

III.

SCOTTISH BRONZE AGE HOARDS. BY J. GRAHAM CALLANDER,
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During the last few years the Society has been fortunate in securing for the National Museum a number of Bronze Age hoards from different parts of Scotland, some of these groups containing varieties of implements, weapons, and ornaments not hitherto found in association in the country. As the number of Scottish hoards now recorded is reasonably large, it is evident that a classification, analysis, and comparison of their component parts may yield a considerable amount of information about the chronology of their period.

In the following notes the discovery of two associated objects will be treated as a hoard, even though they may be examples of the same type of relic, and an attempt will be made to correlate, as far as possible, the weapons and implements with the pottery of the period. Owing to the absence of the larger objects of bronze from the sepulchral deposits, from which practically all the pottery has come, this is not easy. But though it may be possible to arrive at fairly definite conclusions with regard to the earlier ceramic types—the beaker and food-vessel—more evidence must be forthcoming before it can be stated with any degree of confidence what types of weapons and tools were in use when cinerary urns were first introduced into the country or when these vessels went out of use, or if any class of weapon can be associated with any particular variety of this kind of pottery.

Although there is a very good selection of bronze implements in our National Collection, the number of these objects found in Scotland cannot be considered very large when compared with the number found in England and Ireland. The number of Irish bronze axes, in their various forms, preserved in the Irish National Museum and in six other important collections, amounts to about two thousand four hundred, about fifteen hundred being in Dublin alone,¹ while there are nearly three hundred more in our own National Museum, making a total of two thousand seven hundred specimens; the number of Scottish examples in our Museum is only two hundred and ninety-eight, eighty-one being flat axes, ninety-four flanged axes or palstaves, including two with the flanges in planes parallel to the cutting edge, and one hundred and twenty-three socketed axes, including five fragments of sockets and edges. Many other kinds of Bronze Age weapons and

¹ *Proc. Royal Irish Academy*, vol. xxxiii. p. 525.

implements preponderate in Ireland, though not to the same extent as the axe. In spite of this, the actual number of hoards of bronze objects of the period recorded from Scotland is considerably larger than that from Ireland—seventy¹ against thirty or thereby;² and the types of relics of which they are composed are generally more varied. This is difficult to explain, but the same thing applies to the stone moulds for casting flat bronze axes, eight having been found in the north-east of Scotland, and, so far as I can ascertain, only five in Ireland. Time, however, may reverse the positions. In England hoards are much more numerous, Sir John Evans having compiled a list of one hundred and three more than forty years ago,³ and many new discoveries have been reported since then.

Montelius in his "Chronology of the British Bronze Age"⁴ has divided the Bronze Age into five periods, which system has been adopted by Professor Macalister in his *Ireland in Pre-Celtic Times*; but, as certain types of objects are absent from, or very scarce in, the Scottish hoards and the general collections from the country, this system is not quite suitable for our purpose at present. In the following lists I have tabulated all the Scottish hoards which have come under my notice, arranging them in four chronological horizons according to the occurrence in them of flat copper axes, flat bronze axes, flanged axes and palstaves, and socketed axes, or of known contemporary types of objects. This may be considered rather an arbitrary system when we consider that during times of transition earlier types of weapons and implements would survive long after improved varieties had been evolved or introduced, but an examination of the list of Scottish hoards will show that the relics can be grouped into well-defined compartments containing very few cases of overlapping.

In considering the varieties of objects which should be assigned to the different periods, doubtless some of them, such as small tanged chisels without a shoulder or stop, flint arrow-heads, and stone axe-hammers, were in use during more than one, but only when such things have been found in association with objects belonging to different times have they been listed in more than one period.

Seventy hoards have been noted, of which one has been assigned to Period I.—the time of the flat copper axe; thirteen have been assigned

¹ Objects of bronze and ornaments found with pottery are not included in the lists of hoards; neither are hoards of gold objects, but they are included in the list of finds of Scottish Bronze Age gold ornaments at the end of this paper.

² *Proc. R.I.A.*, vol. xxxiii. p. 511; *Journal Royal Anthropol. Inst.*, vol. xxxi. p. 276; Coffey, *Bronze Age in Ireland*, p. 81.

³ *Ancient Bronze Implements*, p. 460.

⁴ *Archæologia*, vol. lxi. p. 97.

to Period II.—the time of the flat bronze axe; seven to Period III.—the time of the flanged axe and palstave; and forty-nine to Period IV.—the time of the socketed axe. The small number of hoards belonging to the first three periods is very marked, the same peculiarity being noticeable both in English and Irish hoards. In all likelihood this may be explained by the scarcity of metal in the earlier periods, by the practice of melting down weapons and implements which had become worn, broken, or obsolete, for the purpose of recasting them into more up-to-date and improved types, and by the increase in the stock of metal as time went on.

PERIOD I.—FLAT COPPER AXES.

There is only one hoard which can be assigned to this period, which Montelius calls the Copper Age.¹ This hoard was discovered at Tonderghie, Wigtonshire, in the extreme south of Scotland, and it consisted of six axes found in a clay vessel. Although it is more than one hundred and twenty years since these relics were discovered, and they have disappeared, the description of them in the old *Statistical Account of Scotland*, published in 1795, is so unusually explicit, that though the objects were not recognised as axes by the writer of the article, their true character is quite apparent. They are stated to have been made of *copper* and to have been found in an earthen vessel, and they are described as having been flat on one side and “a little rounded on the other.” Further, the outline of one appears as an illustration, from which it is seen that it is a flat axe of an early type, measuring $4\frac{3}{4}$ inches long and $2\frac{3}{4}$ inches broad. It bears a close resemblance to an axe of copper found near Perth (fig. 1)² and preserved in the Museum, which is almost similar in outline, and also flat on one side and rounded on the other. This axe is evidently unfinished, simply a rough casting fresh from the mould, and everything points to the Tonderghie examples having been the same. Even if the metal of which these axes were made had not been mentioned, the shape of the one illustrated and the few details regarding their form would justify our placing them at the very beginning of the flat axe period of Scotland. There are a few more Scottish flat copper axes in the National Museum, but the exact number cannot be stated as so few Scottish axes have been submitted to analysis, and perhaps some of the halbert blades may be of this metal.

¹ It is doubtful whether we are quite justified in speaking of a Copper Period in Scotland, as so few copper weapons have been recorded.

² *Museum Catalogue*, DA, 64.

PERIOD II.—FLAT BRONZE AXES.

Thirteen hoards fall into the flat bronze axe period; four of these consist solely of flat axes, four of flat axes and other relics, one of two axes with slight flanges and a dagger, three entirely of halberts and

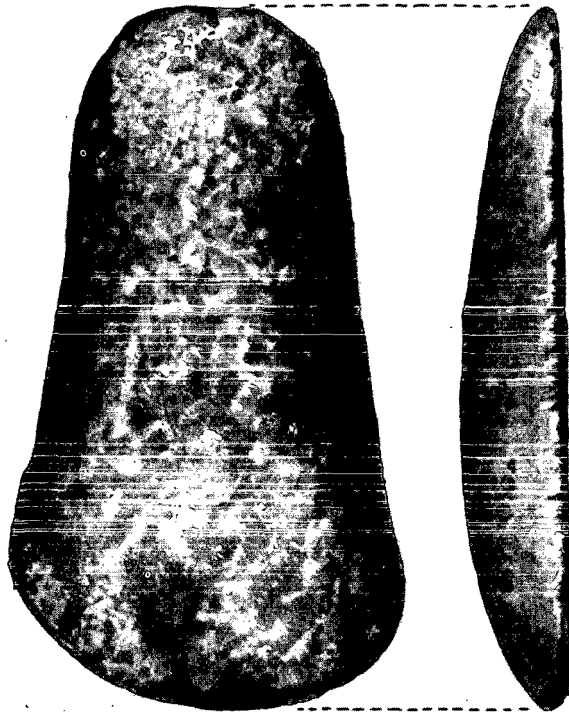


Fig. 1. Copper Axe from Perth (Period I.). (†.)

one of plain armlets. All the axes which have survived have broad, well-developed cutting edges. Of the first four hoards only those from Nairnshire and Colleopard, Banff, call for special mention. One of the Nairn axes has two broad shallow hollows or flutings on each face running parallel to the sides, which, instead of being flat, are angular with a series of impinging lenticular facets hammered in the apex, and there are a number of small cuts on the angle at the junction of the faces and sides. One of the Colleopard axes shows the faces decorated similarly

Number.	Where Found.	Flat Axes.	Flanged Axes.	Halberts.	Plain Armlets.	Miscellaneous Relics.	References.
PERIOD I.—FLAT COPPER AXES.							
1	Tonderghie, Whithorn, Wig- townshire.	6	..	..	..	clay vessel	<i>Statistical Account</i> , vol. xvi. p. 285, fig. on p. 286.
PERIOD II.—FLAT BRONZE AXES.							
1	Ladyhill, Avoch, Ross-shire .	5	..	..	..	..	<i>Proceedings</i> , vol. xix. p. 404.
2	Hill of Fortrie of Balnoon, Inverkeithney, Banffshire.	7	..	..	..	..	<i>Ibid.</i> , vol. i. p. 138.
3	Nairnshire	2	..	..	..	..	<i>Ibid.</i> , vol. lvi. p. 358.
4	Colleonard, Banff	7	..	..	..	..	<i>Ibid.</i> , vol. iii. p. 245.
5	Sluie, Edinkillie, Morayshire	2	..	1	..	..	<i>Ibid.</i> , vol. iv. p. 187, and vol. ix. p. 432.
6	The Maidens, Culzean, Ayr- shire.	5	..	..	1	..	<i>Ibid.</i> , vol. xvii. p. 433; <i>Arch. Coll. of Ayr and Wigton</i> , vol. iv. p. 1.
7	Auchnacree, Fern, Forfar- shire.	3	..	..	1	2 knives	<i>Proceedings</i> , vol. lvi. p. 351.
8	Migdale, Skibo, Sutherland .	2	..	..	6	2 or 3 ornamented armlets, 2 ear-rings, necklace of tubular bronze beads, 4 or 5 conical hollow bronze bosses, 6 jet buttons.	<i>Ibid.</i> , vol. xxxv. p. 266.
9	Gavel Moss, Lochwinnoch, Renfrewshire.	..	2	..	..	1 dagger.	
10	Baile-nan-Coille, Strath Brora, Sutherland.	..	..	3	..	..	<i>Ibid.</i> , vol. xvi. p. 240.
11	New Park, New Machar, Aber- deenshire.	..	..	3	..	..	<i>Proc. Anat. and An- throp. Soc. of Uni- versity of Aberdeen</i> , 1906-8, p. 115.
12	Kingarth, Bute . . . . .	..	..	3 or 5	..	..	<i>Proceedings</i> , vol. iv. p. 396.
13	Uppat, Sutherland . . . . .	..	..	..	2	..	Dunrobin Castle Museum.

to the Nairn example though the sides are flat, two of them—one of which is incomplete—have only one broad flat hollow running parallel to each side, three have the faces ornamented with rows of longitudinal incisions formed by a chisel with curved edge or perhaps by blows of an axe, and one, incomplete, is plain. The axes in the next four hoards are of normal form, but one, if not both, of the examples from Sluie, Morayshire, has a film of lightish colour on the surface as if it had been tinned; it is understood that these axes were found in association with a halbert, though the record is not quite clear on this point. Three of the hoards, from The Maidens, Ayrshire, Auchnacree, Forfarshire, and Migdale, Sutherland, which contained five, three, and two flat bronze axes respectively of the usual type, also included one or more examples of a plain armlet which, when perfect, was of regular thickness all round with a break in the ring, the ends being pressed closely together, and the inner curve of the ring slightly flattened so that it was of double convex section. In addition to an armlet the Auchnacree hoard contained two thin flat knives: the first, $6\frac{1}{2}$ inches in length, had straight sides tapering slightly towards a broad rounded point, and a semi-lunar butt which had had nine rivet holes (fig. 2, No. 5); and the second, $2\frac{1}{8}$ inches in length, had the sides worn slightly concave by sharpening and the point made narrow though not sharp, the base being triangular with five rivet holes (fig. 2, No. 4). The Migdale hoard, one of the most important found in Scotland, contained two flat axes, six plain armlets of the type just described, two cordoned armlets (fig. 2, No. 10), two ear-rings (fig. 2, No. 11), a necklace of tubular bronze beads, four or five conical hollow bronze bosses (fig. 2, No. 12), and six jet buttons with V-shaped perforations. These three hoards, with their special types of armlets, knives, and jet buttons, are invaluable, as they supply us with a set of links connecting chronologically the flat bronze axe with the beakers and food-vessels of the country.

For the information regarding the hoard from Gavel Moss, Renfrewshire, I am indebted to Mr Ludovic M'L. Mann. This hoard consists of two flat axes with slight flanges and curved, expanded cutting edges, and a dagger. The objects have been burnished by the person into whose hands they fell till they shine like gold, and have been partly mutilated by having been mounted on handles and nails driven through them to keep them in position. One axe measures 6 inches in length and $3\frac{1}{2}$ inches across the horns of the cutting edge, and the sides are decorated by oblique flutings so as to form the well-known cable design. The other axe, which measures $3\frac{1}{8}$ inches long and $2\frac{5}{8}$ inches across the horns of the edge, is decorated on the faces between the flanges by five longitudinal rows of herring-bone pattern, the apex of the angles pointing



Fig. 2. Group of Relics belonging to Period II., the time of the Flat Bronze Axe. (1/3.)
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towards the cutting edge, punched with a short-edged chisel, and there are three closely set crescentic rows of punctulations running parallel to the cutting edge immediately in front of the herring-bone pattern and just where the fore ends of the flanges merge in the sides. The dagger is imperfect at the butt, and now measures $8\frac{3}{4}$ inches in length and $2\frac{1}{2}$ inches across the widest part. The tapering blade is slightly rounded at the point, and it is strengthened on each face by three narrow rounded ribs, the outer two converging towards the point. As the greater part of the butt is wanting, there is no indication of the number of rivet holes by which it was fixed to the haft.

