

II

AN IRON AGE SETTLEMENT AT WEST HOUSE, COXHOE, COUNTY DURHAM

C. C. Haselgrove and V. L. Allon

With specialist contributions by M. Ashbrook and D. J. Rackham.

IN RECENT years, systematic aerial reconnaissance in the Tyne–Tees region, undertaken by a number of individuals including D. W. Harding, N. McCord and R. Selkirk, has resulted in the discovery of a considerable number of crop-mark sites on the cultivated soils. Many of the crop-marks would seem to belong to a class of rectilinear or sub-rectangular settlements, often with internal circular structures and typified by the published site of West Brandon (Jobey 1962), until recently the solitary excavated example south of the river Tyne, but better known as a class in Northumberland, where a number have been investigated, both as crop-marks, as at Burradon, Hartburn and Marden (Jobey, 1970; 1973a; 1963), and in the marginal areas beyond, as earthworks, as at Belling Law and Kennel Hall Knowe (Jobey 1977: 1978). In some cases, these sites are dated to the pre-Roman Iron Age and in others, to the Roman Iron Age; some of them were occupied in both periods, although it is not easy to determine whether or not the occupation was continuous. Although as a class, this type of site would seem to be concentrated in the coastlands of Durham and Northumberland, and on the fringes of the surrounding uplands, examples occur further south, on the North Yorkshire Moors as at Great Ayton (Tinkler and Spratt, 1978), in the Vale of York, for example two crop-marks recently discovered from the air at and near Stanwick, North Yorkshire (P. Turnbull, Pers. Comm.) and on the Pennines. Morphologically analogous enclosures are even known on the gravels of the river Trent, and it is probable that systematic reconnaissance will show the distribution to be both more continuous and more extensive than appears to be the case at present.

The rectilinear crop-mark site at West House, Coxhoe (NZ 326 360), some 200 m north-east of the modern village, was first observed and photographed from the air by Professor Harding in the summer of 1976. In September 1979, as part of the programme of investigation adopted by the Durham Archaeology Committee, an exploratory excavation under the direction of the authors was undertaken to confirm the archaeological standing of the crop-marks and to assess the severity of the damage to the site occasioned by the modern ploughing. In the following year, larger scale excavations were carried out after the harvest on behalf of the newly founded Archaeological Unit for North-East England. In both seasons, the work was funded

by the Department of the Environment. For their permission to investigate the site, we are indebted to the owners of the site, the National Coal Board, and the farmer, Mr. F. Grieves, who also rendered much generous assistance. The writers are also grateful to Martha Ashbrook, Lisa Donel and Jim Hibbs who acted as site supervisors, to Andy Davison and Sue Riviere who carried out the surveying and to all the volunteers who took part on the excavation. Much of the equipment was loaned by the Department of Archaeology, Durham University, which also provided space

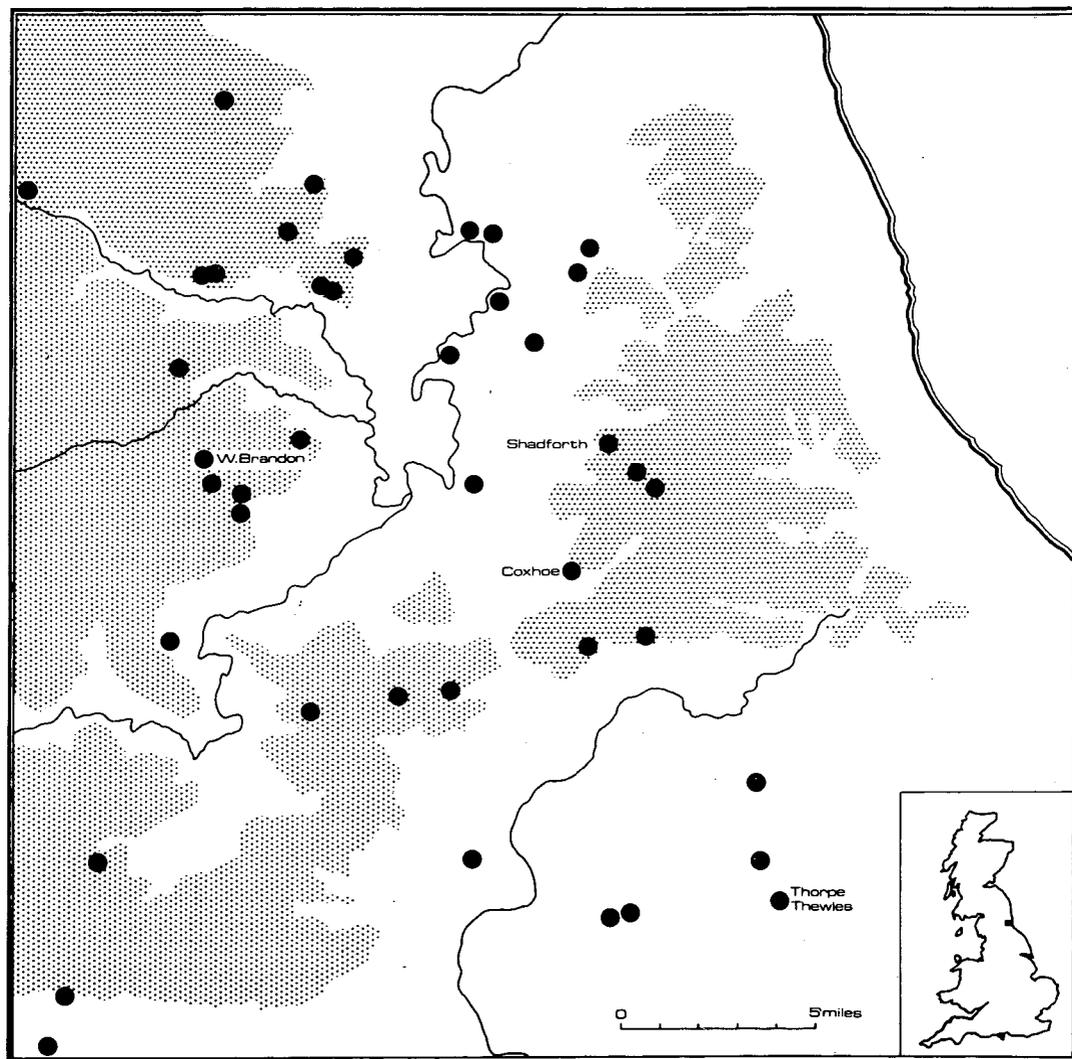


Fig. 1. Rectilinear enclosure sites in Eastern County Durham and Cleveland.

for the storage of the material from the excavation during the preparation of the report. The records and finds from the excavation are lodged in the Old Fulling Mill Museum, Durham City, together with an extended version of the site report, which is also available in micro-fiche from the National Monuments Record, London. Thanks are also due to all those who undertook to write specialist reports for the full site report: Martha Ashbrook (soils), Lisa Brown (quernstones), Alison Donaldson (wood identification), Andrew Fitzpatrick (field-walking), Julian Henderson (glass bead) and James Rackham (Faunal Remains), and finally to Keith McBarron, who drew or redrew the illustrations accompanying this article.

The site is situated on the western edge of the Magnesian Limestone Escarpment in County Durham, at a height of some 140 m above sea level. Its situation on the slight crest of a south- and west-facing slope affords an excellent view across the Wear Lowlands to the Pennine foothills beyond. The field containing the crop-marks is bordered by a plantation on three sides, beyond which to the east is a vast limestone quarry. It is salutary to reflect that this is the only field within an area of over 1 km² which could in fact have generated crop-marks; the field to the south of the road contains the well preserved earthworks of a ridge-and-furrow field system, which can be traced as soilmarks in the northern part of the West House field in which the site is located. However, a close contour survey of the field failed to detect any evidence for these or any features associated with those generating the crop-marks, an indication of the degree of erosion which has already been brought about by the modern ploughing.

In keeping with a number of other nearby crop-mark sites, including that at Shadforth, the Coxhoe site is located close to the interface between the boulder clay deposits which cover the limestone plateau and an extensive outcrop of the Lower Magnesian Limestone, or dolomite, proper. The present form of the landscape has largely been sculpted by the activities of the Quaternary, particularly the erosive and depositional processes associated with the periods of glaciation and there is considerable disagreement over such matters as the exact sequence of the stony and stoneless clays, sands and gravels deposited over the area, the nature of the intervals between the deposition of the glacial tills, and the number of glaciations actually responsible for the deposition. At the Coxhoe site, the bedrock is covered by a shallow soil which appears to derive from a sub-glacial till, and several pockets of clay which might have derived from this were observed in natural features in the limestone which were uncovered during the course of the excavation. Of particular relevance to the results of the excavation, and to the interpretation of crop-mark features in the area in general, is the propensity of the limestone to natural fissures; several open fissures can be observed in the woodland immediately surrounding the site, and where these occur in the area under cultivation, they often appear to have been filled in with large quantities of modern domestic debris.

