

Simy Folds: An Early Medieval Settlement Site in Upper Teesdale, Co. Durham

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EXCAVATIONS took place on the early medieval settlement of Simy Folds in Upper Teesdale, Co. Durham in 1976, 1979 and 1981 when three sites were examined. An adjacent peat bog was sampled and a radiocarbon-dated pollen diagram constructed. Each site consisted of the stone foundations of a single long narrow rectangular building with one or two small subrectangular buildings at right angles to it, arranged to enclose a yard. The sites lie within an extensive field system probably prehistoric in origin. One site produced evidence of iron smelting and smithing. There were no datable finds but radiocarbon determinations of the mid 8th century a.d. were obtained from charcoal from two buildings.

POSITION, TOPOGRAPHY AND APPEARANCE

The settlement lies on Holwick Fell which forms the higher slopes of the S. bank of the Tees valley, W. of Middleton in Teesdale (Fig. 1). The underlying rocks are part of the Middle Limestone group whose alternating bands of resistant and softer deposits form the step-like topography characteristic of the area.¹ These are particularly noticeable on the NW. part of the fell, an area known in fact as 'The Bands'. The remains of early settlements and field systems are plentiful on those areas of the fell not covered by peat deposits. On one of these 'bands' or benches at a height of 351 m (1150 ft.) are four early habitation sites, the most prominent of which is marked on the O.S. six-inch map as 'Simy Folds' (NY 888277).

The bench is only some 100 m broad at its maximum extent and its northern edge is marked by a short steep fall towards an ill-drained peaty hollow covered by ling and juniper and with many rounded outcrops of the underlying whin sill.

To the S. a drift-covered slope rises less steeply to the next, higher, bench along which runs the track providing access to the Upper Teesdale National Nature Reserve and the Earl of Strathmore's grouse moor. This slope is covered by mat grass and bent with some heather and bilberry. The vegetation on the relatively

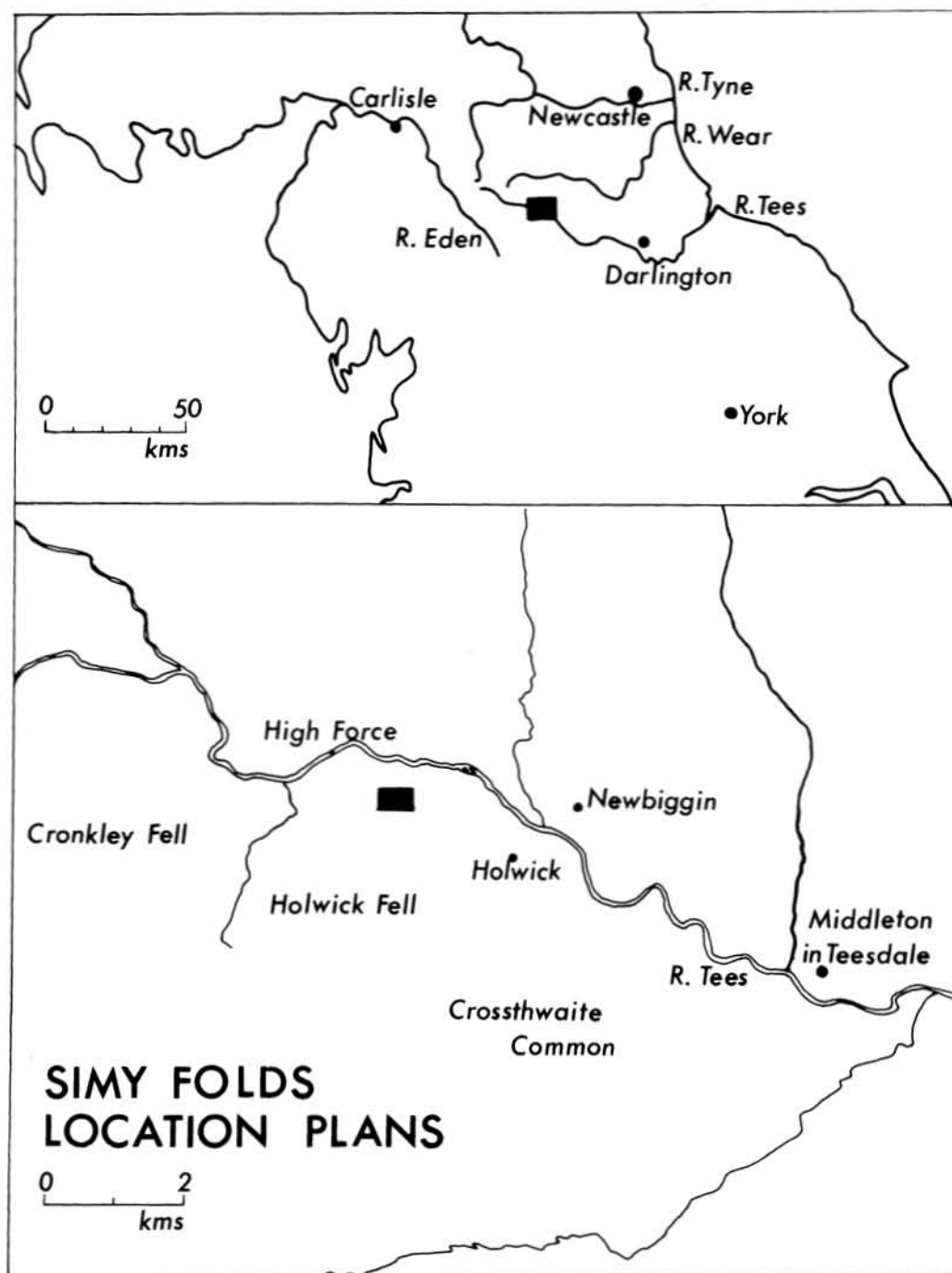


FIG. 1
Simy Folds location maps

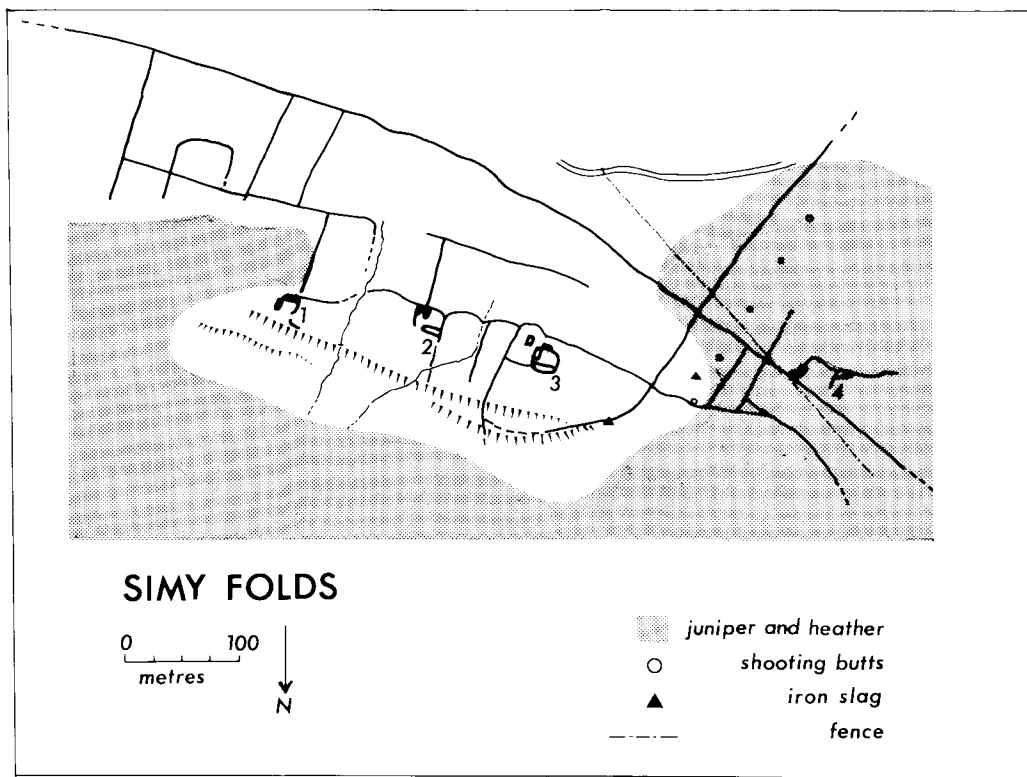


FIG. 2

Simy Folds. General plan of the settlement

fertile though shallow soil of the bench itself is fescue grassland with such plants as thyme, mountain pansy and thistles. It is heavily grazed by sheep and much disturbed by rabbit burrows and mole hills.

Before excavation the four sites were similar in appearance though not identical. All had suffered some degree of damage by rabbits, the most easterly being the worst affected. They were numbered 1 to 4 from E. to W. (Fig. 2; Pl. I, A). Site 1 occupies the cramped eastern extremity of the bench. It consists of the foundation of two buildings; a long narrow rectangular one running E.-W. along the southern edge of the bench and a slightly smaller subrectangular one at right angles to the first. The two buildings form two sides of a small enclosed yard through which runs a narrow trackway. The N. wall of the rectangular building appeared to be largely absent and much of the yard was occupied by a low cairn of large boulders. The line of the W. gable of this building is continued in both directions by a field boundary wall. A similar arrangement of buildings was visible at site 2 (Fig. 4) situated about 130 m to the W. where the bench is much broader. Again there are the foundations of a long narrow rectangular building running approximately E.-W. with an entrance in the E. gable and with the W. gable apparently incorporated into a field boundary.

As in site 1 a smaller subrectangular building lies at right angles to this so that the two form two sides of an enclosed yard. There seemed to be two entrances to this building, one in the N. gable opening into the yard and the other in the E. wall looking towards a second, similar building parallel to the first and 6 m away. The S. gable walls of both these buildings appeared to overlie a contouring field boundary.

The third site (Fig. 3) almost 100 m further W. occupied the broadest part of the bench. Here is a similar arrangement of one long narrow rectangular building with a smaller one at right angles to it. As with site 2 there is also a third smaller subrectangular building but, in this case, it is a little further away from the other two. The foundations of all three buildings are much less obvious than those of sites 1 and 2 and have been overlain by a sub-circular enclosure with walls of whinstone boulders, possibly a later medieval sheepfold. At two points on its circumference this enclosure wall appeared also to overlie the foundations of circular structures.

