ART. I.—*Bronze Age metalwork from Cumbria.*
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Read at Carlisle, April 12th, 1969.

THE aim of this survey is to amplify earlier references to Bronze Age metalwork from Cumberland, Westmorland and Lancashire North-of-the-Sands, and to list all the finds at present known. Although many papers dealing with individual finds from this area have appeared since 1933, R. G. Collingwood's much quoted study, published in that year, remains the only synthesis of the prehistory of these northern counties which is readily available. His distribution maps were based on the Inventories prepared by his father (Collingwood, W. G., 1923, 1926) and did not include all the finds then known. Subsequently, Miss M. C. Fair (1945a, 1945b) published two interim lists of bronzes known to her. Most recently C. B. Burgess (1968) has discussed some of the later Cumbrian bronzes in a wider context. In the present paper some of the less well known but nevertheless important individual objects are described in more detail, or illustrated for the first time, and the assemblage of Cumbrian bronzework is discussed in the light of research mainly published since 1955.

Very few associations for this material are known, since hoards are rare and burial contexts infrequent. On the other hand, the number of unprovenanced finds is quite small, so that the known distribution patterns are probably fairly representative of the main areas of settlement. Some of the earliest finds are lost, but descriptions or illustrations of them sometimes survive. There are no published analyses of Cumbrian bronzes.

Early Bronze Age metalwork.

None of the Early Bronze Age implements have any associations. The earliest metal-working tradition represented in Cumbria is that of the Migdale-Marnoch industry described by Britton (1963, 263 ff.). The plain narrow-butted flat axes, without flanges, from Gleaston Castle (3)[1] and Greystoke (4) (Fig. 1) belong to this industry. The butt of a broken axe, allegedly from Temple Sowerby (8),[2] and two flat axes, both damaged and without any provenance other than a vague "Westmoreland 1914" (11, 12), are also known.[3] Several better finished axes can be assigned to a later phase of the Migdale industry, including those from Holme Park, Holme (5),[4] and Roose, Barrow-in-Furness (6), which have rounded butts, expanded blades and low (probably hammered) flanges. Further development is seen in an axe from the Vale of St. John, Keswick (10), which has a square butt and almost parallel sides, with a slight horizontal bevel about half-way down its length; a similar axe was found at Castle Sowerby (2).

Two other Early Bronze Age axes from Cumbria belong to Britton's Arreton tradition (Britton 1963, 284 ff.). The first, with its butt hammered square and its low flanges rippled by hammering, has the dubious provenance of Temple Sowerby (9) (Fig. 1). The second, from Brough-under-Stainmore (1) high in the Eden Valley, is finely ornamented with an engraved pattern of hatched and unhatched lozenges (Fell 1940, pl. II); it has a square butt, low cast flanges and a slight ridge at the top of the decorated zone (Fig. 1).

[1] Numbers in brackets refer to the catalogue which forms an appendix to this paper.

[2] The provenance of a number of bronzes now in Tullie House but bought at Temple Sowerby is doubtful.

[3] Information from Miss M. D. Cra'ster, Cambridge University Museum of Archaeology and Ethnology.

[4] North (1936, 142) gives the correct findspot for this axe.

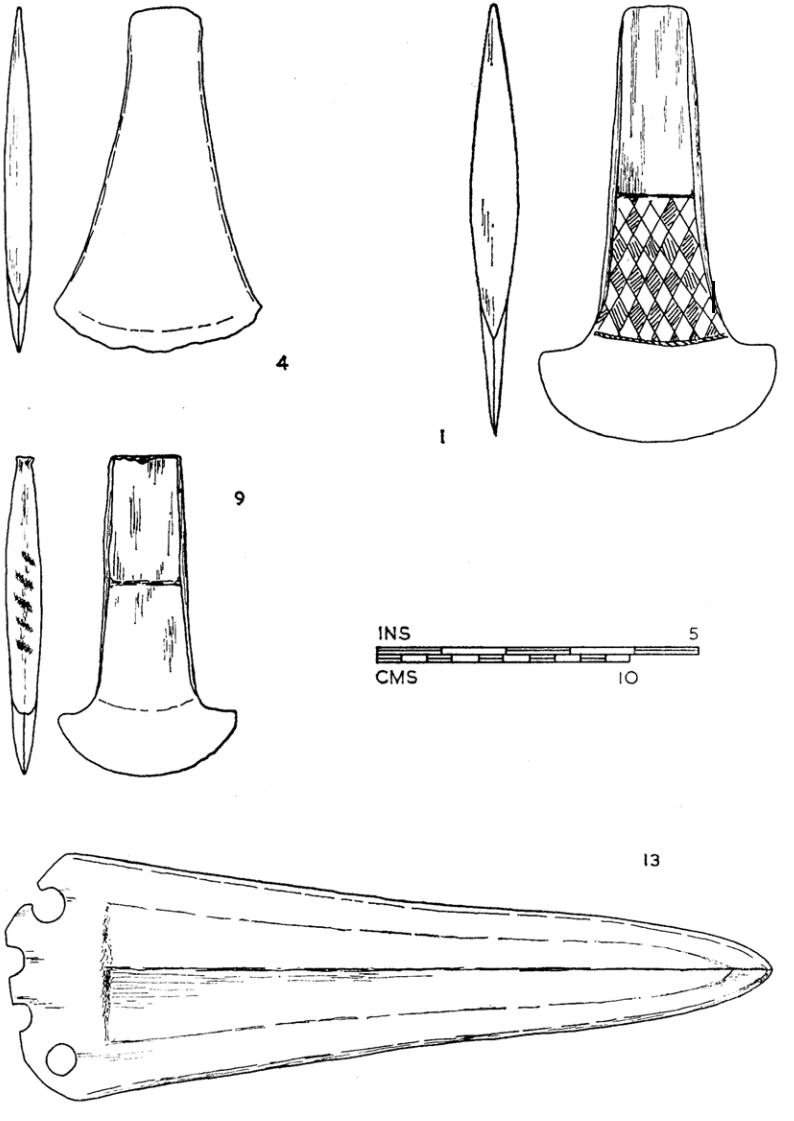

FIG. 1.—Early Bronze Age. 1, decorated axe, Brough-under-Stainmore; 4, flat axe, Greystoke; 9, low-flanged axe, "Temple Sowerby"; 13, halberd, Harbyrnrig.

Axes of this type are included by Coles (1963-4, 87 f.) in his Class I.

These axes, all stray finds, cannot be closely dated. However, others of the Migdale industry, occurring in hoards which may vary from *c.* 1650-1350 B.C. in date, offer some guide to their chronology. Axes in the Arreton tradition are typologically somewhat later, a position which is confirmed by their associations in hoards (Coles 1965, 68 ff.). Decorated axes like the "Temple Sowerby" and Brough implements are most heavily distributed in Ireland (map in Megaw and Hardy 1938, 281), and the Cumbrian examples are most likely to be directly inspired from Ireland if they are not actual imports.

Contacts with Ireland are also reflected by the two Cumbrian halberds (Fell 1940, pl. I). One, from Maryport (14), on the Cumberland coast, is of O Ríordáin's type 4, with its three rivets, which are square in section, all surviving in the angular three-sided butt; its sides are ogival and its edges bevelled; the wide median rib is markedly off-centre. The second comes from Harbyrnrig (Haberwyn Rigg), Crosby Ravensworth (13), and is of type 6, with almost straight sides and a curved row of 4 rivet-holes (Fig. 1). Although O Ríordáin (1936) proposed an Irish origin for halberds, the present evidence supports a derivation from European prototypes (Butler 1963, 11-26). However, the type 4 halberds at least seem to be an insular development, and it is clear that Cumbria was in direct contact with Ireland in the mid-second millenium B.C.

Another find which may date from the Early Bronze Age is the small bronze awl now in Barrow Museum which was found with the remains of an inhumation in a cairn on Appleby Hill, Birkrigg (15).

