Chesterholm—Vindolanda— the forts and *vicus* under a light covering of snow, December 1967

Photo: J. K. St. Joseph

IV.—EXCAVATIONS AT CHESTERHOLM-VINDOLANDA 1967-1969

Robin Birley

This report embodies the results of two short excavations in the summers of 1967 and 1968, both conducted under the auspices of Durham University Excavation Committee, and of more substantial work undertaken throughout 1969. The excavations between May and July 1969 were largely confined to week-ends, with volunteers drawn from Alnwick College of Education, whilst those of August and September were supported by DUEC. The report includes three items from the excavations of 1933 to 1935, which were completed too late for publication at the time: they were of considerable interest for the light they shed upon both animal and vegetable conditions of the late fourth and fifth centuries, and I make no apology for publishing them now. There are also drawings and comments upon items of bronze and iron from the 1930's excavations, previously unpublished. I am most grateful to my father for making them available. The opportunity is also taken to publish a plan of Anthony Hedley's excavation of the commander's house in the Diocletianic fort, re-drawn from the original sketches in the Hodgson MSS in the Black Gate Library. Some items of iron, and a fine enamelled bronze belt plate, were discovered late in the season and are still being treated by Dr. C. W. Gibby, F.S.A., at the Department of Archaeology in Durham. They will be published with the next Vindolanda report, together with a report on wood and soil samples from the Flavian levels in the *Mansio*.

My debt to others, both during the excavations and in the preparation of this report, is considerable. I am most grateful to Mr. Thomas Harding, then the owner of Codley Gate

farm, for his permission to excavate, particularly on the scale of the 1969 season; to Mr. Charles Anderson and his colleagues of the Ministry of Public Building and Works for their customary valuable assistance in such matters as fencing and the provision of huts; to Durham University Excavation Committee for their sponsorship and for the loan of equipment; to Miss L. K. Hollamby, Principal of Alnwick College, for her co-operation which allowed her students to spend rather more time on the site than was anticipated; to Dr. J. K. St. Joseph, F.S.A., for permission to publish his fine aerial photograph of Vindolanda; to Mr. George Hodgson for his reports on the bones found in 1968 and 1969; to Mr. Martin Henig, of Worcester College, Oxford, for his report on the intagli; to Dr. J. P. C. Kent, F.S.A., for his preliminary identification of the coins, and to Dr. A. R. Birley, F.S.A., for his report upon them; to Mr. Maurice Southern and Miss Patricia Burnham for their work on the plans and the small finds figures respectively; to Mr. William Southern for some photographs; to Dr. G. D. B. Jones, F.S.A., for his work under the floor of room III in the *mansio* and for photographs; to Mr. R. G. Hall, who acted as site supervisor in all three seasons; to the small group of Alnwick students and volunteers who worked exceptionally hard; and to my father for his constant help and encouragement. Above all, I am grateful to Mrs. D. Archibald, whose deep interest in Northumbrian history and whose generosity have resulted in the acquisition of the fort field for a board of Trustees, whose task it will be to see that excavation and conservation of the remains may go ahead at a reasonable pace. But for Mrs. Archibald's action, Vindolanda might have been lost to archaeologists, and the general public will one day be very conscious of the debt which they owe her.

It should be noted that the pottery report is but a token one. The volume of pottery found, especially in 1969, was considerable, and full publication at this time would have been too expensive. But it is hoped to rectify this omission in due course, and in the meantime all the Vindolanda material

will be stored on the site, where it may be studied by those who are interested in it. It is hoped that it may be possible to display the better items in a Museum at Vindolanda before very long.

General introduction

The excavations of 1967 to 1969 have answered some of the unresolved questions about Vindolanda posed by the earlier work in the 1930's, but inevitably fresh questions have now appeared. Further evidence for the *pre-Hadrianic* occupation has been found in four places, and the line of the south rampart and ditches of a fort of that period has been located. But at the same time there has been a suggestion that there may be more than one pre-Hadrianic fort. The occupational debris from these early levels included a high proportion of food bones.

More is now known of the *second century fort*, although there is insufficient evidence to attempt a meaningful plan. The line of the south and west ramparts has been proved by excavation, and both east and north ramparts are suggested by aerial photographs. It appears to have been of irregular shape. Some at least of the fort's internal buildings were of stone. There has been no certain evidence of Hadrianic occupation, and it is best to assume that this fort was late Antonine, dating perhaps to the period A.D. 160-180/197.

The third century fort, laid out on a new site to the east of its predecessor, appears to have possessed a sunken strong-room in its Headquarters Building, but there was no trace of the expected monumental *porta praetoria.* The discovery of the Antonine fort to the west ought to enable us to reassess, in due course, the report on the excavation near the north gate (*AA*[4] xiii 238f), since any pre-third century structures on the site should belong to a second century *vicus* or annexe, and not to a fort.

Information about *the fourth century forts* is increased by the analysis of the wood, bones and small finds from the

well in the Headquarters Building, constructed after A.D. 367 (*AA*[4] xiii 218f), and Hodgson's plan of Hedley's excavations in the Commander's House shows that its appearance, like that of the Headquarters Building, may likewise be similar to third-century examples. The south gate of the fourth-century forts, severely damaged by stone-robbers, was a simple passage, without guard-chambers, perhaps partially blocked at some stage. The large quantity of food bones scattered outside the gate to the south, in the final period of occupation, implied a low order of hygiene and military discipline, but it is not necessarily associated with the occupation by Theodosian forces, and could date to the fifth century.

The plan of *the large vicus*, overlying the earlier military sites, is beginning to take shape. A well-built flagged road led from the Diocletianic fort's west gate, through the *vicus*, to join the Stanegate some two hundred yards to the north-west, and three side streets, less wide and with shallow foundations, have also been located. Knowledge of the water-supply (cf. *AA*[4] viii 182-212 for that leading to the bath-house) has been reinforced by the discovery of cut-stone channels leading into the *mansio* (Site IX) and leading away from the water-tanks in the west of the *vicus* (site XIII). The Well (site XII), first examined in 1914, cannot have provided the only source of supply for this large *vicus*, and there are traces on the ground of an aqueduct, which first appears nearly half a mile to the west of the *vicus*.

The only *vicus* building to be examined in detail has been that on site IX, interpreted as a *mansio*. A fifteen-roomed courtyard house in its third-century form, fronting the main road, it was altogether too well made and large for a normal *vicus* structure, and it ought to represent a lodging place for travelling officials at a convenient place on the Stanegate. But the modifications to its plan in the fourth century, which included the removal of its substantial latrine, perhaps suggest alternative use by that time, and the fact that this *vicus* was self-governing may indicate the building's

conversion into some kind of administrative or social centre.

The most interesting feature of the excavations in the *vicus* has perhaps been the discovery that there was occupation, in part at least, in Wall period IV. The extent of this occupation will not be revealed for some time, but it may add considerably to our knowledge of the post 369 period. It has long been recognised that in Wall period IV additional accommodation was provided in the forts, perhaps for former *vicus* inhabitants, who now found it too dangerous to live in the exposed villages. Theodosian Vindolanda certainly possessed these additional buildings within the fort, yet apparently there was also occupation in a part at least of the *vicus*. The masonry of this Theodosian period on the *mansio* site is extraordinarily crude, yet effective, and quite distinct from anything that had been attempted previously. One can only assume that these fresh troops, brought up by Count Theodosius, had no experience of building by conventional methods, and they cannot be related in any way to their predecessors, the Fourth Cohort of Gauls.

Excavation is now able to proceed at Vindolanda on a larger scale, and it should be possible to resolve a number of outstanding problems in the next few years. The full outlines of both the Flavian and the Antonine forts must be traced, and there should be a real chance now of obtaining the complete *vicus* plan. The evidence from the fourth century Headquarters Building, the South Gate and the *mansio* suggests a prolonged post-A.D. 369 occupation of the site—perhaps as much as 100 years—and the examination of the upper levels within the later stone forts should be instructive. After years of small-scale excavations in limited areas, the prospect of excavating the entire site is exciting, but a strict order of priorities has to be enforced. The work of the next few seasons will be concentrated in the third- and fourth-century *vicus*, with only small-scale excavation in the later stone forts.

The Diocletianic/Theodosian South Gate

Excavation of the south gate was undertaken at weekends throughout April and May 1969.

Birley and Richmond noted (*AA*[4] xiii, 1936, 238) that "particular interest will therefore centre in the examination of the south gate, when the opportunity comes", since the discovery of the southward facing third-century *principia* implied the presence of the *porta praetoria* in the south, and RIB 1706 implied that this was the gate with towers which was "restored from its foundations" by the Fourth Cohort of Gauls, styled Severus Alexander's, under Claudius Xenephon, presumably in A.D. 223. The axis of the third-century *principia*, however, lay seven feet east of that of its successor, and its north and south gates are likely to have been demolished to make way for the new gates on a different alignment.

The position of the fourth-century gate was easily recognisable on the ground, marked by the depressions left by the stone-robbers' trenches. Damage to the gate structure was extensive: only four courses of masonry remained in its eastern passage wall (Plate VII, 1), and the five-foot fort wall had been robbed down to Roman ground level. The western passage wall had almost entirely disappeared and was traced by the remaining stones in its foundation course, but there the fort-wall stood up to seven courses high on the northern side, perhaps ignored by the stone-robbers because of the poor quality of the Theodosian masonry, or because they could not break down the durable Theodosian mortar. The robbers' trench had continued across the gate-passage, suggesting that a blocking wall had also been removed. The examination of the fort's east gate (*AA*[4] XIII, 1936, 236 and plan at 237) showed that it had been reduced to a single foot-passage by a blocking wall at some stage in the fourth century.

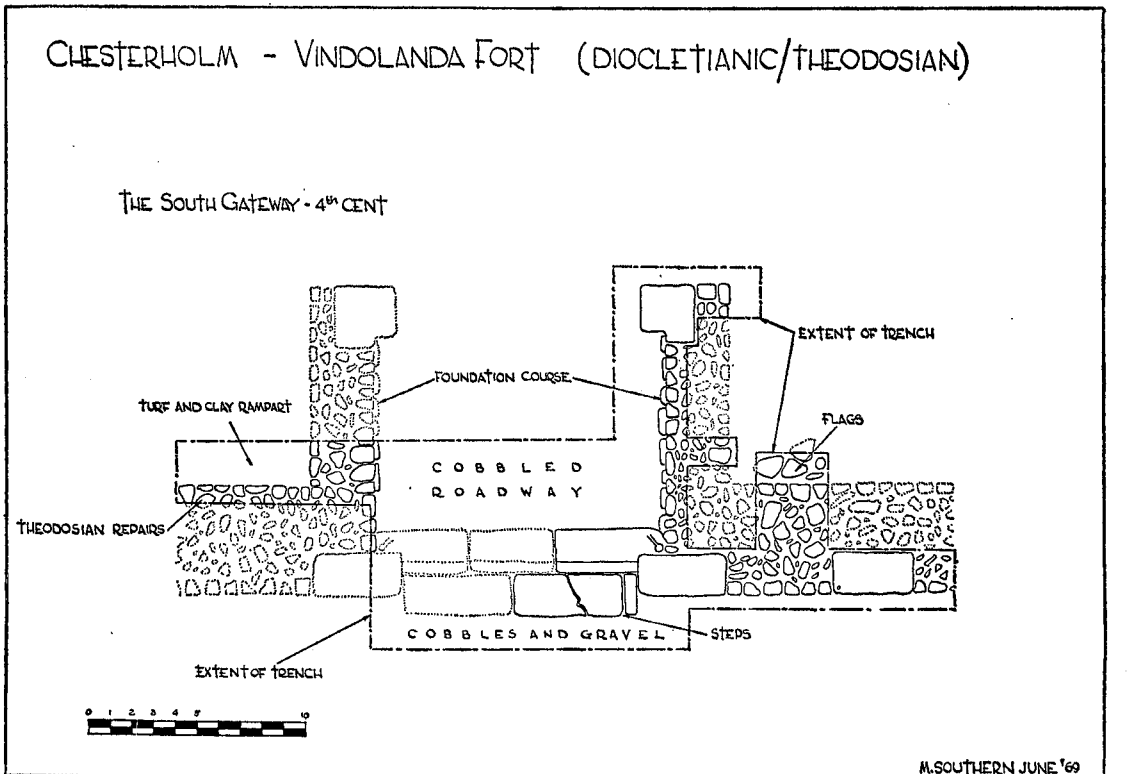
The Diocletianic gate was a simple eleven-foot passage, without guard-chambers, and with the rampart-walk carried

across the passage in a straight line with the fort wall, and with a step outside the sill which denied access to wheeled vehicles. (See Plan A.) The southern responds were separated from their northern counterparts by retaining walls, 15 feet 6 inches long and 3 feet wide. The remaining stones in the eastern wall contained re-used material, smaller and better finished than the Diocletianic stone-work, although the latter was of a high enough standard. The Diocletianic stones in the fort wall on the eastern side were rectangular blocks, some 8 inches × 12 inches and up to 10 inches deep, undressed but of a harder sandstone than the third-century material. The Theodosian masonry, in the rebuilt section of the fort wall on the western side, was exceptionally crude, but it made up for its deficiencies with a fine light brown mortar which is still durable.

Only the eastern stone remained of the door sill, but it contained a five inch diameter hole and shallow groove for the door hinge. There was a twelve-inch drop from the sill to a step to the south, and a fourteen-inch drop from the step to a cobbled and gravelled road beyond.

Since the Diocletianic east gate apparently had a flight of steps outside it leading down to the burn, it would appear that the fourth-century fort had provision for wheeled traffic only at its northern and western gates, where there are guard-chambers. This was an irregular but sensible scheme, since the north gate had direct access to the Stanegate only a few yards away, and the west gate carried a heavy paved roadway (1967 excavation) through the *vicus* to join the Stanegate some 200 yards to the north-west of the fort. Neither east nor south gates have practical access for roads, and it is difficult to understand why the third-century fort ever faced south, since any road from the south gate must have swung directly round the fort ditches to join the Stanegate. Perhaps the architectural advantage of a southern prospect outweighed military considerations for once.

Immediately to the west of the south gate-passage, the fort rampart, of clay and turf, had been maintained through-



Plan A (scale in feet)

out, but to the east the rampart was of earth and rubble overlying flagstones level with the foot of the fort wall. Here, perhaps, were traces of the third-century occupation.

A wide berm of approximately 25 feet, and a 12 foot paved roadway across the south ditch, demonstrated that access to the gate was never obstructed altogether. This unusually wide berm is paralleled by that at the north gate, and is presumably due to the decision of the Diocletianic builders, when constructing their new north and south fort walls on a different line to the third-century walls, to retain the Severan ditches. The Diocletianic causeway crossing could not be on the same line as the original causeway, but it was impossible to test this by excavation in the weather conditions prevailing.

Comparatively little pottery was found in the area examined, and of that which was found, there were few pieces from the same bowl. A wide range of wares was represented by fragments, ranging from stray Flavian mortaria to distinctive wall periods III and IV pieces. A significant discovery was the very large quantity of bone scattered outside the sill of the gate. Mr. George Hodgson's report on them (pages 150ff.) shows the range of animals and their quantity, and they are unlikely to have been deposited in such a position when the fort was in regular military occupation. They most probably represent material post-A.D. 369, and perhaps extend well into the fifth century. Ten coins were found amongst the debris of the gate passage or above the roadway, ranging from Julia Mammaea (no. 10) to Valens, *c.* A.D. 370 (no. 28), together with a double-headed snake penannular brooch (fig. 1, no. 2), two small "portable" altars (from one of which Mr. R. P. Wright, F.S.A., was able to extract a partial text, cf. p. 127, no. 3), fragments of three querns, and the carved stone, p. 128, no. 7. There was no suggestion that either the Diocletianic or the Theodosian gate had been destroyed by fire, although there was a level of burning below the fourth-century roadway, which should represent destruction of the third-century fort.