Site 4 is much further away — over 200 m — to the W. and rather different in character, consisting of a single subrectangular building with a possible sub-circular one immediately adjacent to it and some 30 m away the foundations of a rectangular building subdivided into three rooms. The bench on which the other sites lie has at this point almost disappeared and the short fescue grassland is replaced by a dense cover of ling. It is not at all certain that this site ought to be regarded as a part of the same settlement as the other three.

The northern boundary of the settlement is formed by the edge of the bench along which can be seen traces of a wall which probably defined it but which has been largely destroyed by erosion. At the southern edge of the bench a massive contouring boundary wall runs along the bottom of the slope joining all three sites while the bench itself is subdivided by at least three slighter boundaries running N.–S. Further S., at the top of the slope above the terrace, runs a second massive contouring boundary wall. The area between these two contouring boundaries is traversed by slighter cross walls and this field system extends for some distance to the SE. beyond the settlement (Fig. 2 and Pl. I, A). Only one of the cross-walls extends beyond the contouring boundaries, running SW. for about 0.5 km towards a complex site at Wool Ingles which is probably prehistoric in origin.

Towards the western end of the Simy Folds settlement are two heaps of iron-smelting slag, one of which overlies the northern boundary wall.

THE EXCAVATIONS

THE 1976 EXCAVATION (Fig. 4)

The first excavation on the site took place during four weeks of July/August 1976. Site 2 was chosen as the most likely to produce results. Site 1 had obviously suffered badly from damage by rabbit burrowing while site 3 was overlain by late features. Since the work was undertaken as part of a wider programme of research in Upper Teesdale total excavation was not envisaged and several areas were left as controls.

SIMY FOLDS

SITE THREE

NY 887277

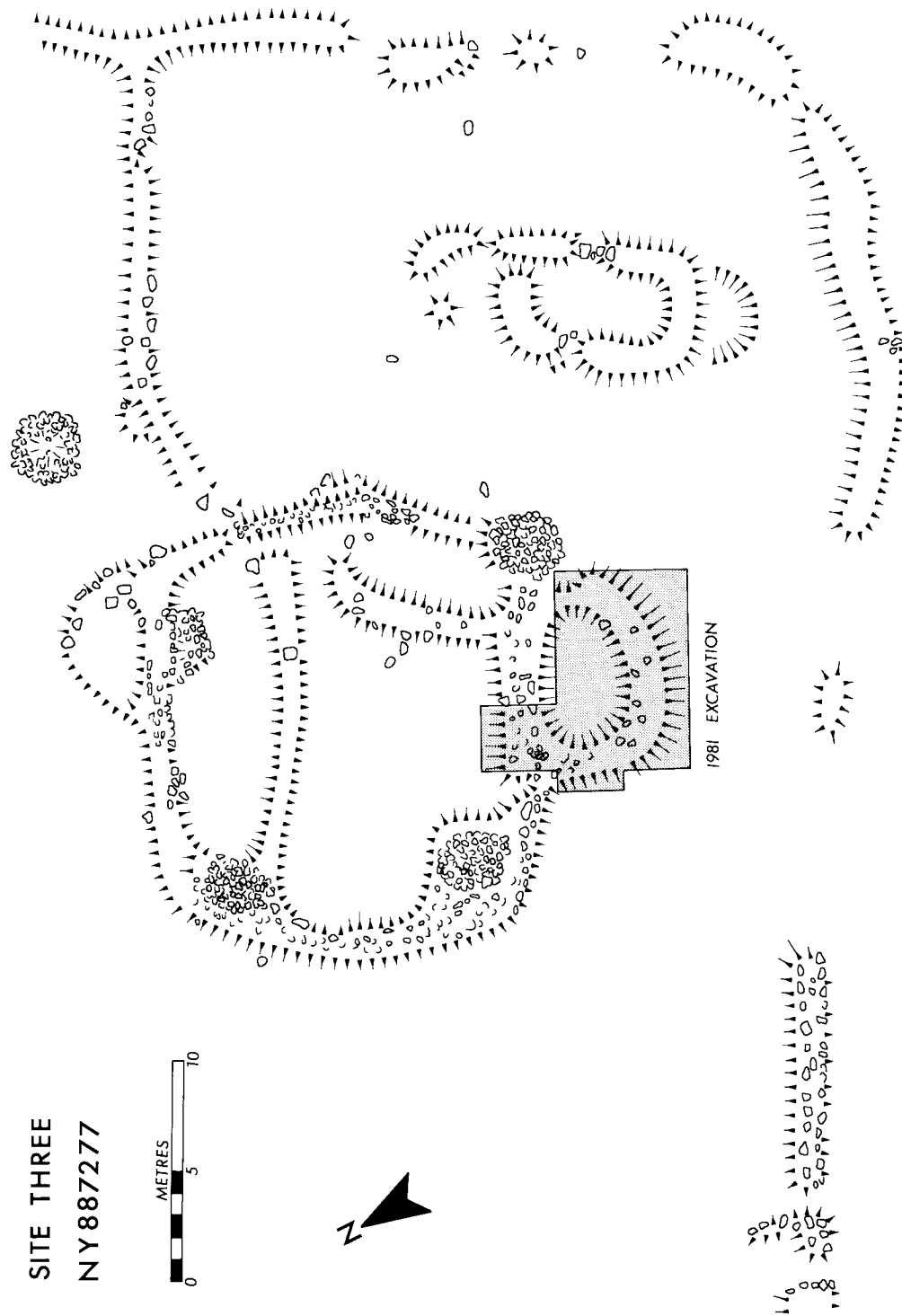


FIG. 3

Simy Folds. Site 3. General plan of the site showing the area excavated in 1981

*Site 2*1. *Building 1* (Pl. 1, B)

The largest of the three buildings was examined by three cuttings: at the western end, across the centre and at the eastern end including the entrance. These areas were separated by baulks 2.0 m wide. Before excavation the long side walls appeared to be slightly bowed giving an almost boat-shaped appearance to the building. This was later seen to be illusory and the result of differential spread of fallen stone. In plan the building resembled a claret bottle with its neck — a long narrow entrance passage — pointing to the SE. Its internal length was 13.5 m and its width at the western end 3.5 m. It narrowed slightly towards the eastern end where the walls formed shoulders curving inwards to the entrance passage which was only 0.5 m wide but 7.0 m in length. Wall foundations were of undressed boulders, mostly whinstone, some very large. While the inner faces of the walls were tolerably clear the outer faces were ill-defined. The walls were everywhere over 1.0 m thick and the W. gable which also formed part of a field boundary was particularly massive, being 2.0 m thick. Here too the walling stood at its greatest height of 1.0 m above the floor level. At the opposite end was a large recumbent whinstone boulder which when raised fitted into a shallow socket to form the S. jamb of the doorway. The walling became progressively much less substantial beyond this point but did not altogether disappear until some 7.0 m from it. A section across the building and through the S. wall suggested a rather unusual method of construction. A layer of dark material, presumably an original turf line, was overlain by brown soil possibly scooped out from the interior of the building and the walling was laid on top of this material. This method of construction — unconsolidated soil overlain by boulders — had provided an ideal habitat for rabbits and the interior of the western end of the building was considerably disturbed by their burrows. A strip of paving laid directly on the shale bedrock extended down the centre of the building. At the western end this covered the whole width of the floor except for the corners in each of which was a spread of red-black material containing charcoal. The bedrock beneath this appeared also to have been burnt and it seems that each of the western corners had been occupied by a hearth. Elsewhere the floor at the sides of the central paving curved up towards the foundations of the walls. In one or two places this surface was cobbled but for the most part it consisted of compacted soft brown earth. The relatively small quantity of tumbled stone removed from the interior of the building suggests that only the foundations of the walls were of stone and that some other material had been used for their upper parts. No post-holes were found in the interior of the building or within the walling. Immediately outside the northern shoulder of the entrance wall was a patch of black burnt material surrounded by fragmentary cobbling which may have been a third hearth. Two finds, a stone spindle-whorl and an iron ring, were recovered from the floor level of this building and a sandstone hone was found in its S. wall.

2. *Building 2*

Of the two smaller buildings only the western one was excavated. It was roughly rectangular with internal dimensions of 8.0 m and 2.5 m. The walls, averaging 1.3 m in thickness, were again of undressed boulders presenting a clear inner face but an ill-defined outer one. Corners were rounded both internally and externally. The building appeared to have had two distinct rooms. The northern and larger of the two had a paved floor and two entrances each 0.75 m wide. One of these in the N. gable wall gave on to the yard entrance while the second in the E. wall looked towards the second small building. The southern room was smaller and had a well cobbled floor. This room overlay the site's southern boundary dyke so that it projected slightly beyond it. Its floor lay at a level of 0.5 m above that of the northern room. Again no post-holes were found either in the building interior or within the walling. There was no indisputable evidence of a hearth but a quantity of charcoal was recovered from among the paving stones. This was sent for radiocarbon determination and gave a date of 1170 ± 70 b.p. (HAR 1898) (see table at end of the report). A group of four flints was found among the tumbled stone in the NW. corner of this building.