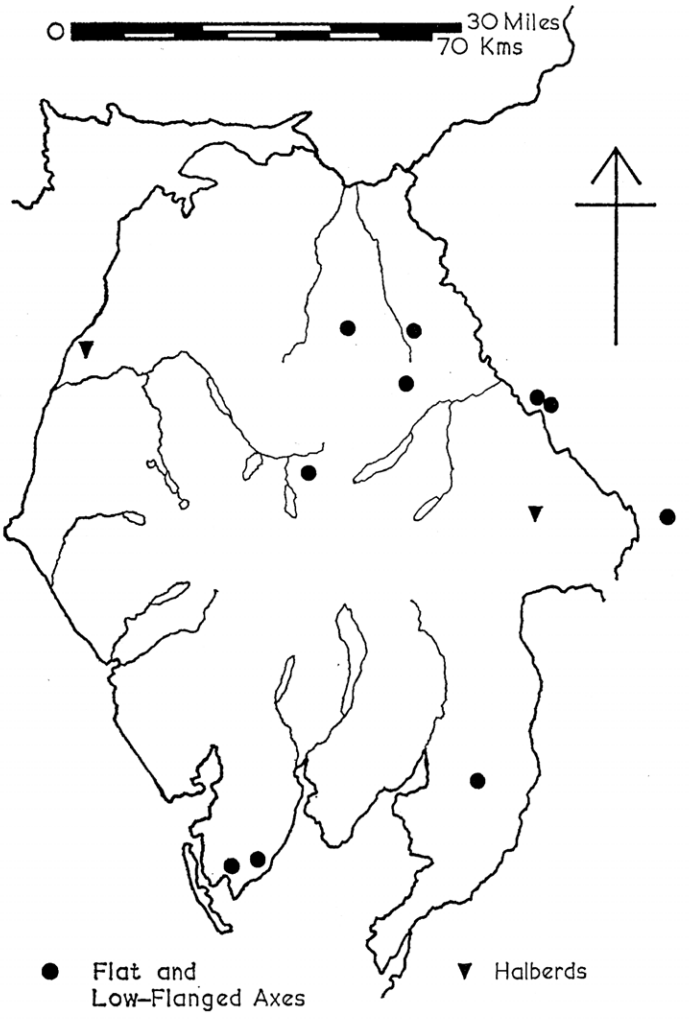

FIG. 2.—Distribution of Early Bronze Age metalwork.

Middle Bronze Age metalwork.

Flanged axes and socketed spearheads are the most frequently recorded Middle Bronze Age types, but again associations are virtually absent. In the earlier literature many of these axes have been classified as "palstaves"; in the absence of a generally accepted definition, the present writer has assigned them to the different classes of implement described by Coles (1963-4) as "haft-flanged axes".[5] In his survey of Scottish metalwork of the period, Coles has distinguished two major classes of these axes, namely those with convex flanges (Class II) and those with angled flanges (Class III). Since Cumberland borders the area which Coles covered, it seems possible that a similar classification, modified if necessary, might be adopted for the Cumbrian material. The criterion of flange-shape can be applied to axes from the area very successfully; the known specimens (with the exception of an axe from Carwhinley Beck whose flanges have been cut off) fall obviously into one or other of these classes. There are, however, too few examples for equivalent sub-groups to be established, even if individual implements represent different stages of development and echo the traditions which are found in the Scottish material.

Thirteen axes, including one unprovenanced example, have convex flanges. Two of these, from Castletown, near Penrith (17) (Fig. 4), and Waterloo Farm, Eaglesfield (19), have neither stop-ridge nor decoration; the latter has apparently been filed in recent times, and its butt has at some stage been hammered square. The Ravenstonedale axe (21) is the only other one in this group to lack a stop-ridge of any kind, but it has a faint shield-pattern on one side. Shield-patterns figure more prominently on the axes from

[5] This classification has recently been challenged by Burgess (1968, 41).

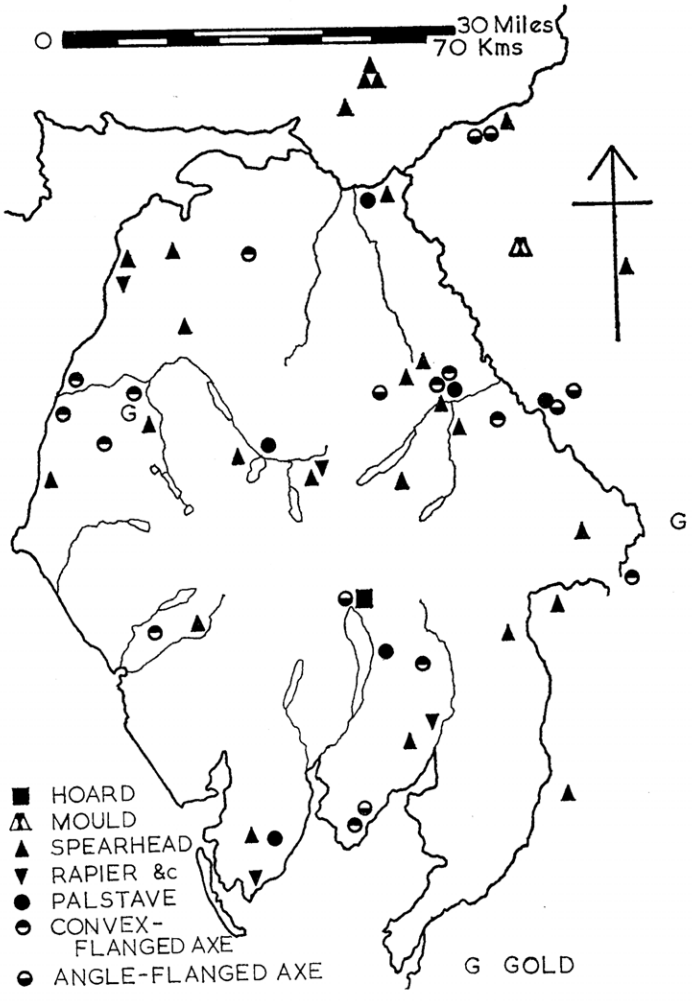

FIG. 3.—Distribution of Middle Bronze Age metalwork.

Crook (18), Santon Bridge (22), Wraysholme Tower (Allithwaite) (27), Branthwaite (16) and Penrith (20). The last two are included by Burgess (1968, 3 and fig. 2) in material of his Pickering phase, *c.* 1400-1200 B.C. An additional feature common to these implements is a slightly expanded cutting edge, but otherwise their finish varies. The Wraysholme Tower axe, with its prominent wall-stop, compares well with axes of Coles' Haddington group which are influenced by palstave types. Two other Cumberland axes, from Wigton (25) (Fig. 4) and Workington (26), have broadly expanded blades, moderate stop-ridges, and a curved bevel linking the flanges. A third axe of this type, but unprovenanced, was once in the Distington Museum.[6] These implements find perhaps their nearest equivalents in the Caverton group of Coles' Class II axes, although they lack the decorative features which are more characteristic of that group.

Several variations are also found among the eight surviving axes with angled flanges, a type which includes Smith's "wing-flanged" axes (Smith 1959, 172). One example from Brampton (31) has no stop-ridge, and in this respect is similar to an unprovenanced axe now in Penrith Museum; both have quite narrow blades and are probably among the earliest of the Cumbrian angle-flanged axes. Three others, from Ambleside (28), Berrier Kettles (between Keswick and Penrith) (29), and Milburn (33) (Fig. 4), have only low stops; these and the remaining axes of this class have moderately expanded blades. An axe from a peat-moss near Cartmel (32) (perhaps one of the missing Flookburgh pieces),[7] which is one of the best-preserved, boasts a very pronounced stop-ridge (Fig. 4), while a second axe from Brampton (30) and another from

[6] Information from Mr G. F. Willmot, Yorkshire Museum.
[7] The Flookburgh "palstaves" were ploughed up before 1885 and are mentioned by W. G. Collingwood (1926, 38).

