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CROPMARKS AT MILFIELD AND NEW BEWICK AND THE RECOGNITION OF GRUBENHAÜSER IN NORTHUMBERLAND

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IN THE autumn of 1986 trial excavations were carried out after the harvest in a field 0.9 km WNW of New Bewick farm in the upper reaches of the Till valley, and 10 km SE of Wooler (NU 060 206). Their purpose was to investigate one of several small sub-rectangular cropmarks which, it was suspected, might represent the site of a sunken floored building or *Grubenhäuser* of Anglo-Saxon date. Such buildings are well documented in settlements of the period in southern Britain but hitherto have not been recognized north of the Vale of Pickering in North Yorkshire (Cramp, 1983, 276) with the exception of two atypical examples at Yeavinger in Northumberland (buildings C1 and D3; Hope-Taylor, 1977) and possibly others at Sprouston in Roxburghshire (St. Joseph, 1982). By confirming the existence of *Grubenhäuser* at New Bewick it was hoped not only to extend the known distribution of this architecturally humble form of building, but also to add another tier to the settlement hierarchy in a region otherwise populated almost exclusively by sophisticated timber halls of the kind excavated at Yeavinger and Thirlings or identified at Milfield and Sprouston from air photographs.

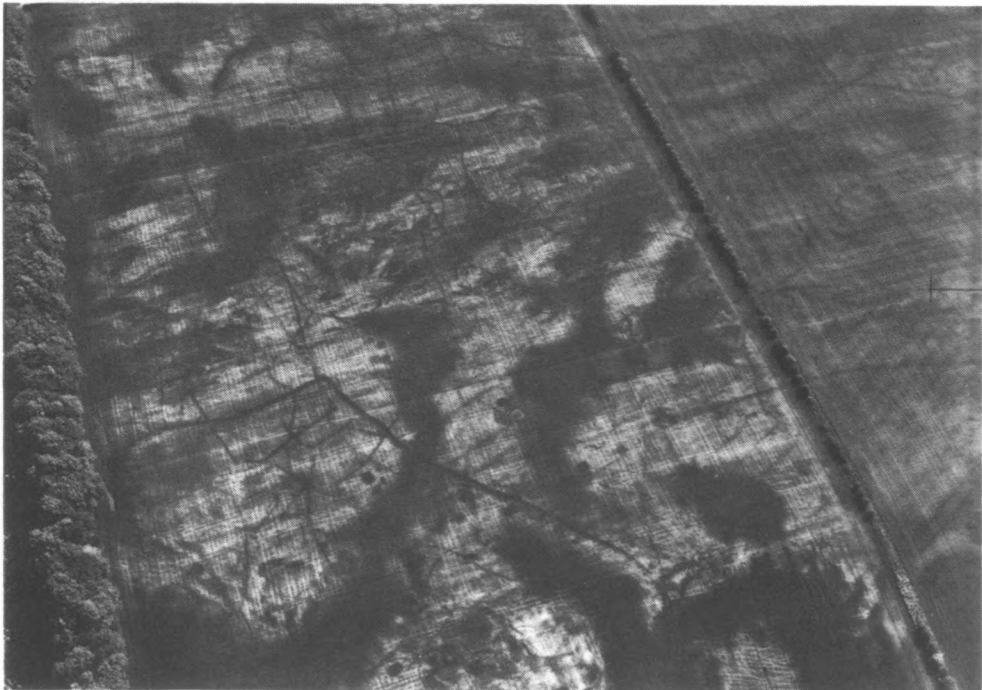
The cost of excavation was met by generous grants from the Society's Research Fund and from the University of Newcastle upon Tyne. Permission to excavate was kindly given by the landowner, Mr. E. A. Wrangham of Harehope Hall, and thanks are likewise due to Mr. J. Clark, the manager of New Bewick Farm, for his ready cooperation.