The most prominent crop-mark at Coxhoe (Fig. 2) was interpreted as being that of a rectilinear enclosure ditch, approximately 0.4 ha in area. The crop-mark varied in its density, and in the south-east corner some doubt existed as to whether the line visible was that of the ditch or of a linear feature which might well have been the

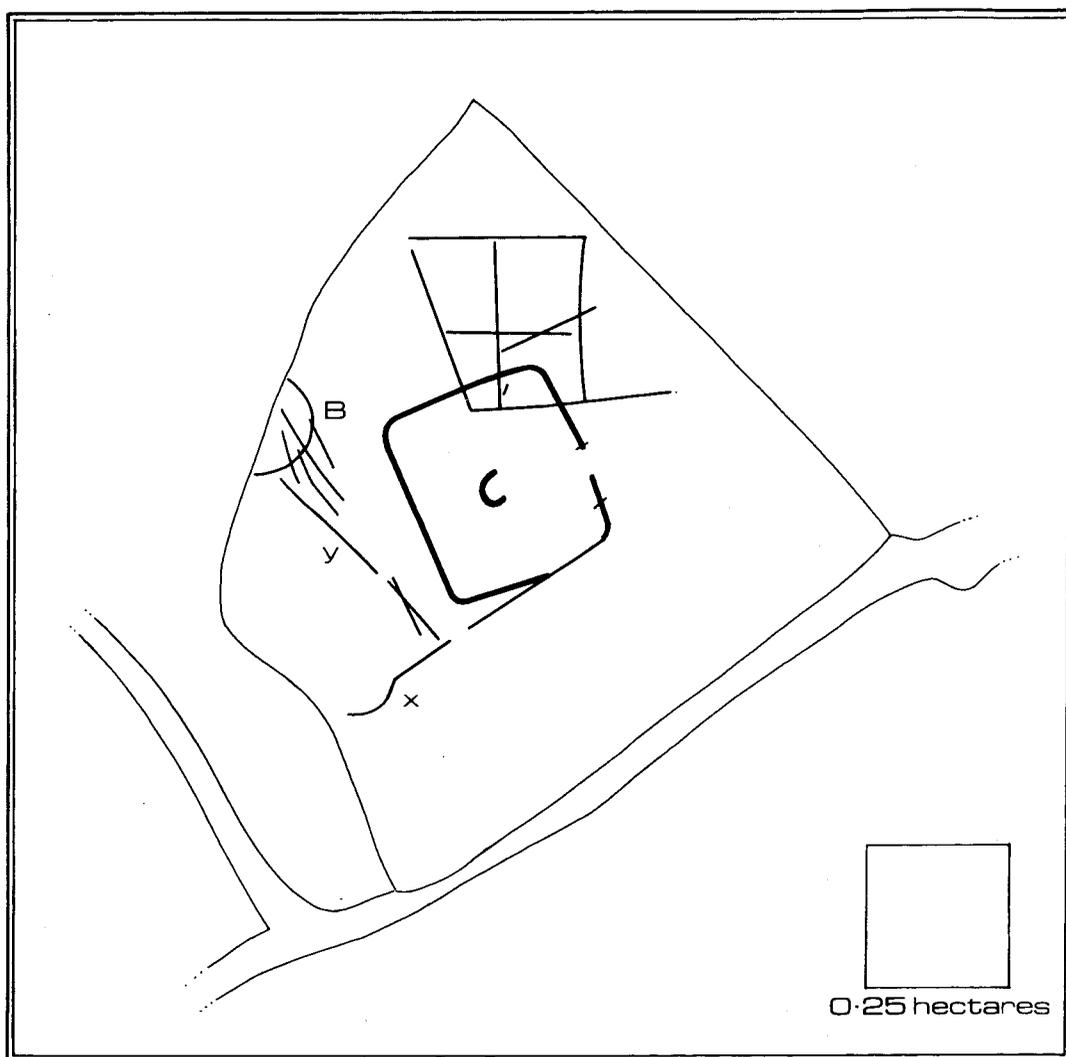


Fig. 2. West House, Coxhoe: the principal crop-marks.

product of modern agricultural practices. A gap roughly in the middle of the eastern side was thought to be that of the entrance to the enclosure, with a possible inturn of the northern terminal. Within the enclosure, the only crop-mark which seemed likely to be of archaeological significance was a circular arc, located approximately in the centre of the enclosure, and of a size appropriate to its being part of a circular building.

At the north-eastern corner of the site, a series of linear crop-marks running north-south and east-west intersect with the line of the enclosure ditch; on analogy

with other sites, it was originally suggested that these might represent the remains of a field-system which either pre- or post-dated the occupation of the enclosure. Also outside the enclosure, a prominent semi-circular crop-mark on the north-western boundary of the field seemed likely to be of archaeological significance; however, a trial excavation carried out to test this in 1979 (Area B on Fig. 2) demonstrated that the circular feature represented the edge of a large, clay-filled, hollow which had

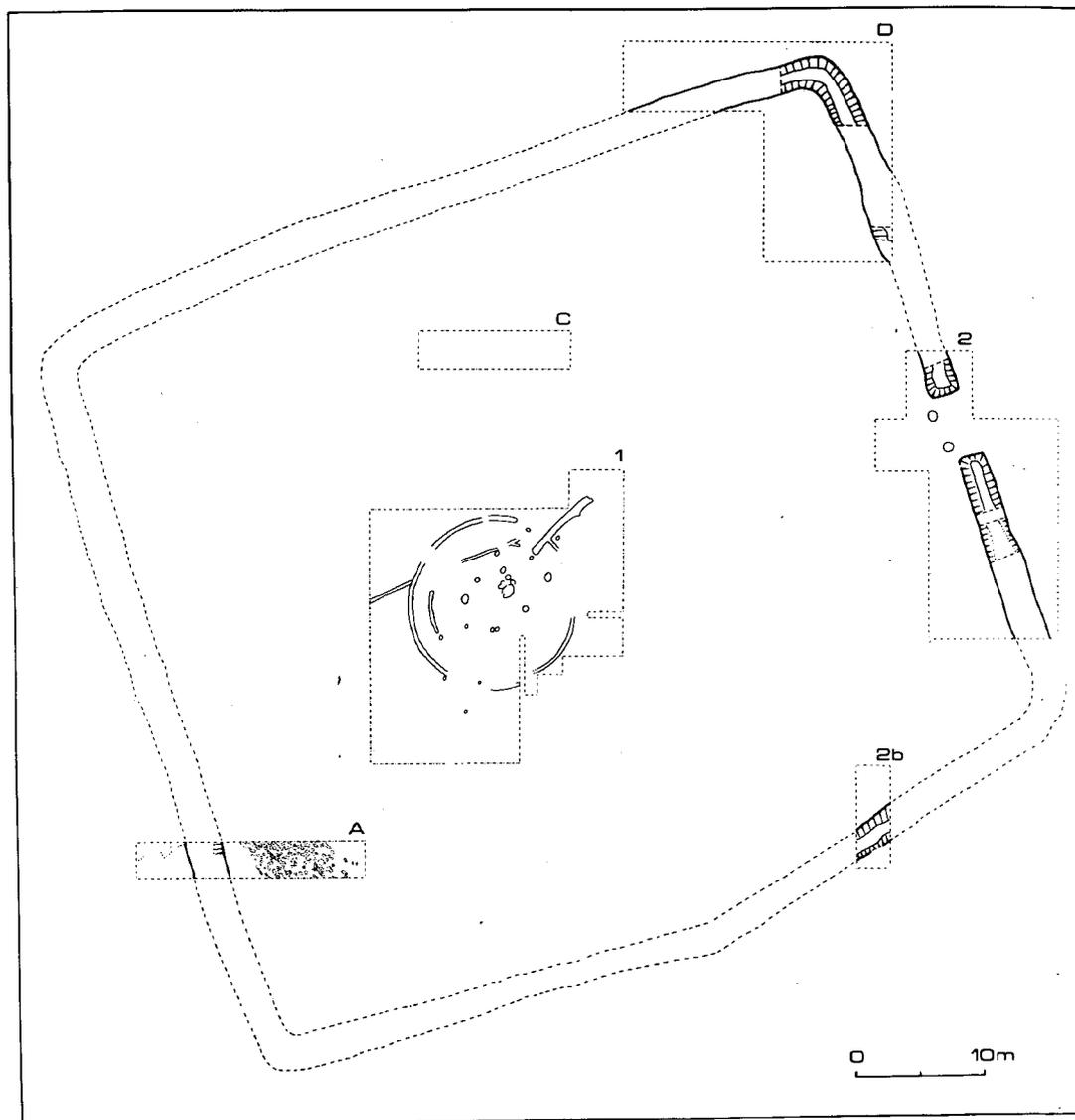


Fig. 3. West House, Coxhoe: plan of excavated areas.

probably formed as a result of subsidence which occurred during the formation of the limestone deposits.

Prior to the excavations a proportion of the field was systematically walked, but only modern material was recovered.¹ It was, however, noted that there were large quantities of stone blocks round the edge of the field, which may have been brought up from over the area of the settlement by ploughing and subsequently dumped at the edge.

In 1979, a number of trenches were excavated by hand in order to confirm the location and nature of the various crop-mark features. These included a trench to confirm the location of the enclosure ditch on the western side (Area A), small areas to confirm the positions of the entrance and the central circular crop-mark, which were subsequently re-opened and largely re-excavated in 1980, and a trench to sample the interior of the enclosure in a position where no crop-mark features could be perceived (C). A larger area (D) was opened up by machine at the north-eastern corner in order to establish the relationship between the various features which intersected there, and in the hope of obtaining some dating evidence.

In 1980, owing to the limited funds then available, and the knowledge from the previous season that damage to the site from both the medieval and the modern ploughing had been very severe, it was decided that it would not be cost-effective to strip large areas of the interior; apart from a single machine trench dug to confirm the location of the enclosure ditch at the south-eastern corner (Area 2b), attention was therefore concentrated on completing the examination of the central area (Area 1) and the entrance (Area 2). In all, approximately one quarter of the site was excavated (fig. 3).