No traces of the third-century gateway or guard-chambers were found in the area examined. There may be some hope of locating traces of the eastern guard-chamber of such a structure, if there was one, to the east of the fourth-century gate, but the western chamber would have lain directly on the line of the fourth-century roadway, and there was no trace of it.

The Third-Century Fort: Headquarters Building

When the Headquarters Building was excavated (*AA*[4] xiii 218f), no attempt was made to determine whether the third-century structure, which underlies the Diocletianic Headquarters, possessed a sunken strongroom. The western half of the third century *Sacellum* was available for excavation, without disturbance of the later remains conserved by the Ministry, and an attempt was made, in June 1969, to answer the question. In the event, no structural evidence was found. The water-table within the fort is several feet higher than in the *vicus*, and that level did not decline, in spite of subsequent spells of fine weather. It was established, however, that there had been a substantial hole in the position where a sunken strongroom could be anticipated, which had later been filled in with fragments of whin-stone, clay and broken tile. At a depth of three feet below the original third-century floor-level, the excavation had to be abandoned, because of the water-table. It may be possible to return to this area when the drainage of the field has been improved, but in the meanwhile one can only presume that a sunken strongroom existed.

The first- and second-century forts

In both 1967 and 1968 sections were cut, fifteen yards apart, through a feature to the south of the *mansio* (site IX below), which both on the ground and on an aerial photograph had the appearance of rampart and ditches. For a

variety of reasons, but chiefly because of the depth of the remains and the high water-table, neither section was entirely satisfactory (see Plan B). Some positive evidence did emerge, however, and it will be described in the reverse order to which it was found, that is, starting with the earliest material. In the account which follows, reference is made to the relevant parts of the sections on Plan B by the use of the date (1967 or 1968), and an arabic numeral.

On neither occasion was subsoil reached, although both sections were taken down to a depth of 8 feet. At that depth, however, there were remains of timber-work. *1967, 2,* was a series of oak posts, some 4 inches square and two feet apart, with a horizontal plank nailed to their southern side. The high water-table and torrential rain prevented a proper examination of this feature, but a deposit of Flavian pottery, glass, leather and scraps of wood around the oak posts gave a firm date. It was hoped that the same feature might be found in the 1968 section, but there the structural evidence proved to be very different, although the rubbish deposit indicated a similar Flavian date. *1968, 10,* was a float of interwoven branches (mostly hazel and birch), with upright wattle-hurdles, two feet high and two feet apart, running in the same east-west direction as the timber posts in the 1967 section. The space between the hurdles had been filled with boulders and rubbish. The presence of rampart material above this timber-work in both sections suggests that it had been connected with the construction of a fort rampart. The technique of laying a wooden float in a swampy area to support a structure above it is well-known, being used by George Stephenson in the early days of railway construction (so Mr. Harold Bowes kindly informed me), and by the builders of large houses in the seventeenth century (the Gordon home at Gordonstoun was built in this manner).

The 1967 section showed that a clay rampart-base had been laid upon the wooden structure, and the 1968 section, in a wet area where the timber float had been necessary, had a heavier stone rampart-base, with clay rampart above it.

There were traces of at least two fort ditches to the south of the rampart, and the inner (northern) ditch had been blocked at some stage with rampart material, when a new rampart was constructed, slightly further south than its predecessor. The upper part of this new rampart was of turf, and *1968, 7* showed the post-holes of a timber palisade of more than one period. In neither section, however, were there clear indications of the rampart edges, nor could one be certain of the date of the later rampart, although it must be associated with late second- and early third-century pottery in the outer ditch.

The ditches had been sealed efficiently at some stage. The inner ditch had gone out of use when the second rampart was laid, whilst the outer ditch remained open into the first two decades, or so, of the third century. Above the solid whin-stone boulder filling, a small and irregular building wall was found on the edge of the section (*1967, 1*), but the building was not investigated, whilst to the south of the 1968 section another crude building had been laid above the boulder fill, but this time huge undressed blocks of sandstone had been used, similar to those found on the period IV structure on site IX (see below). Its position is not shown on the section, and the prevailing swamp allowed only a cursory investigation.

To the north of the ramparts there were several features, not all of which could be satisfactorily explained in the limited area examined. Both sections revealed a rough track at a high level on the northern shoulder of the rampart, presumably dating to the third and fourth centuries, and both produced the southern walls of *vicus* buildings. In the 1967 section, a trial hole to the north of this wall showed that it overlay a north-south wall of an earlier period, and the improved stonework of this earlier wall and its depth suggested that it was associated with the second period of the rampart, that is with a late-second-century fort. A trial hole in the equivalent position in the 1968 section showed five occupation layers, but no trace of walling. Three of the layers

are probably attributable to *vicus* periods, and the presence of the upper layer (*1968, 1*), consisting of three worn flagstones *in situ*, with an unbroken small grey vase at their side, only twelve inches below the turf, reminded us of the difficulties of finding adequate traces of the last period of occupation.

Two further features in the 1968 section call for comment. The stone-lined drain (*1968, 6*) on the southern edge of the later rampart was certainly Roman, since a Wall period III cooking-pot lay in pieces upon its floor, and the remains of a small clay oven (*1968, 9*) immediately to the south of the *vicus* building's southern wall, probably belonged to a *vicus* period.

The excavators were conscious at the time that the sections were unsatisfactory, but they have been illustrated and described here as a guide to future sections. The high water-table and the presence of the huge blocking stones in the ditches demanded much wider trenches than the five feet that were cut, and the necessity of carrying such trenches down to *c.* ten feet made excavation physically too demanding for many volunteers.

It is clear from the work of Eric Birley in 1930, on the Flavian ditches in the north of the field, and from the 1969 work near the Well (site XII, below), which revealed the western Antonine fort rampart, that it will be comparatively simple to plan the northern and western defences of the earlier forts. At this stage it is only possible to demonstrate that the southern line of ramparts and ditches has been located. Evidence from the section in room VI of the *mansio* (see below) has warned us that we must be prepared to find two pre-Hadrianic forts on the site, but there is nothing to suggest that more than one second-century fort overlies the first-century remains.

VICUS—*outside the Diocletianic west gate*

In 1967, *vicus* buildings outside the Diocletianic west

gate, clearly visible in air photographs, were located on the ground by excavation. A trench dug at right-angles to the west fort wall, from the south of the southern guard-chamber, produced evidence for a series of fort ditches, belonging, presumably, to the Antonine, third-century and fourth-century forts, of which only the inner (eastern) ditch had remained open. The outer ditches—at least two—had been carefully filled at some stage, probably at the beginning of the third century, to take *vicus* buildings above them. The wetness of the season, and the large nature of the filling (often sandstone flags five feet square and five inches thick), prevented a full examination of these features. But the sequence of structures from the fort-wall was as follows: the berm was 12 feet 6 inches wide, and the inner fort ditch 18 feet 6 inches wide. Three feet to the west of this there was a narrow (10 feet) roadway, lying above heavy stone packing which sealed a second ditch. Immediately to the west of this lay the eastern wall of the first *vicus* building (site IV), whose floor was made up of exceptionally heavy flagstones, which sealed a third ditch. No attempt was made to examine this *vicus* building, and the position of the neighbouring sites V, VI, and VII was merely noted for future reference. A trench across the roadway which runs from the fort's west gate through the *vicus* in the WNW direction revealed that it was paved with heavy flagstones, possessed side conduits, and was 18 feet wide.

The *vicus* buildings in this area outside the fort west gate appear to be similar in design to those outside the south gate at Housesteads, and they are well preserved. The aerial photograph indicated that there was a line of structures fronting a side road which runs the length of the west fort wall—perhaps some twelve houses in all—and rows of similar structures on either side of the main road through the *vicus* to its junction with the Stanegate, some 200 yards to the WNW. There are further rows of houses to the south and west of the fort field. It is hoped to publish a provisional plan of all these features in the next report.

VICUS—*west end*

There had been serious flooding at the west end of the camp field for the past five years, and the principal source appeared to be the Roman well, examined in 1914, and marked with an upright plaque. At Mr. Thomas Harding's request, the Well was reopened, and its spring channelled into a modern 6 inch pipe drain. In the course of laying this drain, six features were examined.

The Well, Site XII (Note: Plan C). Examined but not recorded in 1914 (although the plaque bears the inscription "nothing found"), the Well was stone-built, circular, and with the top three surviving courses on the western side overlapping each other, to narrow the mouth. (Plate VII, 2.) The Well was three feet in diameter below these overlapping stones, and it presumably narrowed to 2 feet 6 inches. No attempt was made to clear it out again. Three flags, set upright in clay and rubble, stood 6 inches to 12 inches from the Well on the Western side, and beyond them, undisturbed by the 1914 excavation, lay, inverted, the broken Well top—a circular carved stone basin 3 feet 9 inches wide. This once capped the Well, and water would be drawn from the basin. The advantage of such a basin top would be to prevent larger items of rubbish being dropped into the water-supply (see the note on wood samples from the Well in the HQB, p. 145).

The Water-tanks, Site XIII. 12 feet 6 inches WSW of the Well, there lay the northern end of double water-tanks, into which the Well overflow had once been diverted. The northern tank had been largely destroyed, but it had once been 10 feet 6 inches long and 3 feet 3 inches wide, with a flagged floor 2 feet 9 inches below the top of the sides. The southern tank was smaller—9 feet 6 inches by 3 feet 3 inches—but it had been deeper, 3 feet 6 inches. A fragment of a Roman milestone had been reused to support one of the side slabs. (Plate VIII, 2.) There were outlet holes at top and bottom of the southern slab, and a grooved stone chan-

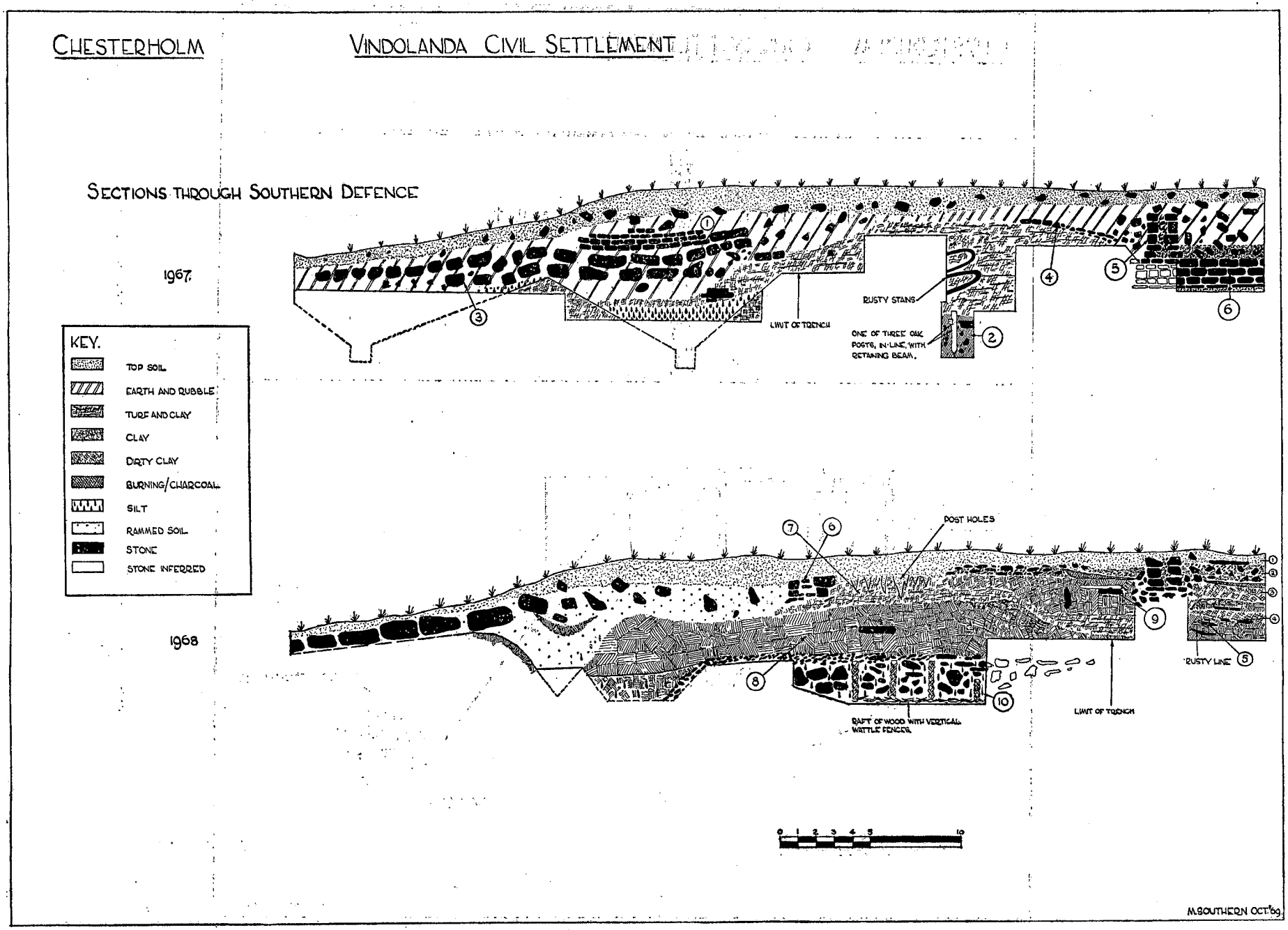
nel ran from the bottom outlet in the direction of SSE. The tanks produced a few scraps of pottery and a cornelian intaglio of Jupiter Serapis (?) (see Plate XVI, 1 and discussion, p. 146f.). In a depression below the flagged floor of the northern tank there was a deposit of second-century pottery and the sole of a right-footed Roman boot, size $9\frac{1}{2}$.

Antonine Rampart base. The trench for the pipe drain to the south of the outlet hole cut through a rampart base, 3 feet below turf level. Approximately 15 feet wide, with well laid stone kerbs and an interior of cobbles and gravel, the rampart ran parallel to the water-tanks, 12 feet 6 inches away. This presumably represents the western rampart of the Antonine fort, and indicates that the fort was of irregular shape.