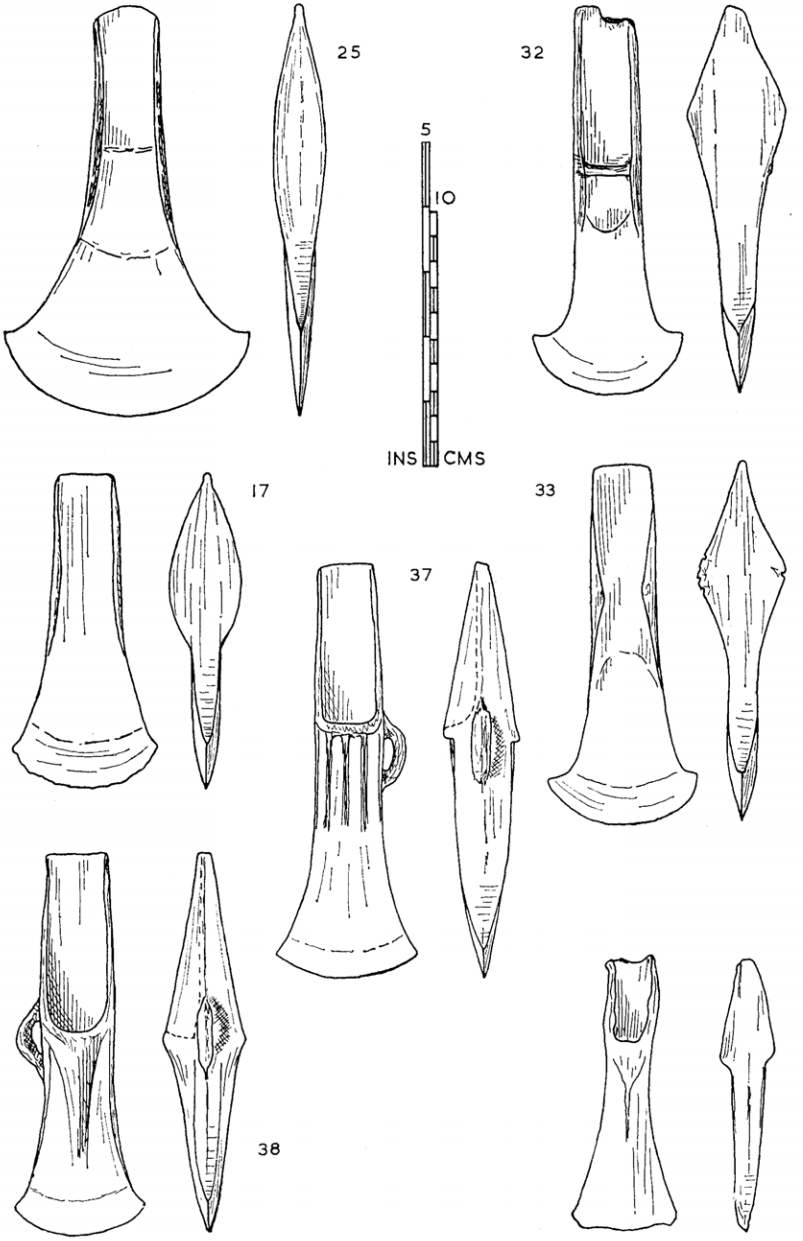

FIG. 4.—Middle Bronze Age. Convex-flanged axes: 17, Castletown, Penrith; 25, Wigton. Angle-flanged axes: 32, "Cartmel"; 33 Milburn. Palstaves: 37, looped, Keswick; 38, looped, Penrith; unlooped, unprovenanced (bottom right).

"Temple Sowerby" (34) have sunk stops. This Brampton axe, together with those from Ambleside and Cartmel, has an indefinite bevel, rather than a rib, which recalls the shield-pattern found on many of the convex-flanged axes.

Although the sample discussed here is small, it is worth pointing out that axes of these two classes differ in more than the shape of their flanges. Convex-flanged axes are more likely to have a decorative shield-pattern and moderate stop-ridges; angle-flanged axes on the whole lack the shield-pattern and may have sunk stops. Again, the flanges on the Class III axes are often shorter and higher than those of Class II implements; their close relationship with fully developed wing-flanged axes is shown by the way their flanges tend to be inturned. Perhaps the most significant fact to emerge from this classification of the Cumbrian material is that the distribution of the two classes is markedly different, although both are closely associated with the principal river valleys. Angle-flanged axes, following the general pattern shown by other Bronze Age types, are confined to the eastern half of the Lake District; none has yet been found west of a line drawn from the Crake/Leven estuary to the mouth of the Eden. In contrast about half of the convex-flanged axes come from sites west of this line (possibly also the axe once in the Distington Museum); the Wraysholme Tower axe is also from a coastal site. Their presence in west Cumberland is especially worthy of notice, since it is a part of Cumbria from which Late Bronze Age socketed axes are as yet entirely absent. This more westerly distribution suggests that the convex-flanged axes at least may have been brought to Cumbria as a result of maritime contacts. On the other hand, both the Class II and Class III axes appear to be evenly distributed immediately to the north of the Solway Firth (Coles

1965, 72, fig. 5), and so it would be unwise to place too much emphasis on the Cumbrian distribution pattern.

Only four implements can be described as unlooped palstaves by any definition. Two of these are unprovenanced; one is stubby and plain, the other has a median rib and what has been described as a "crinoline" outline (Fig. 4). A third comes from Orrest Farm, Windermere (40), and this is very similar to an axe from Stainton-in-Furness (39) (Cowper 1895, Burgess 1968, fig. 1) which, together with a faceted socketed axe (103), was found during quarrying. These two palstaves have high slightly undercut wall-stops and are decorated with shield-patterns. Unfortunately the circumstances of discovery prevent the Stainton implements from being considered as definitely associated material.

There are seven looped palstaves, and only one of these, in Penrith Museum but from an unknown site, is entirely plain and has a crinoline outline; the others all have moderately expanded blades. Five of these, including one from Penrith (38) (Fig. 4), have a single median rib or swelling more typical of late Middle Bronze Age or "transitional" palstaves dating from the end of the second millenium and derived from West European prototypes. Burgess (1968, fig. 4 and fig. 12) has included the looped palstaves from the lost Ambleside hoard (35) and Penrith (38) in material connected with the Wallington complex. The Keswick palstave (37) (Fig. 4), a late example, is decorated with three parallel ribs depending from the stop, a motif which is commonly found on Late Bronze Age socketed axes.

The second numerically important group of Middle Bronze Age metalwork consists of socketed spearheads, of which about 24, mostly without associated finds, have been recorded from sites in Cumbria. The following table summarizes the different ways in which British spearheads of the period have been classified:

		Greenwell and Brewis (1909).	Coles (1963-4).
EBA	tanged	I	A
	dagger-bladed	II	B
MBA	socket-looped	III	C
	side-looped	IV	D
	basal-looped	IIIA	E
	protected-looped	IVB	F
LBA	riveted	V	G

There are two surviving examples of Class III spearheads, from Whinfell Tarn, Westmorland (66), and Blindbothel, Cumberland (48) (Fig. 5). The lost spearhead from Casterton, near Kirkby Lonsdale, seems likely from its description to have been of this type (Fell 1953). These spearheads are distinguishable by their kite-shaped blades which are often decorated with raised ribs; the Cumbrian examples, like others, also have flattened loops on their sockets. Their distribution in the British Isles shows that they are predominantly an Irish type, while they are more common in southern Scotland than in the south of England (Coles 1963-4, fig. 11). Three Class III spearheads were found just north of the present border, near Annan in Dumfriesshire (Coles 1965, 79). It is unlikely that there was any break in the tradition of trade across the Irish Sea which had already been established, so that the earliest Class III spearheads here probably date from about 1350 B.C. and later; their development is contemporary with that of haft-flanged axes. However, their association with Late Bronze Age metalwork, both in Ireland (Eogan 1964, 286) and in Scotland (Coles 1963-4, 104), illustrates the long period during which they remained in use.