Credit for the discovery of the site belongs jointly to Professor J. K. S. St. Joseph, former Director in Aerial Photography at Cambridge University, and to Professor N. McCord of the University of Newcastle upon Tyne, both of whom photographed cropmarks here in the first week of August 1970. Although the existence at "West New Bewick" of "a field system of sorts, but of unknown context" was duly noted in a subsequent volume of these Proceedings, the possibility of associated settlement remains was not pursued on this occasion (McCord and Jobey, 1971, 127; site 31). Indeed the first suspicions of this sort were not aroused until ten years later when the attention of the present writer was again drawn to these cropmarks in the context of what had at first seemed an unrelated enquiry concerning the Anglian site at Milfield.

The identification of the place-name Milfield with the Anglian palace or *villa regia* known to Bede as Maelmin (or Melmin) is well known and has been acknowledged since the time of Camden. On the other hand direct evidence as to the actual location



a) Cropmarks at Milfield, 19 July 1972 (BJV 13). Cambridge University Collection. Copyright reserved.



b) Cropmarks at New Bewick, 19 July 1972 (BJU 79). Cambridge University Collection. Copyright reserved.

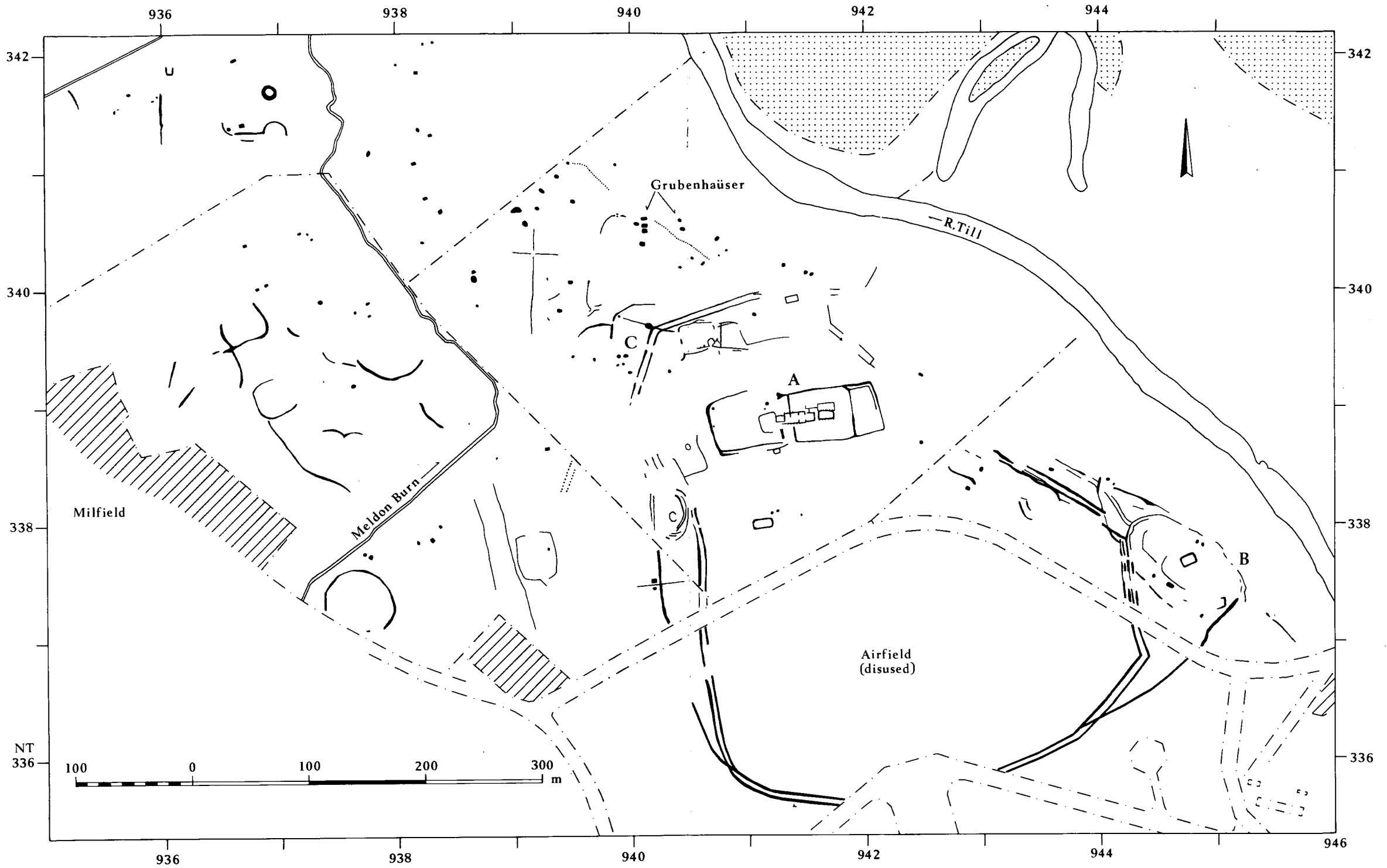


Fig. 1. Cropmarks at Milfield.

