III.

THREE BRONZE AGE HOARDS RECENTLY ADDED TO THE NATIONAL COLLECTION, WITH NOTES ON THE HOARD FROM DUDDINGSTON LOCH. BY J. GRAHAM CALLANDER, F.S.A.Scot., DIRECTOR OF THE NATIONAL MUSEUM OF ANTIQUITIES.

THE AUCHNACREE HOARD.

Some distance into the foothills of the Grampians where they flank the western edge of the plain of Strathmore, near the head of a secluded glen, lie the farm and shooting-lodge of Auchnacree, in the parish of Fern, Forfarshire. Here, on the 23rd September 1921, Mr Frank Rae, overseer of the ground, discovered a hoard of bronze objects consisting of two flat axes, the cutting half of another, and two knives (fig. 1), while covering a potato pit with earth. The discovery was brought to my notice a few days later by Mr John F. Cunningham, schoolmaster at Fern. In asking him if he could arrange for the relics being forwarded to the Museum for inspection, I suggested that further search should be made at the place where the relics were found and that a special look-out should be kept for small objects, with the result that an armlet was also recovered.

The spot where the hoard was found is situated in the south-east corner of the field which lies in front of the shooting-lodge, some 250 yards to the south-east of the building, and about 20 yards from the side of the road which passes along the edge of the field. Lying high up on the north side of the glen, at an elevation of rather more than 700 feet above sea-level, there is a fine prospect of Strathmore to be seen over an intervening stretch of hilly moorland to the south and east. Immediately in front there is a steep descent to the Cruick Water, while in the opposite direction, to the north-west, is a gradual rise for about 300 yards, beyond which the main mass of the Grampians stretches away as far as the shores of the Atlantic.

There were no surface indications to suggest the presence of this deposit of prehistoric relics, and as they lay about 2 feet below the surface of the ground, but for the happy chance of the spot being selected for storing the potato crop, which necessitated the digging of a deep trench round the pit, the objects might have remained undiscovered for ages, as the plough would never have penetrated to such a depth.
All the relics are in a good state of preservation, but the butt end of one of the knives is imperfect from the decay of the metal. One of the axes was for the greater part covered with a thick deposit of limy soil impregnated with copper salts, but this was easily removed without harming the relic. The three axes are of the ordinary flat type, with well-developed cutting edges but without the slightest hammering out of the sides. The first axe measures $5\frac{3}{4}$ inches in length, $3\frac{7}{8}$ inches across the cutting edge, and $\frac{13}{32}$ inch in thickness; the second measures $5\frac{5}{8}$ inches in length, $2\frac{5}{16}$ in breadth at the cutting edge, which is partly corroded away at one end, and $\frac{7}{16}$ inch in thickness; and the third, of which only a length of $2\frac{3}{4}$ inches of the front part remains, is $3\frac{3}{8}$ inches in width across the cutting edge, and $\frac{15}{32}$ inch in thickness.

The larger knife has a thin, flat, straight-edged blade, with a rounded point, and no midrib or thickening of the metal at the centre. The butt end was probably semilunar in shape, but the outer margin has corroded away, as also probably the upper part of the edge on one side. The position of the lower margin of the haft is indicated by a faint ridge or step in the form of a pointed arch. In its present condition the object measures $6\frac{1}{2}$ inches in length, $2\frac{3}{4}$ inches in width at the butt, tapering to $1\frac{1}{2}$ inch in width about an inch from the point, and $\frac{7}{16}$ inch in thickness. When complete it was possibly about $\frac{3}{4}$ inch longer at the point and almost as much broader at the butt. Owing to the broken condition of the latter part only one complete rivet-hole for fixing the blade to the haft remains, and it is about $\frac{3}{16}$ inch in diameter; portions of other three rivet-holes can be detected on the same side. Allowing for the same number, four, on the opposite side and one in the centre of the curve, there would have been nine rivet-holes. The smaller knife, which is almost complete, measures $3\frac{3}{8}$ inches in length, $1\frac{1}{2}$ inch in width at the butt, and $\frac{3}{16}$ inch in thickness. As in the previous example, the blade is thin and flat. The butt end is triangular and the sides of the blade are distinctly concave between the butt and the point, the concavity probably having been formed by the repeated sharpening of the implement. There are five rivet-holes in the butt, one in the apex, and two on each side. The central perforation on one side is complete and measures $\frac{3}{8}$ inch in diameter, and the corresponding one on the opposite side is nearly complete.

