NOTES

1. *Note on the discovery of Two Stone Axes in the Solway Plain, Cumbria.*
By R. H. BEWLEY

1. Polished Stone Axe. Cumbrian Type.

This very fine example of a polished stone axe, of the Cumbrian thin-butted type (see Figure 1) was discovered by the farmer George Osborne. The nature of the discovery is interesting in that Mr Osborne was 'howking turnips' when he pulled up the axe which was vertical in the soil, with the blade end nearest the surface (see Figure 2). Fortunately the Osbornes of Sandwath are known to the author and contacted a mutual friend (David Britton of Ghyll Head Farm Cottage) who then informed me. We are all grateful to Mr Osborne for telling us about the axe and allowing fieldwalking to take place subsequently. During the fieldwalking (carried out by the Carlisle Regional Group of this Society[1]) a flint scraper was discovered (see Figure 3). Although the distal end on the dorsal surface is retouched the poor quality flint and the large amount of cortex make it difficult to date on typological grounds. A fragment of Roman glass was also discovered in this field during the fieldwalking.

The axe has not been petrologically studied but Vin Davis[2] has visually identified it as being made from a tuff on Seathwaite Fell and therefore falling into the Group VI category. The axe is comparable to those found in 1869 from Ehenside Tarn; these and other good examples can be seen in the Carlisle Museum. At present the axe is still in the care of Mr Osborne.

2. Rough-Out Axe or Adze (see Figure 4). Found at NY 109 466.

During a fieldwalking experiment in March 1984, (organised by the author[3]) in the west of the Solway Plain on the Abbeytown Ridge, this 'rough-out' axe was found. The full results of the fieldwalking will be published separately but the purpose of the exercise was to walk as many ploughed fields as possible in the area around the 'Tarns' near Goodyhills. The interest of the area is the sandy ridge itself (as a location for prehistoric activity) and the interface between the sandy ridge and the low-lying 'black-land' or fen peat. This peat is now being drained and reclaimed by farmers and thus of great potential for the archaeologist. It was our good fortune that we discovered the axe at the very junction of the sand and the peat. The axe has obviously suffered from ploughing but is still in good condition, though probably unfinished. Vin Davis has said that it is made of an 'ashfall tuff' and its source cannot be securely located without a full petrological analysis; it is likely to be from the Group VI source. The problem of whether it is a rough-out for a polished axe or an adze cannot easily be solved as it seems to be unfinished. For those requiring further information the axe will be kept in the Carlisle Museum.

Notes and References

[1] Thanks are due to Ian Caruana and the members of the Carlisle Regional Group who helped in the fieldwalking.

[2] Thanks are due to Vin Davis for examining both axes and sending me a copy of his thesis 'Stone Implements of the Neolithic and Bronze Age from the North-West English Highland Zone and their origin: an archaeological assessment of recent petrological and experimental work.' M.Phil. Liverpool University.

[3] Thanks are due to Gilbert Pwiti, Sarah Taylor, James Marshall, and Matthew Jones for their help in fieldwalking in March 1984.

[4] Thanks are due to Jane Lucy for her drawing in Figure 1 and to Louise Hayhow for Figures 3 and 4.

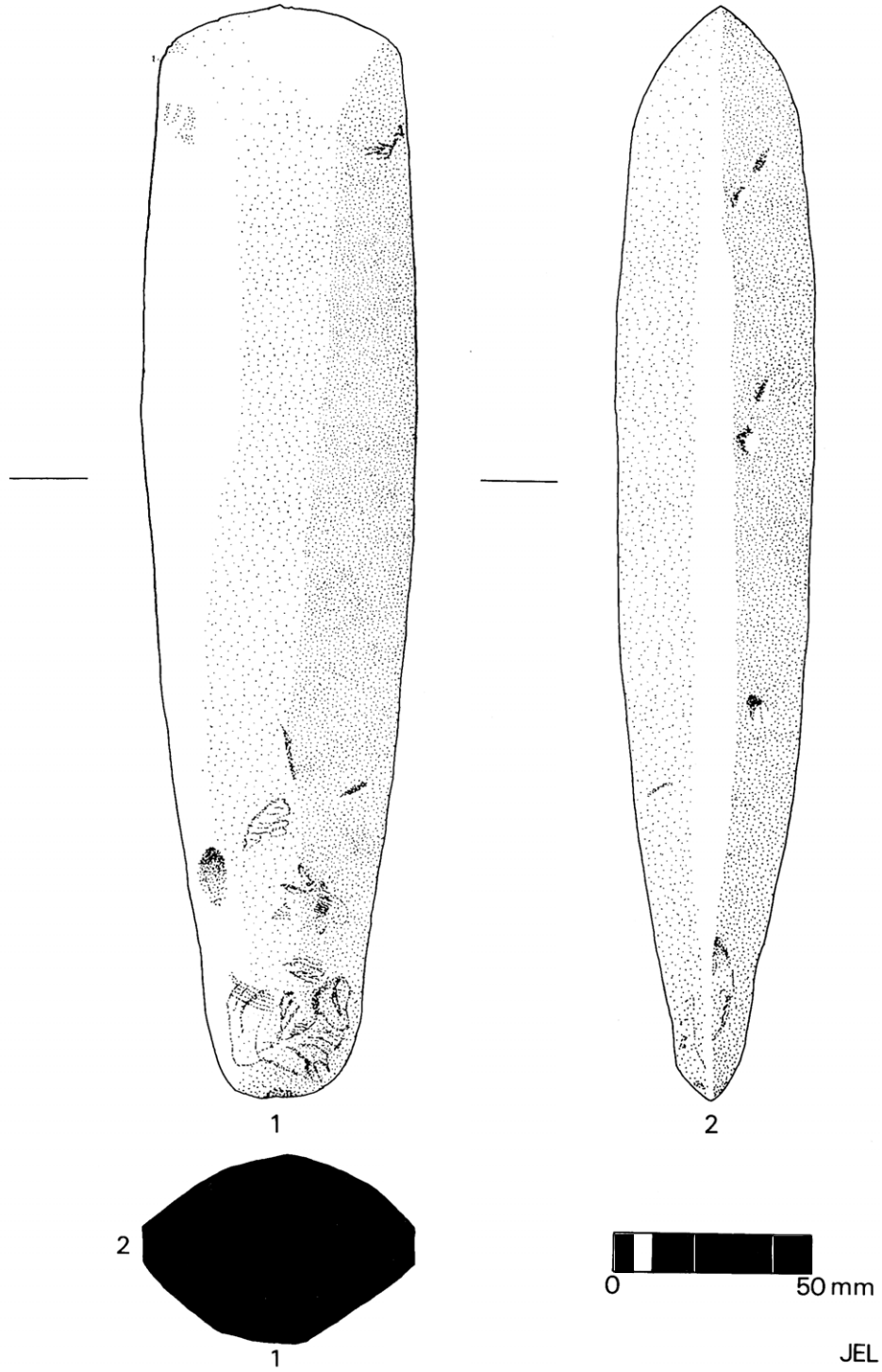

FIG. 1. – Sandwath Polished Stone Axe.

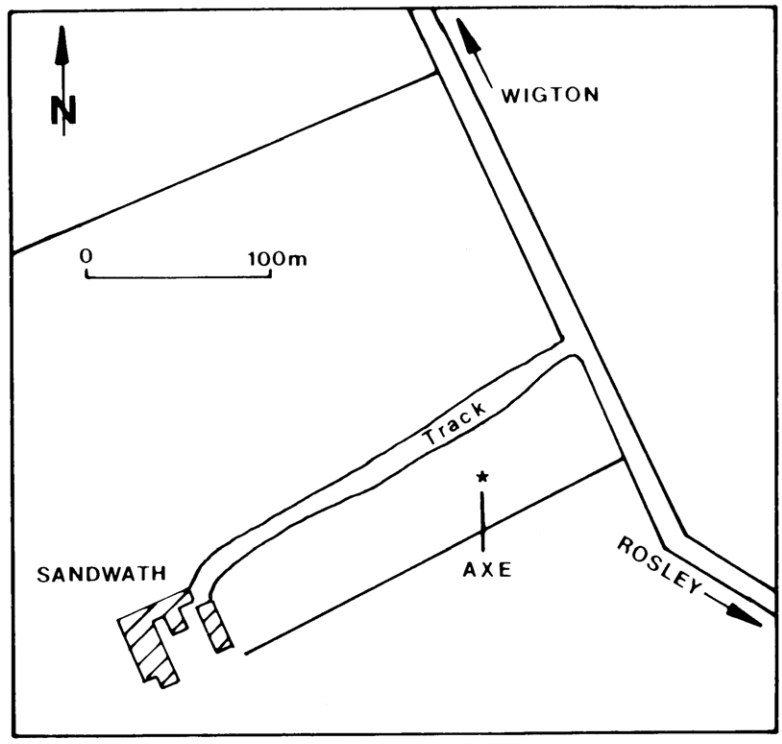

FIG. 2. – Plan of field in which Sandwath Axe was discovered.

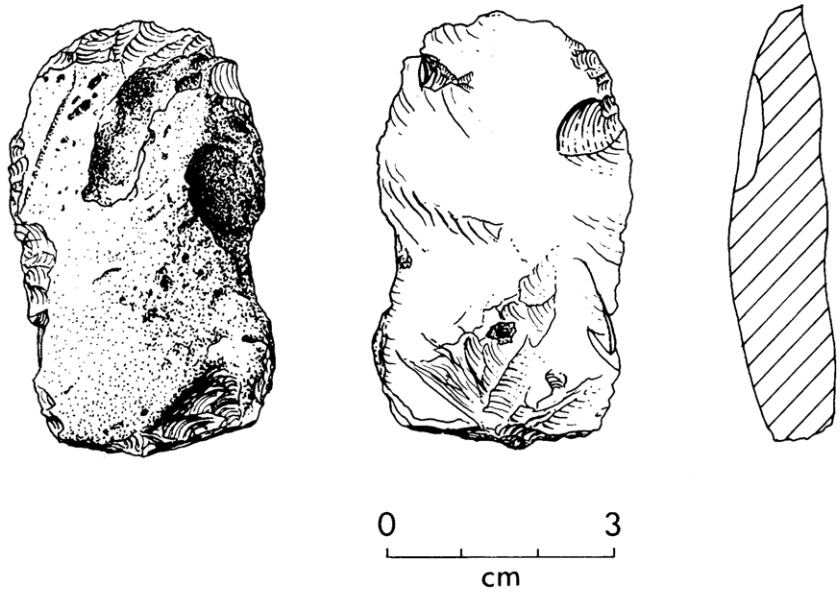

FIG. 3. – Scraper found in same field as Sandwath Axe.

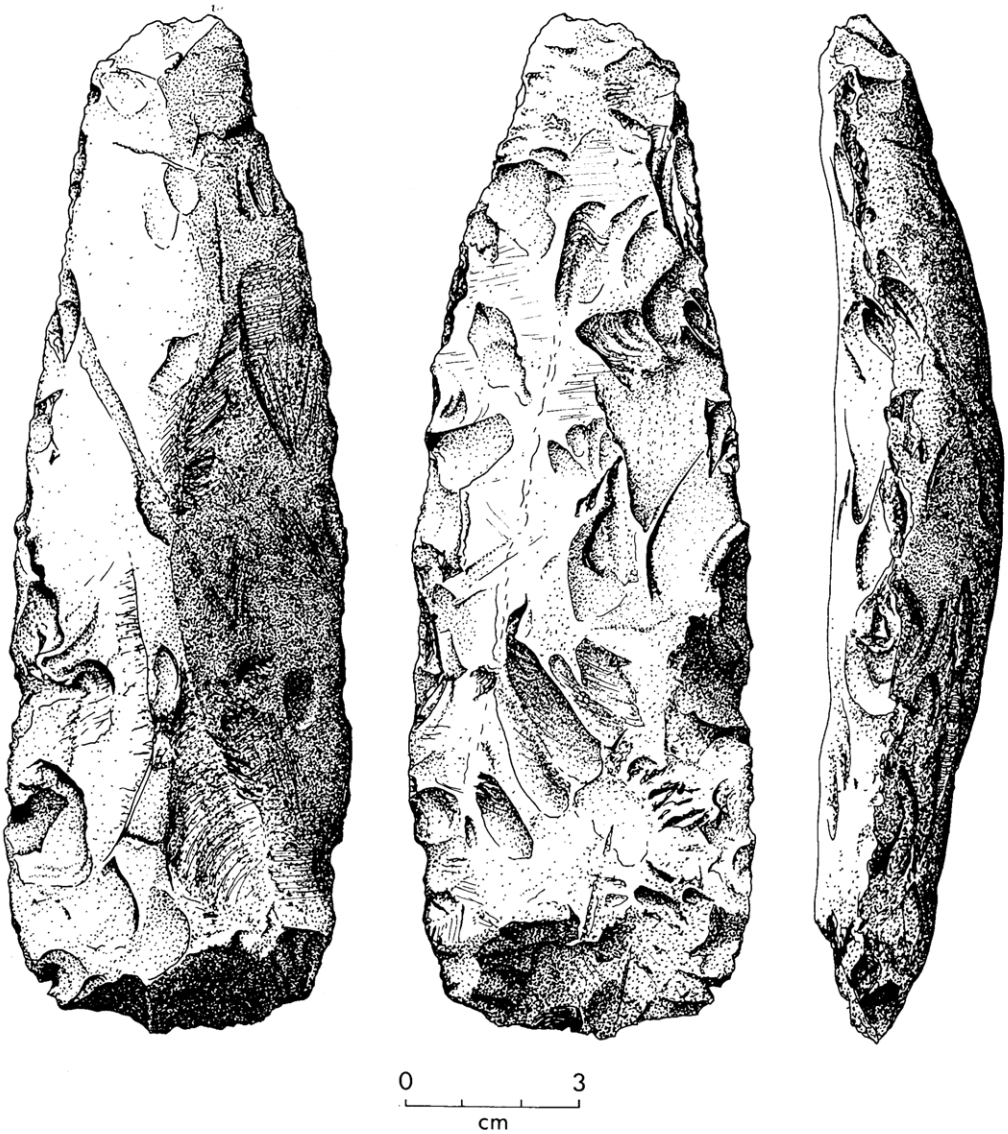

FIG. 4. – Goodyhills Rough-Out or Adze.