of the palace buildings was not forthcoming until June 1948 when Professor St. Joseph took the first aerial photographs of cropmarks east of the existing village (Knowles and St. Joseph, 1952). In the succeeding 40 years aerial photography has continued to generate new information about this interesting site, the results finding their first cartographic expression in the form of a sketch plan drawn up by Dr. Hope-Taylor and included in his monumental report on excavations at Yeavinger (Hope-Taylor, 1977, 13, fig. 7).

In due course, and as the amount of photographic cover increased, it became clear that a more detailed plan of the cropmarks at Milfield was called for, not least to ensure the long term preservation of the site in the face of threatened encroachment by gravel quarrying and other developments. As part of a more general contribution to the archaeological records of Northumberland, Mr. S. Ainsworth plotted the cropmarks around Milfield at a scale of 1:10,560 in 1979 using simple graphical means of transcription, and the result has since been published (Hampton, 1985, 11, fig. 11). Although useful for most record purposes it was recognized that no plan at this scale could do full justice to the photographic evidence then available, and that something more ambitious was required if a fuller understanding of the site was to be achieved. To this end the palace complex was remapped by the present writer at a larger scale (1:2500) and it is this plan which is reproduced here in reduced form (fig. 1).

In-depth analysis of the Milfield cropmarks lies outside the scope of the present discussion which is primarily concerned with the sequence of events leading up to the recognition of *Grubenhäuser* here and at New Bewick. With this in mind it is instructive to compare Fig. 1 with Dr. Hope-Taylor's plan. The most prominent features remain the central suite of buttressed timber halls (A); the outlying fort or palisade (B); and the massive double palisaded enclosure (now seen to be of more than one phase), containing an area of c. 12 ha. and pierced by an entrance at C. But to these must now be added a wealth of other detail including upwards of 60 small spots or blobs scattered across the site and represented on the air photographs by marks of solid tone. Although a proportion undoubtedly indicate pits, others require a different explanation. In particular there are some 40 markings possessing a distinctive sub-rectangular outline, more often than not with slightly rounded corners and measurements in the region of 2–5 m long by 2–4 m wide, which appear on air photographs taken for the most part in the early 1970s. Although showing no clear pattern, cropmarks of this order are most frequent outwith the main palisaded enclosure to the N and W, where they commonly occur in pairs or, less often, strung out in lines of 4 to 6. As it happens a photograph showing several marks of this kind was reproduced in the article by McCord and Jobey to which reference has already been made (op. cit., plate XVI) and another, taken this time by Professor St. Joseph, is provided here by way of illustration (plate 1a). Only in the process of compiling the 1:2500 scale plan did the resemblance between these cropmarks and others which excavation had shown to represent *Grubenhäuser* (e.g. on the Thames gravels at Mucking in Essex, and Sutton Courtenay in Oxfordshire) finally become apparent. In the wake of this realization a search through the archive of air photographs in the Museum of Antiquities in Newcastle led to the recognition of similar cropmarks at New Bewick and also at Thirlings where they occur at some slight remove from the