Although the armlet from The Maidens has been described as penannular, and that from Auchnacree has at present a break of $\frac{1}{8}$ inch breadth in the ring, there is no doubt that originally the ends of the ring in both cases fitted closely together. Several armlets of this type have been found in Scottish Bronze Age graves. A beautifully patinated example flattened on the inside was found with a beaker in a cist under a small cairn at Crawford, Lanarkshire.¹ No break can be detected in the ring, but this may be hidden by its thick patina; still, should the ring be completely annular, it is known that such armlets were fashioned in Scotland during the flat bronze axe period, as a mould found at Marnoch, Banffshire,² had matrices for an armlet of this type as well as for a flat axe and a bar or ingot. Two well-patinated armlets, with the ends of the ring fitting closely together, were found in a cist with a food-vessel and human remains at Kinneff Castle, Kincardineshire,³ one of the rings being flattened on the inside (fig. 2, No. 8), and the other of circular section. Fragments of what seems to have been an armlet of the type under review, flattened on the inside, were found with a food-vessel in a gravel pit at Ratho, Midlothian.⁴ A thin pin and a Romano-British dress-fastener of bronze were found at the same place, and though this is suggestive of a mixing of periods, it is much more likely that the armlet was associated with the food-vessel than with the dress-fastener. Two armlets flattened on the inside were found in a small cairn with cremated bones at Stobo, Peeblesshire.⁵ No pottery is mentioned in this record, but although cremation is more characteristic of the time of the cinerary urn, there are a number of authentic records of food-vessels found in Scotland with incinerated bones.

With regard to the occurrence of knives, of which two (fig. 2, Nos. 4 and 5) appear in the Auchnacree flat axe hoard, it may be recalled that

¹ *Proceedings*, vol. xvi. p. 147.

³ *Archæologia Scotica*, vol. v., app., p. 27.

⁵ *Proceedings*, vol. ii. p. 276.

² *Ibid.*, vol. xxxviii. p. 500.

⁴ *Museum Catalogue*, EQ, 157.

the larger of these had a thin flat blade, $6\frac{1}{2}$ inches in length, and tapering to a rounded point, which had been fixed to the haft by nine rivets. A broad, thin flat knife with a rounded point and two rivet holes, 6 inches in length, and a thin fillet of gold corrugated lengthwise which had ornamented the haft (fig. 2, Nos. 6 and 6A), were found amongst burnt bones in the gravel under a large cairn at Collessie, Fife. A beaker was found in a cist at the centre of the cairn, and another in the gravel under it.¹ Fragments of a thin flat blade and a stone bracer or wrist-guard were found with a beaker at Callachally, Glenforsa, Mull.² Another bracer (fig. 2, No. 14), it may be mentioned, was found with a beaker at Fyrish, Evanton, Ross-shire.³

Three other thin flat knives with rounded points have been found in short cists which, although they did not contain urns, probably belonged to the time of the beaker or the food-vessel. One, $3\frac{1}{18}$ inches long, was found in a short cist with a cup-marked cover stone at Letham Quarry, near Perth, along with unburnt human remains, two bone pins, one of which is shown in fig. 2, No. 18, and part of a bone ornament (fig. 15, No. 2);⁴ another, which measured $3\frac{7}{8}$ inches long, was found with two thin gold discs (fig. 16) at Barnhill, Broughty Ferry, Forfarshire;⁵ and the third, which measured $5\frac{7}{8}$ inches in length and had four rivet holes, was found with unburnt human remains and a narrow, corrugated fillet of gold for encircling the haft, in a cist in a large cairn at Skateraw, East Lothian.⁶ A similar mounting of gold was found with what seems to have been a food-vessel at Monikie, Forfarshire.⁷

So far we have dealt only with plain, flat, round-pointed blades, but there remain two examples of a different variety which, while they are thin and flat, are sharp pointed, triangular in shape, and provided with narrow ribs. These being strengthened by longitudinal ribs seem quite suitable for stabbing, and may be termed daggers. One, which is $6\frac{3}{4}$ inches long and has six rivet holes, was found with incinerated bones in a cist in a cairn at West Mains of Auchterhouse, Forfarshire.⁸ Its haft of ox-horn, broken and split into fragments, was recovered, and it had a triple reeded midrib running from the butt to the point. The other, 9 inches in length, which has four rivet holes and a central rib and two others converging from the butt towards the point (fig. 2, No. 7), was found in a short cist in a cairn at Blackwaterfoot, Arran.⁹ A thin fillet of gold, corrugated longitudinally, which had ornamented the hilt (fig. 2, No. 7A) was recovered with this blade. Although no pottery was found

¹ *Proceedings*, vol. xii. p. 440.

² *Ibid.*, vol. vi. p. 233.

³ *Ibid.*, vol. xxi. p. 321.

⁴ Anderson, *Scotland in Pagan Times—Bronze and Stone Ages*, p. 66, figs. 76 and 77.

⁵ *Proceedings*, vol. xxxii. p. 205.

⁶ *Ibid.*, vol. ix. p. 537.

⁷ *Ibid.*, vol. xxxi. p. 181.

⁸ *Ibid.*, vol. xxvii. p. 7, fig. 1.

⁹ *Ibid.*, vol. xxxvi. p. 118.

in these two graves or in three mentioned in the last paragraph, it is more likely that they belonged to the period of the beaker or food-vessel than to that of the cinerary urn, as the latter is not often found in cists in Scotland, while the two former are very frequently found in them. The presence of the midrib on a flat blade may suggest a later development and a later period for the objects so provided than for those with a plain flat blade. But as both types of implements have been found in similar burial structures, and with similar mountings of gold for their hafts, it is very probable that they belong to the same period, the one being meant primarily for cutting and the other for stabbing.

Only one hoard, from Sluie, Morayshire, shows the flat axe associated with the halbert; but this association is well established in Ireland and England. Of the three hoards which contained only halberts, two of them yielded three examples, and the third is believed to have consisted of five, though only three seem to have survived.

The remaining classes of relics found in association with the flat axe are the cordoned armlet, the ear-ring, the jet button, hollow conical bosses, and a necklace of tubular beads of bronze, the last two having been found only in one hoard, that from Migdale. An armlet somewhat similar to the cordoned armlet in this find was discovered in a short cist at Williamston, near Perth.¹ In addition to the relics already mentioned from Migdale was part of a band of bronze doubled up, which possibly had been an armlet and was ornamented with oval projections resembling those on the armlets (fig. 2, No. 9) found with a jet necklace in a short cist at Melfort, Argyll.² As for ear-rings, two of gold, one of which (fig. 2, No. 13) is preserved in the National Museum, were found in a short cist at Orton, Morayshire.³

The jet buttons with V-shaped perforations found in the Migdale hoard show that these objects were contemporary with the flat bronze axe. But three examples found in direct association with pottery have been recorded from Scotland; these (fig. 2, No. 19) were found with the fragments of a cinerary urn set round with boulders on the summit of a small wooded knove at Old Windymains, Keith Marischal, East Lothian.⁴ Near this urn, in the centre of the summit, was a short cist containing a skeleton in a crouching position, and the remains of an urn, possibly of the food-vessel variety, as it was estimated to have been about 6 inches in height. Buttons of this type have been found in England with beakers and food-vessels.

As this class of button is found in the second period, the Keith

¹ *Proceedings*, vol. liii. p. 19.

³ *Ibid.*, vol. viii. p. 28.

² *Ibid.*, vol. xix. p. 135.

⁴ *Ibid.*, vol. xxxiii. p. 68.

Marischal discovery raises the question whether the cinerary urn was made at this early time. Montelius has so placed it, and, if he is correct, it must have been almost contemporary with beakers and food-vessels. But, as it is quite probable that the buttons in this deposit may have been associated with the cist burial, or that they continued into later times, further evidence is required to justify us in allotting the Scottish cinerary urn to the second period.

Seven of the hoards containing axes come from the north and north-east of Scotland and only two, those from Ayrshire and Renfrewshire, from the south; but the three halbert hoards are better distributed—from Sutherland in the north, Aberdeenshire in the north-east, and Bute in the south-west. The distribution of the flat axe hoards is much the same as that of the flat axe moulds, as of the former one was found in Sutherland, one in Ross-shire, one in Nairnshire, one in Morayshire, two in Banffshire, and one in Forfarshire; while of the latter one came from Ross-shire, two from Morayshire, one from Banffshire, and four from Aberdeenshire.¹

It has been noted that several small mountings of gold have been found with some of the smaller implements of this period. In addition to these, a few more ornaments made of this precious metal which belong to this time have been found in Scotland. They include four of the crescentic objects known as lunulæ which have frequently been found in Ireland, and which, on the strength of the discovery of two examples with a flat bronze axe at Harlyn Bay, Padstow, Cornwall,² have been placed in this early period. The gold ear-rings (fig. 2, No. 13) found at Orton, Morayshire, probably belong to this time, as they were found in a cist, and examples of this class of ornament in bronze (fig. 2, No. 11), though not so elongated transversely, were found in the Migdale hoard.

Illustrated in fig. 2 are a number of relics which, although not found in the hoards, belong to this period. Necklaces formed of beads and plates of jet, of the forms Nos. 20-26, have frequently been discovered with beakers and food-vessels.³ The bronze armband, No. 9, was found in a cist with a jet necklace at Melfort, Argyll; the stone hammer, No. 15, with a food-vessel at Doune, Perthshire; the axe-hammer, No. 16, in a cairn at Hagg Wood, Foulden; and the flint arrow-head, No. 17, is one of four found with a beaker at Dairsie, Fife.

¹ *Proceedings*, vol. xxxviii. p. 492, and vol. xl. p. 35.

² *Arch. Journal*, vol. xxii. p. 276; *Antiquaries Journal*, vol. i. p. 294, and vol. ii. p. 96.

³ *Proceedings*, vol. i. p. 238.

PERIOD III.—FLANGED AXES AND PALSTAVES.

Of the period of the flanged axe and palstave are seven hoards, two consisting entirely of rapier blades. But before considering this group of relics it will be as well to state which are treated in this paper under the terms of flanged axes and palstaves. One hoard, that from Gavel Moss, which contained two axes with slight flanges, has been included in the previous period. My reason for doing so is that these axes in their general outline resemble more closely that of the best developed flat axe than of the flanged axe proper or the palstave. Both of the latter tools have a much shorter cutting edge than the normal flat axe or the slightly flanged axe. Also when the faces of the slightly flanged axe are ornamented, the technique and designs are those seen on the flat axe and not on the flanged axe or palstave. In the former there are rows of short lines, zigzag, and herring-bone patterns incised or punched, in the

Number.	Where Found.	Flanged Axes.	Palstaves.	Spear-heads with Loops.	Rapier Blades.	Razors	Miscellaneous Relics.	References.
PERIOD III.—FLANGED AXES AND PALSTAVES.								
1	Balcarray, Wigtownshire	..	3	..	..	..	..	<i>Proceedings</i> , vol. xiv. p. 131.
2	Glentrool, Kirkcudbrightshire	..	1	1	1	2	1 tanged knife, 1 torc, 1 pin, 4 chisels, small plate with two perforations, 1 glass bead, more than 13 amber beads.	<i>Ibid.</i> , vol. lv. p. 29 and lvi. p. 20.
3	Caldons Hill, Stoneykirk, Wigtownshire.	1	7	..	..	..	..	<i>Ibid.</i> , vol. xl. p. 11.
4	Craig-a-Bhodaich, Farr, Sutherland.	..	2	..	..	..	..	<i>Ibid.</i> , vol. xliii. p. 240.
5	Kirkgunzeon, Kirkcudbrightshire.	..	..	..	3	..	..	<i>Ibid.</i> , vol. xxii. p. 376.
6	Drumcoltran, Kirkcudbrightshire.	..	..	..	6	..	..	<i>Ibid.</i> , vol. xlvi. p. 333.
7	Traprain Law, East Lothian.	..	..	..	..	..	5 chisels.	<i>Ib d.</i> , vol. liv. p. 71, fig. 8.

latter the ornamentation consists of raised patterns of simpler form made when casting the implement. Montelius, it may be mentioned, adopts this classification, as axes with low flanges, sometimes with cable moulding on the sides, are included in his second or flat bronze axe period.¹ Under the term flanged axe in this group are included those examples with broad flanges which are usually of triangular shape, the apex being placed slightly behind the centre of the axe; they may or may not have an abrupt stop-ridge of greater or less size placed at right angles to and between the flanges (fig. 3, Nos. 1 and 2). Under the term palstave are included those axes with well-developed flanges, but which have the after part of the axe between the flanges much thinner than the front part, the stop being provided by a sharp curved slope or step instead of an abrupt stop-ridge (fig. 3, No. 3); also axes in which the flange, much reduced in width, curves round to form the stop (fig. 3, No. 4); this second sub-variety is usually provided with a loop on one side, no Scottish examples being known, so far as I can learn, with a loop on both sides. If we may judge from the number of examples in the National Museum, the palstave does not seem to have been a popular tool in Scotland, though the discovery of several moulds for casting them indicates that they were made in the country. In the National Museum there are twenty examples with slight flanges, which I have placed in the second period, and forty-five with well-developed flanges and no stop-ridge, twenty-six with similar flanges and narrow stop-ridge, eight palstaves with prominent flanges and fifteen with less prominent flanges curving into the stop, provided with a single loop, which go into the third period. I do not know of any Scottish winged axe of the type found on the Continent and occasionally in England, that is, the type with prominent flanges placed close to the butt-end and bent over so as to form a kind of double socket; neither have I ever heard of a Scottish socketed axe which retains the memory of the wings as a decorative motive.