Another type of spearhead (Class IV) which occurs mainly in Middle Bronze Age contexts, but which continues in use in the Late Bronze Age, includes those with looped sockets and leaf-shaped blades. These spearheads, of which at least 11 are recorded, are

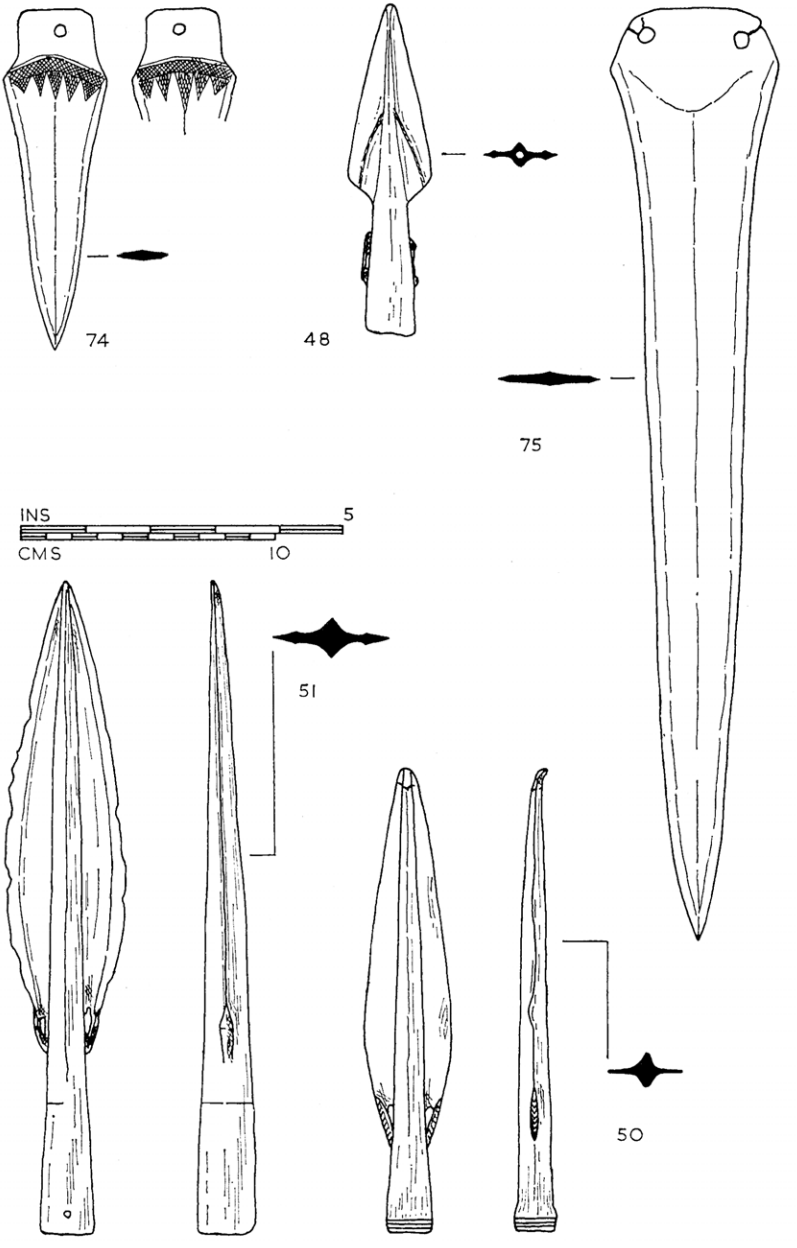

FIG. 5.—Middle Bronze Age. Spearheads: 48, Blindbothel; 50, "Dalton Castle"; 51, "Furness". 74, dagger, Helsington Moss. 75, rapier, Page Bank.

widely distributed over the north of the Lake District; they vary greatly in shape, and this class is only loosely defined. One noticeable feature of the Mawbray spearhead (56) is the pronounced tapering of its socket about a quarter of the way along the blade; the loops have been flattened and trimmed to a hexagonal shape, but the casting seams can still be traced on the socket. The Tebay Fell spearhead (63) can be well paralleled in Ireland (Eogan 1964, fig. 1, 2). Another was found by Southey's daughter, Edith May, on Swinside Fell, near Keswick (62); its loops are joined to the base of the blade by a protruding rib. Only one of the Cumbrian examples has any probable associations;[8] this was found at Penrith (60), apparently with a Late Bronze Age socketed axe of Yorkshire type (93), but there are hardly any records of the find, and local enquiries have so far failed to trace the whereabouts of the two implements.[9]

The only evidence for metal-working in Cumbria in the Middle Bronze Age consists of a large two-part stone mould for a side-looped spearhead from Croglin, Cumberland (68) (Burgess 1968, fig. 18). A spearhead cast in this mould would have its loops near the open end of the socket. The opposite sides of the mould form a matrix for a tapering tubular ferrule of a type generally dated to the Middle Bronze Age — Late Bronze Age ferrules tend to have less of a taper — and which apparently was also represented in the Ambleside hoard. A date nearing 1000 B.C. is suggested by some associations for Class IV spearheads (Coles 1963-4, 106), but the Penrith association combines with much other evidence to demonstrate that they overlap with the usual Late Bronze Age unlooped leaf-shaped spearheads.

[8] But see below, p. 15 f., where possible associations for the "Carlisle" spearhead are discussed.

[9] Miss M. D. Wright has suggested to me that they may have been found by the river Lowther in 1931 or 1932. Burgess (1968, 19 and fig. 16, 8) follows BACC in describing their findspot as Fell Lane, Penrith, but BACC is not infallible for Cumbrian material.

There are six spearheads with loops at the base of the blade. Coles distinguishes two main varieties of these Class IIIA weapons; in the first, the loops cause the base of the (triangular) blade to be stepped and angular, while in the second the base of the (leaf-shaped) blade is smoothly curved to join the socket. This difference seems to be of importance although the two varieties may merge. The only certain spearhead of the first variety, from the Ambleside hoard (46), is lost, but enough survives of a broken blade from Ashgill, Alston (47), near the source of the South Tyne, to suggest that this may be another of the same type. The other four are of the second variety; one from Swainson Cowper's collection now in Lancaster Museum, from an unknown site in Furness, possibly Ulverston (51) (Collingwood, W. G., 1926, 48), has a small rivet-hole near the bottom of the socket, and the blade is internally bevelled, a feature not unusual in this type (Fig. 5). The only known decorated spearhead was found cemented into the walls of Dalton Castle (50), from which it emerged in quite good condition; its original findspot remains unknown. The base of the slightly expanded socket is decorated with three grooves, and the loops, which are curved in section, are ornamented with a herring-bone motif (Fig. 5). It closely resembles the spearhead from the Glentrool hoard (Coles 1965, 82). The contexts of the Ambleside and Glentrool examples show that Class IIIA spearheads were being made before the end of the second millenium B.C.

There is only one known Class IVB (protected-looped) spearhead, which allegedly comes from the vicinity of Netherby Fort (58). Part of another spearhead and two socket fragments (one with a single loop) may have been found in the same place, and possibly the Class IV spearhead supposedly from Carlisle (49) is another find of the same origin. If so, there is a

slight chance, as Burgess (1968, 57 and fig. 17) has suggested, that a hoard, inadequately recorded and now at least partly dispersed, was found in the area; but although these complete and fragmentary spearheads are uniformly patinated and corroded, their similar condition need not imply an identical findspot. So many finds have been made near Netherby Fort that the situation is confused. Spearheads with protected loops are nowhere very common, but they are not likely to be earlier than the beginning of the first millenium. The only other Cumbrian spearhead comparable with Class IVB weapons is one from near Naworth Castle (107) which has a round hole in each side of the leaf-shaped blade and a rivet-hole in the socket. Burgess (1968, 31) has suggested that this example may belong to the Wilburton tradition of the Late Bronze Age.

Middle Bronze Age weapons are represented by several rapiers and by one very fine dagger (Fig. 5). The dagger, from the peat deposits of Helsington Moss (74), has hitherto remained unillustrated although it was found over a hundred years ago; it has previously been assigned to the Early Bronze Age (Fell 1940, 121; Fair 1945a, 35). Its ogival blade has a midrib and bevelled edges, and its base is decorated with a vandyke pattern of hatched triangles. Parallels for the shape of the blade can be found, among them one from Gretna, Dumfriesshire, which is perhaps of Irish manufacture (Coles 1965, fig. 7, 7). Similarly the decoration, which is slightly irregular, can be likened to that on a dagger from the Thames (Kemble 1863, pl. VII, 19), and even more closely to Irish examples (Evans 1881, 246, figs. 308 and 309). The short broad tang with its single rivet-hole (which is not perfectly circular and is placed just off-centre) is unusual, but the dagger clearly belongs to the Group I Irish dirks

and daggers which Mrs Trump (1962, 84) has dated to *c.* 1400-1200 B.C.[10]

Two rapier blades from Cumbria were listed by Mrs Trump (1962). The earlier is the Group II (Keelogue class) weapon from Page Bank, Rampside, Barrow-in-Furness (75), a good example of its type, which is rather more common in Ireland (Fig. 5); the second is from the Vale of St John (77), and is a poorer example of her Group III (Lisburn class). Both classes are datable to the last quarter of the second millenium. In addition, a bronze blade of uncertain type is recorded from Helton Dale, Askham (Collingwood, W. G., 1926, 16; Fair 1945a, 38).

