

### III.—AN IRON AGE SETTLEMENT AND HOMESTEAD AT BURRADON, NORTHUMBERLAND

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#### SUMMARY

In south east Northumberland and on the north east coastal plain generally, a large and growing number of rectilinear ditched enclosures are known as crop-marks on air-photographs (*Arch. Ael.*,<sup>4</sup> XLVI (1968)). Excavation of one of these sites at Burradon (NZ:2773) revealed an enclosed settlement consisting of round timber-built huts of various structural phases, whose foundation may be related to sherds in the Earliest Iron Age tradition. Superimposed upon this earlier enclosure was a homestead of one large, round, timber-built house, also lying within a rectangular enclosure. This was probably occupied during the second century A.D. Wider implications for the settlement of the coastal areas of the Tyne-Forth Province during the Iron Age are also discussed.

#### INTRODUCTION

This site, hitherto listed as Burradon,<sup>1</sup> was one of three ditched enclosures of rectangular form situated near to the colliery village of Burradon in south east Northumberland. Shortly after their discovery from the air, two of the sites were covered by housing development before excavation

<sup>1</sup> N. McCord and G. Jobey, "Notes on Air Reconnaissance in Northumberland and Durham", *Arch. Ael.*,<sup>4</sup> XLVI (1968), 64.

could be undertaken and, in September 1968, it was learnt that Burradon 1 was also threatened by the removal of clay for a new major road. Consequently, part of the site was leased in advance of road-works and excavations were carried out during the winter and spring of 1968-9. Grateful acknowledgements are made to extra-mural and internal students of the University of Newcastle upon Tyne, for their most valuable contributions in thought and deed during the rigours of a northern winter, and to the Ministry of Public Building and Works for prompt and generous financial aid, sufficient to cover the costs of the excavation. I am also indebted to Mr. W. Preston for assistance with the ground survey and to the contributors of specialist reports. Mr. W. Younger, owner of the farm, willingly agreed to the rescue operations and gave continued support and interest in difficult times.

THE SITE (fig. 1) NZ:269729

In common with many of the early enclosures in this predominantly boulder clay countryside, Burradon 1 lies on a slight ridge, here at an altitude of sixty-seven metres (220'). Borings in the vicinity reveal underlying clay up to a depth of 4 metres, so that the need to secure some natural drainage would have been an important factor in settlement location until comparatively recent times. Further to the east, the fifteenth century Burradon tower as well as the present day farmhouse take advantage of the same ridge. A short distance to the south, also on a slight rise, is the village of Burradon and the sites of the enclosures Burradon 2 and 3. To the north, the land falls gently into the valley of the Seaton Burn before gradually ascending to a more prominent ridge which carries the old and new townships of Cramlington and two rectangular enclosures listed as Cramlington 1 and 2.<sup>2</sup>

From the evidence presented on air-photographs,

<sup>2</sup> *Ibid.*, 17 and 35.

Burradon 1 has already been recorded as a homestead probably of Iron Age context, lying within a double rectangular enclosure. At the same time, attention was drawn to a small group of possibly analogous enclosures, all with well spaced ditches, included amongst the numerous sites of rectilinear form which lie in the fifteen miles of urban and arable countryside between the lower reaches of the Tyne and Wansbeck. There are no earlier references specifically to this site but, together with others, it may have been still visible as an earthwork in the early nineteenth century when Hodgson recorded a series of "camps" running from Long Benton in the south, through Cramlington and Plessey, to Morpeth in the north.<sup>3</sup> Various "Chester" place-names are mentioned in medieval records referring to the area generally, but once again these cannot be related precisely to known enclosures.<sup>4</sup> Certainly the field in which the site is situated has been under fairly constant tillage since the opening years of the present century.

#### EXCAVATIONS

A total area of over four and a half thousand square metres was eventually uncovered. The modern plough-soil was removed to within a few centimetres of the underlying clay surface mainly by mechanical means and the remainder was hand-trowelled. Modern deep ploughing obscured the presence of earlier broad rig cultivation and together these had removed the original occupation levels. In some instances the deep furrows of the earlier system of tillage, falling at intervals of 6·7 metres (22'), had also obliterated some portions of the structural remains. Additional but minor disturbances were caused by an early system of "stane-drains" and trenches for more recent tile-drains.

As was patently the case in earlier times, drainage of the

<sup>3</sup> J. Hodgson, *History of Northumberland*, II, ii, 306.

<sup>4</sup> Some are listed by A. Hogg, *P.S.A.N.*,<sup>4</sup> XI (1947), 140 ff.

site proved a constant problem during excavation in the winter months and could only be resolved by opening up part of the Iron Age ditch system at an early stage and pumping. Conversely, in drier spells, the clay surface quickly became unworkable unless water was spread.

As the excavation progressed it soon became apparent that more than one main structural phase or period of occupation was present. For convenience these are described in chronological order, beginning with the earlier settlement, but, because of the paucity of strictly associated finds, the discussion of dating has been left to the conclusion.

#### THE EARLY IRON AGE SETTLEMENT

This settlement consisted of a number of round timber-built huts and drainage gullies of various phases, all of which would seem to be associated with the outer enclosure ditch. The term "settlement" has been used without prejudice as to the exact number of huts occupied at any stage or the size of the social units involved.

##### (a) *The Perimeter* (figs. 2 and 3)

Only the south side of the outer enclosure ditch could be disengaged for any length, together with a small area excavation over the ditch terminals at the east facing entrance. Consequently, it has been necessary to plan the remainder of the perimeter from air-photographs. The enclosure was almost square in shape with rounded corners, except for an outward divergence of the ditch from the eastern corners towards the entrance. The total internal area within the ditches was *c.* 0.7 hectares (1.7 acres) which, originally, would have been reduced somewhat by the presence of an internal bank.

A fairly constant width of 3 metres was maintained by the ditch in the excavated area and, in the one cutting that

time allowed (X-Y), its profile had gently sloping sides leading to a rounded bottom at a depth 1.25 metres from the present clay surface. At this depth a lense of running sand was encountered which had probably determined the depth of the original working in this particular sector. The basal fill (fig. 3, 5) consisted of compact clay silt, above which a deposit of mixed clay (3) had entered from the inside lip and was presumably derived from an internal bank. Except for dispersed and minute flecks of carbon, chiefly in the bottom silt, there was a notable absence of organic material in this cutting and there were no small finds. No obvious recutting could be detected but this need not preclude the possibility of periodic cleaning out of the ditch bottom. Indeed, in climatic conditions comparable with the present day, bottom silt could have accumulated quickly. In three winter months of 1968-9 up to 0.2 metres of material, albeit not compacted, collected in open ditch cuttings mainly because of frosting and subsequent down-wash.

Although no upcast remained on the interior there were thin and intermittent patches of light grey material, resembling leached turf, for a distance of some 3 metres beyond the inside lip of the ditch and along the almost fully excavated length of the southern perimeter. A similar phenomenon was encountered within the later homestead enclosure, so that it may be assumed with some confidence that this was the remains of turf originally sealed by an upcast bank and thus partly protected from total erasure by later ploughing. If such were the case, the bank itself must have been of simple dump construction, there being no post-holes in the clay surface for timber revetments or stones suitable for a kerb in the ditch-fill. A stable bank could easily have been formed from clay of this consistency, against which frost would have been the chief natural destructive agency.

(b) *The Entrance* (fig. 3, plate Va)

This was situated on the east side slightly north of centre. A growing crop prevented access to this area until after the main excavation had closed and there was no time available to empty the ditch-terminals, although they were fully exposed in excavation. The interval between these terminals had been reduced on the inside by two slots, intended for short timber fences of closely set posts. These had been sunk to a depth of 0.6 metres below the clay surface and back packed with clay and some small packing stones (plate V a). Two more substantial posts, possibly braced across the top, had formed the gateway itself and no doubt took the strain of a gate. A scatter of small stones, well lodged in the surface of the clay, appeared to be the remains of a pathway at some stage.

There was some evidence to suggest that certain fence posts had been replaced, but this was not assured. Certainly, the fibrous nature of the clay fill in the post-holes indicated that the fences had finally decayed in position. It remains to add that this timber gateway could only have been aligned on the forward edge of an internal bank, and although the evidence was against the fences having ridden up onto the crest of the bank to form a continuous feature, the possibility of a surmounting palisade is not thereby denied.

(c) *The Huts* (figs. 4 and 5, plate II)

So far as the area under excavation allows one to say, the timber-built huts to be associated with this enclosure were all situated in the central area. All lay within artificially cut drip-trenches or drainage gullies filled with a blue grey clay silt which, at best, showed only slight differences in colour as between one gully and another. None of the gullies contained packing stones or post-impressions, nor did their general form imply a structural purpose after the fashion of the so-called "ring-groove" houses of the uplands.<sup>5</sup> Generally,

<sup>5</sup> e.g. *R.C.A.M. Roxburgh*, I, 19.

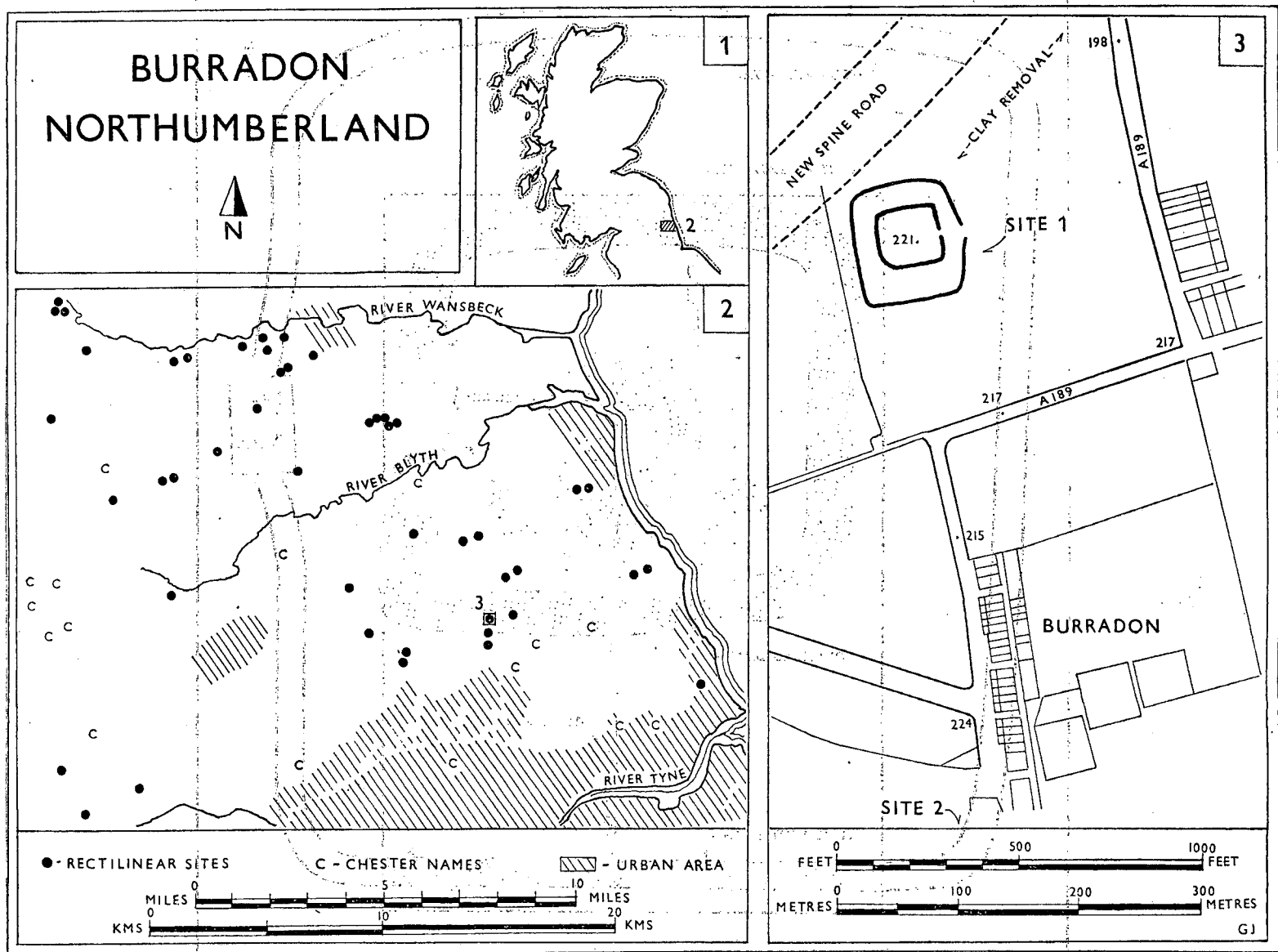


Fig. 1.

BURRADON :: NORTHUMBERLAND

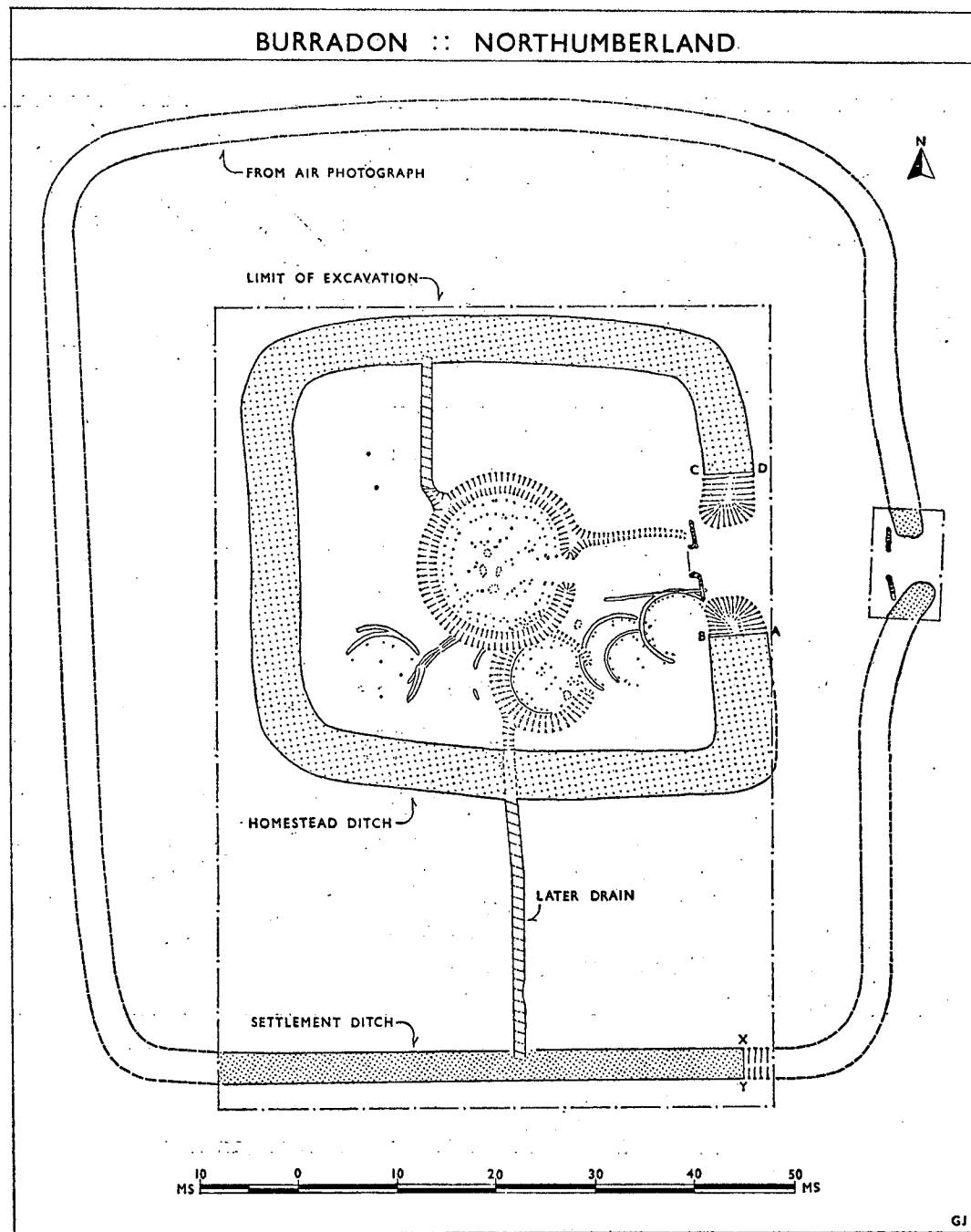


Fig. 2.



