this group was covered by a thick layer of hard clay which on an average lay three to four inches under the modern surface. The clay was three and a half inches thick at the eastern edge, eight inches at the western, the upper surface being cambered (plate VII, fig. 1, *cf.* plate V, fig. 2, plate VI, fig. 1, plate VIII, fig. 1.) The area covered by this clay layer as found is indicated on the plan by a broken line (plate XIX). On the west a portion may have been destroyed as here it came very close to the modern surface. The northern edge apparently coincided with one of the trial trenches cut by Mr. Williams. The southern edge was somewhat indeterminate as there was some confused masonry



and burnt clay over both A and B. Only on the east was there a definite edge found but here the line was clearly determinable.

In spite of these differences there appeared to be no evidence that the two groups belonged to separate burials. Though it was not possible to remove the skeletons over the whole area the deposit was found to run without a break from one group to the other. These two groups were selected for removal because group I had been found by Mr. Williams and as certain disturbance had of necessity been caused it was thought better to remove it completely from the site; group II was removed because there was reason to believe that any skeletons occurring at this point had not been disturbed in modern times. This belief was proved correct by the evidence which accumulated.

The results of the anatomical and anthropological examination of the skeleton are given on pages 46 *et seq.* It is fairly obvious that judging from the nature of the skull wounds (page 47) these skeletons represent the victims of some catastrophe of war. Several problems however present themselves; in the first place the explanation of the existence of a layer of clay over some of but not over all the skeletons, in the second place the dating of the interment, and in the third the question as to who the victims were. These problems are discussed in the order propounded.

At first sight the clay layer might appear to be the top of a built grave chamber. Against this interpretation it is to be noted that the layer does not cover all the skeletons, that of the skeletons found under it some partly projected from underneath it (plate VIII, fig. 1) and that there was no trace whatsoever of any built sides. If it is suggested that the clay layer originally covered the whole burial and the northern portion has been destroyed, it is a remarkable fact that where this supposedly protecting layer has been removed there were no signs shown by the skeletons of incompleteness and therefore of disturbance, whereas where the protection has been preserved the skeletons beneath were found in some cases to be incomplete.

This incompleteness cannot be satisfactorily explained by assuming that the skeletons in question represent bodies mutilated before burial. In a slaughter such as that of which there is here evidence some victims may have had their heads cut off and the bodies may have been buried headless. It is however an almost impossible assumption that in hand to hand conflict anyone could have both legs or even one leg cut off at the thigh in such a way as to leave no trace whatsoever of the missing limb. Mutilation of the already dead does not give a satisfactory explanation of the complete disappearance of the leg bones; sufficient time must have elapsed between death and such mutilation to allow for a considerable degree of decomposition to have set in, yet some of the smaller bones, *e.g.* the ribs, were found in the correct position.

The most likely is the somewhat paradoxical conclusion that the reason for the incompleteness of some of the skeletons is that these were the very ones that were covered, in other words that the burial was discovered by someone who at a later date wished to reoccupy the site. The presence of human remains was not regarded as a sufficient reason for abandoning the site of the proposed structure, merely as calling for an extra stout floor to keep the bodies where they lay. The discovery however resulted in one skeleton losing both legs, its neighbour one. On the other hand the victims whose headless skeletons were found probably lost their heads at the same time as they lost their lives.

As regards the date of the interment the skeletons as a group lay over burnt clay which is to be ascribed to the first industrial period. Most conclusive of all the most northerly skeleton lay actually upon the highest surviving course of the long wall (plate VII, fig. 2). The burial is therefore subsequent to *ca.* 160 A.D. On the other hand a stray fragment of a human pelvis was found partly underneath the footings of H and the bodies were laid here before the occupation represented by the clay layer which in part covers them. The actual contents of the layer were not very

illuminating as to the date of its construction. Careful riddling brought to light a small worn fragment of Samian ware (Dr. 37), a tiny fragment of a bowl of grey ware and a very small fragment of a vessel of smooth light clay, buff inside, grey with a band of white outside. The third riddling of the material brought to light coin no. 7, page 48, an illegible *antoninianus*. Any or all of these objects may have been trodden into the layer subsequent to its construction. The pottery from the black soil which lay among and over the skeletons (groups (ix) and (x), page 35) was more helpful. It can all be ascribed to before *ca.* 200 A.D. The interment therefore belongs to the period *ca.* 160—200 A.D.

More accurate dating than this is at present only a matter of conjecture. The long wall was in ruins before the interment was made, but whether this ruin was caused by lapse of time during which the site lay vacant or at least the structure based upon the long wall was derelict, or whether the destruction of the long wall building and the slaying of the men were contemporaneous, it is not possible to determine. It is possible that this mass slaughter and burial is new and further evidence of the extent of the troubles inadequately faced by Virius Lupus. If however it is preferred to see in these skeletons the remains of workmen engaged on the site during the first industrial period, they may have been slain during the crisis which Iulius Verus was called upon to deal with.

As to the antecedents of the dead there is at present no evidence. There is a complete lack of anything from the site to connect it with the neighbouring legionary fortress at Chester. If the victims died while wearing arms or even the slightest of trinkets, either they were completely stripped of all possessions before burial or, what is very unlikely, all such objects have perished practically without trace; only one or two small fragments of perished bronze came to light in the process of removing the skeletons. The anthropological evidence (page 46) is not incompatible with the

suggestion that the victims were " natives " and the nature of their wounds does not suggest that they perished by the Roman short sword.

Finally it would appear that the clay layer may be ascribed to the second industrial period (page 13) together with H, K and L. It may be the floor level of some structure for it is so near to the modern surface that the absence of any traces of walls need not cause surprise; the walls were possibly only of timber or mud. It may however merely represent a sealing of a portion of the burial at the time when the site was again occupied. On either of these interpretations the second industrial period may be dated to *ca.* 200 A.D. —250 A.D.

#### IV. GENERAL CONCLUSIONS.

The following conclusions appear at the moment to be possible. At some not yet ascertainable period a ditch, possibly a military ditch, was dug on part of the site. The ditch was probably accompanied by a mound. From about 100 A.D. the site was occupied for industrial processes of unknown purpose. The structures associated with the first period of activity were A, B, J, the remains under the angle of H, and the long wall. There were connected with these buildings fragmentary remains of clay floors, much burnt clay, some of it probably tipped, burnt layers, charcoal, etc. The activity appears to have lasted until about 160 A.D.

While all structures belonging to this period which have so far been found appear to have been industrial rather than private or public buildings, the altar (page 40), the slab with moulded edge (page 9) and the reused column cap (page 15) suggest that somewhere in the near vicinity, possibly on the site itself, there was a building or group of buildings not industrial. Possibly there may have been a shrine to the Mother Goddesses. Any such buildings would fall into this first period.

Between 160 and 200 A.D. twenty men, possibly many more, were buried on the site under circumstances which suggest that they had met with a violent end.

Subsequently to this small sheds were built on the site and a layer of clay laid down over part of the interment. Possibly this occupation was also industrial and it does not seem to have extended much if at all beyond 250 A.D.

There are some slight traces of subsequent, probably only occasional, occupation, namely "vesicular" ware (page 40) and two late coins (nos. 7 and 8, page 43); but there is not enough evidence as yet for suggesting that there was permanent occupation into the fourth century. Lying on an important road and quite near to Chester the site would be liable to casual visitation.

## V. OBJECTS DISCOVERED.

### A. POTTERY AND GLASS.

- (1) Potters' marks on
  - (a) Samian Ware.
  - (b) *Amphoræ*.
  - (c) *Mortaria*.
- (2) Decorated Samian Ware.
- (3) Plain Samian Ware.
- (4) Miscellaneous Decorated Wares.
- (5) *Mortaria*.
- (6) Miscellaneous Coarse Pottery.
- (7) Glass.

### B. INSCRIPTIONS.

- (1) Altar to the Mother Goddesses.
- (2) Graffiti.

### C. COINS.

### D. METAL OBJECTS.

A list of the abbreviations employed in this portion of the report will be found on pages 44-5.