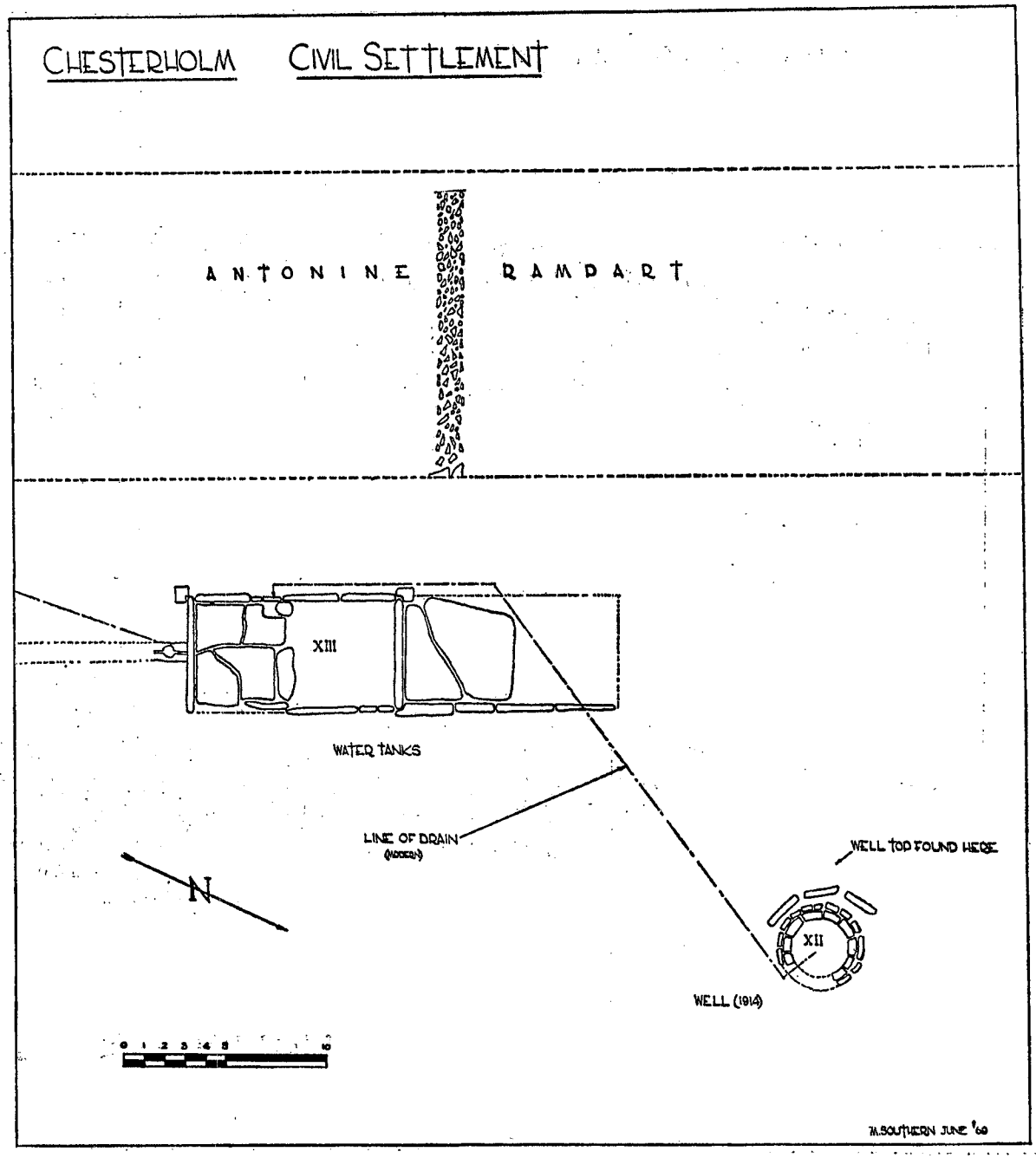
Roman drain. The laying of the modern pipe was greatly helped by the discovery of a stone-lined Roman drain, with flagged covers, running beneath the rampart base to a point 10 feet from the western field wall (where a modern 6 inch pipe takes the water into a cattle-trough in the next field). The drain runs in a straight line for 18 yards, and was probably constructed at the same time as the rampart.

Post-Roman causeway. 16 feet east of the Well (site XII), just below the level of the turf, there is a stone built causeway, three feet wide, running approximately N-S across the swampy area produced by the Well spring. It is modern, constructed before 1900.

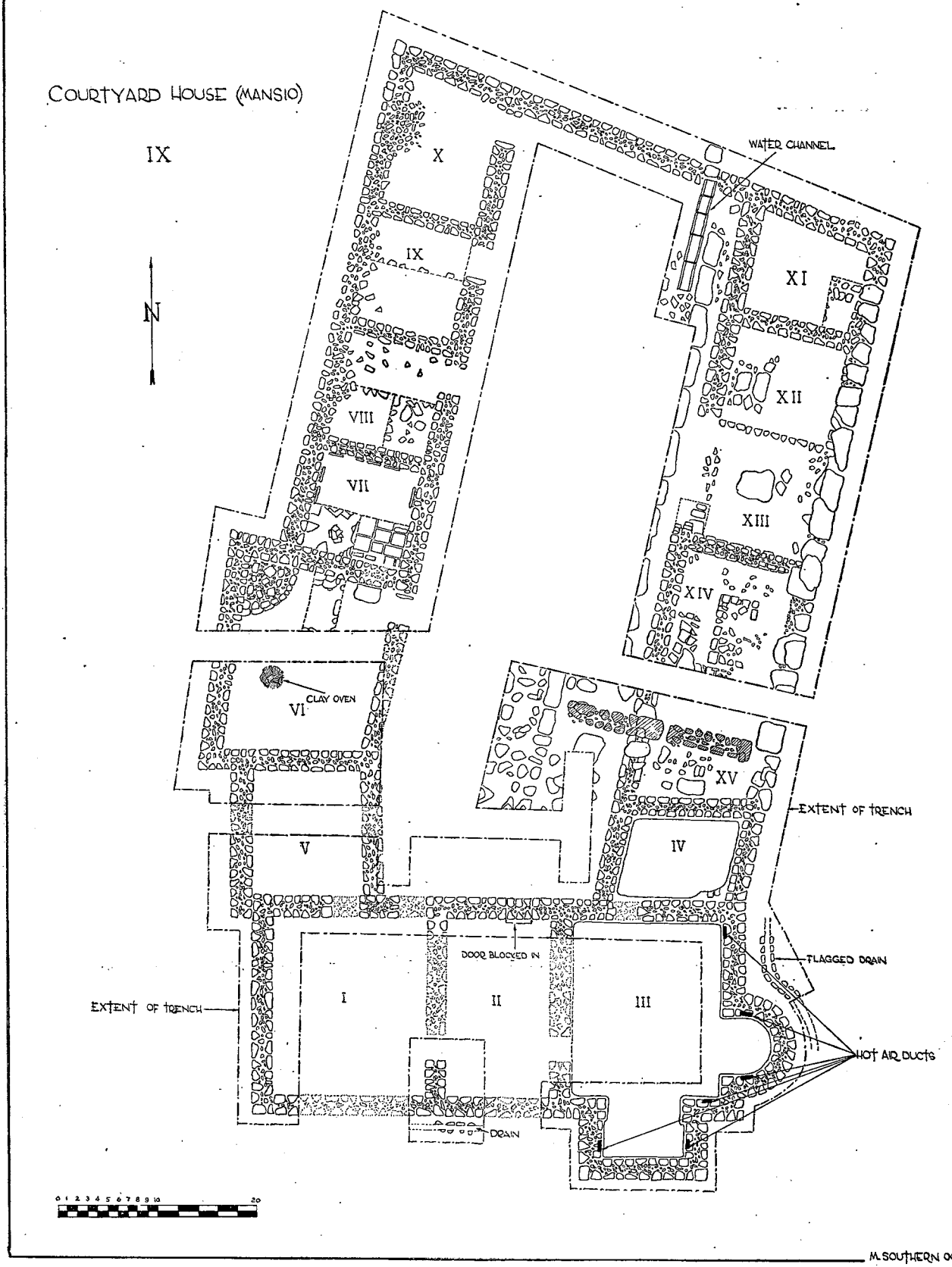
Flagged area. Due west of the water-tanks, and immediately west of the rampart base, there is a broad area, at least thirty feet wide, E-W, covered with flags. This was located during drainage work, but was not investigated further. But such evidence takes the extent of the *vicus* up to within 10 feet of the field wall at the west end of the station. An aerial photograph suggests that there are perhaps *vicus* buildings beyond the field wall—and, indeed, to the north of the Stanegate as well.



Plan B (scale in feet)

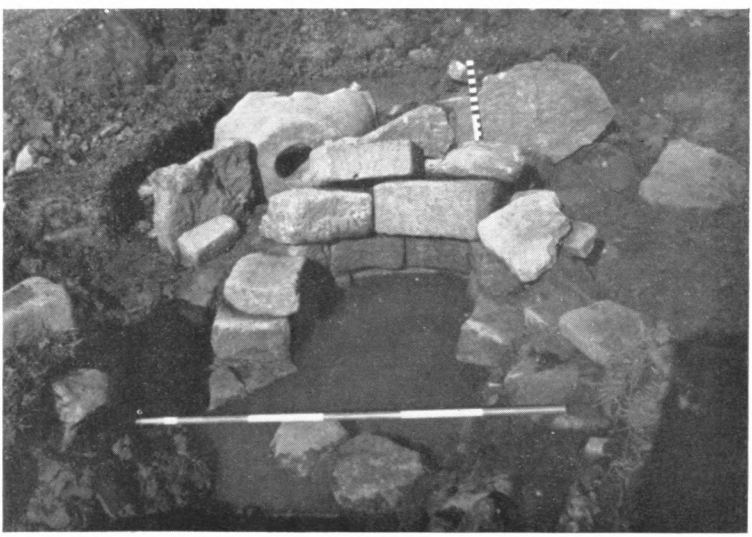


Plan C (scale in feet)



Plan D (scale in feet)

1. Remains of the E. Portion of the Diocletianic South Gate. Stone-robbers had removed most of the door-sill and, perhaps, a blocking wall

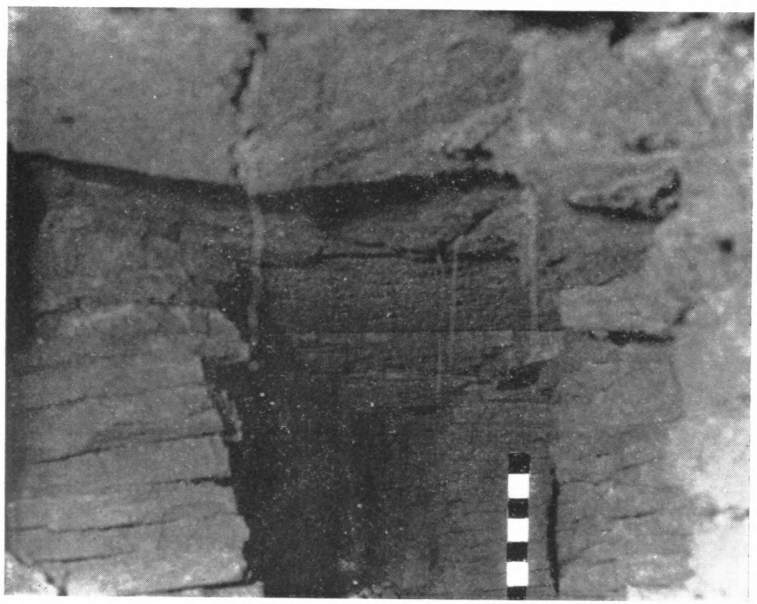


2. The *Vicus* Well, first examined in 1914, showing the ornamental well-head behind

1. Heavy stone packing used to fill the old Antonine south ditch during the *vicus* period

2. The water-tanks to the S.W. of the *Vicus* Well, excavated during drainage operations. The circular pillar supporting one of the side slabs in the tank is part of an old milestone

1. *Mansio*, Room III, during excavating, showing the construction of the floor



2. The hypocaust channels beneath the floor of Room III, *mansio*

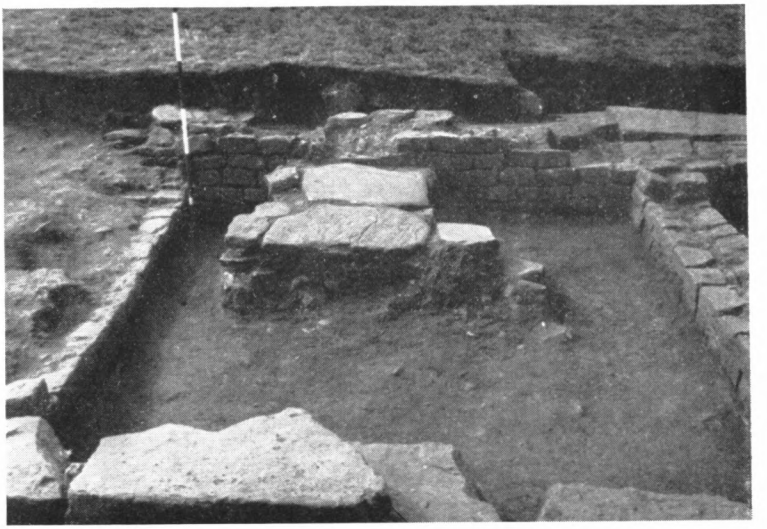
Phot: Dr. G. D. B. Jones

1. The *mansio*, Room III. Apse, after the floor and hypocausts had been removed. The Flavian levels are beneath the waterline at the bottom of the trench

2. The section in Room VI of the *mansio*, in which subsoil was reached at 9ft. 3in.

1. Room IV, *mansio*, showing a much patched concrete floor

2. *Mansio*, door into Room VII, showing the partly-sectioned concrete floor



1. *Mansio*, Room XIII, showing the small patch of period IV flagging

2. Room VII, *mansio*, showing the floor as it was sectioned and the flue to Room VI

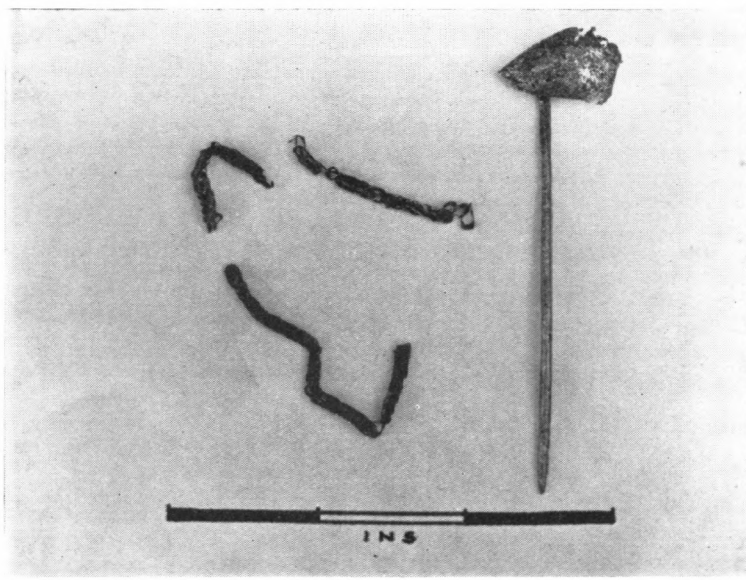
Phot: W. Southern

1. Room XIV, *mansio*, the latrine—in the course of excavation

2. The cut-stone water channel in the *mansio* courtyard, from the north, with the rooms of the E. range on the left

Phot: W. Southern

1. Eastern wing of the *mansio*, showing the Period IV walling on the right



2. Gold pin and spun-gold thread, from the Flavian levels beneath the Antonine south rampart and the *mansio* apse

Mansio, room VI. The stone oven, from the E., showing two structural periods

1. Intaglio featuring Jupiter Serapis (?)

2. Intaglio featuring Mercury
THE INTAGLI (greatly enlarged)

VICUS—*Sites XV and XVI*

Two small buildings were located immediately to the north-west of site IX (the *mansio*), but they were not examined in detail. One significant piece of evidence did emerge, however, for below the highest floor level of site XV, sealed by 12 inches of rubble and clay packing lay a coin (no. 23), a little worn URBS ROMA issue of A.D. 330-335. Until Wall period IV pottery is also found on the site, it would be unwise to claim that this represents further evidence of Theodosian activity in the *vicus*, but it does at least represent *vicus* reconstruction post-A.D. 330. It will be some time before this site is fully excavated.

VICUS—*Site IX, the* MANSIO

The site occupies a prominent position in the centre of the *vicus*, almost directly opposite the fort bath-house, with the main road through the settlement running between them. An aerial photograph gave the first indication of the structure, and rooms I, II, and III were examined in 1968, before being back-filled. In August and September 1969 the remainder of the structure, excepting parts of the courtyard and a few baulks, was examined and left open.