2a. *An Unprovenanced Palstave in the Armitt Collection, Ambleside.*
By CLAIRE E. MARSH

Four bronze implements, part of the Ambleside Hoard, were recently located in the Royal Collections by Stuart Needham (1982).[1] The original hoard, comprising six implements, was discovered by the son of one Peregrine Bertie, in 1741. The latter described the find in a letter he sent to the Spalding Gentlemen's Society, which incorporated a drawing of the complete hoard (first reprinted, 1965).[2] The four implements arrived, at an unknown date, at Carlton House but

by 1837 had been transferred to Windsor Castle. They are now on loan to the British Museum. The remaining two implements, a spear ferrule and a looped palstave, are presumed missing.

From the drawing it would appear that the Hoard palstave had distinctive characteristics: notably, a prominent midrib, a loop on one side straddling the level of the stop and what may possibly be casting flashes. It is suggested that the illustrated palstave is of a transitional type,[3] the form of the midrib not being encountered on earlier axe blades. Such palstaves were found in the Penard and Wallington phases in Northern England.[4] Looped palstaves are rare in Cumbria; only seven are recorded and only five of these have a prominent midrib.[5] In the collection of the Armitt Trust, however, is a further palstave showing these characteristics. It was acquired, as an item of local provenance, by the late B. L. Thompson, a trustee, from F. E. T. Jones-Balme, of High Close, Loughrigg (1869-1951). The palstave is labelled as being from a collection of local antiquities made by the latter's kinsman, E. B. Wheatley-Balme (1819-1896), of the same address.[6]

Is it possible that the Hoard palstave and the unprovenanced palstave are one and the same? If so, two points must be considered: it is possible that the Hoard did not remain intact after its discovery and that the palstave and perhaps the ferrule remained in the North, never forming part of the Royal Collections; it is also possible that the accuracy of the drawings, made in 1741, is at question. In all probability the scale used is based on the sword, whilst the implements may be partly the result of an essayed reconstruction by the artist, as Bertie states that they had been tried 'on every Oak Gable in the Parish'.

The error margin in the drawings may explain why the palstaves vary in length. Needham estimates a measurement of 156 mm for the Hoard palstave[7] (after the correction factor, allowing for the artefacts being portrayed too large by 6%); the unprovenanced one measures only 136 mm. It is unlikely that 20 mm could be lost by wear and tear, from the latter. The blades also differ: the Hoard palstave, with its flaring midrib, expands smoothly to 87 mm in length, whilst the unprovenanced palstave, with a straight midrib, measures 92 mm and turns in at the end.

The latter feature, however, appears to be the result of the palstave having been hammered and this accounts for the buckled cutting edge. The butt, although broken, has slightly splayed out edges and the patina, a dark burnished brown with gold flecks and comparable to Needham's description of the four bronzes, is noticeably dull and thin at the edges, flaking away from both ends. Again evidence of hammering is suggested, almost definitely post-dating any cold hammering involved in production. It should be noted that Bertie identifies the Hoard palstave as a chisel.[8] It is possible, from its form, that at some time the unprovenanced palstave was used in this way.

The accuracy of the original drawings could not be proven, but the fact that an unprovenanced looped palstave, having similar characteristics to the Hoard palstave has probably been in the local area for at least one hundred years is perhaps more than coincidence.

Notes and References

1 S. Needham, 'The Ambleside Hoard: a discovery in the Royal Collections', *Brit. Mus. Occ. Paper.*, 39 (1982).

2 C. Fell and J. M. Coles, 'Reconsideration of the Ambleside Hoard and the burial at Butts Beck quarry, Dalton-in-Furness', CW2, lxv, 38-52.

3 *ibid.*, 44.

4 S. Needham, *op. cit.*, 40.

5 T. H. McK. Clough, 'Bronze Age metalwork from Cumbria', CW2, lxix, 11.

6 R. S. Boumphrey, C. Roy Hudleston and J. Hughes, *An Armorial for Westmorland and Lonsdale* (1975), 16-17.

7 S. Needham, *op. cit.*, 4.

8 C. Fell and J. M. Coles, *op. cit.*, 41.

2b. *Peregrine Bertie's link with the Lake Counties*

By CLARE I. FELL

A chance reference to "Mr Bertie" in *Journey to the Lake District from Cambridge 1779 – a diary by William Wilberforce, undergraduate at St John's College, Cambridge*, Ed. C. E. Wrangham (Oriel Press, Stocksfield, Northumberland, 1983), pp. 40 and 70, put me on the track of Peregrine Bertie's connection with the Lake Counties. Wilberforce had looked for a view point of Crummock Water "above Mr Bertie's woods" near Scale Hill, Brackenthwaite, which had been described in Thomas West's *Guide to the Lakes* (1778). An enquiry to the County Archivist, Mr B. C. Jones, brought an immediate reply for which I am very grateful.

An entry in the records of the Manor of Brackenthwaite (Loweswater Manor Court Book) 4 March 1731/2 shows that Elizabeth Bertie (previously Fisher) wife of Peregrine Bertie of Low Leyton, Essex, had held a customary tenancy from Gilfrid Lawson, lord of the Manor, at an annual rent of 5s. 3d. After her marriage she surrendered this, at the Manor Court, 16 February 1726, in favour of Peregrine Bertie and his heirs. Elizabeth Bertie died in October 1731 and her will had been proved, so Peregrine Bertie and his heirs were admitted tenants for the same yearly payment.

The previous tenant of this small customary estate was John Fisher, either husband or father of Elizabeth. The date of her marriage to Peregrine Bertie has not yet been traced. He died 1743 and was buried at Leyton on 21 December. His son, also named Peregrine, who "picked up" the antiquities at Ambleside, died at Leyton and was buried there 5 January 1785, leaving no male heir. It can now be seen how the younger Peregrine came to be in the Lake District and acquired at least part of the Ambleside hoard in 1741.

3. *Fieldwalking in the Solway Plain*

By MEMBERS OF THE CARLISLE REGIONAL GROUP, 1982.

Introduction

This report gives details of finds recovered in a field walking programme begun in 1982. The aim of the programme is to examine, by field walking, sites discovered as crop marks from the air and recorded on aerial photographs. It is hoped that field walking will allow artefacts to be recovered from the surface of sites under plough, which will date the sites, and this in turn will enhance our understanding of the sites in their morphological and functional aspects. A field walking project was felt to be particularly suitable for a group of amateur archaeologists because it did not involve a heavy or consistent commitment of time. It was also non-destructive and invited participation in archaeological research without equating such research with excavation.

The results of the work done in the spring and autumn of each year will be published annually. Annual publication was chosen for two reasons. Firstly, as the work is on-going no ultimate publication date could be anticipated. Secondly, and arising from this, it is desirable that the results be made known as soon as possible to allow others working on related problems to see the evidence. Annual publication will create some problems. The date of a site does not always emerge from one season's walking. It may take repeated visits to a site to produce sufficient finds to feel confident of its date. Sometimes it appears that walking has taken place under the wrong conditions and thereby negative results are less significant than they might appear. Only repeated walking over the same field will show this. Moreover, wider patterns will only emerge over the long term. In future publications synthesis will be possible in a way that is not feasible here.

This article is a joint effort. All the participants have shared in the walking and recovery of pottery and other artefacts. Where possible we have also divided up the work of processing finds

and preparing them for publication. Other contributors, who have provided specialist reports, are credited at the appropriate points in the texts.

Background By R. H. Bewley

Crop mark sites in the Solway Plain have been discovered from aerial surveys since 1945. There are two main archives of photographs, one in Cambridge and one in Manchester; the former being the result of sporadic surveys since 1945 and the latter being the result of reconnaissance since 1973 (Higham and Jones 1975). The results of these surveys have been compiled by this author (as part of Ph.D. research into the Prehistoric and Romano-British settlement in the Solway Plain). During this research it became evident that no systematic work had been done on these sites. As a first stage in the examination of these ditched enclosures the Carlisle Regional Group embarked on a field study project involving the walking of ploughed fields. Further examination of similar sites has been carried out by the author using geophysical survey methods (magnetometers and resistivity meters), soil phosphate tests and small scale excavations. The small excavations were successful on two sites in the summer of 1983.

Many of these crop-mark sites were discovered in the dry summers of 1949, 1975 and 1976; the latter were especially productive as Professor G. D. B. Jones was surveying (from the air) the western extension of Hadrian's Wall (Jones 1982). Almost as a by-product of this survey, crop-marks of ditched enclosures were recorded. They have been interpreted as "Romano-British farmsteads", "settlements" and "native sites"; the underlying assumption is that farming and settlement increased in response to the Roman occupation. This is a fair assumption but one which requires some investigation; thus by fieldwalking as many sites as possible it was hoped that some dating evidence would emerge, as well as informing us about the diversity of information contained in the topsoil.

The evidence for the suggestion that the Romano-British population increased during the Roman occupation is based on the results of excavations carried out in the 1950s (Blake, 1959). It has been further supported by research and excavation undertaken by Higham and Jones (1975 and 1983). However, it is not certain that all these crop-mark sites (ditched enclosures) are Romano-British or indeed farmsteads. This field walking project, and others carried out in the west of the region, show that the Solway Plain has a long settlement history stretching back into the prehistoric period. Few of these sites are well dated, though more evidence is coming to light of a substantial prehistoric settlement pattern on to which a Romano-British population can be laid. For example at two sites (Aughertree Fell and Ewanrigg) there are ditched enclosures with Bronze Age burial remains in close proximity; although this does not prove the sites are Bronze Age settlements it does help to illustrate the potential for prehistoric settlement in the area.

The excavations by Richardson at Fingland (1977), Higham at Yanwath Wood and Croftlands (Higham, 1982 and 1983) and by Higham and Jones at Crosshill and Silloth (Higham and Jones, 1983) show the nature and extent of the Romano-British farming system. Even so we know too little about the central question of the relationship between the Roman army and the native population. How was the army supplied with food? Was food imported or obtained from the local farming population? One means of helping archaeologists to answer this question is to survey the sites, initially by fieldwalking, to obtain as much information as possible about the site's occupation.

Methods

The choice of sites for walking was largely determined by the limited availability of ploughed fields with known crop mark sites. Although the photographic archives record many hundred of sites, the number of sites suitable for walking in any given season is strictly limited. Activity was

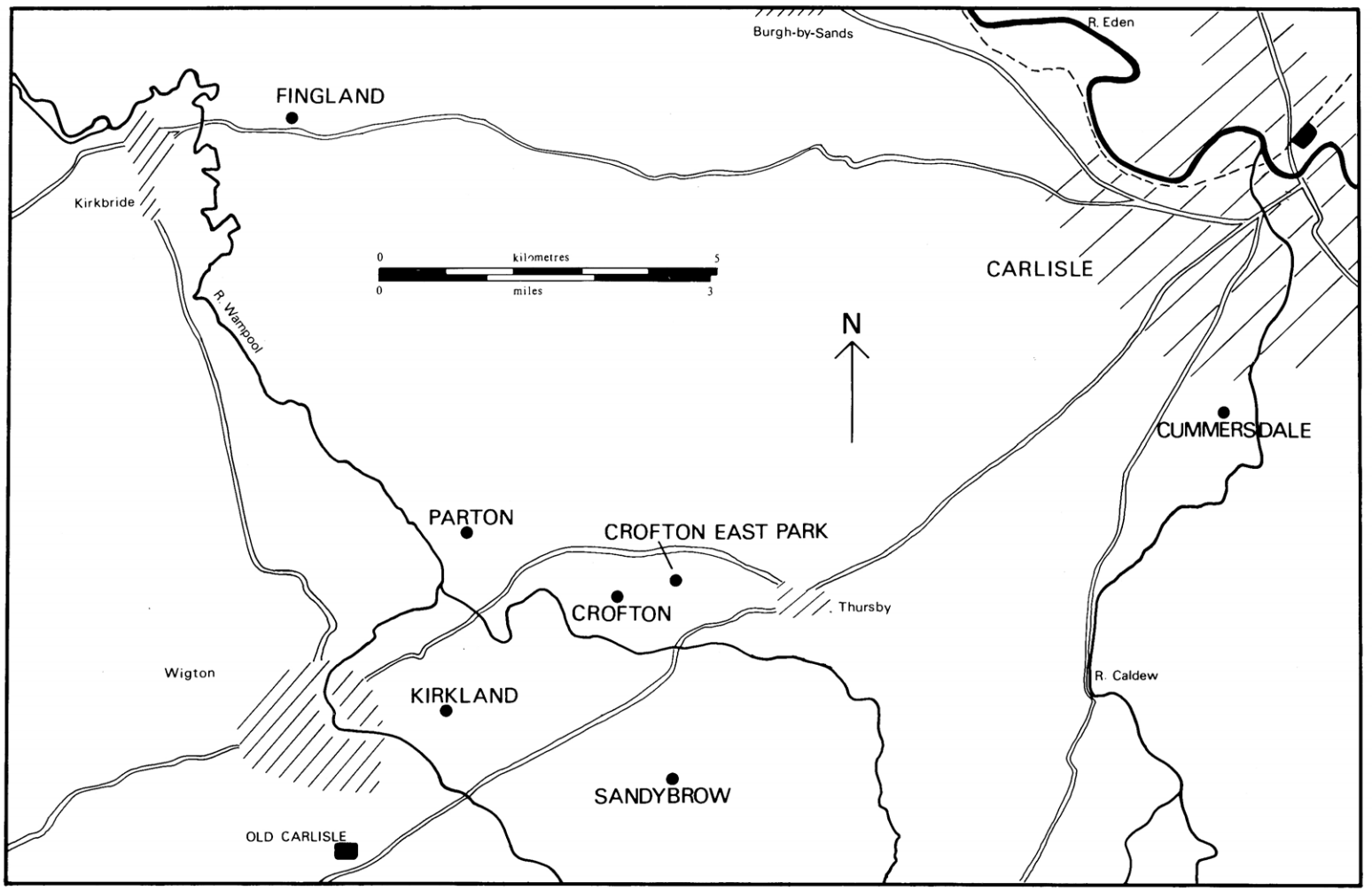

FIG. 1. – Location Plan of Sites Walked.

confined to two periods in the spring and autumn of 1982. Walking was done on Sunday afternoons for two to three hours provided that the weather was not wet. The area of the crop mark was covered and also, where possible, the rest of the field.