## A. POTTERY AND GLASS.

## (1) POTTERS' MARKS.

## (a) Samian Ware.

*Decorated.*

1. Plate IX, A. Incomplete stamp of ADVOCISUS on a burnt fragment of a bowl, Dr. 37, showing an erotic scene in a metope formed by lines of dots with double-ringed medallion to right. Advocisus was a potter of Lezoux ca. 120—180 A.D. Found in the dump.

2. Plate IX, B and C. Fragments of a South Gaulish bowl, Dr. 37, of which portions of the base fitting on to the fragments illustrated were also found. The incomplete stamp, which is in cursive and retrograde, is read by Dr. Felix Oswald as that of BIRAGILUS, a Banassac potter of the Domitian-Trajan period who sometimes stamped his name with one—L—, more often with two. Cf. *Hayter I*, A, 18.

The ornament consists of a festoon of wreaths of V-shaped leaves with pointed leaf dependent between each pair of wreaths. B has a Pan (*Déch.* 423) within the wreath, C a kneeling archer (*Déch.* 168). All the fragments are somewhat chipped; they were found together with nos. 16-26, page 25, at a low level along the footings of the long wall.

3. Plate IX, D. Incomplete stamp of DOECCUS on a fragment of a bowl, Dr. 37; the letters are incised in a raised label among the ornament, the remains of which consist of double-ringed medallions separated by a line of dots. The bowl was probably made by Doeccus of Lezoux (Hadrianic-Antonine). Found in top soil.

4. Plate IX, E. Incomplete cursive stamp below the ornament on a bowl, Dr. 37. The stamp is read by Dr. Felix Oswald as that of DRUSUS, a potter of Lezoux of the Trajan-Hadrian period. The only remaining ornament, which is not illustrated, shows a line of dots ending in a large dot, apparently dividing two metopes, with immediately to the right ? a small rosette. Found in a trial hole fifty yards south of the burial area.

5. Plate IX, F. Incomplete stamp of MAMMILIANUS. The letters are raised inside a label sunk on the rim above the ornament of a bowl, Dr. 37. Apart from the ovolos and tongues the only remaining ornament is blurred. Mammilianus (or Mammillianus) was a Heiligenberg and Rheinzabern potter of the Hadrianic-Antonine period. Found at the south end of the burial area in close proximity to A.

*Plain.*

6. On the base of a cup, Dr. 33, OFFCE. Flavius and Germanus were Flavian potters, or a firm of potters, who worked in South Gaul (La Graufesenque and Banassac). The fragment was found with group (viii), page 35.

7. On the base of a dish, Dr. 31, DACOMA; the stamp of Dagomarus, a Flavian potter of Lezoux. Found with stamp no. 2 above.

8. On the base of a cup, Dr. 33, SV....LLF.

Incomplete and uncertain stamps were 9, /MA (Dr. 27: ? Annius); 10, illegible (Dr. 27); 11, /NCIM (Dr. 31, burnt: ? Arncus); 12, CACI/ (Dr. 31: ? Cacasus); 13, /BIIC/ (Dr. 31, with roulette: although the —B—appears to be clear this may be a stamp of Regalis); 14, BVR/ (Dr. 33: ? Burdo or Burrus: cf. Hayler I, B, 22 and 167); 15, VIC/ (Dr. 33: Victor); 16 and 17, fragmentary (both Dr. 33).

(b) *Amphoræ.*

18. Plate XIV, 44. Fragment of a handle. The stamp may be that of the Iunii Melissi of *fundus Scimnianus* (vide e.g. Benwell 1926, page 168, no. 2). Found with group (xiv), page 38.

19. Plate XIV, 45. Cut in a worn and gritty handle from a trial hole at the south end of the field. ?CAI M(ANU).

(c) *Mortaria.*

20. Plate XIV, 46. On the rim of a *mortarium* of cream clay with traces of brown paint; profile as plate XIV, 47 (cf. Wrox. 58). ? DOC(I) as *Wroxeter* 1912, fig. 16, 4 (bis). Found at a low level along the east to west wall of H.

21. Plate XIV, 48. On a small rim fragment of cream clay. ? /ICNIU. Top soil.

22. Plate XIV, 49. On a worn fragment of brown clay with cream wash with profile resembling perhaps *Balmuilty* XLI, 7. Found with group (xiv), page 38.

## (2) DECORATED SAMIAN WARE.

The numbering of the following list corresponds to the numbering of plates IX—XII.

Nos. 1-15 belong to groups described on pages 32-8.

1. Fragment with ovolos and detached notched tongues; ? Hadrian-Pius (group (i), page 32).

2. Inclined ovolos with tongues ending in dot above a blurred wavy line. Below, Cupid (*Déch.* 253). 3 is probably from the same bowl. The figures may be as *Knorr* 1905, XIV, 4 without the Cupid in the centre. (Group (iv), page 33.)

4. Metopes divided by lines of dots. To right double-ringed medallion with ? *Déch.* 185 above a tendril. Spear-shaped leaf or lozenge in left bottom corner of metope. 5 was from the same group (group (vi), page 34).

6. A fragment of a bowl, Dr. (*Knorr*) 78, giving the full depth of the ornamented band. A wreath of V-shaped leaves (*Knorr* 1919, 55, B) runs round the top of the side with a groove above and a line of beads (blurred) below. The wreaths with tendril ending in a rosette and the notched stems with bobs dependent between each pair of wreaths are very similar to a fragment from Rottweil (*Knorr* 1912, IX, 5). For the dating of this fragment and of no. 16 below *vide O. and P.*, pages 125-6. (Group (viii), page 35).

7. A small fragment showing ovolos with tongues ending in rosettes of six. (Group (x), page 35.)

8—12 were all found with group (xiii), page 37. 8 has metopes and demi-metopes divided by lines of dots, with ? *Déch.* 41 in metope to right. 9 has metopes divided by lines of dots ending in a small ring. Centre, base as *e.g. Déch.* 1115; right, double-ringed medallion with rouleau in corner of metope. 10 is a small fragment with indistinguishable



ornament, 11 a small burnt fragment in free style with ? lioness (*Déch.* 793), 12 a small fragment, burnt black, with demi-metope bounded by lines of dots and containing a conventional leaf (*cf. Newstead*, page 227, no. 3).

13-15 belong to group (xiv), page 38. 13 is the only certain fragment of Dr. 29 which was found (*cf.* no. 28). A somewhat similar band of conventional leaves, though that on the Heronbridge example is blurred, appears on a fragment by Rufinus from Rottweil (*Knorr* 1919, 69, D) and Rufinus also used the lion springing to right (*ib.*, 68, A). On the Heronbridge fragment the upper band is divided from the lower by a single raised moulding on each side of which is a line of dots. The band of leaves is separated from the lion by a line of smaller dots, and below the lion are leaves free in the field. 14 is a fragment with metopes and demi-metopes divided by lines of dots joining in a large dot; to left, metope with Victory (*Déch.* 478 but without the sphere); to right, demi-metopes with double-ringed medalion in the upper. 15 shows a wavy line ending in a rosette bounding a metope with corner tendril ending in a spear-shaped leaf. Possibly there remains a trace of ovolos above with tongue ending in a rosette.