Since a large number of the features excavated, including several of those which had generated crop-marks, can now be seen to be of natural origin, their nature and origin will be briefly discussed before the major archaeological contexts are analysed in detail. These natural formations fall into three groups; linear depressions or fissures, small clay-filled holes of irregular shape and depth which bear some similarity to post or stake-holes, and finally clay spreads. Where man-made features survived on the site, they were in all cases cut through these formations or directly into the limestone bedrock.

THE NATURAL FEATURES (BY M. ASHBROOK)²

The most common natural features observed during the course of excavation were fissures or sheer fractures caused by the lateral movement of rocks along fault lines. The fissures were commonly filled with rock debris, produced by abrasion during the rock movements. The debris was generally tightly wedged into the fissures and completely filled them. Large open crevices sometimes partially blocked with modern debris, were also observed; these prevented the complete excavation of ditch sections at a number of places, particularly in Area A and Area 2. The hypothetical inturn of the ditch at the entrance was found to be the product of fissuring, as was the rectilinear pattern of crop-marks at the north-eastern corner. This underlines the difficulty of interpreting crop-marks in limestone areas. At the nearby site of Shad-

forth, a suspected field system was similarly shown to be the product of geological processes (Haselgrove, 1980) and there are a number of other crop-mark sites in the region for which a natural origin for some of the features seems likely e.g. Plawsworth.

In a few places on the site, notably on the inside of the enclosure ditch in Area A and under a clay spread in Area 1, groups of small holes riddled the surface of the limestone. Originally interpreted as stake holes, they appeared after excavation to be irregular holes which could not be seen to form any coherent pattern, although sometimes they gave the impression of linear alignments. At both locations, they occurred in an area of shattered limestone and were filled with a stoneless yellow clay. They would appear to be the product of solution processes, despite the high resistance of dolomite to attack, probably operating at one or more periods up to the early postglacial when the rock surface was in a base state and at its most susceptible to solution weathering, particularly along joint planes where the extensive surface area available for attack caused the natural chemical resistance of the rock to break down.

The brownish yellow clay, usually fairly stoneless, which was found as the fill in some of the natural features in the limestone, also formed large spreads over the surface of the limestone in Area 1 where it was preserved under the medieval rigs. In some places the surface of the clay was disturbed with pebbles and debris embedded into it; the most notable was a large spread of coal fragments (508) in Area 1 which strongly resembled a hearth, but was probably the product of a coal erratic which had been broken up *in situ* by periglacial activities. Particle size analysis and mineralogical analysis clearly indicated that the clay spreads had not been formed from the dissolution of the limestone *in situ*. Instead it is likely that the clay is the result of several different processes, but ultimately derived from the lower boulder clay and formed subsequent to the till's deposition over the area. Normal soil processes would result in a concentration of clay size particles at a depth from the surface. The clay is translocated during the percolation of water through the profile and in this case would have been deposited at the surface of the limestone. Solution of the Magnesian Limestone has also contributed to the clay, while soluble iron was probably brought up from below the surface of the limestone by capillary action during dry periods, thus providing its characteristic colouring.

THE ARCHAEOLOGICAL FEATURES

The Enclosure Ditch

From the preceding discussion, it will be clear that the only crop-marks in West House field of archaeological significance are those of the enclosure ditch and the circular feature within. A possible exception, however, is the linear crop-mark (X on fig. 2), which continues the alignment of the south-eastern corner of the enclosure and the linear crop-mark running perpendicular to it (Y on fig. 2), which may be those of slighter ditches. An intimate relationship between a settlement enclosure and contemporary landscape divisions defining routeways and demarcating areas of arable and pasture is not uncommon, and indeed may be posited for a number of other crop-mark sites in the region, notably at Ingleby Barwick on the river Tees

(Heslop, forthcoming). In the time available, it was unfortunately not possible to examine this question at Coxhoe, although it is hoped to test the hypothesis by small scale work on a subsequent occasion.

The main enclosure ditch was investigated at a number of points on its perimeter, and it proved possible to excavate substantial sections at the north-east corner of the site and on either side of the entrance; elsewhere fissuring tended to interfere with further exploration. As excavated, the ditch was approximately 2 m wide and 1 m deep. The sides are for the most part fairly steep, and the bottom is flat, though of variable width (fig. 4: 2-5); in some sections, it is little more than a square-cut working trench. In all probability, the ditch will originally have been substantially deeper, for it is clear that a substantial amount of the limestone has been eroded by the modern ploughing, particularly on the eastern side of the perimeter where almost all the traces of the overlying medieval furrows have been obliterated, and its initial construction must have required great labour, cut as the ditch is through the bedrock.

Since there is no reason to suppose that the degree of natural disturbance in the limestone was any less when the ditch was dug than it is now, it is reasonable to enquire whether this exercised any influence on the form or course of the ditch. On the whole the regularity of the enclosure suggests not, although the usage of limestone blocks placed in a fissure at one point so as to provide a continuous side and bottom, implies that the fissuring was recognized as an inconvenience or even as a hazard (fig. 4.2), while the zig-zag nature of the ditch bottom in the machine cut trench (Area 2b) suggests that natural weaknesses in the limestone were exploited in the digging of the ditch.

It is difficult to assess the sequence of events or the time period involved in the filling up of the ditch, as it proved possible to differentiate few soil layers during excavation. In some of the sections, a thin layer of so-called 'primary silt' occurred. This is undoubtedly a layer of wind, rain, and animal or human borne material, which accumulated during the period when the ditch was first opened up and the site was still occupied. It is worth noting that this deposit, far from being a 'silt', was in fact a clay loam derived from the soil and rock dug out to make the ditch. In most sections, a large concentration of stone and rubble made up about half of the main fill. It would appear that most of the material excavated out of the limestone to make the ditch was left as a bank, and then slipped back gradually, possibly after the abandonment of the site. The lack of obvious organic horizons in the ditch fill makes it unlikely that a stable top soil was ever established in the partially filled ditch and thus a slow, but continuous filling process may be inferred. In a number of the sections, the bank material seems to have come from one side predominantly, but these provide conflicting evidence for the location of a bank. In two sections from Area D, one shows the bulk of the rubble falling in from outside the enclosure on its eastern side (fig. 4.5), while the other shows the material slipping in from the inside of the enclosure (fig. 4.4). In the absence of any more conclusive evidence such as post holes for a revetment, it seems likely that the limestone upcast was simply piled up on both sides of the ditch. Moreover, it is possible that some of the ditch material was carried away for another use, or else gradually spread out in

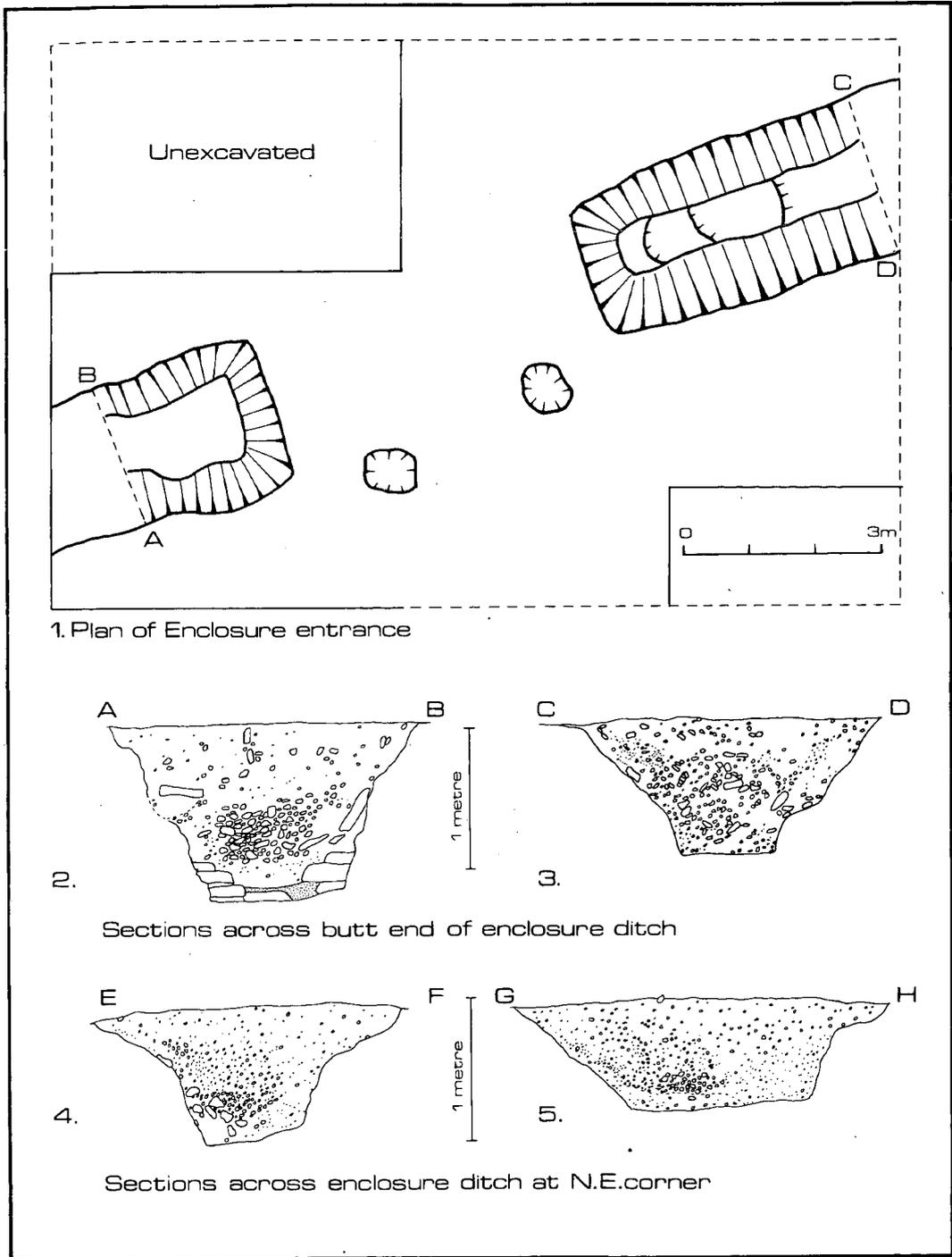


Fig. 4. Plan of entrance and enclosure ditch sections.

the surrounding areas, as the fills are not entirely stoney, and the upper portions of the ditch fills tend to be predominantly soil.