# BURRADON SETTLEMENT

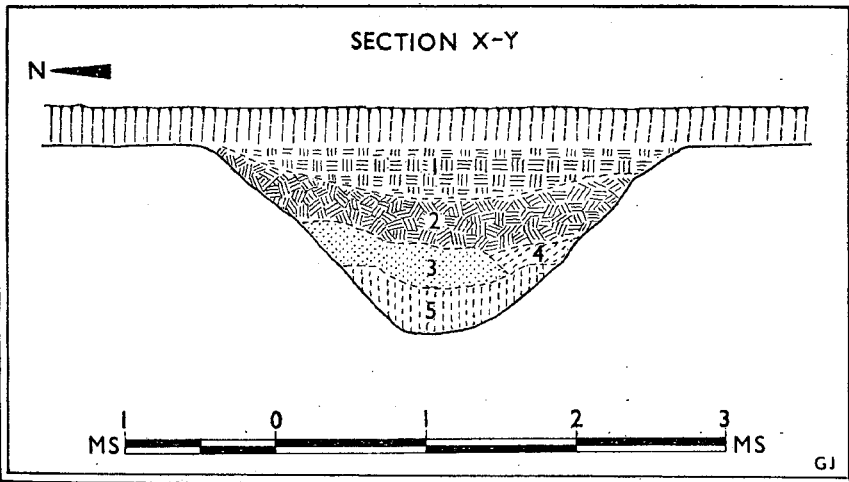
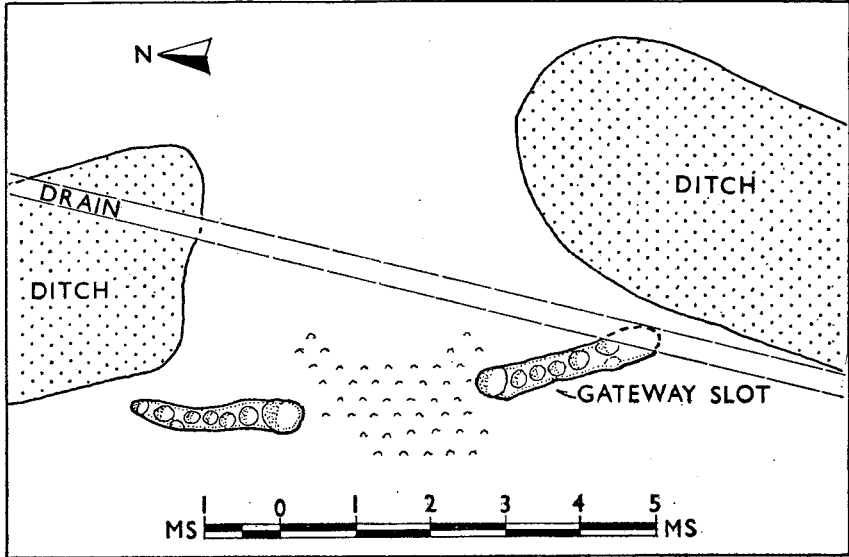


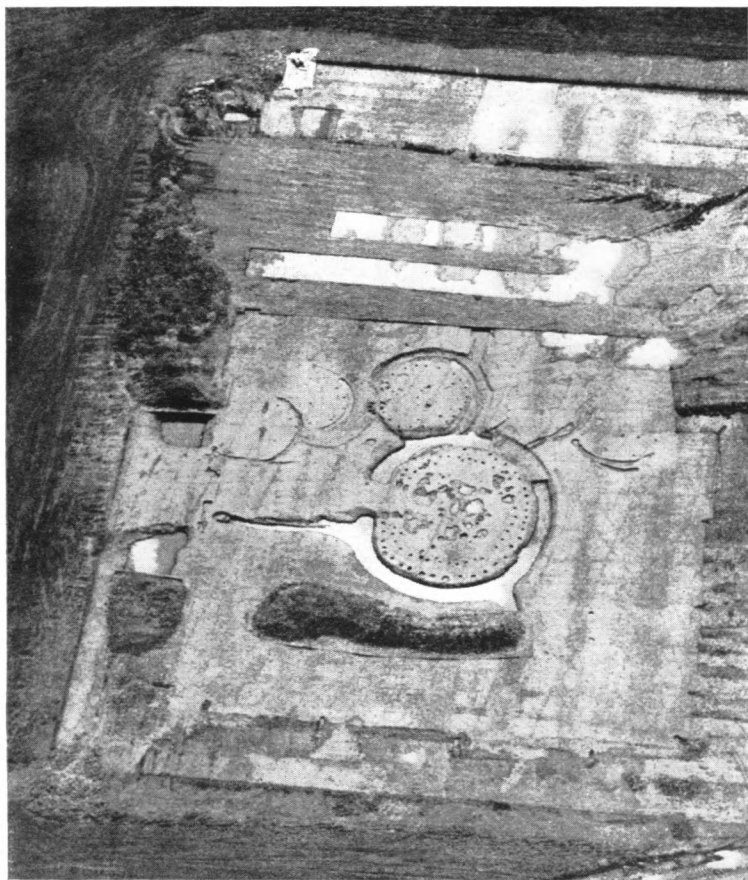
Fig. 3

the deepest part of individual gullies lay on the west and presumably weather side, away from the doorways of huts. Some of them, as found, formed no more than arcs of circles, and although this may well have been their original state, such cannot be assumed without question. Two additional factors need to be borne in mind: first, in certain cases, the erasive action of later broad rig cultivation and second, the possibility that the gullies in their original form had continued to decrease in depth towards the east facing entrances, thus riding up into a level subsequently ploughed away.

By and large, the post-holes for internal structures were difficult to detect except in those few cases where packing stones had been used. Even when conditions were favourable, no more than a slightly pink tinge on the clay surface betrayed their presence. Therefore, under the prevailing demand for urgency, efforts were directed towards what seemed to be two more important objectives; namely, the determination of the number of hut-sites as revealed by gullies and the subsequent investigation of apparently "empty" areas. It is certain, therefore, that more post-holes remained to be found within the hut positions, and it would be unwise to attempt improbable reconstructions solely on the basis of those post-holes that were detected and proved. The fill of the numerous post-holes that were emptied was quite different from that of the gullies. It consisted of a slightly pink friable clay, fibrous in the lower reaches, as if in all cases the posts had decayed in position or rotted through at ground level.

### GULLY 3

This formed slightly more than half the circumference of a circle with an internal diameter of *c.* 7.0 metres. It was 0.4 metres wide and a maximum 0.3 metres deep in the west, but faded out in a furrow to the south and did not appear on the subsequent rig. A series of internal post-holes, 0.2 to 0.3 metres wide and deep, were traced for part of a circle



Burradon 1, in process of excavation



Burradon 1, hut gullies and drainage ditches

with a diameter of *c.* 5.5 metres. Only two of these were stone packed and may have supported the jambs of an east facing door. A patch on the interior clay surface, reddened by heat, lay immediately to the south of the presumed centre of the hut, probably marking the site of an associated hearth.

This gully was demonstrably earlier than the stone-packed trench which cut its northern arc and, as will be apparent, could not have been contemporary with the inner enclosure ditch. The only significant finds were two wall-sherds of hand-built pottery in Earliest Iron Age tradition, recovered from the bottom of the gully beneath its silt filling (fig. 8, no. 2).

#### GULLY 2

This was of similar proportions to gully 1 and formed less than half the circumference of a circle with a diameter of *c.* 5.8 metres. An almost complete circle of internal post-holes was disengaged, outlining a hut some 5 metres in diameter. This structure could not have been contemporary with *no.* 1 and, at the point of intersection between the two gullies, it appeared to be the earlier feature.

#### GULLY 3

Here, the internal post-holes, so far as they were revealed, indicated a hut with a diameter of *c.* 7 metres, although it is also possible that more than one structural phase was represented. As the gully terminated abruptly in the east and faded out in a furrow on the south, its precise relationship with *nos.* 1 and 2 could not be determined, except that simultaneous occupation was clearly impossible. On the other hand, it was demonstrably earlier than ditch 4*b* at the point of intersection. A few wall fragments of Iron Age pottery were found embedded in the clay surface within the hut, but these lacked any precise chronological traits.

## GULLY 4a, DITCHES 4b and 4c

Gully 4a, which was similar to those already described, had been partly removed by the penannular ring-ditch, 4b. The latter was up to 0.9 metres wide and 0.5 metres deep to a rounded bottom. Its width and depth decreased somewhat towards the east facing entrance so that the intention may well have been to drain water away from that point. Close to the top of the silt filling this ditch and gully 4a were thin but extensive patches of daub-like material, presumably from an internal hut. Ditch 4c was of similar stature to 4b and, below the top of the overlying silt, was separated from it by a medial mound of undug clay. Flecks of daub were present in the lower silt of 4c, which points to this ditch being open after 4a and b had already silted up and makes it last in this particular series.

The whole complex was earlier than the large homestead house, whose drainage ditch had removed parts of 4a, b and c. A thin spread of clay had also been placed over the silted remains of 4c where it impinged on the floor of this later house.

At least one round timber-built hut, with a diameter of c. 6.8 metres, can be envisaged within the area so demarcated and a second, with a diameter of c. 5.5 metres, is possible if allowance be made for some post-holes not detected. One shallow pit-hearth, red from burning, contained a mixed fill including some pot-boilers but was well off centre in the enclosed area.

Small finds included a few wall-sherds of Iron Age pottery from the hearth and fill of the ditches, one broken saddle-quern from the bottom of ditch 4b and a second fragment, re-used as a packing stone, in a post-hole forming part of the entrance complex. Two sherds of Romano-British pottery of later second century date were embedded in the very top of the silt filling ditch 4b, which, if *in situ*, would provide a possible *terminus ante quem*.

## GULLIES 5, 6, 7 and 8

The extent of these features was limited but, with the exception of the rather straight length of gully 6, all had sufficient curvature to qualify them as less complete indicators of the sites of huts. This being so, gully 5 could not have existed simultaneously with the ditch system of 4 in any phase, whilst gullies 7 and 8 could not have served together or have been contemporary with 5. Gullies 5, 6 and 7 had all been cut short by the later drainage ditch of the homestead house.

Unfortunately there was no time available to make a prolonged search for post-holes within the areas outlined by these gullies.

## GULLIES 9a and 9b

Two phases were undoubtedly present here, but the gullies were only 0.2 metres deep and their relationship to each other and to gully 8 could not be determined with any certainty. Only the most obvious post-holes were investigated.

(d) *Discussion of Horizontal Stratification* (fig. 5, plates I & II)

From the foregoing, it will be apparent that all gullies or huts, with the exception of nos. 8 and 9, can be shown to be earlier in context than either the drainage ditch surrounding the large central house or the enclosure ditch of the homestead. In addition, as we shall see, there will be need to allow space for an internal bank in the homestead enclosure which not only confirms the primary nature of these hut positions but also establishes nos. 8 and 9 as members of the same series. It then follows that these huts, if they were enclosed at all, can only be associated with the outer enclosure ditch already described. Whereas early unenclosed huts are known elsewhere, including the uplands of the

Border country,<sup>6</sup> the central location of the Burradon huts leaves little reason to doubt this proposed association even though direct proof is lacking.

Despite a careful and prolonged search, no further hut sites that could be related to this earlier settlement were found. Indeed, with the exception of a single pair of post-holes, which could belong to either the settlement or the later homestead, no additional structural features came to light in the comparatively large "empty" area of the settlement that was excavated. Nor were there any changes in the levels of the present sub-soil sufficient to account for this absence. Therefore, although one is mindful that the whole of the enclosed area was not excavated, it is conceivable that this series of huts, placed as they were in the central area of the enclosure, formed the full complement of the earlier settlement.

Assuming that all gullies with the exception of no. 6 marked the sites of huts, then a minimum of eight will have existed over a span of time. This number can be increased to eleven if the situation at nos. 4 and 9 is taken to imply replacement of huts rather than mere refurbishing of a drainage system. Nevertheless, whichever number is adopted, we have seen already that all huts were not contemporary, and, in fact, spacing decrees that no more than three hut positions in this series can have been in use at any one time. A problem thereby arises which cannot be resolved with certainty from the evidence obtained in excavation. It is simply whether a lengthy but continuous occupation, demanding a gradual replacement of huts on new sites, or an intermittent occupation, whereby periods of desertion were followed by rebuilding, is to be envisaged to account for the phenomenon. Periodic occupation of a more long term nature than mere seasonal transhumance is always possible, and should not be neglected as a factor in future enquiries on similar sites. If this were the case at Burradon, then, working on evidence available in the excavated area, a minimum of

<sup>6</sup> e.g. R.C.A.M. *Peebleshire*, I, 22, i.e. unenclosed platform settlements.



five occupations would be required to account for eleven hut positions, where no more than three huts were occupied at any one time.<sup>7</sup>

One way or another, this settlement may have seen use over a fairly lengthy span of time. By much the same token, even if more hut positions remained to be found in the unexcavated area, only a comparatively small social unit could have been involved at any one stage.