16-26, together with B, C (above) and fragments of the side of a small Dr. 30 ornamented solely with roulette (*O. and P.*, pages 221 *et seq.*), were found in an unsealed deposit along the footings of the long wall and the footings of the return on its west side. 16, a fragment of a Dr. (*Knorr* 78 (*cf.* no. 6 above), possibly gives the full depth of the ornament; this consists of metopes and demi-metopes divided by wavy lines joining in ? serrated half rings. Of the two demi-metopes the upper contains ? a dog coursing left, the lower a lion bounding right as *e.g.* *Knorr* 1919, 23, 2 but with the tail incomplete. 17 and 18 are two fragments of one bowl, a South Gaulish Dr. 37. The ovolos are badly executed and the tongues, attached on the right, are three-pronged; a line of dots, blurred, runs round the bowl above the main ornament which consists of metopes and demi-metopes divided by lines of dots joining in rosettes. The

centre top portion of the cruciform ornament is as *Knorr* 1919, 18, 41. The Silenus under the arcading is as on *Knorr* 1905, XI, 7 (*cf. Déch.* 323); a similar fragment from Lancaster is illustrated in *Annals of Archæology and Anthropology*, vol. XVI, plate XXVII, 32. 19 is also from a South Gaulish Dr. 37, but almost certainly not from the same bowl as that represented by 17 and 18 though the ovolos and tongues are very similar in style. A fragment from Rottweil which has resemblances to the work of Biragillus (*Knorr* 1907, XV, 4) has the ovolos and tongues, the archer, palm tree, wreath, dependent bobs and small rosette of 19, while the blurred object in the bottom left demi-metope of 19 may be the dolphins of the same Rottweil fragment and the bird appears on named work of the same potter (*ib.*, 5 right). For the grass tufts of 20 *cf. e.g. Knorr* 1905, XIV, 4, with 21 *cf. e.g. Knorr* 1905, V, 3 though 21 has a large rosette of eight instead of the ring and possibly the lower band is in free style. A similar wreath to that on 22 appears on *e.g. Knorr* 1905, XI, 9. The small male figure on 23 is *Déch.* 396 with ? a small rabbit below, while in the upper demi-metope to the left is a double-ringed medallion with a rabbit (? *Déch.* 950a) and the twisted pillar in the metope to the right is *Déch.* 1094 with a blurred object over it. A vine leaf and tendril motif similar to that on 24 occurs on a fragment from St. Michael's Street, Chester (vol. XXVII of this journal, plate XVI, 8; *cf. Knorr* 1905, V, 9). The same motif also occurs on 25 where it is accompanied by a pointed leaf which also accompanies the motif on *Knorr* 1905, V, 6. 26 is a typical Antonine fragment with a seated Apollo playing the lyre (*Déch.* 52).

The remainder of the Samian which is illustrated was unstratified. Nos. 30—60 are all from bowls, Dr. 37, while nos 41—60 are probably all of Lezoux manufacture and Antonine date. Nos. 36—40 are probably German.

27 is a small fragment of a Dr. (Déchelette) 67. The stag is probably *Déch.* 850 with a stylised bush such as *Déch.* 1136 to the right, or else the leaf of *Déch.* 1136 used as a corner tendril.

28 is a small fragment of a bowl of doubtful shape, probably Dr. 37 but without ovolos and tongues. The free use of the rosette is reminiscent of the work of Satto; *cf. e.g. Knorr* 1905, II, 7 and XXVIII, 8.

29 is from the upper ornament of a bowl, Dr. 30. The bird in the serrated double-ringed medallion is as *e.g. Knorr* 1910, VII, 6 while the leaf to the left of the line of beads is as *Knorr* 1912, III, 5.

30—32 are of South Gaulish manufacture. The cruciform ornament of 30 is composed of twisted staves with the left horizontal terminating in a double leaf (*Déch.* 1161). The metope is bounded by a wavy line. 31 has a rinceau with dependent poppy heads. 32 shows a Silenus, ? in procession, (*Déch.* 323) and a palm tree (*Déch.* 1122); above there is a slight trace of a tongue ending in ? three prongs as part of the ovolo and tongue border.

33, a fragment of the Trajan-Hadrian period, has some resemblances to work from Heiligenberg illustrated in *Knorr* 1907, XIX, 6 (lower band) and 8 (mask, probably with Venus above); the blurred rosette on the right may be as *ib.*, XVII, 13.

34 and 35 are two fragments of one bowl of Hadrianic date. The lioness on 34 is *Déch.* 787, the bear on 35 *Déch.* 818 *bis*. The ornament is divided into metopes and demi-metopes by lines of dots joining in rosettes of five. In the metope on 35 there are the remains of ? Venus standing on a mask (*Déch.* 176 a). Forming the bottom of the ornament is a band of conventional ornaments.

36—40. Samian of German manufacture was scarce as these fragments are all that can be ascribed to that origin. 36, 37 and 38 appear to be the latest pieces found. 36 has part of ? *Déch.* 107 and a bird (*Déch.* 1001), 37 is divided into metopes by a heavy moulding ending in a large blurred rosette, 38 is in free style with a blurred and broken impression of a tree (*Déch.* 1141), a lioness (*Déch.* 793) above and an animal as *Knorr* 1910, XX, 13. 39 is also apparently in free style with the remains of an animal (? *Déch.* 766).

40, which may also be German, is earlier in date than the rest of this group.

41—44 are from three distinct bowls, all in free style. 41 has large ovolos with tongues ending in slight knobs attached to the left above a line of rouleaux; the elements of the ornament are a tree twice repeated (*Déch.* 1129 but with base and three unattached leaves, two to left and one to right), a stag (*Déch.* 845=852), a ? goat (*Déch.* 892) and detached leaves in the field. 42 has a lion (*Déch.* 741), a stag (*Déch.* 860) and detached leaves in the field (*Knorr* 1905, V, 1). 43 has very curtailed ovolos with straight broad tongues between and a wavy line below; the lion (? *Déch.* 767) is blurred, while below is *Déch.* 884 and in front and above the lion are detached arrow-heads in the field; possibly the animal to the left of and below the lion is *Déch.* 892. 44, a yellowish fragment, has tongues attached on the left of the ovolos and ending in blurred rosettes with a wavy line below; to the left is a lion (? *Déch.* 753), to the right a male figure (? *Déch.* 393) with an unattached leaf (*Newstead*, page 221, 4) in the field.

45 has a bear (*Déch.* 817) in a demi-metope bounded by lines of dots joining in a large dot, with above, in a demi-metope with a ring in the right bottom corner, a wreath containing a bird.

46 is divided into metopes by lines of beads ending in rosettes. Left, base of caryatid (*Déch.* 657); right, ornament in free style with ? horseman (*Déch.* 156) and small lion (? *Knorr* 1910, XI, 5) and two unattached triple leaves in the field.

47 shows a rinceau with leaves and unattached rings in the style of Cinnamus (*cf. Newstead*, page 225, 1 and 4). Another fragment, not illustrated, from another bowl was closely parallel to *Newstead*, page 225, 4.

48 has small ovolos with short tongue attached on left ending in a rosette of six (blurred). The ornament is divided into metopes by a line of dots ending in a large dot; left, Silenus (*Déch.* 312) with two rings in the field and the remains of some object below; right, Venus (*Déch.* 176).

49 is divided into metopes by lines of dots ending in a large dot; centre, mask of Pan (*Déch.* 675), right, beneath a medallion a leaf ornament and a bull or cow (*Déch.* 900).

50 has lost much of the glaze; demi-metopes divided by corded lines with left, above, Cupid (*Déch.* 261) and below, a ring; right, above, a medallion and below, a ring.

51 and 52, two fragments from the same bowl, were found in different years at different places in top soil. The ornament is of metopes and demi-metopes divided by lines of dots ending in a large dot. In the metopes is *Déch.* 331 with a knot ornament below (as *Newstead*, plate XLIV, but doubled). In the demi-metopes is Vulcan (*Déch.* 39 but without *pilleus* and tongs).

53 and another fragment not illustrated are from a bowl divided into metopes by lines of rouleaux; left, *Déch.* 523, right, remains of a draped figure. On the fragment not illustrated is *Déch.* 1069 at the base of a metope, and in the next metope a medallion with a lozenge in the corner of the metope.

54. Ovolos with twisted tongues ending in rosette (blurred) attached on right above a line of dots. Boar charging left (*Déch.* 834).

55. Ovolos with notched tongues; the ornament is divided into metopes by lines of beads ending in a dot; Venus (*Déch.* 176 but details of hair a little clearer; cf. *Knorr* 1910, IX, 1 and 2) with small blurred human figure to right at shoulder level.

56 is divided into metopes and demi-metopes by wavy lines (blurred) joining in rosettes (blurred); left, demi-metope with wreath; right, metope with ? Minerva (*Déch.* 83).

57 has much of the glaze worn away; the warrior is *Déch.* 107.