Apart from the relatively large quantities of bone recovered from the ditch fill, there were very few finds: two pieces of worked stone and a flint blade. It is obviously impossible to say whether the faunal remains accumulated as the banks were being built up, or as the ditch was filling in, leaving the possibility that this material relates to activity on the site distinct from the phase of enclosed settlement.

The Entrance (fig. 4.1)

As with the enclosure ditch, the entrance seems to have been a fairly simple affair, facing approximately east up the slope of the ridge on which the settlement is situated. It consists of two square butt ends of the ditch (leaving a causeway approximately 5 m in width at the current level of the bedrock) and two substantial post holes for a gate set behind and inside them; the effective width of the entrance would have been about 3 m. Although the excavation extended back some 5 m inside the gateway, no traces of an entrance way were found. One cannot, however, be certain that significant structural details had not been lost at the entrance owing to erosion, as only the bottom 20 cm of the post holes survived. Neither can we feel any certainty that had there been, for example, a palisaded enclosure of approximately the same configuration preceding the ditched enclosure as at West Brandon (Jobey, 1962) we would necessarily have recovered any evidence for it.

Occupation within the Central Area (fig. 5)

The features excavated in the central area can be divided into those which appear to be structurally integral to one or possibly more circular buildings and those which represent a phase or phases of activity either prior to the construction of this building or post-dating it. In places, lengths of the continuous gully features had been obliterated by the furrows of the medieval cultivation system discussed in the following section, and as at the entrance, there can be no doubt that the whole area has been subject to a considerable degree of erosion by modern ploughing.

The major feature is a circular gully of 13 m diameter. This only survives in discontinuous arcs (81, 504, 541), but most of the gaps coincide with the furrow hollows, and only on a ridge in the north-east does there appear to be a deliberate terminal leaving a gap of 2.5 m before the gully resumes where it cuts a substantial linear feature (506). Although this may have been the entrance to the enclosure, there is also a more substantial gap (*c.* 5.5 m) between the stretches of gully 541 and 81, also on a ridge and aligned on the entrance through the main enclosure ditch. The gully, as it survives, is both narrow (*c.* 30 cm) and very shallow (3.9 cm). There are no traces of packing material or depressions associated with upright planks and it is quite possible that this may be the vestige of a drainage gully rather than a constructional groove; although narrow for a drainage gully, the remains are so superficial that they could easily represent the base of a feature that was rather wider at a higher level. There were no finds other than a few fragments of bone.

Inside this, and exactly concentric with it, a series of arcs of an even less substantial

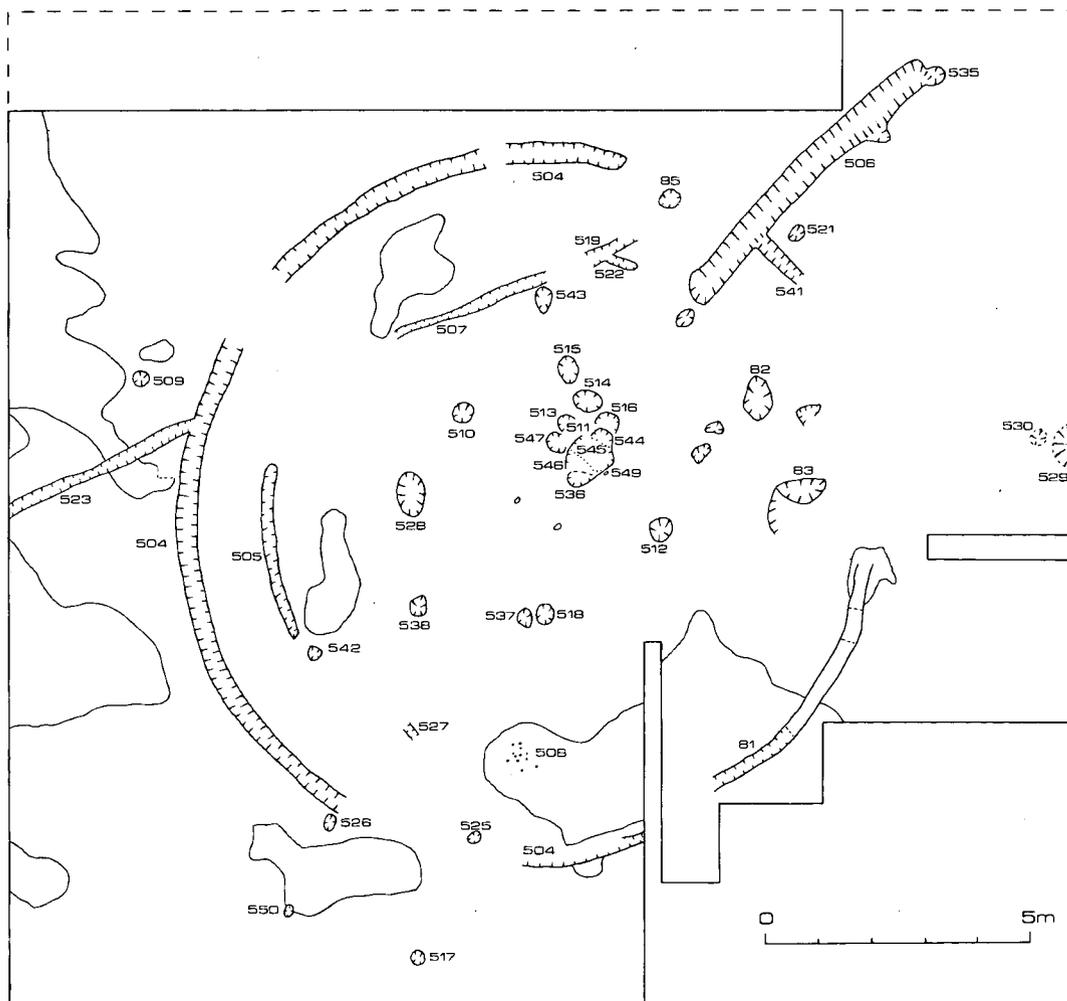


Fig. 5. Archaeological features in the central area.

gully (505, 522, 527) forms a circle of 10 m diameter, as would be appropriate for a subsidiary ring-groove. One cannot be certain that they ever formed a continuous arc and they may represent some form of internal partitioning rather than a major structural feature, particularly as the gaps coincide with ridges as well as furrows. There are three post holes on the same radius, which may have formed part of the same structural group, one of which (82), which is fairly substantial, may have been located close to the entrance.

The third and innermost concentric ring consists of post holes and has a diameter of 5 m. Two of these post holes have closely comparable examples immediately adjacent to them, which may be taken as evidence of replacement. There seem to

have been at least 4 post holes, perhaps 6 if two shallower ones are included; the post hole on the west (528) is considerably larger and deeper than the others. Straddling the centre of these circular arrangements and thus presumably related to them, are two deep stake holes. As central or nearly central hearths are a common feature of prehistoric and Roman Iron Age circular buildings in the north, it might be suggested that these represented some form of structure associated with one that has vanished, but several other interpretations are possible.