SIMY
FOLDS

SITE TWO

JULY 1976

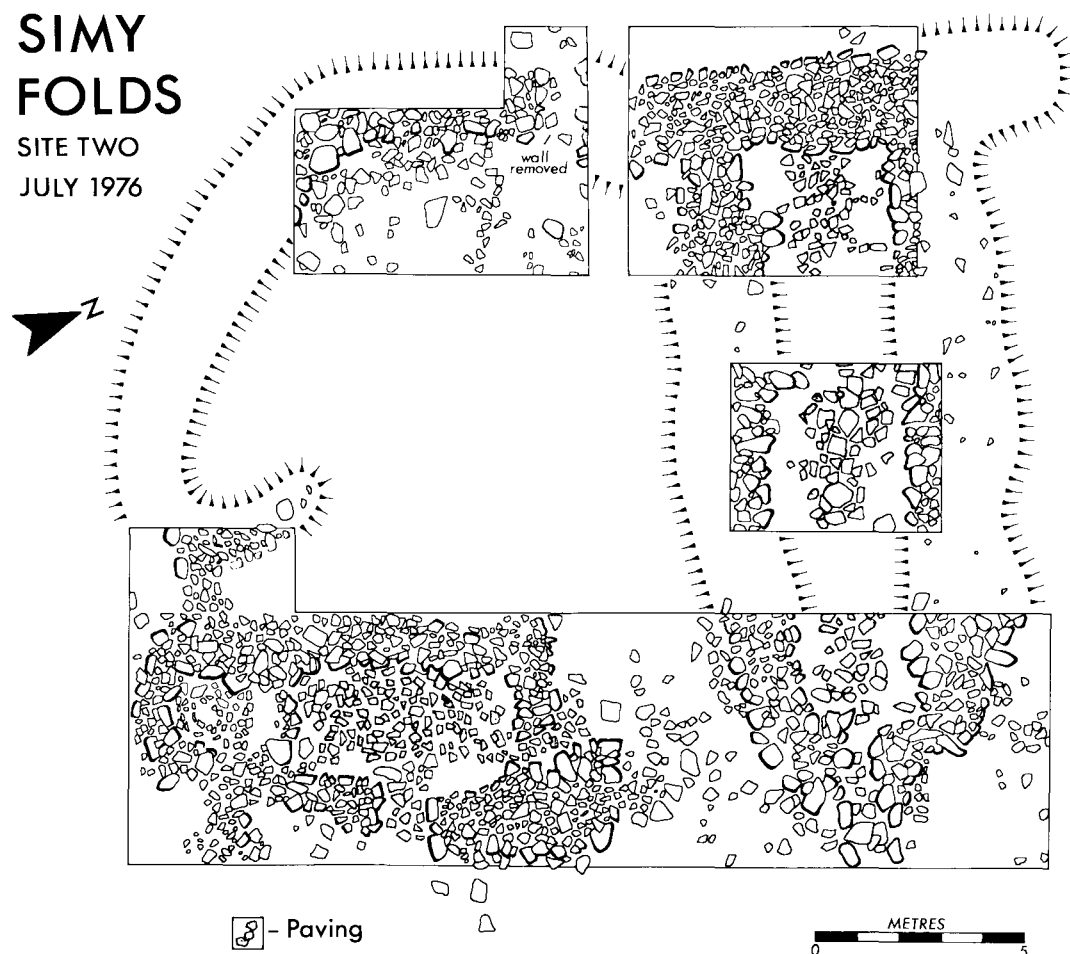


FIG. 4

Simy Folds site 2. The 1976 excavation. Building 1 on the right,
building 2 bottom left

3. *The yard*

The N. side wall of the large building and the W. wall of the smaller one formed two sides of an enclosed yard. Of the other two sides, one was a continuation of the W. gable of the large building— also a field boundary — and the other part of the S. boundary wall of the site. These walls enclosed an area $11.5 \text{ m} \times 11.0 \text{ m}$ which was entered by a gap 4.0 m wide between the two buildings. The W. wall of this yard was sectioned and its foundations, 1.6 m wide, proved to consist of three parallel lines of large boulders laid on yellow-brown natural subsoil. The spaces between these were packed with smaller stones. Experimental rebuilding of the tumbled stone showed that the wall could originally have stood no more than 1.0 m high. The floor of the yard which was also examined was roughly cobbled and at one point in the NW. corner it had been found necessary to make up this cobbling to a thickness of 0.5 m because of a grike in the underlying limestone. The entrance was protected by larger paving stones.

4. *The exterior*

A cutting was opened to the E. of the main building to examine a possible extension to the entrance passage of the large building and also a low mound situated slightly S. of this. The entrance passage, as noted above, petered out some 7.0 m from the building. The mound, 5.0 m in diameter and less than 0.5 m high, had been much disturbed by rabbits. It was made up of stone — mostly limestone slabs — and fine dark soil among which were small flecks of charcoal.

THE 1979 EXCAVATION (Fig. 5 and Pl. II, A)

During 1977 and 1978 work at Simy Folds was suspended in favour of investigation on other sites in Upper Teesdale, so that it was not until the following year that it became possible to resume work. Application was made to the D.o.E. to fund a season of rescue excavation at site 1 on the grounds that it was being severely damaged by burrowing rabbits.

At site 1, situated between the lee of the hillside and the steep northern fall-off, little space was available to the builders. Though the site was of the same basic pattern as site 2 there were only two buildings instead of three: a long narrow building aligned E.-W. along the southern edge of the complex with a slightly shorter subrectangular one at right angles to its NE. corner. As with site 2 there was in general very little stratigraphy and in fact very little depth of soil between turf and bedrock.

*Site 1**Building 1* (Pl. II, B)

This was of similar shape to the main building in site 2 but slightly smaller measuring 9.0 m × 4.0 m internally with the same curving shoulders and narrow entrance, the line of which was continued on eastward by a strip of paving. Again the walls were massive — 1.5 m wide — with the W. gable particularly so and forming part of a field boundary. The S. wall had been built into the lee of the hillside while much of the N. wall had been robbed out. There was a large amorphous pile of boulders in the yard and it seems likely that this was the result of the wall destruction. No post-holes were found either within the building or in the walling. Most of the floor was carefully paved and in some places this had been levelled up by another layer of flags. Both of the western corners were occupied by small benches and a small circular hearth was found at the junction of the south-western bench with the S. wall. This hearth, about 0.20 m in diameter, contained ash, charcoal, burnt clay and a little slag. Charcoal from it gave a radiocarbon determination of 1210 ± 80 b.p. (HAR 4034).

2. *Building 2*

In contrast to site 2's buildings, this was of similar size to building 1 though again it was of different shape and construction. It was subrectangular measuring 8.0 m × 4.0 m internally with corners rounded internally and externally and one side — the E. — bowed outwards. A simple narrow entrance in the S. gable gave on to the entrance paving of the other building. A narrow gap between the two structures gave access to the yard. There were patches of paving on the floor but in most places the floor was of natural shale bedrock and hill wash. The walls were much less carefully built. An inner and an outer row of large stones defined the edges of the walls with the space between them being filled with earth and smaller stones. The N. gable, being near the edge of the terrace, had suffered from erosion and its outer edge had disappeared. Again no post-holes were found. A small hearth was noted cut into the bedrock within this structure about a metre from the W. wall and three metres from the S. gable. Charcoal from this gave a radiocarbon determination of 2330 ± 100 b.p.

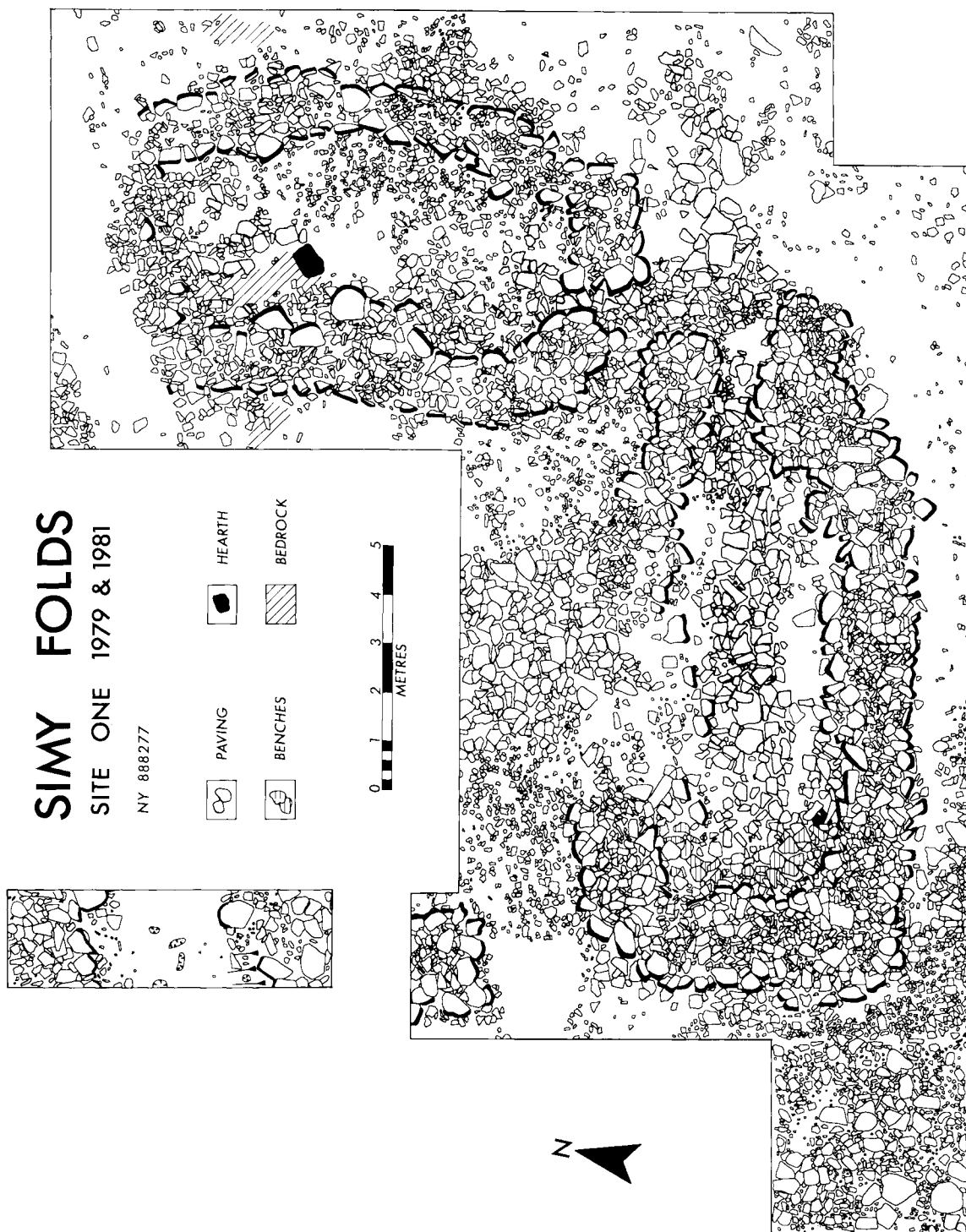


FIG. 5

Simy Folds site 1. Arcas excavated in 1979 and 1981

(HAR 4035). A considerable quantity of iron slag was found in this area, some of it incorporated in the walling of the building.

3. *The yard*

This was a much less definite structure than its counterpart at site 2. There were two main features, one being the heap of boulders some 5.0 m in diameter which as mentioned above probably represented the dismantled N. wall. The second was a narrow trackway which ascended the steep N. slope of the terrace from the NE., skirted the gable of the subrectangular building and passed through the site towards site 2. Only a few traces of the N. boundary wall were visible. Examination of the W. wall showed an anomaly in the construction adjacent to the corner of the first building. Excavation here revealed that an earlier opening in this wall about 2.0 m wide had been blocked using a different technique of walling. Two lines of stones had been placed on the entrance cobbles continuing the line of the enclosure wall, and the space between them packed with earth. On top of this was a layer of flat slabs, above them again smaller stones had been heaped to the height of the surrounding walling. Further excavation showed that the yard had been cobbled.