Summary: In its final form, dating from the early third century, the building was a fifteen-roomed courtyard house, fronting upon the main *vicus* road (see plans D and E). There were four periods of occupation in parts of the building, together with some minor adjustments to the plan. The history of the structure appears to have been as follows:

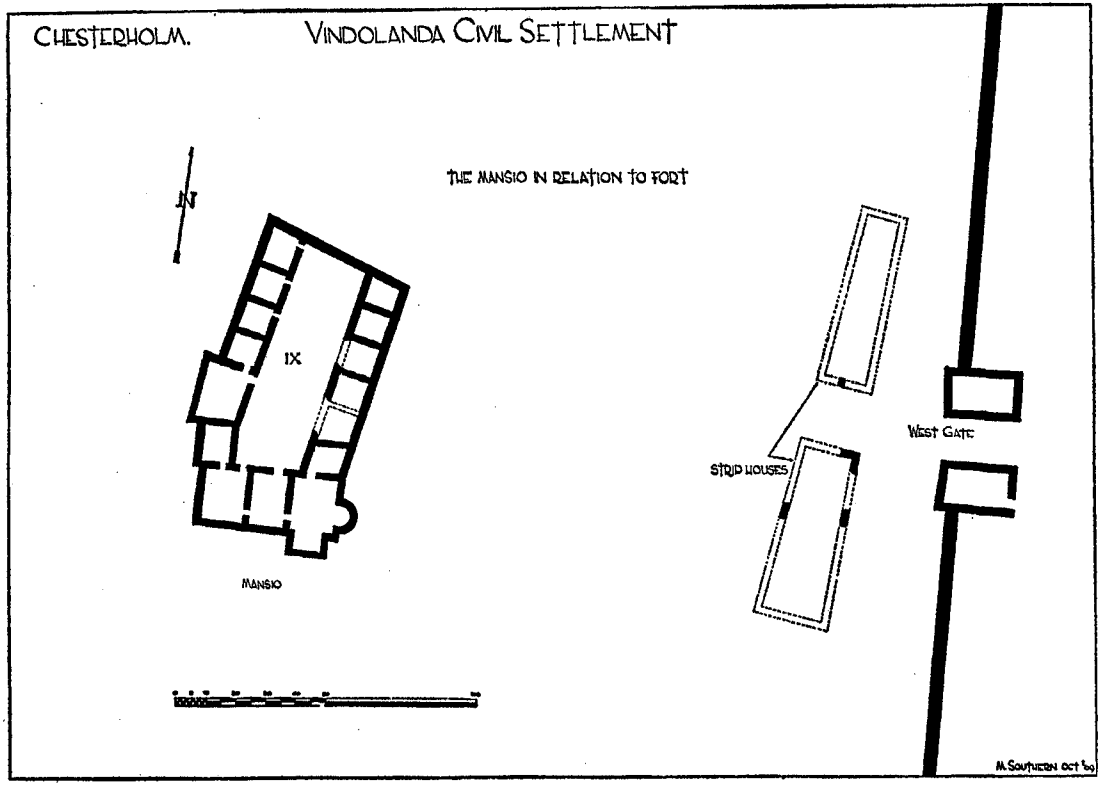
Period 1a, c. A.D. *160.* A three-roomed bath-suite in stone (rooms I, II and III), perhaps attached to a timber house. The structure was aligned with the south rampart of the second century (? Antonine) fort, some twenty-five yards to the south, and perhaps should be associated with the *praetorium* of that fort.

Period 1b, A.D. *160/197.* Two stone-built rooms (IV and

V) were added to the structure at the northern ends of the building, and the bath-suite was thus enlarged. At this stage, rooms III and IV had hypocausts, and room III also possessed wall-flues.

Period II, c. A.D. *212.* A further ten rooms were added to the building, whose northern front was now aligned with the main road through the *vicus*, opposite the new fort bath-house. These rooms were grouped around a courtyard whose greatest measurements were 75 feet × 24 feet. Two of these rooms had hypocausts (VI and VII), and the large room VI was perhaps a dining-room. Room XIV was certainly a latrine. The ground plan of the building, and the regular masonry, suggest that the structure did not belong primarily to the *vicus*, but was rather a military building, designed to house travelling officials at a convenient point on the Stanegate, almost mid-way between the major Roman sites at Carlisle and Corbridge. It should thus be termed a *mansio*.

Period III, c. A.D. *300.* Complete reconstruction of the whole building, after a fire had certainly consumed the western wing. The remains had been levelled with building debris and clean grey clay before the reconstruction, and the new ground plan contained important modifications. Room VI, the former dining-room, now lost its hypocaust and was converted into a kitchen, with a large stone-built oven in its north-western corner. The adjoining room VII, now deprived of its heat, received a new clay floor above the old concrete one. Rooms XII and XIII were run together by the elimination of their cross-wall, and room XIII's partition wall with the courtyard was abolished, to create a broad doorway. The latrine in room XIV similarly was altered, with the deep channel around its walls filled in with clay and rubble, to create a flat floor throughout the room. It may have been at this stage that the doorway from the courtyard to room II was blocked. Whether or not the building can still be identified as a *mansio* in the early fourth century is uncertain, but no doubt the by now self-governing *vicus* could use the structure for administrative



Plan E (scale in feet)

or social purposes if it was not so required. The only evidence which might suggest the presence of women was found in the floor level of this period—one small blue bead in Room VII, and part of a jet hairpin in Room XI.

Period IV, post A.D. *369.* The eastern wing of the building (rooms XI to XV) was completely rebuilt once more in the Theodosian period. The old outer east wall was levelled, and huge undressed blocks of sandstone were placed upon the regular masonry, whilst a similar wall of large stones was laid alongside the old courtyard partition wall, just within the courtyard. This created a slightly broader wing than before, and an additional room seems to have been attached to this structure at the southern end of the courtyard, although stone-robbing made its identification difficult. This last period had suffered from stone-robbing, particularly at the northern end, but a patch of flagging (Plate XII, 1) in room XII could be associated with this building's floor, and a similar patch of high flagging at the southern end of the courtyard, badly worn by wheeled traffic, suggested both that carts had been accustomed to backing up to the building and that such activity had gone on for a very long time. It was thus perhaps a store-house of some kind. There was no evidence to suggest that the rest of the former *mansio* had been reconstructed at this time, although a small clay oven was found in the centre of room VI at a level associated with this period.

The MANSIO—*a description of the rooms*

The first structure: rooms I, II and III. These rooms made up a small bath-suite, probably attached to a timber building. The structure aligns with the Antonine fort's south rampart near by, and from the little that is known about the lay-out of that fort it is not yet possible to identify the building, although it could possibly have been the *praetorium.* Antonine pottery, including the bulk of the decorated samian found in the entire complex, lay both above and

below the drain to the south of room II and in the make up of the floor in room I. In this first phase, there were two doors into the building from the north (those shown on the plan leading into rooms IV and V were made in the second phase). Room III had a much patched concrete floor, although it may have been renewed in the third century, and wall flues. The photograph (Plate IX, 1) shows the construction of the floor in the apse, and the nature of the *pilae*. When the concrete floor was opened at a point immediately to the south of the door into room IV, the hypocaust channels were found to be open, and it was possible to crawl beneath the floor and measure the positions of the *pilae* (Plate IX, 2). (Note: I am grateful to Dr. Barri Jones, F.S.A., for his assistance in this dirty and dangerous operation.)

The concrete floor was also removed from the apse of room III, in order to examine its nature and to see what lay below. In the course of this, a *denarius* of Geta (no. 8, p. 130) little worn, was found on the clay floor that supported the *pilae*, but its position near the foot of a wall flue excluded its use for dating purposes. The *pilae* were constructed of 3 inch stone slabs, held together by an inch of pinkish-brown mortar (Plate IX, 2). Large flagstones, some of which were nearly five feet square, rested upon these, which in turn supported the concrete floor, made of mortar, chips of stone and tile fragments.

The *pilae* rested upon a floor of clay and cobbles some 14 inches thick, which in turn rested upon a heavier foundation of whin boulders. At this point the water level interfered with the examination, but it was established (Plate X, 1) that beneath there was a substantial Flavian deposit, made up of wood, bones and pottery, of which the latter included two distinctive early carinated bowls.

To the east of the apse, a covered drain curved around the structure, presumably to link up with that found south of room II.

In rooms II and III, small patches of wall plaster remained in position just above floor level, and quantities

of broken plaster lay above the floor of room III. It had been fixed to thin stone slabs, which were held against the walls by iron clamps (traces of these clamps remained in several places). The surviving designs on the plaster suggested nothing more elaborate than rectangular patterns in red and blue.

Rooms IV and V. These small rooms had been added to the bath-suite not long after the original structure was built. Doorways had been pierced through the existing north wall of rooms I and III: that in room III was particularly well preserved. It contained recesses for the upright timbers of the door supports and similar recesses for the horizontal timbers. Room IV was small (Plate XI, 1), only 8 feet 9 inches × 11 feet 3 inches, but possessed a concrete floor of similar construction to that in room III, although the concrete had less tile in it, and had a whiter finish. The hypocaust was connected with that in room III, and the *pilae* were of similar construction. Its walls also had been plastered. The furnace of this hypocaust system has not been located yet, but it is likely to lie outside the rectangular projection of room III.† Room V has still to be examined in detail, but the preliminary excavation shows that it had no hypocaust.

With the abandonment of the Antonine fort on this site and the construction of a new fort further to the east, perhaps under Caracalla, the area was thrown open to civilian occupation, and the evidence so far suggests the rapid development of a large stone-built *vicus*. It may be that the old Antonine ramparts offered an attractive sense of security to the new civilian occupiers, and these ramparts may for a while have been maintained, although eventually buildings spread outside them, and the old fort ditches had to be filled.

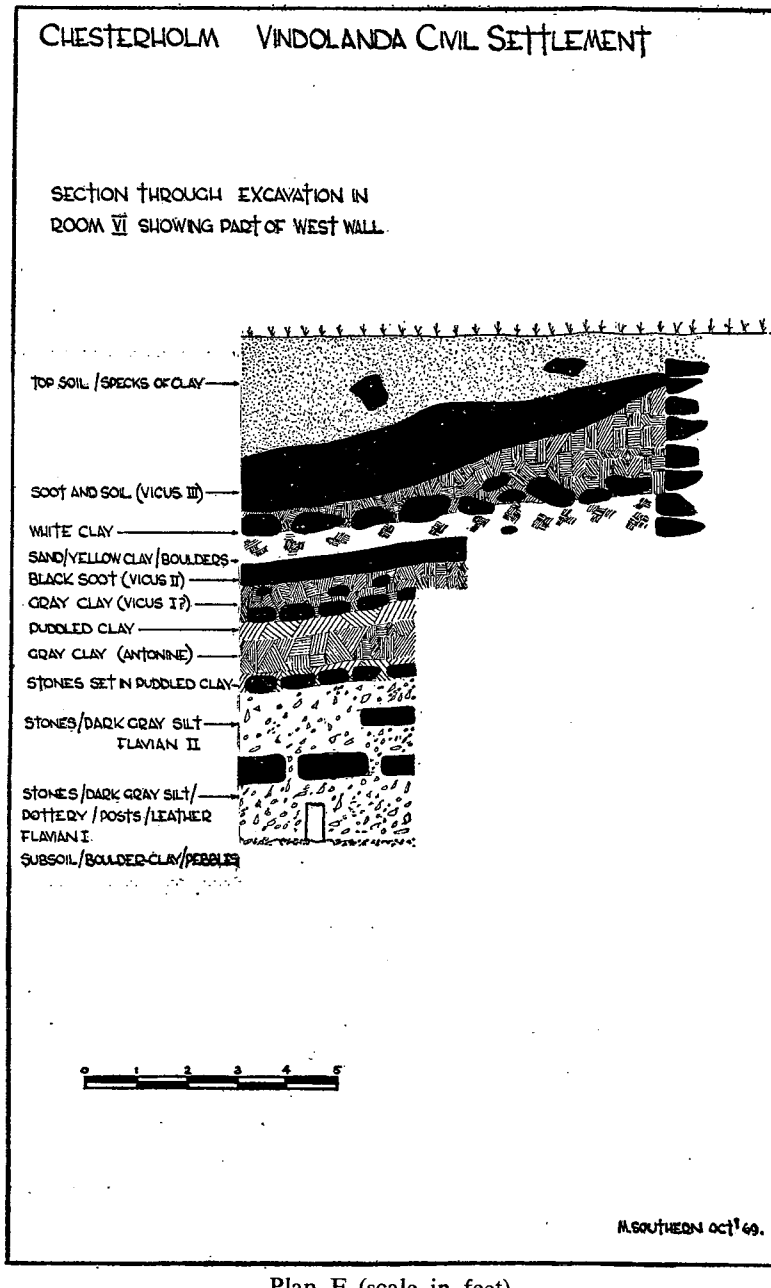
At this stage, early in the third century, the old military building was refurbished and ten further rooms were added to it, with the northern wall of the enlarged structure fronting

† The furnace has been located in room XV (1970).

the main *vicus* road, almost opposite the new fort bath-house.

Room VI was 20 feet 2 inches × 14 feet 3 inches, with a door into the courtyard and another into room VII. In its first form, it had a hypocaust system that was connected with that in room VII, and presumably had a similar concrete floor. Its size compared with the remaining rooms (excluding those in the bath-suite) ought to demonstrate its use as a dining-room. In the period III reconstruction, the concrete floor and *pilae* were removed, and the area filled with building rubble and clean grey clay. In the north-western corner (Plate XV) a substantial stone-built semi-circular oven had been constructed, which was eventually patched with the addition of a further wall of stone on its southern side. A deep (14 inch) deposit of wood ash and soot spread from this structure throughout the room. At a later period, perhaps post-A.D. 369, a small clay oven had been constructed in the middle of the room, on top of the earlier wood ash and soot deposit.

The opportunities presented by the dry summer allowed an investigation of the earlier levels in this room, and for the first time in this series of excavations (Plate X, 2), subsoil was reached at a depth of 9 feet 3 inches from turf level. The resulting section is illustrated below (plan F). The most interesting feature was perhaps the suggestion of two periods to the Flavian level: there were timber posts in position immediately above subsoil, together with a large deposit of wood of various kinds, and a little leather and pottery. But above these posts there was a heavy flagged floor, and there was a further 14 inches of Flavian material above them. This small section may be misleading, but it has reminded us that we must be prepared for more than one pre-Hadrianic fort at Vindolanda. At that depth, however, it will be some years before any coherent plan of these Flavian activities will begin to emerge. There was no decisive indication of an Antonine floor level in the section, although the floor of that period may be indicated by the layer of



Plan F (scale in feet)

stones set in puddled clay, with dirty grey clay above them. There was no pottery in the layer.

Room VII was 10 feet 4 inches × 10 feet 2 inches, with a narrow (30 inch) door into room VI (Plates XI, 2 and XII, 2), and thus an annexe to that room. The connecting hypocaust flue ran beneath the southern wall at its western end. When room VI was turned into a kitchen, room VII was cut off from its source of heat, but its concrete floor was not removed: a fresh floor of clay and rubble was laid above. The walls had been plastered (as with rooms II, III, and IV), and one of the angle brackets for retaining the upright slabs against the walls remained in position. These slabs were identical with those in the other rooms, being 18 inches high and between 16 and 25 inches wide. They are smaller than the similar slabs used for the roof of the building, which were retained by nails hammered through them onto the timber roof-frame. The construction of the floor of this room was examined in a section, and it differed in some respects from those in rooms III and IV. Upon a floor of clean clay and rubble, standing above *c.* 20 inches of dirty clay and rubble, 19 inch high *pilae* had been constructed out of walling stones set in mortar, which carried the 3 inch thick square slabs, some 26 inches × 26 inches, upon which the concrete floor had been laid. Part of the room at any rate had been refloored at some stage, by laying a fresh series of thinner slabs (only 1 inch thick) above the old concrete, and laying a new $2\frac{1}{2}$ inch thick layer of concrete above them. This last layer of concrete contained no tile fragments and it was still very durable. Five courses of stone remained above floor level on all the walls of this room. Its door into room VI was identical with that between rooms III and IV. The plan shows the room as it was sectioned during excavation.