58 is divided into demi-metopes by lines of beads; above, double-ringed medallion; below, large leaf with *Déch.* 1161 (reversed) at base and a bird (cf. *Déch.* 1009) to left and right at the top.

59 is divided into metopes and demi-metopes by lines of dots; a conventional pointed leaf occupies the bottom demi-metope.

60. Crude ovolos with twisted tongues to right ending in rosette (blurred) with line of dots below. Metopes and demi-metopes are divided by lines of dots. In the demi-metope which remains is a demi-medallion with bird.

### (3) PLAIN SAMIAN WARE.

The commonest shape in undecorated Samian ware was as usual Dr. 31, there being well over three hundred fragments of dishes of this shape; at least ten of the dishes had circles of rouletting on the interior of the base. Three dishes were definitely Dr. 18 and there were more fragments which perhaps were Dr. 18 rather than Dr. 31. The cup Dr. 33 was twice as common as the earlier Dr. 27, there being over sixty fragments of the former. Dr. 38 was represented by about twenty fragments, Dr. 35-6 by nine, Curle 11 by four, Dr. 45 by three and the following shapes by one fragment each:—Dr. 42, Dr. 44, Ludowici T9, flat plate, plate with quarter-round moulding. The following shapes were each represented by one doubtful fragment:—Dr. 46, Dr. 47, Dr. (Déchelette) 72, Dr. (Bushe-Fox) 83 (lip), Ludowici Sb. There was also one large fragment of a Dr. (Déchelette) 72 burnt quite black but with the glaze uninjured.

### (4) MISCELLANEOUS DECORATED WARES.

There were thirteen fragments of Caistor ware. One fragment showed ornamentation in barbotine, one in raised scales, and one in roulette; one fragment was dark grey in colour and ribbed, two were rough-cast, one of these being also indented; one fragment was from a rouletted cover and the remainder were all covered with slips of various colours.

There were three fragments of Rhenish ware. Of other types the following may be mentioned:—a vase of brown ware with rim as *H.200*; a vase of fine brown clay with smooth surface, very short everted rim and two shoulder grooves (profile as *H.197*); a small bowl of brown clay light,

polished, without rim and with groove below the lip; a bowl without rim and with cordon and groove ornamentation and ? traces of glaze; a small hemi-spherical bowl of fine pink clay with white wash and a slight flange; triple jug on foot-ring, of red clay with white wash. These were all represented only by small fragments. In addition there were the following fragments:—a fragment, ? of a brown bowl with ring of white paint; a small fragment of red ware with wavy groove and white paint; a fragment with brown surface and grey section with traces ? of green glaze.

(5) *Mortaria*.

The following Wroxeter types were represented:—*Wrox.* 46 (cream clay, red and yellow paint), ? 54 (spout only, pink clay, cream wash), 58 (cream clay), 70 (brown, red wash), 74 (red, haematite wash), 78 (grey clay, haematite wash), 102 (three examples, all of cream clay), 114 (grey clay), 118 (two examples, both of yellow clay), 186 (three examples, all of pipe-clay), 190 (pipe-clay), 194 (small fragment, red wash), 202—210 (cream clay, plain rim), 206 (pipe-clay), 210—214 (chipped fragment), 214 (pipe-clay).

Holt shapes were illustrated by the following:—*H.* 2 (one of brown clay, very worn, ? with red wash; another very chipped), 4 (red), 7 (? mica dusted), ? 12 (brown, thin, flange broken), 19 (brown, sandy, small fragment only), 27 (but smaller; red, brown wash).

Of the second century type with flaring rim one was of pink clay and another of brown clay with red wash. The following may be compared with examples from Balmuildy: rough brown, chipped (*Balmuildy* XLI, 2); pink clay, white wash (*ib.*, 8); brown, ? red wash (two examples, *ib.*, 12); cream clay with smudge ? of brown paint (*ib.*, 12); one of red clay with fine white coating and another of cream clay (*ib.*, 19); buff (*ib.*, XLII, 47). Two *mortaria* have parallels from Benwell, one of red clay with white wash (*Benwell* 1926, page 176, 11) and the other apparently an underbaked example with brown wash (*ib.*, 1).

There was also a fragment of pipe-clay belonging apparently to a wall-sided *mortarium* of the third century, and one fragment possibly of the hammer-headed type. The stamped *mortaria* are described on pages 23-4. Plate XIII, no. 38 gives the profile of a smallish *mortarium* (diam. 5in.) of buff clay with loops and strokes of brown paint on the rim over a cream wash.

(6) MISCELLANEOUS COARSE POTTERY.

The bulk of the pottery was unstratified. Certain groups however determine the various datings suggested. These are first dealt with as groups, under each group being recorded the Samian ware, *mortaria*, etc. which were found with it. Although the pottery from the section across the mound was not stratified it is next dealt with as an independent group, group (xiv), as the relation of this part of the site to the remainder which was examined is not yet determined. Finally the rest of the pottery found is dealt with in bulk under various categories (xv).

The first industrial period is dated by groups (i)—(v) : groups (vi)—(viii) give general confirmation of that dating.

(i) From the clay beneath the southern group (II) of skeletons (page 16). The pottery group may be dated as a whole to *ca.* 110—150 A.D.

Samian ware : three fragments of Dr. 37 (including no. 1, plate IX), two fragments of Dr. 31 (*ca.* 100—150 A.D.), one of Dr. 27, one (burnt) of Dr. 33.

Grey ware : bowl with bead rim and groove below and cordon on side (plate XIII, 1; diam. 6½in.); jar of good light grey ware with short everted hollowed rim (plate XIII, 2; diam. 3½in.); fragment, ? of large dark jar with triple line of roulette.

Cooking-pot ware : two jars with zig-zag on neck, light grey surface (plate XIII, 3 (diam. 6in.) and 4 (diam. 5½ in.); *cf.* *Slack* XXIII, 1 and 3, and *H.* 34-6).

Brown ware : bowl with double cordons and two grooves on side (? *H.* 94); fragment, mica dusted.

Jugs : bases of two of red clay, one with white slip.



(ii) From burnt clay beneath the northern group (I) of skeletons (page 16). Before *ca.* 160 A.D.

Samian ware : stamp no. 14, page 23, with two other fragments of Dr. 33, one rim fragment of Dr. 31.

Grey ware : jar, chipped, of good light grey (*cf.* Benwell 1926, page 179, 7).

Cooking-pot ware : dish with flat rim (plate XIII, 5, *cf.* H. 140-141; diam. 8 in.).

Fragments of grey ware, cooking-pot ware, brown ware, and of red ware jugs with white slip.

(iii) From sand immediately to the north of the west end of the long wall (page 10). *Ca.* 100-120 A.D.

Samian ware : four fragments, ? all of one bowl, Dr. 31, of *ca.* 100 A.D.

Grey ware : bowl with groove below rim and two grooves at top of side (plate XIII, 6; diam. ? 4 in.).

Brown ware : fragments of three bowls with cordoned and grooved sides (plate XIII, 7 (diam.  $7\frac{1}{2}$  in.), 8 (diam.  $7\frac{1}{4}$  in.) and 9 (diam.  $6\frac{1}{2}$  in.)).

Fragments of jugs, etc., and one small fragment of coarse grey-black ware with three rows of roulette ornament.

(iv) From clay and sandstone filling west of skeleton group I and north of the long wall (page 10). *Ca.* 100-150 A.D.

Samian ware : two fragments (nos. 2 and 3, plate IX) ? of one bowl, Dr. 37, one of Dr. 31 and five fragments of two to three cups, late Dr. 27.

Grey ware : shallow dish (plate XIII, 10; diam. ?  $5\frac{1}{2}$  in.); fragment of rustic ware; three fragments of bowl with cordon, good hard clay, light colour (plate XIII, 11; diam. 6 in.).

Brown ware : fragment of side of bowl with cordon, mica dusted (? H. 226).

Base of red ware jug with white wash, fragments of cooking-pot ware, etc., and one fragment of polished dark brownish ware, ribbed inside and indented outside.