THE 1981 EXCAVATION

A further season of excavation was undertaken in 1981, financed by Durham University, with the general aim of elucidating specific problems which had become apparent in the course of previous work. Both fieldwalking and excavation had produced flints from the general area of the terrace and this evidence of prehistoric occupation was confirmed by the radiocarbon date (HAR 4035) from the rock-cut hearth in site 1. Surface inspection suggested that an annexe on the S. side of the site 3 enclosure was a circular structure which underlay the enclosure wall and was possibly prehistoric. It was therefore decided to investigate this part of site 3.

Both site 1 and site 2 had shown buildings whose W. gables seemed to be incorporated in field boundaries. It was obviously desirable to investigate further to try to establish a sequence and site 1 was chosen for this purpose. The S. wall of the same site seemed possibly also to be in some form of relationship with a field boundary and this too was examined as was the trackway which traverses the site. Since two of the three structures on site 2 had been excavated it seemed desirable to excavate the third also and if possible determine its purpose. The 1976 excavation had left two baulks across the large building and these were removed in order to complete the site. Since there was at least a possibility of two phases of use of the field system it was decided to examine this in two places, at the junctions between a contouring and a cross contour boundary in the hope of establishing a construction sequence. Finally it was thought that a section should be made across a heap of iron slag overlying the N. boundary wall to obtain charcoal for radiocarbon dating thus giving a *terminus ante quem* for the boundary.

Site 3 (Fig. 6)

Excavation here showed very quickly that the apparently circular shape of the structure was illusory, the result of tumbled stone. The building proved to be rectangular with internal dimensions of 5.0 m × 3.0 m. Since the W. wall of the structure overrode the spread of stone from the enclosure wall it is clear that the former had been added to it and did not precede it as at first appeared. The walls of this building were massive, averaging 2.0 m in width and incorporating very large slabs and boulders of whinstone. The SW. and SE. corners were

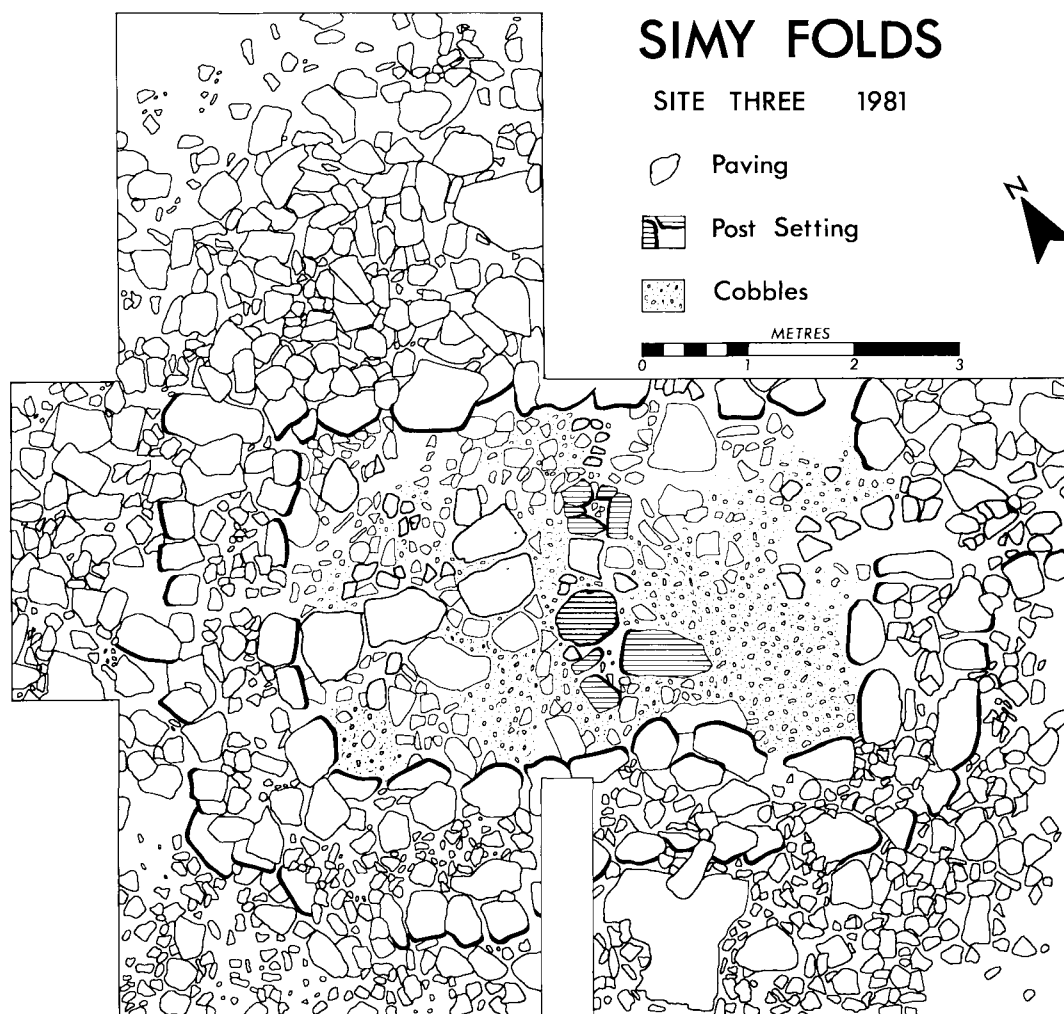


FIG. 6

Simy Folds site 3. The 'annexe' building

rounded externally. The floor was partly paved and partly cobbled while two post-positions suggested that it had been partitioned into two parts. A paved entrance 0.75 m wide was found in the E. wall at its junction with the main wall of the enclosure and a line of stones parallel with this suggested the former presence of a porch. No hearth was identified but charcoal from the floor level was sent for radiocarbon determination.

Site 1 (Fig. 5)

Here three cuttings were made, the first being SW. of the main building where deturfing revealed a complex spread of stone of different sizes. Clearance showed that this was probably the junction of two field boundaries, one running along the contour immediately to the S. of the building and the other at right angles to it and both of a simple dump construction. It became apparent that both field boundaries were separate from the building though whether they predated it or were contemporary with it was more difficult to

determine. Nor could it be said which of the two boundaries was the earlier. Though provisionally identified as field boundaries it is possible that one of these features may have been part of the walling of a prehistoric building. The second cutting was taken across the W. wall, which had been exposed in the 1979 excavation, to examine its construction. On the inner, eastern, side tumble from the wall partially overlay an earlier wall facing. To the W. the spread of small rubble was associated with the field boundary seen in the cutting described above. The fill between the secondary and primary E. facings of the wall was a loose brown earthy deposit containing some iron slag fragments. The removal of this left an original wall, 1.2 m thick, of boulders flanking an earthy rubble core. This wall rested on a layer of yellow clay below which was the bedrock of rotting shale. Four features were noted cut into this, the most definite of these being a stone-filled pit *c.* 500 mm \times 400 mm with a stake-hole beneath the stone filling. The yellow clay and features beneath it produced three bodysherds of coarse heavily gritted prehistoric pottery. The section across the wall was only 1.0 m wide and therefore the full form and significance of these features cannot be fully understood. The trackway was examined at the NW. corner of site 1 by a third cutting. As noted above, the N. boundary wall was fragmentary probably because it had occupied the rim of the terrace and had been eroded. The W. boundary wall described in the previous paragraph was of much more massive construction. Both boundary walls were set directly on to the shale bedrock which was absent from the trackway between them. Here the topsoil directly overlay limestone from which the shale had presumably been eroded. The relationship between field boundaries was examined in two areas away from the occupation sites. The first of these was to the S. of site 1. Here the contouring E.-W. boundary was of a massive stone-faced and rubble-filled construction while the N.-S. boundary, of much slighter dump construction, clearly overlay it (Pl. III, A).

The second area was to the W. of site 3 and adjacent to the modern fence, where again the junction between E.-W. and N.-S. boundaries was examined. The area was deturfed and revealed as a complex junction, the main wall having been broken through to form a gateway. It became clear that only a substantial extension to the area opened would enable the sequence to be understood and since this was not practical the area was abandoned after being planned.

Site 2

Both the two-metre baulks left untouched in the 1976 excavation were removed. No occupation debris or finds were recovered. No evidence was seen of the presence of an earlier turf layer noted beneath the S. wall in the 1976 excavation. It may be that the suggestion made at the time that the floor had been scooped out, with the wall being built on the upcast, applies only to the western end of the building and may indicate that here there had been a build-up of soil in the lee of an existing field boundary. In the western section the floor was dominated by a very large whinstone boulder with a slightly hollowed upper surface. It seemed unlikely that this had been moved and probable that it formed an original feature of the building. Perhaps, despite the unsuitability of whinstone for this purpose, it had been used as a saddle quern.