There are also two rapiers with solid cast hilts, one from Salta Moss, Cumberland (76), after which the type has been named, and the other from an unknown site in Cumberland (73).[11] Coles (1961) has pointed out the north European inspiration of these weapons, which may be further illustrated by a sword from a recently published grave-group from Karlstrup, Denmark.[12] Two similar implements were included in the lost Ambleside hoard (70, 71), of which a drawing, remarkably good for the period, has survived (reproduced in Fell & Coles 1965 and Burgess 1968); these were associated with a late Middle Bronze Age looped palstave, a Class IIIA spearhead, a tapering hollow ferrule, and a sword (72) which was related to the Ballintober type (Trump 1962, 93) with 4 rivet-holes and a straight-sided blade; certain French swords of the Rosnoën group are very similar (Briard 1965, 153 ff., 162 ff., fig. 54) and provide an interesting West European parallel to the Ballintober swords. The hoard can be dated to the 12th or 11th centuries B.C. The

[10] Some sources suggest an alternative provenance of Stake Moss, Foulshaw, Levens, for this dagger.

[11] A solid-hilted sword of similar type was found in about 1903 at Mickleholme, Appleby, Lincolnshire, in association with several spearheads (information from Mr G. C. Knowles, Scunthorpe Museum).

[12] *Inventaria Archaeologica*, DK 16, 1 (1968).

variety of implements and their apparently good condition suggests that they were a merchant's stock-in-trade rather than a founder's hoard.

There are two bronze razors, with long narrow tangs, of Class Ib (Butler & Smith 1956) from Cumbria. The first, from Stainton Head, Urswick (45), was found soon after 1860 in a sandpit (Bolton 1869, 138-40; Fell 1957, 9-12 and plate); it is now in the British Museum with the urn that contained it and a cremation; a second urn and a miniature cordoned urn were later found in the same place. Secondly, the unprovenanced food-vessel from Cumberland, formerly in Crosthwaite's Museum, Keswick, was found to contain a razor (44) when it was bought by the British Museum (Fell 1967, fig. 1, 4).

Very few other examples of metalwork are recorded from Middle Bronze Age burials here. Two small fragments of bronze were found in a large collared urn in a cairn on the summit of Little Mell Fell (Hudleston 1952). Another cairn also in the north of the Lake District, near Carrock Fell, contained a cremation in a central pit with which a small piece of bronze or copper wire (perhaps an awl or a pin) and pieces of "slag" were found (Barker 1934). Another small fragment of bronze, this time ornamented, was found during the North Lonsdale Field Club's excavation of the Sunbrick disc barrow, Birkrigg; it was thought to be part of a "ferrule" (N.L.F.C. 1927) but is now lost.

Miscellaneous metalwork of this period includes a flanged chisel from Irthington (42). A tanged chisel is also recorded from the deposits in Kirkhead Cave, Allithwaite (43). Barber (1894, 24-30) mentions two other caves (Capeshead in Cartmel and Scales in Low Furness) in which bronze implements, including a "paalstab in bronze", a spearhead and an axe of unknown type, have been found. Barber's work,

however, is unreliable archaeologically. Finally, a bronze adze (41) from the Askham/Moor Divock area is figured in CW1 vi (1881-2) 510.

Two finds of Middle Bronze Age gold are known. An armlet of twisted gold was found at Eaglesfield (78), and another, weighing 1 oz 4 dwts., comes from Winton Common (79), midway between Kirkby Stephen and Brough-under-Stainmore (Fell 1940, 124). The latter is made out of a gold rod, quatrefoil in section, whose ends have apparently been roughly cut. Personal ornaments of this type are, in the British Isles, particularly well known from the Bishopsland phase of the Irish Bronze Age, and are datable to the end of the second millenium (Eogan 1964, 277 ff.).

Late Bronze Age metalwork.

The most numerous Late Bronze Age metal types are socketed axes and spearheads. Twenty-nine socketed axes are known, most of which have no associations. The possible association of a socketed axe (93) and a Class IV spearhead (60) at Penrith has already been mentioned. The most important surviving find comes from the site of Skelmore Heads, Great Urswick, and consists of six socketed axes (95-100) which were found together in a rock crevice. This hoard should not be confused with another, now lost, from Long Rigg Field, Little Urswick, which may have included some socketed axes. Two of the Skelmore Heads axes (99, 100) are plain, while a third (95), in the Swainson Cowper collection, has a well-splayed cutting edge and is decorated with faint ribs.[13] The remaining three (96-98), however, are remarkable for their elaborate rib, ring and pellet decoration (Fig. 6). A similarly decorated axe comes from Knock and Maize, Leswalt, Wigtonshire (Coles 1965, 83 and

[13] This axe contains a note saying it was "found with 7 others".

FIG. 6.—Late Bronze Age. Socketed axes: 83, 84, King's Meadow, Carlisle; 87, Kirkoswald; 95-98, Skelmore Heads hoard; 102, Swindale Grange. 108, spearhead, Penrith. 112, tanged knife, Urswick.

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fig. 10, 6), but other highly decorated axes are widely distributed (Evans 1881, 124 ff.) with examples from Edenmore, co. Donegal, and various sites in southern England. The Skelmore Heads axes are probably among the later socketed axes from Cumbria. The presence of casting flaws and cracks, and the fact that at least one of the decorated axes (98), with its unsharpened cutting edge a quarter of an inch thick, has never been used, shows that this is a founder's hoard. The only other axe from the Lake District with ring and pellet ornament — in a different style — comes from Kirkoswald, near Ainstable (87) (Fig. 6). No socketed axes of any type have been recorded from west Cumberland.

Very few of the Cumbrian axes are entirely plain, but among them is one from "Temple Sowerby" (103). Its long narrow body is most closely paralleled by axes of Taunton-Hademarschen type which are perhaps the earliest socketed axes found in Britain (Butler 1963, 75 ff; Coles 1961, 23, note 40).

There are several good and typical examples of the Yorkshire group, with three ribs depending from a double moulding on the socket mouth. Two which were found together on King's Meadow, Carlisle (83, 84), are closely similar but do not appear to come from the same mould (Fig. 6). Another, whose socket is almost hexagonal in section, although its body is not faceted, comes from Lowther (89). Among other closely related axes is one from Brough (82). The Little Langdale axe (88) differs in having a triple moulding on the collar, with the loops beginning high up and is included by Burgess (1968) in his Wallington complex. A wide-bladed axe with four ribs was found near Alston (81).

Four faceted axes are known in addition to the Stainton example (101). Two axes of octagonal section with deep collars were found at Ainstable

(80) and Swindale Grange, near Brough (102) (Fig. 6); a very similar axe was found in the recently discovered hoard from Portfield Farm, Whalley, on the Ribble (Blundell & Longworth 1967). Two narrow axes of the hexagonal type were found at Carlisle (85) and Greystoke (86).

There is only one squat bag-shaped axe which may be from Cumbria, this being the unprovenanced axe in the Penrith Museum collection. It is almost certain to be an import from Ireland (cf. Eogan 1964, 295, fig. 11, 5).

Six examples of the common Late Bronze Age leaf-shaped spearheads with rivet-holes in the socket are known (Class V). One of these may have accompanied a cremation in a cairn on Woundale Raise, near the Westmorland Troutbeck (110); it has lost its point and most of its socket. Another spearhead, now lost, but "of the antient brass, with nails through its sockets of the same material" came from a cairn near Penhurrock in Crosby Ravensworth parish (106) (Hodgson 1820, 147). The most interesting find of this nature was made at Butts Beck quarry, Furness, where a Class V spearhead (105) accompanied an inhumation burial in a cist; a sword (111) of the native Ewart Park type, the only one from Cumbria, with the burial (as also apparently were the bones of a horse) dates this unexpected rite to well within the first half of the first millenium B.C. (Fell & Coles 1965). Other spearheads of this type are known from Penrith (108) (Fig. 6) and Piel Castle (109); the latter has three rivet-holes, two of which are modern. Although they are widely distributed, none are recorded from coastal Cumberland.