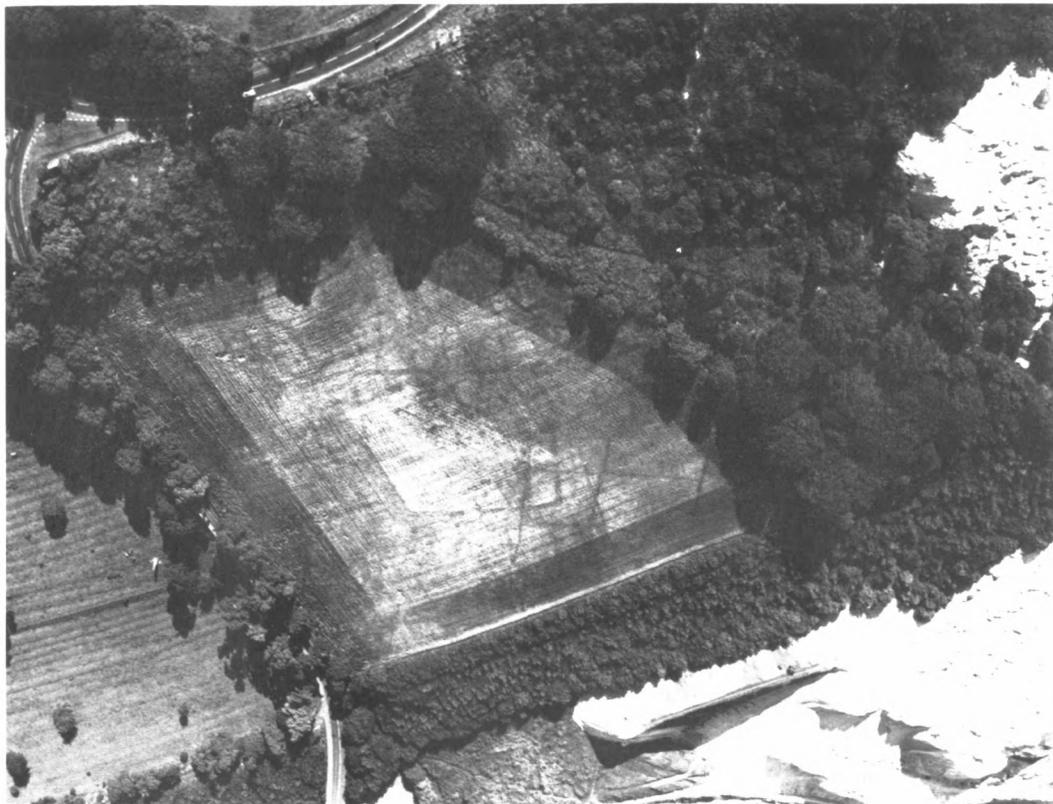
All these groups of features are associated together as potentially separate structural elements of a single building on the basis of their concentricity; it has to be acknowledged, however, that more than one building phase may be represented. Although exact rebuildings using the same centre are difficult to parallel in the north³, there are examples elsewhere as at Little Woodbury (Musson, 1970). Similarly, while a diameter of 13 m for the outer wall would fall within the normal range of variation exhibited by circular structures in the north, 10 m would not be particularly small.

The only other feature which may be associated with this structure would seem to be a group of post holes or small pits (511) within the post-circle which intercut one another. Their relationship to the major structural elements is uncertain, and their function, within the house space, if they are seen as representing activity contemporary with its use, is problematic. They may represent some form of storage or processing activity, but there is no indication from the fill to elucidate either hypothesis.

Apparently earlier than the circular structure are several lengths of shallow gully, apparently a single linear feature. Sections of this are cut in two places, once by the outer gully and once by the inner circle. Although no evidence for uprights or packing was recovered, this is presumably a fence line or palisade trench rather than the base of a truncated ditch or gully. Alternatively, the lengths of gully are independent of one another despite the shared alignment and 523 represents a fence line associated with the circular building.

Also, apparently earlier than the building is the enigmatic linear feature (506) which is some 6.5 m long, 0.5 m wide and 0.25 m deep; although the most substantial feature in the central area, it did not show as a crop-mark unlike the circular feature. Possibly associated with this feature are a number of small post-holes, and the feature itself contained some concentrations of what may have been packing material, including fragments of two saddle querns, but there were no definite indications of post voids within the trench. Although it seems to be cut by the outer circular gully (541), the possibility of its being a feature integral to the construction of the house cannot be entirely discounted, as such an arrangement can be paralleled on other sites e.g. Burradon, (Jobey, 1970); it has no observable relationship with the other linear gully.

Apart from the linear gullies, features unassociated or difficult to associate with the circular structure are limited to a few post holes. From their similarity of dimensions two of these to the south of the house may form one of the ambiguous pairs so familiar in British Iron Age sites (517, 526); a fragment of a rotary quern was recovered from the latter. Unfortunately, it is not possible to say whether or



a. Coxhoe: air photograph of crop-marks.



b. Coxhoe: circular building after excavation.

not they represent a structure which could have been contemporary with the building, although if 504 represents the base of a drainage gully which broadened out above, this would seem unlikely. With most of the other features, their irregularities of form and shallowness, makes it difficult to be certain that they are indeed post holes.

Measurement of the magnetic susceptibilities of the features within the central area⁴ offers useful support to some of the observations offered above. The results from the inner and outer circular gullies fall within the same broad range and supports their archaeological interpretation as contemporaneous features, while the results from the linear features fall within a narrow band distinct from those from the building. They thus support the division of the features into at least two phases, while the higher results from the linear features suggest the possibility that the earlier activity was more intensive than the latter. There is no way of ascertaining which of these phases of activity, if either, was contemporary with the digging of the main enclosure, although the central location of the building and the likelihood that its entrance was aligned on that of the enclosure tends to support the assumption of their contemporaneity.

The ridge-and-furrow field system

In contrast to the eastern part of the site where the modern ploughing has clearly resulted in the erosion of a considerable depth of the limestone bedrock, the areas in the centre of the site (Areas C and 1) were noteworthy for the relatively well-preserved furrows running roughly north-west south-east across the excavation trenches. The rig is a fairly narrow one, the furrow being spaced about 2 m apart, and the surviving depth of soil in the furrows is about 20 cm, sufficient to have removed all trace of the more superficial of the archaeological features at the point of intersection. Hopes that earlier occupation levels or cultivation horizons might have survived in the body of the ridges, as at Quinton in Northamptonshire (Friendship-Taylor, 1974), however, proved ill founded; the ridges had all been reduced to the underlying natural clay or limestone by the modern cultivation. The furrows themselves seem most likely to have been cut by plough action over a period of time, as the surface of the limestone is brittle and easily broken off. Although the furrows could have been deepened by the concentration of water in them, it seems unlikely that this was a major factor in their formation owing to the low solubility of the dolomite.

The dating of ridge-and-furrow cultivation is notoriously difficult. The fields presumably belonged originally to the now deserted Medieval village of Coxhoe, whose surviving earthworks can be seen at NZ331357, mentioned as early as 1277 as Cockishowe in the Finchale Priory Charter. The few sherds associated with the furrow soil would not conflict with Medieval origins for the cultivation of the field system.

THE FINDS

A. Pottery (not illustrated)

Excepting for very modern material, only seven sherds were recovered in the course of the excavation. All are in wheelmade fabrics, and appear to vary in date from

the thirteenth to the seventeenth centuries. As they were recovered from the modern ploughsoil or from furrow contexts, they are likely to have reached the site in the course of manuring during the phase of Medieval cultivation indicated by the ridge-and-furrow system.

B. Objects of Stone

Querns

Fig. 6.1. Fragment of a large saddle quern in fine-grained millstone grit. As it is broken across both its length and width, accurate measurements were impossible. Maximum surviving height 7 cm. Recovered from the linear gully (506), where it may have been reused as packing material.

Fig. 6.2. Fragment of what is almost certainly the lower stone of a small saddle quern in coarse millstone grit, which is broken at both ends. The extreme smoothness of the underside may be the result of its secondary use as a whetstone. This fragment was recovered from the same gully feature as No. 1. Width 16 cm maximum height 5 cm.

Fig. 6.3. Fragment of what is probably a rotary quern in coarse millstone grit. No central perforations or hopper survive, nor any evidence of how the handle would have been fitted. The flat top and conical grinding surface are somewhat reminiscent of Curwen's Sussex Type (1937). Diameter *c.* 40 cm, maximum height 7 cm. This quern fragment was reused as packing in a post hole (526) outside the house space.

It is of some interest that both saddle and rotary quern types, albeit in such small quantity, should be present on the site; the chronological implications of this will be explored below. Also of interest is that they should all be in millstone grits, particularly as those from West Brandon were all in sandstone (Jobey 1962). A recent study of beehive querns from Iron Age and Roman sites in northeast Yorkshire (Hayes *et al.*, 1980) has shown that querns in Millstone grit were carried very considerable distances, often up to 90 km from their Pennine sources, and it has been suggested that they may have been the product of an organized enterprise, although other mechanisms such as gift exchange of prestige items could also account for their distribution. A short report on the querns, by Lisa Brown, is included in the site archive.

Worked Stone Object

Fig. 6.4 Illustrates a piece of worked sandstone or fine-grained grit, which is slightly rounded on the top face. On this side, there are three parallel tooled grooves spread roughly 1 cm apart, close to the broken edge. The fragment does not derive from a quern, and has no obvious parallels. 10 × 11 × 3.5 cm. Recovered from the enclosure ditch to the north of the entrance.