#### THE HOMESTEAD (figs. 2 & 4, plates III, IV and Vb)

The homestead was so placed within the settlement enclosure that the entrances to both were more or less aligned with each other and the doorway of the large central house. This alignment, already apparent on air-photographs before excavation, had led to the assumption that all were most probably of simultaneous construction. As has been demonstrated, this is a theory no longer tenable and the large central house, together with the inner enclosure ditch, can best be seen as a later entity superimposed on an earlier enclosed settlement.

##### (a) *The Perimeter* (figs. 2 & 6)

The almost square inner enclosure had an area of 0.15 hectares (0.37 acres) within the line of a ditch which varied in width between 4.5 to 5 metres. Only two stretches of ditch were emptied, those on either side of the east facing entrance, where the maximum depth was 2.25 metres to the bottom of small slots present in both sections. It is not known whether these slots resulted from subsequent cleaning out of the ditch bottom or from an original method of working as employed on some Roman military works. In either event, the slippery

<sup>7</sup> Various combinations are possible, all theoretical. For example, one in which direction in time is determined by increased depth of drainage ditch and eventual reduction in the size of the unit to that of a homestead would be (1) nos. 1, 4a, 8; (2) nos. 2, 5, 9a; (3) nos. 3, 7, 9b; (4) no. 4b; (5) no. 4c.

nature of the clay sides would almost demand some flat working space as they converged towards the ditch bottom.

Compact blue grey silt, broken by lenses composed of twigs or branches and a small amount of skeletal refuse, formed the lowest layer of the ditch fill (fig. 6, 5). The corrugated appearance of the upper limit of this band may betoken some partial redigging or clearance of the ditch, but this is not certain. A second stratum of clay silt with grits (4) was partly overlaid by a compact mixed clay (3), clearly derived from the inside of the enclosure and probably from an internal bank. A further mixed clay fill (2) may have resulted from the ploughing down or deliberate back filling of the remains of this mound. As with the earlier settlement, intermittent patches of leached "turf" were found within the inside lip of the ditch for the whole of the perimeter, thus providing further evidence for an internal bank. It could be significant for the argument in favour of two enclosures of diverse dates that there were differences in the layers and texture of the fill of their respective ditches. The fill of the settlement enclosure ditch was also much more compact than that of the homestead ditch. On the other hand, as we shall see, the gateway structures were very similar.

There were few small finds from the ditch, the bottom silt (5) yielding only one wall-sherd of undecorated Iron Age pottery and part of a stray Neolithic polished stone axe-head.

(b) *The Entrance* (fig. 4, plate III)

This was similar in form to that of the settlement. The two gateway slots were 0.5 metres deep and, in this instance, fairly large packing stones had been used to wedge the timber uprights in position. Unfortunately, some of these had been disarranged by later ploughing. Once again, twin posts of greater substance on either side of the gateway could have been braced across the top to give additional rigidity to the structure. A shallow groove, filled with blue

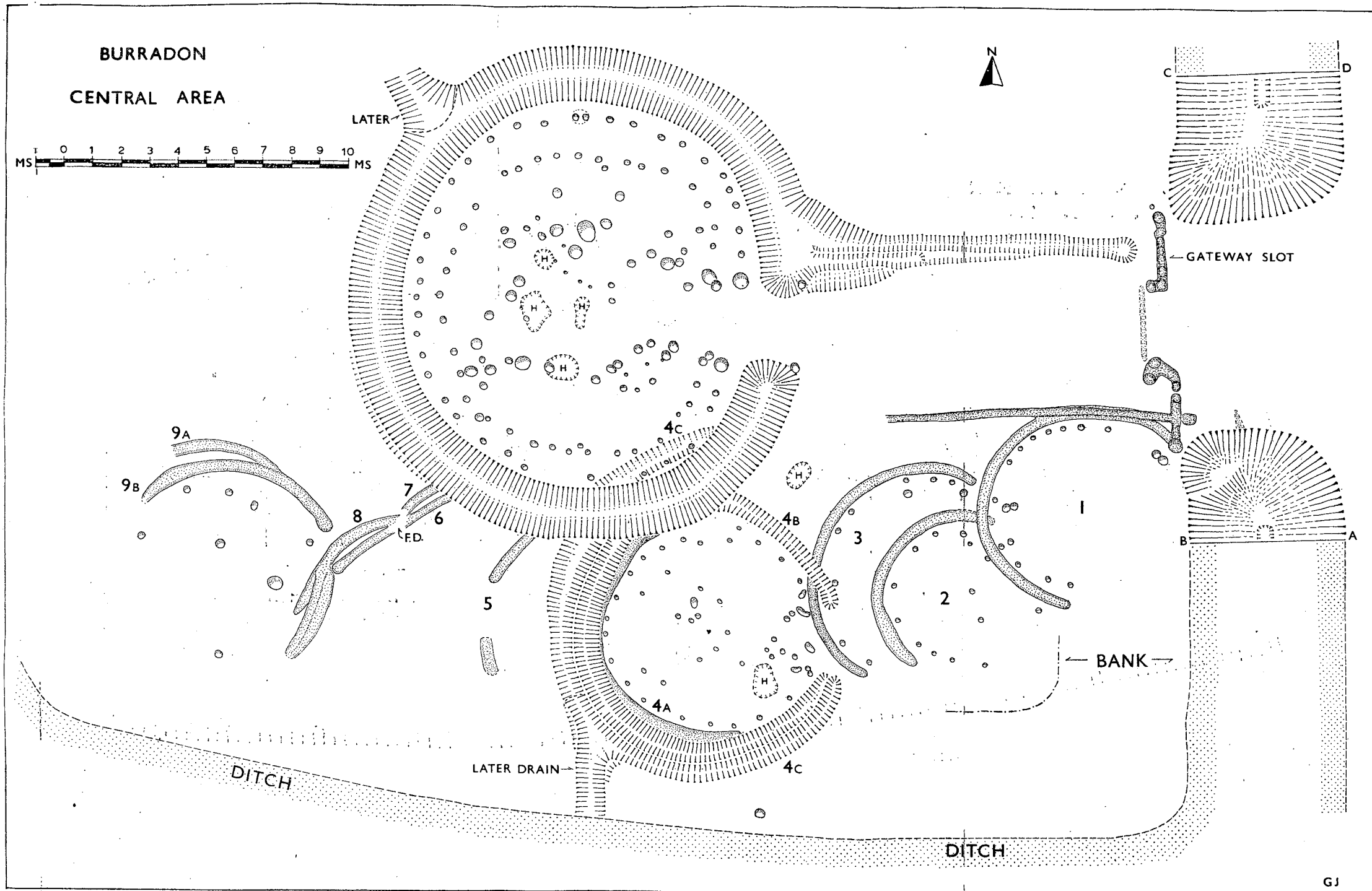


Fig. 4

BURRADON SETTLEMENT  
HUT POSITIONS

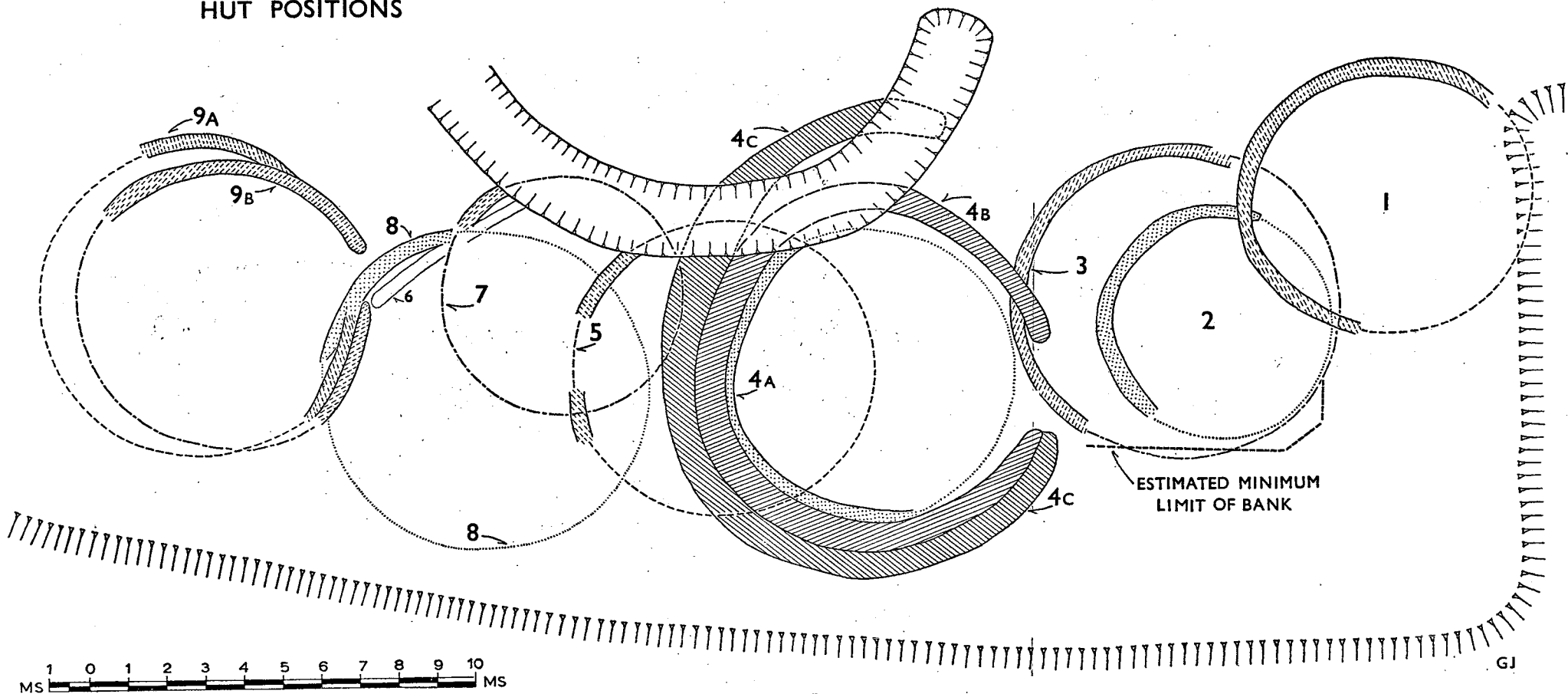


Fig. 5

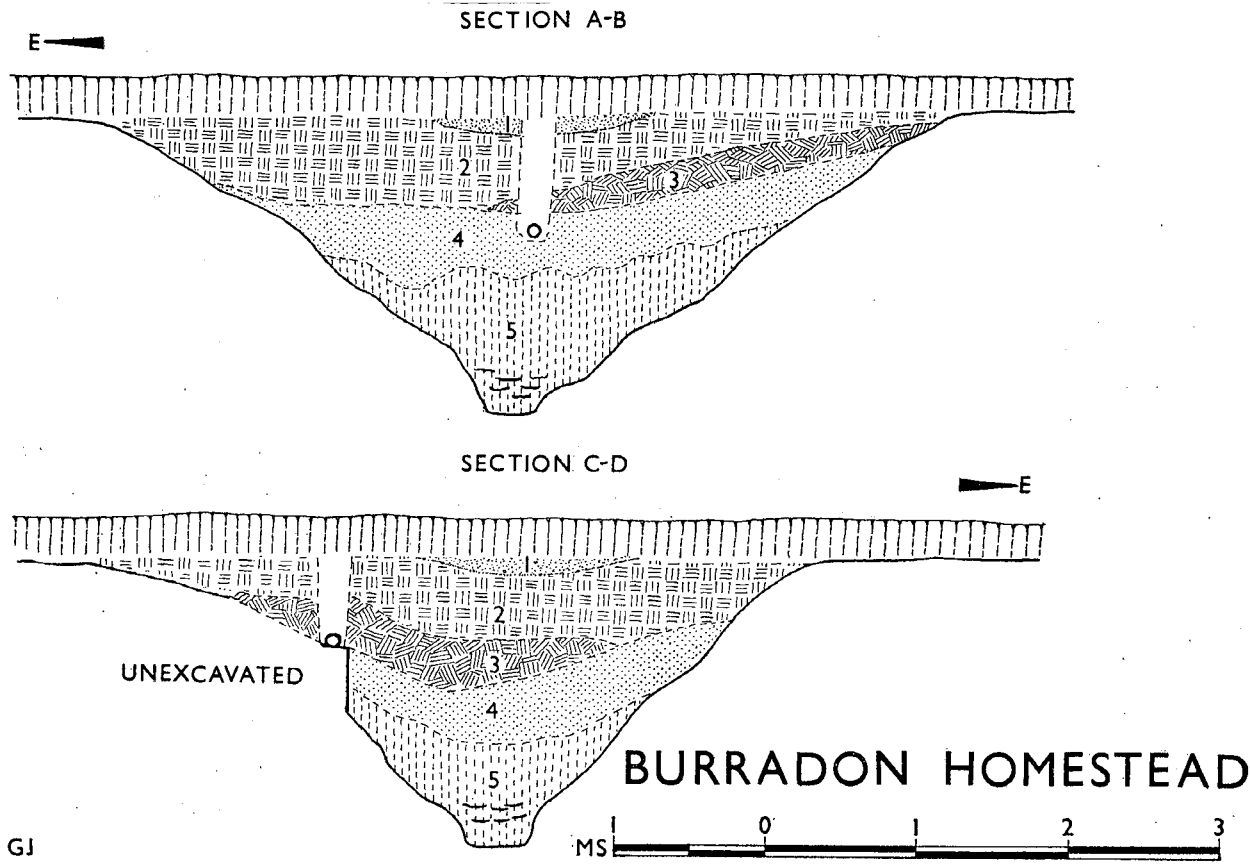


Fig. 6 (Ditch sections v. fig. 2)

grey silt, ran across the inside of the gateway and is best understood as the remains of a drop-trench, used to secure the bottom of a gate which would have been lifted into position. The gateway fences, as previously, would seem to have been free standing and not a continuation of palisades from the crest of the internal bank.

(c) *Internal Fences* (fig. 4)

A trench containing blue silt and some packing stones, ran from behind the south side of the entrance towards the central house before fading out in a deep furrow of the rig and furrow system. It was later in context than gully 1 of the settlement and has been taken to mark a fence-line associated with the homestead.

A similar feature, also with remains of stone packing, lay on the north side of the approach to the central house, running from near to the edge of the house-ditch for at least a short distance towards the main entrance of the enclosure. In this case however, it had been found necessary to put in a later drainage gully on much the same line and, as this had also been redug, the original arrangement was partly destroyed and its extent is unknown.

The function of these fences is difficult to determine, unless somehow they had served to enclose the internal area which remained between the house and the enclosure mound.