The three axes from Balcarry, and the one from Glentrool, Kirkcudbrightshire, are palstaves of the first described variety, the early type; while the two from Farr, Sutherland, and five from Caldonshill, belong to the second described variety, each having a single loop. One of the Caldonshill lot is a flanged axe without a stop-ridge of early form, which had survived to the time of the fully developed palstave,² and it is the only example of the flanged axe in this group of hoards.

¹ *Archæologia*, vol. lxi. p. 97.

² Five of the axes from this hoard are in the National Museum, and there is another in Glasgow. Two more are understood to be in private hands in Wigtownshire, but I have not seen them, and it is believed that several others still survive.

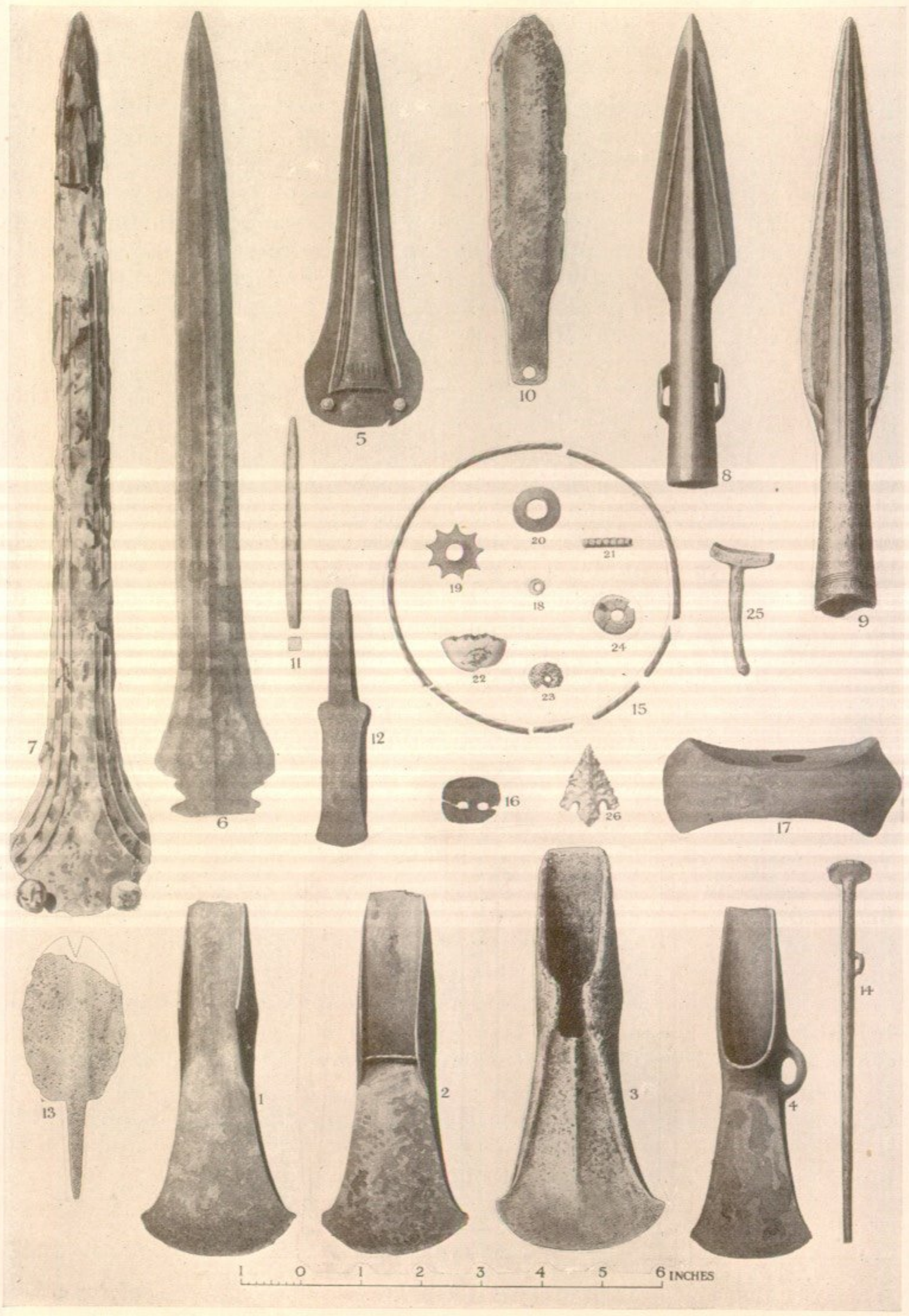


Fig. 3. Group of Relics belonging to Period III., the time of the Flanged Axe. (1.)

Associated with the Glentrool axe (fig. 3, No. 3) were a rather broad rapier blade (fig. 3, No. 7), a spear-head with small loops at the base of the wings of the blade (fig. 3, No. 9), a tanged knife of unusual form (fig. 3, No. 10), two razors with bifid blades (fig. 3, No. 13), four small chisels or punches (fig. 3, No. 11), a massive disc-headed pin with a loop on the stem (fig. 3, No. 14), fragments of a torc of twisted wire (fig. 3, No. 15), a small oval plate with two perforations placed on one side of, but parallel to, the medial line (fig. 3, No. 16), at least thirteen amber beads generally of discoid or oblate form (fig. 3, Nos. 22-24), and a small bead of translucent blue glass (fig. 3, No. 18).

The rapier blades from Kirkgunzeon and Drumcoltran, both in the Stewartry of Kirkcudbright, are fine castings, the blades being slender and fluted.

No Scottish Bronze Age hoard exhibits such a variety of types of objects as that from Glentrool. It established the contemporaneity in Scotland of the early type of palstave with the spear-head with loops on the socket at the base of the blade; an early variety of the rapier and razor, the latter not yet having developed the perforation below the notch in the tip of the blade; an early form of torc, possibly to be distinguished by the thinness of the wire of which it is formed, and the massive pin with a loop on the stem. Small chisels like those found in the hoard may have been known during the period of the flat bronze axe, as some such tool would be required to form the herring-bone patterns which are seen on some of them, and probably they may have lasted into the period of the socketed axe. The group of five small chisels found together in the fort on Traprain Law, although placed in Period III., may easily have belonged to later times, as most of the Bronze Age relics found on the hill belong to Period IV. Regarding the amber beads, such ornaments were known in Scotland during the time of the flat bronze axe, Period II., as they have been found with a jet necklace and part of a food-vessel at Rothie-Norman, Aberdeenshire,¹ and they continued to be prized throughout, and after the close of, the Bronze Age.

The presence of the glass bead in the Glentrool find is of special importance, as it may assist us in determining which implements and weapons were contemporary with certain varieties of the cinerary urn. In 1891, a burial cairn was excavated on the farm of Gilchorn, Forfarshire,² when a large inverted cinerary urn was found containing an incense cup and incinerated bones. In the cavity from which the urns had been extracted was a small oval bead of whitish glass (fig. 4). A second large cinerary urn was also found in a broken condition, and



Fig. 4. Glass Bead, Gilchorn. (†.)

¹ *Proceedings*, vol. vi. p. 218.

² *Ibid.*, vol. xxv. p. 447.

in the soil beneath it a small leaf-shaped blade of bronze about 3 inches in length with a slight midrib, and a deep notch on each side at one end for fixing it to the haft (fig. 5). Fragments of two more small bronze implements with flat blades, probably knives or daggers, were found under the centre of the cairn in a cavity which seemed to have been rifled at some previous time. In this record we find two large cinerary

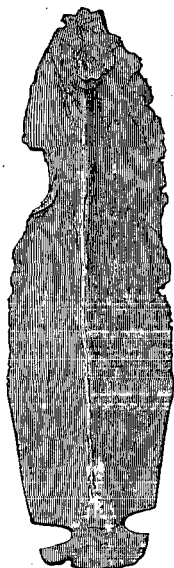


Fig. 5. Bronze Blade from Gilchorn. (1.)

urns with an incense cup, a small glass bead, and a little bronze implement provided with a peculiar device for the attachment of the haft. This arrangement, two deep notches at the butt-end of the object, occurs on a short broad rapier blade or long dagger blade found in the river Cree, Kirkcudbrightshire (fig. 3, No. 6), which is preserved in the National Museum, and is well known in English and Irish examples. The occurrence of a glass bead in the Glentool hoard and in the Gilchorn group of relics (the first containing a rapier blade and the second two cinerary urns of a pronounced type, as well as a small bronze instrument which was fixed to its haft in the same way as certain rapier blades) permits of the suggestion that the cinerary urn with a heavy overhanging rim was contemporary with the bronze rapier blade in Scotland. It must be admitted that the evidence is slight and that the deductions are not conclusive, but pending further information on this very obscure subject, the possibility of these objects being contemporary should be considered.

Relics found with Scottish cinerary urns do not help us very much in ascertaining the chronological position of the pottery relative to that of the weapons and implements of its period. In addition to the Gilchorn discoveries, thin, flat bronze blades have been found with cinerary urns at Stobshiel, East Lothian,¹ at Shuttlefield, Lockerbie, Dumfriesshire (fig. 6),² at Cambusbarron, Stirlingshire, where a stone hammer was also found,³ and at Standing Stones, New Deer, Aberdeenshire, with an incense cup;⁴ but as generally only small portions of them remain, it is impossible to determine the true character of the implements or to which of our periods the pottery belongs.

Perforated stone hammers or axe-hammers have been found in a number of sepulchral deposits in Scotland, but as their use seems to have extended over a long period of time—from the Neolithic well through the Bronze Age—they do not advance our inquiries much further.

¹ *Proceedings*, vol. xvi. p. 475.

² *Ibid.*, vol. xiv. p. 280.

³ *Ibid.*, vol. v. p. 213.

⁴ *Ibid.*, vol. xxxv. p. 258.

A stone hammer was found in the horned chambered cairn at Ormiegill, Caithness,¹ and another with neolithic pottery and three fine flint knives in the segmented chambered cairn at Tormore, Arran,² which belong to neolithic times. One was found with a food-vessel under a cairn at Glenhead, Doune, Perthshire,³ while one was found in a cist with unburnt human remains at Cleughhead, Glenbervie, Kincardineshire.⁴ An axe-hammer was found on the original surface under a cairn, which yielded up two food-vessels and several flint knives and a scraper at the Hagg Wood, Berwickshire.⁵ A hammer as already noted was found with a cinerary urn and a small fragment of a flat bronze blade at Cambusbarron, Stirlingshire; and another with at least nine cinerary urns, of which seven were plain unornamented vessels and two had heavy overhanging rims, at 63 Nelson Street, Largs,⁶ in 1908 and 1909. Axe-hammers have been found with or near cinerary urns in a stone circle at Crichtie, Kintore, Aberdeenshire;⁷ at Oban, Argyll (fig. 3, No. 17);⁸ at Lawfield, Kilmacollm, Renfrewshire;⁹ at Glengyre, Wigtownshire;¹⁰ and at the Fossil Grove, Whiteinch, Glasgow.¹¹

Probably some of these hammers and axe-hammers belong to the next period, that of the socketed axe, as some of them have been found with cinerary urns having heavy overhanging rims—a type of vessel found also with the small oval bronze blade decorated on both faces with lozenge designs which, we shall see later, was contemporary with socketed axes.

Another class of stone objects which must have been in general use ever since the working of metals began is the whetstone; but extremely few of these instruments have been found in Scotland directly associated with relics of the Bronze Age, although numbers probably dating to this period have been found in many parts as casual finds. In the National Museum are two stone objects found at Easter Cairnhill, Peeblesshire (fig. 7, No. 1), and Castle Menzies, Perthshire, $4\frac{3}{16}$ inches by $1\frac{5}{16}$ inch by $\frac{7}{16}$ inch, and $3\frac{3}{4}$ inches by $\frac{3}{4}$ inch by $\frac{5}{16}$ inch, flat on one side and rounded on the other, with semicircular ends, which probably have been used as whetstones. As a similar object was found

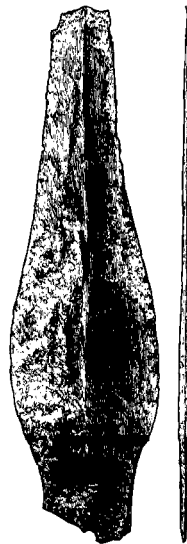


Fig. 6. Bronze Blade from Shuttlefield. (4.)

¹ *Proceedings*, vol. vii. p. 499.

² *Ibid.*, vol. xvii. p. 452.

³ *Ibid.*, vol. xlviii. p. 316.

⁷ *Proceedings*, vol. xviii. p. 319.

⁹ *Supra*, p. 104.

¹¹ *Ibid.*, p. 105.

² *Ibid.*, vol. xxxvi. p. 100.

⁴ *Ibid.*, vol. xii. p. 609.

⁶ *Archæologia*, vol. lxii. p. 239.

⁸ *Ibid.*, vol. xxxii. p. 58.

¹⁰ *Ibid.*, pp. 98 and 102.