Rooms VIII, IX and X. All three rooms were of virtually identical measurements and features. They varied between 10 feet 1 inch × 10 feet 2 inches to 10 feet 5 inches × 10 feet 4 inches, and all three had 3 feet 6 inch doors in their north-

eastern corners, leading into the courtyard. None had hypocausts or concrete floors, nor was there any trace of wall plaster. Only room VIII was fully sectioned, and this showed three successive floor levels, the first two of which contained burnt wood. The earliest floor also had a film of coal dust throughout the area examined. These three rooms, like XI, XII and XIII to be described below, presumably acted as accommodation for the travellers.

Rooms XI, XII and XIII were of similar size to VIII, IX and X, although the desire of the planners to run the north front of the building parallel with the main road had led to a one foot reduction in the width of room XI. There had been greater disturbance of the period II and III workmanship in this area, due both to the activities of the period IV builders, and to modern stone robbers. There was no trace of any doors leading into the courtyard in this range, but the slope on which the building had been constructed probably resulted in lower floor levels here than in the courtyard, with the necessity for wooden steps down into the rooms from the door sills which have now been robbed out. In period III rooms XII and XIII had been run together by the elimination of the cross-wall between them, and the cross-wall between the courtyard and room XIII had similarly been removed, to create a broad entrance.

Room XIV. In period II this room housed the building's latrine. A stone rectangular structure had been erected in the middle of the room, creating a two foot six inch channel around the walls (Plate XIII, 1). Above this channel timber seating had presumably been erected. There was no provision for flushing out this latrine, and one must assume that it was instead provided with latrine buckets, emptied daily. In period III, the channel was filled in with clay and rubble, and the top had been flagged, to create a flat floor over all the room. The room thus ceased to be a latrine, but its new purpose was not apparent.

Room XV. Overlying baulks and the cross-wall of the period IV structure have so far prevented the examination

of this room.

The Courtyard. The small area so far examined (*Note:* somewhat more has been excavated since the plan was drawn) exhibits at least three successive floors, of which the earliest two were cobbles and the last a heavy flagged floor, associated with period IV. 2 feet 10 inches from the NE corner of the courtyard lay the eastern edge of a cut-stone water channel (Plate XIII, 2) 1 foot wide, with the centrally cut groove 6 inches wide and 3½ inches deep. Five of these channel stones remained in position in the courtyard, and a further stone lay outside the building to the north. All were approximately 2 feet 3½ inches long. The water channel had been destroyed, probably at the end of period II, when the courtyard floor was raised 9 inches. There should be a water-tank nearer the southern end of the courtyard, to take the flow from the channel.

The Theodosian (period IV) building. The nature of the period IV structure has already been described. It had suffered heavily from stone-robbing at its northern end, but the individual character of its masonry can be seen in the photograph (Plate XIV, 1). In both room XII and in the courtyard nearby were found examples of Huntcliffe type pottery, associated with the post-A.D. 369 period IV in Wall forts, together with the strangely patterned piece (no. 11 on the pottery figure 1) which may be a Romano-Saxon type. Beneath the late flagging in room XII was a deposit of Wall period III pottery, and between the flagstones at the southern end of the building was a small lead sling bullet, the sole military object found in the structure. Such bullets had been found in the north at only Burnswark, Birdoswald and Ambleside previously.

The examination of the building will be completed in the 1970 season. It will remain open, and it is hoped that the Ministry of Public Building and Works may be able to conserve it for permanent display.

Commander's House, Diocletianic/Theodosian Forts

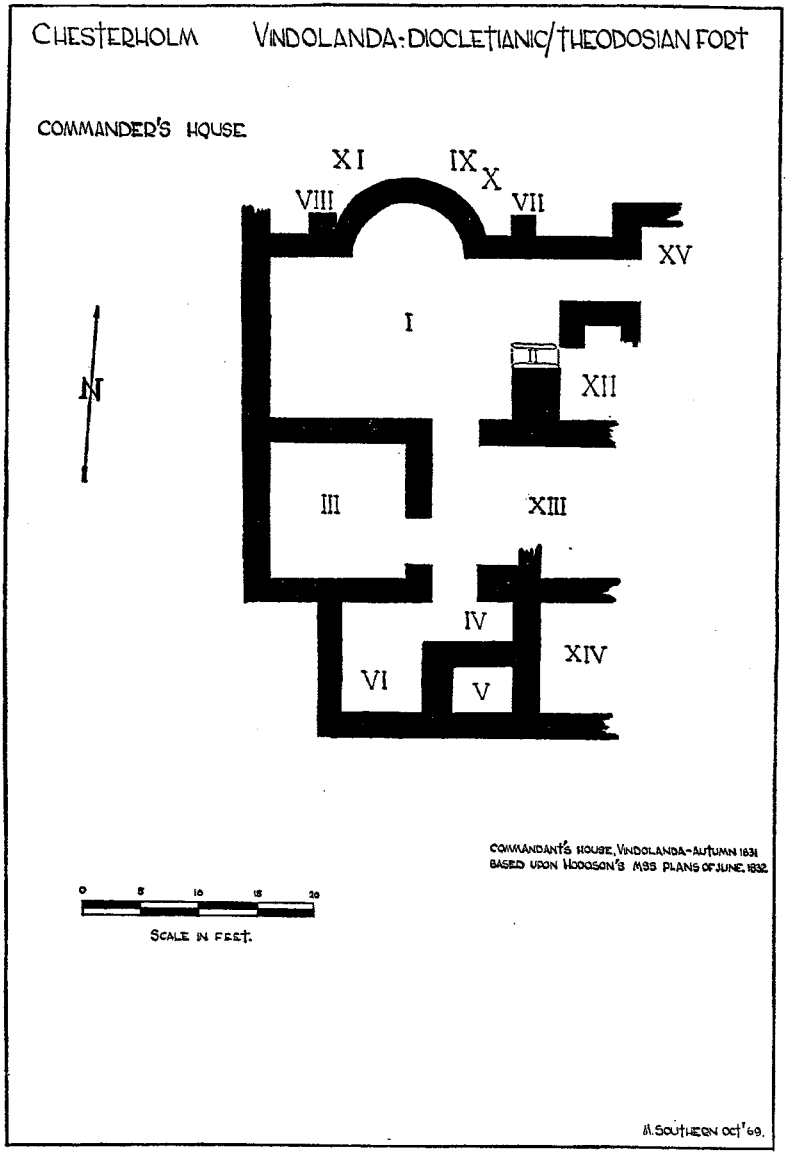
In June 1832, John Hodgson spent a few days with Anthony Hedley at Chesterholm. He made sketches of the altars and sculptured stones that Hedley had recently discovered in the Commander's House, which he later published in his History of Northumberland (part ii, vol. iii, 1840). But he also made a rough sketch of the excavation, which was never published, and it can be found, together with notes made on the spot, in the Hodgson MSS in the Black Gate Library (M15 A 39 p. 355 for the sketch, and p. 354 and p. 356 for the notes). In a later notebook, in which he gathered together his scattered Roman material, he re-drew the sketch-plan and amended the original notes. This second plan differs in some respects from the first (see M15 A51 Vindolanda section).

The scale drawing offered here (Plan G) is based upon the two Hodgson sketches, but it cannot claim to be an accurate version of Hedley's excavation, since the measurements given were only approximate, and some important features were not measured at all. The notes, made in June 1832, are appended below, with important additional information from the second version added in brackets. The numbers in the text refer to the rooms, etc., marked in Roman numerals on Plan G.

"1. This part is floored in the ordinary way of baths and stands on pillars of the usual height but of various shapes and diameters, many of them stones used in former buildings. (Note: on his sketch-plans this room's measurements are given as 19 feet N/S by 21 feet E/W.)

2. The mouth of the furnace or (kilneye) much reddened with fire. It is four feet or more length-wise, has been arched over at the height of the pillars of the hypocaust but under and higher at the entrance than at the end, thus (drawing) about 14 inches at the far end.

3. Another floored room on lower pillars than no. 1, about 12 feet each way.


CHESTERHOLM
VINDOLANDA: DIOCLETIANIC/THEODOSIAN FORT
COMMANDER'S HOUSE
XI
IX
X
VIII
VII
XV
I
XII
III
XIII
IV
XIV
VI
V
N
COMMANDANT'S HOUSE, VINDOLANDA - AUTUMN 1831
BASED UPON HODGSON'S MSS PLANS OF JUNE, 1832.
0
5
10
15
20
SCALE IN FEET.
M. SOUTHGATE OCT '69.

Plan G

4. 3 foot 10 inches by 2 foot 3 inches lined on the sides and floor with bath cement ('a sort of chaldron or cistern').

5. 5 foot 5 inches by 4 foot, also lined with bath cement (but without a hypocaust. *Hist. Nor.*).

6. 7 foot broad by 9 foot 6 inches from north to south. Has traces of bath cement on its flagged floor or walls (there was no hypocaust beneath this floor).

7. and 8. Buttresses which have been added to strengthen the walls. They stand against and no. 7 supports a wall fallen from its perpendicular.

The masonry is all squared and pecked ashlar work built with lime. The stones of various thickness and the coins frequently thicker than the courses. The bottoms of the rooms have had the angles between the floor and side walls rounded off with pieces of broken brick, tile or small stones before the bath plaster was put on, thus (drawing).

This mass of ruins is about 35 feet from E to W by 26 feet from N to S (a misprint—the N/S measurement is 56 feet), and has had other buildings branching off it to the S (corrected to W in the later version, but his *Hist. Northumberland* gives E, W and S), and East as appears by foundations. Perhaps the wall jutting from it on the east is only a buttress, it is about 45 feet from the East wall (of the fort) and to the north of the East gate—about 60 feet from the east gate in the direction of NW. 9, 11, 12 (but on his plan 9, 10, 11) the three altars (a description of them follows)."

Rooms XII, XIII, XIV and XV were not numbered on Hodgson's sketches.

This excavation was clearly in the bath-suite of the Diocletianic-Theodosian Commander's House, and when the opportunity for re-excavation occurs, it will be interesting to see how accurate Hodgson's description was, and to discover how much of the structure survives. After Hedley's work on the fort-walls, stone-robbers removed many of the facing stones, and it must be feared that the Commander's House suffered the same fate.

In a letter to Hodgson, dated Feb. 28th 1832, Anthony Hedley wrote: "I shall get drawings of my altars, and plans, etc. and send the whole to John Swinburne, as promised, that he may do what he likes with them". Hedley was a scrupulous correspondent, and no doubt he did send them. Where are they now?

THE INSCRIBED AND SCULPTURED STONES

(I am very grateful to Mr. R. P. Wright, F.S.A., for examining the stones listed below, and for discussing them with me. His report on the inscribed stones will be found in *JRS* (1969) LIX and (1970) LX forthcoming.)

1. 1967 Top of a portable altar, the surviving fragment being 4½ inches high × 5½ inches wide × 3½ inches deep. Found amongst debris above the outer south ditch of the ?Antonine fort. The first line of the inscription survives: DEO
2. 1969 Part of a milestone, diameter 8½ inches at the top, 7½ inches at the bottom, and 4 feet 4 inches long, re-used as a support for the side slabs in the water-tank (site XIII) to the west of the *vicus*. The inscription has been deliberately erased, but portions of the last letters of several lines survive. The only intelligible part to be recovered to date is:

   [I]MP
   [PO]T

   It was not possible to date the construction of the water-tanks, but they are unlikely to have been later than *c.* A.D. 300.
3. 1969 Portable sandstone altar, 7 inches high × 4½ inches wide × 3 inches thick, found amongst rubble at the north end of the fourth century South Gate. The inscription is badly weathered, but Mr. Wright was able to demonstrate that the following survived:

   DEAB[VS]
   [S]VISMA[T]
   [R]I[BVS]
   . . . . . .
   . . . . . .
   [V]SLM

4. 1969 Building stone, 12 inches × 4 inches and 7 inches deep, found in the northern wall of the *mansio*'s courtyard, on the inner face at the western end (now removed). At the top of

the die about ¾ inch of the height was bevelled when the stone was re-used.

Mr. Wright reads the first line as COVINI and the second line is quite clear, reading: > LEG VI V

5. 1969 Portable altar, 4 inches × 6½ inches and 4¼ inches deep, lying amongst debris in the courtyard of the *mansio*, opposite room XIII. Mr. Wright examined the stone, and reported that the die was blank.
6. 1969 Building stone, 5 inches × 7 inches, and depth unknown, built into the inner face of the east wall of room X, *mansio*, where it remains at present. Three letters have been cut upon the stone in different styles, probably representing practice lettering: BER
7. 1969 Building stone, 8½ inches × 12 inches, and 10½ inches deep, fallen from the front of the Diocletianic South Gate. Carved upon the face of the stone is the portrait of a man, looking right, and wearing a helmet. To his left appears a centurial sign. It would appear that a mason, in an idle moment, had carved a portrait of his centurion. The nose of the portrait is damaged.
8. Portable sandstone altar, 7 inches × 5 inches and 4½ inches deep, lying amongst debris above the causeway to the south of the Diocletianic South Gate. The die is blank.

THE COINS

by *Dr. Anthony Birley, F.S.A.*

(Dr. J. P. C. Kent, F.S.A., kindly made the original identification in doubtful cases.)

Denomination	*Date and Description*	*Provenance*
1. denarius	Vespasian or Titus, 69/81 Obv head, laureate, r. Rev worn smooth	Mansio, room IV Period III
2. sestertius	Trajan or Hadrian, 103/138 Obv head, r. Rev worn smooth	Mansio, room XIII
3. sestertius	Hadrian, 117/138 Obv Head of Hadrian, r. Rev worn smooth	Mansio, room XIII
4. denarius	Hadrian, 120/138 Obv Head of Hadrian, r. Rev (?M)ON(ETA AVG?) Female figure (?Moneta) standing l., holding scales (?) in r. hand and cornucopiae in l. Cf. *RIC* Hadrian nos. 256ff. (*c.* 134-138)	Mansio, room X
5. sestertius	late second century? much corroded	Mansio, room XIV

Denomination	*Date and Description*	*Provenance*
6. sestertius	Septimius Severus, 193/211 Obv (IMP CAES L) SEPT SEV (PERT AVG) head of Severus, laureate, r. Rev legend illegible Draped female figure (Fides?) standing front, head l., holding Victory (?) in extended r. hand and vert. vexillum or standard in l. Cf. *RIC* Sept. Severus no. 651, from the year 193	Mansio, room XII
7. denarius	Septimius Severus, 193/211 Obv (SE)VERVS (PIVS AVG) head of S., laureate, r. Rev (RES)TITVTOR VRBIS Rome seated l., on shield, holding palladium and spear. Cf. *RIC* Severus no. 288 from 202/210	Mansio, room X
8. denarius	Geta, *c.* 200-202 Obv P. SEPT GETA CAES PONT Bust of G., draped, head bare, r. Rev PRINC IVVENTVTIS G. standing l., holding branch and spear; behind, trophy. *RIC* Geta no. 18 Little worn	Mansio, on hypocaust floor of room III

9. denarius	Caracalla, 213/217 Obv ANTONINUS PIVS AVG GERM head of C., laureate, r. Rev INDVLGENTIAE AVG Ind. seated l., holding patera and sceptre. *RIC* Caracalla no. 300	Mansio—courtyard
10. denarius	Julia Mamaea, 222/235 Obv IVLIA MAMAEA AVG Bust of Julia, diad., draped, r. Rev FECVND AVGVSTAE Fecunditas standing l., holding patera and cornucopiae. *RIC* Mammaea no. 331	Roadway outside Diocletianic South Gate
11. sestertius	Severus Alexander, 222/235 Obv head of Alex., r. Rev worn smooth	Mansio: outside room X
12. antoninianus	Valerian I, 253/259 Obv bust of V., radiate, r. Rev (?FELICI)TAS A(VG) Felicitas (?) standing l., holding caduceus and cornucopiae. Cf. *RIC* Valerian no. 86 (mint of Rome)	Behind 1914 Well