(v) From sand immediately east of skeleton group II, beneath soil and clay. Before *ca.* 150 A.D.

Grey ware : carinated bowl, dark surface (plate XIII, 12, *cf.* *H.* 92; diam. ? 10in.); dish, bead rim, dark surface (plate XIII, 13, *cf.* *H.* 144; diam. 6½in.).

(vi) From soil, etc., under skeleton group I.

Samian ware : two fragments, nos. 4 and 5, plate IX, of Dr. 37, one of Dr. 30 (no ornament), four of Dr. 33, five of Dr. 31, one small fragment of Dr. 35-6.

Cooking-pot ware : fragment of dish, no rim; fragment of rim of cooking-pot.

Brown ware : bowl, no rim, with grooves on side.

Fragment of rough-cast brown vase.

*Ca.* 120-170 A.D. This site had been previously disturbed by preliminary examinations. The group can therefore be taken only as generally confirming the dating given by groups (i)–(v) : *cf.* (vii) and (viii).

(vii) From among clay and burnt layers inside H, at a level lower than the footings. Before *ca.* 180 A.D.

Samian ware : three small fragments of Dr. 37, two of Dr. 33, six of Dr. 31, three of one cup, Dr. 27, one of Dr. 42, two ? of Dr. 38.

Grey ware : jar, good clay, light inside, dark outside (plate XIII, 14, *cf.* *Benwell* 1926, page 179, 7; diam. 4in.); jar of similar clay with groove on side and short everted rim (plate XIII, 15, *cf.* *Slack* XXIII, 15; diam. ? 2½in.).

Cooking-pot ware : fragments of two dishes with flat rim.

Brown ware : small fragment of bowl, no rim, groove and cordon below top; fragment of side of jar, mica dusted inside, ornamented outside with very small holes; shallow dish, no rim (plate XIII, 16; diam. 7½in.).

Large fragment of cover with black polished surface and gritty section (plate XIII, 17, *cf.* *H.* 100; diam. 6in.).

(viii) From sand and masonry outside the angle of H (page 14). Up to *ca.* 150 A.D.

Samian ware: one fragment, no. 6, plate IX, of Dr. (Knorr) 78, and another, burnt black with faint traces of ovolos, of Dr. 37, three fragments of one cup, early Dr. 33, one fragment ? Dr. 18, one of Dr. (Déchelette) 72, burnt black.

Cooking-pot ware; two cooking pots (plate XIII, 20 (diam.  $2\frac{1}{2}$  in.), *cf.* H. 34, and 21 (diam.  $2\frac{3}{4}$  in.)).

Brown ware: carinated bowl with rouletting, mica dusted (plate XIII, 18; diam.  $8\frac{1}{2}$  in.); bowl with faintly reeded sloping rim (plate XIII, 19; diam.  $5\frac{1}{2}$  in.); fragment of bowl, no rim, cordons and grooves on side and ? traces of glaze much eaten away (plate XIII, 22; diam.  $6\frac{1}{4}$  in.).

The following two groups date the interment (page 19). The dating is generally confirmed by group (xi).

(ix) From the black soil upon which skeleton group II lay. *Ca.* 110—150 A.D. This group is closely related to groups (i)—(vi).

Samian ware: one small fragment of Dr. 37 and one rim fragment, early Dr. 31.

Grey ware: dish, mica dusted (plate XIII, 23; diam 6 in.); bowl (plate XIII, 24; diam.  $10\frac{1}{2}$  in.); fragment of rustic ware.

Cooking-pot ware: jar with bulge below groove on rim (plate XIII, 25, *cf.* H. 38-39; diam.  $4\frac{1}{2}$  in.); dish, flat rim; various fragments.

Brown ware: fragments of mica dusted bowl and of jar.

Jugs: two of red ware, one with white wash.

(x) From the black soil in which skeleton group II lay, sealed by the clay layer (page 16). Before *ca.* 200 A.D.

Samian ware: one fragment, no. 7, plate IX<sup>1</sup>, and a chipping of Dr. 37, stamp no. 9, page 23, and two fragments of another cup, Dr. 27, twenty fragments, including one

early piece and one with roulette, of Dr. 31, five including one burnt of Dr. 33, two fragments of globular vases including one ? Dr. (Déchelette) 72.

Grey ware : wide mouthed jar (plate XIII, 26; diam. 9 in.); large storage jar with heavy overhanging grooved rim (plate XIII, 27; diam. ? 20in.); dish, flat rim (plate XIII, 28; diam. 7in.).

Cooking-pot ware : beaker (plate XIII, 29, *cf. H.* 75-76; diam.  $3\frac{1}{4}$ in.); dish, overbaked, no rim (plate XIII, 30; diam.  $6\frac{1}{2}$  in.); one or two fragments, overbaked.

Brown ware : most of the sherds in this group were of this ware. They represented mica dusted dishes, rough-cast vases, *mortaria*, a cover, a large jar with upright neck, a dish with flat rim and two reedings (plate XIII, 31; diam. ?  $6\frac{1}{2}$ in.), a jug or jugs, a carinated bowl with white wash, etc.

Jugs : several fragments of red ware with white wash.

Caistor ware : three fragments, two with red slip, one with black or very dark brown slip and groove.

Fragments of *amphorae*, *mortaria*, etc.

(xi) From burnt clay inside B. *Ca.* 110-160 A.D. While this group came from under the clay layer, the layer was not so compact at this point and was mixed with fallen masonry. The group however confirms the dating given by (x) and should be compared with groups (xii) and (xiii).

Samian ware : small fragment of Dr. 37, fragment of large dish, Dr. 31, with rouletting, fragment of cup with slightly sloping side and roulette ornamentation.

*Mortarium* : type *Wrox.* 54.

Grey ware : chipped fragment of jar with everted rim; fragment of jar with cordon on side, good clay.

Cooking-pot ware : jar (plate XIII, 32; diam.  $4\frac{1}{4}$  in.); small jar with short neck (plate XIII, 33, *cf. Slack* XXIII, 11 and 28; diam.  $3\frac{1}{2}$  in.).

Brown ware : shallow dish, mica dusted; fragment with dark surface and notched and rouletted ornamentation.

The clay layer was very broken at the south end; groups (xii) and (xiii) are however given as they were found.

(xii) From the mixed masonry and clay above B. *Ca.* 120-250 A.D.; *vide* group (xi).

Samian ware : one small fragment of Dr. 37, small fragments of Dr. 31.

Grey ware : two covers; small fragment of small jar, ? 100—150 A.D.; fragment of side of large jar with grooves and hatching and ? brown paint.

Brown ware : bowl, mica dusted, with cordon.

Caistor ware : fragment with dark slip and decoration of light band with roulette (? *post* 200 A.D.); fragment with light brown slip.

Two fragments of a brown rough-cast vase; fragment of cream clay, 0.3in. thick, smooth surface with roulette.

(xiii) From black soil between fallen masonry and clay and burnt clay at extreme south end of area examined, around and above A. Up to *ca.* 210-220 A.D.; *cf.* group (xii).

Samian ware : five fragments, nos. 8-12, plate IX, of Dr. 37, five of Dr. 31, two of Dr. 33, two ? of Dr. 27, one of Dr. 38, late, one of Ludowici T9. One fragment was shaped as the flange of a Dr. 38 but appeared to have remains of a stamp; possibly imitation Samian.

*Mortaria* : cream clay (plate XIII, 36, *cf.* *Wrox.* 202—210; diam. 8½in.); red clay, red wash (plate XIII, 37, *cf.* *Wrox.* 194; small fragment only).

Cooking-pot ware : cooking-pot (plate XIII, 34, *cf.* *Benwell* 1926, page 179, 20; diam. ? 4in.); three fragments of a dish, no rim (plate XIII, 35; diam. 7¾in.); fragments of three dishes with flat rim, one grooved.

Brown ware : small fragments of dishes, jars, jugs, covers, including hemi-spherical bowl with flanged sloping rim and grooves and a dish with bead rim (? *H.* 91).

Fragments of rough-cast vase.