Several methods of walking were tried out and assessed before settling on the division of the field into 30 metre squares as the most efficient for our purposes. Before the project started it was not clear how much, if any, archaeological material would survive or could be recovered from the plough soil. It was confidently expected, however, that the quantities of finds normally found in other parts of the country (c.f. Drewett, 1982, 113) would not occur in Cumbria and in the event this supposition was confirmed in practice. At the same time we wanted to pin-point any finds that were made as accurately as possible in relation to the crop marks. Determination of field walking methods came down to a balance between the degree of accuracy required for the location of finds and the amount of time spent in setting up systems and in processing finds. Four basic methods were tried out:

1. Line walking. Participants walked at roughly two metre intervals across the field. The system was extremely simple to set up as it required no more than a tape measure run along two sides of the field to control the starting points for each walk. The disadvantages were considerable. Walkers never walked at the same speed and consequently had problems maintaining direction and often were so concerned to catch up that a loss of attention resulted. An attempt was made to record the position of individual finds within any line but this presupposed immediate recognition of significant finds, plus attention to distance from the starting point, and proved unworkable.
2. 10 metre squares. Within each square one walker was responsible for covering the ground in a systematic fashion in their own time. In many ways this was the ideal system because it located finds with maximum precision. The drawback was that much of the afternoon was spent in surveying a grid to walk within and very little time actually walking it. Additionally, when it came to recording the finds, the system generated a large number of record sheets, many of which had little or nothing on them.
3. 30 metre squares.This system proved to provide the ideal combination of speed and locational accuracy. This method of walking allowed about 2·5 to 3 times as large an area to be covered by each walker than using 10 metre squares. Line walking gave slightly larger coverage per walker but this had to be offset against its disadvantages.
4. Random walking. This method was used in subsequent seasons in order to cover large areas very quickly. In practice, fields were roughly subdivided between each walker. This method proved quite useful in some circumstances. Finds were rarely sufficient for heavy concentrations to be revealed by accurate recording, so that random walking produced some results very quickly without loss of information about distribution patterns.

All finds were collected. No attempt was made in the field to distinguish between modern and ancient pottery. Each square or line was numbered and all the finds were washed. After sorting, all the modern brick, tile, glass, china, iron and other rubbish was thrown away, having first been counted and weighed and the results recorded on pre-printed forms. The pre-modern finds are described here. Clay pipes and other modern pottery have been retained but it is not intended that it will be studied further by us. In the lists which follow, the prehistoric and Roman material is likely to be most significant for our purposes. We include brief notes on the medieval pottery so that specialists may be aware of its presence. Although it is probably unlikely, it should be borne in mind that some sites could be medieval in date.

The Sites (Fig. 1)

Crofton (Bank wood): NY 299 502 (Fig. 2)
(Higham and Jones, 1975, S.154)

This was the first site, walked over four days in early spring 1982 using line walking. The whole

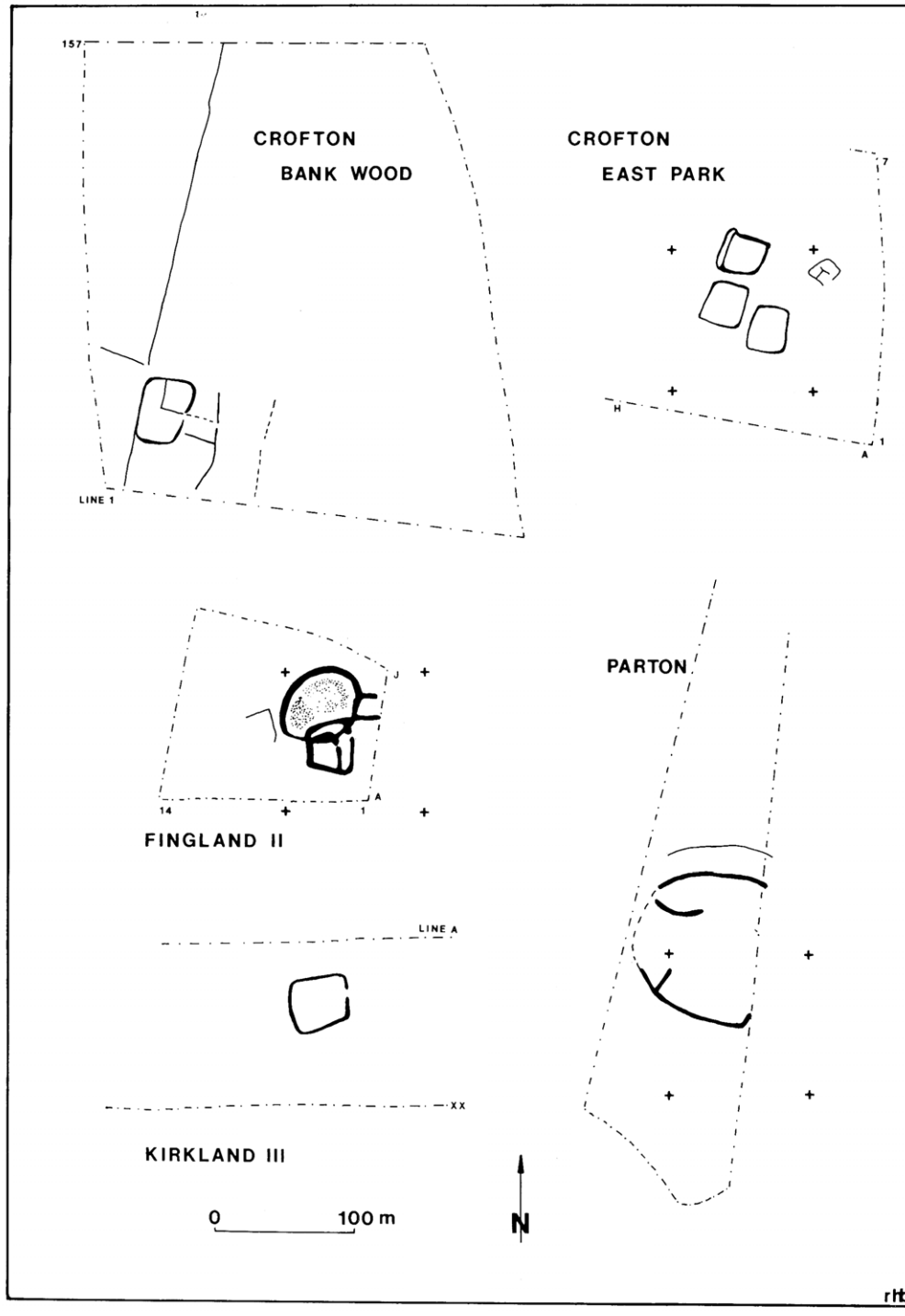

FIG. 2. – Site Plans Plotted from Aerial Photographs.

field of approximately 75,000 sq. metres was covered, starting in the south-west corner. Some interesting ancient material has been recovered but not in sufficient quantities to date the crop mark site.

Flints. By C. I. Fell

1. Convex edged blade of trapezoid section, with steep retouch along one edge. The bulb has not been trimmed away and the tip has been broken. Made from good quality honey-coloured flint. Dr. Clive Bonsall considers this implement could be of Earlier Mesolithic date and is unlike the Later Mesolithic material from Eskmeals and the Cumbrian coast. None of the flint found at this site is of such quality or dark colour. 33×11 mm. (Line 3-4. SF2). (Fig. 3.1).
2. Flake struck from a lump of brown flint. Cortex suggests drift source. (Line 21. SF5).
3. Flake of brown flint, possibly struck by bi-polar technique. Cortex on one edge. 20×12 mm. (Line 77. SF14). (Fig. 3.2).
4. Flake of honey-brown mottled flint with narrow flake scars on dorsal surface. 20×10 mm. (Line 88. SF17). (Fig. 3.3).
5. Piece of dark grey mottled chert which appears to have been used as a core. (Line 42. SF9). (Fig. 3.4).

There were also eight pieces of unworked flint and chert.

6. Bangle of translucent blue glass with three cord mouldings. Two of the cords stand in relief, whereas the third cord is smoothed level with the surface of the bangle. There is also a white, yellow and brown spiral spot or eye, again in relief. Type 2. (Kilbride-Jones, 1939, 373). The distribution of type 2 bangles is widespread over southern Scotland and northern England. (Stevenson, 1976, 49). A date in the first half of the second century is most likely. L. 31 mm which represents 15% of bangle of 60 mm internal diameter. (Line 9. SF3). (Fig. 4.1).

Pottery. By J. Taylor.

7. Indeterminate body sherd. Possibly Roman amphora (?Dressel 30). (Line 31/36).
8. Possible sherd of Roman amphora (?Dressel 30). (Line 79/84).

A comparatively large quantity of medieval material was found. It has been classified into five basic fabrics:

Fabric 1. Oxidised quartz gritted ware in the Northern Gritty Ware tradition and probably dating from the mid-twelfth to the mid-thirteenth centuries. 42 sherds including 5 jar rims (Fig. 5.5,6,7,8,9), 3 flange fragments from jars or bowls (Fig. 5.10) and base sherds.

Fabric 2. Lightly gritted reduced ware which is common from about the mid-thirteenth century and continues into the second half of the fourteenth century. 10 sherds including 2 strap handles (glazed) and two base sherds.

Fabric 3. Oxidised medium sandy fabric probably belonging to the 13th/14th centuries. 12 sherds including a jar and a jug rim. (Fig. 5.11 and 12).

Fabric 4. Fine reduced ware with few inclusions; common from the mid-14th century and continuing into at least the 16th century. 10 sherds including 4 base fragments.

Fabric 5. Oxidised version of fabric 4. 2 sherds.

In addition to these fabrics there are three sherds of oxidised sandy wares of either medieval or Roman date (Lines 31/36-2; 79/84) and two fragments of possible burnt daub.

Fingland II: NY 251 573 (Fig. 2)
(Higham and Jones, 1975, S.107)

The crop mark shows two major enclosures intersecting. Other elements on the aerial photograph could be further sites of different date or related to one of the main enclosures. Walking took place over three days in spring 1982 using a grid of 10 metre squares starting in the south-east

corner. An area of 10,400 sq. metres was walked, representing most of the field. The field had had a crop of potatoes in it and the presence of a clamp in the field made coverage of parts of the field impossible.

1. Flake of tuff as in Group VI, Langdale axe material. (A2. SF1).
2. Quern. Segment of upper(?) stone in fine grained red sandstone. Dia. 44 cm. Ht. 4·5 cm. (G3. SF2). (Fig. 4.2).

Pottery. By J. Taylor.

3. Mortarium bodysherd. Hard, white sandy fabric. Midland product probably from Mancetter-Hartshill. Ca. 140-370 A.D. (E5).
4. Indeterminate Roman colour-coat. Creamy-white fabric with orange slip. (D13).
5.-11. Seven sherds of Roman amphora (?Dressel 20) including one handle. Buff-brown sandy fabric. (B8-handle, B12, B13, D4, F2, G3, G4).
12.-14. Three sherds of Roman amphora (?Dressel 30) in reddish fabric. (D5, E10, H2).
15. Fine, sandy-orange fabric with grey core. Poor olive-brown glaze on both surfaces. Medieval, probably 14th or 15th century. (C5).
16. Sherd in fabric similar to 15. No glaze. (F12).

There seems to be a reasonable chance that at least one of the enclosures visible on the aerial photograph is of Roman date.

Kirkland III: NY 274 486 (Fig. 2)
(Higham and Jones, 1975, S.136)

The whole field was walked in strips 2-3 metres wide starting in the north-east corner. The eastern field boundary had been removed but walking did not extend to the east of its former position. The total area walked was 36,960 sq. metres.