The third building of site 2 (Fig. 7; Pl. III, B) was examined and proved to be of two rooms representing two phases of construction. The larger, southern room had walls of large loosely packed boulders similar to the walling of the second building. In the northern and smaller part a layer of small rubble concealed a coursed wall some three stones high. This was interpreted as a later extension. There was an entrance in the W. wall formed by massive boulders, the huge lintel from which had collapsed into the building. A paved way appeared to lead from this westward to the second building. Traces of post-holes suggest that this had been a covered passage. In the E. wall was an opposing entrance, collapsed when found, which may have been deliberately blocked. No entrance to the northern room was found. There was a general lack of internal features in both rooms. A single post-hole, interpreted as a roof support, was noted in the southern room close to the dividing wall, and there was a probable hearth in the NE. corner. Both these features were overlain by a carefully laid

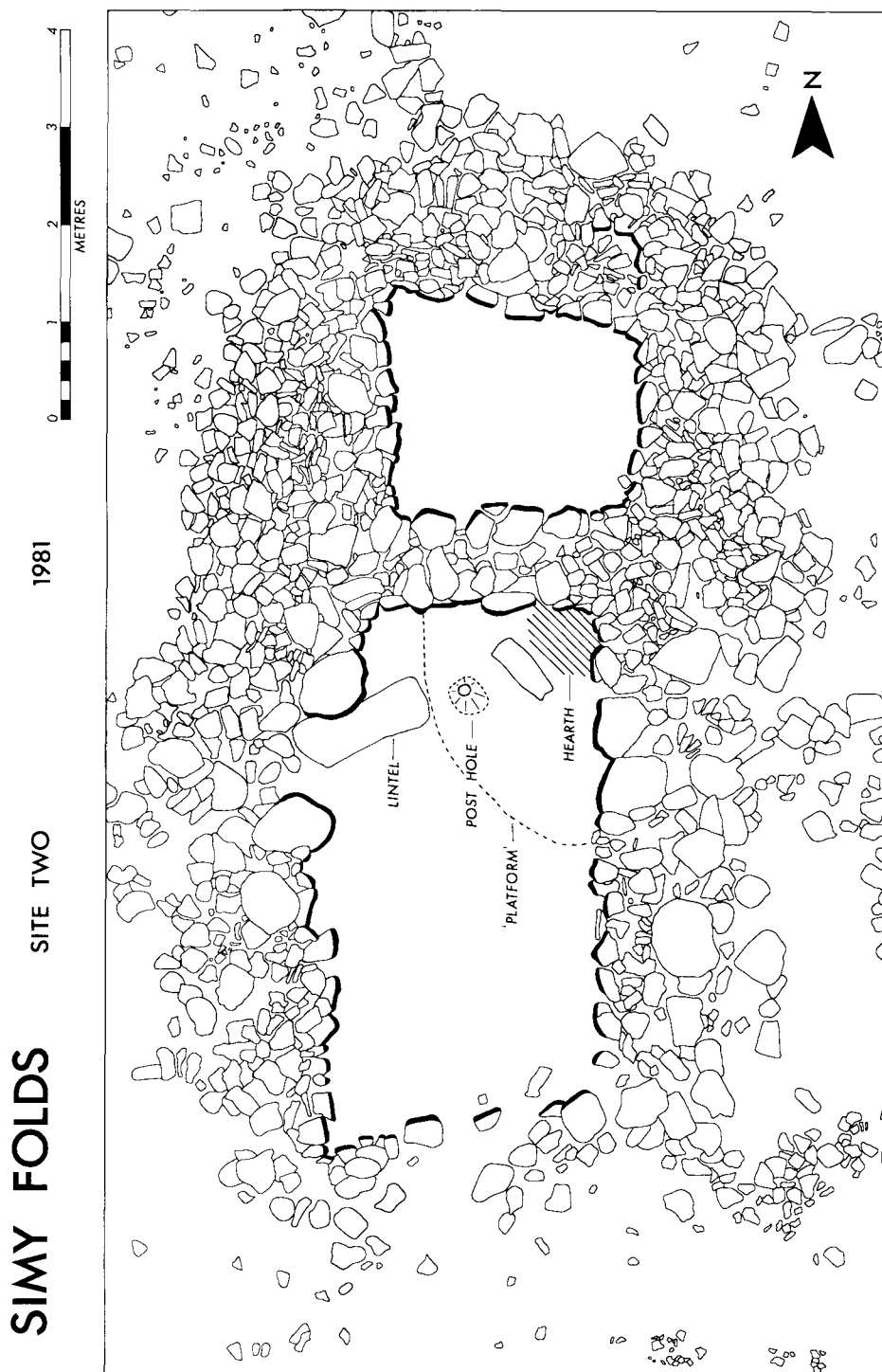


FIG. 7

Simy Folds site 2. Building 3

platform of stones. The presence of two quern fragments in the nearby walling suggests that this platform may have been used for corn grinding. The spread of hillwash at the upper, S. end of the building may have hidden any post-holes here but the slope of the site is such that the roof could have been supported directly on the S. gable. As in building 2 this S. gable overlay the settlement boundary wall. Traces of a second fainter boundary were also found. To the N. of the building there were traces of yet another boundary wall running towards building 1. Two possible post-holes were noted immediately outside the W. wall of the northern room, but no function could be ascribed to them. This room had no detectable floor and it is suggested that it may have had a raised floor of planks. Finds from this area include an iron buckle and an iron socketed ferrule. A radiocarbon determination of 800 ± 100 b.p. was obtained from the hearth in building 3 (HAR 5348).

The slag heap

As noted above, a small heap of iron-smelting slag overlies the N. boundary wall (Fig. 2). A cutting was made across this and the presence of the underlying boundary verified. Charcoal from the cutting was sent for radiocarbon determination with a resulting date of 820 ± 80 b.p. (HAR 4506). A sample of slag from the heap was subjected to thermoluminescence determination by Professor D. Wright.

THE FINDS

The total of finds from three seasons' excavation was very small indeed. This is however a characteristic of upland sites of all periods where organic material, from which most tools and utensils were formed, rarely survives and where the relatively acid soils corrode metal rapidly. Finds of flints and of iron slag from the excavation and stray finds from the site are dealt with separately.

A group of finds which is not discussed here, but is nevertheless of interest, is the collection of 19th- and 20th-century brass shotgun cartridge cases of many different types.

Relevant finds are described below and their catalogue number given:

1976

SF.76.8 A disc-shaped spindle-whorl 45 mm in diameter, 13 mm thick pierced by a central hole 10 mm in diameter. It is made of fine-grained red sandstone. The edges are rounded. It was found above the floor level in building 1 of site 2. (Fig. 8, 1)

SF.76.27 Half of a much corroded iron ring with a thickness of 10 mm and internal diameter of probably 85 mm. Found wedged between paving stones on the floor of building 1 of site 2. (Fig. 8, 2)

SF.76.32 A small piece of shale roughly semi-circular with a diameter of 10 mm showing half of a circular perforation c. 4 mm in diameter on one edge. Found in the fill of the N. wall of building 1 of site 2. (Not illus.)

SF.76.40 A fine sandstone hone 160 mm \times 40 mm \times 30 mm with two concave very smooth surfaces. Found in the S wall of building 1 of site 2. (Fig. 8, 3)

Apart from these the 1976 excavation produced fragments of three other hones, several possible hammer stones and a number of fragments of whinstone cobbles showing the reddening and characteristic fracture of potboilers. There were also a few fragments of iron slag.

1979

A notable feature of the 1979 excavation was the large quantity of fragments of iron smelting and smithing slag found in all parts of the site. There were also a very few fragments of completely corroded iron and one or two potboilers. The only other finds of interest were:

SF.79.693 A fragment of the butt end of a polished stone axe probably of Lake District volcanic tuff. An attempt had been made to use it as a core and flakes had been detached from it. This was found in the area where the S. walling of building 1 had been removed, and should be connected with earlier occupation of the site. (Fig. 8, 4)

SF.79.372 Much eroded bodysherd of soft orange fabric slightly laminated, with crumbling surfaces and very fine, if any, temper, containing tiny specks of mica. Possibly samian ware, but the identification is too uncertain for the sherd to be treated as dating evidence. (Not illus.)

1981

As noted above some excavation took place on all three sites. The number of finds was again very small, including iron slag and potboilers.

SF.81.716, 737, 752 Three small bodysherds each with a dark grey cast and pink/red surfaces. About 10 mm thick and tempered with coarse whinstone grits. These are almost certainly prehistoric and are fragments from a single vessel. The fabric bears a close resemblance to some of the sherds from the early Bronze Age site of Bracken Rigg.² They were found in features beneath the W. gable of building 1 of site 1. (Not illus.)

SF.81.755 Rectangular iron buckle 50 mm × 35 mm, very much corroded. Found outside the NE. walling of house 3 of site 2. No distinguishing features can be observed and while it cannot be dated it would not be out of place in an early medieval context. (Not illus.)

SF.81.769, 773 Two fragments of disc querns of tufa, found in the tumble of the W. wall of building 3 of site 2. 769 is a roughly triangular segment from 180 mm × 210 mm × 250 mm, only 30 mm thick and weighing 1.5 kg. The original diameter of the stone was probably about 380 mm–400 mm. This fragment is quite soft and much eroded. 773 is a roughly triangular segment of similar size but is thicker,

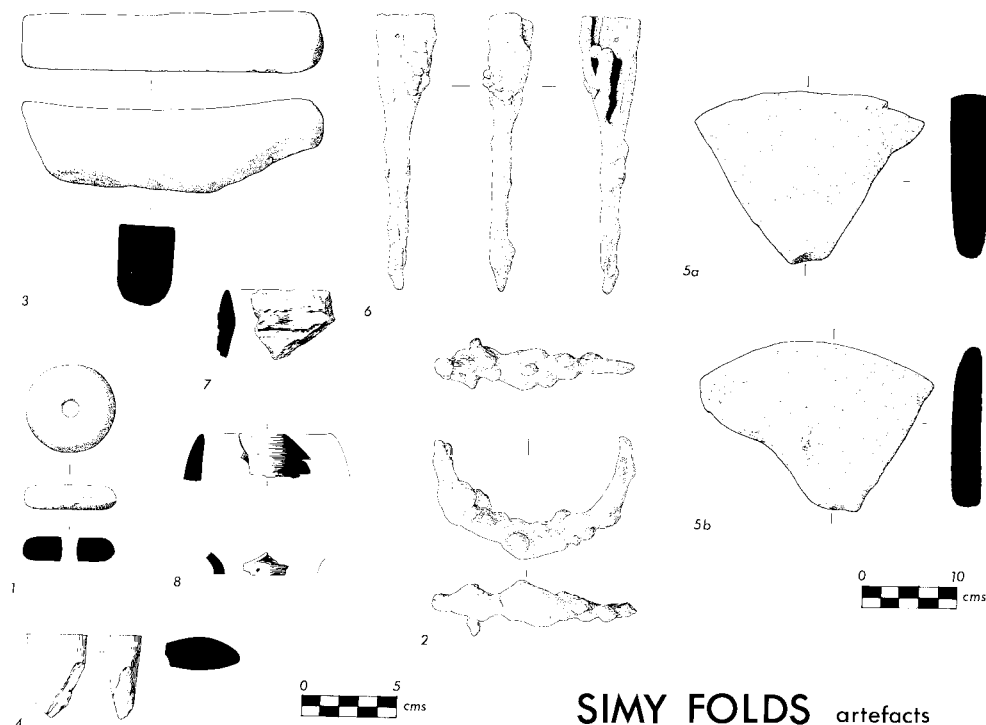


FIG. 8

Simy Folds small finds: 1, Spindle-whorl; 2, Iron ring; 3, Hone; 4, Butt of polished stone axe; 5, Two fragments of rotary quern; 6, Socketed iron ferrule; 7, Rimsherd from Bronze Age collared urn; 8, Fragments of turned shale vessel

350 mm at the apex — the centre of the original stone — and 450 mm at the edge. It weighs 2.4 kg. The original diameter of the complete stone was again 380 mm–400 mm. The curve of the central perforation can be clearly seen on this fragment. It is of very similar material but is much less friable. Both fragments may well be from the same quern and the difference in condition may be due to different degrees of exposure to weathering. (Fig. 8, 5)

SF.81.779 An iron-socketed spike 145 mm long. The internal diameter of the end of the tapering open socket is 250 mm. There is a small hole near the end of the socket presumably for a nail to attach the object to a wooden shaft. It is totally corroded with many adhesions and 'blisters'. The object was found upright in the extreme NW. corner of building 3 of site 2. Its exact function is not certain. The cleft socket is a common feature of Anglo-Saxon spear-heads but it seems too small to be a spear of Swanton's type B1.³ It is perhaps best interpreted as a ferrule. (Fig. 8, 6)

The other finds which require mention are those recovered by fieldwalking in the immediate vicinity of Simy Folds.