(xiv) From the section across the mound (page 7).

Samian ware : one fragment, no. 13, plate IX, of Dr. 29, ten fragments, including nos. 14 and 15, plate IX, of Dr. 37, about thirty of Dr. 31, six of Dr. 33, one of Dr. 35-6.

*Mortaria* : light brown fragment with incomplete stamp no. 22, page 24; brown, very chipped and worn (? *H.* 2); grey (? underbaked; cf. *Benwell* 1926, page 176, 1); grey clay (*Wrox.* 114); pipe clay, chipped (? *Wrox.* 210—214); fragment of pipe clay, ? wall sided.

Grey ware : dishes, flat rim, three; jar, dark (*Benwell* 1927, page 68, 9) : fragment of jug or bottle neck, good light grey clay.

Cooking-pot ware : cooking pots, one as *Slack* XXIII, 6, one as *ib.* 1 but without zig-zag, one as *ib.* 4 with zig-zag, one as *Benwell* 1927, page 68, 6 (overbaked); dish, flat rim; dish, no rim; beaker, small fragment.

Brown ware : small jar or vase with everted rim (cf. *H.* 200); small round-bellied bowl with flat rim; dish, flat rim; bowl with deep groove and ? cordon below rim; fragments of covers, jars, dishes, etc.

Caistor ware : base of vase with small flat bottom, brown coating; fragment with dark slip; fragment with brown slip and barbotine.

A "face urn" in buff clay with white wash was represented by one fragment (plate XIV, 43; cf. e.g. *May, Colchester and Essex Museum*, plate LI, A).

(xv) Unstratified pottery. The greater part of these sherds belong to the second century with a little which may be ascribed to the late years of the first century or to the earlier part of the third. Hardly half a dozen fragments, e.g. the "vesicular" ware, need be later than ca. 250 A.D. In no single case has it been possible to restore a whole vessel from the fragments which have been found; in fact the only vessel from the whole site of which the complete profile can be drawn is the cover, no. 17, plate XIII.

Grey ware : about twenty dishes and bowls were represented, three being mica dusted. One fragment seemed to

be from a bowl with pillar moulding. Dishes without rims were the most numerous. Among recognisable types were *H.* 134, 136, 145 and 148. There were about twenty jars, similar profiles being shown by *H.* 33, 36, 37, 51-53, 60, 63, *P.B.* III, 22 and IV, 28, *Balmuilty* XLV, 9 (two), *Benwell* 1927, page 68, 9-11 (two). Three fragments were from jars with rustic ornament. Two covers were represented by fragments and there was one fragment apparently from a dish ornamented with roulette.

Cooking-pot ware: dishes were numerous, there being about forty with no rim, over thirty with flat rim, about six with grooved flat rim, five with flanged rim, three with bead rim. Parallels to the cooking pots were presented by *H.* 29 (three), 32, 35 (three, including one with zig-zag), 36, 38 (three, including one with zig-zag), 39, 41, 46, *P.B.* III, 22 and IV, 24, 31, 32, *Slack* XXIII, 3 and 10, *Benwell* 1926, page 179, 13. There was also a fragment of a typical third century rim. Beakers resembled *H.* 76 (three) and 77, and there were two closely similar to examples from the Wroxeter "Gutter find."

Brown ware: there was a vast mass of this, much of it very fragmentary and not of definitely recognisable shapes. Bowls and dishes were very numerous and were possibly for the most part from the neighbouring factory at Holt. The following types were recognisable: *H.* 84, 89 (three), 92-93, 97, 130, 136 (overbaked), 145 (three), 150, 187, 213-214 (two), 226. There were about fifteen examples without rim and with cordons and grooves on the sides. One example was as *H.* 6-7 but showed no traces of grit. One bowl with bead rim was mica dusted and had remains of ornamentation in white paint (plate XIV, 39; diam. 9in.). There was one fragment with profile as *H.* 13-14. Among the jars were profiles as *H.* 50, 60 (overbaked), 63-64, 69, 73, *P.B.* III, 24, IV, 23-25, 28 and V, 13, *Balmuilty* XLIII, 6, *Benwell* 1926, page 179, 31 and page 181, 50. There were about ten beakers, e.g. *H.* 76 and 77, *Balmuilty* XLVI, 1-3, 7, 9 and 9-10. About ten covers, one cheese press, a beer

mug, ? a flagon (*H.* 127), were all represented with many types of small jars or vases and several jugs.

" Vesicular " ware : there were three fragments in all, two of jars (plate XIV, 40 (small fragment, overbaked) and 41 (diam. ? 4 in.)) and one of a bowl with flanged rim (plate XIV, 42; diam. 7in., ? overbaked).

#### (7) GLASS.

There were possibly two fragments of window glass. There was also a fragment ? from a flagon, five fragments of square bottles including a portion of a square handle, fragments from two round bottles, one with footrim, a neck of glass and one or two small unidentifiable pieces.

### B. INSCRIPTIONS.

(1). The only inscribed stone found was an altar to the Mother Goddesses (plate VIII, fig. 2). It was found among soil and tumbled masonry immediately to the north of the long wall at E (plan, plate XIX).

The altar is of red sandstone, stands twenty-five and a half inches high, and is fourteen and three quarter inches wide and ten and a quarter inches deep at the base. The inscribed surface is eleven and a quarter inches wide by thirteen and three quarter inches high. The depth or thickness here is seven and a quarter inches. On the left side of the altar is a dish, on the right a jug. At the top the right scroll is broken. The diameter of the *focus* is five and a half inches.

A fissure across the inscribed face together with a certain amount of scaling renders the reading of the inscription not altogether certain. After examination of photographs and squeezes Mr. R. G. Collingwood reads as follows (*Journal of Roman Studies* 1932, vol. XXII, page 224) :—

DEABVS  
MATRIBVS  
OLLOTOTIS  
IVL SECVN  
DVS ET AE  
LIA AVGVSTI  
?NA.



The last two letters Mr. Collingwood thought to see on the base below the moulding. This reading gives the interpretation "To the Mother Goddesses Ollototæ Iulius Secundus and Aelia Augustina (dedicated this altar)." Professor Donald Atkinson and the writer are not convinced, after a very careful scrutiny of the stone, of the existence of Mr. Collingwood's last two letters. The name of the male dedicator is also not altogether certain. It may commence **L VR**, giving as an alternative reading

DEABVS  
MATRIBVS  
OLLOTOTIS  
L VERECVN  
DVS ET AE  
LIA AVGVSTI

which would have to be interpreted as "To the Mother Goddesses Ollototæ L(ucius) Verecundus and Aelia (freedman and freedwoman or freedwoman or slave, etc.) of Augustus (dedicated this altar)." Mr. Collingwood has commented (*loc. cit.*) on the omission, assumed in this latter reading, of some such word as *liberti* or *serva*. It must also be noted that *L. Verecundus* would not be a normal Roman name.

For the worship of the Mother Goddesses reference may be made to Haverfield's account of the Binchester altar, likewise dedicated to the *Matres Ollototæ*, in *Archæologia Aeliana* (second series), vol. XV, pages 314-339. Haverfield quotes Whitley Stokes as connecting the epithet with Modern Welsh *all* ("another") *tud* ("country"), in early Celtic *allo-tôto-s*, and Greinberger as deriving the first element of the epithet from the Celtic stem of the equivalent of "all".

The female name *Aelia* dates the altar to the first half of the second century A.D., this dating being supported by the general character of the lettering. Further exploration of the site may shed some light on the personalities of the dedicators and may indicate what their function at Heronbridge as Imperial slaves or freedmen may have been. At

present it may be noted that the name *Iulius Secundus* is restored by Haverfield on the inscribed tombstone no. 114, *Catalogue of the Roman Inscribed and Sculptured Stones in the Grosvenor Museum, Chester*, page 63, as that of the heir responsible for the erection of the monument.

As stated above (page 20) the occurrence of an altar, a column cap and a moulded slab, though at present the three finds are not specifically related to one another, lends plausibility to the suggestion that there was in the immediate vicinity a shrine to the Mother Goddesses. If so it was derelict at the time of the second industrial occupation of the site (page 13) as the column cap was built into one of the walls ascribed to this occupation (plate IV, fig. 1; *cf.* page 15).