The two-edged knife from Urswick (112) (Fig. 6) was found between 1906 and 1909 on the surface of a pasture field known as Tostills.[14] The edges are

[14] I am indebted to Miss M. H. Dobson, Little Urswick, Ulverston, for this information and for the drawing of the knife.

bevelled and there is a central rib on the tang to hold the lost handle in place. The type can be paralleled in the Dowris phase of the later Irish Bronze Age commencing in the 8th century B.C. (Kemble 1863, pl. X, 28; Eogan 1964, 296 and fig. 12, 4) and in England, where the lost knife from the Great Freeman Street, Nottingham, hoard,[15] has been dated to the second quarter of the first millenium B.C. Other examples have been found in the Portfield Farm, Whalley (Blundell & Longworth 1967) and Heathery Burn (Greenwell 1894, 99, fig. 6) hoards, both dating from the 7th century B.C. Similar knives are also known from the Westow, Yorkshire, hoard and from Winmarleigh, Lancashire, but there are few from Southern England.

Only one find of Late Bronze Age gold has survived, this being a penannular armlet from Aspatria (113), of oval section; the ends, which are slightly flattened and widened, are decorated with three or four incised lines. Another discovery was made at Netherton, Hayton (114-116) (Fell 1940, 124), where, in the words of Hutchinson (1741, I, 151):

> . . . were found three *shekels* (as the country people called them, from their similarity in form to the ring fixed to the plough beam) of gold: they had been removed from a sand bank along with the gravel for repairing the roads, and being picked up accidently at different times lying on the road, were all sold to a silver smith at Carlisle. They were described as . . . plain and smooth, except the two knobs at the opening; there was no appearance of a tongue. They measured three or four inches in diameter, and about an inch and a half in thickness. One of them was sold for £7 and a larger, it is said brought £20.

Ornaments of this type probably also belong to the Irish Dowris Phase (Eogan 1964, 304 and fig. 15).

Finally, a notable bronze vessel (117) must be mentioned, which is described by Nicolson and Burn (I, 529) but which deserves to be more widely known:

[15] *Invent. Arch.*, GB 22, 2 (1957).

About half a mile from the town head of Ravenstonedale, in the year 1774, was found in digging peats, two foot below the surface, a copper vessel, sound and intire, the diameter whereof at the bottom is 8 inches, and the top 14 inches, in the widest part just under the neck 16 inches; it contains about 8 gallons and a half. It is made of three plates of copper, neatly joined together, and hath been pretty much used as a fire vessel. It is very slender; and therefore there are fixed six fillets of copper at equal distances, which reach up the sides two inches and a half, and are turned down about as much on the bottom. That part of the fillets turned over the bottom, is a good deal thicker than the other extremities which go up the sides, and are ornamented with ridges, somewhat in the nature of fluting. The vessel, when set down, rests on the thicker part of these fillets, which keeps it steady, and the bottom from any wear or bulging. There is no iron in any part of it. Two ears or handles are fixed on the inside, the top of which are on a level with the edge of the vessel; in each of which is a movable ring. These ears and rings are pretty strong and massy, but of baser metal. The whole is of excellent workmanship, and very elegantly finished.

Such a detailed description can leave no doubt that this lost vessel was an Irish-British bucket of the Late Bronze Age. The type is an insular development from the Kurd buckets of the Late Urnfield period in Central Europe (Hawkes & Smith 1957). Both the Continental prototypes and the insular versions display a notable uniformity of dimensions, and this Ravenstonedale bucket is no exception. Varieties of strengthening angle-plates are found both on the Kurd type and on its derivatives, but Hawkes and Smith (1957, 146) point out that the setting of "a pair of cast bronze staples . . . on the inside of the rim so that the ring-handles they carry fall inwards is entirely insular and is the distinctive feature of Irish-British buckets". They are datable to the 7th century B.C.

Summary and Conclusions.

The use of metal was slow to be adopted in Cumbria. The distribution of Early Bronze Age types (Fig. 2), marked by a concentration in the Vale of Eden and

a sparse scattering in the south, almost exactly echoes that of Beaker (Clough 1968) and Food Vessel (Fell 1967) material. The most significant difference is found in the growing importance of the Irish contribution which had been heralded by the form and decoration of one or two of the Food Vessels. The Eden Valley bronzes are complementary to a small group of contemporary finds from Dumfriesshire and Galloway (Coles 1965, fig. 2) whose date ranges between *c.* 1650 and 1350 B.C. It appears from their joint distribution that the Solway area became an obvious landfall for travellers, who were then able to explore the valleys leading from the estuary, establishing contacts with the inhabitants and introducing to them the use of metal implements. In such circumstances the Vale of Eden would continue to be a favoured route to and from eastern and northern England. The suggestion is therefore that the initial promotion of metalwork immediately to the north and south of the Solway is not merely contemporary but an identical process. In contrast, the known distribution of Early Bronze Age metalwork shows that this process is barely noticeable in Low Furness and Cartmel and entirely ignored in the Lake District itself.

Cumbria and south-west Scotland continue to develop along closely similar lines in the Middle Bronze Age. In both areas finds of metalwork are much more widespread; in Cumbria it is particularly noticeable that coastal Cumberland, as well as Furness and Cartmel, boasts a proportion of metalwork approximately equal to that from the previously favoured Vale of Eden (Fig. 3). Presumably the good line of communication along the rivers Derwent and Eamont was used. Only the more remote valleys have failed to yield any finds so far. However, there is certain to be a considerable overlap with Early Bronze Age material, and it is not until later that this evident

expansion gains momentum. The main floruit of the Middle Bronze Age seems to date — as it does also in south-west Scotland — from about 1150-1000 B.C., a time when, according to the evidence of the Ambleside hoard and other finds, trade with Ireland is more or less routine and ambitious contacts reaching further afield to the Continent may have been established. On the other hand, there is no evidence to suggest that the copper resources of the area were exploited, and these may have remained untouched throughout prehistory. Towards the end of the second millenium the moorland cremation cemeteries which, until then, are found so consistently on the fringes of the high fells, come to an end; the continuing series of metal types, although mainly comprising unassociated stray finds, now provide by their distribution almost the only indication of settlement patterns. The distribution of angle-flanged axes (apparently an eastward and northward looking "mainland" group) reflects the continuing prosperity of the Eden Valley and of the north and east of the Lake District, while that of convex-flanged axes (apparently a westward looking "maritime" group) illustrates the importance of western Cumbria, an importance which is destined to be short-lived. During this period there is a fusing of the Irish tradition, whose contribution increases so greatly, with those of mainland Britain on which rests the whole Bronze Age assemblage characteristic of Cumbria.

There is a tendency towards cultural stagnation in the Late Bronze Age. This is most marked in west Cumberland where no finds of undoubted Late Bronze Age date have been recorded, except for the Aspatria armlet (Fig. 7). The most likely explanation for this is that although Irish imports continue to act as a stimulus to local tradition elsewhere, the already well-known and functional Middle Bronze Age types still

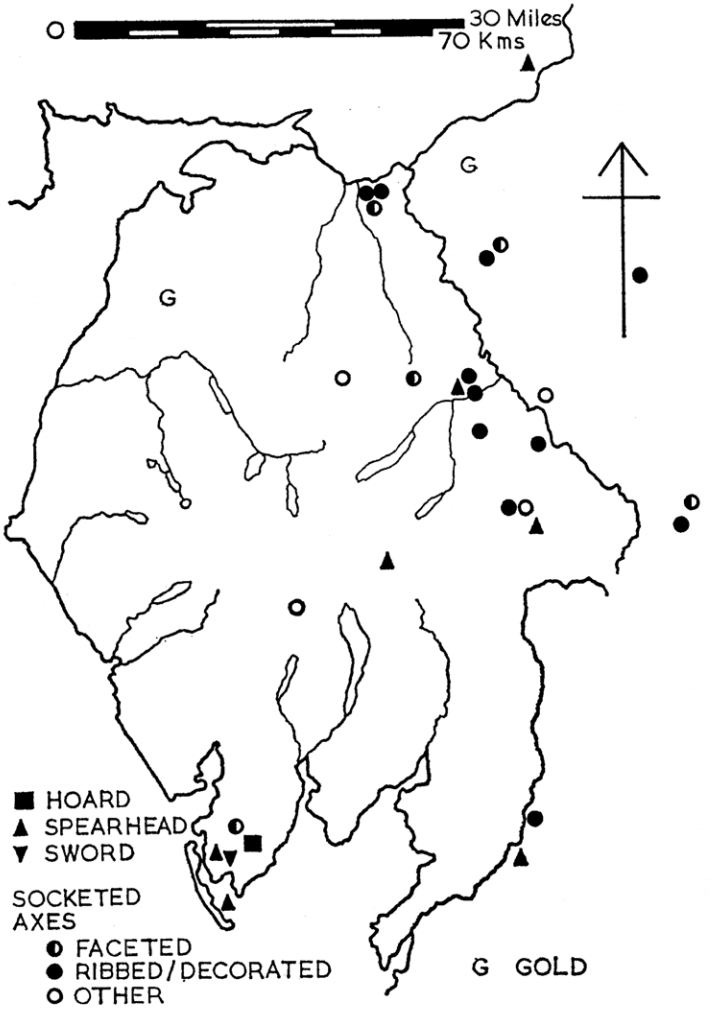

FIG. 7.—Distribution of Late Bronze Age metalwork.