1. Flint chip. Honey coloured. (Line X. SF3).
2. Rectangular object of lead, with two holes preserving the form of a strap passing through. Function and date unknown but probably post-medieval. (Line P. SF5).
3.-5. Three fragments of ice-green glass from a Roman square bottle. Present are part of a rim (Line H) and two sherds with angles (Lines D and Q). All three may be from the same vessel. The bottle seems to be Isings (1957) Form 50 dated by her to ca. 70-130 A.D. but perhaps surviving throughout the second century. The rim is Type 1a (Charlesworth, 1966). (Fig. 4.3).

Pottery. By J. Taylor

6. Mortarium rim in fairly soft white fabric. Reeded hammerhead. Midland product probably from Mancetter-Hartshill (c.f. Gillam 1970, no. 283). Ca. 250-350 A.D. (Line J). (Fig. 5.1).
7. Rim of jar in hard fairly sandy-brown fabric with dark grey surface. Roman. (Line N). (Fig. 5.2).
8.-9. Two sherds of indeterminate colour coated wares. Roman. (Lines K & CC – base of beaker). (Fig. 5.3).
10.-11. Two body sherds of indeterminate oxidised fabrics. Roman. (Lines M and RR).

There was also a considerable number of medieval sherds. Rim of jug in Crofton Fabric 2 (13th/14th century); 18 bodysherds of Fabric 4 (mid-14th to 16th century); 3 bodysherds of Fabric 5 (mid-14th to 16th century).

There seems to be a strong possibility that the site recorded by aerial photography is Roman. The medieval pottery is likely to relate to the medieval settlement of Kirkland. The name Kirkland appears first in the sixteenth century (EPNS Cumberland II, 334). Land here contributed to the stipend of the vicar of Wigton and this may be the origin of the name (Hutchinson II, 477). The

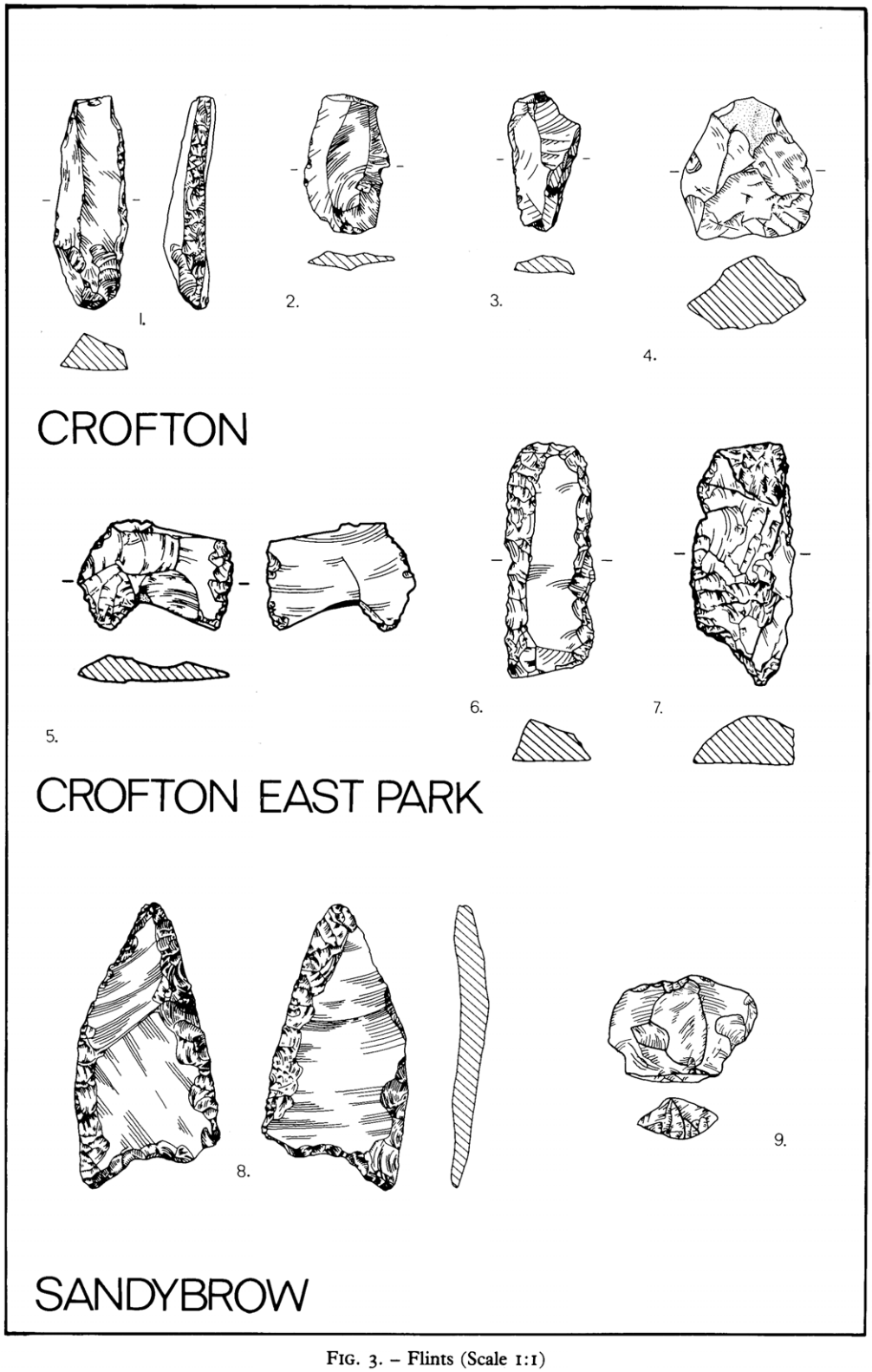

FIG. 3. – Flints (Scale 1:1)

absence of the earliest medieval pottery, the orange gritty ware (Crofton Fabric 1), which is abundant at Crofton and Cummersdale, is probably significant.

Parton: NY 276 511 (Fig. 2)
(Higham and Jones, 1975, S.138)

One line of squares (10 metre) was walked, across the area of the cropmark, giving a total area of 1800 sq. metres. No useful dating evidence was found. One medieval sherd in soft medium sandy fabric with grey core was the only pre-modern artefact found.

Crofton East Park: NY 308 505 (Fig. 2)
(Higham and Jones, 1975, S.159)

The crop mark shows four enclosures with some ancillary features. The area of the sites was walked, in overcast conditions, on two days in October and November 1982 using 30 m squares as a grid. The area covered was 48,000 sq. metres starting in the south-east corner of the field. There was no concentration of finds over any of the enclosures and the limited quantities in any case preclude any conclusions about dating.

Flints. By C. I. Fell.

1. Broken chisel or oblique transverse arrowhead of red-brown flint. Secondary flaking on dorsal side. The type has a date range from the late third to the mid-second millenium b.c. Present measurements 10 mm × 13 mm × 3 mm. (Green 1980, 103). (H2. SF19). (Fig. 3.5).
2. Blade of keeled section of good quality mottled grey-brown flint. Bulbar end broken. Retouch all round sides and end. Traces of gloss on edges suggests use as a knife. 35 mm × 13 mm × 6 mm. (H7. SF14). (Fig. 3.6).
3. Burnt and broken plano-convex flint knife. Good quality flat retouch. Present measurements 37 mm × 12 mm × 6 mm. (A4. SF2). (Fig. 3.7).
4. Flake struck from a core of good translucent light-brown flint. 9 mm × 18 mm × 2 mm. (G2. SF9).
5. Thin chip of pale honey-coloured flint. Small area of white cortex. No secondary retouch. 11 mm × 12 mm × 0·5 mm. (H3. SF18).

Very few diagnostic artefacts were found and there is a large proportion of unworked pieces (29) of dark grey, mottled and banded chert. A polished stone axe from Crofton East Park, probably of Group VI, is in Carlisle Museum. (Hogg 1953, 203, Fig. 1,4). There would appear to have been occupation in this area in the later Neolithic period.

Pottery. By J. Taylor.

6. Bodysherd of BB1. Second to mid-fourth century. (C3).
7. Rim of reeded hammer-head mortarium. Probably Mancetter-Hartshill fabric. Ca. A.D. 270-350 (G2). (Fig. 5.4).
8. Oxidised quartz gritted ware, c.f. Crofton Fabric 1 c. 1150-1250 A.D. flange fragment. There is a small possibility of this sherd being Roman, since similar fabrics and forms were produced in the Flavian-Trajanic period. (G3). (Fig. 5.13).

Sandybrow: NY 308 475
(Higham and Jones, 1975, S.158)

The site was walked in 10 metre squares starting in the south-east corner of the field. Seven lines (A-G) were covered at the south side of the field, covering much of the crop mark (approx. 19,600 sq. metres) over four days in April 1982.

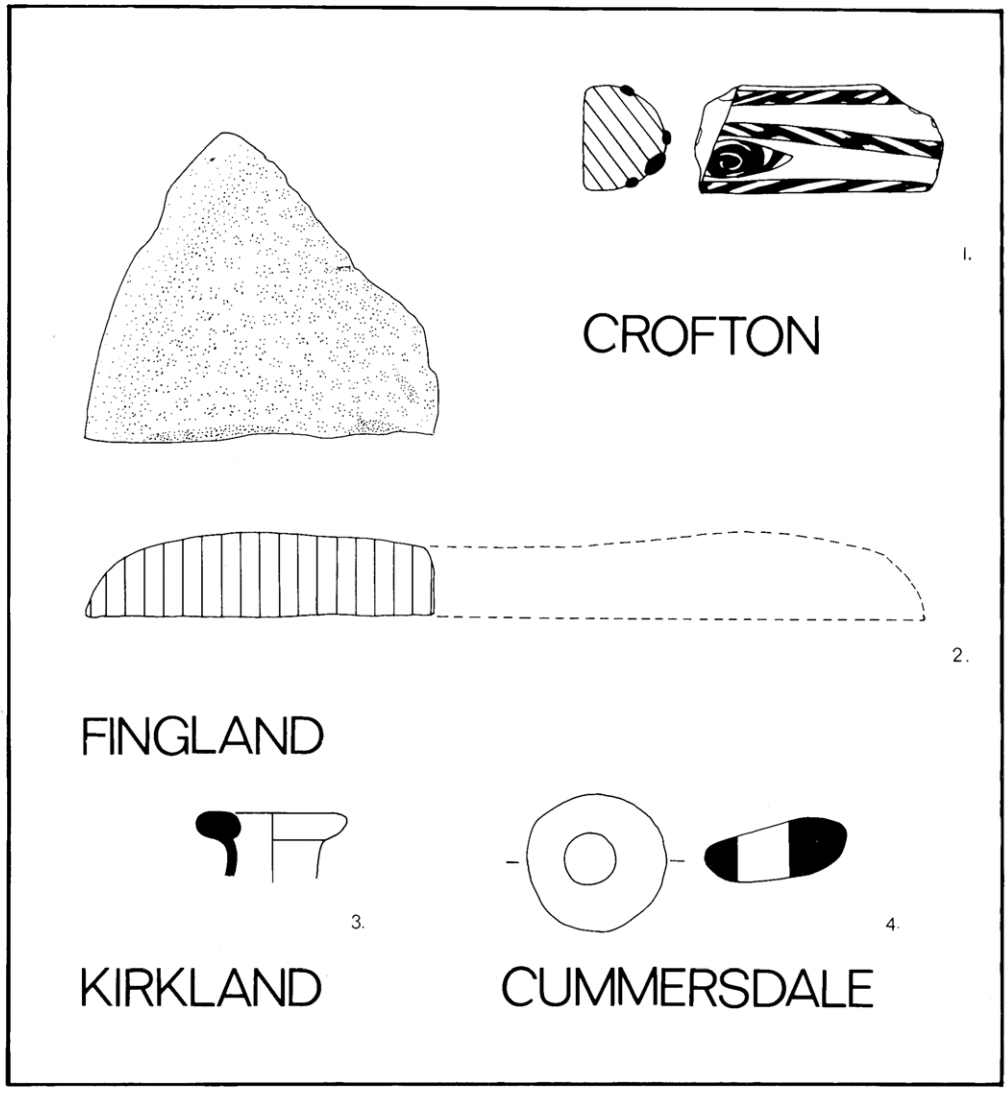

FIG. 4. – Glass: Nos. 1, 3, 4 (Scale 1:1). Stone, No. 2 (Scale 1:4)

Flints. By C. I. Fell.

1. *Petit tranchet* derivative arrowhead, Class G (Clark, 1934). good quality dark brown banded flint, possibly imported, retouch on both surfaces at sides and base. An arrowhead of this type was found in the basal silt of the ditch at Durrington Walls, Wiltshire, from which a radio-carbon date of 1977±90 b.c. (BM398) was obtained (Wainwright and Longworth, 1971, 22). The type occurs frequently on Late-Neolithic sites – the equivalent of C. B. Burgess's late Meldon Bridge and early Mount Pleasant phases (1980, 251-55) and is often associated with Grooved Ware. 44 mm×21 mm. (D25 SF1). (Fig. 3.8). For recent classification see Green 1980.

2. Fragment of mottled grey chert. The bulk of the fractures are thermal. 46×30×10 mm. (Casual find by Ms Osborn).

3. Flake of good quality translucent grey-brown flint struck at right angles to the main flake scar of the dorsal side. 22×16 mm. (G26 SF3). (Fig. 3.9).