(d) *The Central House* (figs. 4 and 7, plate IV)

Provision for the drainage of this house was more ambitious than for the earlier huts, the ditch being c. 2 metres wide and 1 metre deep. At least one recutting was apparent in some sections. Three intrusive features of much later date, pits A and B and a large open field-drain which impinged upon the house ditch in the north west, are discussed below (p. 69). No clues were provided as to the method of disposal of the upcast from the ditch which, in the circumstances, may

well have been added to the enclosure mound.

The house platform itself was not strictly circular, the maximum difference in diameters being in the order of 1 metre—a discrepancy which was also present in the timber structure. The two outer rings of post-holes, with few exceptions, contained no packing stones, their size and fill being similar to that of the majority of the post-holes of the earlier

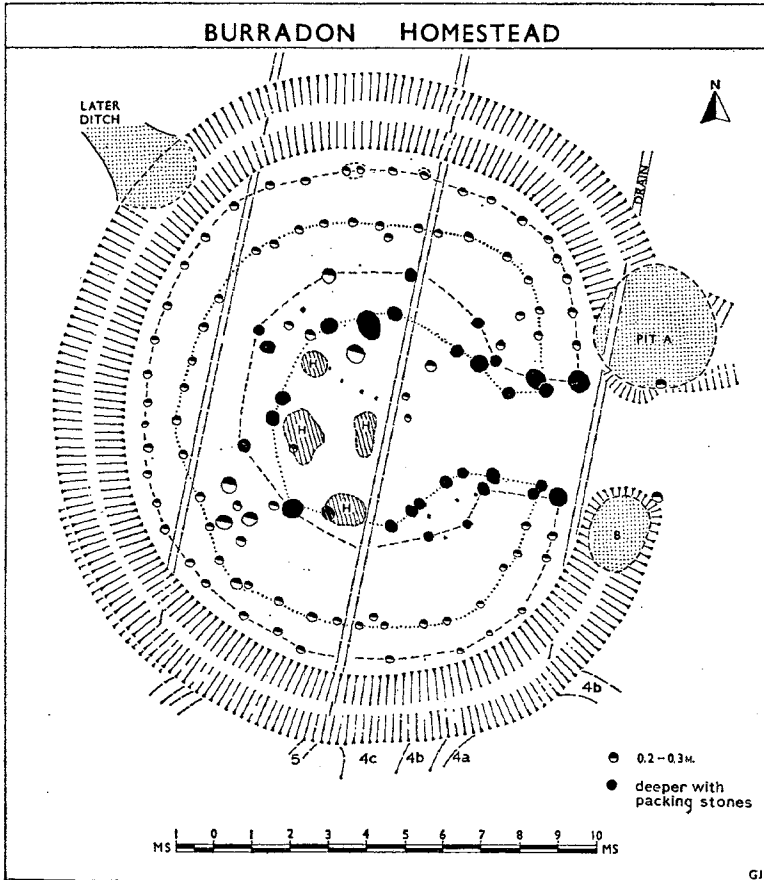


Fig. 7. Central House

settlement. By contrast, post-holes in the central area of the house and those delimiting the entrance passageway were of greater girth and depth and contained packing stones. Stub-ends of small stake-holes, at most 50 mms. in diameter and doubtless intended for light partitions, were also present in the central area. However, most of those that were detected had a mixed carbon fill and it will be apparent from the plan that the full complement was not recovered. Three pit-hearths<sup>8</sup> or ovens, which were unlikely to have been in simultaneous use, perhaps represented only part of the total number of hearths in the area, since additional red patches on the clay surface may well have marked the sites of surface-hearths removed by later ploughing. Furthermore, laminated sections in two of the pit-hearths, consisting of bands of reddened clay separated by thin lenses of carbon, suggested the possibility of at least three attempted refurbishings in both cases. The third pit-hearth overlaid and was secondary to a post-hole of some substance.

From the foregoing it would be possible to assume the presence of a single, round, timber-built house occupied for a lengthy period. By analogy, this could have consisted of an outer ring of eaves-posts, a low inner wall of wattle and daub or wooden boards affixed to timber uprights, a conical roof with rafters and purlins supported by substantial central posts, and perhaps some provision for additional head-room at the entrance. Such a solution, however, in view of the array of interior post-holes, would entail the acceptance of the need for some renewal of main roof supports, or alteration to the central arrangement of uprights, without any comparable replacement of the smaller outer posts. Moreover, apart from the possible burning of the partitions at some stage, no signs of general conflagration in the central area could be invoked to account for such replacements.

An alternative reconstruction is possible, even if it can

<sup>8</sup> The so-called "pit-hearth" is a feature on some upland sites, e.g. *Arch. Ael.*<sup>4</sup>, XLIV (1966), 12 and refs.



be no more than tentative. It will be apparent that the two outer rings of post-holes are not quite concentric, so that if eaves-posts are not envisaged, two superimposed houses are conceivable, one with a wall diameter of twelve metres and a smaller at about ten metres. Such an interpretation would at once relieve the congestion of central post-holes, perhaps account for the different positions of the hearths, and even provide an occasion for the recutting of the drainage ditch around the house. A drawback to this answer would possibly be found in the length of rafters required to span the distances between the outer walls and the appropriate settings of central supports.

The single post-holes on either side of the entrance on the outer edge of the ditch were hardly substantial enough for a porch and are probably best seen as supports for a hurdle to close off the approach to the house.

At points removed from later intrusions, the lower silt in this ditch produced a small number of wall-sherds of native pottery, fire-cracked stones, some skeletal refuse from cooking and a fragment of iron slag. Embedded in the clay surface of the house-platform were three wall-sherds of native pottery and, more indicative as to general date, a fragment of Roman carinated bowl and the broken top stone of a rotary quern. One of the hearths contained some small fragments of coal and cinder in addition to the usual fire-reddened stones or pot-boilers.

#### (e) *Other Features*

The only other structural feature to come to light, and this could have belonged to either settlement or homestead, was represented by a pair of substantial post-holes, 0.4 metres deep and wide, placed 2.2 metres apart and lying to the northwest of the central house (fig. 2). Unlike most other post-holes on the site, these were filled with blue clayey silt and it must be presumed that the uprights had been removed and had not rotted in position. In the circumstances,

any suggestion as to function would be no more than guess-work.

A shallow pit-hearth, 0.1 metres deep and containing two sherds of burnt native pottery, some fire-cracked stones and a fragment of iron slag, lay to the south of the entrance to the house. Being divorced from any structure, its association was also uncertain, but a case could be made for it being the remains of a smithing hearth related to the homestead (p. 80 below).

(f) *Horizontal Stratification*

Little can be added to that already discussed in connection with the earlier settlement. The ditch 4c of the settlement, although well filled with silt, must still have been showing as a surface feature when the homestead was constructed, since it had been found necessary to seal this feature with a thin spread of clay where it crossed the house-platform. It may be thought that this in itself would suggest that there had been little or no interval in time between one and the other. On the other hand, it is always possible that the traces of such a ditch, perhaps on occasion holding water, could well have survived for a considerable period.

LATER INTRUSIONS

(a) *Pits A and B* (fig. 7)

Both pits had been sunk into the compact silt and soil filling the ditch terminals of the large house, presumably for convenience and ease of digging, at a time when this feature was still visible. At an early stage in the excavation of pit A, the possibility of it being the site of a later kiln was entertained, chiefly because of some fragments of baked clay that had already been recovered from the site (p. 80 below). This interpretation, unlike that at the outset, was soon found to be untenable. In short, it seemed that both pits had been asso-

ciated rather with some late clearance on the site, perhaps for agricultural reasons and, in view of their contents, some deliberate investigation of the remains. It is unfortunate therefore that the contents of these pits, thus divorced from their original contexts, form an important element in assessing a chronology for the settlement and homestead.

Amongst the pottery recovered from pit A there were, on the one hand, sherds from a shouldered, finger-printed jar in Early Iron Age tradition and, on the other, sherds of Roman pottery dateable to the late first and early second century A.D. Taken together these must represent the earliest and latest occupation on the site as a whole. Other material included land-stones, daub and various fragments of baked clay, including part of a tuyere. The fill was mixed, so much so that fragments of the same vessel occurred at different depths, as if the material had been dumped haphazardly in a single operation. In a few cases sherds matching those of vessels from the pit were also recovered from elsewhere on the site, so that some form of clearance is hardly in doubt. A general *terminus post quem* for this activity is provided by two sherds of thirteenth century pottery from well down in the pit and, as the base of an overlying furrow was unbroken, it may also be assumed that the pit had been dug before the last ploughing of the rig and furrow system. Pit B was filled mainly with land-stones and silt which had percolated into the interstices, but some sherds of Iron Age pottery and fire-cracked stones were also incorporated at various depths.

(b) *Field Drainage Ditches* (fig. 2)

These two V-shaped ditches were demonstrably later than the drainage ditch of the homestead house and ditch 4c of the settlement at their respective junctions. Their presence also virtually demands the disuse of the enclosure mounds of both homestead and settlement. Apart from this, no firm context can be given, but presumably they were put

in whilst water was still lying in the ditches of the abandoned site and they emphasise the continuing necessity to drain the area before more recent systems were installed.<sup>9</sup>

#### SMALL FINDS

##### *Hand-Built Pottery* (figs. 8, 9, 10)

Some one hundred and seventy sherds were recovered from the excavations. The majority of these are small, undecorated wall-sherds which have not been illustrated or referred to in the text unless they were securely stratified or in a significant context (e.g. no. 2 below). Reconstruction of complete vessels has proved impossible because of the fragmentary nature of the sherds, and the usual cautionary reminder has to be made concerning the difficulty of estimating rim-angles of this crude pottery, particularly in the case of the smaller sherds.

All told it is unlikely that more than a score of vessels are represented in the total assemblage. Whilst some fabrics are slightly finer in texture than others, none have been well levigated and all contain angular grits of varying size. Therefore it would be unreasonable to classify the sherds on this basis, as has been done in the case of material from some other native sites in the area, including Traprain Law.<sup>10</sup> All of the vessels fall within a general category of very coarse, hand-built pottery. Most can be seen to have been coil-built and the subsequent breakage planes along the coils have the usual concave, convex or, more often, oblique form. Microscopic examination of grits and fabrics reveals some differences but none that involve consideration of anything other than fairly local manufacture.

<sup>9</sup> It may be of assistance to future excavators in this area to know that hereabouts, rightly or wrongly, tile-drains were laid on the principle of one foot in depth to drain three feet on either side. In this instance drains were three feet deep and the trenches occurred at every eighteen feet.

<sup>10</sup> Summarized, A. H. A. Hogg, The Votadini, in *Aspects of Archaeology* (1951) ed. W. F. Grimes, p. 214 ff.

The most distinctive and, at the same time, the only vessels of much assistance chronologically, are those with finger-tip or finger-nail decoration applied directly to the surface in so-called Earliest Iron Age or First A tradition, although the decorative form has Bronze Age antecedents (nos. 1, 2, 4). In addition, three vessels, two with finger-printed decoration, have the suggestion of a "shoulder", even although this may be only imitative and not fully formed, but made by pulling up a short neck and rim from the thick wall of the pot. Allowing for differences in local fabrics, and not excluding the few decorated sherds from Traprain Law,<sup>11</sup> these sherds must be the nearest approach in the Tyne-Forth Province to the pottery from early settlement sites such as Staple Howe,<sup>12</sup> Scarborough<sup>13</sup> or Micklemoor Hill, West Harling,<sup>14</sup> whether we refer to them as Iron First A or not. The poor shoulder and short neck need not deter consideration of a date for the vessels at least as early as the fifth century. B.C.<sup>15</sup> Any of the sites mentioned, and more besides, in actual fact produce pots with a wide range of profiles and at Staple Howe and Thornam<sup>16</sup> in Yorkshire, to take only two of the nearest published examples, there are associated vessels with barely perceptible shoulders. Unfortunately it remains true that the lower date bracket for such vessels in Yorkshire is uncertain and the situation north of there is even more so.

The remainder of the rim and base forms are of little use in establishing contexts. The simple rim with the internal bevel (nos. 8 and 9) occurs, for example, at Traprain Law, sometimes in the "lower levels", but the contexts here and elsewhere are not by any means reliable or useful. And in

<sup>11</sup> *Ibid.* for references The "Hallstatt" pottery from Dunstanburgh cannot be traced and its nature is unknown, *v. Arch. Ael.*<sup>4</sup>, XLV (1967), 40.

<sup>12</sup> T. C. M. Brewster, *The Excavation of Staple Howe* (1963).

<sup>13</sup> R. A. Smith, Pre-Roman Remains at Scarborough, *Arch.*, LXXVII (1927), 179 ff.

<sup>14</sup> J. G. D. Clark and C. I. Fell, Early Iron Age Site at Micklemoor Hill, West Harling, *P.P.S.*, XIX (1953), 1 ff.

<sup>15</sup> For discussion of forms *v. e.g.* C. F. C. Hawkes, Early Iron Age Pottery from Linford, Essex, *Trans. Essex Arch. Soc.*<sup>3</sup>, I (1962), 83 ff.

<sup>16</sup> Brewster *op. cit.*, *e.g.* figs. 43, 56 and 79.