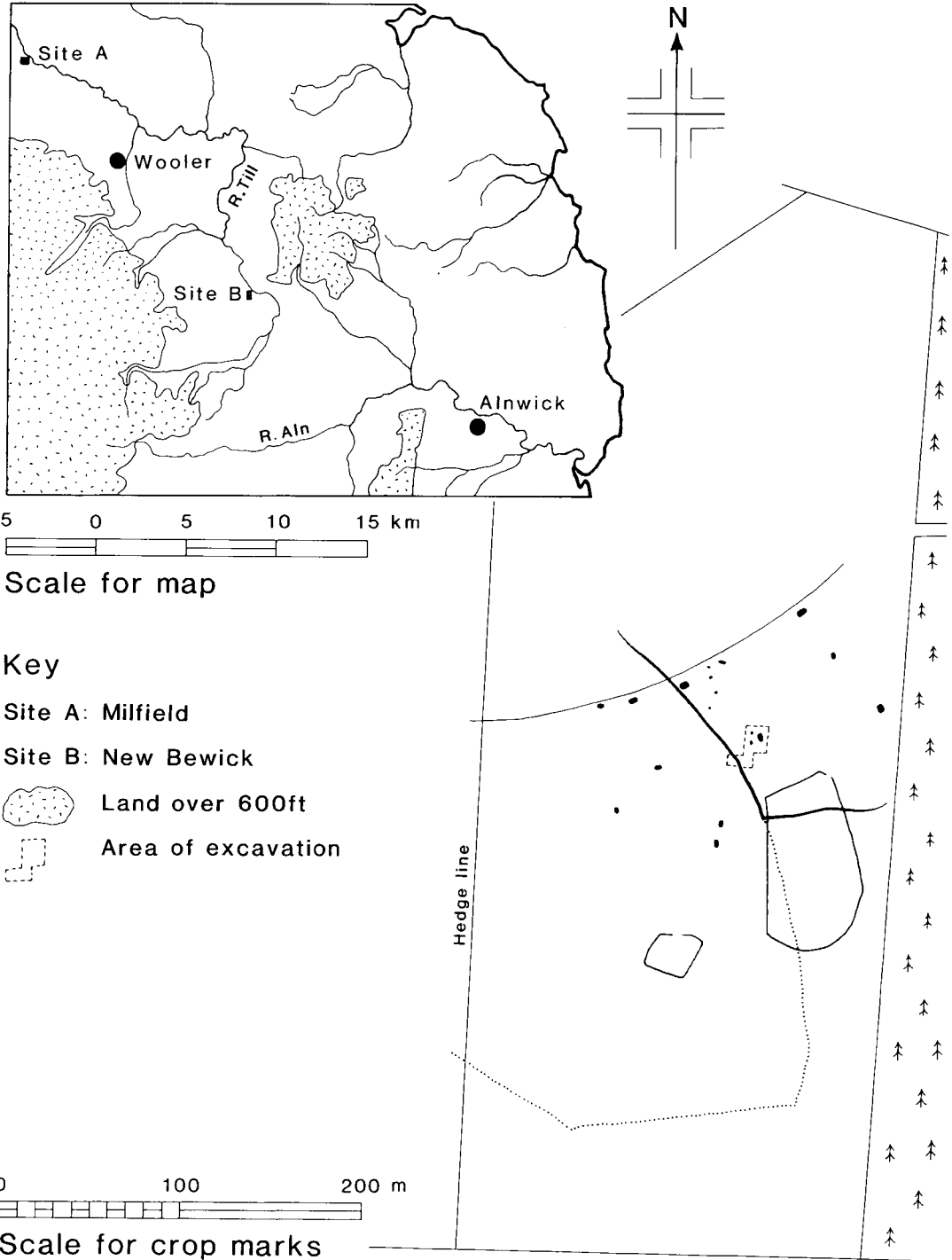


Fig. 2. Cropmarks at New Bewick and Site Locations.