There were also two unworked lumps of flint.

Pottery. By J. Taylor.

4. Hard white sandy fabric. Body sherd with possible trituration grit. If so probably from a Midland mortarium. Ca. A.D. 140-370 (F20).

5. Hard sandy buff-white fabric. Indeterminate function and date but more likely to be Roman than anything else. (F12).

The finds from the 1982 season are insufficient to date the site but subsequent work in 1983 has produced sufficient Roman pottery to indicate that this is the probable date of the site.

Sandybrow 2: NY 308 476

The field to the north-east of Sandybrow (above) has crop marks suggestive of ancient gulleys (field boundaries?), perhaps associated with a site nucleus at Sandybrow. Much of the field was walked over three days in May 1982 using 30 metre squares. Although an area of 36,900 sq. metres was covered nothing but modern material and three unworked flint lumps were picked up.

Cummersdale: NY 390 530

(Higham and Jones, 1976, C.3)

The site was walked on two days in September and October 1982. Two lines of 30 metres squares were laid out over the area of the crop mark and walked on both occasions, the second time after rotivation of the field. The rest of the field, nearest the village, was also systematically covered in two blocks (A and B). About 22,500 square metres was walked in total but as just over 7000 square metres was walked twice, the actual area covered was about 15,300 square metres.

1. Annular bead of translucent blue glass. Overall diameter 18 mm; perf. dia. 7 mm. Guido's Group 6 (iv a) (1978), (66-8). The date range given for this type is from 6th century b.c. to 8th century A.D. Although the type is essentially undateable, Guido's schedules show a concentration of these medium sized beads in the last century B.C. and throughout the Roman period (*ibid.* 152). Another bead of this type is recorded from Cumberland but is not otherwise provenanced. (Area B. SF1). (Fig. 4.4).

Medieval pottery

Approximately 37 sherds of medieval pottery were found, about half of which are in the orange gritty ware (Crofton Fabric 1), including two jar rims (Fig. 5.14 and 16). The other Crofton fabrics are also represented including a jug rim (Fig. 5.15) in Fabric 2. A lid in a white sandy fabric with thick orange slip dates perhaps to the 13th century (Fig. 5.17).

Acknowledgements

We are grateful to the following for permission to walk their fields: M. Cowen of East Curthwaite (Crofton and Crofton East Park), J. and D. Graham of Kirkland Hall, J. Hewson of Parton Hall, the Osborne family (Sandybrow), R. A. Wills (Fingland) and J. Sinclair and J. Thomson of Messrs Cavaghan & Gray Ltd. (Cummersdale). Members of the Group responsible for this report are E. R. T. Allnutt, R. H. Bewley, I. Caruana, S. Dench, N. Eaglesham, A. Hall, P. A. M. Hall, A. James, D. Morgan, A. V. F. Welch, S. Winterbottom, Terri Wood (*née* Scott), A. S. Wright. The following were involved on a casual basis: T. Anderson, M. S. Bell, H. Eaglesham, A. Harris, Miss M. Joyce, T. Malik, P. Sewter. John Martin drew the pot rims (Fig. 5.14-16).

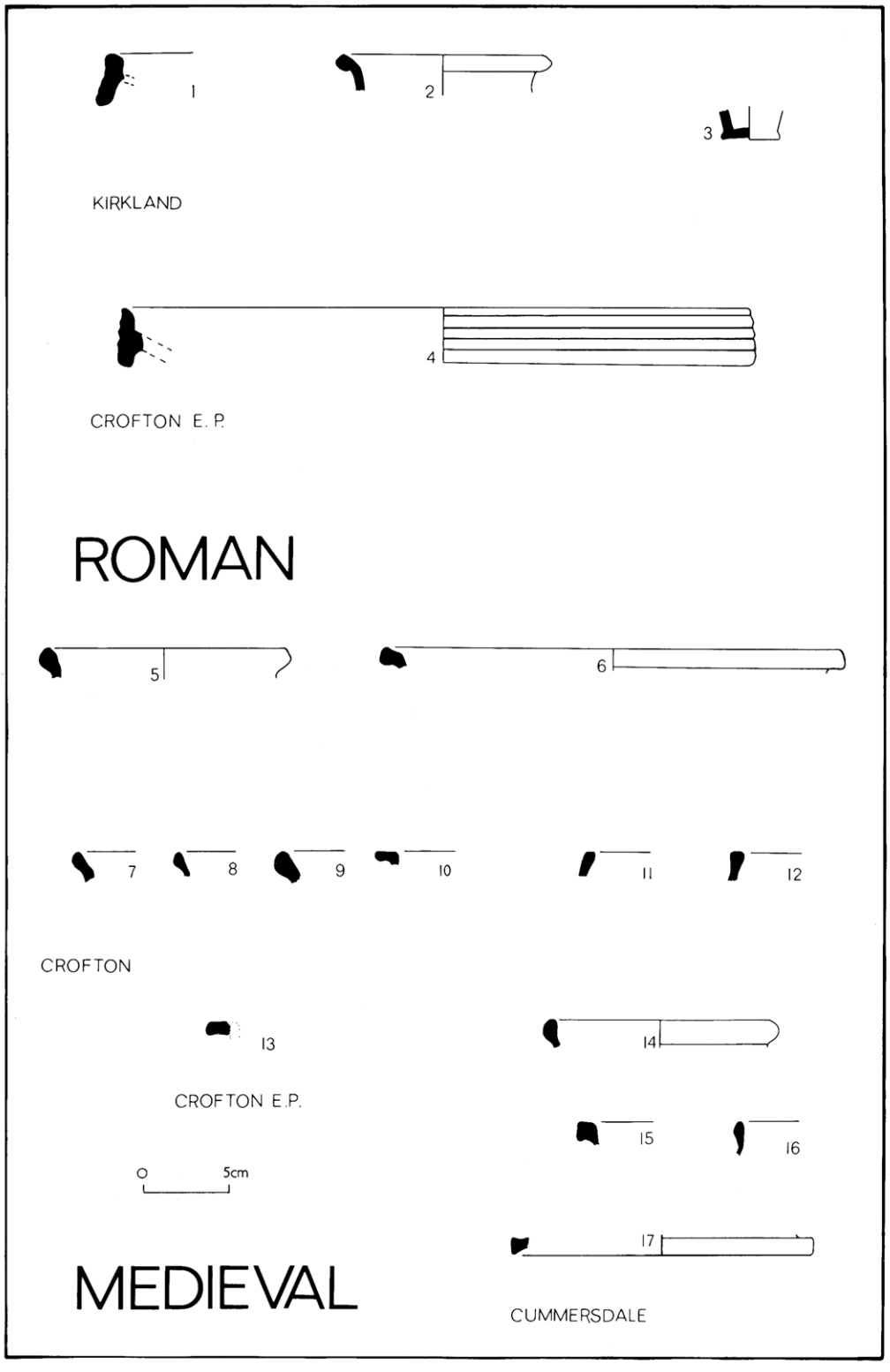

FIG. 5. – Pottery (Scale 1:4).

George Richardson was involved in the initial stages of the project and it is a matter of sadness that he did not live to see the results.

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4. *An Eagle Mount from Carlisle*

By L. ALLASON-JONES

On February 5th 1983, Mr A. Thomson and his son Alan, uncovered a bronze mount whilst using a metal detector on the south bank of the River Eden, "several hundred yards east of the Eden Bridge" in an area known as The Swifts (NY 402 566). The mount found its way to Colin Richardson at Carlisle Museum and Art Gallery who notified the author.[1] It is now housed at Carlisle Museum (Accession Number 105-1983).

The mount consisted of a slightly convex, openwork disc (Plate 1) which measures 66·5 mm in diameter. The centre is filled with the figure of an eagle facing to its right and holding its wings out. It is perched on a stylized standard of 'Jupiter's thunderbolts', on top of a sphere. The figure is not flat but has shallow moulding above the breast and trousers. The feathering has been incised in a free way and the talons are indicated by deep grooves. The eye is a circular, drilled hole. Around the eagle a ring provides the base for the letters OPTIME MAXIME CON. These letters are angular and separated from the ring and border by roughly shaped pellets. Apart from the twelfth and thirteenth letters (E and C) the letters are widely spaced. The border slopes away from the text. The back is plain with a short splayed shank in the centre (Fig. 1). A small spigot at the end of the shank passes through the flattened arc of an oval attaching ring (22×15 mm).

One does not have to look far for parallels to this mount. There are examples from High

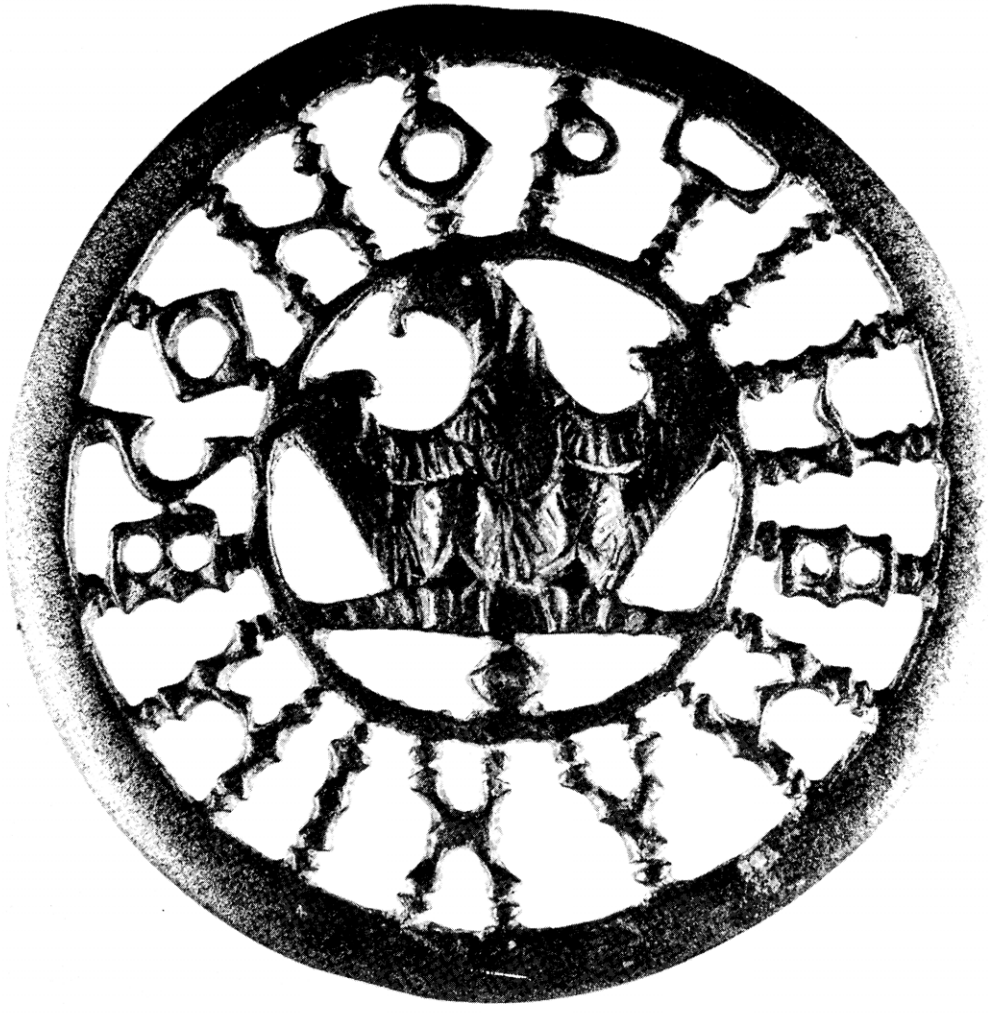


PLATE 1. – An eagle mount from Carlisle. Copyright: Carlisle Museum & Art Gallery.

Rochester,[2] Silchester,[3] York,[4] Corbridge,[5] and Uley[6] in Britain, and on the Continent they are known from Kastell Oberscheidenthal,[7] Kastell Dambach,[8] Zugmantel,[9] Saalburg,[10] Osterburken,[11] Strasbourg,[12] and Lauriacum[13] and a single piece has been found at Thamusida[14] in Morocco. These differ in their surviving condition but it is quite clear that there are two distinct types – first those where the eagle holds it wings away from its body with the tips touching the thunderbolt and the edges touching the ring; and secondly those where the eagle holds its wings close to its body so that there are no gaps, and the tips, after touching the ring, curve inwards. The examples above divide into: Type I York and Kastell Obserscheidenthal, and Type II Carlisle, High Rochester, Silchester, Zugmantel, Saalburg 2 and Thamusida. The other parallels are too fragmentary to assign to a type.

The Type II examples appear to be the product of the same workshop on stylistic grounds but a study of the details of size, lettering, etc., suggests that some may come from the same mould. The most noticeable feature which leads to this conclusion is the joined twelfth and thirteenth

letters on all seven examples, as if the maker ran out of space as he carved the mould. It may, of course, be simply a 'signature' of an individual craftsman but there is a fault in the casting between the first and second letters (O and P) and the seventh and eighth letters (M and A) on the Carlisle mount which appears on the High Rochester example and manifests itself in clear breaks on the Thamusida piece. Photographs of the Silchester mount show that the first flaw may also be present but the area of the second fault is now missing.