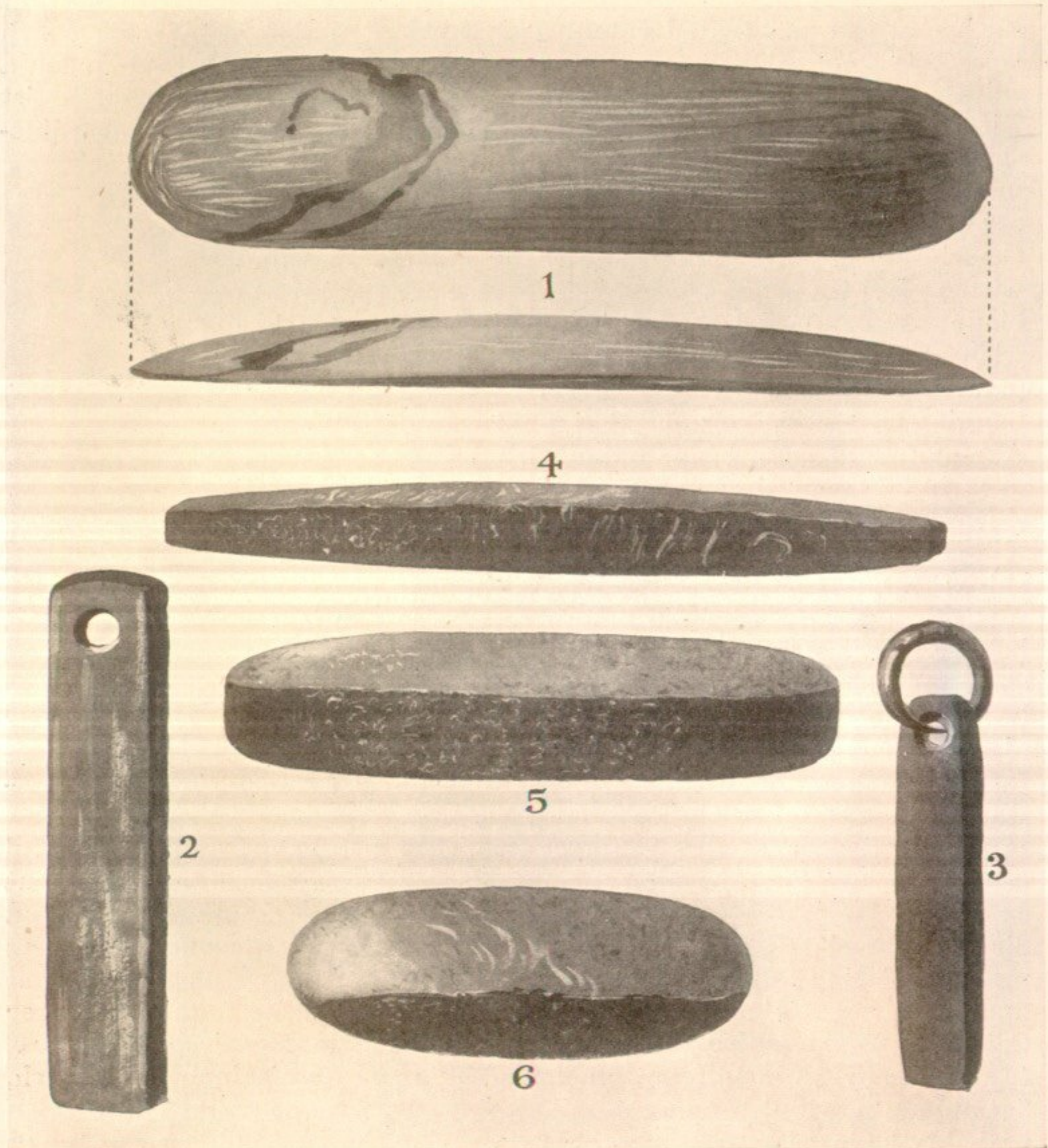


Fig. 7. Whetstones: (1) from Easter Cairnhill; (2) from Glenluce Sands; (3) from North Uist; (4) from Glendhu, Sutherland; (5) locality unknown; (6) from Torries, Oyne, Aberdeenshire. (†).

in a barrow at Rudstone, Yorkshire,¹ with a human skeleton, and jet buttons with V-shaped perforations, this type of instrument may be assigned to our second period. Besides this type of whetstone there are numerous Scottish examples, beautifully fashioned, of reddish quartzite and other hard stones which seem to belong to the Bronze Age, some of them being perforated at one end. They are of small size, square or rectangular in section, and taper to the ends, which sometimes are rounded horizontally (fig. 7, Nos. 4-6). One of grey micaceous schist with an incomplete perforation at one end (fig. 8) was found in a cairn at Meiklerigg, Stenton, East Lothian.² In the cairn were two cists, one containing a cinerary urn with a heavy overhanging rim, and incinerated bones, and the other the remains of a skeleton, a well-flaked flint knife, and the whetstone. Another (fig. 7, No. 2) was found with the remains of a bronze dagger and incinerated bones in a cinerary urn on Glenluce Sands.³



Fig. 8. Whetstone from Meiklerigg, Stenton.

Although large numbers of whetstones, many of them very carefully made, have been found in the brochs, crannogs, earth-houses, and hill-forts of the Iron Age, those of the finely fashioned quartzite type are not included amongst them. In the National Museum we have a very large number of whetstones from such sites, but of these only one found in the fort of Dunadd, Argyll, resembles the quartzite examples in size and form, but it is made of schist. These little instruments were perhaps used more as burnishers for finishing off the bronzes than as mere sharpeners or whetstones. Less numerous are irregularly shaped, water-rolled pebbles of quartzite with worn facets on one or more edges, which may also have been Bronze Age burnishers: one of these was found in the fort on Traprain Law.

A large, cordoned cinerary urn found at Balneil, Wigtownshire,⁴ contained a crutch-shaped bone ornament (fig. 3, No. 25), a quoit-shaped bead of bluish vitreous paste (fig. 3, No. 20), and a bronze chisel with a broad blade ending in abrupt shoulders, above which is a stout square tang much narrower than the blade (fig. 3, No. 12). The chisel is of unusual if not unique form, and we cannot say definitely what was its period.

The bead of bluish vitreous paste is an important piece of evidence. Beads of this material more or less bleached, in the form of a star (fig. 3, No. 19), or segmented (fig. 3, No. 21)—that is, like a number of small beads stuck end to end—have been found three times with cinerary urns in Scotland. A segmented bead was found in a cinerary urn at Mill of

¹ *British Barrows*, p. 263, fig. 14.

³ *Ibid.*, vol. xxii. p. 67.

² *Proceedings*, vol. xiv. p. 221.

⁴ *Ibid.*, vol. i. p. 302.

Marcus, Forfarshire,¹ two were found with a star-shaped bead in one of the cinerary urns found in a cairn on the Stevenson Sands, Ayrshire,² and a star-shaped example was recovered from a cinerary urn at Pitdoulzie, Auchterless, Aberdeenshire.³ Segmented beads closely resembling the Scottish examples in shape and colour and described as of bluish faience have been found in graves in the south of England, and have been claimed as imports from Egypt. Whether this is correct or not, I do not think there is much doubt that the Scottish beads were manufactured in Scotland. They are not made of faience but of vitreous paste, and the smaller ones are translucent. I cannot learn of any star-shaped beads of the Scottish type having been found in Egypt, while they have been found in widely separated parts of our country. In addition to those found with cinerary urns other star-shaped beads have been picked up as surface finds in Morayshire, Aberdeenshire, Perthshire, and Wigtownshire,⁴ and segmented beads in Morayshire, Ayrshire, and Wigtownshire.⁵ Several quoit- and star-shaped beads have been found in Ireland.⁶

Only one of the hoards of the third period comes from the north of Scotland, from Sutherland, the most northerly county on the mainland, and five of the remaining six, which include the two consisting solely of rapier blades, from the adjoining counties of Wigtown and Kirkcudbright, in the extreme south. When we consider the small number of palstaves found in Scotland compared with that of flanged axes, and the distribution of the hoards, it might be suggested that the palstaves were imported from Ireland, which lies only about twenty miles from the Wigtownshire coast. But this does not follow, as halves of three moulds for axes of this period have been discovered in the country. Still they do not help us very much in clearing up this point, as two are incomplete and one is of quite an abnormal if not unique type. One of the first two, which shows only the front portion of the blade, comes from Eildon Camp, Roxburghshire, in the south-east, and the other, which also shows only the front part but which may have been for casting palstaves, is believed to have been found in Orkney, in the far north; the third mould, from Glengyre, Wigtownshire,⁷ would produce an axe-like object of palstave form, only instead of having hollows on the faces near the butt-end between the wings, it would have projections increasing in size from the butt-end to a short distance in front of the centre, these projections having rounded terminals facing the cutting edge, so that it is impossible to understand their purport or how the implement was fixed to the haft.

¹ *Proceedings*, vol. xxiv. p. 470.

² *Ibid.*, vol. xl. p. 387.

³ *Ibid.*, p. 36.

⁴ *Ibid.*, pp. 33, 387.

⁵ *Ibid.*, p. 399.

⁶ *Ibid.*, p. 38.

⁷ *Supra*, p. 105.

Though no objects of gold appear in this group of hoards, a coiled armlet of this metal belonging to this period, formed by twisting three wires together, welding the ends and turning them back about two inches, was found at Slateford, Midlothian (fig. 18), and one of nearly similar shape with three palstaves at Grunty Fen, Cambridge.¹ The English example, however, is of cruciform section. What seems to have been a gold torc of the Glentrool variety was found in a damaged condition in a stone circle at Leys, near Inverness.²

PERIOD IV.—THE SOCKETED AXE.

Forty-nine hoards belong to the time of the socketed axe (fig. 9, Nos. 1-3), the commonest types of weapons appearing in them being the socketed axe itself, the spear-head without loops but with pin holes in the socket (fig. 9, Nos. 7 and 8), and the sword (fig. 9, Nos. 4 and 5). Of the many varieties of relics which are mentioned in this list of hoards, all but one—the bronze shield, which occurs alone in three different finds—have been found either in direct association with these axes, or with types of relics found in other deposits with them; so there is no doubt that with the exception of three or four varieties of relics, which must be considered survivals from an earlier time, all of them belong to the period under review.

Four of the hoards consist only of socketed axes; in other nineteen these implements occur in association with other objects. In eight hoards they have been found with only one other type of relic, namely, in three with spear-heads, in two with swords, in one with a knife, in one with razors, and in one with penannular armlets with expanding terminals. In the last-mentioned hoard, from Rehill, Premnay, nine axes and a number of armlets were found, but only one of the former and two of the latter are now traceable, these objects having been placed in the National Museum. At Balmashanner, Forfarshire, an imperfect socketed axe was found with twelve penannular armlets of the type just described, ten bronze rings without a break in them, varying from $\frac{3}{4}$ inch to $3\frac{7}{16}$ inches in external diameter, the greater part of a bowl of cast bronze (fig. 9, No. 26),³ four penannular hollow gold ornaments of triangular section, three small penannular ornaments of bronze covered with gold foil, thirty-one amber beads and four jet beads. In the hoard from Poolewe, Ross-shire, five axes were discovered with a cauldron ring, a hollow ring, 2 inches in diameter, and a penannular ornament

¹ *Cambridge Antiq. Soc. Proc.*, vol. xii. p. 96; *Archæologia*, vol. lxi. p. 131.

² *Prehist. Ann. of Scotland*, vol. i. p. 163.

³ A similar bowl was found at Ardoe, Aberdeenshire.—Abercromby, *Bronze Age Pottery*, vol. ii. p. 21, pl. cviii. O. 7.

Number.	Locality where Found.	Socketed Axes.	Spear-heads with Loops.	Spear-heads with Pin-holes.	Swords.	Chapes.	Gouges.	Curved Tools.	Razors.	Penannular Arm-lets.	Shields.
PERIOD IV.—SOCKETED											
1	Eildon Hills, Roxburghshire .	2	..	..	..	..	..	..	..	..	..
2	Gillespie, Old Luce, Wigtownshire.	3	..	..	..	..	..	..	..	..	..
3	Bells Mills, Dean, Edinburgh .	5	..	..	..	..	..	..	..	..	..
4	Traprain Law, East Lothian .	3	..	..	..	..	..	..	..	..	..
5	Balmashanner, Forfarshire .	1	..	..	..	..	..	..	..	12	..
6	Rehill, Premnay, Aberdeenshire.	9	..	..	..	..	..	..	..	2+	..
7	Poolewe, Ross-shire	5	..	..	..	..	..	..	..	..	..
8	Gospertie, Fife	12 (about)	..	6	..	..	..	..	..	..	..
9	Castlehill, Forfar	4	..	1	..	..	..	..	..	..	..
10	Highfield, Dingwall, Ross-shire	4	..	2	..	..	..	..	..	..	..
11	Auchtertyre, Morayshire . . .	1	..	2	..	..	..	..	..	6	..
12	Inshoch, Nairnshire	2	..	2	..	..	..	..	..	..	..
13	Monmore, Killin, Perthshire . .	2	..	1	..	..	1	..	..	1	..
14	Torran, Ford, Argyll . . . . .	..	..	1	..	..	1	..	..	..	..
15	Adabrock, Ness, Lewis	2	..	1	..	..	1	..	3	..	..
16	Cullerne, Findhorn, Morayshire	1	..	2	..	..	..	1	1	..	..
17	Wester Ord, Invergordon, Ross-shire.	(?)	..	..	..	..	..	1	..	..	..
18	Point of Sleat, Skye . . . . .	..	..	2	1	..	..	1	..	..	..
19	Kilkerran, Ayrshire	4	..	..	1	..	..	..	..	..	..
20	Islay, Argyll	2	1	..	..	..	..	..	..	..	..
21	Grosvenor Crescent, Edinburgh	1	..	..	14 or 15	..	..	..	..	..	..
22	Grassieslack, Daviot, Aberdeenshire.	1	..	..	1	..	..	..	..	..	..
23	Arthur's Seat, Edinburgh	1	..	..	2	..	..	..	..	..	..
24	Corsbie Moss, Berwickshire . . .	..	1	..	1	..	..	..	..	..	..
25	Murrayfield, Edinburgh . . . . .	..	..	2	..	..	..	..	..	..	..
26	West of Scotland . . . . .	..	..	1	..	..	..	..	..	..	..
27	Haddo House, Methlick, Aberdeenshire.	..	..	..	4	..	..	..	..	..	..