Stone disc

Fig. 7.1. Roughly circularly shaped sandstone disc, diameter 7.3 cm, thickness 1.6 cm. It is smooth on both faces and shows possible traces of burning. Such discs

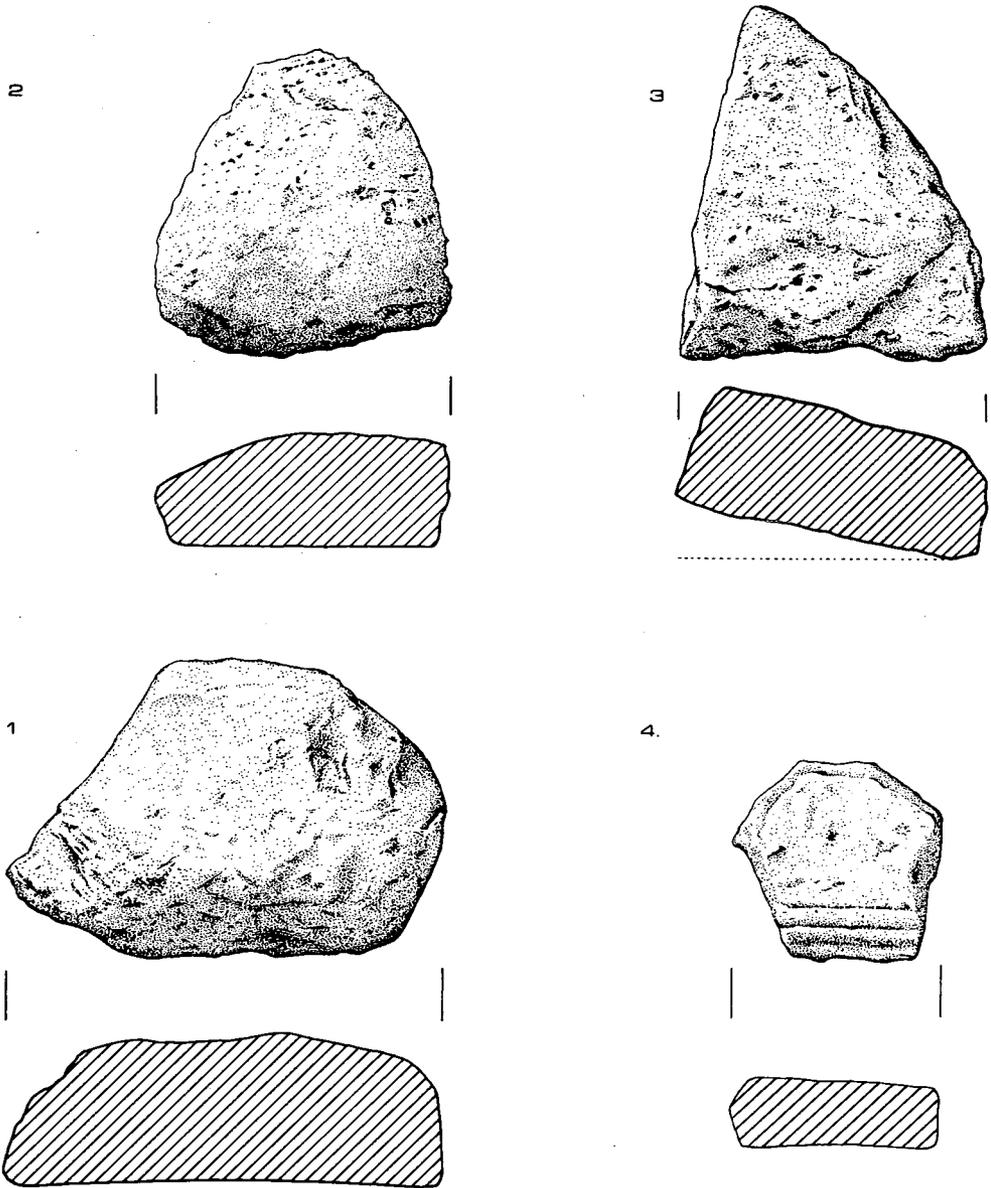


Fig. 6. Stone objects from Coxhoe (1/4).

occur in a variety of contexts from a number of sites e.g. West Brandon (Jobey 1962, fig. 9.3). From the enclosure ditch to the south of the entrance.

Pierced Stone Object

Fig. 7.2. A shaped piece of sandstone with a hole bored through it. The hole is complete on one face only, owing to a break. The flattened face may have been a base. This object may have been some sort of weight. 4.2×4.4 (to broken edge) $\times 3.5$ cm (max. thickness). Recovered from furrow soil over the house space.

Other objects of stone recovered during the excavation include what may be the corner of a rough-worked block of sandstone and a number of possible hones or whetstones (not illustrated).

C. Glass

Glass bead

Fig. 7.3. Small bead of opaque white glass, diameter 9 mm, perforation 4 mm and thickness 6 mm. The bead is smooth, but irregularly shaped and its shape is slightly oval and conical rather than spherical. Although bangles in opaque white glass are common on northern sites (e.g. Kilbride-Jones, 1938, fig. 7, 2, 4, 5; Jobey 1977, fig. 11, 1, 2) a plain bead of this form is unparalleled in prehistoric or Roman contexts. X-Ray fluorescence analysis indicates that although the bead is of a soda-lime silica glass, it is not of typical prehistoric or Roman composition, nor does Medieval manufacture appear likely, and the possibility that it may be modern, although improbable, cannot be entirely ruled out. A technical report on the bead, by Julian Henderson, is included in the site archive. Recovered from furrow soil over the house space.

D. Flint

Only five pieces of flint were recovered in the course of the excavation, including a flake stratified in the main house gully. Only one of these shows evidence of secondary working:

Fig. 7.4. Retouched blade of pale grey-brown flint, 27×9 (max) $\times 3$ mm. From the enclosure ditch to the south of the entrance.

E. Objects of Shale

Fig. 7.5. Fragment of shale bracelet or armband, diameter 7 cm. There is a medial break. From the topsoil in Area 1.

Fig. 7.6. Roughly circular object of shale, either a bead or a small spindle whorl, diameter 2.6 cm thickness 6 mm. The bored hole is slightly off centre and has worn edges on both faces. Recovered from the linear gully feature (506) in the central area.

Parallels for objects of shale are surprisingly hard to find on excavated sites in the north, as it is a material one would expect to have been extensively exploited; poor survival may be a factor here. A similar, but slightly smaller bead of black shale was

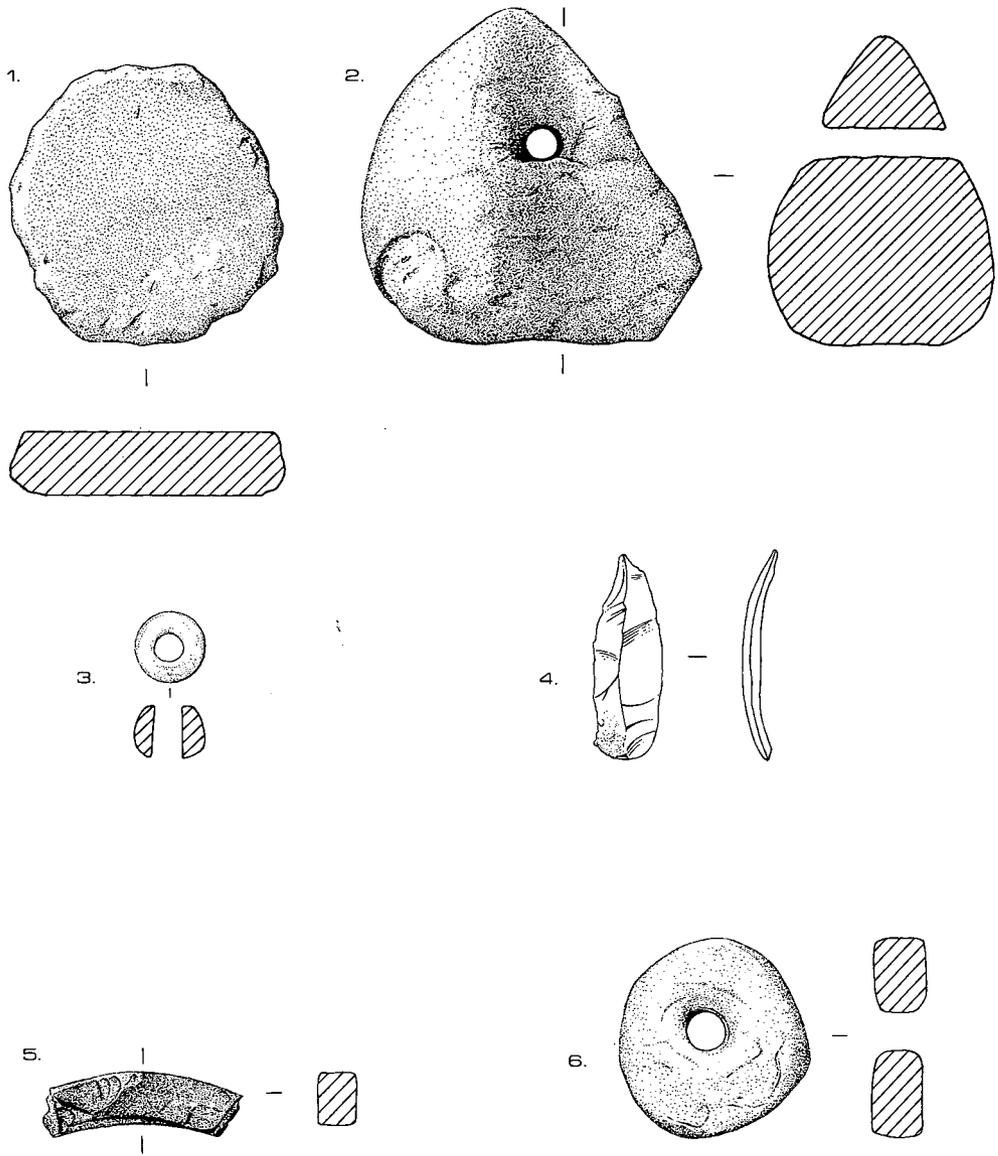


Fig. 7. Small finds from Coxhoe Nos. 1-2, Stone; No. 3, glass; No. 4, flint; Nos. 5-6, Shale. All 1.1 except No. 1 ($\frac{1}{2}$)

found at the native settlement at Hartburn (Jobey 1973 fig. 14.3) while another, interpreted as a spindle whorl, was found at Huckhoe (Jobey, 1959).