Bruce (*Alnwick Castle Cat.* 144) interpreted the motto as COHORS OPTIMUS MAXIMUS or COHORS OPTIMI MAXIMI but evidence from the German forts makes it clear that each of these mounts was part of a set worn on the military *balteus* or cross-strap. The circular mount was worn above a rectangular plate from which hung a triangular terminal. All three parts had openwork decoration and, in the cases where the circular mounts are of the Carlisle type, the openwork takes the form of an inscription divided between the three elements: circular: OPTIME MAXIME CON(SERVA); rectangular: NUMERUM OMNIUM; triangular: MILITANTIUM; i.e. Best (and) Greatest protect (us) a troop of fighting men all.[15] 'Best and Greatest' is an allusion to Jupiter, traditionally the god of the Empire and the army, and not, as Bruce thought, a boast by a cohort. As there is no unit known to be common to all the above findspots it is to be presumed that the right to wear such mounts was not the prerogative of a single unit. Boon has suggested that they were worn by *numeri* (1974, 68) on the grounds that the 3rd century garrison at High Rochester was a *numerus* but this may be discounted by their discovery in legionary contexts.

The distribution might suggest a centre of manufacture in Germany or Britain: the former seems more likely although the possibility of the latter may be indicated by a military diploma from Thamusida, the seventh line of which has been interpreted as possibly reading *ala I Flavia Augusta Britannica miliaria.*[16] Unfortunately this interpretation is extremely doubtful and cannot be used as conclusive evidence of a British unit on the site. Also the date of the diploma, 28th March 118 A.D., is much earlier than the 3rd century date for the mounts suggested by Oldenstein (1976, 226). None of the British mounts come from a securely dated context but the indications point to a short period of manufacture in the first or second quarter of the 3rd century.

References and Notes

[1] I would like to express my thanks to Mr Richardson for bringing this piece to my attention and also to Mr Ralph Jackson at the British Museum who gave me much assistance and arranged for the mount to be drawn.

[2] *Lap. Sept.* 578; *CIL* VII, 1290; Bruce, J. C., *Alnwick Castle Catalogue* (1880), 144, No. 772; Domaszewski, A.v., 'Gürtelzierat aus Aegypten in der Sammlung Golenischew' in *Römisch-germanisches Korrespondenzblatt*, Jahrgang III (1910), 10, Abb. 5; *PSAN*[3] IV (1910), fig. opp. 224; Richmond, I. A., *Romans in Redesdale* (1940), 154.

[3] *CIL* VII, 16; *Archaeologia*, LIII (1892), 268; *Arch. Journ.*, XLIX (1892), 182; *The Builder*, Jan. 16th 1892, 41; Domasweski (1910), 10; Boon, G. C., *Silchester: The Roman Town of Calleva* (1974), fig. 8, no. 3, 66. I am grateful to Miss S. J. Read for providing me with photographs and measurements.

[4] *CIL* VII, p. 61; *EE* VII, 1161; *PSAN*[3] IV, 1910, 225; *Arch. Journ.*, XLIX (1892), 182-3; Domaszewski (1910), 10.

[5] *AA*[3] VII (1911), 143ff.

[6] *Britannia*, X (1979), 349, no. 24. I am grateful to Dr A. Ellison for providing me with a drawing and the information that it possibly came from a 4th century deposit of rubbish from the temple.

[7] *ORL* 52, Taf. I, fig. 4.

[8] *ORL* 69, Taf. III, no. 11.

[9] *Saalburg-Jahrbuch* I (1910), 48, Taf. 8, no. 1a; Oldenstein, J., 'Zur Ausrüstung römischer Auxiliareinheiten' in *Römisch-Germanische Kommission des Deutschen Archäologischen Instituts*, Berichte 57 (1976), Taf. 83, no. 1092.

[10] Saalburg 1:*Saalburg-Jahrbuch*, VII (1930), 29, Taf. 4; Oldenstein (1976), Taf. 83, no. 1093.
Saalburg 2: *Saalburg-Jahrbuch*, VI (1927), 23, Taf. 8, no. 1; Oldenstein (1976), Taf. 83, no. 1096.

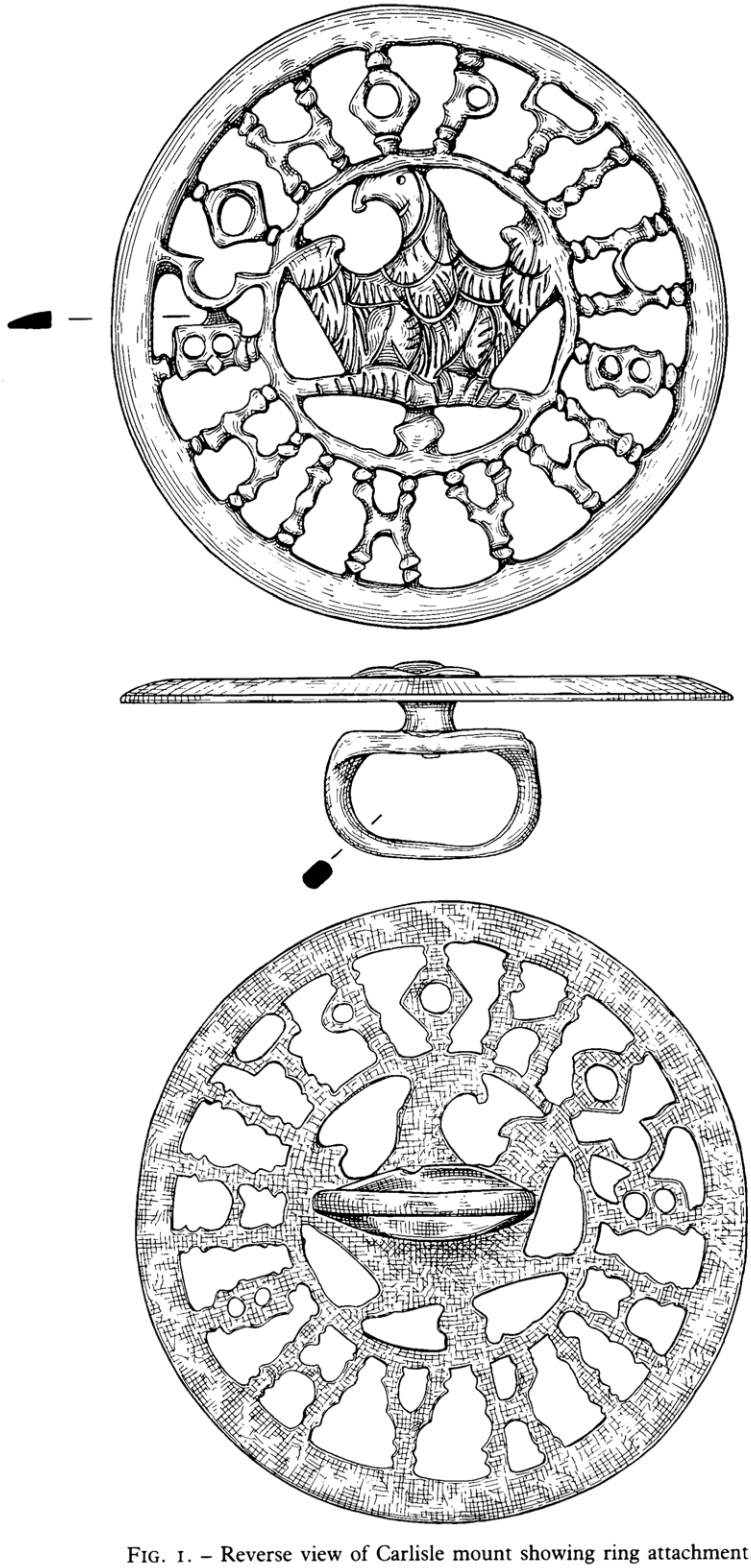


FIG. 1. – Reverse view of Carlisle mount showing ring attachment.
(Drawn by P. Compton, British Museum. Scale 1·2 to 1)

[11] *ORL* 4, 235, Taf. 24, fig. 99; Oldenstein (1976), Taf. 83, No. 1095.

[12] 'Ein Fund römischer Waffen in Köningschofen bei Strassburg' in *Zeitschrift für Historische Waffen: un Kostümkunde* Band 9, Heft. 2, 11th Sept. 1921; 'Ein römischen Schlachtfeld bei Strassburg-Königschofen' in *Cahier Alsacien* III (1918-21), 1158ff.

[13] RLO 13 (1910), 264, Abb. 102; *Bonner Jahrbucher* CXLII (1937), 355, Abb. 1b.

[14] 'A propos d'une plaquette de caractère militaire trouvée à Thamusida' in *Académie des Inscriptions et Belles-Lettres* (1935), 67ff; Callu, J. P., Morel, J. P., Rebuffat, R., and Hallier, G., *Thamusida* (1965), Pl. CXXXIII.

[15] A complete set was found at Zugmantel: *Cahier Alsacien* III, 1158ff, fig. 193. Examples of the other elements are known from Aldborough (OMNIUM), Corbridge (OMNIA VOS), Mainz (MILITANTIUM), Weingarten (NUMERUM OMNIUM), Carnuntum ((NUME)RUM OMNIUM): *Académie des Inscriptions et Belles-Lettres* (1935), 67ff. and Abramic, M., 'Zwei Bronzebeschläge vom norisch-pannonischen Limes' in *Osterreich Jahreshefte* 1900, XII, 114ff.

[16] Euzennat, M., and Manon, J., *Inscriptions Antiques du Maroc*, II (1982), No. 285.

5. *A sinker from Holbeck and some local types.*

By H. Robinson and C. Richardson

A small net or line sinker was found by Mrs. S. Smith, 39 Ashdown Road, Holbeck, Barrow in July 1984, whilst digging the garden. The weight is of a grey sandstone measuring 48 mm by 46 mm. It is oval in section and one side is thicker (15 mm) in section than the other (13 mm). An hour-glass shaped hole has been bored through the centre of this irregular shaped stone. Horizontal wear marks appear on the upper and lower surface and there are matching lines on the reverse side. These wear marks appear to indicate that a cord passed through the hole of the weight in an upward and downward motion.

Colin Richardson adds, "The majority of perforated stones identified as sinkers are of relatively recent date, and the bulk of the *stone* and *clay* examples found locally fall within the following broad groupings or types:

I Circular or oval shaped sinkers including those with irregular outlines, with near central perforation cylindrically drilled or of hour-glass form. Line wear marks are present on the surfaces or perforation walls, while the cross-sectional form and thickness can vary according to the weight distribution required. The Holbeck stone belongs to this group with close parallels in the Carlisle Museum collection from Scotby (RF376) and Brigham (59-1970).

II The drop-weight or 'handbag-shaped' sinker in fired clay is a common type, usually brick-red in colour (but can be orange, dark-brown, grey-white, or buff) with a 'pinched-out' area containing a countersunk perforation either roughly bored through or cleanly and cylindrically drilled. Many appear to have been held at the perforation and hand-moulded to the required shape. Examples in the Carlisle Museum collection include Anthorn, Cardurnock, Silloth, Mawbray, Harrington, Lowca, and Carlisle.

III Pear-shaped types predominate, although circular, oval, and triangular sinkers with the perforation set close to the edge are included. Hole position is the main criterion and is normally located towards the narrow end on the pear-shaped stones, very occasionally the broader end.

IV A distinctive barrel-shaped type with the perforation cylindrically drilled longitudinally.

While many of the recorded sinkers are beach finds, a few have turned-up following deep digging (e.g. Cardurnock and Cat Gill, Harrington), or, have been casual surface finds from inland farm or urban sites. The numbers of Type II finds from the Maryport-Mawbray area and along the Dumfriesshire coast, has led to suggestions of a possible association with Roman

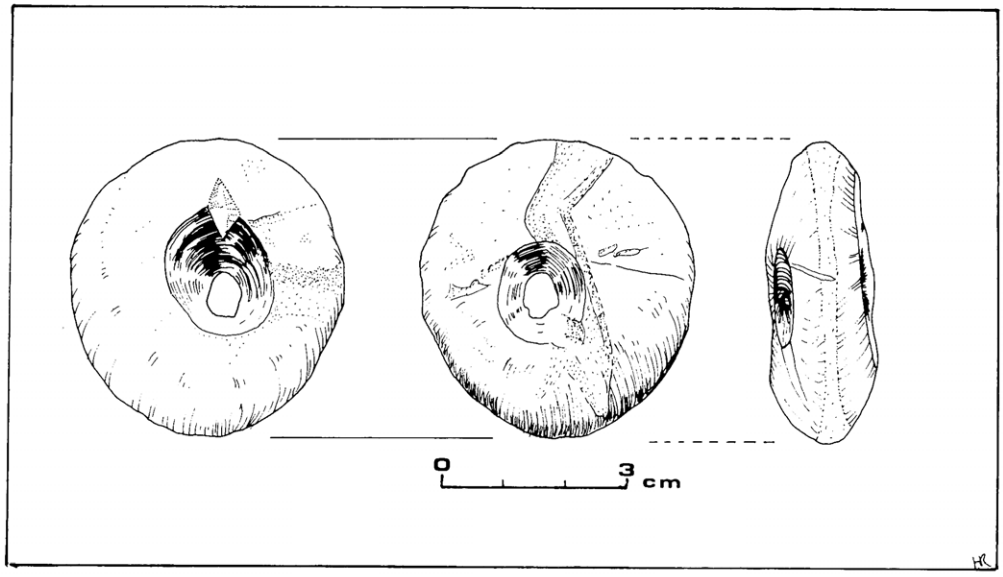


FIG. 1. – Line or net sinker.