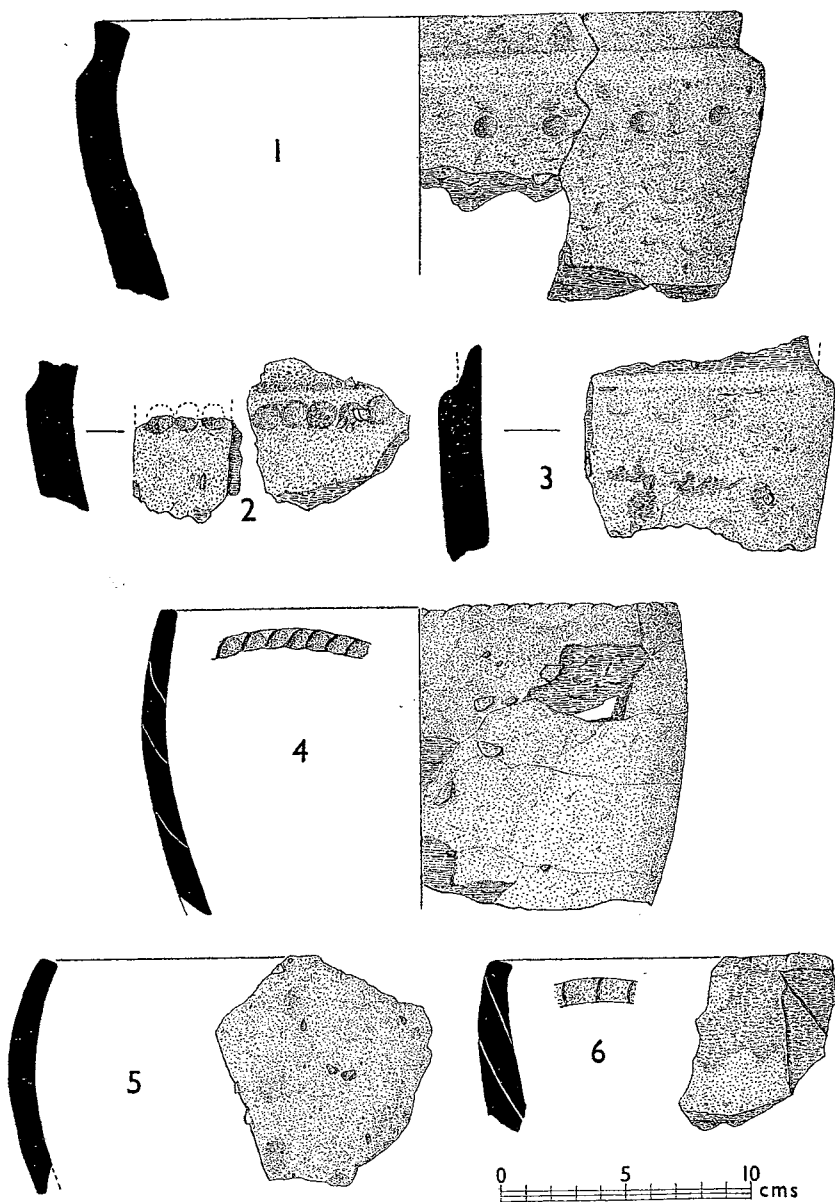


Fig. 8. Pottery from Burradon 1 (1/2)

fact the forms are so basic and unsophisticated, and the pottery so crude, that quoting parallels may be not only useless but even dangerous, as is the use of such terms as Flat-rim Ware. The simple incurving sherd generally with rounded rim (e.g. 5 and 12) has been found locally on both Roman and pre-Roman native sites and is clearly a basic form with a long life.

1. Two large rim-sherds and an additional four wall-sherds, not conjoining, from a large jar or cooking pot with a heavy carbon encrustation on the outside surface. The "shoulder" varies in sharpness and the rim has a slight internal bevel. A series of regularly spaced finger-impressions lies below the shoulder. Surfaces are dark buff to grey in colour, lumpy, and occasionally broken by large sandstone grits. The core is dark grey and contains grits up to 10 mm. in size.

The sherds were found at different levels within the fill of pit A in the ditch terminal of the homestead house (fig. 7).

2. Two wall sherds, one showing a slight "shoulder" and both presumably from a vessel similar to no. 1 with closely set finger-impressions below shoulder level. The fabric is similar to that of no. 1.

Both sherds came from the bottom of gully 1 of the settlement and had been deposited before silting had taken place.

3. One large fragment of a "shouldered" vessel, perhaps similar in form to nos. 1 and 2 but broken off at the neck and lacking finger-impressed decoration on the shoulder. The fabric is more sandy to touch than nos. 1 and 2 but contains the same large sandstone grits. There is a carbon encrustation in places on the exterior surface.

This sherd, together with two wall-sherds, probably from the same vessel, and some burnt stone and pot-boilers came from the pit-hearth to the north of ditch 4b of the settlement (fig. 4).

4. Fifteen conjoining fragments and six additional wall-sherds, all from a bowl which has closely spaced finger-nail and tip impressions on the flat rim. Surfaces are buff to dark grey in colour and the core, which is grey, contains large sandstone grits. This vessel has been coil-built and the main breakage planes are very oblique, as in the case of no. 6 below.

All sherds came from the lower reaches of pit A.

5. One rim-herd of a bowl similar in form to no. 4. The fabric is sandy and contains large grits. The core is grey and the surfaces are unusually light in colour, almost off-white in places, which may be because of the waterlogged condition of the provenance.

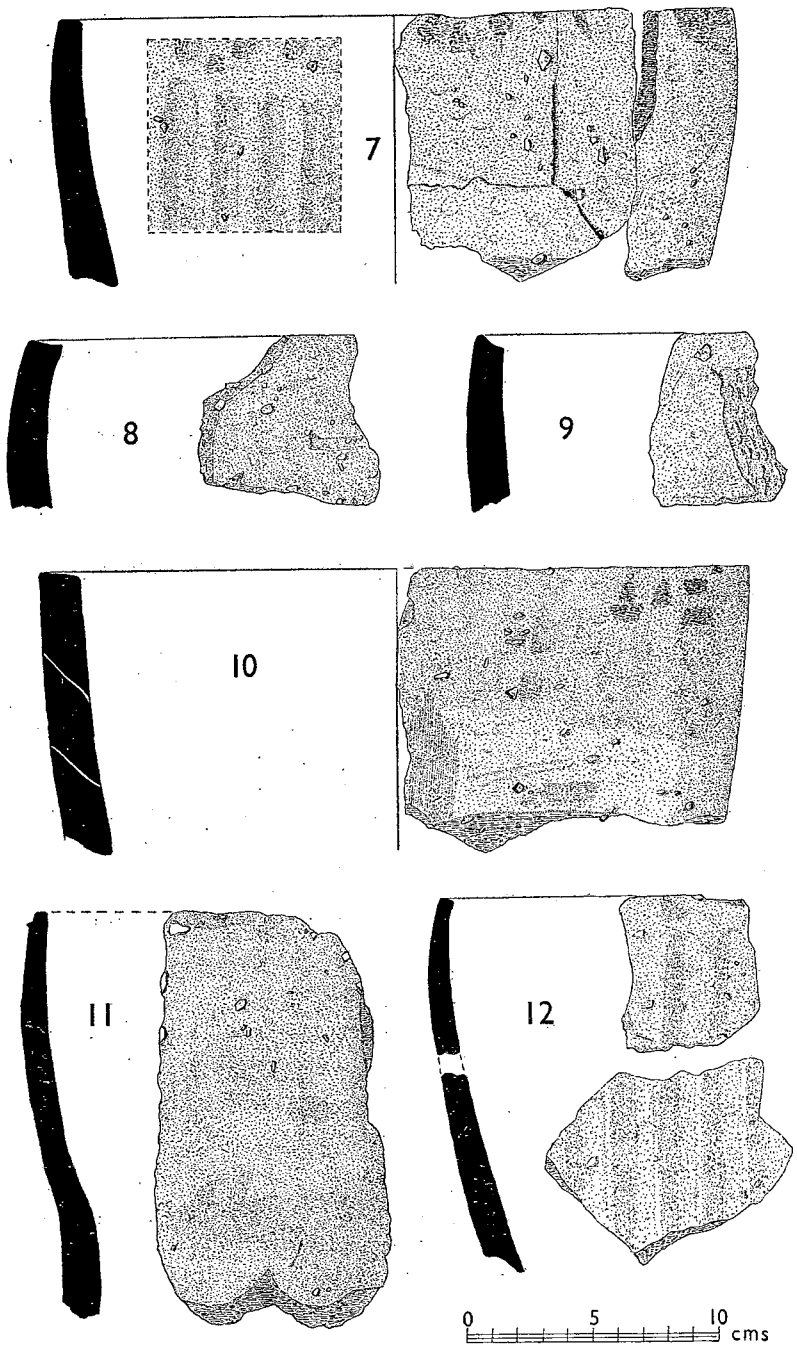


Fig. 9. Pottery from Burradon 1 (3)



Found in the bottom silt in the enclosure ditch of the homestead.

6. Five sherds, only two conjoining, from a bowl similar to but not the same as no. 4 above; the walls in this instance being thicker and the fabric more sandy. There are simple finger-nail impressions on the rim and a heavy carbon encrustation on the exterior.

Four sherds came from the filling of pit A and a second rim-sherd, almost certainly from the same vessel, from pit B.

7. Four sherds from a large cooking vessel with a flat to slightly rounded rim. There is a carbon encrustation on the exterior and interior surfaces which vary in colour from red to dark grey. Large sandstone grits are present in the grey core and these break both surfaces. Heavy vertical finger impressions, from drawing up the clay walls, are present on the interior surface.

Found in the lower reaches of pit A. There were a further three sherds, almost certainly from the same vessel, amongst the land-stones in pit B and one from the clay surface near to the unenclosed pit-hearth to the north of drainage ditch 4b.

8. One sherd with a concave rim. The surfaces are buff in colour, the core dark grey, and the fabric contains the usual large sandstone grits.

Found in plough-soil.

9. A rim sherd similar to no. 8 but the internal bevel is more pronounced and the fabric is somewhat different. Grits are smaller and more numerous.

Found in the plough soil of the rig and furrow system.

10. One very large sherd with an almost flat rim. The vessel has been used for cooking and there are patches of carbon encrustation on the exterior. Surfaces are red to dark grey in colour and the fabric contains medium sized sandstone grits. The vessel shows clear indications of having been coil-built.

Found in the lower reaches of pit A, together with three other wall sherds possibly from the same vessel but at different levels in the fill.

11. One of the largest surviving sherds from the site, probably representing the almost complete wall of a vessel of no great height with a simple rounded rim. The lower break appears to be just above the base. The exterior surface is pink to dark grey in colour and the interior black and leathery. Sandstone grits measure up to 10 mm.

Found in pit A.

12. One rim-sherd from a bowl with a thin, flat rim tending to an internal bevel and four wall-sherds, almost certainly all from the same vessel. The exterior surfaces vary in colour from pink to grey, the interior surface is a distinctive and uniform stone colour not

found on any other vessels from the site. The core is dark grey and contains medium sized sandstone grits. There is a pronounced vertical finger rilling on the exterior surface, a result of manufacture rather than a conscious effort at decoration.

The rim-herd was found high up in the fill of pit A, two wall-fragments came from lower down in the same pit, another from the bottom of the fence line at its point of intersection with gully 1, and one from trowelling of the clay surface to the west of the homestead house.

13. One small sherd with a flat rim, poorly formed. The surfaces are buff coloured, the core grey and the grits small.

Found in the bottom silt in the ditch of the homestead house, removed from any later disturbance.

14. A base sherd with brown, lumpy surfaces and dark grey core containing large sandstone grits.

Found amongst land-stones in pit B.

15. A single base sherd with a protruding foot. Finger-impressions above the base are simply the result of pinching out. Surfaces are brown, the core is grey and the sandstone and quartz grits are large.

Recovered from the bottom of and below the silt filling of the east to west ditch on the north side of the approach to the homestead house.

16. A base fragment with brown surfaces and dark grey core. Sandstone grits are up to 5 mm. in size.

Found on the clay surface east of the entrance to the homestead house.

### *Roman Pottery*

Only nine sherds were recovered, representing a total of perhaps no more than three vessels. Such an apparent paucity of Roman wares on a Romano-British settlement in the intramural zone is not altogether unusual. Three out of six settlements excavated in the area in recent years have produced sherds of amphorae but there is no guarantee that the vessels were filled with their original contents or that trade is implied.

1. Three wall sherds of Spanish amphorae. First, early second century A.D.

Found in the fill of pit A, ditch of homestead (fig. 7).

2. Fig. 11, no. 1. Four small sherds including one rim section,

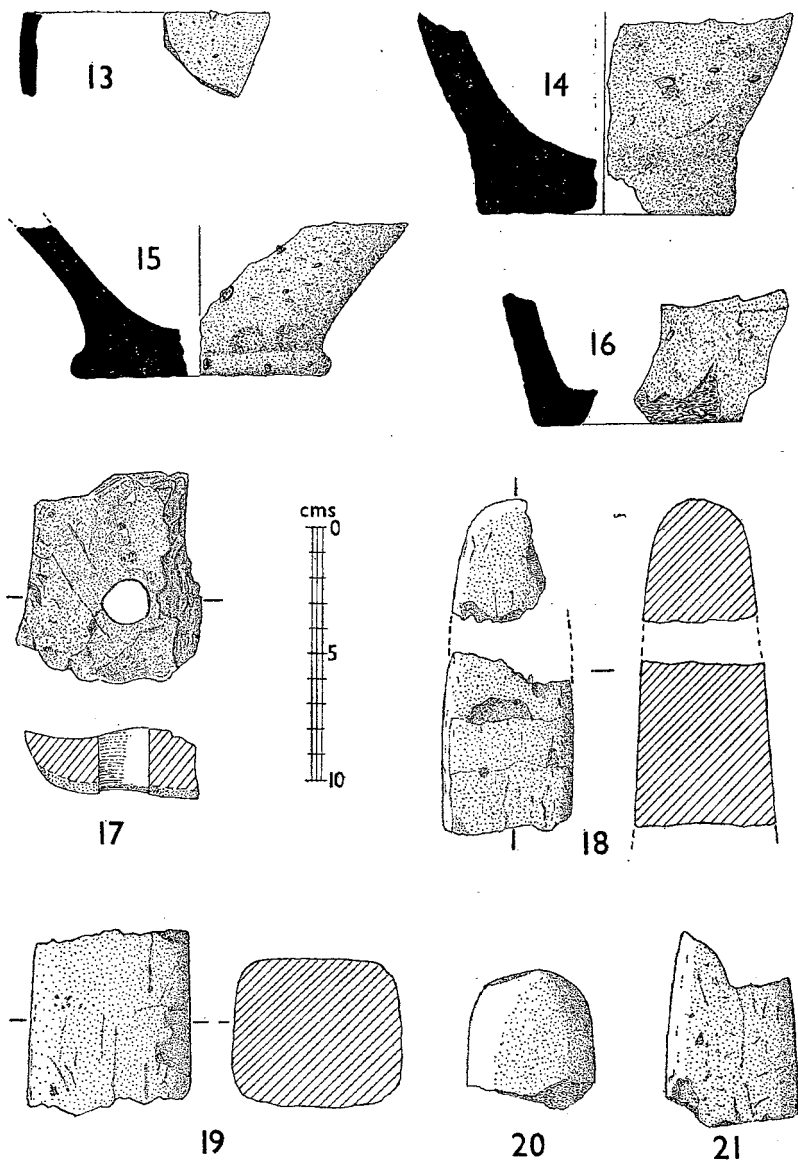


Fig. 10. Pottery, Tuyere and Clay Objects from Burradon 1 (1/2)

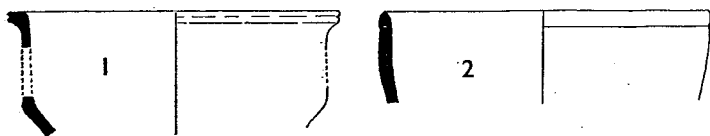


Fig. 11. Roman pottery from Burradon ( $\frac{1}{4}$ )

probably all from the same small carinated bowl or dish in self coloured, orange red fabric. *Gillam types* 214-217; late first early second century A.D.

Two sherds came from the bottom fill and one from the top fill of pit A above, the fourth was embedded in the clay surface within the homestead house.