Miscellaneous Relics.	References.	Number.
BRONZE AXES.		
..	<i>Proceedings</i> , vol. xlv. p. 418.	1
..	<i>Ibid.</i> , vol. lvi. p. 210.	2
..	<i>Ibid.</i> , vol. vi. p. 275.	3
..	<i>Ibid.</i> , vol. xxvi. p. 182.	4
10 bronze rings, 4 penannular gold objects of triangular section, 3 small penannular gold objects, 31 amber beads, 4 jet beads, part of a cast bronze bowl.	<i>Ibid.</i> , vol. i. p. 138.	5
..	<i>Ibid.</i> , vol. xiv. p. 45.	6
2 cauldron ring, 1 hollow ring, 1 penannular ornament with cup-shaped ends.	<i>Scotland in Pagan Times—Bronze and Stone Ages</i> , p. 147.	7
..	<i>Proceedings</i> , vol. ii. p. 65.	8
..	Smellie, <i>Account of S.A. Scot.</i> , pt. I. p. 54.	9
..	<i>Proceedings</i> , vol. ix. p. 435.	10
Fragments of ring of tin 1 large semi-tubular ring	<i>Scotland in Pagan Times—Bronze and Stone Ages?</i> , p. 153.	11
1 tanged knife, 9 rings from $1\frac{1}{16}$ inch to $2\frac{1}{16}$ inches in diameter, 1 large semi-tubular ring.	<i>Proceedings</i> , vol. liv. p. 129.	12
..	<i>Ibid.</i>	13
1 chisel, 1 hammer, part of bronze bowl, 2 whetstones, 1 gold bead, 1 glass bead, 2 amber beads.	<i>Ibid.</i> , vol. xlv. p. 27.	14
..	<i>Ibid.</i> , vol. liv. p. 124.	15
2 rings, ornamented rod	<i>Ibid.</i> , p. 129.	16
..	<i>Ibid.</i> <i>D. Wilson Prehist. Annual.</i>	17
1 pin with cup-shaped head	<i>Ibid.</i> , vol. xix. p. 315. <i>Proc. Soc. Ant. Scot.</i> vol. IV. p. 315.	18
2 cauldron rings	<i>Ibid.</i> , vol. xvii. p. 409.	19
1 halbert, 1 flanged axe	<i>Ibid.</i> , vol. xiii. p. 320.	20
1 pin, 1 ring, 1 small semi-tubular ring with loops behind.	<i>Ibid.</i> , vol. xlvii. p. 450.	21
..	<i>Prehistoric Annals of Scotland</i> , vol. i. p. 351.	22
..	<i>Proceedings</i> , vol. lv. p. 17.	23
..	<i>Ibid.</i> , vol. xxvii. p. 7.	24
Ferrule with wide expanding butt	<i>Ibid.</i> , vol. xxviii. p. 237.	25
..	<i>Ibid.</i> , vol. xxii. p. 362.	26
..		27

Miscellaneous Relics.	References.	Number.
BRONZE AXES—continued.		
..	<i>Proceedings</i> , vol. xiv. p. 316.	28
..	<i>Glasgow Exhibition, 1911, Catalogue</i> , p. 880.	29
..	<i>Proceedings</i> , vol. xxvii. p. 38.	30
..	<i>Ibid.</i> , vol. vi. p. 252.	31
..	<i>Ibid.</i> , vol. xxi. pp. 9 and 220.	32
..	Murray Thriepland Collection.	33
..	Preserved in Drumlanrig Castle.	34
..	<i>Proceeding</i> , vol. xi. p. 121.	35
..	<i>Glasgow Exhibition, 1911, Catalogue</i> , pp. 880	36
..	and 882.	
1 penannular gold object of triangular section	<i>Proceedings</i> , vol. xiii. p. 331.	37
..	<i>Ibid.</i> , vol. xix. p. 328.	38
..	<i>Ibid.</i> , vol. i. p. 181.	39
2 bronze pins	<i>Ancient Bronze Implements</i> , p. 290.	40
1 ring 1 inch in diameter	<i>Proceedings</i> , vol. xix. p. 327.	41
1 small blade, 1 point of a rapier, 1 cauldron ring	<i>Ibid.</i> , vol. lvi. p. 360.	42
1 socketed knife	<i>Ibid.</i> , vol. xxiii. p. 15.	43
1 socketed knife	<i>Ibid.</i> , vol. lvi. p. 356.	44
..	<i>Archæologia Scotica</i> , vol. iii. p. 44.	45
3 necklets, 3 small rings joined together by thin	<i>Proceedings</i> , vol. xxv. p. 135.	46
hooked bands.	<i>Ibid.</i> , vol. v. p. 165.	47
..	<i>Ibid.</i> , vol. v. p. 165, and vol. viii. p. 393.	48
..	<i>Ibid.</i> , vol. xxxii. p. 8.	49

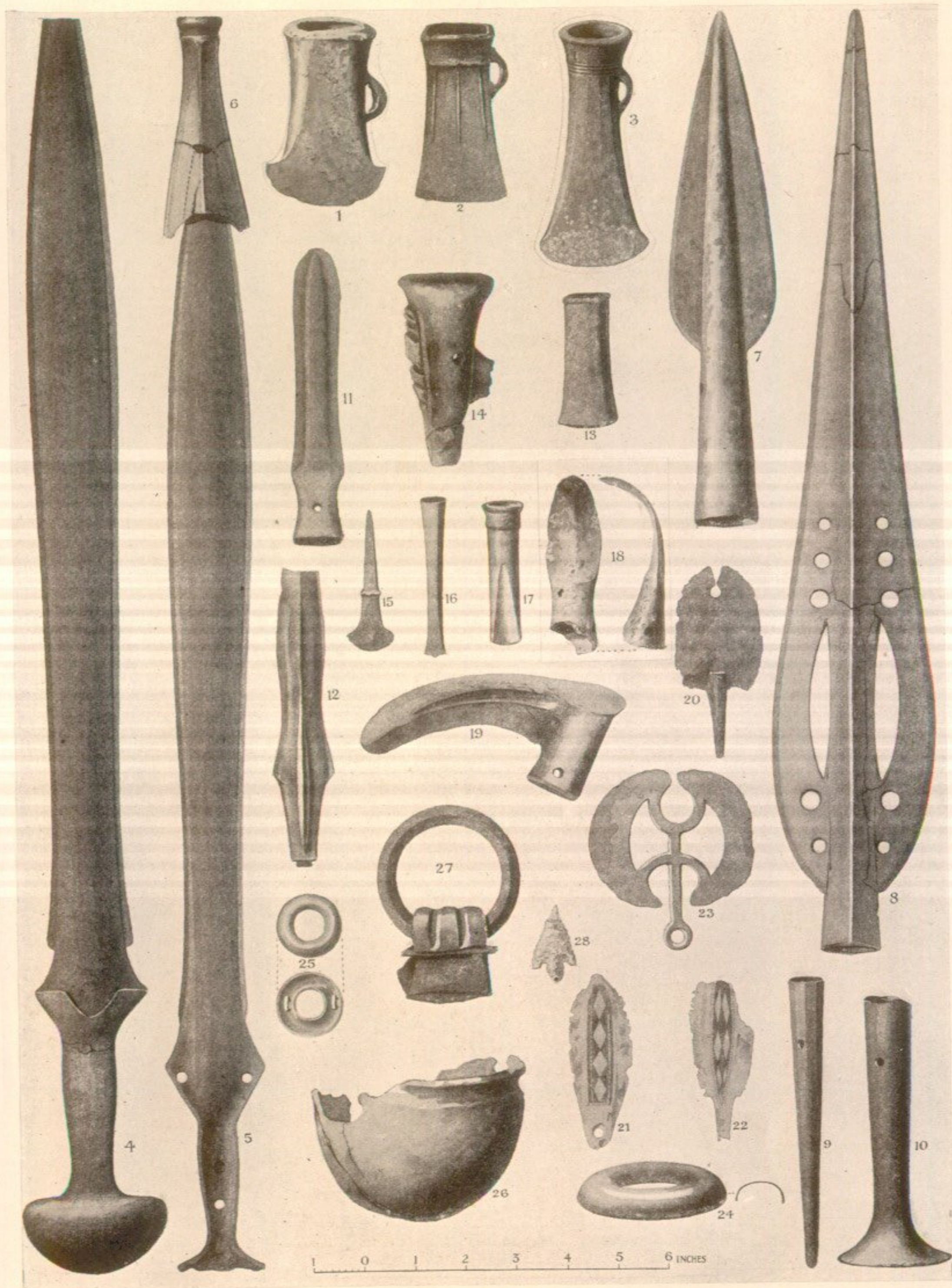


Fig. 9. Group of Relics belonging to Period IV., the time of the Socketed Axe. (ca. $\frac{1}{3}$.)

of bronze with large expanding cup-shaped terminals, of the type so frequently found in Ireland made of gold.

At Auchtertyre, Morayshire, a socketed axe, two spear-heads with pin holes and six penannular armlets were found associated with fragments of a small ring of tin, and at Inshoch, Nairn, two similar axes and spear-heads with a semi-tubular ring, $2\frac{1}{16}$ inches in external

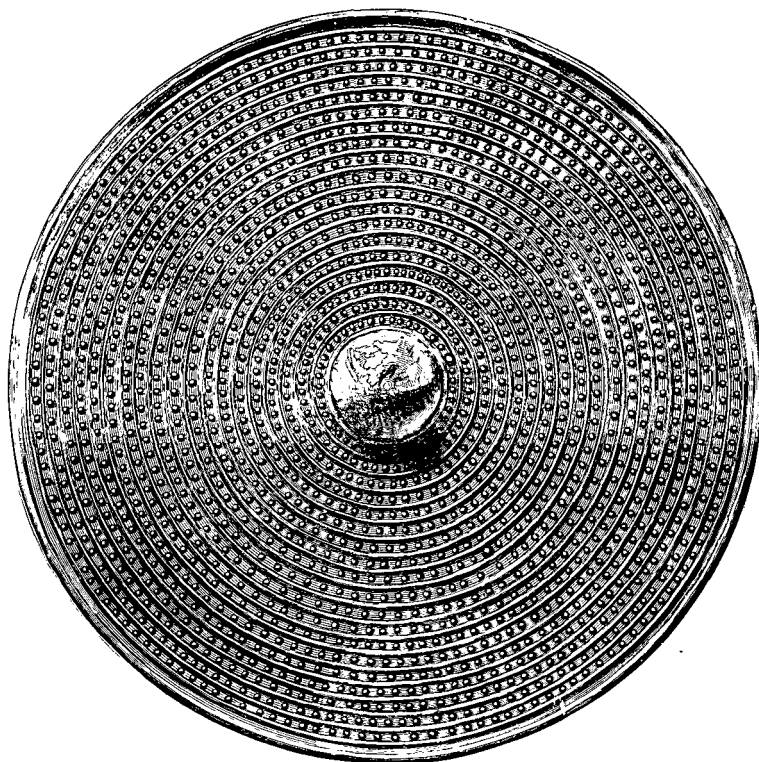


Fig. 10. Bronze Shield from Yetholm.

diameter and $\frac{1}{16}$ inch in breadth. This very unusual type of ring, of which the method of attachment is not apparent, looks like a hollow ring cut in half round the periphery. Uncommon though it may be, it is not the only example found in Scotland, as another, $2\frac{7}{8}$ inches in diameter and $\frac{1}{16}$ inch in breadth, was got at Monmore, Killin, Perthshire (fig. 9, No. 24), with two socketed axes, the greater portion of a knife with a rib on the medial line of the tang for fixing it to the haft (fig. 9, No. 12), a socketed gouge, a penannular armlet with expanding ends, and nine rings without a break, measur-

ing from $1\frac{3}{16}$ inch to $2\frac{1}{2}$ inches in diameter. The association of the gouge and socketed axe is seen again in the hoard from Adabrock, Lewis, which comprised two axes, one spear-head with rivet holes, a gouge, a tanged chisel (fig. 9, No. 15), the only bronze hammer (fig. 9, No. 13) found in Scotland, three razors with bifid blades, portions of a thin bronze bowl, two whetstones, one bead of gold, one of glass, and two of amber. One more gouge was found with a spear-head at Torran, Ford, Argyll. Another variety of relic, which like the gouge is a wood-worker's tool, is the small socketed and curved bronze blade with a midrib on the inside of the curve only; it also has been found with socketed axes. In the Cullerne, Morayshire, hoard were a socketed axe (fig. 9, No. 1), two spear-heads, one of these curved tools (fig. 9, No. 18), and a razor with a bifid blade; and in the hoard from Wester Ord, Ross-shire, axes (number not specified), a curved tool, two rings, and an ornamented rod of bronze. A third curved and socketed blade was found at the Point of Sleat, Skye, with two spear-heads, a sword, and a pin with a cup-shaped head. One hoard found at Kilkerran, Ayrshire, consisted of four axes, part of a sword, and two cauldron rings; another at Grosvenor Crescent, Edinburgh, consisted of one axe, fourteen or fifteen swords, the head of a disc-headed pin, the head bent over and lying parallel to the stem, a small semi-tubular mounting with two loops on the back (fig. 9, No. 25), and a ring, 3 inches in diameter, without a break in it. A hoard from the Island of Islay contained two socketed axes, a spear-head with loops, a flanged axe, or perhaps adze, as the cutting edge was parallel to the wings, and a halbert. Only one other spear-head with loops appears in the fourth group of hoards, and it was found with a sword, without notches on the edge of the blade, at Corsbie Moss, Berwickshire. We have seen that this class of spear-head has been assigned to the period of the palstave, and its occurrences with socketed axes and with an early sword points to the survival of an earlier type into a later period. The same might be said of the occurrence of the halbert with the socketed axe, but Mr W. Parker Brewis has drawn attention to a somewhat analogous hoard containing a halbert, a sword, and a spear-head found at Stoke Ferry, Norfolk,¹ and from these two discoveries suggests that the halbert blade survived into much later times than has been generally accepted. The imperforate bifid razor blades, which were found associated with perforated examples and socketed axes, in the Dunbar and Adabrock hoards, were possibly also survivals of early types into later times.