The altar has been presented by the owner, His Grace the Duke of Westminster, to the Grosvenor Museum, Chester.

(2). There were a few scratchings on sherds (plate XIV, nos. 50-55): no. 50 on the inside of the footrim of a very worn base, Dr. 31, from which the potter's stamp was missing, apparently having been deliberately chipped out; no. 51 on the underside of a small Dr. 18; no. 52 on the underside of a Samian base, ? Dr. 33; no. 53 on the underside of a base, Dr. 31; no. 54 on a small fragment of a bowl of brown ware with flat rim; no. 55 below the lower moulding of a Dr. 30 (perhaps not deliberate).

### C. COINS.

The following coins were found:—

1. DENARIUS of Titus. Found in top soil.

*Obv.* IMP TITVS CAE[S VE]SPASIAN [AVG] P M. Bust laureate right.

*Rev.* TR P IX IMP XV CO[S V]III P P. Dolphin and anchor.

*M. and S.*, vol. II, page 119, no. 26 (80 A.D.).

2. SESTERTIUS of Trajan. Found in the dump.

*Obv.* [IMP CAES NERVAE TRAIANO A]VG GER DAC P M TR P COS V [P P]. Bust laureate right.

- Rev.* s c (no other legend legible). Abundance holding ears of corn and *cornucopia*, with *modius* to left and prow to right.
- M. and S.*, vol. II, page 280, no. 492 (103-111 A.D.).
3. AS ? of Antoninus Pius. Worn and illegible. Found in the mound section.
  4. AS of Faustina I. Top soil.  
*Obv.* DIVA FAUSTINA. Bust right.  
*Rev.* s c AVGVSTA. ? Ceres standing left with torch and ears of corn.  
*M. and S.*, vol. III, pages 166 *et seq.*, ? no. 1169, *cf.* pages 15-16 (*post* 141 A.D.).
  5. AS ? of Faustina I or II. Top soil.
  6. ANTONINIANUS. Worn and illegible, ? with radiate head. ? *ante ca.* 250 A.D. Top soil.
  7. ANTONINIANUS. Corroded and illegible. ? 250-300 A.D. From the clay layer (page 19).
  8. AES 3 of Constans or Constantius. From under fallen masonry north of the long wall.

#### D. METAL OBJECTS.

Plates XV and XVI illustrate the better preserved of the metal objects found. No. 1, found in the mound section (page 7), is a "buckler" brooch of gilt; the pin is missing but the catch plate and the attachment for the pin remain. This type is dated by Haverfield to the second and early third centuries (*B.M. Guide*, pages 60-61, *cf.* fig. 76, right). No. 2 is a bronze penannular brooch with "writhen knobs" (*ib.*, pages 56-57, *cf.* fig. 64c). No. 3 is a very worn ring, possibly a finger ring. Nos. 4-6 are bronze studs such as were used as ornaments on leather. No. 7 is a fragment of a bronze needle (*cf.* *Newstead*, plate LXXIII, 8), no. 8 possibly a fragment from a toilet set. No. 9 is a half of a seal box (*B.M. Guide*, pages 95-96, *cf.* fig. 118); it was found together with no. 8 in the mound section at a low level (page 8). Nos. 10 and 11, bronze rings, are probably from harness as is also no. 12, which comprises two links of bronze cast together with their diameters in planes at

right angles to one another; no. 12 was found in the main ditch revealed by the mound section (page 7). No. 13, from top soil in the mound section, is the larger portion of a bronze *phalera* with scalloped edge and strap loop behind (cf. *Newstead*, plate LXXII, 9, LXXIV, 1, LXXVII, 11 and 13). No. 14 is a terminal knob of bronze, no. 15 a thin triangular plate of bronze, no. 16, of lead, was found in the black soil above skeleton group II and under the clay layer (page 16); possibly it is a lug or small handle from a bowl. A disc of lead, eight and three-quarter inches in diameter, one to two tenths of an inch thick and five pounds ten ounces in weight (not illustrated), was found in the burnt clay under skeleton group I. On it there were several scratchings including a rude palm leaf (plate XIV, no. 56).

Nos. 17-20 are all of iron; 17 is the broken end loop of a chain such as is illustrated in plate XII, 18 of *Der Obergermanisch-Raetische Limes des Römerreiches*, vol. 31 (Wiesbaden); cf. *op. cit.*, plate XIV, 35. No. 18 may be a fragment from a bridle bit (cf. *Newstead*, plate LXXI, 1 and 2); 19 is a socketted ? spike; the date of 20, which may be a fragment of a horse shoe, is doubtful.

*List of abbreviations.*

- Balmuildy*.—*The Roman Fort at Balmuildy*; S. N. Miller; Glasgow, 1922.
- Benwell* 1926.—*Excavations at Benwell (Condercum)*. *First Interim Report* (1926); *Archæologia Aeliana* (Fourth Series), vol. IV, pages 135-192.
- Benwell* 1927.—*Excavations at Benwell (Condercum)*. *Second Interim Report* (1927 and 1928); *ib.*, vol. V, pages 46-74.
- B.M. Guide*.—*British Museum. A Guide to the Antiquities of Roman Britain, etc.*; London, 1922.
- Déch.*—*Les Vases Céramiques Ornés de la Gaule Romaine*; J. Déchelette; Paris, 1904. (Unless otherwise stated the references are to the types figured in vol. II, pages 5-165).

- Dr.—The references are to Dragendorff's types.
- H.—*Holt: the Works-Depôt of the Twentieth Legion at Castle Lyons; Y Cymmrodor*, vol. XLI, 1930. (Unless otherwise stated the references are to the types of pottery illustrated on pages 213-228).
- Hayter.—*Report on Roman Potters' Marks found in Chester*; vol. XXVII of this journal (New Series), Part 1, pages 1-42.
- Knorr, 1905.—*Die verzierten Terra-Sigillata-Gefässe von Canstatt und Köngen-Grinario*; R. Knorr; Stuttgart, 1905.
- Knorr, 1907.—*Die verzierten Terra-Sigillata-Gefässe von Rottweil*; *id*; *ib.*, 1907.
- Knorr, 1910.—*Die verzierten Terra-Sigillata-Gefässe von Rottenburg-Sumelocenna*; *id*; *ib.*, 1910.
- Knorr, 1912.—*Südgallische Terra-Sigillata-Gefässe von Rottweil*; *id*; *ib.*, 1912.
- Knorr, 1919.—*Töpfer und Fabriken verzierter Terra-Sigillata des ersten Jahrhunderts*; *id*; *ib.*, 1919.
- M. and S.—*The Roman Imperial Coinage*; H. Mattingley and E. A. Sydenham; London, 1923—(in progress).
- Newstead.—*A Roman Frontier Post and its People: The Fort of Newstead*; J. Curle; Glasgow, 1911.
- O. and P.—*An Introduction to the Study of Terra-Sigillata*; F. Oswald and T. D. Price; London, 1920.
- P.B.—*The Milecastle on the Wall of Hadrian at the Poltross Burn*; Cumberland and Westmorland Antiq. and Arch. Society's *Transactions*, vol. XI (New, 1911), pages 390-461.
- Slack.—*Excavations at Slack, 1913-1915*; *Yorkshire Archaeological Journal*, vol. XXVI, pages 1-92.
- Wrox. 1912.—*Excavations on the Site of the Roman Town at Wroxeter, Shropshire, in 1912*; J. P. Bushe-Fox; London, 1913.
- Wrox.—The references are to the *mortarium* types (*op. cit.*, figs. 19 and 20).

## APPENDIX I : REPORT ON THE HUMAN REMAINS.

By ELWYN DAVIES, M.Sc.