remain in general circulation here until towards the middle of the first millenium. Although the Eden Valley claims the lion's share of contemporary material, which is essentially English in its affinities, there is in Furness a small but nevertheless noticeable concentration of finds, such as the Skelmore Heads hoard, which in comparison seem exotic. The most significant external influence upon the development of Cumbria again emanates from Ireland; but it is much weaker.

An area as small as Cumbria is liable to receive cultural influences from many directions. Because of the essential geographical unity of the Lake Counties, it might be thought that these influences would affect all parts of Cumbria equally. However, this unity somewhat contradictorily relies on the radial distribution of numerous valleys and hill-ranges whose characteristics are highly individual, so that impulses which are strongly felt in one quarter may hardly register in another. There is a tendency towards parochialism, as a result of which the distribution of datable archaeological material may vary strikingly. At no time are the variations more impressive than during the Bronze Age.

Acknowledgements.

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APPENDIX.

Catalogue of Bronze Age metalwork from Cumbria.

Abbreviations:

BACC = British Association Card Catalogue of Bronze Age metalwork, housed in the British Museum.
BM = British Museum.
CUM = Cambridge University Museum of Archaeology and Ethnology.
NMA = National Museum of Antiquities of Scotland, Edinburgh.
PP = Private possession.
TH = Tullie House Museum, Carlisle.

C=Cumberland, L=Lancashire North-of-the-Sands, W=Westmorland.

The entries are given in the following form:

Number, county, name of site, type, present location where known, and previous publication. Since it is not practical to list all known references, bibliographical details are generally confined to the more recent or comprehensive references to any particular object.

Objects without provenance and of uncertain type are listed together at the end of the catalogue.

Early Bronze Age.

Flat and Low-Flanged Axes (Coles' Class I).

1. W. Brough-under-Stainmore; low-flanged, decorated; BM 74.3-28.75; Fell 1940, pl. II.
2. C. Castle Sowerby; hammer-flanged; location unknown; Gaythorpe 1897.
3. L. Gleaston Castle; narrow butt; PP; *Archaeologia* v (1779) 106-118, pl. VII, 1.

4. C. Greystoke; narrow butt; TH 27.26.432; Spence 1940.
5. W. Holme Park, Holme; hammer-flanged; PP; North 1936.
6. L. Roose; hammer-flanged; Barrow Museum; Fell 1940, 121.
7. C. Skelton; flat; TH 51-1967; unpublished.
8. W. "Temple Sowerby"; narrow butt, damaged; TH 221; Spence 1940.
9. W. "Temple Sowerby"; low-flanged, decorated; TH 220; Spence 1940.
10. C. Vale of St John; hammer-flanged; Keswick Museum; unpublished.
11. W. "Westmorland"; flat, damaged; CUM 14.337; unpublished.
12. W. "Westmorland"; flat, damaged; CUM 14.338; unpublished.

Halberds.

13. W. Harbyrnrig, Crosby Ravensworth; type 6; BM WG 2060; Fell 1940, pl. I.
14. C. Maryport; type 4; BM 1905.11-6.3; Fell 1940, pl. I.

Awl.

15. L. Birkrigg, near Urswick; Barrow Museum; Gelderd *et al.* 1914, 468.

Middle Bronze Age.

Convex-Flanged Axes (Coles' Class II).

16. C. Branthwaite; TH 14.99.4; Spence 1940, Burgess 1968, fig. 2, 1.
17. C. Castletown, Penrith; TH 288 OM 407; unpublished.
18. W. Crook (Low Farm); PP; North 1942.
19. C. Eaglesfield (Waterloo Farm); TH 233 RF 357; Spence 1940.
20. C. Penrith; TH 27.26.431; Spence 1940, Burgess 1968, fig. 2, 2.
21. W. Ravenstonedale (Garthshill); BM WG 1823; unpublished.
22. C. Santon Bridge (Bridge End Farm); TH 46.1936; Gaythorpe 1906.
23. C. Seaton, Workington; TH L.16.2; Mason 1923.
24. C. Whinfell; Penrith Museum; BACC.
25. C. Wigton; BM WG 1833; Evans 1881, 73.
26. C. Workington; York Museum; Spence 1935.
27. L. Wraysholme Tower; Barrow Museum; Fell 1963a.

Angle-Flanged Axes (Coles' Class III).

28. W. Ambleside (Millan's Park); location unknown; Cowper 1905.
29. C. Berrier Kettles; Keswick Museum; unpublished.
30. C. Brampton; TH 230 R 38; Spence 1940.
31. C. Brampton; TH 225 RF 213; Spence 1940.
32. L. near Cartmel; BM 56.7-1.5020; unpublished (but see note 7).
33. W. Milburn (Lownthwaite Farm); TH 45.1948; Goodchild 1932.
34. W. "Temple Sowerby"; TH 231; Spence 1940.

Palstaves.

35. W. Ambleside (in hoard); looped; see hoard.
36. C. Carlisle; looped; York Museum; unpublished.
37. C. Keswick; looped; BM WG 1841; *VCH Cumberland* i (1901) 230.
38. C. Penrith; looped; TH L.25.v.41; Burgess 1968, fig. 12, 10.
39. L. Stainton-in-Furness; unlooped; Barrow Museum; Cowper 1895.

39a. W. "Temple Sowerby"; looped; TH 232; Spence 1940.

40. W. Windermere (Orrest Farm); looped; PP; Thompson 1958.

Adze.

41. W. Askham (Moor Divock); convex-flanged; CW1 vi (1881-2) 510.

Chisels.

42. C. Irthington; flanged; BM WG 2017; Evans 1881, 85, fig. 70.
43. L. Kirkhead Cave, Allithwaite; tanged; location unknown; Collingwood, W. G. 1926.

Razors.

44. C. "Cumberland"; type IB; BM 1870.10-13.3; Fell 1967, 20, fig. 1, 4B.
45. L. Stainton Head, Urswick; type IB; BM 1879.12-9.1784; Fell 1957.

Spearheads.

46. W. Ambleside (in hoard); Class IIIA; see hoard.
47. C. Ashgill, Alston; IIIA; TH RF 365; Spence 1940.
48. C. Blindbothel, Brigham; III; TH RF 395; Fell 1940, pl. III, 2.
49. C. "Carlisle"; IV; TH 35.1949.2; unpublished.
50. L. "Dalton Castle"; IIIA; Lancaster Museum; Fair 1945b.
51. L. "Furness", ?Ulverston; IIIA; Lancaster Museum; Fair 1945b.
52. W. Gaythorn Plain, Crosby Ravensworth; IV; BM WG 2048; Greenwell 1877, 296.
53. C. Greystoke; IV; PP; Taylor 1883.
54. C. Longtown (Smalnston); IIIA; TH 44.1950; CW2 liii (1953) 205-207.
55. C. Lynewath Bridge, Caldbeck; IV; TH 139.1961; Fell 1940, 123.
56. C. Mawbray (Dubmill Farm); IV; BM; Fair 1945b.
57. C. "Netherby Fort"; IV; TH 35.1949.3; Burgess 1968, fig. 17, 4.
58. C. "Netherby Fort"; IVB; TH 35.1949.4; Burgess 1968, fig. 17, 4.
59. C. "Netherby Fort"; IV; TH 35.1949.5; Burgess 1968, fig. 17, 4.
60. C. Penrith (?Fell Lane); IV; location unknown; BACC, Burgess 1968, fig. 16, 8; ?associated with socketed axe (see no. 93).
61. W. Sockbridge; IIIA; TH 27.26.433; Spence 1940, Burgess 1968, fig. 2, 13.
62. C. Swinside Fell; IV; Keswick Museum; Fair 1945b.
63. W. Tebay Fell; IV; TH 243; Fell 1940, pl. III, 2.
64. C. Threapland; IV; Barrow Museum; Fair 1945b.
65. C. Vale of St John; damaged; TH 247 RF 220; Spence 1940.
66. W. Whinfell Tarn; III; Lancaster Museum; *PSAL* xii (1887-9) 224-227.
67. W. Whitbarrow; IV; ?PP; Fell 1940, 123.