Three potsherds were found in material from rabbit burrows near site 4. One is a rimsherd of dark grey fabric with a buff exterior decorated with two lines of impressed cord decoration. It is tempered with whinstone grits, sand and has flecks of mica. This is probably from a Bronze Age collared urn. (Fig. 8, 7)

The other two bodysherds — which join together — are of a similar but not identical fabric. While still thick and coarse they are finer and better made than the three sherds found beneath the gable wall of site 1 and are likely to be later prehistoric in date.

From another rabbit burrow at the base of the field boundary immediately S. of site 1 came two fragments of shale or jet (Fig. 8, 8). The larger is a turned and well finished fragment from an object with an original diameter of c. 700 mm. The smaller fragment is curved in both dimensions. Since it is highly improbable that fragments from two separate shale objects would be found at the same spot the most likely reconstruction involves a fairly large stemmed vessel. It is probable that these fragments both derive from prehistoric occupation of the site and therefore a fuller discussion is not appropriate here.⁴

POLLEN ANALYSIS. By ALISON DONALDSON

In order to elucidate the environment history of the surrounding area and to determine the impact of human activity on the natural vegetation a nearby peat deposit was sampled and a pollen diagram constructed (Fig. 9).

Peat occurs immediately N. of the settlement in a broad hollow where it overlies the whin sill. It is a relatively shallow deposit (up to 1.3 m deep) and the deepest available area was chosen for sampling, at a point about 200 m NW. of site 3. Samples for pollen analysis were taken from a section through this and two bulk samples were also taken for radiocarbon dating.

The diagram can be divided into three main vegetational stages: SF₁, 2, and 3.

S.F. 1 is dominated by pine pollen and it is likely that the location of whin sill supported native pine woods for some time prior to about 4000 b.c. Oak, elm and alder are scarcely represented in this phase but were probably growing elsewhere in the dale. Hazel was an important component of the local woodland, especially probably on the limestone terraces. The herbaceous plants on the diagram, meadowsweet, sedges and ferns, represent the ground vegetation of the local woodland.

Above a level radiocarbon-dated to 5920 ± 100 b.p. (HAR 4076), several changes begin and across the boundary between zones SF₁ and SF₂ pine pollen falls whilst that of alder rises to become the dominant type of stage SF₂. Oak pollen also increases slightly while that of elm, never abundant, declines. This feature is widespread and typical of the period. The woodland must have become almost entirely deciduous. An alder zone has been recognized in other diagrams from Upper Teesdale and is thought to indicate a wetter climate. Increased rainfall could have caused podsolization of the soil resulting in the formation of iron-pan which would impede drainage and favour the growth of water-loving species such as alder. The free-draining limestones would still support hazel, oak and other trees.

SIMY FOLDS 1980

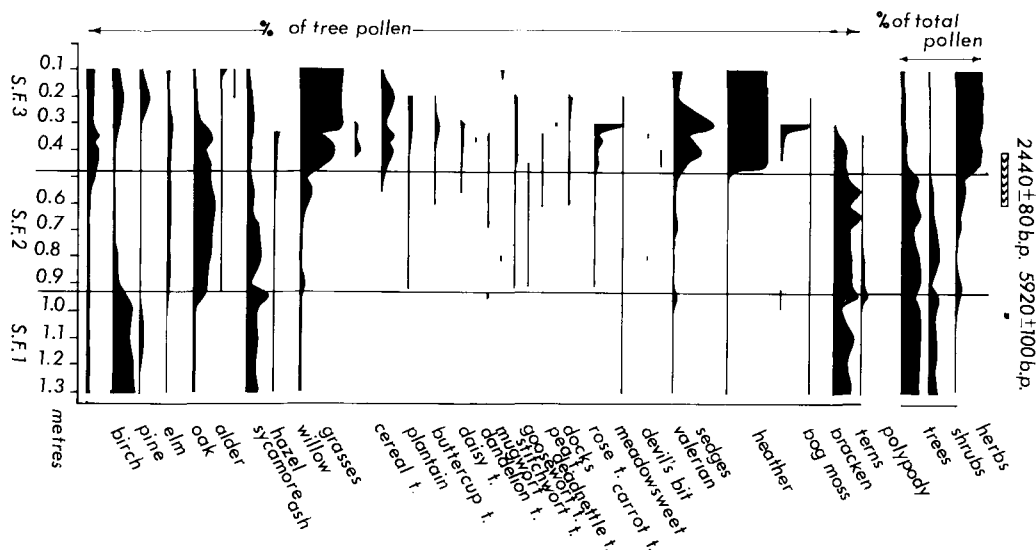


FIG. 9

Simy Folds pollen diagram

At the beginning of this alder-dominated zone the first signs appear of the opening out of the forest canopy. The pollen of ash — a light-demanding tree — appears and grass pollen rises to about 15% of tree pollen. The proportion and range of herbaceous and open-habitat plants also increase slightly. These changes could well be the result of forest clearance by man and modification by the browsing of domestic animals and thus connected with the arrival of Neolithic farmers in the early third millennium b.c. The effects are not extensive, however, and there is no clear evidence for cultivation.

A further definite rise in herbaceous pollen occurs in the upper half of this zone. Here the pollen of ribwort plantain appears for the first time. This is a plant closely associated with human activity and especially agriculture. The high proportion of tree pollen shows that the very local environment at least was still predominantly wooded and it is likely that the drier and more fertile limestone soils were cleared first. The presence of other open habitat species and especially of dock, plantain and buttercup suggests a pastoral land use. Dating is not yet available but the middle Bronze Age would be an appropriate period.

A layer of alder wood was found at a depth of 0.4 m to 0.6 m across the boundary between zone 2 and 3. A sample from this was radiocarbon dated to 2440 ± 80 b.p. (HAR 3791). Because of the thickness of the layer, however, the sample cannot be used to give a precise date for the transition.

The third zone, SF₃, is dominated by herbaceous pollen. Locally the presence of a widespread layer of alder wood within the peat probably indicates the overwhelming effect of increased peat growth and the spread of blanket peat which occurred in many areas of the dale during the first millennium b.c. as a result of worsening climate and increased grazing pressures. Hence also the increase in the pollen curves of sedge, heather and bog moss. This zone shows also a dramatic increase in the pollen of grasses and associated herbs, probably to be associated with the drier soils. Tree pollen decreases, due probably to the felling of trees by man and the prevention of regeneration by his domestic animals.

Of special interest at the beginning of this zone is the presence of cereal type pollen. Cereal pollen is usually deposited within a few hundred metres of its source and it would seem

that local cultivation is indicated. Simy Folds is well above the modern limit of cereal cultivation; indeed there is almost no arable land today W. of Barnard Castle. Although climatic factors may have been involved it is more likely that before good communications and transport, local grain cultivation and a high degree of self-sufficiency were essential. Cereals were in fact grown in the upper dale until late in the 19th century. One would like to associate this presence of cereal pollen early in zone 3 with the Anglo-Scandinavian settlement.

Towards the top of the diagram the landscape clearly remains open. Grassland continues to be extensive and so do both moorland and blanket bog. Tree pollen falls to very low levels and the proportion of different trees is affected both by planting and by long-distance pollen transport by winds blowing over open country. The pollen of cereal and of arable weeds disappear.

The diagram can be summarized as showing from about 4000 b.c. onwards the disappearance of native woodland and the occurrence of several episodes of agricultural activity seen against a background of change due at least partly to climatic or edaphic features.

FLINT, CHERT AND QUARTZ MATERIAL. By ROB YOUNG, *St David's College, Lampeter*

Two groups of lithic material were submitted for analysis: 26 stray, surface finds from eroded areas and rabbit burrows in the immediate vicinity of the site; and 31 pieces recovered in the course of the excavation of sites 1, 2 and 3. Full reports are contained in the site archive.

The stray finds could derive from any period from the Mesolithic onwards; they are a further indication of the long and complex nature of human occupation and exploitation of the Simy Folds area.

All the material from the excavated sites is likely to be residual, except the four irregular flint fragments from the interior of building 2 on site 2, which the excavators consider likely to be contemporary with the building's use, and a further example of quite late exploitation of flint as a raw material. A polished stone axe fragment from the area of building 1 is illustrated (Fig. 8, 4).

SLAG AND THERMOLUMINESCENCE DATING. By D. WRIGHT, *Department of Archaeology, University of Durham*

Samples from the iron-smelting slag found in 1981 on site 3 were analysed. One (S.F.79) produced inconclusive results, but the other (S.F.81) produced an age since 'firing' of $693/517 = 1340$ years, that is the date of last usage is estimated as A.D. 640.

The slag was in the form of large hard lumps which showed brittle fracture following tapping with a pestle. Portions were chosen after fracture from the inner parts of the original lumps and were further reduced in size by prolonged tapping and a certain amount of grinding. A few grains of quartz could be seen in the mass of iron/manganese oxide. This was identified by X-ray spectrography, which confirmed a very small amount of silicated materials.

Grains $90-150\mu$ were separated by sieving, and were then given u.s. vibration in acetone. The fines were discarded, and the residue dried and re-sieved. The product was then separated magnetically, and the magnetic component discarded. The remaining (small) sample was used for TL measurements by the predose procedure.⁵

Details of the measurements obtained and a discussion of the dose rate, interpretation of the effect of ultra-violet,⁶ and random and standard errors,⁷ are contained in the site archive.