Owing to the dampness of the site and the long period of interment the removal of the human skeletal remains in entirety was difficult. The less robust portions of the skull, such as the orbital rims, the nasal bones and much of the face and base of the skull, could not be recovered. Thus, in most instances a reconstruction of the *cranium* alone has been possible. Some of the skulls have suffered warping so severely as to render the task of reconstruction futile. Owing to various considerations, attention was concentrated in each case on the recovery of the skull, the pelvic girdle and the long bones.

The remains disinterred were all of the male sex. The individuals were mostly young or middle-aged at death; only three appear to have attained old age. Of the others five were middle-aged (under sixty) and six young (under thirty-five). As a group the *crania* are mainly dolichocephalic and mesaticephalic. Ten *crania* are long and two of these are extremely long; three *crania* are short. The absolute cranial breadth measurements show that the *crania* are of moderate breadth, so that it is the length which determines the head form. Seven of the *crania* are dolichocephalic (C.I. under 75), four are mesaticephalic (C.I. 75—80), and three are brachycephalic (C.I. over 80). The vaults of the skull are of moderate height, but the more brachycephalic *crania* are slightly less high than the others. The faces appear to have been fairly broad with generally well developed zygomatic arches. The mandibles are generally strongly formed, with well-marked mental protuberances. The long bones which were disinterred are almost all robust with well marked muscular attachments.

The stature is moderate or short. Only one individual was tall, four were of moderate and four of short stature, according to modern British standards.

The dentition is of considerable interest. Most of the skeletons show marked attrition of the teeth and in some cases this is in an advanced stage, exposing the dentine and occasionally the pulp. This wearing away of the hard parts of the teeth is more advanced, naturally, in the more aged specimens, but those of a younger age show that it set in relatively early in life. The attrition is probably due partly to a hard grain diet and partly to the lack of effective dental hygiene, but the formation of the secondary dentine points to relatively slow wear due to age and diet. Some of the specimens show signs of *caries*. Skeleton 6 has a two-rooted canine in the right side of the lower jaw. The palates are mostly U-shaped.

Nine *crania* show signs of injury. Long cuts traverse the vaults of the skulls and their clean-cut nature suggests that they were inflicted with a sharp-edged instrument of long leverage. The general absence of fracturing of the bone lateral to the cuts and the clean fashion in which parts of the bone have occasionally been sliced away make it improbable that the injuries were inflicted with an axe. A more probable instrument would have been some form of long sword or the *spatha*, and it is of interest to note that the cuts are mostly along the vaults of the skull, which suggests that they might possibly have been inflicted by cavalry. If these injuries were received during life, and there is every appearance that this is the case, the individuals met with a violent death.

Skeleton 17 bears on the left parietal bone a mark of considerable interest. It has every appearance of having been circular, but only that part of the parietal bone carrying its anterior border has been recovered. The mark lies thirty millimetres behind the coronal suture and twenty-five millimetres lateral to the sagittal suture. The anterior border of the perforation is thin and sharp where it meets the inner table of the skull and it extends in a smoothly bevelled edge

to the outer table. This mark of injury seems to have been due to an opening made artificially in the bone, but one must always entertain the possibility that it is the result of a wound rather than of a surgical operation. Whatever the cause of this injury may have been, the edges of the bone had healed perfectly, with no apparent signs of complications.

The series is too short to establish any reliable estimate of race type. The range of cranial indices within the group is great (69-83) and there appear to be at least three different elements within the series. The general distribution of the cranial indices is similar to that found amongst other skulls of Roman date, *e.g.*, those excavated by Pitt-Rivers in Cranbourne Chase and those included in Davis and Thurman's *Crania Britannica*, and in Nicolucci's *Crania Pompeiana*. The Spitalfields *crania* (Morant, *Spitalfields Crania*; *Biometrika*, vol. XXIII, pages 191-248) are mainly mesaticepalic, the generally high value of their cranial indices being due mainly to the comparative shortness of the *crania*. The stature is also similar in these groups, being mostly short.

The following table gives certain of the more important measurements. The skeletal remains have been deposited in the Manchester Museum and a detailed report is in the custody of the Librarian of the University of Manchester.

I wish to make my grateful acknowledgements for help received in various ways to Professor H. J. Fleure, Professor J. S. B. Stopford, Dr. D. Stewart, Mr. and Mrs. W. J. Varley, Mr. W. E. Jones, and also to the Royal College of Surgeons for the loan of their craniophor.



	Skeleton	1.	2.	5.	6.	8.	9.	10.	11.	12.	13(a).	14(β).	15(γ).	16(δ).	17(ε).	18(ζ).	19(ι).
Age	-	<i>ca.</i> 40	Old	Middle-aged	Middle-aged	<i>ca.</i> 30	Young	Middle-aged	Old	20-25	<i>ca.</i> 60	Young	<i>ca.</i> 30	Middle-aged	Young	—	—
Maximum Glabella-Occipital Length	-	187	205	183	196	192	195	203	—	197	190	193	191	—	—	—	—
Maximum Parietal Breadth	-	152	142	152	—	136	143	—	128	150	146	142	139	149	143	—	—
Cranial Index	-	81.28	69.26	83.06	76.5	71.72	73.33	70.75	70.75	76.14	76.84	73.57	72.77	—	77	—	—
Minimum Frontal Diameter	-	107	93	—	96	98	96	100	97	106	101	95	96	—	98	—	—
Basi-Bregmatic Length	-	125	—	—	—	—	—	—	—	—	135	134	135	138	—	—	—
Cranial Height Index	-	66.84	—	—	—	—	—	—	—	—	71.05	69.43	70.68	—	—	—	—
Cranial Breadth/Height Index	-	82.23	—	—	—	—	—	—	—	—	92.46	94.36	97.12	92.61	—	—	—
Auricular Height (Craniophor)	-	115	125	117	—	116	111	—	113	121	118	119	123	125	125	—	—
Skull Circumference	-	540	—	530	—	526	—	—	—	550	540	535	530	—	—	—	—
Vertical Transverse Arc	-	327	—	330	—	320	320	—	—	338	325	330	327	340	336	—	—
Sagittal Arc	-	387	—	382	—	384	386	—	—	—	391	386	383	—	—	—	—
Angular Width of Mandible	-	99	95	—	99	115	—	93	—	—	98	101	—	100	—	—	—
Breadth of Mandible	-	46	—	—	42	53	—	—	—	—	47	49	52	50	47	—	—
Height of Body of Mandible	-	29	30	—	29	33	—	34	—	—	30	28	27	32	28	—	—
Mandibular Angle	-	120°	130°	—	118°	114°	—	—	—	—	130°	113°	120°	110°	108°	—	—
Maximum Length of Femora (Mean)		—	—	466.5	—	—	—	—	425	—	467	427.5	436.5	452	—	460	457
Oblique Length of Femora (Mean)		—	—	464	—	—	—	—	421.5	—	463.5	425.5	433.5	449	—	456.5	453
Bicondylar Breadth (Mean)		—	—	87	—	—	—	—	75	—	85	79	82	81	—	80	82
Reconstructed Stature (Mean)		—	—	1690.1	—	—	—	—	1612.06	1615.8	1691.1	1616.8	1633.7	1662.8	—	1678	1672.2
Tibio-Femoral Index (Mean)		—	—	81.57	—	—	—	—	—	—	78.5	80.25	—	79.51	—	83.9	—
Humero-Femoral Index (Mean)		—	—	72.63	—	—	—	—	—	—	74.9	76.1	—	—	—	67.5	—

All measurements are given in millimetres. Those printed in italics are estimates.

Group I (northerly) comprises skeletons 1-12, group II (southerly) skeletons 13 (a)—19 (ι).



APPENDIX II : REPORT ON THE ANIMAL  
REMAINS.

Mr. J. Wilfrid Jackson, M.Sc., of the Manchester Museum, has examined the animal remains. He reports that the following animals, etc., were represented :—

- (1) Small Celtic ox (*Bos longifrons* Owen).
- (2) Small Celtic sheep (*Ovis aries palustris*).
- (3) Domestic pig (*Sus scrofa*).
- (4) Fowl : two bones and spur of cock.
- (5) Red deer : antler fragments, one pierced by nail.
- (6) Common English oyster (*Ostrea edulis*).