In addition to those hoards containing swords which have been discussed already, seven call for remark. Five of these contained chapes

¹ Evans, *Ancient Bronze Implements*, p. 270.

of the narrow-though not sharp-pointed variety. The hoard from the Clyde, near Renfrew, consisted of two swords and a chape; the one from Gogar House, Midlothian,¹ of a sword, a chape, and a hollow gold penannular ornament of triangular section; the one from Kilconan, Argyll, of five swords, a chape, and a socketed spear-head with rivet holes; that from Cauldhame, Brechin, of four swords (fig. 9, No. 5), a chape (fig. 9, No. 6), and a similar spear-head; and that from Ythsie, Aberdeenshire, of three swords, a chape, and two pins of the sunflower type. The remaining hoards from Kelton, Kirkcudbright, and Duddingston Loch, Edinburgh, consisted of a sword and a ring, $1\frac{5}{16}$ inch in diameter, in the former, and at least seven swords, twelve spear-heads, a small blade, the point of a rapier blade, and a cauldron ring (fig. 9, No. 27) in the latter. The last hoard contained only broken weapons; the spear-heads were all of large size, two of them having lunate openings in the blade, and one being of the barbed type with small lunate openings, the only specimen of its type recorded from Scotland, though occasionally met with in England. In a hoard from the west of Scotland a broken spear-head was found, with a ferrule for the butt-end of a shaft of most unusual shape, as it terminated in a round expanded foot (fig. 9, No. 10); and in one of the hoards from the neighbourhood of Forfar a socketed axe was found with a socketed knife.²

There remain only two more hoards containing bronze objects to be mentioned, and each contains a bifid razor. A razor with a perforation in the blade (fig. 9, No. 20) and a socketed knife (fig. 9, No. 11) were discovered in Quoykea Moss, Orkney, and a razor without a perforation was found at the Braes of Gight, Aberdeenshire, with six penannular armlets with expanding ends, three rings, about $1\frac{5}{8}$ inch in diameter, connected with each other by a thin band of bronze (fig. 11), and three extraordinary necklets, two of which have a plain penannular wire of circular section, terminating in a loop at each end carrying another ring (fig. 12), and the third, a ring of circular section which, when complete, had perforated projections placed at regular intervals round the necklet with a ring in each projecting loop (fig. 13).

Perhaps this last hoard should have been placed in the third period, as the razor, like those found with a palstave in the Glentrool hoard, had no perforation. But we have seen that in the two hoards from

¹ A penannular brooch of bronze was also found in the same sand-pit, but it seems to belong to a later period.

² In addition to the socketed knives mentioned from Forfar and Quoykea Moss, Orkney, the following examples have been found in Scotland:—One at Kilgraston, Perthshire (*Ancient Bronze Implements*, p. 206); one found with other bronze objects at Campbeltown, Argyll (*Prehistoric Annals of Scotland*, vol. i. p. 390); one from Clova, Aberdeenshire; one from Falkland, Fife; one from Little Crofty, St Andrews, Orkney; and another in the Clerk of Penicuik collection (*Proceedings*, vol. lvi. p. 357).

Dunbar and Adabrock, an imperforate razor was found with perforated specimens and socketed axes, and so the Gight example may be con-

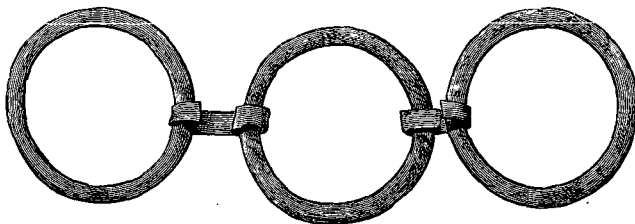


Fig. 11. Bronze Rings conjoined from Braes of Gight. (3.)

sidered a survival into the later period of an early type, especially as it was associated with penannular armlets with expanded ends which

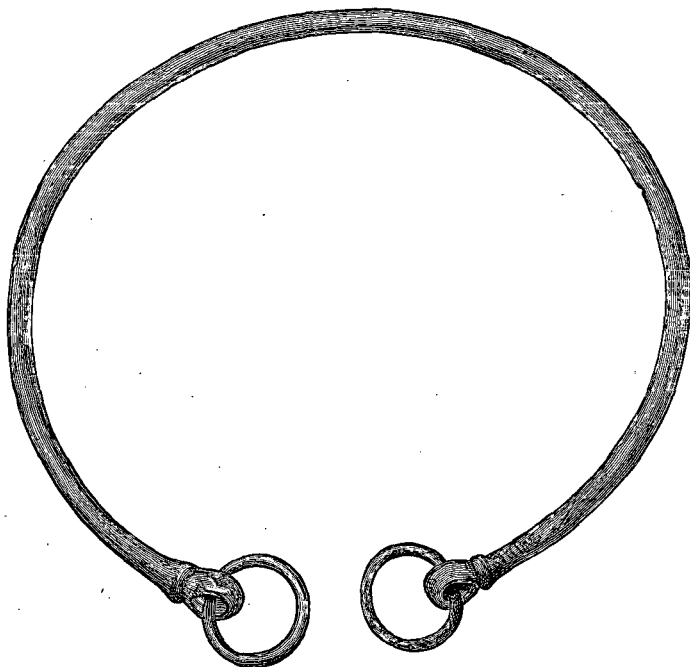


Fig. 12. Bronze Necklet from Braes of Gight. (4.)

have frequently been found in fourth-period hoards and, so far, never in those of the third period.

Reviewing this group of hoards, we see that socketed axes occur twenty-three times, spear-heads with pin holes fourteen times, swords twenty-two times, chapes five times, solid rings of various sizes without a

break in the ring five times, penannular armlets of ordinary types (fig. 14) five times, and shields, gouges, curved wood-workers' tools, and cauldron rings three times; besides these, many other classes of relics occur once or twice.

Although there is no satisfactory Scottish record of any of the types of weapons or implements mentioned in the last paragraph having been found in direct association with pottery, a number of distinctive little

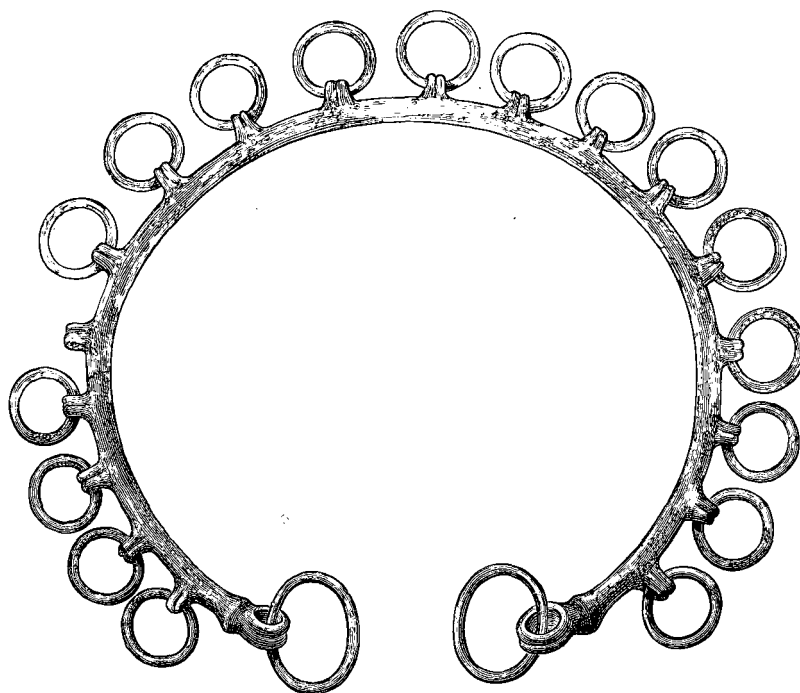


Fig. 13. Bronze Necklet from Braes of Gight. ($\frac{1}{2}$.)

instruments of bronze have not infrequently been found with cinerary urns. These are the delicate, thin, oval blades, decorated on both faces with incised lozenge designs, hatched and plain, and having a tang for fixing the haft, or a rivet hole in the base instead. None of them has been found in the hoards. One was found in a cinerary urn at Magdalen Bridge, Midlothian; two at St Andrews, Fife; one at Shanwell, Kinross (fig. 9, No. 21); and one at Balblair, Sutherland, under similar circumstances. One was discovered in a cairn at Lierabol, Sutherland, and another in a cairn at Rogart (fig. 9, No. 22), in the same county. The only English example known to Sir John Evans was one found with a

socketed hammer, a socketed axe, twelve palstaves, and other objects at Taunton.¹ Montelius, it may be stated, places these instruments in his fourth period, the time of the sword without notches and the socketed axe. The urns with which the Scottish examples were found are either of the type with the heavy overhanging rim, or encircled with one or more cordons.

Although none of the larger bronzes can be directly associated with the cinerary urn, it is possible to connect two of their contemporary ornaments, the penannular armlet and the small penannular ornament of gold, with this class of pottery. Two penannular armlets and three small penannular ornaments (fig. 20), all of gold, were found in a plain flower-

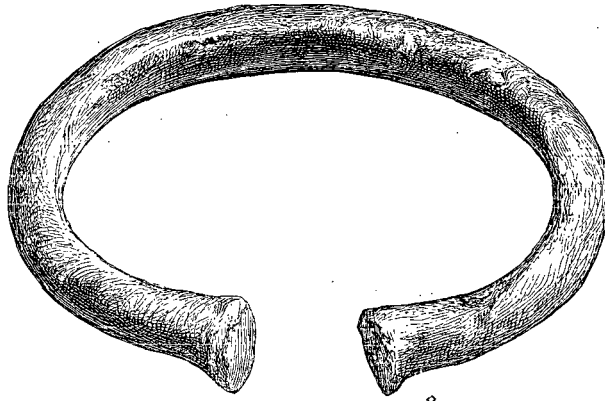


Fig. 14. Bronze Armlet from Auchtertyre. (1.)

pot-shaped cinerary urn, only 6 inches in height, and one of the rudest of these urns found in Scotland, which was discovered near Duff House, Banff. Fragments of a thin blade of bronze were also found in this urn. In an urn field at Alloa, Clackmannanshire, which yielded twenty-four urns, two penannular armlets of gold with expanding ends were found on the cover stone of a cist containing the remains of an unburnt human skeleton. A gold armlet of the same type was recovered from among the burnt bones in a cinerary urn dug out of a large mound at Upper Dallachy, Banffshire. In one of a group of cists opened at Largiebeg, Arran, was another of these armlets; and yet another was found in an urn in the north of Scotland in 1731.² On the estate of Sunderland, Islay, an ornament with cup-shaped terminals, and another formed of "a broad band of gold beaten out so as to form a convex centre, on either side of which was a fluted ornamental border and a raised rim returned

¹ *Anc. Br. Imp.*, p. 218.

² *Scotland in Pagan Times, the Bronze and Stone Ages*, p. 64.

at the edge," were found in or near one of a number of cists in the vicinity of a large standing stone.

In three cases penannular armlets with expanding ends are stated to have been discovered in or near cists which, in the vast majority of cases, belong to the time of the beaker or food-vessel. This is suggestive of a very early date for this variety of armlet; but as these records are nearly a century old, and no details regarding the other contents of the cists have been given, too much reliance cannot be placed on them. It is quite clear, however, that this variety of ornament was contemporary with the cinerary urn, and as examples have been found with socketed axes and with other classes of objects found in association with the fully developed sword with the notch on the edge near the hilt, it can be claimed that the use of the cinerary urn extended down to the latter part of the Bronze Age in this country.

Relics belonging to this period not found in the hoards but shown in fig. 8 are a sword with blade and pommel cast in one piece (No. 4) from Leadburn, Peeblesshire; a spear-head with lunate openings in the blade (No. 8) from Denhead, Coupar-Angus; a ferrule (No. 9) from the Clerk of Penicuik collection; an anvil (No. 14) from Kyle of Oykel, Sutherland; a socketed chisel (No. 16) from the Sim of Culter collection; a sickle (No. 19) from Dores; a razor of peculiar form (No. 23) from Kinleith, Midlothian; and a calcined flint arrow-head (No. 28) found in a cinerary urn at Kingskettle, Fife.