F. Metal Objects

No metal objects were found that could be definitely associated with the homestead or settlement. All the finds appear to be of fairly recent date and were presumably introduced into the plough soil in the process of fertilizing with night soil.

G. Organic material

Possible charcoal samples were collected during the excavation as a matter of routine. None of these turned out to be large enough to permit a carbon 14 age determination to be made by the conventional method, although it is possible that a small sample determination will be possible in due course. A sample from the main house gully was identified as shale, while two samples from the enclosure ditch were both identified as oak (*Quercus* sp.). A sample of burnt organic material from the north post hole of the entrance gate-way was probably of wood, although the structure was too badly distorted for species identification. The identifications were carried out by Alison Donaldson.

H. Faunal Remains (by James Rackham)

The collection of bone from this site was mainly recovered from the excavation of the enclosure ditch around the settlement; very little animal bone was found elsewhere on the site owing to the superficial nature of the deposits excavated.

The collection was itself very small and of the 382 bones found only 40% were identified to species.

TABLE I Bone fragments from the Coxhoe excavations

	1	2	3	4	5	6
Ox	6(1)	11(1)	14	20(2)	15	1
Sheep/G.	8(1)	2(1)	1	3	30	3
Pig	1	2		2(1)		
Horse		2(1)	4	11	6	1
Dog			2		1	
L. Animal	24	10	13	8	9	26
M/L. Anim.	1	1	2	4	49	14
L. Ung	2	1	9	4	14	
M/L. Ung.				1		
Sm. Ung.	1					
Totals	50	32	56	59	140	45

(1—enclosure ditch, south side; 2—enclosure ditch, east side south of butt-end; 3—enclosure ditch, south butt-end; 4—enclosure ditch, north butt-end; 5—enclosure ditch, north east corner; 6—Area I, others.)

If we take all the material to be of similar date the proportions of the major domestic animals in terms of percentage numbers of fragments are: cattle—47; sheep or goat—32; pig—4; and horse—17. This might be thought to suggest a dependence on cattle of the main source of food. However, a study of Table 1 illustrates that the proportions of these domestic species vary markedly in each section of the enclosure ditch excavated and serves to illustrate the difficulty of drawing conclusions from small samples or those collected from a portion only of the site.

Some of the horse bones from the northern butt-end of the ditch came from one animal and may represent a burial or more probably debris from a disturbed burial. A very high percentage of the bones of cattle and sheep are teeth. This is normally a factor of preservation, and the eroded texture of many of the long bones is evidence for the poor preservation of bone. The occurrence of bones in a ditch may also suggest a secondary derivation of material that would usually be dumped in pits, middens or on the fields. Derivation tends to increase fragmentation which would favour the survival of teeth and may also be a factor in their abundance at this site.

The sample is too small for further comment.

DISCUSSION AND CONCLUSIONS

The excavations of 1979–80 have demonstrated that the crop-mark site at West House, Coxhoe, belongs to the class of rectilinear settlement enclosures well known in the North-East of England. It is only the second such site to be examined on even a moderate scale in the area between the Tyne and the Tees, although large-scale excavations are currently in progress on a third site at Thorpe Thewles in Cleveland. This consideration and the obvious desirability of obtaining information which might be compared with that from the published site at West Brandon, were the principal factors involved in the decision to mount a rescue excavation on this particular site. An important subsidiary aim was to obtain a sizeable faunal assemblage, unusual for this class of sites, and arguably a reasonable expectation according to the geology of the site. It also seemed important to try to provide some cultural substantiation for the episodes of extensive clearance and cultivation indicated by palynological data for the southern part of the Magnesian limestone escarpment from the second millennium B.C.

The apparent similarities of form displayed by these rectilinear settlement enclosures should not be allowed to obscure the patterns of variation displayed by the class as a whole. In date, they appear to range from the earlier first millennium B.C. to the Roman Iron Age, at least north of the Wall, and most have more than one phase of occupation. The nature of the enclosure varies; some are surrounded by palisades, others by ditches; at some sites both forms of construction are present. Clearly with crop-mark sites, there will be a bias in favour of the discovery of sites surrounded by ditches. The size of the enclosed area also varies considerably, ranging from 0.1 to 0.8 ha; in general the enclosures may be divided into two discrete size ranges, one group clustering around an area of 0.3 ha, the other at 0.6 ha, exactly twice the size. Coxhoe with an area of 0.4 ha would appear to belong to the

former class. There has been little discussion of the marked preference for a rectilinear shape. While this may be due to purely cultural factors, it is always possible that the adoption of a rectilinear form has its origin in more functional requirements and specifically, in the practice of establishing settlements over abandoned fields, a practice which seems to account for the distinctive shape and size of a number of later Bronze Age settlements on the chalk lands of southern England (Barrett and Bradley, 1980).

Similarly, both the number and method of construction of the structures found on this group of sites would seem to vary considerably, although the buildings are almost invariably circular. Within settlements, the number of structures in the excavated portion can range from a single round house to several buildings all apparently in use at the same time. Unfortunately, on such sites there is rarely evidence for functional differentiation among the structures, but it would be a mistake to assume that they all represent residential units. Often, there is good evidence for the renewal or replacement of individual structures, for example a minimum of twelve replacement phases at Hartburn (Jobey, 1973a). The methods of building construction represented include post-rings, ring-grooves and stone walls, timber-built and stone-built structures often occurring on the same site. In view of the superficial nature of the site and the long history of destructive ploughing, the possibility of there having been stone buildings at Coxhoe cannot be entirely discounted; some finds of what appears to be shaped stone were made and may indicate its use for building purposes, a large amount of limestone will have been excavated in the construction of the ditch, and much stone apparently brought to the surface by ploughing has been removed to the edge of the modern field.

However, it has to be admitted that the main circular structure excavated at Coxhoe is without obvious regional parallels; indeed a recent survey of probable and possible double-ring round houses in prehistoric Britain (Guilbert, 1981) furnishes no obviously comparable examples. The combination of an external ring-groove and internal post-circle is known on certain sites, for example West Plean (Steer, 1956) and Tower Knowe (Jobey 1973b). However, the best analogy for the Coxhoe structure, if correctly interpreted as a single building, may perhaps be round houses such as House 2 at Llandegai in North Wales (Musson 1970), where a building of similar construction is surrounded by a drainage gully. One could posit a similar function for the outer gully at Coxhoe, with the insubstantial inner gully an element in the construction of a predominantly wattle and daub or cob-walled structure. At Thorpe Thewles, material almost certainly from wall construction has been found burnt *in situ* on top of circular gullies which appear to have been constructed for drainage rather than as wall trenches (D. Heslop, Pers. Comm).

In the absence of sufficient organic material for Carbon 14 determinations, both the period at which the settlement was occupied and the overall duration of activities on the site remains problematical, although the simple entrance and lack of recuts in the ditch suggest that the need for enclosure, if not the occupation associated with it, was not particularly long lived. Nor do such artefacts as were recovered clarify the picture greatly. Both the fragments of saddle quern were recovered from a context

which appears to antedate the main circular building, and thus belong to the phase of activity which the magnetic susceptibility results suggest was, if anything, the more intensive. The fragment of presumed rotary quern, the introduction of which to the north-east is not likely to be earlier than the C2nd B.C. and may well be later, came from a post-hole whose relationship to the circular structure cannot be determined. The absence of recognizable Romanized material from the site is, however, presumably significant chronologically, particularly as a well attested Roman road passes within a few hundred metres of the site as the high street of the modern village of Coxhoe. It could be argued that as the querns are all in millstone grits, the site must postdate the organized exploration of that source, but the chronology of this enterprise remains ill-defined (Hayes *et. al.* 1980). The use of ditching for the enclosure is perhaps a feature of the later rather than the earlier 1st millennium B.C., an observation which adds nothing by way of chronological precision to those already adumbrated. Clearly one can go no further than to suggest that activity on the site probably began during the currency of the saddle quern in the north-east, and continued beyond the transition to the use of the rotary quern, probably in the first centuries B.C. and A.D.; the circular structure and the main enclosure ditch may well belong to this period.

Whatever the precise chronology of this occupation, the complete absence of the coarse, reduced, hand-made ware characteristic of pre-Roman and Roman Iron Age sites in the region calls for some comment particularly in view of their presence at the two nearest comparable sites, Thorpe Thewles (D. Heslop, *Pers. Comm.*) and West Brandon, albeit in limited quantities at the latter site (Jobey, 1962). If genuine, their absence at Coxhoe may suggest that the settlement was occupied at a different period from the other two, but equally, their absence may be apparent rather than real, a function of the severity of the ploughing, the limited volume of the excavated contexts, or the areas of the site explored. Once exposed to the plough, the chances of such fabrics surviving must be slim. Rackham (above) has commented on the eroded condition of the faunal remains from the ditch and suggested that this may be indicative of the material being secondary refuse; coarse fabrics might well not have survived similar processes of erosion and re-deposition. We have next to no information on the patterns of refuse disposal characteristic of the settlement's inhabitants. At the recently excavated site of Doubstead, near Berwick on Tweed, no sherds of a comparable fabric were recovered from house contexts, and only two from the enclosure ditch, whereas several were recovered from what has been interpreted as a stockyard area (G. Jobey, *Pers. Comm.*). Thus, the inhabitants of the Coxhoe settlement may well have disposed of the bulk of their domestic debris on a site midden away from the main residential building, or even off the site as manure for the fields.