THE METAL-WORKING RESIDUES. By KEVIN BROWN, *Institute of Archaeology, Oxford*

Some 33.235 kg of metal-working residues were examined by visual inspection and divided into six major groups of slag and other material.⁸ There was no opportunity for a full

metallographic analysis of the residues and only a few fragments of stone were analysed as possible ores. Further sectioning and microscopic examination will be required to confirm the subdivisions and to identify positively the nature of the slags. Full descriptions are in the site archive.

Metal-working residues were recovered from all three sites excavated but by far the greatest amount came from site 1 where 32.343 kg were recovered from both buildings, the courtyard and the surrounding area. Many of these contexts were however secondary deposits and might represent several different dumps of material. The topsoil contained 5.409 kg of slag, 1.140 kg were built into the walls of building 1, 2.600 kg were built into the walls of building 2 and 5.151 kg were found in a matrix of orange clay appearing as slight banks against the walls at several places in this building. Removal of a baulk left across building 2 revealed a concentration of slag (4.841 kg) and burnt clay overlying the paving which ran along the E. wall. The trackway to the NW. of the building produced a further 4.841 kg. These formed the major concentrations of slag and the remaining 8.282 kg were found scattered in small quantities over the site. The largest group of slag appears to be that of types 1 and 2, both common forms of smelting slag. Three fragmentary plano-convex 'blocks' clearly represent furnace bottoms: the most complete is about 220–260 mm in diameter, 150 mm deep and weighs 6.5 kg; the other examples weigh 4.38 and 3.50 kg. The small bun-shaped pieces of slag were probably formed from semi-molten slag raked out of the furnace during the smelt. Fragments of tap slag (type 3) probably derive from the same operation. The presence of a considerable quantity of furnace lining (type 6, table 2) indicates the former presence of a large structure or structures in the area and allied to the recovery of fragments of roasted ore (type 5) the evidence suggests that iron smelting was the main activity. However, the presence of agglomerate forms of slag amongst type 1 as well as a small quantity of fuel ash slag (type 4) could indicate some smithing.

The difficulties inherent in distinguishing smithing from smelting slag, especially in a mixed assemblage, are well known and only metallographic analysis can resolve this question. Clearly iron smelting was the major source of the material deposited on site 1 and also on sites 2 and 3. But there is little evidence for metal-working within either of the two buildings or the courtyard of site 1. Slag was available during the construction of both the major structures and was incorporated into the rubble core of the walls. It was also used in the construction of the track and boundary wall to the N. Quantities of smelting slag and furnace lining were deposited along the inner face of the E. wall and on the floor of building 2. Since there was no evidence for a furnace within the building it must be assumed that these too are secondary deposits. The hearth in building 1 produced 295 gm of metal-working residues. These small fragments of slag and fuel ash appear to represent smithing but the scale of the operation is small and probably indicates domestic rather than semi-industrial production. Evidence for smithing on the same scale as the smelting has not yet been found.

Metal-working of an earlier date than that of the occupation of the buildings has been speculated, and is supported by the discovery of unidentified metal-working residues from building 2 of site 1 and the existence in it of a hearth with a late prehistoric radiocarbon date. Whilst this is a possibility there is insufficient evidence to make a good case for it.

Extensive iron-slag heaps surround the settlement and continue up the S. side of the river valley.¹ South-west of Simy Folds is a major source of iron ore at Ore Carr with extensive channel workings at Ore Pit Holes. Radiocarbon determinations from two of the many slag heaps have given dates of *c.* 800 a.d. and *c.* 1100 a.d. while the latter heap produced a few sherds of 11th-/12th-century pottery. The dating of the slag heap overlying the N. boundary wall of the settlement is dealt with in the main report and the report on the slag. Iron working was obviously an important activity in the area during the early medieval period. The amount of slag recovered from Simy Folds and present in the surrounding area suggests an industrial or semi-industrial rather than a domestic process. This is in marked contrast to the scale of activity at the comparable site of Gauber High Pasture where iron working was carried out in a possible smithy, building C.⁹ Here is an example of domestic blacksmithing, analogous to those found on some Scandinavian sites such as the

11th-century farmstead at Stöng in Iceland. However, the picture of semi-industrial production suggested by Simy Folds is not totally alien to the Anglo-Scandinavian period. Evidence for increased metal production throughout the Danelaw especially in urban contexts is steadily emerging. Simy Folds is the first major rural site to be excavated.

DISCUSSION

Sites 1–3 at Simy Folds are similar in plan and have the same type of building. They can therefore be regarded as at least broadly contemporary and as being elements of a single settlement. Site 4 differs from the rest in both lay-out and style of building and therefore probably did not form part of this settlement.

Three types of building have been described, all of them rectangular. Of these, one is represented by a single example on site 3 and seems to be connected with later use of the site. This is an almost square structure with very thick walls and its entrance in the corner of the E. wall. The post settings across the median line of the floor suggest that the building, small though it was, was partitioned. The posts appear to have been quite large and probably acted also as roof supports.

Each site has one example of a long narrow rectangular building aligned E.–W. with its entrance in the E. gable. In each of the two excavated examples the doorway was approached by a long narrow passage, the paving of which continued along the centre of the floor within. No post-holes were recognized in these buildings. The third type of building, of which there are five examples, three of them excavated, is smaller, subrectangular and aligned N.–S. The walls of these structures appear to have been less carefully built. In two cases the building was divided into two unequal rooms and had two entrances, both opening into the larger room. In the third building no interior division was noted and there appeared to be one entrance only, in the S. gable. In none of the excavated buildings do the stone foundations of the walls survive to a height of more than 1.0 m and in most places they are about 0.5 m high. While these foundations may well have been surmounted by turf it seems unlikely that the complete wall stood much more than 1 m high. In building 3 of site 2 the lintel of one of the doorways had fallen inwards; it is a massive block of whinstone measuring 1.2 m × 0.5 m × 0.4 m and weighing over 100 kg. The jambs of this doorway were formed by two large boulders about 0.7 m high upon which the lintel presumably rested with a minimum of packing. A similar arrangement can be adduced for the other doorways and though no other lintels were found, boulders forming jambs were noted. Such low doorways would be practical in a windswept area like the Bands.

If doorways were low it is unlikely that walls would be much higher. The lower ends of rafters could have been rested directly on top of the walling or fastened to a timber wall-plate running along it. The central paving of the long rectangular buildings would provide footing for vertical posts which could be joined by a ridgepole to which the upper ends of the rafters would be fastened. If the height of the walls is taken to be 1.0 m and a roof angle of 45° is assumed then the maximum headroom would be about 3.0 m. The curving shoulders of these buildings would result in a hipped roof at the eastern end. A slightly different arrangement may be

suggested for two of the subrectangular buildings. Here the slope of the ground is such that the southern end of a ridgepole could probably have been rested directly on the top of the walling. No recognizable evidence of roofing material was found. Sverri Dahl's report on the Faroese Viking house of Kvivik states that this had been '... roofed with straw, birch bark and turf, traces of which survived; this would probably have been held in place by long cords twisted from juniper branches ...'.¹⁰ Such a roof would be quite appropriate for the buildings at Simy Folds where the materials mentioned would all have been available. A second possibility is that the roof was thatched with ling, a material which continued to be used in the dales into the 20th century. Trees large enough to provide timber for posts, joists and rafters cannot now be found nearer than 1 km from the settlement but the third phase of the pollen evidence, thought to represent the Anglo-Scandinavian period, shows that these too would have been available.

Each of the excavated buildings contained a hearth which seems to confirm that all were for human use or occupation rather than for stock. While the paucity of finds makes it impossible to assign specific functions to individual buildings it seems reasonable to assume that the long rectangular building on each site was the dwelling house and that the others were used for storage, or dairies and as workshops. Again though there is no direct evidence it is likely that the annexe building of site 3 was also a domestic building of some kind. Figure 2 and Pl. 1, A show that sites 1-3 are integrated into the extensive field system of the area and it follows therefore that they must be regarded as farmsteads. The pollen diagram (Fig. 9) shows the occurrence of cereal pollen at a depth of 0.4 m and whilst this level has not been radiocarbon-dated its position relative to dated levels suggests that it ought to be identified with the settlement site. No direct evidence for arable farming has been recovered but the existence of fields and buildings when considered in conjunction with the pollen evidence is conclusive. In the uplands mixed farming is economically much more viable than cereal production alone and there is little doubt that livestock would have been kept. Unfortunately, since no bones have survived, we are ignorant of the kind of animals and their relative importance. The pollen diagram shows that grassland and woodland were both present near Simy Folds, providing appropriate environments for sheep, cattle and pigs. The role of pigs in breaking the sod and turning over the soil in preparation for arable crops should not be ignored. The spindle-whorl found in building 1 of site 2 is indirect evidence for sheep breeding.

It is difficult to be certain of the exact area of enclosed fields which would have been available to the inhabitants of the settlement at any one time but this may have been about twenty hectares, of which perhaps one third could be devoted to cereal production. Accurate figures for crop yields are of course unobtainable but it may be permissible to use some of the results obtained from Butser Ancient Farm. Dr P. J. Reynolds quotes an average yield of about two tonnes per hectare from one of the fields over the period 1973-80.¹¹ It is generally assumed that medieval yields were much lower and allowance must also be made for the greater altitude of Simy Folds, but it might not be unreasonable to suggest a yield of one tonne per hectare. This would give a total of seven tonnes of which perhaps one third would be kept for seed,

leaving 4.5 tonnes for consumption. The average weekly consumption of cereal by the family of an English agricultural labourer in 1902 was 35 lb. for six persons.¹² This is 1,820 lb. or 830 kg per year. Cereal consumption is unlikely to have been higher than this in the 8th century and may well have been lower. Thus the farmers at Simy Folds could, in theory, have produced sufficient cereal from seven hectares to feed three families of six persons for a year and have a substantial surplus in reserve. These figures are of course subject to a wide variation but do show that the settlement was probably self-sufficient in cereals and that with the addition of animal products the inhabitants probably enjoyed a fairly high standard of living. If it is assumed however that they were not free owner-occupiers but were subject to rents and dues then their standard of living may have been much lower. It is of course not certain that all three sites were occupied at the same time though the radiocarbon dates obtained from two of them correspond closely. They may instead represent an expansion over two or three generations from a single original homestead, a pattern which is familiar in the dale in later periods. If this were the case the calculations above would have to be modified accordingly. A more pastoral economy than that suggested is also possible, with only a small part of the field system being used for cereals and the rest for hay and for stock enclosures. On the island of Foula in Shetland the memory of the practice of enclosing sheep for milk production still remains and the enclosure dykes are still visible.¹³ This may well have taken place also at Simy Folds.