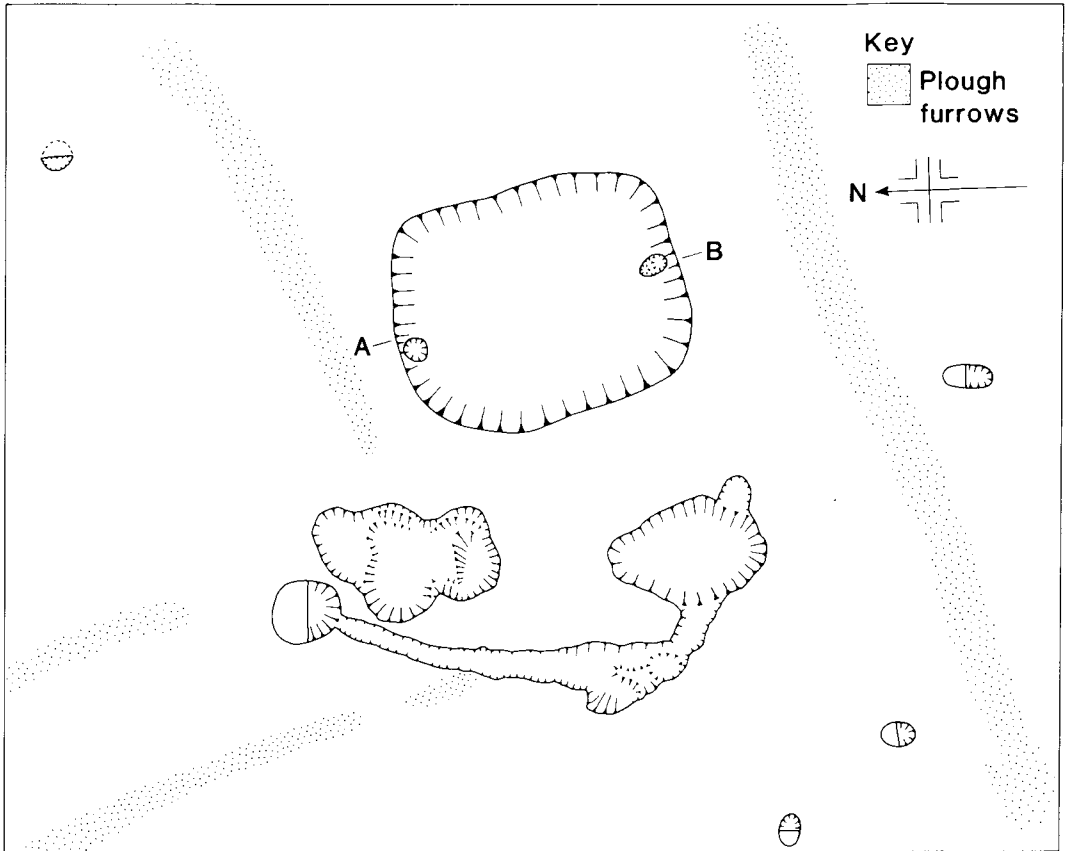
excavated timber buildings (as indicated on a sketch published in Miket, 1981, 138, fig. 1). For various reasons New Bewick was judged to be the most suitable site on which to test the identity of these putative *Grubenhäuser* and it was to this end that the excavations described in the second part of this report were instituted.

New Bewick

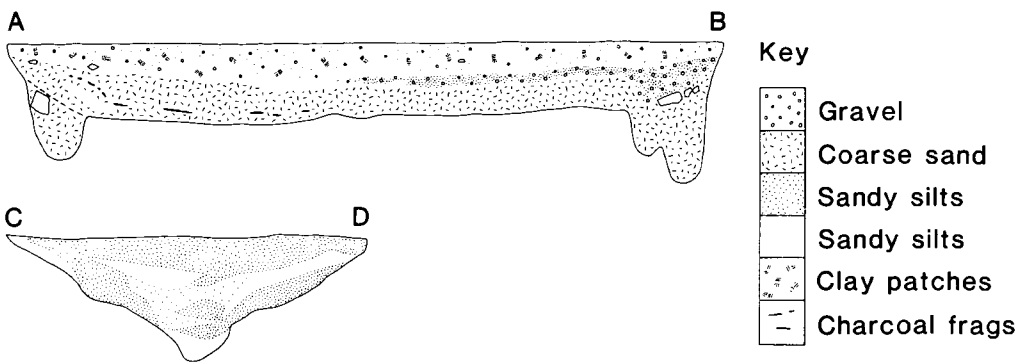
The cropmarks of New Bewick (fig. 2, plate Ib) occupy a position to the west of the farm at the north end of a plateau of glacial sands and gravels raised some 30 metres above the level of the River Till. Spreads of sandy silts give rise to large, irregularly shaped patches which mask other cropmarks, and the narrow lines of ice wedge casts lie like crazy paving over a wide area. Against this background of naturally formed marks a linear boundary feature can be seen roughly forming an L shape, and the line of one of its arms is continued southwards as a pit alignment which then swings west. Another narrow linear mark crosses to the north. Two enclosures are apparent, one lying across the boundary features, and the small rectangular marks which are the principal subject of this study, at least 8 and perhaps more to be identified as *Grubenhäuser*, lie scattered over an area of some 2 ha. As at Milfield, there is some patterning in their distribution, particularly at the north where their position seems to respect the linear feature. It is not possible in all cases to distinguish confidently from the photographs alone those cropmarks representing human activity and those which are the result of natural processes, and the plotting shown in Fig. 2, prepared at the scale 1:2500, is a cautious representation of the archaeological features.