3. Fig. 11, no. 2. Two sherds from a dish with a grooved rim, the fabric being grey in the break and the surface black burnished. There is no trace of decoration remaining. *Gillam types* 316-319; cf. also *Mumrills*, fig. 12, no. 28. Second half of second century A.D.

Found in the very top of the silt filling of ditch 4b of the settlement.

### *Objects of Clay*

#### (a) Tuyere (fig. 10 no. 17)

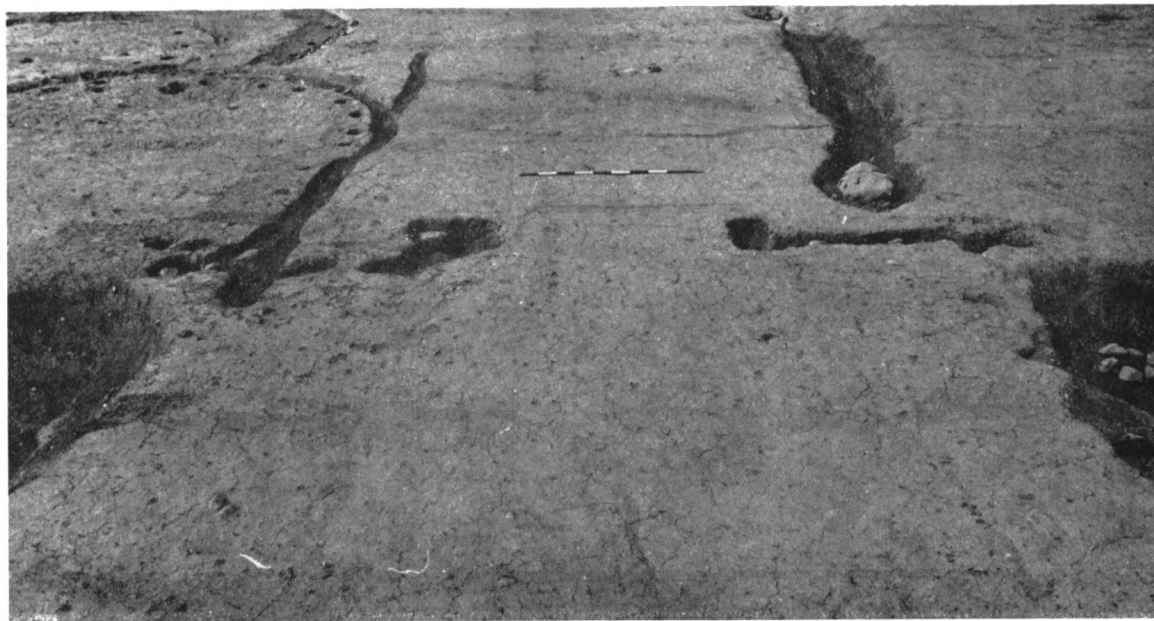
This fragmentary object was recovered from the fill of Pit A. Superficially it looks like part of the oven-plate from a corn drying oven<sup>17</sup> or possibly from a pottery kiln,<sup>18</sup> except for the slaggy, grass-like vitrification on one surface. Dr. R. F. Tylecote, University of Newcastle upon Tyne, kindly reports as follows:

"This is the end of a tuyere; it shows vitrification on one surface due to exposure to high temperatures and slag attack. It could be either the end of a long tuyere inserted through the furnace lining or more likely a new end that was applied to the end of the original tuyere when the furnace was fettled. The furnace or hearth would have been used for iron smelting or smithing."

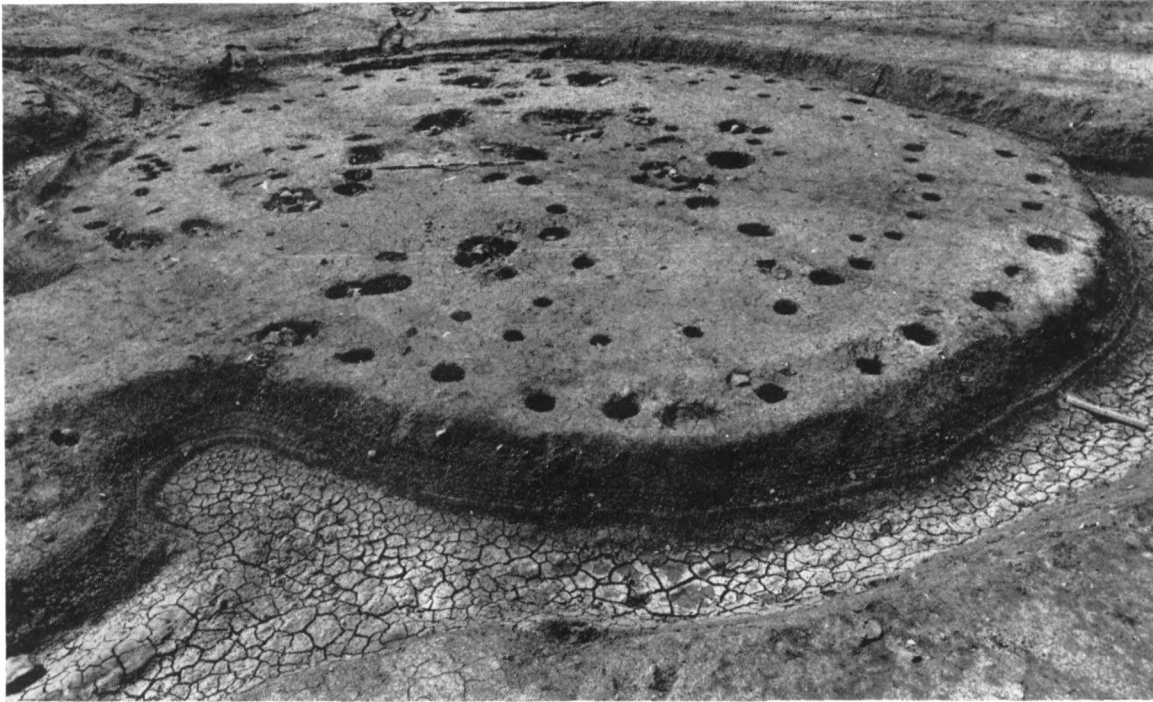
As a new end for an existing tuyere it would have had a disc-like form and, as part of the edge is visible on this fragment, would not have been a great deal larger than now with the perforation more or less central. Apart from one other fragment of fired clay from pit A, having the same layered texture and one curved surface but no vitrification, no other fragments which could have formed part of a tuyere were found.

<sup>17</sup> e.g. J. Brailsford, *Excavations at Little Woodbury*, P.P.S. XV (1949), 160 fig. 2.

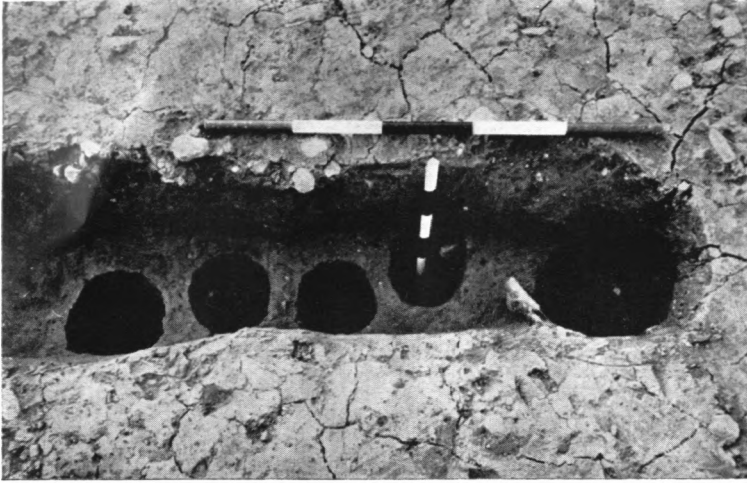
<sup>18</sup> e.g. P. Corder, *Romano-British Pottery Kilns*, C.B.A. *Research Report* 5, 15 and 18 (*Arch. J.* XCIV (1957)).



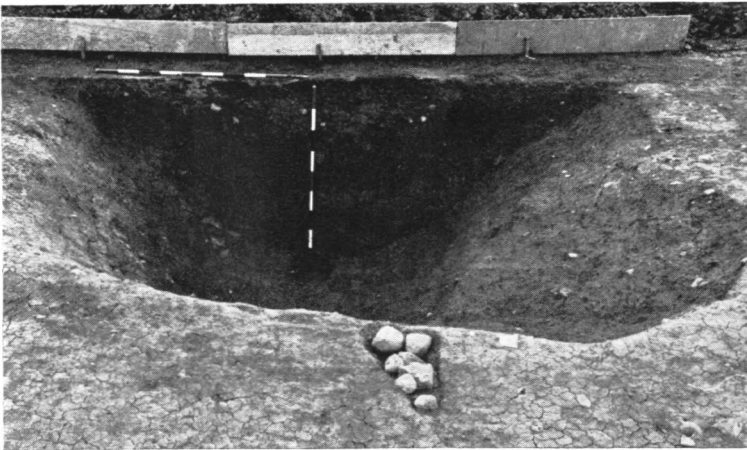
Burradon 1, entrance to homestead



Burradon I, the homestead house



(a) Burradon 1, gateway fence of settlement



(b) Burradon 1, homestead enclosure ditch





The find raises two questions, namely the whereabouts of the furnace or hearth and the context of the activity. None of the pit-hearths within the homestead house seemed to be other than domestic hearths and the only contender would be the shallow, outside hearth to the east of this house. This at least contained one small fragment of slag although no other furnace material was present. The only other stratified piece of slag, again small, came from the undisturbed lowest silting in the ditch of the homestead house, a short distance beyond pit B. Therefore, unless this was a relic from the earlier occupation, it is possible that some smelting or smithing had taken place whilst the homestead was occupied. The nature of the evidence and lack of local outcrops of iron ore would favour a smithing hearth rather than a smelting furnace. Water for quenching would certainly have been to hand in the nearby ditch.

(b) Kiln Furniture: Loomweights (?) (Fig. 10 nos. 18, 19, 20, 21)

These are the larger examples from a collection of some fifteen small fragments of baked clay recovered from various parts of the site. The majority were in the plough-soil and unstratified, but six fragments came from pit A (no. 18). They all appear to be composed of local clay, tempered with sedge or grass, yet clearly come from more than one object. It has not been found possible to reconstruct a complete specimen and no. 18, consisting of five joining fragments and part of a rounded end, is the most that can be achieved. As such they bear little resemblance, say, to the Roman "bricks" from Stanwick St. John.<sup>19</sup> In fragmentary form, close parallels lie in kiln bars, particularly those recovered from certain types of Romano-British pottery kiln<sup>20</sup> although the form is basic and presumably not restricted in period. Another possibility may be in a variant form of the oblong or pyramidal type of Iron Age loomweight, where a single horizontal perforation lies near to the top of the weight, as distinct from the triangular type with perforations at each corner. Such weights, in various sizes, come from early settlements sites as, for example, Fengate<sup>21</sup> and Staple Howe<sup>22</sup> or hill-forts such as Traprain Law<sup>23</sup> and, more recently, Ivinghoe Beacon.<sup>24</sup> However, whereas the fabric of some of the Burradon specimens is identical

<sup>19</sup> R. E. M. Wheeler, *The Stanwick Fortifications* (1954), 11 and 13.

<sup>20</sup> Corder, *op. cit.*, 20 fig. 10.

<sup>21</sup> C. F. C. Hawkes, *The Early Iron Age Settlement at Fengate, Peterborough*, *Arch. J.*, C (1945), 188 ff.

<sup>22</sup> Brewster, *op. cit.*, 128.

<sup>23</sup> *P.S.A.S.*, LVIII (1923/4), 258. I am grateful to Mr. R. B. K. Stevenson, National Museum of Antiquities, for access to the material.

<sup>24</sup> M. A. Cotton and S. S. Frere, 'Ivinghoe Beacon', *Records of Bucks.*, XVIII (1968), 187 ff.

with that of the loomweights from Traprain, none have the remains of a perforation necessary to confirm this attribution. Moreover, some fragments such as no. 19 would seem to have been subjected to a more intense heat than required for the manufacture of a loomweight. All told, kiln furniture is the most likely, though this would be of uncertain context. Neither pits A nor B could fulfil the role of dismantled kilns and it is difficult to envisage the more shallow pit-hearths as remains of any form of oven requiring fire-bars. There is always the possibility of a kiln or kilns having existed elsewhere, beyond the excavated area, but survey and examination of air photographs failed to give a lead. At least the raw material would be to hand in this particular area.

### *Stone Objects*

1. Fig. 12 no. 1. Part of a small saddle-quern of sandstone up to 200 mm. wide. The base is flat and not convex as is often the case. Recovered from the bottom of ditch 4*b* of the settlement, covered by silt.

2. Fragment of a small saddle-quern of coarse sandstone, 170 mm. wide, length broken, base convex. Reused as a packing stone in the post-hole complex at the entrance to hut 4 of the settlement.

3. Fig. 12 no. 2. Fragment of a small rotary quern of sandstone. It has a flat grinding surface with a diameter of 220 mm. Found partly embedded in the clay surface of the floor area of the homestead house. Although the type may have been current in this area as early as the 1st century B.C., its main context, as established by associations, is Roman.<sup>25</sup>

4. Fig. 12 no. 3. Part of a neolithic axe-head of flint or chert covered by a thick grey white patina. There are slight lateral facets and the implement has been broken sometime in antiquity. At present this is the only axe-head recorded from the heavy clays in this area of south east Northumberland, the nearest being South Shields and Jarrow to the south, Westerhope to the west and Morpeth to the north. Recovered from the bottom silt in the enclosure ditch of the homestead and presumably a stray.

5. Fig. 12 nos. 4 and 5. Two examples of hand-pounders from a dozen specimens recovered from the settlement or homestead. All are of stones or pebbles which could be found locally. No. 5 is the only example to show dual use both as a pounder and a hone or rubber.

<sup>25</sup> e.g. G. Jobey, Excavations at Huckhoe, *Arch. Ael.*<sup>4</sup>, XXXVII (1959), 270.