Denomination	*Date and Description*	*Provenance*
13. antoninianus	Postumus, 259/268 Obv IMP(C P)OSTVMVS P F AVG Bust of P., draped, radiate, r. Rev ORIEN(S AVG) Sol walking l., r. hand raised, l. holding whip. *RIC* Postumus no. 77	Diocletianic South Gate, amongst tumbled masonry
14. antoninianus	Gallienus, *c.* 265/268 Obv head of G., radiate, r. Rev worn smooth	Diocletianic South Gate
15. antoninianus	Gallienus, 260/268 Obv (. . . GALLI)DEN(V)S (. . . .) head of G., radiate, r. Rev draped female figure, standing front, head r., r. arm extended	Mansio: courtyard
16. antoninianus	Claudius II (?), 268/270 Obv head of C., radiate, r. Rev worn smooth	Mansio, room XV
17. antoninianus	Claudius II, 268/270 Obv IMP CL(AVDIVS . . .) Rev (. . . . .)AS AVG draped female figure standing l., holding cornucopiae (?) in l. hand	Mansio, outside room X

18. antoninianus	Tetricus I, 270/273 Obv (.... TETRICVS ..) AVG head of T., radiate, r. Rev PI(ETAS AVG) Pietas standing l., sacrificing at altar and holding box. *RIC* Tetricus no. 109	Diocletianic South Gate, amongst fallen masonry
19. antoninianus	Tetricus I (?), 270/273 Obv head of T., radiate, r. Rev worn smooth	Diocletianic South Gate, amongst fallen masonry
20. (antoninianus)	barbarous radiate, 270/290 Obv radiate head, r. Rev worn smooth	as above
21. follis	Crispus (?), *c.* 322 Obv corroded Rev (BEATA TRAN)QVILLIT(AS) Globe set on altar with inscr. VO/TIS/XX. Cf. *RIC* vol. 7. mint of Trier no. 347	Diocletianic South Gate: roadway over ditch.
22. follis	reign of Constantine I 330/335 Obv VRBS ROMA bust of R., helmeted, l. Rev wolf and twins Mint mark TR.S (Trier) *LRBC* I 65	Diocletianic South Gate, below fallen masonry

Denomination	*Date and Description*	*Provenance*
23. follis	reign of Constantine I, 330/335 Obv (VRBS) ROMA bust of R., helmeted, l. Rev wolf and twins Mint marked PLG (Lugdunum) *LRBC* I 200	*Vicus* sites XV/XVI below last period floor in fill
24. follis	reign of Constantine I, 330/335 Obv VRBS ROMA bust of R., helmeted, l. Rev wolf and twins, star in field Mint mark T(..) (Trier) *LRBC* I 58	Diocletianic South Gate, below fallen masonry
25. follis	Constantine II (?), 330/335 Obv head of C(?), r. Rev two figures, l. and r. facing, flanked by standards. ?*LRBC* I 56 (mint of Trier)	Mansio, room IX, on top of N. Wall
26. follis	Constantius II, 335/341 Obv bust of C., draped, laureate, r. Rev figure with standard, as *LRBC* I 89 (mint of Trier)	Above third century *Sacellum* in *principia*
27. siliqua	Julian, 360/363 Obv DN FL CL IVLIANVS PF AVG Bust of J., draped, laureate, r. Rev VOTIS/V/MVLTIS X in wreath	Mansio, courtyard. Above period IV flags

28. third brass	Valens, 364/378 Obv (DN) VALENS PF (AVG) bust of V., rosette—diademed draped and cuirassed, r. Rev SECVRITAS REIPVBLICAE Victory advancing l., holding wreath and palm Mint mark: $\frac{.1}{SCON}$ Mint of Arles, *c.* 370: *RIC* vol. 9 p. 66 no. 17(b) from 367/375.	Diocletianic South Gate, outside step to south
29, 30, 31, 32:	illegible and unidentifiable.	

RIC: The Roman Imperial Coinage, 1923 ff.

LRBC I: Late Roman Bronze Coinage AD 327-498. Part I by P. V. Hill and J. P. C. Kent (1960).

GRAFFITI

1. *1967.* Cut on the outside of the base of a complete Dr. 18/31, the letters AVR. On the stand-rim, the following is cut: IIII. The bowl is stamped PIINTIL MANV. Stratified in the inner south ditch of the 1967 section.
2. *1968.* Cut on the outside of the base of a grey platter, and lying in rubbish deposit above the drain flags to the east of room III, mansio.

MINER(. . .)

POTTERS' STAMPS

(I am grateful to my father for his preliminary identification of these stamps. He sent nos. 1-3 to Mr. Brian Hartley, F.S.A., for confirmation.)

1. ALBINVS on Dr. 33. Lezoux potter. Mid-Antonine.
2. CANPANI: retrograde on Dr. 33. Late Antonine.
3. POTTACI: on form 80—Lezoux potter. Late Antonine.
4. PIINTIL MANV on complete Dr. 18/31.

Fig. 1: Objects of bronze

All but three of these bronzes (nos. 2, 8 and 15) were found at Vindolanda during the excavations in the 1930's, but were not published at the time. Professor Birley has kindly made them available now, and they have been redrawn, from the original drawings of Paul Brown, by Miss Patricia Burnham. No. 8, the terret ring, was included with these bronzes, but subsequent investigations indicate that it is in fact an unpublished Housesteads piece, from the excavations in the *vicus* in the 1930's. I am grateful to Professor Birley and Mr. Wilfred Dodds for discussing these items with me, and for suggesting some of the parallels.

1. Penannular brooch, of well-known type. Unstratified. Cf. *Newstead* pl. LXXXVIII, facing p. 326, and *ARB* fig. 106, nos. 115-118.
2. Penannular brooch. Found above the door-sill of the Diocletianic South Gate. The double-headed snake motif appears to have no parallels in the north.
3. D-ring. Unstratified.
4. Disc brooch from the rampart section east of the North gateway. Cf. Group Z, *ARB*, fig. 106, nos. 101, 102 and 105,

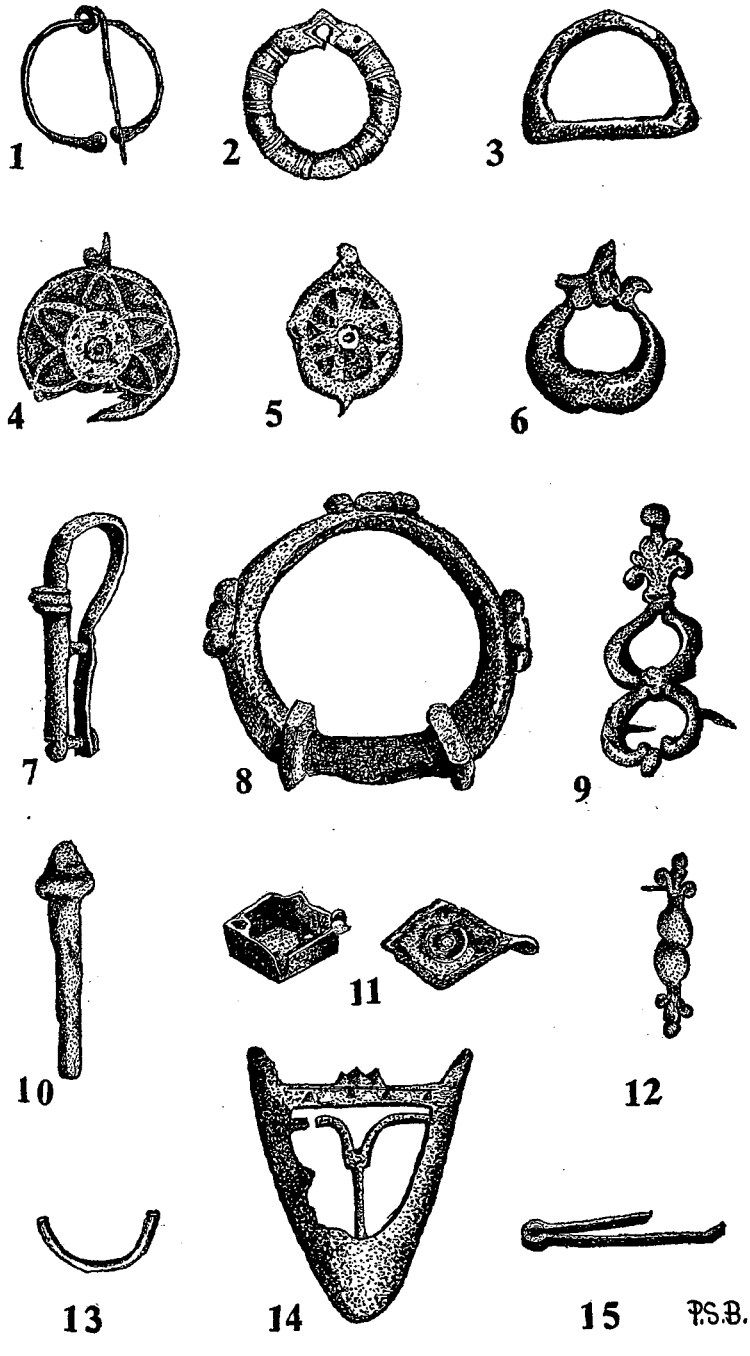


Fig. 1. Nos. 2 and 15 are $\frac{1}{2}$, the remainder 1:1. No. 8 is from Housesteads

and *Newstead* pl. LXXXXX 10 and 22 for the general type.

5. Seal-box lid, findspot as no. 4. There are traces of red enamel on the top.
6. Harness ring, from the northern end of the Headquarters Building.
7. Cuirass-fastening, from the third-century level in the Headquarters Building. Cf. *ARB*, fig. 108c.
8. Terret ring, from the *vicus* at Housesteads. For comments on such objects, cf. Mr. George Jobey's full discussion in the Huckhoe report, *AA*[4] xxxvii (1959) p. 266, and *Newstead*, pl. LXXV no. 2.
9. Harness mounting (?), from the north-south drain beneath the rampart mound to the east of the N. gate.
10. Part of a bronze pen (?), from the third-century level, beneath the rampart mound to the east of the N. gate. Cf. *ARB*, fig. 109e on p. 317.
11. Seal-box, unstratified.
12. Brooch, below the Theodosian flags in the courtyard of the Headquarters Building. Cf. *ARB*, group Z, fig. 106.
13. Part of a ring, unstratified.
14. Scabbard chape, from the third-century level at the northern end of the Headquarters Building. Cf. *ARB*, fig. 108n and 108p.
15. Tweezers, from the *mansio* (site IX), unstratified. Cf. *AA*[4] xi (1934) plate XXIXE, no. 7 (Housesteads).

Fig. 2: Objects of bronze, iron and pottery

Items 2, 3, 5, 6, 7, and 8 were found in the current excavations.

1. *Capsa* or document box in bronze, from the floor level of the adjutant's inner office in the third-century Headquarters Building. Now in the Joint Museum in Newcastle.
2. Bronze ring, unstratified amongst fallen rubble in the *mansio* (site IX).
3. Spindle whorl, from the inner ditch of the 1968 section through the southern defences of the early forts.
4. Part of the bucket-handle, in iron, from the Theodosian well in the Headquarters Building.
5. Pilum-head (?) or ballista bolt, from the inner (east) ditch outside the Diocletianic fort's west gate. Cf. *Newstead*, pl. XXXVIII 12-17.
6. Iron angle-iron, from the *mansio* (site IX), room III. Such

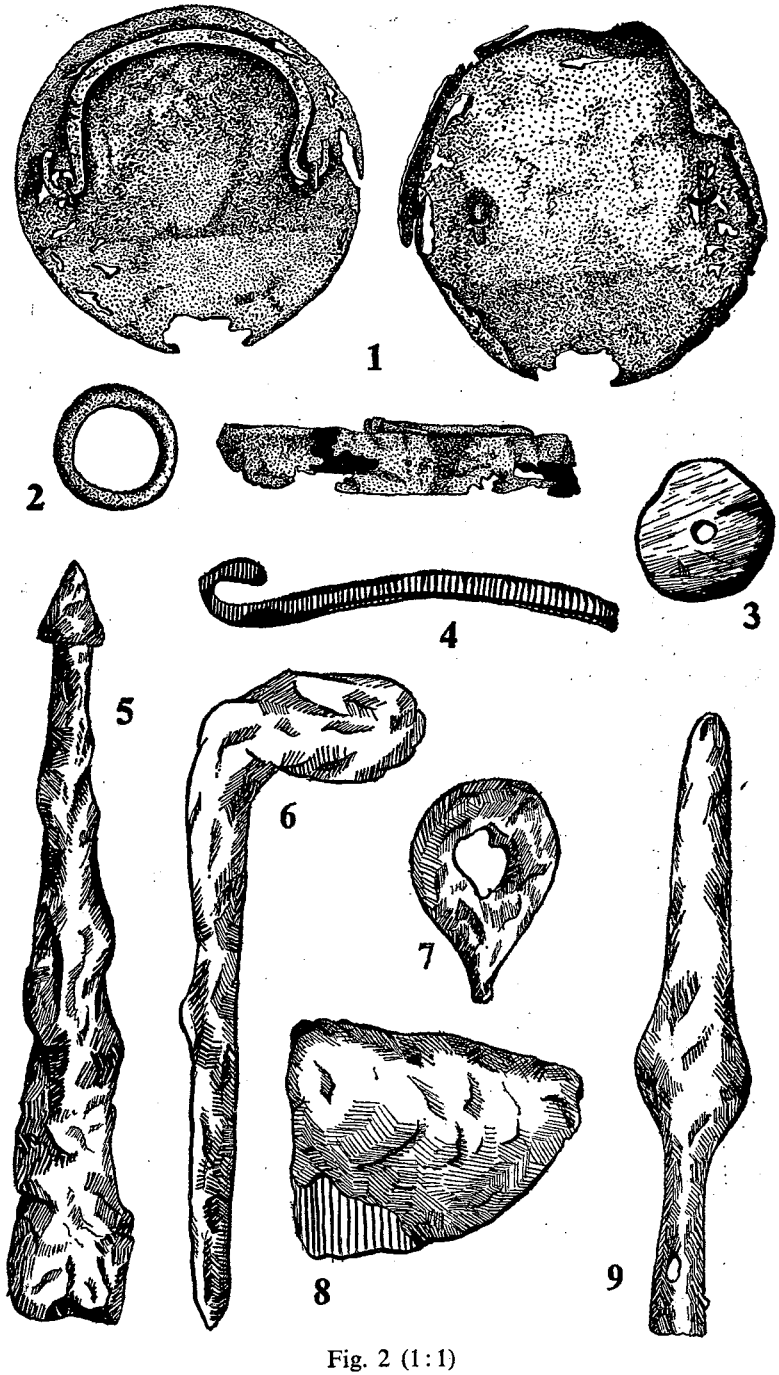


Fig. 2 (1 : 1)