Spearhead Mould.

68. C. Croglin; for Class IV and tapering ferrule; TH OM 418; Taylor 1883, Burgess 1968, fig. 18.

Ferrule for Spear Shaft.

69. W. Ambleside (in hoard); tapering; see hoard.

Dagger, Sword and Rapiers.

70. W. Ambleside (in hoard); Salta Moss type rapier; see hoard.
71. W. Ambleside (in hoard); as no. 70.
72. W. Ambleside (in hoard); sword, cf. Ballintober type; see hoard.
73. C. "Cumberland"; Salta Moss type rapier; BM 1870. 10-13.1; Coles 1961.
74. W. Helsington Moss; Group I dagger, decorated; Kendal Museum; Fell 1940, 121.
75. L. Page Bank, Rampside; Keelogue class rapier; Lancaster Museum; *PSAL* xvi (1903-5) 253-258.
76. C. Salta Moss, Holme St Cuthbert; rapier (type example); TH 93.1959; Fell & Coles 1965.
77. C. Vale of St John; Lisburn class rapier; Keswick Museum; Trump 1962.

Gold Ornaments.

78. C. Eaglesfield; twisted armlet; probably melted down; Fell 1940, 124.
79. W. Winton Common, Kirkby Stephen; twisted armlet; TH 14a.10; Fell 1940, pl. III, 2.

Hoard.

W. Ambleside; catalogue nos. 35 (palstave), 46 (Class IIIA spearhead), 69 (tapering ferrule); 70 & 71 (Salta Moss type rapiers), 72 (sword, cf. Ballintober type); location unknown; Fell & Coles 1965, Burgess 1968.

Late Bronze Age.

Socketed Axes.

80. C. Ainstable; faceted; TH 89.1950; Hodgson K. S. 1951.
81. C. Alston; ribbed; Newcastle Museum; unpublished.
82. W. Brough-under-Stainmore; ribbed; BM 74.3-28.76; unpublished.
83. C. Carlisle (King's Meadow); ribbed; TH 20.1944; unpublished.
84. C. Carlisle (King's Meadow); ribbed; TH 20.1944.2; unpublished.
85. C. "Carlisle"; faceted; NMA DF 126; Simpson 1951.
86. C. Greystoke; faceted; NMA DF 126; Simpson 1951.
87. C. Kirkoswald; decorated; TH 4.18; CW2 xix (1919) 165.

88. L. Little Langdale (Low Fell); unribbed; PP; Fell 1963b, Burgess 1968, fig. 11, 2.
89. W. Lowther; ribbed; TH 27.26.430; unpublished.
90. W. Morland; ribbed; PP; Fair 1945b.
91. C. Mosedale; ?ribbed; PP; CW2 xxiv (1924) 366.
92. C. Penrith; ribbed; TH 27.26.429; Spence 1940, 108.
93. C. Penrith (?Fell Lane); ribbed; location unknown; BACC, Burgess 1968, fig. 16, 8; ?associated with Class IV spearhead, no. 60.
94. W. Rogersceugh, Shap; damaged; TH 27.26.427; Spence 1940.
95. L. Skelmore Heads, Great Urswick (in hoard); ribbed; Lancaster Museum; Cowper 1905.
96. L. Skelmore Heads (in hoard); decorated; Barrow Museum; Cowper 1905.
97. L. Skelmore Heads (in hoard); as no. 96.
98. L. Skelmore Heads (in hoard); as no. 96, but unsharpened.
99. L. Skelmore Heads (in hoard); plain; location unknown.
100. L. Skelmore Heads (in hoard); as no. 99.
101. L. Stainton-in-Furness; faceted; Barrow Museum; Cowper 1895.
102. W. Swindale Grange, Brough-under-Stainmore; faceted; TH 34.1904; Spence 1940.
103. W. "Temple Sowerby"; cf. Hademarschen type; TH 235; Spence 1940, Coles 1961, 23, note 40.

Spearheads.

104. C. Bewcastle; V; PP; Evans 1881, 314.
105. L. Butts Beck, Dalton-in-Furness (burial); V; PP; Fell & Coles 1965; associated with sword, no. 111.
106. W. Crosby Ravensworth (Penhurrock), burial; location unknown; Hodgson 1820, 147.
107. C. Naworth Castle; protected opening; BM WG 2054; Evans 1881, 334, Burgess 1968, 31; compare IVB.
108. C. Penrith; V; TH 27.26.426; Fair 1945b.
109. L. Piel Castle; V; Barrow Museum; Gaythorpe 1906.
110. W. Woundale Raise, Troutbeck (?burial); V; PP; Fell 1949.

Sword.

111. L. Butts Beck, Dalton-in-Furness (burial); Ewart Park type; PP; Fell & Coles 1965; associated with spearhead, no. 105.

Knife.

112. L. Urswick; two-edged knife with ridged tang; PP; Dobson 1912.

Gold Ornaments.

113. C. Aspatria; penannular armlet; BM; Fell 1940, pl. IV, 1.
114-116. C. Netherhill, Hayton; 3 penannular armlets; lost; Hutchinson 1794, I, 151, Fell 1940, 124.

Bronze Vessel.

117. W. Ravenstonedale; bucket; location unknown; Nicolson & Burn 1777, I, 529, Collingwood, W. G. 1926, 5.

Hoards.

L. Skelmore Heads, Great Urswick; socketed axes, nos. 95-100; 1 in Lancaster Museum (ex Swainson Cowper coll), 3 in Barrow Museum, 2 in private hands; Cowper 1905.

L. Long Rigg Field, Little Urswick; hoard lost and of unknown composition, but said to be "a spearhead and four or five celts and rings" (F. Barnes in Powell 1963).

Material of doubtful provenance and uncertain type.

Penrith Museum collections were unavailable at the time of writing, and there was nothing to indicate whether the material there is in fact of Cumbrian origin.

Convex-flanged axe, unprovenanced, York Museum (ex Distington Museum).

Angle-flanged axe, unprovenanced, Penrith Museum, BACC.

Flanged axe, damaged, Carwhinley Beck, Castletown, TH.

Palstaves, unprovenanced, 2 unlooped and 1 looped, Penrith Museum, BACC; looped, York Museum (ex Distington Museum).

Socketed axes, unprovenanced, bag-shaped, Penrith Museum, BACC; river Irthing between Naworth and Lanercost (Ferguson & Cowper 1893, 23); unprovenanced, ribbed, TH 27.26.428, Spence 1940.

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1893); Aspatria (*Arch. J.* xvii (1860) 164); Longtown (Evans 1881, 73); Matterdale (CW1 vii (1883-5) 87); Gosforth (Parker, C. A., *The Gosforth District . . .* (1904) 47); Mayburgh (Stukeley, W., *Itinerarium Curiosum* ii (1776) 44).

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Implements of unknown types, Saughtree Gate Farm, Carlatton (Hutchinson 1794, I, 184); St Herbert's Island, Derwentwater; Berrier Kettles and Vale of St John (*ibid.* II, 155).

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Additional abbreviations:

Ant. J. — The Antiquaries Journal.
Arch. J. — The Archaeological Journal.
J.B.A.A. — Journal of the British Archaeological Association.
PPS — Proceedings of the Prehistoric Society.

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