There has always been some doubt regarding the correct terminology of implements of the types just described, as evidently there was some difficulty in deciding whether they were intended solely for cutting or for piercing as well as cutting, and the name "knife-dagger" has been applied to them. But if we are correct in assuming that the second
Fig. 1. Flat Axes, Knives, and Armlet of Bronze from Auchnacree, Forfarshire.
implement owes its concave edges and resulting dagger-like shape to frequent resharpening, there is every possibility that both objects were simply knives. The first has far too broad and rounded a point for stabbing, and it is so thin, only $\frac{1}{16}$ inch, that it would almost certainly have buckled or doubled up under the stroke of a heavy thrust; the same can be said of the second, even with the narrower point which it now shows. Further it will be noted that no attempt has been made to keep the point sharp.

The armlet is in very good condition and is almost perfectly circular, as it measures 3 inches by $2\frac{1}{3}$ inches in diameter externally. The ends of the ring do not meet, as there is a break $\frac{1}{2}$ inch wide between them. Had the ends been pressed together as in most of the other Scottish armlets of the period, it would have formed a perfect circle, $2\frac{1}{3}$ inches in diameter. In cross section the ring, which measures $\frac{1}{2}$ inch by $\frac{1}{4}$ inch in thickness, is of double convex form, the curve of the inner side being flattened. All the objects are covered with a patina partly brown and partly green in colour.

It is impossible to emphasise too much the importance of discoveries of different types of prehistoric objects associated in a single deposit, and this find is specially valuable, as so few hoards of its period, the early part of the Bronze Age, have been recorded in Scotland or even in any part of the British Isles, and the knives are different from any found in the country. The most important hoard of Early Bronze Age implements recorded from Scotland is that discovered at Migdale, Skibo, Sutherland,\(^1\) which contained two flat axes, three pairs of armlets of the type found at Auchnacree, another pair ornamented, one, possibly two, ear-rings, portions of four or five conical hollow bosses, and a necklace of tubular beads, all of bronze, and six buttons of jet. Another hoard, which was found at the Maidens, Culzean, Ayrshire,\(^2\) consisted of five flat bronze axes and a broken armlet, $2\frac{1}{2}$ inches in diameter and $\frac{1}{4}$ inch thick. From these two hoards and the one under discussion the contemporaneity in Scotland of flat axes and plain armlets of bronze is well established, but the same thing is further demonstrated by the stone mould found at Marnoch, Banffshire,\(^3\) and preserved in the Banff Museum, which bears on one side a matrix for casting a flat bronze axe, and on the other a matrix for casting a large ring or armlet which, however, would be completely annular, and another matrix for casting a bar or ingot.

A number of bronze armlets closely resembling the Auchnacree

\(^1\) *Proceedings*, vol. xxxv. p. 296.
\(^3\) *Proceedings*, vol. xxxviii. p. 590.
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example have been found in Early Bronze Age graves in Scotland. In 1831, a pair of armlets of nearly circular section, with the ends of the ring closed and measuring $3\frac{7}{8}$ inches and 3 inches in diameter respectively, were found at the Castle of Kinneff, Kincardineshire, in a cist containing a food-vessel urn and the remains of an unburnt human skeleton; and, in 1850, a single armlet, covered with a thick green patina which possibly obscured a break in the ring, slightly flattened on the inside, and measuring 3 inches in diameter, was found under a small cairn in a cist which contained a beaker urn and an unburnt skeleton at Crawford, Lanarkshire. Two armlets flattened on the inside and showing a break in the ring, which measured $3\frac{1}{2}$ inches in diameter, were found in a small cairn with cremated bones at Stobo, Peeblesshire.

Although no knives of exactly similar shape to those under review have been found in Scotland, analogous examples have been discovered in England. Sir John Evans has figured an example found at Leicester, and preserved in the museum there, which bears a marked resemblance to the first-described Auchnacree knife, as it has a thin flat blade with straight edges, rounded point, and nine rivet-holes in the butt; besides, its length, 6 inches, is much the same. Another example of almost similar type and size was found by Mr J. R. Mortimer in one of the barrows of the Garton Slack group in East Yorkshire; the blade was $5\frac{3}{4}$ inches long, $2\frac{1}{2}$ inches broad, and $\frac{1}{16}$ inch thick, the sides being straight and the point round. He also discovered a specimen resembling the second Auchnacree knife in a barrow of the Garrowby Wold group in the same part of the country. Although the instrument was rather larger, 5 inches in length and $2\frac{1}{2}$ inches in breadth, the edges of the blade were concave and it had three rivet-holes in the butt. Another of this class, with concave edges, was found by Canon Greenwell, clasped in the right hand of the skeleton of a man, in a barrow in the parish of Helperthorpe, Yorkshire. It had only two rivet-holes in the butt, and measured 4 inches in length, which approximates very nearly in size to the Scottish example.