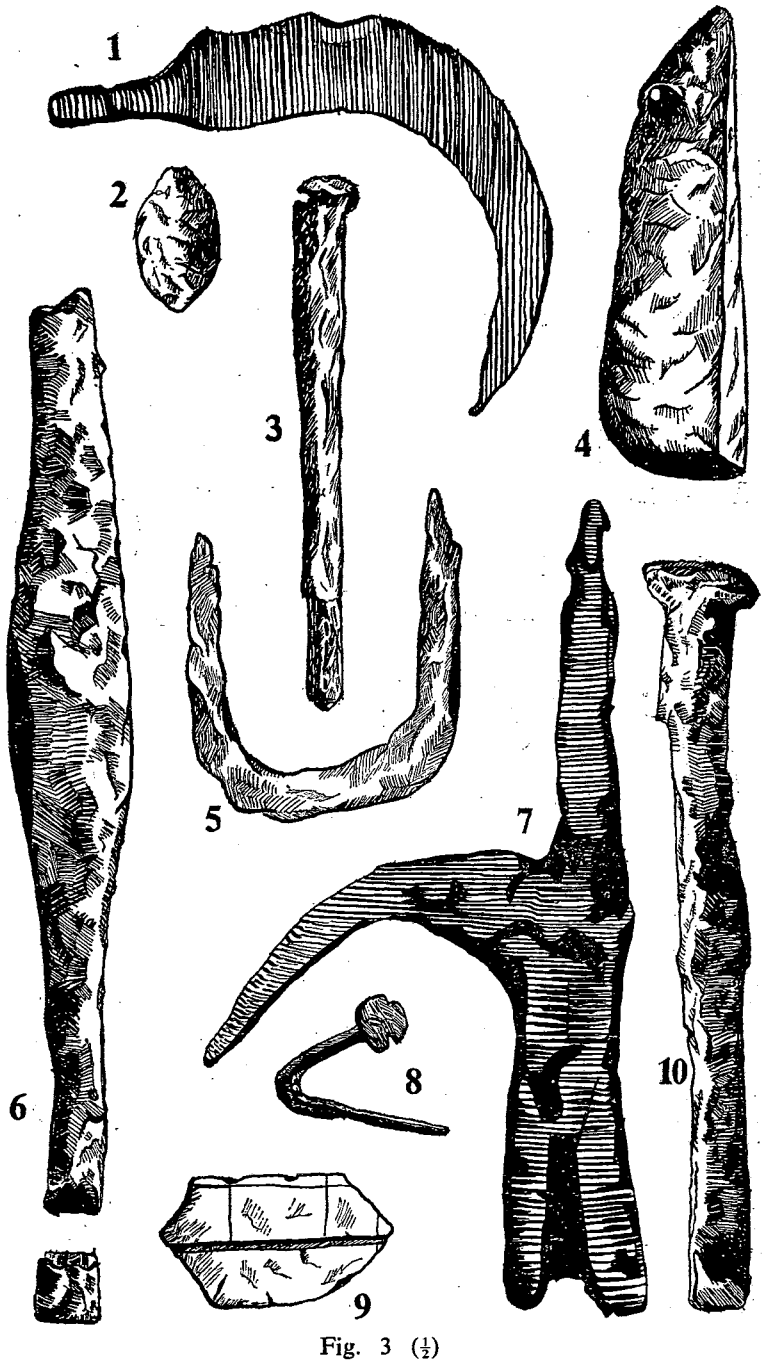


Fig. 3 ($\frac{1}{2}$)

items were there used to hold the thin stone slabs to the walls.

7. Iron ring. Unstratified.
8. Part of an iron saw, unstratified.
9. Spear-head, in iron, well-worn. From the rampart section east of the north gateway, of the Diocletianic fort, unstratified.

Fig. 3: Objects of iron, stone and lead

Items 1, 6, 7 and 10 were found in the excavation of the 1930's.

1. Small hand-sickle, found in the Theodosian well of the Headquarters Building. Its handle had been made of oak (see below, wood report).
2. Lead sling-bullet, found between the period IV flags at the southern end of the *mansio*. Parallels have been found at Burnswalk (on display in the National Museum of Scotland), at Birdoswald (*CW*1 *XV*, p. 200), and at Ambleside (*CW*2 XIV, p. 462).
3. Lead "pin", of uncertain use, found unstratified in the *mansio*.
4. Stone object, with a hole in its narrow end, perhaps a loom-weight. Found above the flags of site IV, outside the Diocletianic west gate.
5. Iron bracket. Found in the *mansio*, unstratified.
6. Iron spear-head, unstratified.
7. Iron object, one of three such items found in the Headquarters Building, in the Theodosian level. For a parallel cf. *Saalburg Jahrbuch* VIII (1934) pl. I 6 and p. 19, where it is suggested that it was used on a long pole, the spike to break ice and the hook to raise or lower a bucket in a well (instead of using a rope).
8. Small nail, uncorroded when found, from the Flavian II level in room VI of the *mansio*. Unlike the iron items from the upper levels, those found in the wettest levels are rarely corroded.
9. Stone object, perhaps part of a gaming board. Found in the *mansio*, on the period III floor of room VIII.
10. Heavy iron nail, unstratified.

Fig. 4: Objects of gold (?), *jet, paste and pottery*

1. Gold (?) pin, with holder for precious stone. Found in the Flavian level around the wooden float in the 1968 section

through the southern defences. (See Plate XIV, 2)

2. Part of a jet ring. Unstratified.
3. Jet pin, from the floor of site IV, outside the Diocletianic west gate.
4. Jet bead, pierced with two holes for stringing on a necklace. Unstratified.

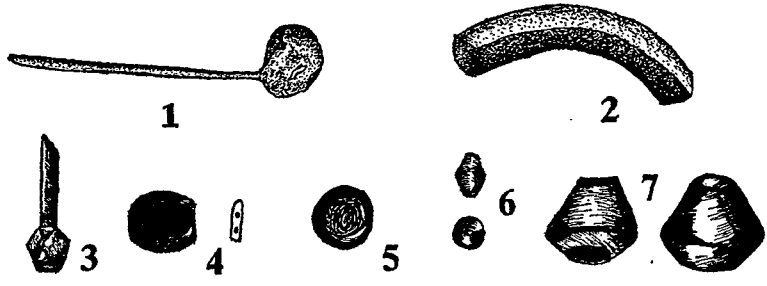


Fig. 4 ($\frac{1}{2}$)

5. Jet counter. *Mansio* room VII, above the period II floor.
6. Blue paste bead, from the period III floor, room VII, *mansio.*
7. Plumb-bob of pottery. Unstratified.

References: *ARB* =Collingwood and Richmond, *Archaeology of Roman Britain* (1969).
Newstead =James Curle, *A Roman Frontier Post and its People* (1911).

Figs. 5 and 6: Pottery

(Mr. Wilfred Dodds has kindly drawn the pottery and described the pieces. Professor Eric Birley has examined the unpublished pieces.)

1. Grey jar, simplified form of Gillam 110 or 29 (A.D. 100). Comparatively narrow neck. South end of the courtyard, *mansio,* beneath the late flags.
2. Red jar of generalised type developed to face urn, showing one side of female hairstyle and eyebrow. Above the drain to the east of the apse, room III, *mansio,* in a substantial deposit.
3. Two conjoining fragments of a light fawn storage vessel, cf. Gillam 34-35 for general type only. Second to third century,

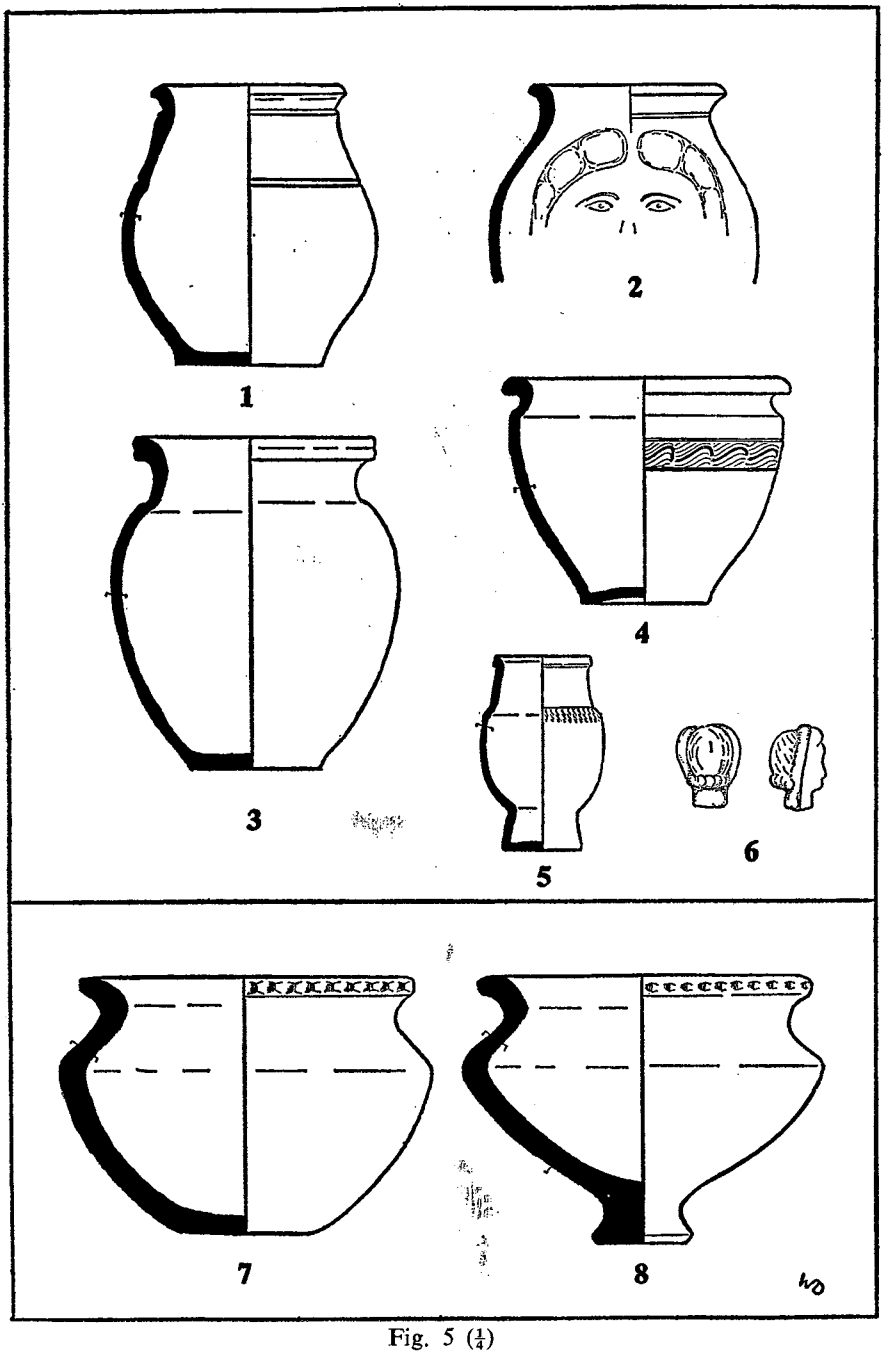


Fig. 5 ($\frac{1}{4}$)

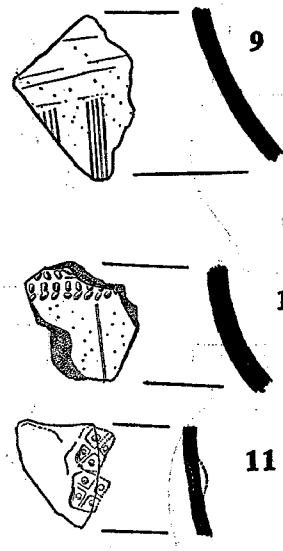


Fig. 6 ($\frac{1}{4}$)

but it does occur much earlier. North end of the courtyard, *mansio*, above the water-channel.

4. Grey jar, self fabric with band of combed decoration on the barrel. A small edition of Gillam 190—A.D. 350-400. Room VI, *mansio*, upper occupation level, associated with the period IV (?) clay oven.
5. Fawn jar, miniature of Gillam 42, with rouletting below the neck. Third to fourth century. North end of the courtyard, *mansio*, above water-channel.
6. Rear half of a pipeclay figurine. Female, showing hairstyle, possibly of 'Venus' type, and of ritual significance. Perhaps made at Allier, or as a secondary product of one or other of various Gaulish samian factories. Well-known type with many parallels, viz. Carlisle, Corbridge, London, Richborough, etc. Findspot as for no. 5.

7.) Two rims and a base of "Housesteads" native ware. Dark
8.) brown fabric, comparatively thick, burnished surface. Rim decorated with finger pinching, and narrow footstand. These, and several unpublished pieces, were found in the upper levels of the *mansio*, associated with the last period of occupation.

9. Wall sherd of sandy grey fabric, burnished and decorated at intervals with a series of four vertical (combed) lines. From a large, heavy vessel. Room XII, *mansio,* upper level.
10. Wall sherd of dark brown fabric, with a light brown fine grit on the inside, decorated with impressed series of oval punctations, with combed lines below. Room VI, *mansio,* associated with period IV (?) clay oven.
11. Four fragments of a light fawn vessel, with stamped decoration of raised crosses with pellets within the intersections. Cf. New Forest types or Romano-Saxon ware. North end of the courtyard, *mansio,* above the water-channel. (Professor Birley showed these pieces to Dr. J. N. L. Myres, who verbally agreed that they might be Romano-Saxon.)

REPORT ON WOOD SAMPLES FROM THE WELL IN THE HQB, 1933

Kathleen B. Blackburn

The large pieces of wood were all *oak.* These consisted of a number of rectangular blocks, two like the top of a pit prop but with a deep groove in the top (1″ × ¾″ deep), several small pointed stake ends, half of a wooden pipe (1½″ outside), and a number of nondescript pieces and twigs.

Ash was represented only by tiny hollow twigs, probably intentionally perforated, and two cylindrical sticks 1″ and ¾″ diameter each, cut out of timber. One of these had curious features in the timber which suggested that it might not be native but imported. The majority of the twigs and small worked pieces were of *hazel* and they included one unfinished wooden mallet head.

Birch was only represented by pieces of bark and part of a spear shaft, *sycamore* by a tiny fragment from a chopping block. A similar, very spongy, fragment may have been *alder.* Small twigs of *cherry, willow* and *ivy* were also present.

A root and a base of a stalk of a *cabbage* was also discovered, bearing a strong resemblance to modern cultivated cabbages.

Yew was represented by a twig which had evidently once been a very amateurish bow. *Pine* was only present in the form of two pieces of the sides of a wooden bucket. The small pieces of the handle of the sickle were also *oak.*

THE INTAGLI (Plate XVI, 1 and 2)

Martin Henig

No. 1. Orange cornelian intaglio, 18.5 mm. × 14.5 mm. and 5 mm. thick, in good condition except for some chipping. Found unstratified in the southern water-tank near the Well in the west of the fort field. It portrays Jupiter Serapis? seated on a stool (diphros) to right and wearing a *himation.* He has a sceptre in his right hand and holds a patera in his left, over a flaming altar. On either side of him is an eight rayed star. Unfortunately, the stone is chipped and all trace of the modius, if it existed, has been removed

Dr. John Harris points out, however, that the way in which the figure fills the field of the gem so comfortably implies that such an object may well have been depicted on his head. (Against this is the fact that the god, who was identified with Pluto, is usually accompanied by the hound Cerberus.)

Jupiter does not wear the modius of Serapis on a cornelian gem from the Chersonese, which shows the god seated by an altar, but he is accompanied by an eight rayed star (T. de Kibalchitcht, "Gemmes de la Russie Meridionale", Berlin 1910, no. 87). The other gem showing Jupiter seated by an altar is unfortunately broken: one star is visible on the left, however. Chiesa comments "Si tratta di un intaglio forse accostabile a tipi magici", and dates the piece to the end of the second century or the beginning of the third A.D. (G. Sena Chiesa, "Gemme del Museo Nazionale di Aquileia", Aquileia 1966, no. 17).

The stars are presumably intended to represent the Dioscuri and we are reminded of a famous intaglio from Castlesteads, showing the portrait bust of Septimius Severus wearing the modius of Serapis, and accompanied by his sons Caracalla and Geta, each of whom has an eight-rayed star on his head (On this, cf. A. M. McCann, The Portraits of Septimius Severus in *Memoirs of the American Academy in Rome,* vol. xxx (1968), 55 and 183, Plate xciii.) Apart from this gem, there are three other intagli from Britain depicting Serapis and probably to be dated to around the time of Severus' British campaigns. For Jupiter Serapis seated on a throne cf. A. Gordon, *Itinerarium Septentrionale* p. 82 and plate on p. 146 (cornelian). A standing Serapis is depicted on an onyx gem set in a gold ring found at Wroxeter (*Journal of the British Archaeological Association,* vol. iv (1849) p. 316 (illustrated)). An intaglio gem showing the head of Serapis between two legionary standards was evidently found at Bredon Hill, Gloucestershire (photograph in the Ashmolean). A similar piece cut in the iron of a ring is preserved amongst

material from the Walbrook, London, and is presumably earlier in date, i.e. not later than the mid second century A.D. (Guildhall Museum—London Acc. No. 19200).