The problems connected with the dating of these enclosure dykes will be considered later. In their present form they are quite insufficient to act as barriers to stock and even if the tumbled stone were rebuilt none of the walls is likely to have presented an obstacle to an agile sheep. It is probable that the more massive dykes were originally surmounted by a fence, hedge or turf wall while the lesser ones were merely boundaries along which hurdles could be placed as needed.

The use of the hearth in building 2 of site 1 for a little blacksmithing as well as for domestic purposes sheds light on another aspect of the economy. The proximity of iron ore and of timber for charcoal burning as well as the quantity of slag found on the site strongly suggests that iron working was an important activity. As yet though no major smelting or smithing site of the period has been located. Of the two slag heaps in the vicinity only one has been dated; this proved to belong to the end of the 12th century A.D.

The occupation of Simy Folds near the end of the 8th century was only one episode in the long history of settlement or at least human activity in the area. The dating evidence for this is summarized in the table below. This evidence consists largely of a series of radiocarbon dates, four from the excavation itself and two from the peat column. There is also a single date obtained by thermoluminescence measurement. The excavation produced very few small finds and none of these can be accurately dated.

Two of the finds together with two of the stray finds from the area provide useful confirmatory evidence for the conclusions which can be drawn from the pollen analysis. The Neolithic clearance which appears in the pollen diagram at a depth of 0.9 m–0.95 m is corroborated by the find beneath the S. walling of building 1, site 1,

of the butt of a polished axe. Bronze Age activity in the area is attested by the chance find of a rim sherd from a collared urn and by three bodysherds recovered from beneath the W. gable of the same building. These are almost identical in fabric with sherds from the excavation of the Bronze Age settlement of Bracken Rigg some 3.5 km W. of Simy Folds which is radiocarbon-dated to 3180 ± 60 b.p. (HAR 2414). The clearance phase which appears in the pollen diagram at a depth of 0.55 m may perhaps be identified with this presence and though an actual settlement cannot be confirmed at Simy Folds it seems highly probable that it did exist. Evidence from other parts of Holwick Fell strongly suggests that long contouring field boundaries such as those seen at Simy Folds are to be associated with Bronze Age farming.¹⁴ Settlement on the site in the late prehistoric period is confirmed by the radiocarbon date of 2330 ± 100 b.p. (HAR 4035) from the rock-cut hearth in building 2, site 1. Additional evidence is provided by the find of two fragments from a shale vessel characteristic of the late Iron Age.¹⁵ When more radiocarbon dates become available it may well be possible to identify this occupation phase with vegetation changes shown on the pollen diagram. It is also possible that some of the field boundaries ought to be ascribed to this period. Certainly at the one junction examined (Pl. III, A) the cross-contour dyke was seen to be later than the contouring boundary though how much later cannot be determined. There can be no doubt that two at least of the smaller buildings at Simy Folds post-date an E.-W. boundary dyke for they partially overlie it, while two of the N.-S. dykes can be seen to have been incorporated into the W. gable walling of building 1, site 1 and building 1, site 2.

As noted above, two of the radiocarbon dates (HAR 1898 and HAR 4034) obtained from hearths are in close agreement, giving calibrated dates of A.D. 790 and 750. In the light of these it seems that the Simy Folds settlement is to be regarded as a re-occupation towards the end of the 8th century of field systems which had been established in the Bronze Age or even earlier and probably added to in the late prehistoric period. The evidence from Foula, quoted above, concerning the use of small enclosures for sheep milking is that '... it would be wrong to equate these dykes with, for example, later medieval times or even with the period of Norse habitation ... the various dykes and structures may not be contemporary with each other but they would certainly seem to pre-date the Norse period. What we appear to have is a secondary use in the context of sheep husbandry and ewe milking of much earlier structures.'¹⁶ This conclusion could well be applied with equal force to Simy Folds. The pollen diagram shows that above a depth of 0.30 m cereal pollen is no longer found. This level is probably 13th century in date.¹⁷ By this time the terrace on which the sites lie was no longer fully enclosed, for the radiocarbon date of the slag heap deposited above the northern boundary walls is, when calibrated, A.D. 1200.¹⁸

It seems probable that soon after this date Simy Folds was no longer permanently occupied and that at best it was a shieling where the summer pasturing of stock could be combined with iron smelting. How quickly this decline took place we do not know. Neither of the two excavated farmsteads shows any evidence of the major rebuilding which would have been necessary at intervals during a long occupation and it may be that they flourished for only a brief period. One feature connected with the abandonment of the site still awaits explanation: this is the

SIMY FOLDS DATING EVIDENCE

Material	Method	Source	Sample No.	Date b.p.	Calibrated date
Peat	¹⁴ C	Peat sample 1.02 m	HAR 4076	5920 ± 100	4710 B.C.
Wood	¹⁴ C	Peat sample 0.4 m-0.6 m	HAR 3791	2440 ± 80	580 B.C.
Charcoal	¹⁴ C	Site 1, building 2, hearth	HAR 4035	2330 ± 100	440 B.C.
Charcoal	¹⁴ C	Site 1, building 1, hearth	HAR 4034	1210 ± 80	A.D. 750
Charcoal	¹⁴ C	Site 2, building 2, hearth	HAR 1898	1170 ± 70	A.D. 790
Charcoal	¹⁴ C	Slag heap over boundary wall	HAR 4506	820 ± 70	A.D. 1200
Charcoal	¹⁴ C	Site 2, building 3, hearth	HAR 5348	800 ± 100	A.D. 1220
Slag	T.L.	Slag heap over boundary wall	SF.81.TL	A.D. 360-950	
Slag	T.L.	Site 1, building 2	SF.79.TL	inconclusive	
Stone axe fragment	typology	Site 1, beneath N. wall	—	Neolithic	
Potsherds	typology	Site 1, beneath W. wall	cf. HAR 2414	cf. 3180 ± 60	1530 B.C.
Potsherd (collared urn)	typology	Stray find			Bronze Age
Shale fragment	typology	Stray find			late prehistoric

demolition of the N. wall of building 1, site 1 and the dumping of the material as a heap of boulders within the yard. It is tentatively suggested that this might be related to another unexplained feature, the low mound outside the entrance to building 1, site 2 and that a possible explanation for both is that they were constructed as rabbit warrens at some date considerably later than the occupation of the settlement. The medieval and post-medieval construction of rabbit warrens is well attested.¹⁹ Whether or not this was the original purpose, both features have certainly provided a home for many generations of rabbits and continue to do so.

If we do not know exactly how long the Simy Folds settlement lasted neither do we know who the settlers were nor where they came from. In lower Teesdale at Neasham Fen there is evidence in a pollen diagram of a forest-clearance phase radiocarbon dated to a.d. 737 ± 60 ,²⁰ only a little earlier than the dates obtained for Simy Folds. It is likely that the settlers arrived in upper Teesdale from the lower valley but another origin is also possible. The route between the Eden valley and the Tees valley by way of High Cup Gill and the Maize Beck is of great antiquity and the settlers may have come from that direction. The spindle-whorl found in building 1, site 2 was made from the red sandstone which forms the dominant geological feature in the Eden valley, suggesting at least some kind of trans-Pennine contact.

Just as we do not know from where the settlers came, neither do we know who they were. There is little relevant information, for only one similar settlement has been excavated in northern England, at Gauber High Pasture near Ribbleshead in West Yorkshire. Mr A. King has excavated a site consisting of a long rectangular building and two smaller ones surrounding a yard, as at Simy Folds. Finds were more plentiful, however, and included a coin which could be dated to the second half of the 9th century.²¹ Neither here nor at Simy Folds was any certain cultural indicator found. In lay-out and structure both sites have parallels in the Scandinavian world²² though one would not have expected a Scandinavian presence at such early dates. However, little is known as yet about the character of Anglo-Saxon upland settlement of this period and it may be that Simy Folds is purely native. A more likely explanation is that both English and Norse shared a common tradition and that Simy Folds can best be described as a settlement of Anglo-Scandinavian type. Confirmation of this and of other uncertainties must await further research into upland settlement in England.

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Plans were redrawn for publication by Sue Vaughan and Ann Biggs. Small finds were drawn by Sandy Morris.

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¹² E. J. T. Collins, 'Dietary change and cereal consumption in Britain in the nineteenth century', *Agricultural Hist. Rev.*, 23, ii (1975), 107.

¹³ J. R. Baldwin, 'Norse influences in sheep husbandry on Foula, Shetland', 97-127 in J. R. Baldwin (ed.), *Scandinavian Shetland* (Edinburgh, 1979).

¹⁴ The recognition by Andrew Fleming and others that dykes found on Dartmoor were prehistoric in origin has been followed by the discovery of similar features at many locations in the Highland zone. One of us (D.C.) is currently investigating the field boundaries in Holwick Fell.

¹⁵ While shale vessels are most common in SE. England some examples have been found in the N.: see N. Newbigin, 'A collection of prehistoric material from Hebburn Moor Northumberland', *Archaeol. Aeliana*, ser. 4, 19 (1941), 104-17; G. Jobey, 'Excavations on a palisaded settlement at Alnham, Northumberland', *Archaeol. Aeliana*, ser. 4, 44 (1966), 37-42.

¹⁶ Baldwin, op. cit. in note 13.

¹⁷ Information from J. Walker, A.E.R.E., Harwell.

¹⁸ The T.L. date for slag from this heap (Slag and Thermoluminescence report) was A.D. 640. These two dates cannot easily be reconciled and in view of the many uncertainties connected with T.L. measurement it seems preferable to accept the radiocarbon date which appears to be compatible with the stratigraphy of the site.

¹⁹ See for example J. Ritchie, *The influence of man on animal life in Scotland* (1920), 248, and the R.C.H.M. volume on Westmorland.

²⁰ C. Chambers, 'The vegetational history of Teesdale', unpublished Ph.D. thesis (University of Durham, 1974).

²¹ King, op. cit. in note 8.

²² S. Kaland, pers. comm.

²³ Calibrated dates have been obtained from the table published by R. M. Clark, *Antiquity*, XLIX, 196 (1975), 251-66.

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