Fragments of clay moulds for casting socketed axes, spear-heads with lunate openings, swords, and other indeterminate objects of this period have been found on Traprain Law, East Lothian,¹ and two moulds of stone for casting socketed axes have been found at Roskeen, Ross-shire;² but so far there is no evidence of the *cire perdue* process having been in use. No similar clay moulds seem to have yet been found in England, but one or two fragments of sword moulds of clay have been discovered in Ireland. Doubtless the fragile and perishable nature of these objects accounts for their scarcity.

Occasionally small ornaments of bone and other materials have been found in Scottish Bronze Age graves. A bone pin or bodkin, another pin-like object and part of an ornament (fig. 15, No. 2) of the same material, and a bronze knife were recovered from a short cist which contained human remains at Letham Quarry, Perth.³ In fig. 15 are shown others found with urns. The bone ring with two small

¹ *Proceedings*, vol. lvi. p. 213, fig. 14.

² *Prehist. Annals of Scotland*, vol. i. p. 345, figs. 48 and 49.

³ The bone objects are not mentioned in the report of the discovery in *Proceedings*, vol. xxxi. p. 181.

loops on the exterior (No. 1) came from a short cist which contained a beaker, at Broomend, Inverurie, Aberdeenshire,¹ and a ring of much the same form from a short cist containing a beaker, flint arrow-heads, and human remains, at Clinterty, Kinellar, Aberdeenshire.² All the other objects were found with cinerary urns. The slate pendant (No. 3) was discovered in a cordoned urn, at Seggiecrook, Kennethmont,

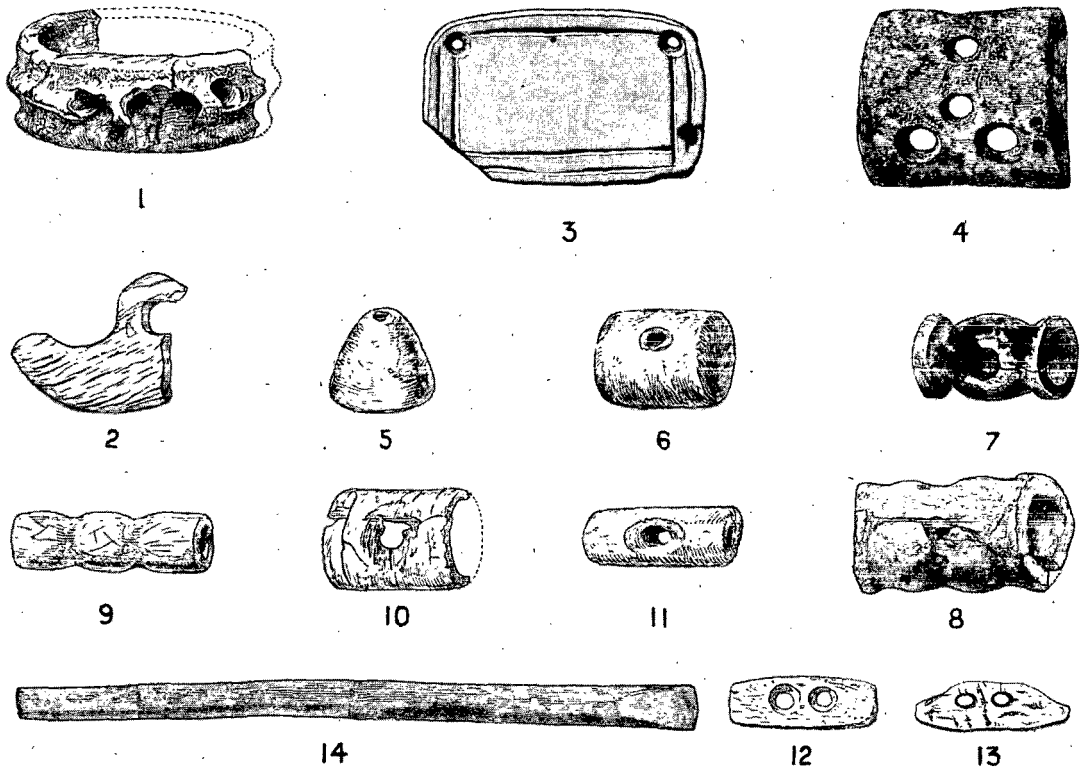


Fig. 15. Small objects of Bone, Stone, and Clay found with Cinerary Urns. (4.)

Aberdeenshire, and the bone bead (No. 7) and the conical and cylindrical partially perforated pendants of clay (Nos. 5 and 6) in a similar vessel in the same gravel pit,³ there being other five pendants of the latter type. A bead (No. 8) resembling No. 7 was found in a cinerary urn at Dalmore, Alness, Ross-shire.⁴ No. 10, like the last two, is perforated at

¹ *Proceedings*, vol. vii. p. 112.

³ *Ibid.*, p. 184, and vol. xlii. p. 212.

² *Ibid.*, vol. xxxix. p. 434.

⁴ *Ibid.*, vol. xlii. p. 257.

right angles, and was found with five calcined flint arrow-heads and three bone beads—of which two (Nos. 9 and 11) are illustrated—in an urn with a heavy overhanging rim in a cairn in the parish of Old Kilpatrick, Dumbartonshire.¹ The bone pin-like object with the chisel-shaped end (No. 14) was recovered from an urn which contained burnt human bones and a flint arrow-head, at Foulford, Banffshire,² and the three perforated objects (Nos. 4, 12, and 13) from urns discovered at Gourlaw, Midlothian;³ Balnabraid, Campbeltown, Argyll;⁴ and Woodhead of Garvochs, Dunning, Perthshire.⁵

The hoards of this, the fourth, period, come from all parts of the country, from the extreme north to the extreme south, one of them having even been discovered within a short distance of such a remote corner as the Butt of Lewis. But of the forty-nine, only seventeen come from the counties south of the Forth and Clyde canal; eight of the twenty-three containing socketed axes, nine of the twenty-two containing swords, and only two of the fourteen containing spear-heads with pin holes in the socket, come from this part of the country. The fact that the majority of them come from the north, which was most remote from external influences and trade, is significant, and we may claim with a considerable degree of confidence that the manufacture of the various classes of implements and weapons was carried on in the north as well as in the south, although the discovery of moulds for swords and spear-heads has, so far, been confined to the latter part. Indeed, if we limit our inquiries to the hoards containing penannular armlets of bronze with solid expanding ends, it is seen that the whole five which produced these ornaments come from the north and north-east. The distribution of the hoards containing similar armlets of gold, when considered irrespective of the numbers of specimens contained, is also interesting, because it is sometimes suggested that these objects were imported from Ireland. Five come from the north and north-east of the country, four from the same quarter but near the divisional line mentioned; omitting the abnormal examples from Carmichael, four from the southern counties, and eight from the western seaboard, going as far north as the neighbourhood of Fort William. If the provenance of discoveries may be taken as evidence of the source of manufacture, it seems very likely that bronze examples were made in the north; and if this be so, there is no reason why those of gold should not have been made as well, seeing that the metal is found in the burns of both the north and the south.

The evidence of the twisted torcs of gold points to the same conclusion, seven of the discoveries of these objects being located in the

¹ *Proceedings*, vol. xlii. p. 218.

² *Ibid.*, vol. xxxi. p. 221.

³ *Ibid.*, vol. xxxix. p. 416.

⁴ *Ibid.*, vol. liv. p. 179.

⁵ *Ibid.*, vol. xli. p. 9.

northern counties and only two in the south; five of the seven northern finds being so far away from Ireland as Aberdeenshire, Morayshire, and Ross-shire.

During the Bronze Age the alterations which took place in the form of certain of the more important implements and weapons were brought about solely by the desire to develop and improve them. From the simple flat axe was gradually evolved the socketed axe, and from the dagger came the spear-head and the sword. But the variations which occurred in the ornaments seem rather to have resulted from changes of taste and fashion. During the second period, that of the flat axe, the elaborate necklace of jet or lignite in its various forms was a popular ornament, but there is no evidence to show that it continued to be made and worn into the fourth period. If we restrict ourselves to the evidence supplied by the hoards, the only jet ornaments of the time when the socketed axe was in use were flattened spheroidal beads. There is no appearance of the armlet of jet which was so popular in Scotland during the Early Iron Age, and especially in the first four centuries of the Christian era. Of course, these armlets may have been made before the close of the Bronze Age while cremation of the dead was practised, but as the Scottish examples are usually made of cannel coal or shale, they would have little chance of surviving the flames of the funeral pyre. There was also a complete change of fashion in the bronze armlet. At the time of the flat axe there were several varieties: the simple ring, generally flattened on the inside, with or without a break in it, but with the ends closely pressed together (fig. 2, No. 8), what may be termed a broad cordoned armlet (fig. 2, No. 10), and a still broader ring with *repoussé* ornamentation, cast without a break (fig. 2, No. 9). Although a number of plain rings of various sizes without a break and of circular section have been found with the socketed axe, the typical armlet of this period seems to be of the penannular variety with expanding ends. Also, the torc of twisted wire of the flanged axe time may be the progenitor of the twisted torc formed from a thin strip of metal which was contemporary with the socketed axe.

From our survey of the hoards we may assign the following lists of objects to the four different periods into which we have divided the Bronze Age in Scotland:—

PERIOD I.

Flat copper axes and pottery of unspecified character.

PERIOD II.

Flat bronze axes; flat axes with slight flanges running as far as and dying out at the butt-end and where the front part swells out to form a crescentic cutting edge; halberts; thin, flat, round-pointed knives, with rivet holes in the butt; thin, flat, triangular daggers with sharp points, slight longitudinal ribs, and rivet holes in the butt; hollow, conical bronze bosses; plain bronze armlets, either completely annular or with a break in the ring, the ends of the latter being brought close together, usually flattened on the inside; cordoned flat bronze armlets with a similar break in the ring; completely annular bronze armlets with *repoussé* ornamentation; ear-rings of bronze and gold; gold lunulæ; thin gold mountings for the hafts of knives and daggers; necklaces of thin tubular bronze beads with a wooden core; amber beads; jet buttons with V-shaped perforation; jet necklaces of discoidal and oval beads, and of trapezoidal and triangular plates, frequently with a triangular pendant at the lowest central part; beakers and food-vessels; flint arrow-heads; stone hammers and axe-hammers; stone bracers or wrist-guards; stone moulds for casting flat axes, rings, and bars or ingots; pins and small ornaments of bone; and a horn spoon.

PERIOD III.

Flanged axes with or without stop-ridges, the flanges wide and triangular and much shorter than those of the second period; palstaves with wide triangular flanges and a sunk stop; palstaves with flanges narrower and curving into the stop and with a loop on one side; socketed spear-heads with loops on the socket or at the base of the wings of the blade; daggers; rapier blades; a tanged knife with parallel sides and rounded point; small chisels without a stop on the stem; tanged razors with a notch in the tip of the blade but with no perforation below the notch; a twisted torc of thin bronze wire and one of gold; a coiled armlet of gold; a pin with discoidal head and loop on stem; small oval doubly perforated plate of bronze; beads of glass and amber; flint arrow-heads; stone hammers and axe-hammers, and stone moulds for casting spear-heads with loops and palstaves—possibly also cinerary urns, incense cups, and segmented, quoit-shaped, and star-shaped beads of bluish vitreous paste.

PERIOD IV.

Socketed axes; spear-heads with pin holes in the socket and with lunate openings in the blade—one of the latter of the variety with barbs at base of the blade; swords with notches on the edges, and occasionally with pommel and grip cast with the sword; sword chapes narrowing

towards a blunt point; shields; socketed gouges; socketed curved tools; a socketed hammer; an anvil; tanged chisels with a stop on the stem; socketed and tanged knives; razors with bifid blade and perforation beneath the notch; thin, flat, oval blades ornamented on the faces with or without a tang; hammered bronze cauldrons with heavy rings; hammered and cast bronze bowls; beads of amber, jet, glass, and gold; penannular hollow objects of gold of triangular section; small penannular objects of gold and of bronze, and with bronze cores covered with a thin leaf of gold; torcs of gold and of bronze formed by twisting a thin narrow band of metal; penannular armlets of gold with and without expanding ends; penannular ornaments of gold and of bronze with cup-shaped ends; penannular armlets of bronze with expanding ends; rings of bronze without a break, varying from $\frac{3}{4}$ inch to $3\frac{7}{16}$ inches in external diameter; cinerary urns and incense cups; flint arrow-heads; stone moulds for casting socketed axes, and clay moulds for casting socketed axes, spear-heads with lunate openings in the blade, and swords; necklets of bronze with pendant rings; large semi-tubular rings without any apparent fixing; a small semi-tubular ring with loops on the under concave side; pins of the sunflower type, with a cup-shaped head, and with discoidal heads either placed horizontally, or vertically with a shoulder on the stem, and trumpets.¹

A comparison of the results of these investigations with those of Montelius is unavoidable, as no one has dealt so completely with the chronology of the British Bronze Age as he, and it will be seen that some of the conclusions arrived at by this eminent antiquary must be modified when discussing the Scottish Bronze Age. This is only to be expected, as some very illuminating discoveries have been made in the fifteen years which have elapsed since his treatise was written.