For the normal intaglio type depicting Jupiter seated right and holding a sceptre and patera, cf. *PSAS* xxxvii (1903) p. 338-9 and fig. 36 (from Castlecary); J. P. Bushe-Fox, *Wroxeter III* p. 30 and plate xviii, no. 27, and perhaps *PSAN* 2 VI (1894) p. 204-5 (from Chesters). The conception in general is of course derived from Pheidias' statue at Olympia.

Style: The depth of the cutting and the rich patterning of the god's himation are highly characteristic of Severan art (cf. especially J. M. C. Toynbee, *The Art of the Romans,* London 1965, plates 45 and 46, and D. E. Strong, *Roman Imperial Sculpture,* London 1961, pp. 59-65, plates 107-114).

No. 2. Orange cornelian intaglio, 13.5 mm. × 10.5 mm. and 2.15 mm. thick, with some scratching on the surface. Found in room XI of the *mansio,* unstratified. The gem depicts Mercury standing to front and facing left. He is nude apart from a petasos on his head and a chlamys draped over his left forearm. He holds a caduceus in his left hand and a moneybag in his right. The type is exceedingly common and specimens are known which must be dated as early as the first century A.D. Unfortunately most of the British pieces are undated, although that from Newstead may well belong to the Antonine occupation of the site. However, a paste depicting Mercury was discovered at Godmanchester (cf. H. J. M. Green in *Proc. Camb. Ant. Soc.,* L (1957) p. 86 no. 3), in a small hoard of jewelry dated to *c.* A.D. 300.

REPORT ON BONE FOUND IN THE THEODOSIAN WELL OF THE HEADQUARTERS BUILDING, 1933

Lionel E. Cowley

The material submitted for examination consisted of remains of the following mammals: ox, sheep, pig, horse, dog and red deer, the sequence indicating the numerical order of the remains. The fact that the material can be dated to the period immediately following *c.* A.D. 370 adds greatly to its value. Measurements of the various bones have been made and compared with those of the test-animals given by Pitt-Rivers (Pitt-Rivers. Excavations in Cranbourne Chase Vol. II). I have been able in consequence to give the approximate size of some of the animals represented. In modern breeds of domestic animals the time of eruption of the different teeth is

known with a fair degree of accuracy and I have, where possible, based the age of the animals represented on this knowledge.

(1) The dog (*Canis familiaris* Linn.) is represented solely by a humerus which belonged to an immature animal. Comparing this bone with similar bones in the Museum collections it is shown to be slightly shorter than that of the modern Greyhound.

(2) The red deer (*Cervus elaphus* Linn.) is represented by one specimen, a portion of antler.

(3) Remains of the horse (*Equus caballus* Linn.) consist of two portions only; a part of the occipital region of the skull, and an incomplete tibia. All that can be said of this species is that, judging by the size of the tibia, it represents a small animal probably of little more than eleven hands (44 inches) at the shoulder.

(4) Examination of the bones of the sheep (*Ovis aries* Linn.), shows that the majority of the remains are those of young animals. They consist of two femora both of which have lost the proximal epiphysis, a fact indicating immaturity; a complete metatarsal and two metacarpals and metatarsal bones, all incomplete and indicative of young animals; two portions of the skull representing two immature specimens, one of which had not exceeded the age of eighteen months; seven portions of the lower jaw, of which two were probably those belonging to adults, and the remainder of animals ranging in age from five to eighteen months.

(5) The remains of oxen call for much fuller treatment. They consist of ten fairly complete, and a few fragments of other, skulls; thirteen portions of lower jaws; seventeen metacarpal bones, of which nine are incomplete; nine incomplete scapulae; one complete and two incomplete humeri; one incomplete radius; portions of the pelvic girdle; two incomplete femora, one of which could be measured; one complete tibia and portions of five others; of bones of the digits, eighteen were those of the first phalanx, seven of the second phalanx, and ten of the third phalanx (hoof-core); one first cervical (atlas) vertebra; one second cervical (atlas) vertebra; and a fifth cervical vertebra.

Of the thirty-four metatarsal and metacarpal bones, fourteen are of young animals. Of the eleven complete metacarpal bones, six could be paired, and thus of the eight animals represented, measurements indicate their height at the shoulder as ranging round 3 ft. 4 in., animals

comparable in size with those of the modern breed of Kerry cattle.

The length of the femur also corresponds with that of an animal of about this size, but the tibia and humerus indicate an animal or animals slightly taller but of slender build.

Of the ten skulls, one represented a young animal of about twelve months; the others were adults. These skulls were measured and the measurements compared. This comparison showed that, with one exception, the skulls were fairly uniform in size. The horn-cores in general were small, fairly straight, and in section slightly oval at their base. With one exception, in which the horn-cores were markedly incurved, resembling that feature so characteristic of the modern Jersey cow, they all possessed horn-cores which projected but slightly forward of the occipital plane of the skull, and the upward extension of the tips of the horn-cores did not amount to more than 50-60 mm. at most above the frontals. In some skulls there was a marked depression of the frontals between the orbits, but the occiput was fairly uniform throughout the series save in one skull, and this the largest. In this skull the posterior border of the frontal eminence showed a marked projection overhanging the occipal region; apart from this feature, which may possibly be an abnormality, the skull showed no exceptional features of interest, since measurements indicate that it was not much larger, if at all, than some modern breeds, and was very much smaller than several calvaria of *Bos taurus* var. *primigenius* (Bojanus) in the Museum collections. Apart from this incomplete skull, with its unusually large frontal eminence, the remains are in my opinion those of the Celtic short-horn (*Bos taurus* var. *longifrons* Owen).

The ox skulls from the Well in the HQB

C. Bryner Jones contributed a longer report on the ox skulls from the Well. His analysis of the individual skulls was similar to that of Lionel Cowley, but he concluded with these comments upon the group as a whole:

> "The group of skulls from Chesterholm is of special interest because they can be dated so closely to the period immediately following A.D. 370. We have, in them, therefore, authentic remains of the domesticated cattle of that part of Britain at the

end of the fourth century and sufficiently well preserved to enable us to form a fairly clear idea as to how they compared with modern cattle, so far as can be judged from the form and size of the skulls. The Chesterholm cattle were evidently a mixture of types such as may still be found in districts where the unimproved stock has been crossed from time to time with various breeds. It is probable that the cattle in medieval Britain were, in general, of the same varying types as those of Romano-British times, from which they were directly descended, and if the various modern British breeds were mixed and kept under similar conditions to those that obtained at the end of the fourth century, it is equally probable that it would be difficult to find much difference between them and those of Roman Britain."

REPORT ON THE ANIMAL REMAINS FROM THE DIOCLETIANIC SOUTH GATE

George Hodgson, M.Sc.

PART ONE

The animal remains were identified as to species by direct comparison with specimens in the Hancock Museum, Newcastle. Where possible measurements were made so that a comparison of the size ranges of animals present at *Vindolanda* could be made with those retrieved from the Roman settlement of *Corstopitum*[1].

Species present (Number of identified bones or parts of bones is given in brackets).

Cattle—Celtic Shorthorn variety *Bos taurus longifrons* (Owen) (299).
Sheep—*Ovis aries* (Linn.) (28).
Pig—*Sus domesticus* (11).
Horse—*Equus caballus* (Linn.) (2).
Red Deer—*Cervus elaphus* (Linn.) (10), (includes 9 fragments of deciduous antlers).
Bird Species unknown (5) bones from birds approximating in size to a large fowl.
Snail—1 shell.

Minimum number of animals represented by the remains is Cattle (12), Pig (3), Sheep (2), Horse (1), Red Deer (1), Bird (1), Snail (1).

The bones of the domestic animals bear signs of butchering and most of the long bones have been split as though for marrow. None of the bones show signs of having been burnt.

Ages of domestic animals on slaughtering

Cattle—Of the ten left mandibles and eight right mandibles recovered, two left and two right specimens still bear the milk dentition. Evidence of young calves dying or being killed was also gained from several long bones where the epiphyses had not yet fused to the shaft. Most of the jaw bones belong to cattle which had survived two winters but none of the jaw bones are from old cattle—the teeth not being heavily worn.

Sheep—One left and two right sheep mandibles were classified as to the age of the animal on death.[2] The ages of the three animals at death were 6 months (stage h), 9 months (stage j) and older than 24 months (stage z).

Pig and Horse—insufficient evidence to comment on age at death.

Sizes of animals present

Of the 174 measurements made on the bones only five did not fall within the size range known for the same bone from animals recovered from *Corstopitum*. The five extensions to the size ranges for Romano-British domestic animals are reported in Part Two as is a summary of the metrical data. The cattle remains included 11 horn cores ranging from being mere scurs to one fairly massive specimen. (Circumference at base=21.3 cm.) The sheep are of small slender legged variety (no skulls were recovered). The pig remains were scanty and eroded but indicate a small (young?) variety. The horse remains were from an animal as small as a modern pit pony. The Red Deer antlers are much more massive than those of present day animals.

PART TWO

Summary of metrical data (N.B. Not all identified specimens could be measured due to erosion and damage due to butchering.)

(a) *Bos taurus longifrons* (Owen)≡*Bos brachyceros* (Rütimeyer).

Axis vertebra width 7.6 cm.

Scapula, 23 specimens, min. width neck 4.2*-6.3 cm. (extends *Corstopitum* range by 0.1 cm.),

$$\frac{\Sigma x}{n} = 4.7 \text{ cm.*},$$

diam. glenoid cavity 4.6-5.6 cm.,

$$\frac{\Sigma x}{n} = 5.0 \text{ cm.}$$

* excludes one specimen from calf (?) 2.9 cm.

Humerus, 27 specimens, distal width 5.5*-7.6 cm. (excludes two calf (?) specimens of 2.9 cm. and 3.4 cm. width)

$$\frac{\Sigma x}{n} = 6.6 \text{ cm.*,}$$

Radius, 22 specimens, proximal width 5.7-7.4 cm. (lowers *Corstopitum* range by 0.6 cm.)

Distal width 5.7-7.0 cm., $\frac{\Sigma x}{n} = 6.1$ cm.

Proximal width 5.7-7.4 cm. $\frac{\Sigma x}{n} = 6.5$ cm.

Ulna, 14 specimens—no measurements taken.

Metacarpal, 33 specimens, proximal width 4.4*-6.4 cm. (excludes one calf (?) specimen of 3.8 cm.),

$$\frac{\Sigma x}{n} = 5.1 \text{ cm.*}$$

Distal width 4.9-6.2 cm., $\frac{\Sigma x}{n} = 5.4$ cm.

a single entire specimen measured 18.4 cm. length.

Femur, 5 specimens—no measurements taken.

Tibia, 18 specimens—proximal width 5.4-8.5 cm.,

$$\frac{\Sigma x}{n} = 6.6 \text{ cm.}$$

Metatarsal, 30 specimens, proximal width 3.5-4.8 cm. (extends lower range for *Corstopitum* by 0.3 cm.),

$$\frac{\Sigma x}{n} = 4.2 \text{ cm.}$$

Distal width 4.5-5.5 cm., $\frac{\Sigma x}{n} = 5.0$ cm

a single entire specimen measured 20.3 cm. length.

Astragalus, 10 specimens—length 5.6-6.7 cm. (extends *Corstopitum* length by 0.4 cm.)

First phalanx

18 specimens, length 5.1-6.4 cm., $\frac{\Sigma x}{n} = 5.7$ cm.

breadth 2.3-3.1 cm., $\frac{\Sigma x}{n} = 2.7$ cm.

Second phalanx, length 2.6-3.9 cm. (extends lower range for *Corstopitum* by 0.7 cm.),

$$\frac{\Sigma x}{n} = 3.4 \text{ cm.}$$

breadth 2.5-2.7 cm., $\frac{\Sigma x}{n} = 2.6$ cm.

(b) *Ovis aries* (Linn.)

Scapula, 2 specimens. Minimum width of neck = 1.9 cm.
Max. diam. glenoid cavity = 1.9 and 2.5 cm.
Humerus, 2 specimens. Distal widths = 2.4 and 2.7 cm.
Radius, 2 specimens. Proximal widths = 2.7 and 2.7 cm.
Metacarpal, 3 specimens. Proximal widths = 1.9 and 2.0 cm.
Tibia, 8 specimens. Distal widths = 2.6, 2.7, 2.7 and 2.7 cm.
Metatarsals, 3 specimens. Proximal widths = 1.8, 1.8 and 1.9 cm.
Astragalus, 2 specimens. Lengths = 2.6 and 2.7 cm.

Discussion

The animal remains are similar in species and size ranges to those recovered from the Roman site at Corstopitum.[1] The remains indicate that beef was the major source of meat with pig and sheep apparently supplementing the diet. The presence of bones belonging to young animals of all three species may suggest either an inability to raise livestock to an optimum size and age as regards meat production or a preference for calf (veal), lamb and young pig, or may reflect different modes of cooking for young and old animals resulting in unequal chances of bone preservation.

References

1. Hodgson, G. W. I. (1968)—*Archaeologia Aeliana*, 4th Series, Vol. XLVI pp. 127-162.
2. Ewbank, J. M., Higgs, E. S., Phillipson, D. W., Whitehouse, R. D. 1964—"Sheep in the Iron Age. A Method of Study." *Proc. Prehist. Soc.* 1964 pp. 423-426.

REPORT ON ANIMAL REMAINS FROM THE LEVEL BENEATH THE APSE, ROOM III, *mansio*

In all 97 fragments of bone or teeth were received. The following were identified by direct comparison with modern museum specimens. The remainder of the fragments are thought to be from smashed cattle skulls and vertebrae.

CATTLE (Bos longifrons)—Celtic Shorthorn Type

Humerus (left) distal end only 6.1 cm. in width.

Metacarpal

(left)	(right)
1. Proximal width = 4.8 cm.	1. Entire (gnawed) (a) proximal width = 5.0 cm. (b) distal width = 5.4 cm. (c) length = 18.2 cm.

Metatarsal

(left)	(right)
1. Proximal width = 4.1 cm.	1. Entire (a) proximal width = 4.1 cm. (b) distal width = 4.8 cm. (c) length = 19.8 cm.

Phalanges

First phalanx	1.	Sagittal length = 5.3 cm.
Second phalanx	1.	Sagittal length = 3.6 cm.
	2.	Sagittal length = 3.6 cm.
Third phalanx	1.	

Mandibles

(left)	(right)
1. Dentition M_3,2,1. P.M_4.	1. Dentition M_3.
2. Dentition M_3.	

Teeth. There were five single selenodont teeth typical of Celtic Shorthorn cattle.

Vertebrae. There were nine butchered "cattle" vertebrae.

SHEEP (Ovis aries L.)

Femur. Left shaft only.

PIG (Sus domesticus L.)

Calceineum—left—entire.

RED DEER. (*Cervus elaphus* L.)

Metatarsal left entire.

(a) Proximal width = 3.5 cm.
(b) Distal width = 4.0 cm.
(c) Length =29.4 cm.

AVES Species Unknown.

A possible Tibio-Tarsus—eroded.

Minimum numbers of animals

Two ox (on basis of left mandibles)
One sheep
One pig
One red deer
Possibly one fowl

Ages of cattle on slaughter. On the basis that each mandible bears a *third permanent molar* which has erupted but is not worn the animals were apparently aged between two and two and a half years old.