PLATE 1. – Line or net sinker.

(Photo: H. Robinson)

coastal sites. However, apart from one barrel type found in unknown circumstances at Herd Hill, Cardurnock, this link is unproven.

The longevity and multi-purpose use of perforated stones poses obvious chronological and functional difficulties, notably in the case of the Type I group.[1] A late 18th or 19th century date would appear likely for the Type II weights.[2] Stones within the Type III group were often found 'hanging-off the back of farm carts for luck',[3] while their use as herring-net weights is well attested. Type IV clay sinkers were used on inshore nets and were largely superseded by lead weights in the early years of this century."

Notes and References

[1] Sinkers of the Holbeck type compare in size, shape, and weight, with spindle-whorls, pebble-hammers, loom-weights, and 'hag' or witch-stones. A perforation of hour-glass form does not necessarily indicate antiquity, while cross-sectional form and hole and wear mark positions are often the only indicators of functional use. Even the latter can be misleading, since 'hag' stones and loom-weights can also exhibit surface and perforation wear marks of sinker pattern.

[2] Traces of modern glaze have been observed on some examples, including Bank End, Maryport, and Greenbank, Lowca. It is worth noting the drop-weights associated with 19th century material from Lochfoot, Dumfriesshire (*D. & G. Trans.* 2nd Ser. vol. xvii, 1906, 309; Dumfries Museum collection, Acc. No. 1967-217).

[3] Carlisle Museum Archive, Acc. No. 122-1983, letter from M. M. Milne to C. I. Fell, dated 22/1/1970.

6. *The Gilpins of Kentmere Hall.*

By C. Roy Hudleston

In CW2, lxiv, at p. 162 Dr Fahy gave some interesting details of George and Katherine Gilpin of Kentmere Hall. Having lately been working on Royalist composition papers (SP 23) in the Public Record Office, I am able, after a lapse of twenty years, to add a little more information. Vol. 112 contains at f. 817 the petition, dated 23 October 1651 of Christopher Philipson of Calgarth Esq. and Katherine widow and relict of George Gilpin of Kentmere Esq. (The date 28 October 1651 given in CW2, lxiv, 162 for George's death cannot therefore be correct). The petition recites the terms of George and Katherine's marriage settlement. On 26 May 1635 George, in consideration of his marriage, and of £400 portion paid by Katherine conveyed to Christopher Philipson, the petitioner, Kentmere Hall in trust, to pay after George's death, an annuity of £40 to Katherine in lieu of her jointure. The petition explains that since George's death Katherine has received the annuity, or the greatest part of it, out of the estate until lately when the Westmorland Commissioners for Compounding had withheld it because the estate was sequestrated "for the delinquency of one Mr Gilpin to whom the premises are sithence the death of the said George come and descended". The committee in London directed that the Westmorland Commissioners should report "what they know". At f. 820 is another petition dated 6 May 1652 by Christopher and Katherine which explains that the estate came to Christopher Gilpin, her husband's brother. The annuity was still withheld, "in the meantime she and her children for want of maintenance, this being their whole livelihood are ready to perish". Despite, therefore, William Jackson's statement in the *Gilpin Memoirs* that George died s.p. we learn that though he had no son – who would have succeeded to Kentmere Hall – he had daughters living in 1652, but presumably dead before 1672 since Katherine mentions no children in her will of that date. Once again, one is reminded of the grievous loss of much genealogical material because of the gap of many years in Kendal parish registers.

The second petition was referred to Peter Brereton to report and at f. 823 is his report which gives more details of the pre-marriage settlement of 1635. Kentmere Hall was settled on George and Katherine and their male heirs, and in default on George's second brother Christopher, with similar remainder, and in default on John Gilpin, the third brother, and his heirs male, failing whom to the use of George's heirs, with a proviso that if George died without male issue by Katherine, it might be in her choice to take the lands limited to her for her jointure – i.e. two thirds – £40 a year, and if he died having male issue, then she to have the lands for her jointure or £30 a year. The deed was witnessed by John Philipson who testified before the Westmorland Commissioners, Gervase Benson and Roger Bateman, that he was present at the signing.

On 22 July 1652 the Committee allowed the jointure deed, and ordered the sequestration which had been made in 1648, to be discharged on Katherine making oath that she had not realeased her interest in the lands.

7. *The Preservation of Sir John Lowther's Correspondence*

By BLAKE TYSON

One of the finest sources for information on West Cumberland in the late 17th century is the collection of more than 1,800 letters and draft replies written between Sir John Lowther (1642-1706) of Whitehaven and Thomas Tickell, his agent there, from 1666 until his death in December 1692. These letters now fill five boxes in the Lonsdale Manuscripts, preserved at the Record Office in Carlisle Castle. They contain evidence that they were intended for posterity.

When Jonathan Banks, the master at St Bees School, moved to Appleby School at Whitsuntide 1686 (box 4;406), he was replaced by Richard Jackson of Kendal. On 21 September (4;478), Lowther asked Tickell to tell Jackson "to keep my letters & write his Answers as you doe with Margins &c, for a long succession of time will produce many letters [which] may be useful to posterity". Clearly, Sir John sensed the historical significance of his ideas and decisions, and thought their record worthy of preservation. Although the fate of Jackson's letters is not known, that of Thomas Tickell's can be elaborated by reference to his successor's letter-books.

William Gilpin wrote to Lowther on 3 October 1696: "We are at a Loss here [in Whitehaven] for a Bookseller. There is one [called] Henry Pattinson at Carlisle . . . who binds tolerably well & used to sell common Books & had thoughts of setting up that Trade here if he could have had a Tidewaiters place [in the customs] to have helped him". Sixteen months later, on 9 February 1698, he wrote of subsequent developments: "There is none in this Town ([but] in Carlisle there is) who binds Books besides Mr Pattinson. Hee binds but plain, but well enough for ordinary use. I have caused him to bind several Vol of Letters of Yours & other papers which I find here, believing they may be useful to posterity and no way better preserved". Had Gilpin been searching through the Tickell letters for information and come across Sir John's words quoted above, or was his sense of history similar to his employer's? Certainly, he was interested in antiquarian matters in Cumberland and occasionally wrote at length about them (e.g. 2 November 1694). Obviously Pattinson had been persuaded to move to Whitehaven, but the subject of his binding work is not clearly identified.

Drafts of Gilpin's own letters survive in a bound volume in which the final item is dated 23 March 1697/8 so that he was not referring to his own correspondence. As Sir John Lowther's letters to him survive only for the period 1 January – 23 August 1698, they can be excluded, but his earlier letters might have been bound and then lost. Whatever the truth of this idea, when Thomas Tickell's correspondence was deposited at the Record Office they comprised files of loose sheets mixed with many so tightly stitched that the latter had to be carefully separated to allow them to be read without possible damage by searchers. The number of letters would certainly have justified the several volumes mentioned by Gilpin and, presumably, the original stitching

had failed through use and the passage of nearly three centuries. Other documents survive which could have been bound at the same time but the available evidence leaves room for doubt over their identity.

A brief example demonstrates the usefulness of Tickell's letters. Nicolson & Burn (ii, 110-2) listed the inscriptions on Roman altars found at "Elneburgh hall" (Nether Hall, Maryport) and reported merely that "the finest and most curious Roman altar that ever was discovered in Britain" was removed to "Sir James Lowther's seat at Whitehaven". On 29 November 1684, Sir John wrote to Tickell "There is at Netherhal an old Roman Altar which my namesake [at Lowther Hall] bid £10 for & my Nep[hew John] Senhouse asked twenty. If he . . . [will] let me have it . . . get it to Whitehaven the first oportunity & set it in the Garden, but let there be great care in the Conveyance that nothing thereof be broke". By 20 December, Senhouse had accepted the £20 but was reluctant to provide "boatage at Elnefoote . . . [to] bring it into this harbour" and expected Tickell to fetch it. By 19 January, the agent was asking Lowther to send from London by Richard Hodgson's ship *Society* "a good dyall [which] would be useful to be placed on the Roman Altar that is now standing in yr garden" (4;235, 237, 241 & 245). Hence the date, participants, price and probable motive are all established. For such helpful detail, posterity must be grateful for William Gilpin's foresight in preserving his employer's correspondence which ceased when Sir John Lowther took up residence at Flatt Hall on 25 August 1698.

8. *The '15 in Cumbria*

By Dr Jeremy Black

An important letter that provides interesting information on the progress of the Jacobite rising in 1715 has recently been acquired by the British Library. It is a letter sent on 4 November 1715 by Viscount Lonsdale, one of the Deputy Lord-Lieutenants for Cumberland, to Viscount Townshend, the Secretary of State for the Northern Department. The letter describes Lonsdale's failure to block the southward advance of the Jacobite army towards Lancashire. In the absence of the absentee Lord-Lieutenant of Cumberland and Westmorland, the Earl of Carlisle, Lonsdale assembled the militia at Penrith Fell. The militia was supported by the *posse comitatus* summoned by the sheriff. Lonsdale's letter provides interesting information on the collapse of his force which clearly disintegrated rather than being defeated in battle. A second letter worthy of note sent to Townshend by the Earl of Carlisle from his seat at Castle Howard, on 12 December 1715 is also in this collection. Carlisle wrote, "I must observe to your Lordship that from the care that my Ld. Lonsdale, and the rest of the Deputy Lieutenants had taken, not a man of that country joyn'd the Rebells as they past thro' Cumberland. altho' their successe at the time might have been no little motive for their so doing."

The two letters form part of the Blakeney collection recently acquired by the British Library. T. Blakeney was for many years the archivist at Raynham, and he used his private wealth to purchase material relating to the Townshend family. As yet the Blakeney papers have not been given numbers in the Additional Manuscripts series, and the current reference is Blakeney Papers, bound volumes, vol. 16, numbers 33 and 34.

My Lord

I think my self obliged to acquaint your Lordship, that the Rebels which passed the Forth joyned with those who rose in Northumberland, and in the South Parts of Scotland, marched last Thuesday Night to Brampton in Cumberland and on Wednesday to Penrith. The Posse Comit. for the County of Cumberland was appointed to meet on Wednesday near Penrith, where I really believe there was near 13000 men, who by the assistance of some broken officers of Genl. Elliots Regiment (who were extreamly diligent) were put in very tolerable order, but as

soon as the news came that the rebels were marching towards them, they run off by hundreds, all the means that were possible, were tryed by several of the Gentlemen for keeping the men together but was all to no purpose; when we found that there was no possibility of engaging the rebels in the open field, the officers advised the drawing the men into town, to endeavour to defend that place which we accordingly did, but when we went to put the men upon guard to defend the avenues of the town, there were not a hundred men left, that cou'd be of any defence (excepting two Companys of Trained Bands). I don't know whether this revolt proceeded from fear or disaffection, what makes me imagine it was a thing designed is because most of the men came without any manner of arms though the Rebels knew their Number to be so great they did not alter their march at all which I fancy they wou'd have done, if they had not depended upon a great many friends who did not shew themselves. The Posse for Westmorland was to have met yesterday, but the accounts of what hapned in Cumberland the day before so terrifyed the people, that those who were a coming to the place appointed for the rendezvouz turned back as soon as they heard the news, and the rest would not stir from Home. The Country is entirely without Defence and I am very much afraid these Rebels won't be stoped till they meet with a Regular Force. They have been at my House and I have been hunted from place to place quite round the County, but I hope if I escape them to night they will make no farther attempt against me.

I am My Lord
Your Lordship's
Most obedient
Humble Servant
Lonsdale

Lowther No. 4.

9. *Note on variations of the Length of the Perch in Cumbria*
By the late R. F. DICKINSON

The note on this subject in CW2 lxxxiii, 177 quotes as examples some apparently simpler lengths than was always the case.

A memorandum made by Daniel Dickinson of Streetgate in the parish of Lamplugh notes that "the land measure used according to custom . . . viz. the pearch in Lamplugh is in length 6 yards 1 foot 9 inches and one quarter of an inch." In the adjoining township of the same parish "Kelton measure is 6 yards 2 feet 8 inches and three quarter of an inch, both of which measures are set out on the wall of Lamplugh Church." The church has since been twice rebuilt, so the wall no longer exists.

Estate plans of three Lamplugh farms in the middle of the 18th century give acreages in three forms – Customary, based on the perch length above, Statute, and Forest, which was assumed to refer to the Forest of Copeland. This last however appears to have been based on a perch of just over 6½ yards, not of 7 yards, since 1 acre was the equivalent of 1·58 statute acres.

Not only land measure, but other measures were matters of local custom. In 1763, John Dickinson of Streetgate sold his potatoes in Cockermouth by the Gallon, in Workington by the Hoop or the Peck, and in Whitehaven by the Stone. It appears from his accounts that there were 5·65 Cockermouth gallons or 4 Workington hoops to each peck; 4 pecks made 1 bushel, and this was the equivalent of 15 Whitehaven stones. Threshed corn was always sold or computed by the bushel, and a bushel measure was kept in Lamplugh church for reference. There is no evidence whether this differed from the standard bushel of more modern times. Unthreshed corn was computed by the threave, consisting of 16 sheaves of which four pairs were set up to the stook. Possibly the hand tied sheaf was smaller than that from the mechanical binder, three pairs of which were generally set up to each stook.