At the first glance the presence of a broken axe amongst the objects suggests that the hoard had been the property of a merchant or founder, but the variety of relics included in the hoard, I think, points to their having been personal belongings. The six flat axes found at...

3 *Scotland in Pagan Times, Bronze and Stone Ages*, p. 58.
4 *Ancient Bronze Implements*, p. 231, fig. 288.
5 *Forty Years' Researches*, p. 231, fig. 590.
6 *British Barrows*, p. 207, fig. 108.
Colleonard, Banff, and the large collection of bronze swords, believed to have numbered more than a dozen, dug up in Grosvenor Crescent, Edinburgh, may be cited as typical Scottish examples of a merchant's stock, and the large quantity of broken swords and spear-heads recovered from Duddingston Loch, Edinburgh, as a bronze-founder's stock.

It may be recalled that other four hoards of bronze weapons have been found not very far away from Auchnacree: the first at Cauldhame, Brechin, which lies about 8 miles to the east, consisted of four swords, a chape, and a spear-head; the next, at Castlehill, Forfar, some 8 miles to the south, of four socketed axes and a spear-head; the third, also at Forfar, of a socketed axe and a socketed knife; and the fourth, at Balmashanner, Forfar, of a socketed axe, the greater part of a cast bronze bowl, twelve penannular armlets, ten bronze rings, seven penannular gold rings, thirty-one amber beads, and five jet beads. These hoards, however, belong to the latter part of the Bronze Age, while the Auchnacree hoard belongs to the early part of the same period.

The Quoykea Hoard.

Last summer (1921) two bronze implements, a socketed knife and a razor, were found by a crofter while casting peats in Quoykea Moss, in the parish of St Andrews, Orkney. Both objects, which were found at a depth of about 3 feet below the surface and about 4 feet above the underlying soil, are in a good state of preservation, although the edges and point of the blade of the knife and the edges of the razor are somewhat ragged from the decay of the metal.

The knife (fig. 2) has a narrow leaf-shaped blade with a stout flat midrib, and a rectangular socket rounded at the corners, with a rivet-hole, $\frac{1}{16}$ inch in diameter, in each of the longer sides for attaching the haft to the blade. The weapon has a total length of $5\frac{5}{8}$ inches, and has originally been about $\frac{1}{2}$ inch longer, the blade measuring $4\frac{19}{64}$ inches in length and $\frac{3}{16}$ inch in thickness, and the socket $1\frac{13}{64}$ inch in length, and 1 inch by $\frac{3}{32}$ inch at the mouth. Below the socket, which does not extend into the blade, the latter contracts very slightly to a width of $\frac{13}{32}$ inch and then widens to $\frac{19}{32}$ inch before tapering to the point.

The razor (fig. 2) has an oval bifid blade with curved hollows at the base on both sides of the tang. In the tip of the blade is a V-shaped indentation with a perforation, $\frac{3}{16}$ inch in diameter, below it, but through

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2. Ibid., vol. xiii. p. 320.
3. Ibid., vol. i. pp. 181 and 224.
4. Ibid., vol. xxiii. p. 15.
the disintegration of the metal both are now connected. The tang, which tapers towards the point, is of flattened oval section and extends as a short midrib into the blade for a distance of $\frac{5}{16}$ inch, where it terminates abruptly. The complete length of the object is $3\frac{3}{4}$ inches, the blade measuring $2\frac{1}{2}$ inches long, $1\frac{1}{2}$ inch broad, and $\frac{3}{16}$ inch thick, and the tang $1\frac{5}{8}$ inch long, and $\frac{3}{8}$ inch broad by $\frac{5}{16}$ inch thick at the base of the blade where it is widest.

Knives of the Quoykea type are not of frequent occurrence in Scotland. One was found with a socketed bronze axe at Forfar, another at Kilgraston, Perthshire, another, which is broken and incomplete, at Clova, Aberdeenshire, a fourth, which wanted a small piece of the point and part of the socket, at Falkland, Fife, and, strange to say, another example at Little Crofty, St Andrews, Orkney, in the same parish as that from Quoykea Moss. The socket and a small piece of the adjoining part of the blade of another from the Clerk of Penicuik collection is also probably Scottish. In the Falkland specimen the socket is round and there are no indications of rivet-holes in the surviving part. In the Forfar example the rivet-holes are aligned with the edges of the blade, but in the other four, as in the Quoykea example, they are at right angles to the plane of the blade.