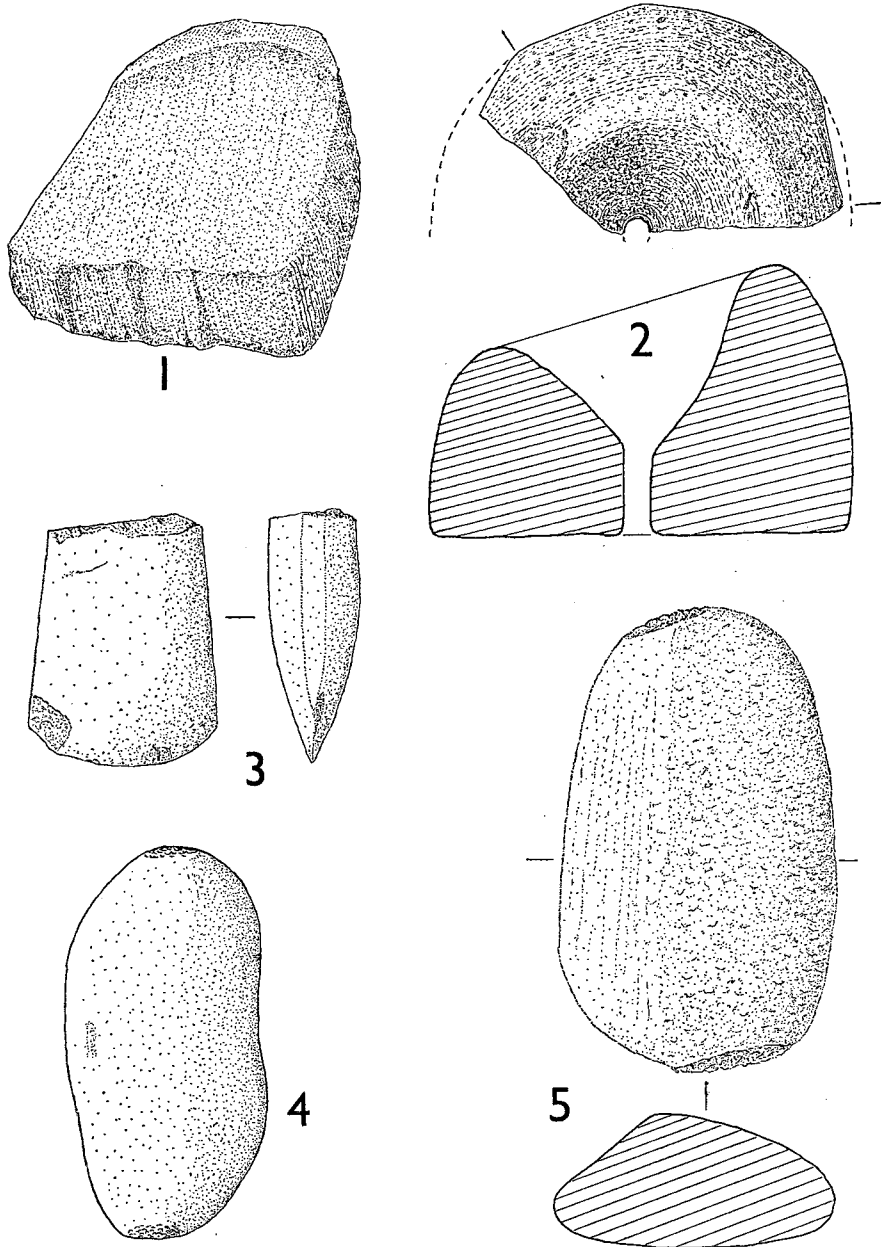


Fig. 12. Objects of Stone from Burradon 1  
 Querns ( $\frac{1}{4}$ ), Axe-head ( $\frac{1}{2}$ ), Pounders ( $\frac{1}{2}$ )

*Metal Objects*

No metal objects were found that could be associated with homestead or settlement. All finds were of fairly recent date, probably introduced into the plough-soil in the process of fertilizing with night-soil. One item of some interest, the broken point of a plough-share was lodged amongst the packing stones in the gateway of the homestead. The nearest parallel would seem to be the forepart of the share of an Old Scotch Plough, particularly of the Thornhill type.<sup>26</sup>

## REPORT ON FAUNAL REMAINS

G. W. I. Hodgson, M.Sc., Northern Counties College of Education

The faunal remains are all fragmentary in nature due to butchering, erosion and, in some cases, incineration. Most of the remains came from cattle (*Bos Taurus longifrons*), while some remains were from Pig (*Sus domesticus*), Sheep (*Ovis aries*) and Dog (*Canis familiaris*). It was impossible to identify many of the fragments and in no case was it possible to obtain measurements.

Many of the teeth remains consisted solely of the outer husk or cover of enamel from one side or part of one side of the teeth. There was no indication of how this separation came about or whether it was done on purpose.

(a) From the bottom silt of the homestead enclosure, near to the entrance.

*Bos longifrons* Twelve fragments of enamel from molar teeth; two unworn molars; shank of right humerus; proximal end of right metatarsal; fragment of scapula; centrum of vertebra; three fragments of vertebrae; three fragments of mandible.

*Sus domesticus* Right mandible and two free molars.

*Ovis aries* A single right astragalus (eroded).

*Canis familiaris* A single carnassial tooth.

Also fourteen unidentified fragments of bone.

(b) From the bottom silt of the drainage ditch of the homestead house, undisturbed by later intrusions.

*Bos longifrons* Fragments of enamel from molars and one unworn molar.

<sup>26</sup> A. Fenton, Plough and Spade in Dumfries and Galloway, *Trans. D. and G. N.H. and A. Soc.*, 161, fig. 6. The Burradon specimen has broken off between sections C and D of the Thornhill example.

Also some unidentified fragments of bone.

(c) From one of the pit-hearths in the homestead house.

*Ovis aries* (?) Shank of left humerus. Also twenty-six unidentified incinerated fragments of bone and teeth.

## REPORT ON A SAMPLE OF WOOD

*Helena H. Clark, M.Sc.*, Dept. Plant Science, University of  
Newcastle upon Tyne

Three tree species, oak (*Quercus* sp.), ash (*Fraxinus excelsior*) and alder (*Alnus glutinosa*) were present in the sample. Except for some fragments of tree bark embedded in a clay matrix all the wood fragments seem to have been derived from relatively young trees. The sample was taken from the lower silt of the ditch of the homestead enclosure, as indicated in the main text (p. 64), and probably belongs to that phase of the occupation.

**Oak** (*Quercus* sp.) This species was represented by a small number of incomplete sections of branches which, from the curvature, could have been about 60 mm. in diameter. They were recognised by the very characteristic ring porous structure and the broad compound medullary rays. As all were from the outer regions of the stem it was impossible to estimate the ages of the twigs from which they were derived. Some of the bark samples seemed also to be of oak but were too fragmentary to make an absolute determination.

**Ash** (*Fraxinus excelsior*) Numerous pieces of twigs of ash were present. All were small with a maximum diameter of 8 mm. The annual rings with the large spring wood vessels and the abrupt transition to the summer wood were characteristic, as were the extremely fine and almost indistinguishable medullary rays. In the largest complete cross-section ten annual rings could be counted, an indication of a very slow growth rate.

**Alder** (*Alnus glutinosa*) Both stems and roots of alder occurred in the sample. The stems were represented by short lengths of twig ranging in diameter from 4 mm. to 10 mm. and in age from 2 to 4 years. The structure was typically diffuse porous with numerous medullary rays both simple and aggregate. The annual rings were not very obvious. The roots were of similar diameter but twisted and distorted. The primary structure of the young root was still discernible but in some fragments, the secondary tissues had broken down in a regular fashion to give a peripheral ring of air spaces.

## REPORT ON MINERAL COAL

Samples were submitted from one pit-hearth and the bottom silt of the drainage ditch of the homestead house. Both were presumably associated with this occupation during the second century A.D.

“The spore assemblage was rich in species, nearly 50 being recorded and, if it is assumed that all the coal came from the same source, then the seam must have been outcropping between the Harvey and Ryhope Marine Bands, that is from a seam in the Middle Coal Measures. In fact, there is a strong probability that the seam is in the lower part of the Middle Coal Measures, below the High Main Marine Bank, since several of the spores found in the assemblage are rare above this level in the succession.”

Dr. A. H. V. Smith

(*N.C.B. South Yorks. Area Scientific Department*).

“The sample was in the form of small blocks, with sharp edges—quite different from the rounded form shown by pieces of sea-coal—suggesting that the coal had been taken directly from an outcrop.

“The nearest readily available source of coal with a carbon content similar to that which the sample would have in a fresh state lies in the several seams from the Main to the Hutton (formerly Plessey) where these outcrop along the coast between Seaton Sluice and Tynemouth. These seams lie in the lower part of the Middle Coal Measures i.e. within the probable stratigraphic zone as defined by the microspores.”

T. S. Tomlinson

(*Coal Scientist, N.C.B. N.E. Geological Outstation*).

## DISCUSSION AND CONCLUSION

If no more than the ground plan is taken into consideration, the two main phases on the site at Burradon could be interpreted in two slightly different ways. The first would require one to envisage an earlier *unenclosed* settlement on which there had been superimposed a later *enclosed* homestead lying within a rectilinear perimeter consisting of two widely spaced ditches and upcast banks. True, unenclosed

settlements are most uncommon hereabouts,<sup>27</sup> but analogues for such a homestead enclosure could be found in those putative Late Bronze Age and Pre-Roman Iron Age sites having two widely separated perimeters in timber, earth, or stone, which have already been recognised and established as a type in the Border hills.<sup>28</sup> However, on balance of evidence, it is the second interpretation which has been favoured in this report, whereby the earlier settlement and the later homestead are both seen to be *enclosed* units.

The foundation of the earlier settlement at Burradon, consisting of round timber-built huts within a rectangular ditched enclosure, belongs to the Early Pre-Roman Iron Age. At the moment it is difficult to be more specific in terms of date. From the small quantity of diagnostic pottery forms recovered it may be possible to envisage occupation starting with finger-impressed pottery as early as the fifth or sixth century B.C., but the span of tradition represented by these sherds is uncertain in the absence of more closely dateable material and a foundation considerably later in date is always possible.

The recurring need to replace huts within this settlement argues for fairly long use of the enclosure in the form of either continuous or periodic occupation. These are alternatives which cannot be resolved in this instance, but will merit attention in future investigations on similar sites in the area. If periodic occupation is envisaged, then it would seem to have been of a more long term nature than mere seasonal transhumance<sup>29</sup> and, from the evidence of space relationship between huts, a minimum of five occupations would have been necessary to account for the palimpsest of hut positions in the central area of the site.

Such estimates apart, the total life-span of the earlier settlement, or even an approximate terminal date for its

<sup>27</sup> For summary v. R. W. Feachem, *North Britons* (1965), 103 ff.

<sup>28</sup> G. Jobey in *Iron Age in North Britain* (1966), ed. Rivet, 97. Also *R.C.A.M. Peebleshire*, I, 25.

<sup>29</sup> Seasonal occupation was once suggested for the site at Scarborough, *op. cit.*, 179.

occupation, remain equally problematical. True there is nothing in the slim pottery record that can be equated, say, with the forms of Late Pre-Roman Iron Age pottery of Yorkshire to the south,<sup>30</sup> but, in any event, these cannot yet be shown to have any real application in areas further to the north. In general terms, the most that can be said is that the later homestead, superimposed on the site of the settlement, was probably occupied by the late first or second century A.D.

Neither the topographical location nor the stature of the enclosure of the earlier settlement offer strong defence. If allowance is made for an internal bank of simple dump construction, the area enclosed by the ditch at c. 0.7 hectares (1.7 acres) will be somewhat reduced. This reflects the comparatively small size of the majority of enclosures of the Late Bronze Age and Pre-Roman Iron Age in the northern uplands, whether these be palisaded enclosures, settlements such as Burradon, or so-called hill-forts with their univallate and multivallate defences.<sup>31</sup> On the other hand, the settlement at Burradon once again provides a reminder of the danger of making comparisons or drawing conclusions as to the size of social unit, solely from the space enclosed,<sup>32</sup> or even from the number of dwellings visible on the surface. In the comparatively large area uncovered by excavation it can be demonstrated that from a possible maximum of eleven hut positions in the central range, no more than three huts could have existed at any one stage and at times there could well have been less. Admittedly, other huts may have remained to be found in areas not excavated, but the known grouping reduces this possibility to a minimum, so that it would not be unreasonable to see a complement of three or, at most, perhaps five huts in this settlement. In any event, the area given over to huts could hardly have exceeded from one-fifth

<sup>30</sup> e.g. Wheeler, *op. cit.*

<sup>31</sup> e.g. The majority of the hillforts in Northumberland have an internal area of c. 1 acre or less, v. G. Jobey, "Hillforts in Northumberland", *Arch. Ael.* 4, XLIII (1965), 60 ff.

<sup>32</sup> cf. W. F. Grimes in *Problems of the Iron Age in Southern Britain*, ed. Frere, 26 ff.



to one-quarter of the internal space available. Unfortunately, the comparatively large expanse of the remaining space, which was purposely and carefully excavated, yielded no evidence as to use. In such northern latitudes and on impervious boulder clay, it is only to be expected that some features of a southern "Little Woodbury" economy will not be present within local Iron Age enclosures.<sup>33</sup> Even so, the almost complete absence of evidence for above ground structures is puzzling. An area given over to temporary enclosure of stock is always a ready and possible solution but, if so, there was no extra protection afforded to the huts, which would surely have been vulnerable in such circumstances. Similarly, there was nothing to imply any form of intramural plot-cultivation, nor would this find any support by analogy, except perhaps in some later medieval settlements in the area.<sup>34</sup> Indeed, the only surviving and meagre evidence for the economy of this settlement lies in the recovery of two broken saddle-querns and the possibility, but no more than this, of periodic occupation.

Other features of the settlement are not difficult to parallel in a general Iron Age context elsewhere. Hut gullies are recurrent, though the functions attributed to them may vary as between drainage or drip gullies as at Draughton, Northants.<sup>35</sup> and Stanwick, Yorks.<sup>36</sup> or constructional trenches as implied recently at Mucking, Essex.<sup>37</sup> At Burradon these gullies were in no way comparable with the structural "ring-groove" of some upland timber-built houses and can only be seen as drip or drainage trenches associated with huts of individual post-hole construction. In stature two of these features would qualify as ditches and the possibility that short term fluctuations in climate could manifest themselves in such a manner is a matter for future consideration

<sup>33</sup> v. S. Piggott in *Roman and Native in N. Britain*, cap. I.

<sup>34</sup> e.g. The Fawns, *Arch. Ael.*, XXXIX (1961), 91.

<sup>35</sup> Grimes, *op. cit.*, 22 ff.

<sup>36</sup> Wheeler, *op. cit.*, 38 ff.

<sup>37</sup> M. V. Jones, Crop-Mark Sites at Mucking, Essex, *Ant. J.*, XLVIII (1968), 214.

on similarly placed settlements which, by the nature of their subsoil, would be sensitive to changes in precipitation. The arrangement of timber fences at the entrance to the enclosure, also repeated in the later homestead at Burradon, is best paralleled locally on the rectilinear settlement at Marden,<sup>38</sup> some ten miles to the south east. Somewhat comparable methods of reducing the width of the entrance passage may also be seen at sites as far apart and as varied as Harehope in Peebleshire<sup>39</sup> and Draughton in Northamptonshire.