10. *The Eruption of Sollom Moss: Two New Accounts*

By JEREMY BLACK

The eruption of Sollom Moss near Longtown in North Cumberland on the night of 16-17 November 1771 was a natural phenomenon that aroused considerable interest in an age that was very excited by the developing science of geology. Roy Porter, in his *The Making of Geology* (London, 1977), has drawn attention to the popularity of geology in this period. The attempt to locate natural wonders within a logical and comprehensive intellectual and scientific framework created many problems. A good example was the protracted European discussion sparked off in the summer of 1766 when Commodore Byron, the poet's father, returned with HMS *Dolphin* from the South Atlantic and reported the existence of Patagonian giants. The eruption of Sollom Moss posed less of an intellectual problem. It was clearly due, as Hutchinson's *History of Cumberland* noted, to the fluidity of the earth. As a natural wonder, however, the episode attracted great attention and helped to ensure that this area of Cumbria received more notice than at any time since the battle of Solway Moss. This note prints two varied examples of this interest. The first was from the report of the Wittelsbach envoy in London, Count Haslang, a diplomat who had served in Britain since 1741 and knew English well. On 24 December 1771 he sent the following report to Baron Baumgarten, the Bavarian Foreign Minister, and to Baron Beckers the Foreign Minister of the Elector Palatine,

> Il s'est presenté dans le Duché de Cumberland un phenomene fort extraordre. et bien triste pour une grande partie d'habitans de ce pais-là. Un marais a quitté son lit et a deja inondé plus de 1700 arpens de terre, passé même des rivieres et s'etend de l'autre coté, sans qu'on puisse l'arrêter. Dans de certains endroits il est de la profondeur de 17 aunes: c'est en comparaison une cave d'eau comme est celle du Mont-Vesuve de feu. Un nommé Graham Gentil-homme de ce pais-là a déjà souffert pour plus de £30,000 de dommages, d'autres à proportion. Les naturalistes n'ont pas encore trouvé la source de ce Malheur, on l'appelle le *Marais ambulant*, à savoir et quand il finira sa marche. Jamais on n'attendu parler d'une pareille avanture, il faudra pour l'arrêter qui il recontre des montagnes. Mais en attendant tout le terrein qu'il occupera, sera à jamais perdu a cause de sa profondeur.

On 9 January 1772 Beckers replied from Mannheim, "Le phenomene, arrive dans le Duche de Cumberland, est des plus tristes et donnera de l'exercise aux philosophers Anglois pour en deviner la cause." The reference for these two letters is Munich, Bayerischer Hauptstaatarchiv, Bayerischer Gesandtschaft, Kurbayerischer Politischer Schriftwechsel, London, vols. 249 and 250.

The second reference is to a newspaper article in the *Bristol Gazette* of 26 December 1771.

Extract of a letter from Carlisle

> Solway Moss contains about 600 acres is situated between the rivers Esk and Sark, about two miles north of the great bridge at Longtown, over the river Esk, which divides England and Scotland. This moss, the soil of which is spungy and rotten, and used by the poor people for fuel, stands upon higher ground than that which is near it, from whence there is a gentle declivity. The earth, from the nature of it, must have imbibed great quantities of moisture this year, and therefore could not resist the last sudden great falls of rain, which forced its way into or rather under the moss, and burst out from all parts with a rumbling noise like a number of mill-races, and carried along large heaps of earth: this thick fluid covered the low grounds so rapidly, that several persons narrowly escaped with their lives; cattle of all kinds were lost; the houses, &c. Which opposed its passage, were either removed, or nearly covered, the chiminies or roofs of which are now only to be discovered. This moss or mud is in many places sixteen yards deep, and of a consistence not to bear planks; so that the unhappy farmers can as yet recover nothing of their effects which are buried under it. It sometimes stops, and then breaks out afresh: the last fortnight it may have covered an acre a day; in the whole above 500: it has now found a flow vent both into the Sark and Esk; so that it is probable, if

the weather continues fair, it will soon cease running; but it is doubtful that it will renew its motion upon future heavy rains. The value of the land covered, as set by Mr. Graham, is from, 10s to 15s an acre. Fifteen families have lost their all, and many more have suffered in their properties. The country has a dismal appearance.

These two items testify to the widespread interest in the eruption.

11. *A survey of the old copper works, Coppermines Valley, Coniston.*
By R. H. MIDDLETON

Between the 22nd-27th August 1983, a survey was carried out of the old copper works, Coppermines Valley, by the Cumbria and Lancashire Archaeological Unit on behalf of Philip Johnston and Company, the owners. It was undertaken to record the existing structures prior to restoration work and the conversion of the area into a centre for the study of industrial archaeology.

The site was surveyed using an optical telemeter placed on base lines laid out using a theodolite.

This site consisted of a large, flat, central area with partially ruined buildings and walls to the north and east, and a large waste tip to the west. Eric Holland has called this the Upper Mill of the 'Bonsor Dressing Floors',[1] although this name only relates to one phase of its use. 'The Old Copper Works' is a more general, and therefore preferable, term. The planned area does not include the 'Low Mill' which is to the south of the Youth Hostel and is not under the ownership of Philip Johnstone and Company, and therefore, is to remain unaltered.

The majority of the existing structures date from between 1832 and the 1890s, which was the main phase of copper ore extraction and processing, when over 200 people were employed on the site. The vast majority of the ore came from Deep Adit Level, or 'Morse Level' (A) to the north, which connected to a series of shafts and levels, exploiting the Bonsor vein. The site was reused and altered in 1913-14 by the Coniston Electrolytic Company, a French concern. In this period, no new extraction took place, but new processing methods allowed the waste tip from previous workings to be re-processed and copper extracted.

The central part of the site has also been used for the dressing of slate from the Bive quarries, to the east, which was brought into the area by aerial ropeway.

The south-west area of the site is made up of a large, steep-sided waste tip (B), created by the 19th century workings and re-worked by the Electrolytic Company. No detail has been recorded here because the tip has been remodelled constantly due to the extraction of the material for road hardcore, and other purposes. The trough which has been recorded may be associated with the reprocessing of the material during the First World War.

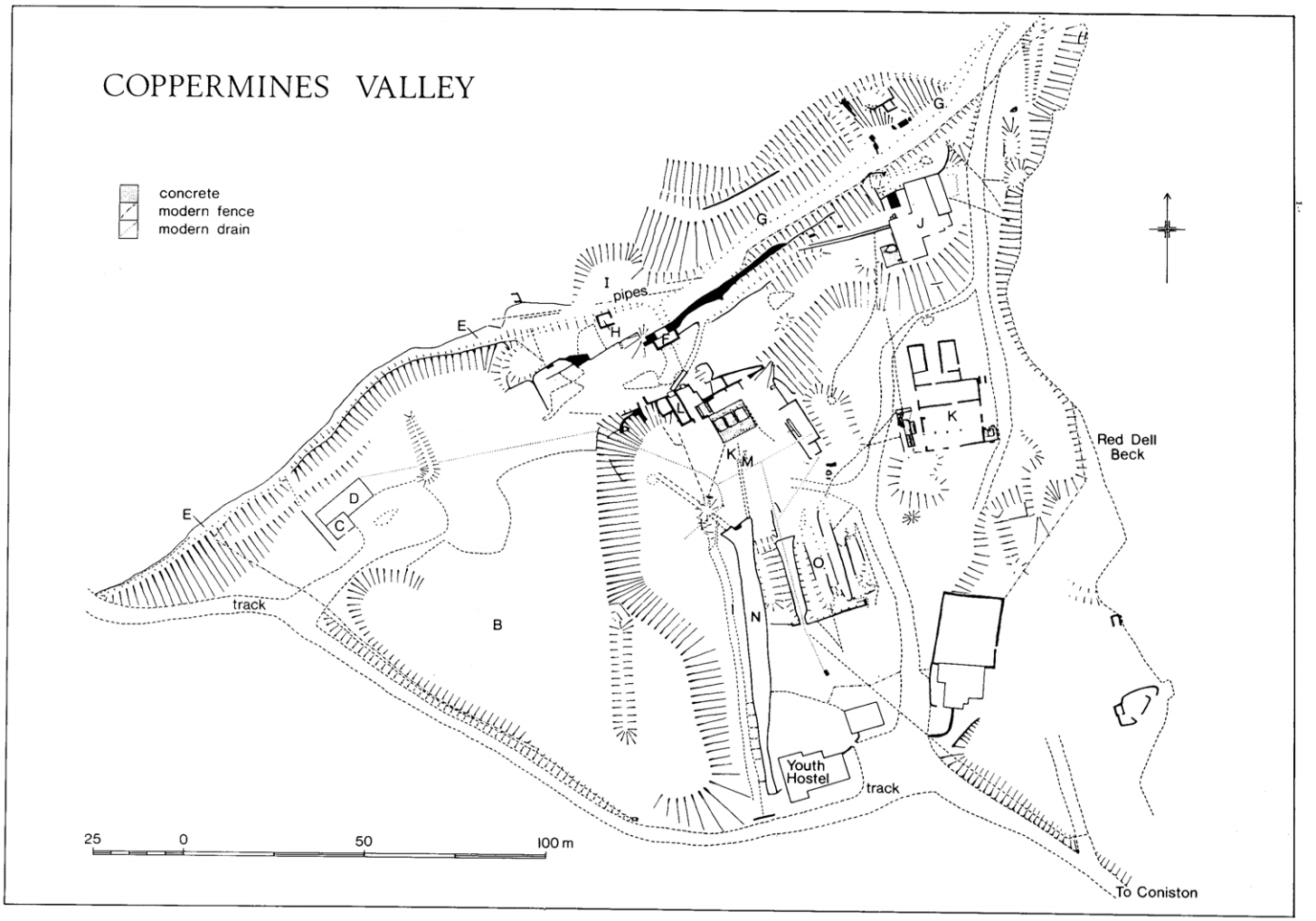
To the north of this is the old gunpowder magazine (C), which was used to store explosives for use down the mines. To the east are the remains of a blasting wall, which originally surrounded the building to minimise damage in the event of an explosion.

The building is standing to the eaves and has a modern, temporary, roof. The blasting wall is largely ruinous, although standing to 1·5 m to the north. Attached to this is a modern building (D), built for the restoration work.

Above these structures is the lowest of a series of mill-races (E). This one took water from an unlocated dam on Levers Water Beck to drive the water wheel in wheel-pit (F). This mill-race has been blocked by the track leading to the Levers Water Works. A pipe has been laid to provide water for the modern building (D).

The old wheel in wheel-pit (D) was also driven by a mill-race from the east (A) which was fed by Red Dell Beck and from a series of mill-races which brought water from further up Tongue Brow, to the north.

Adjoining mill-race (E) is a small, square building (H) with one entrance. Although the function


COPPERMINES VALLEY
concrete
modern fence
modern drain
pipes
track
Red Dell Beck
Youth Hostel
track
To Coniston
25 0 50 100 m

of this is unclear it is thought to be a foreman's hut or something similar. The walls are standing to *c.* 1·5 m in height.

At this point the mill-race forms a large lagoon (I) which was built to make the supply of water more controllable. It is currently overgrown with reeds. Several discontinuous iron pipes are visible at this point. These took compressed air from the wheel house (J) to slate quarries on the slopes of The Old Man of Coniston to the west.

The track which was adjacent to mill-race (G) was the base for a horse-drawn railway which brought copper ore from Deep Adit Level (A) to the site for processing. The wheel house (J) was originally the mine sawmill which was powered by a large diameter water wheel in the north-east corner of the building. During the First World War it was the generating station and electro-precipitation house for the electrolytic works. A large diameter pipeline which runs into the building, from the north, provided high pressure water which drove a compressor, delivering air to slate quarries in the vicinity and to the slate dressing shed (K). The wheel house is the most complete large building on the site as it is standing to the eaves, a height of *c.* 4·0 m.

The slate dressing shed (K) is now largely ruinous and stands to no more than than 0·5 m in height. The slate was dressed in the main part of the building, which is surrounded by heaps of waste slate.

The two smaller outhouses were a blacksmith's and other workshops.

To the west of this is the area of the site where the majority of the copper ore was processed. The power for this was derived from a large diameter water wheel originally situated in wheel pit (L). This was powered by the tail race of wheel (F). The original wooden culvert to the wheel had a brick replacement when the size of the wheel and the wheel-pit were renewed during the First World War. The tail race for the wheel consisted of a wooden culvert which carried the water to a shaft in the ground (M). The water was then fed into the main drain of the site (N). This consists of a steep-sided stone-lined trench.

Next to wheel-pit (L) is a similar structure. This originally contained a stone crushing plant, which was the next stage of ore extraction. The ore was fed into the plant via a hopper at the north end of the structure. This building, along with the other adjacent ones are still standing to over 4·0 m high.

In front of these buildings are 3 large concreted tanks which used to be housed in a lean-to building supported by posts, which can still be seen. The specific function of the tanks is unknown at present, but was connected with the extraction of copper from ore by electrolysis.

The wing structures (O) to the east of drain (N) are long deep troughs which were used to allow sediments to settle out of waste water from the site.

To the west of the drain (N) is a trackway, which leads under the quarry track, and used to support a railway which took primarily treated ore from the site to the 'Low Mill' for final washing.

The Youth Hostel, the old mine manager's hut, is to the south of the site.

Acknowledgements

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References

[1] Holland, E. G., *Coniston Copper Mines. A Field Guide* (Cicerone Press, 1981).