An area was selected for excavation in which a group of one larger and three smaller pit-like features was clearly delineated as cropmarks, and an extension was run to the south west to test the prominent linear boundary feature (fig. 2). The topsoil, some 0.30 m deep, was removed mechanically, and the subsoil surface of coarse sand, and towards the north end of the area, a sandy silt, was prepared first with shovel and then trowel. Two shallow plough furrows crossed the area from north east to south west and slight traces remained in the silty subsoil of two more aligned at right angles to the former furrows. Two narrow linear features, clearly visible on most of the air photographs, crossing the area to the south and west of the pits, proved to be ice wedge casts. Three pits and a narrow gully lay on the west side of the area, and four small pits or post holes were scattered about the site. The boundary ditch was of a V profile, with layers of fine sand and silt which suggested a gradual accumulation and not a deliberate filling (fig. 3, C-D). No artefacts were found and hence the feature is undated.

The identification of the largest of the pit-like features as a *Grubenhäuser* was confirmed (fig. 3). It was 0.5 m deep, measured from the top of the subsoil, with steeply cut sides and flat at the bottom, subrectangular in plan, 4.7 metres long and a maximum width of 3.9 m. Irregularities in the shape of the edges were caused by erosion of the loose sand through which the pit had been cut. Post holes were sited within the pit at each end, hard against the edge. At the south end a double post hole 0.95 m deep lay on the central axis, and slightly west of centre a single post hole at the north end was 0.75 m deep. This apparent irregularity in alignment may be the result



1 0 1 5 10m Scale for plan



1 0 1 2 3m Scale for sections

Fig. 3. New Bewick Plan and Sections. The post hole at A is projected into the section.

of more severe erosion of the edges on the east side than the west, and not necessarily poor construction technique.

A baulk was laid out along the central axis and the fill removed on both sides in a series of horizontal spits each no deeper than 0.1 m. The baulk was cut away at both ends to allow complete excavation of the post holes, but most of it was left intact against the possibility of a future re-examination of the site. Five zones, which may be identified as stages in the use and demise of the building, were identified in the fill of the pit. The lower half was filled with loose sand which towards the bottom had smearings of silty clay and charcoal in small patches, and circular clay loom weights, both fired and unfired, lay scattered on the floor as if they had fallen or been discarded. This zone appears to represent the occupation of the building, with the accumulated sand indicating a period of abandonment. Demolition by removal of the main structural timbers was clearly marked by clean sand and several large stones lying haphazardly in the fill of the post holes, and towards the south end a more extensive spread of sand and gravel. Above this was a thin band of silty clay, mottled and sticky in texture, similar to the patches in the lowest part of the fill, but here covering the whole of the interior. It perhaps results from decay of organic matter after the collapse of the upper structure of the building. The top layer of fill, darker in colour than the sand below, with small fragments of charcoal, clay and daub mixed in with sand and silt, filled in the shallow hollow left after demolition, either as the result of deliberate levelling, or as a consequence of bringing the land into cultivation. The fragments of daub in this fill are suggestive of the inorganic materials used in the upper structures of which no other traces remain.

Finds from the *Grubenhaus* comprise fragments of some 20–30 clay loomweights of ring form lying in disarray, of which two were fired (fig. 4, nos. 1, 2). The fragment (no. 1) is 55 mm in diameter with a cleanly formed central hole and smooth surfaces, perhaps moulded. The complete loomweight (no. 2) is less regular in form and is of a coarser material, but with some pressed, possibly decorative, marks on one surface. Both are in an oxidised fabric and both have scorch marks. Of the four pieces of pottery, 3 are small, undecorated body sherds in a sandy, oxidised fabric and one piece (fig. 4, no. 3) reduced and decorated with incised lines and small, impressed circles. All are hand made.