The homestead at Burradon, set within its own rectangular enclosure, is clearly secondary. On the other hand, its location within the confines of the earlier settlement can hardly be fortuitous and, on the part of its builders, at least demands the recognition of earlier extant remains, perhaps as an area already cleared and partly drained. The alignment and similar form of entrance to both enclosures might even be taken to argue for no great interval in time between the final abandonment of the settlement and the establishment of the homestead. Similarly, a situation could be envisaged where the settlement perimeter, perhaps refurbished, continued to be used in conjunction with the new inner enclosure of the homestead, to give some form of outer corral for stock. Whatever the case may have been there can be no proof in this instance.

If the homestead is to be associated with the Roman pottery on the site, taken at face value as a product of "trade", then occupation may be seen in the second century A.D. The large timber-built house itself, even if it lasted sufficiently long to require complete replacement, as is possible, could hardly have outlived a century at the outside limit.

Here then would be an example of a lowland homestead

<sup>38</sup> G. Jobey, Excavations at Marden, Tynemouth, *Arch. Ael.*<sup>4</sup>, XLI (1963), 23 fig. 3.

<sup>39</sup> R. W. Feachem, "The Palisaded Settlements at Harehope", *P.S.A.S.*, XCIII (1959-60), 175 ff.

in the Roman intra-mural zone, the equivalent of the better known stone-built Romano-British homesteads and settlements of the uplands of the Tyne-Forth Province. The presence of a ditched enclosure need not deter comparison, since ditches appear on some essentially non-defensive Romano-British stone-built sites further to the west, where the correlation between ditches and subsoils requiring drainage has already been noted.<sup>40</sup> In like manner, the timber-built house, in place of the more normal stone-built house of the uplands, will be no more than a reflection of the most accessible building material from amongst a mixed woodland including oak, ash and alder. In general overall plan it is even possible to see a resemblance between the Burradon homestead, with its fence lines on either side of the approach from the gateway, and the stone-built Romano-British settlements of North Tynedale and Redesdale with their dual forecourts and central causeways.<sup>41</sup>

The skeletal material associated with the homestead is poor in quality and quantity yet perhaps enough to see a community engaged in stock farming, including sheep, pig and cattle. The rotary quern may be taken to imply the presence of some arable on the heavy soils, although the extent of this is once again unknown. For the third occasion on a Romano-British settlement situated in the area of the Northumberland coalfield there is evidence for a limited use of coal,<sup>42</sup> in this instance maybe brought to the site from a nearby coastal outcrop. A little iron smithing is also probable. Such things apart, the general picture of only a minimal amount of evidence for Romanization on some of these intra-mural zone settlements is not altered by the finds from Burradon. However, the growing number of known settlements must make us hesitate to judge the success of their economy from such a viewpoint. This could be to oversimplify after the manner of Procopius—a garden to the

<sup>40</sup> G. Jobey in *Rural Settlement in Roman Britain* (1966), ed. C. Thomas, 6.

<sup>41</sup> G. Jobey, Rectilinear Settlements in Northumberland, *Arch. Ael.* 4, XXXVIII (1960), 1 ff.

<sup>42</sup> *Rural Settlement in Roman Britain*, 9.

south of the Wall and death to the north.

The size of the social unit in the homestead would probably be no more than that of the immediate family group. The social dichotomy of homestead and settlement, apparent from the times of the earliest palisaded sites known in the area, is perhaps reflected in the two Burradon sites. On the other hand, the total number of inhabitants in each case need not have been so different as the terms homestead and settlement may suggest. It is as well to note that the homestead house, in terms of roofed area, is the equivalent of the sum of any three huts in the earlier settlement which, as we have seen, could have formed its full complement at any one time.

However, the chief importance of the sites at Burradon lies not in questions of economy or sizes of social unit but in the potential they have towards establishing a pattern of Iron Age settlement in the lowland areas and coastal plain of the Tyne-Forth Province. In the upland areas the picture is comparatively well known, albeit to a large extent from surface observation. Here also is an area where the general form assumed by individual enclosed settlements and hill-forts is curvilinear. In the more low lying arable area of south east Northumberland, the coastal plain, and certain northern valleys such as those of the Till and Tweed, the situation has been less well understood. Aerial photography has helped towards redressing this ill-balance and in these areas continues to yield its annual additions of crop-mark sites. One inescapable fact that has emerged is the great preponderance of enclosures of rectilinear form. The crude distribution of such enclosures now extends over south east Northumberland (fig. 1) and the coastal plain as far north as Alnmouth, whilst similar sites are also beginning to appear in the valley of the Till.<sup>43</sup> It may well be that eventually the coastwise distribution will be extended northwards to link up with over a score of rectilinear enclosures already noted on air-photographs on the south side of the Firth of Forth

<sup>43</sup> Unpublished photographs, N. McCord, University of Newcastle upon Tyne.

in the counties of Midlothian and East Lothian.<sup>44</sup> Admittedly, in the absence of excavation, it cannot be assumed that all or even the majority of these rectilinear sites will fall within a general Iron Age category but, equally so, it would be difficult on present evidence to place them as Roman military works or, say, as medieval moated farmsteads. One exception could be the so called Roman fortlet type (fig. 13, no. 5) but there are also difficulties in the way of attributing these to the Roman military.<sup>45</sup>

In south east Northumberland at least, a fair proportion of the newly discovered rectangular enclosures may qualify for consideration as Iron Age sites and it is this possibility that is enhanced by the realisation of a pre-Roman Iron Age context for the first rectilinear enclosure at Burradon. This is a countryside where, apart from on coastal headlands,<sup>46</sup> pre-Roman Iron Age settlements have been unknown and now rectangular enclosures occur almost exclusively. With this in mind, it is not only a question of finding possible parallels for the Burradon sequence, as could well exist for example on the crop-mark site at Mitford Steads South (fig. 13, no. 3). Other considerations suggest themselves once pre-Roman rectangular enclosures can be anticipated in the area. Multivallate sites with closely set ditches, such as those showing on air photographs at Hazlerigg, Cramlington or East Bitchfield (fig. 13, no. 4) could prove to be the lowland equivalent of the small, generally curvilinear hill-forts of the uplands. In this light a metamorphosis in form might be seen to be taking place on the fringes of the hill-country at the extant rectangular, multivallate Iron Age fort at Manside Cross or the multivallate rectilinear site at Ewesley Fell Plantation.<sup>47</sup> As has been already suggested, south east Northumberland and the coastal plain generally

<sup>44</sup> I am grateful to Mr. G. Maxwell, R.C.A.M. Scotland, for this information in advance of publication.

<sup>45</sup> N. McCord and G. Jobey, *op. cit.* note 1. *Pace* R. W Davies, The Training Grounds of the Roman Cavalry, *Arch. J.*, CXXV (1968), 73 and 93.

<sup>46</sup> G. Jobey, Excavations at Tynemouth Priory and Castle, *Arch. Ael.*, XLV (1967), 39 ff.

<sup>47</sup> G. Jobey, *Arch. Ael.*, XLIII (1965), 60 ff.

offer only comparatively low ridges or undulations suitable for the location of settlements of an early nature. Here contours do not demand a curvilinear form of enclosure, either for defence or drainage of sites, so that a rectilinear shape could merely denote a changed topography since there is no evidence to suggest cultural or ethnic differences. If, in the long run, it becomes evident that development of this region was taking place in the pre-Roman Iron Age then it might even be allied generally with growing evidence for a speeding up of deforestation at this time in other parts of northern England.<sup>48</sup>

The later homestead at Burradon also reinforces a suggestion, already advanced elsewhere, for an eastward extension of known Romano-British settlements, probably in good number, from the uplands of the west and north onto the coastal plain and as far as the North Sea littoral. In south east Northumberland the Burradon homestead will take its place alongside recently investigated Romano-British settlements at Marden, Tynemouth and Stannington. Sites similar to the Burradon homestead, consisting of a ditched round house within a square or rectangular ditched enclosure, also occur on air photographs as, for example, at Loansdean, Morpeth (fig. 13, no. 1) or Gardeners Houses, Ponteland. These, if not Romano-British in date, must at least on balance of present evidence fall within an Iron Age context. Others, such as Close House West (fig. 13, no. 2), have presumed depressions showing on either side of their east facing entrances, perhaps indicative of dual courtyards which would find analogy in the stone-built Romano-British rectilinear settlements of North Tynedale and Redesdale.

In the past, an explanation for the rectilinear form of these stone-built Romano-British settlements, lying as they do immediately to the north of the Hadrianic frontier, has been sought in Roman precept or example. However, the

<sup>48</sup> J. Turner, A contribution to the history of forest clearance, *Proc. Royal Soc.*, B, vol. 161 (1965), 343 ff. W. A. Clark, *The Vegetation, Northumberland National Park Guide* (1969), 12.

rectilinear form of the pre-Roman enclosure at Burradon makes this no longer necessary. Topography could be a governing factor in a pre-Roman and Roman context. To this extent the long riverine ridges and spurs of North Tyndale and Redesdale could have influenced or dictated the form of the stone-built Romano-British settlements of that area—at least they do not demand a curvilinear form.

By much the same token, with Burradon as a guide, the prolongation of timber for house building in parts of the lowlands, in contrast to the developing use of stone on Romano-British settlements of the Northumbrian uplands, may be no more than a reflection of location and availability of suitable materials. Similar considerations could operate in other parts of the Border country where, at the moment, there is an apparent lack of established Romano-British settlement. The fact remains that, with some exceptions, our knowledge of the pattern of Romano-British settlement in this area depends to a large extent upon the recognition in field survey of certain non-defensive enclosures containing round *stone-built* houses. The Romano-British timber built houses at Burradon in the east and, for example, at Milton Loch Crannog<sup>49</sup> far away to the west, will illustrate the obvious limitations of such criteria.

<sup>49</sup> C. M. Piggott, Milton Loch Crannog, *P.S.A.S.*, LXXXVII (1952-3), 134 ff.





# RECTILINEAR SITES : S.E. NORTHUMBERLAND

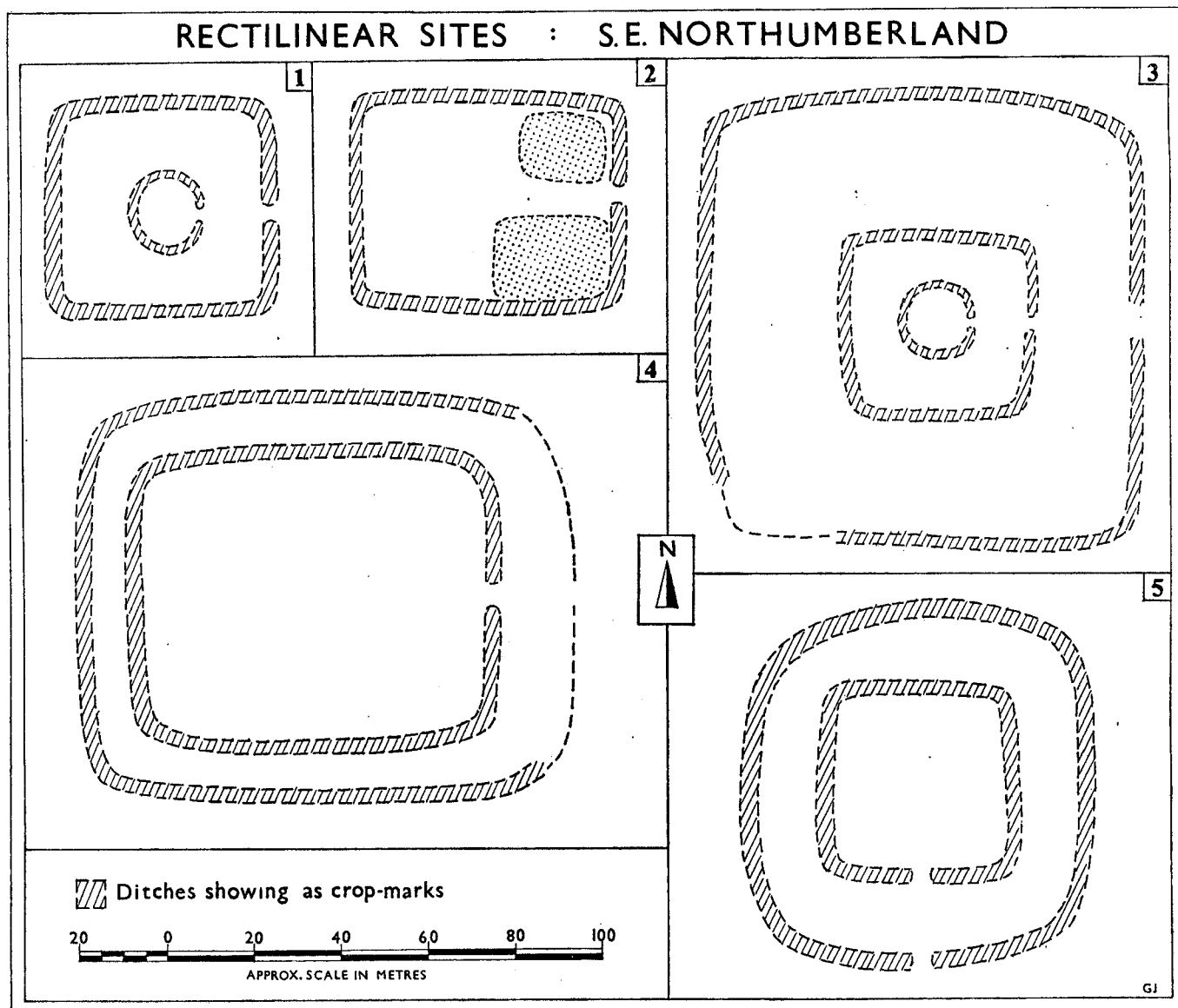


Fig. 13

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and financial management. The text notes that without reliable data, it is difficult to assess performance, identify trends, and make informed decisions.

2. The second section addresses the challenges associated with data collection and analysis. It highlights the need for standardized procedures and the use of modern technology to streamline processes. The author points out that manual data entry is not only time-consuming but also prone to human error. Implementing digital solutions can significantly reduce these risks and improve the overall efficiency of the data management system.

3. The third part of the document focuses on the role of data in decision-making. It argues that data-driven insights are crucial for identifying opportunities and addressing challenges. By analyzing historical data, organizations can gain valuable insights into their operations and make proactive adjustments. The text also discusses the importance of data security and privacy, noting that sensitive information must be protected to maintain trust and comply with relevant regulations.

4. The final section provides a summary of the key points and offers recommendations for future action. It suggests that organizations should invest in training and resources to ensure that their staff are equipped with the necessary skills to handle data effectively. Additionally, the author encourages a culture of continuous improvement, where data is used to inform and refine processes over time.