These modifications are specially noticeable with regard to the chronology of the pottery, as he placed beakers and food-vessels in his first period—that of the flat axe of copper, and the earliest cinerary urns in his second period—that of the true flat bronze axe, extending the range of this class of pottery into his fifth and closing period of the Bronze Age in Britain. Whether the beaker and food-vessel were contemporary with copper axes in Scotland is not known, although an undescribed vessel of clay is mentioned as containing the axes from Tonderghie. But there is no doubt that these two classes of urns were in general use during his second period, the time of the true flat bronze

¹ Only two of the large trumpets of bronze which belong to this time have been found in Scotland. One, known as the Caprington Horn, which has the mouthpiece at the end and is complete, was found at Coilsfield, in Ayrshire (*Proceedings*, vol. xii. p. 565); and the other, which is represented only by a small piece towards the narrow end and has the mouthpiece at the side, was found at Innermessan, Wigtownshire (*Proceedings*, vol. xxiii. p. 151).

axe. With regard to the cinerary urn no evidence has been forthcoming so far to show that it was known in Scotland during this period. The earliest date suggested by an examination of the hoards for this class of pottery in our own country is possibly the third period, and that part of it when the earlier variety of palstave had been evolved.

When other classes of relics are considered, it will be noted that Montelius placed knives with the edges rendered concave by sharpening, and those of the Collessie type, bronze ear-rings and conical jet buttons with a V-shaped perforation, in his first period. But while there is no evidence from Scotland that any objects of these types were contemporary with the copper axe, there are records showing that examples of every one of them have been found directly associated with the flat bronze axe of the second period, or with objects which are known to have been contemporary with it. There seems no good reason for Montelius assigning the Collessie knife to the first period, and the example from Butterwick, Yorkshire, to the second, as they resemble each other in size, in the shape of the blades, in the number of rivets (three) in the butt, and in the crescentic marking left on the blade by the haft. Again, the thin corrugated fillet of gold which had decorated the haft of the Collessie knife, assigned by him to his first period, is practically a duplicate of that found with the triangular dagger with three slight ribs from Blackwaterfoot, Arran, which had been placed by him in the second period.

When we come to the third period, that of the palstave, Montelius was doubtful of placing socketed spear-heads in it, but he allotted the variety with slight loops at the base of the blade to his fourth period, by which time he considered that the socketed axe, the early sword without notches on the edges of the blade near the hilt, and the narrow chape or scabbard tip had come into use. That the socketed spear-head with the small loops at the base of the wings of the blade was contemporary with an early type of palstave and should be definitely placed in the third period, is demonstrated by the Glentrool hoard. Again he assigned the narrow chape to his fourth period, that of the sword without notches on the blade; but that it existed during the time of the later sword with notches on the edges near the hilt, is proved by the discovery of five Scottish examples with these swords.

SCOTTISH BRONZE AGE GOLD ORNAMENTS.

The following gold ornaments belonging to the Bronze Age have been found in Scotland, a few of which have already been mentioned in discussing the hoards.

PERIOD II.

Narrow corrugated bands of gold which have been fixed to the hafts of bronze knives or daggers found at Collessie, Fife (fig. 2, No. 6A);

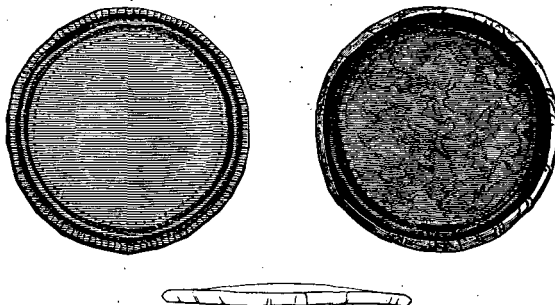


Fig. 16. Gold Mounts from Barnhill. (4.)

Skateraw, East Lothian; Blackwaterfoot, Arran (fig. 2, No. 7A); and Monikie, Forfarshire.

Two thin circular, slightly convex discs found with a bronze knife at Barnhill, Broughty Ferry, Forfarshire (fig. 16).

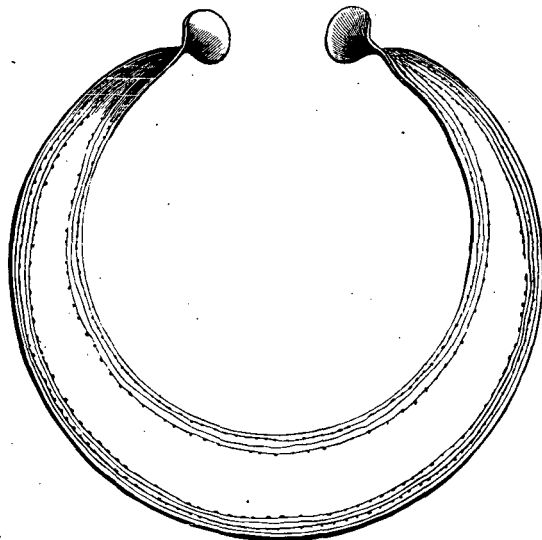


Fig. 17. Gold Lunula from Coulter.

Two ear-rings at Orton, Morayshire (fig. 2, No. 13).

Possibly the four thin circular plates of gold, $2\frac{7}{8}$ inches in diameter, ornamented with concentric lines found with a necklace of amber beads at Huntisearth, Orkney (*Proceedings*, vol. iii. p. 183).

Two lunulæ from Southside, Coulter, Lanarkshire (fig. 17); one from Auchentaggert, Dumfriesshire; and one found near Forres, Morayshire.

PERIOD III.

An armlet of four coils formed of three twisted wires united at the ends, which are recurved back, from Slateford, Midlothian (fig. 18), and part of a torc made of a twisted wire of square section, from Leys, near Inverness.

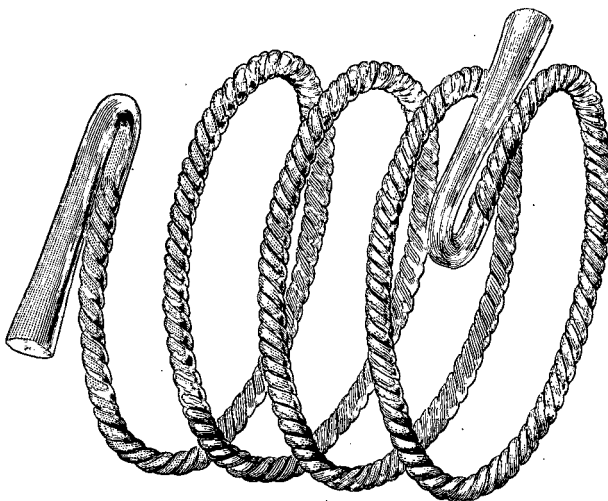


Fig. 18. Gold Armlet from Slateford.

PERIOD IV.

Four pennanular hollow ornaments of triangular section from the hoard containing a socketed axe at Balmashanner, Forfarshire; one found with a sword and chape at Gogar House, Midlothian; one found with penannular armlets in a moss in the West Highlands (fig. 19); one, corrugated longitudinally, from Glenluce Sands, Wigtownshire; and one found with a gold ring with cup-shaped terminals at Whitefarland, Arran.

Three small penannular ornaments with bronze cores from the Balmashanner hoard; one with a copper core from Skye; another from Galloway; three of solid gold (fig. 20) found with two penannular gold armlets in a cinerary urn near Duff House, Banff; and two with slightly expanded ends at Strond, Harris.

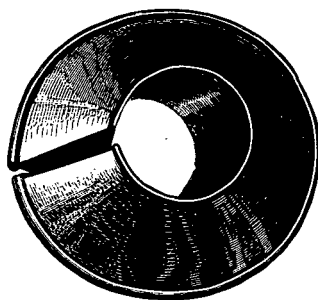


Fig. 19. Gold Ornament from West Highlands. (†.)

Of penannular armlets with expanding ends four were found at Ormidale, Arran; one at Penninghame, Wigtownshire; one at Bonnyside, Stirlingshire; one at Briglands, Fossoway, Kinross-shire; two at Alloa,



Fig. 20. Gold Rings from Duff House, Banff. (†.)

Clackmannanshire (fig. 21); one in the Western Isles; two in a hollowed stone shaped like a rude bowl at Hillhead, Wick, Caithness; and two without expanding ends in a cinerary urn near Duff House, Banff, which also contained the three small penannular objects. All these are preserved in the National

Museum, as also are two found with the penannular ornament of triangular section, already mentioned, in a moss in the West Highlands. Other records of these armlets with expanding ends are—one found with an urn in the Green Cairn, Upper Dallachy, Banffshire;¹ at least thirty-six from Coul, Islay,² which were melted down; one from Galloway;³

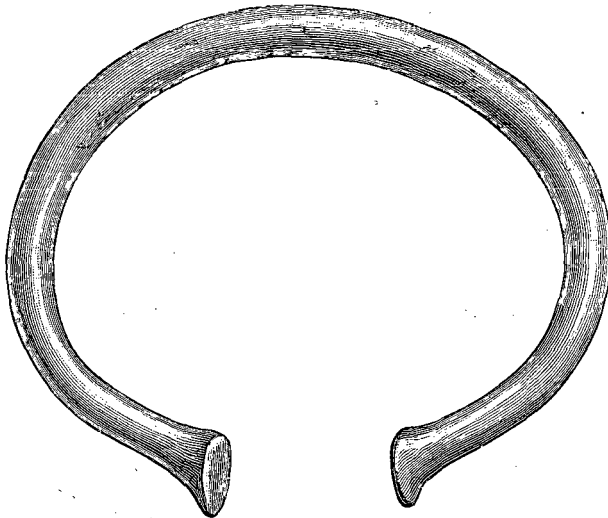


Fig. 21. Gold Armlet from Alloa. (†.)

two found in 1871 in Kilmallie, Inverness-shire,⁴ which may be the two in the possession of Cameron of Lochiel; two from Argyll, preserved in Inveraray Castle;⁵ two from Shieldhill, Muckhart, Perthshire;⁶ one or more from Galla Law, Gullane, East Lothian;⁷ five from Gallow Hill, St Vigeans, Forfarshire;⁸ one from Tangy, Kintyre; one from Boreland,

¹ Chalmers' *Caledonia*, vol. i. p. 129.

²⁻⁸ *Scotland in Pagan Times—Bronze and Stone Ages*, pp. 211-3.

Old Luce, Wigtownshire;¹ one in a cist at Largiebeg, Arran;² one in an urn in the north of Scotland; and three from Stonehill Wood, Carmichael, Lanarkshire,³ of which one was of quadrangular section in the ring and expanding terminals, with two flat gold bands lapped round the ring, and the other two of quadrangular section in the ring but with round expanding ends, one of which had two flat bands of the same metal and a small penannular ring, corrugated lengthwise, wrapped round the ring.

A few penannular ornaments with large cup-shaped terminals have also been found. One in the National Museum came from High Drummore, Kirkmaiden, Wigtownshire⁴ (fig. 22); two from a loch in Galloway;⁵ one from Islay, now in the British Museum; one from Cromdale, Invernessshire,⁶ with the inside of the cups decorated with a row of hatched triangles; one found beside a cist containing a cinerary urn on the estate of Sunderland, Islay,⁷ and one found with the hollow ornament of triangular section at Whitefarland, Arran, which are both in the Kelvingrove Museum, Glasgow.

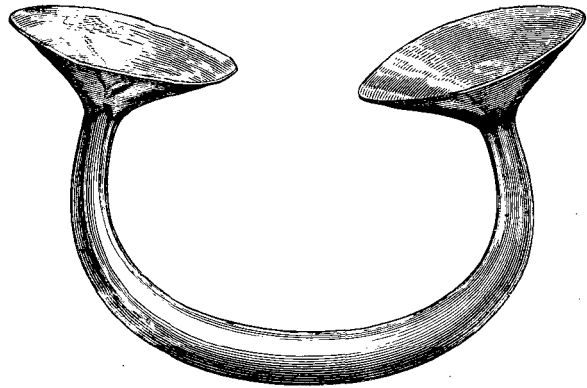


Fig. 22. Gold Ornament from High Drummore.

More than three dozen torcs formed of a twisted flat band of gold with hooked ends were found on the farm of The Law, Urquhart, Morayshire; six of these and a fragment of one of bronze, which is said to have been found with them, being preserved in the National Museum and seven in the British Museum; one was found on the Moor of Rannoch, Perthshire; two at Overshill, parish of Belhelvie, Aberdeenshire; one at Cothill, Belhelvie; two fragments of another in the same parish; one at Little Lochbroom, Ross-shire; and a number at Lower Largo, Fife, of which three (fig. 23) and part of another are in the Museum. One of triangular section, which may be of an earlier period, was found in Stoneykirk, Wigtownshire (*Arch. Coll. of Ayr. and Gall.*, vol. v. p. 38). Several were found with a hollow mounting for the head of a staff or baton, elaborately decorated with late-Celtic designs, and

¹ *Arch. Coll. of Ayr. and Galloway*, vol. v. p. 38.

² *Prehist. Ann. of Scotland*, vol. i. p. 458.

³ *Proc. Soc. Antiq. Lond.*, 2nd series, vol. ii. p. 401.

⁴ *Proceedings*, vol. xxix. p. 8.

⁵⁻⁷ *Prehist. Ann. of Scotland*, vol. i. pp. 460-2.

two pellets with a cruciform punch mark on each, all of gold, at Shaw Hill, Cairnsmuir, Peeblesshire; the staff head and gold pellets being in the Museum. The last find is of more than ordinary importance, as it shows how typical Bronze Age objects continued in use well into the Early Iron Age.

Like the arrow-head of flint, other small tools of this material, as also



Fig. 23. Gold Torc from Lower Largo.

stone axes, doubtless continued to be used in Scotland until the latter part of the Bronze Age. Reference has already been made to the discovery of arrow-heads with pottery of the period, but scrapers and knives have also been found with each of the three commonest classes of urns—beakers, food-vessels, and cinerary urns; iron pyrites and flint for striking fire have been discovered with the last-mentioned variety. As for stone axes, three examples of these and a socketed bronze axe, said to have been found together in the parish of Southend, Kintyre, are preserved in the Museum.