It is tempting to interpret the Coxhoe settlement, at least in its later phase, as a classic single farmstead unit, with one principal residential building, as for example at West Brandon. However, to do so, would be to place altogether too much on the absence of crop-marks of additional structures within the enclosure. The numerous factors which can lead to the presence or absence of crop-marks are well known, and

excavations on overtly similar sites have shown just how misleading an impression they can give. At Burradon, where aerial photographs pointed to the presence of a single central building within a double enclosure, a whole series of circular structures were excavated (Jobey 1970), while excavations in progress on the neighbouring enclosure on the limestone escarpment at Thorpe Thewles, have again revealed the presence of a whole series of circular structures which did not generate crop-marks, in addition to the as-yet unexcavated central circular feature (Heslop, 1981). It has already been commented that the Coxhoe enclosure is, if anything, on the large size for the smaller group of rectilinear sites and must have contained a number of ancillary structures and compounds at the very least, although there were sufficient doubts that these would have survived the medieval and modern ploughing of the site to vitiate the exploration of further areas of the interior with the very limited resources available. The original excavation of the enclosure ditch was obviously a major effort, involving considerable man-hours, and it seems unreasonable to assume that this task would have been performed solely by the occupants of a single round house, although co-operation with the inhabitants of other settlements might have offered a means of mobilizing the necessary labour.

If the internal organization of the settlement must remain a matter for speculation, the diet and subsistence economy of its inhabitants is also very much a question of judicious inference. It is clear that animal husbandry was a factor in the settlement's existence with sheep presumably being grazed on the limestone escarpment and cattle kept on the better watered terrain below. The high proportion of horse in the sample is accounted for by the presence of several bones from a single animal. Otherwise the small size of the sample and the additional uncertainty posed by not knowing whether the faunal remains derive from both phases of activity on the site, or merely from one, renders the calculation of such quantities as the relative importance of various species represented or the slaughter pattern, impossible.

Mixed farming is the subsistence strategy most likely to have been pursued by the inhabitants of the Coxhoe settlement, and indeed cereal cultivation is implied by the presence of quernstones on the site. Although soil samples were processed for carbonized seed remains, the results were negative and we have no way of knowing what combination of cereals were grown. Similarly, which of the soil types in the vicinity of the site, or what combination of these, were exploited for cereal cultivation is uncertain. At first sight, the location of Coxhoe and several other nearby sites, such as those at Shadforth, Old Cassop and Thornley, close to the junction between the clay deposits which cover most of the limestone plateau and an extensive outcrop of the Magnesian Limestone proper (Haselgrove, 1980), might suggest that the proximity of light, well-drained limestone—derived soils, more obviously suited to cereal cultivation than those derived from boulder clay, was a decisive factor in the siting of these settlements. But, as has been shown above, the soil cover of the outcrop in fact appears to derive from a sub-glacial till, and in any case, the introduction during the first millennium B.C. of iron points for ards (Rees 1979) provided Iron Age farmers with the technological capacity to till heavier soils, while the introduction of spelt and bread wheat provided suitable crops (Jones 1981). It is more likely that

the apparent correlation between the location of these settlements and the limestone outcrops is the product of sample bias, and particularly, of the poor potential of the deeper clay deposits for generating crop-marks.

In more general terms, it is difficult to decide whether the apparent clustering of rectilinear settlements close to the 125 m contour (fig. 1) and the bias in their distribution towards grade 3 agricultural land, noted by George (1976), is also the product of post-depositional factors such as differential survival and visibility of sites or uneven survey. This seems not unlikely. Alternatively, it may reflect a genuine regional trend, such as the siting of settlements in the proximity of the spring line or on the interface between a zone of upland pasture and lower-lying arable land, a settlement pattern which is a common feature of topographically similar regions. In the case of the sites on the Magnesian Limestone escarpment, it should be noted that pollen diagrams from Bishop Middleham, Hutton Henry and Thorpe Bulmer suggest that the better drained soils of the limestone plateau and escarpment were cleared earlier than the poorly drained soils of the lowlands (Donaldson, 1978).

Only five years ago, the authors of *Archaeology in the North* concluded that "the poverty of both defended and undefended settlements in the Tyne-Tees area remains difficult to explain, especially in view of the presence of at least four Roman forts, which would seem to imply the presence of a greater population, at least in the immediate pre-Roman period than can now be accounted for archaeologically" (Clack and Gosling, 1976, 28). That these authors were correct in their misgivings, has been amply demonstrated by the number of sites which have subsequently been discovered, both rectilinear enclosures (fig. 1) and other classes of site, e.g. curvilinear enclosures and unenclosed settlements (George, 1976) which in all probability also date to the later prehistoric period. It is clear that despite the proportion of the landscape which has been lost to extractive processes, such as mining and quarrying, and urban expansion, the possibility of elucidating changes in settlement pattern in the region during the later prehistoric period still remains, and with the commencement of an intensive survey programme, it is to be expected that the number of known sites will increase sharply over the next few years.

At the present time, however, our knowledge of the later prehistoric settlement pattern and demography of the region remains sadly deficient, and it is to the evidence of palynology that we must turn in conclusion to provide a general context for the phases of activity represented at Coxhoe and morphologically similar settlements, always bearing in mind that rectilinear enclosures were a long-lived settlement form in the North-East and the classification almost certainly obscures a considerable degree of variation in the nature of the individual settlements. In a recent synthesis of the information from pollen diagrams from North-East England, Wilson (1981) has concluded that a fairly consistent picture of three phases of later prehistoric agricultural activity can be discerned, although at some sites not every phase is present. To the late second or early first millennium B.C. belong a series of apparently short-lived clearances, for which both arable and pastoral indicator species are present, after which time, reversion to woodland normally takes place. From about the seventh century B.C. onwards, there are indications of continuously maintained clearances,

which rarely show any temporary regrowth of woodland species. Finally, at the end of the first millennium B.C. or in the first and second centuries A.D., there is a dramatic intensification of clearance, which is often associated with a rise in arable species. As this phase appears to have its beginnings earlier than the Roman occupation, and the political stability it would bring, Wilson infers an increase in population necessitating more intensive agricultural exploitation of the landscape and a concomitant reorganization of the settlement pattern.

In many of its details, the evidence obtained from the excavations at Coxhoe and the nearby site of Thorpe Thewles, would appear to offer some support to this model. The presence of an enclosure ditch delimiting the settlement would seem to be socially and ecologically appropriate to a largely dispersed population raising stock in a partly wooded landscape. It has already been suggested that stock-raising was of sufficient importance within the mixed farming strategy pursued by the inhabitants of the Coxhoe settlement to influence the location of the site, as would be the need for protection from predators, both human and animals. A much greater emphasis on cereal production is commonly associated with denser populations, where individual settlements belong to more organized and larger-scale social and political units. This in itself lessens the need for protective enclosures, while the increased woodland clearance associated with cereal production reduces the danger of animal predators. Moreover, where the actual population of a settlement is increasing, an enclosure ditch will eventually present an obstacle to its expansion which can only be surmounted by the levelling of the ditch, which appears to have happened at Thorpe Thewles (D. Heslop, *Pers. Comm.*), or the budding off of a proportion of the population, or the abandonment of the settlement in favour of a new location. As the factors which dictated its original siting will have now decreased in importance, the latter may well present the preferable alternative.

While there can be no certainty in the matter, it would seem likely that both phases of activity at Coxhoe belong to Wilson's horizon of 'maintained clearances'. The magnetic susceptibility results imply that, if anything, the first phase at Coxhoe represents the more intensive occupation of the two, and it is by no means impossible that the long linear gully excavated, represents the vestiges of a palisaded enclosure in a different position from that of the subsequent ditched enclosure. The succession from palisaded enclosure to ditched enclosure appears to be represented at both the nearby excavated sites, albeit in different ways; at West Brandon there is direct continuity of siting (Jobey, 1962), while at Thorpe Thewles, the ditched enclosure was established on a new site immediately adjacent to that of the old palisaded settlement (Heslop, 1981). Activity presumably belonging to the phase of ditched enclosure, continued on the Coxhoe settlement long enough to see the introduction of rotary querns to the region, but not the appearance of Romanized material, and we would, therefore, posit abandonment of the site in favour of a new location in the context of the changes accompanying the intensification of arable farming from the first century B.C. By contrast the settlement at Thorpe Thewles, possibly on account of its lower-lying and less-circumscribed position, continues to grow after the enclosure circuit became unnecessary, and was not finally abandoned

until after the appearance of Roman 'imports' in the area in the later first century A.D. (D. Heslop, Pers. Comm.).

While the detailed evidence required to support this model is clearly not as yet available, an attempt to set individual sites within a more general context of changing patterns of prehistoric settlement and land-use is clearly vital if we are ever to advance beyond purely typological studies. It is, therefore, to be hoped that some of the possibilities outlined here will provide useful guidelines for continuing research in the region, and that over the next few years at least some of the outstanding problems will be solved.

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NOTES

¹ A report on the field-walking by Andrew Fitzpatrick is included in the site archive.

³ But cf. Tower Knowe, Belling Law and Kennel Hall Knowe (Jobey 1973b: 1977, 1978).

² A full report on the soils and geology of the site, by M. Ashbrook, is included in the site archive.

⁴ M. Ashbrook, as note 2.