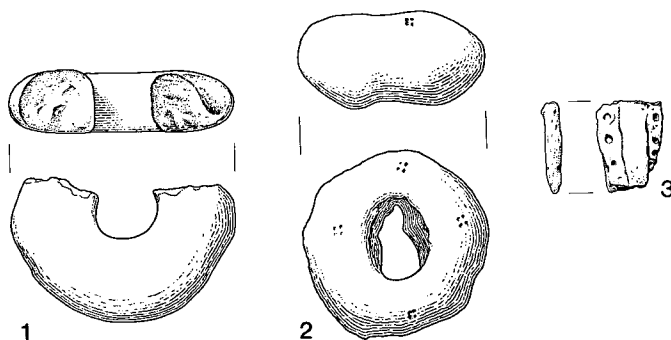


Fig. 4. Finds from New Bewick. Scale $\frac{1}{4}$.

This is a typical *Grubenhäuser* in respect of its sub-rectangular plan and the pair of posts on the long axis which suggest a ridge post construction. The double post at the south end may represent strengthening of the main structural timber. It is a medium sized structure as compared with others of the type. The 150 or so examples at Mucking, Essex, for example, ranged from 3.0 m × 2.5 m up to 6.0 m × 4.0 m with depths between 0.3 m and 1.0 m (Jones and Jones, 1975). All were of 2 post construction at Mucking but 4 and 6 post structures are also known. Most excavators have understood the floor to be at the bottom of the pit but, at West Stow, Stanley West has argued (1979) for a floor at ground level with a hollowed area below, and the full scale reconstructions at the site illustrate this interpretation. At New Bewick the evidence for the position of the floor is not conclusive; the ground levels have been lost through subsequent cultivation. The position of the entrance is not apparent, but since the sides of the pit have clearly suffered erosion this negative evidence cannot rule out the possibility of a floor in the pit.

The discovery of loomweights, both baked and unbaked, might suggest that the building was used for weaving. Rahtz, surveying the literature (1977, 76) lists 10 functions which have been suggested by excavators including living accommodation, barns, byres and workshops of various sorts. Loomweights are found not uncommonly, and have been noted in large numbers in hut 84 at Mucking (Jones and Jones, 1975) and in hut 15 at West Stow, Suffolk (West, 1969) and *Grubenhäuser* 3 at Willington, Derbyshire (Wheeler, 1979).

In the light of this excavation the interpretation of cropmark features at Milfield and Thirlings as *Grubenhäuser* can be regarded with confidence, and New Bewick can be identified as a settlement of the Anglo-Saxon period with 8 or more of these structures. The principal question now raised at New Bewick is whether these structures stood alone, or whether they were accompanied by other buildings. *Grubenhäuser* do not usually occur in isolation, although this was apparently the case with the three at Willington (Wheeler, 1979, 133). It is now known, for example, that at Sutton Courtenay, Oxfordshire, where E. T. Leeds first discovered this building type in England more than 60 years ago, rectangular timber buildings are also represented, but at some remove from the *Grubenhäuser* (Benson and Miles, 1974), as is the case at Thirlings and at Milfield where they are peripheral to the palace complex. Often they lie amongst other buildings, as for instance at West Stow (West, 1969), Chalton, Hampshire (Champion, 1977) and Catholme, Staffordshire (Losco-Bradley, 1977).

Rectangular buildings founded in continuous trenches might be expected to yield cropmarks (Thirlings was discovered in this way), and these are not apparent amongst the *Grubenhäuser* at New Bewick, nor in the cropmarks of neighbouring fields. However, buildings whose timbers were set in individual post holes often do not show in this way. Thus on the evidence of the cropmarks alone the form of the New Bewick settlement is uncertain, but the absence of features such as a palisaded enclosure or the large rectangular buildings sets it apart from Thirlings and the palace sites at Yeavinger and Milfield as a type of Anglo-Saxon settlement recognized for the first time in Northumberland.

Acknowledgements

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