Tanged razors with a bifid blade are more numerous than the class of knives under review, as ten other examples have been recorded from Scotland, five having a small perforation below the notch in the

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blade and five being without it. Every one of these instruments was found in association with other bronze objects. Three, one being imperforate, were found with a socketed axe at Bowerhouses, Dunbar; \(^1\) three, of which one had no perforation, at Adabrock, Ness, Lewis; \(^2\) with two socketed axes, a spear-head, a socketed gouge, a socketed hammer (the only one found in Scotland), a tanged chisel, portions of a bronze bowl, two whetstones, and four beads, two of amber, one of glass, and one of gold; one at Cullerne, Morayshire; \(^3\) with a socketed axe, two spear-heads, and a socketed curved implement; and one, which had no perforation, at the Braes of Gight, Aberdeenshire; \(^4\) with two extraordinary necklets, six penannular armlets with expanding ends, and three small rings joined by thin narrow flat strips of bronze. The remaining two razors, which also were without a perforation, were found at Glen Trool, Kirkcudbrightshire; \(^5\) with a palstave, a spear-head, a rapier, a tore—all of early type—a knife, four small chisels, a pin, an oval disc with two perforations, a bead of glass, and at least fourteen beads of amber. This last hoard belongs to an earlier period than the others which must be attributed to the latest phase of the Bronze Age in Scotland. It is to this late period also that the Quoykea relics are to be assigned.

The Society is much indebted to the Earl of Ronaldshay, on whose land the find was made, for so generously presenting these interesting and rare relics to the National Museum.

**The Nairnshire Hoard.**

The two flat bronze axes illustrated in fig. 3, which have so kindly been presented by Mr. James Curle, have been long in his possession. The exact locality where they were found is not known, but the following original note which has been preserved with them shows they were found in Nairnshire. The note states:

"Two Battle Axes found near a small village, County of Nairn. They lay on a small height near a square stone coffin without a lid. The one placed over the other. Their position about due south of the stone coffin. They might be 14 inches under the surface. There is on the other side of the village a rude perpendicular monumental stone—of which there is not any traditionary account. Found by one of the subscriber's workmen."

P. Macarthur.

London, Decr. 23rd, 1833."

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1. *Archaeologia Scotiae*, vol. iii. p. 44.
The axes, which are covered with a thick green patina partly smooth and partly rough from decomposition of the metal, measure $6\frac{1}{8}$ inches by $3\frac{5}{8}$ inches by $\frac{3}{4}$ inch, and $5\frac{5}{8}$ inches by $3\frac{7}{8}$ inches by $\frac{3}{4}$ inch respectively. The first of these axes is decorated on both faces with two broad shallow flutings running parallel to the sides. The sides are ridged, the arris showing a series of vesica-shaped facets placed end to end, and the angles at the junction of the sides and faces have slight notches at intervals. The second axe bears no ornamentation. Both have well-developed cutting edges. While the style of decoration on the first axe is not often met with, it is not unknown, as one of the hoard of seven flat axes found at Colleonard, Banff, and preserved in the Museum, has identical decoration on the faces, and other two of the axes in that hoard are somewhat similarly ornamented.

\[1 \text{ Proceedings, vol. iii. p. 245.}\]
THE DUDDINGSTON LOCH HOARD.

It is interesting to note that the very first donation of relics received by this Society was part of the important hoard of broken bronze weapons found in 1778 in Duddingston Loch, which lies within the municipal boundary of Edinburgh. This valuable gift, which was presented by Sir Alexander Dick, Bart., of Prestonfield, on 16th January 1781, is recorded as "A quantity of Roman arms consisting of 23 pieces of the heads of the hasta and jaculum; 20 pieces of the blades, and nine of the handles of the gladius and pugio; a ring three inches in diameter, fastened to the end of a staple; and a mass of different pieces of these arms, run together by fire, all of brass; sculls and other human bones, together with the horns of animals of the deer and elk species, dragged out of the middle of a bed of shell marle at the bottom of his loch of Duddingston."¹ A number of the most perfect specimens from this find were presented to the King, George III., others were retained by the family, some of which were afterwards given to Sir Walter Scott,² and fifty-three pieces were presented to the Society. While the royal gift and most of the relics kept by the family have disappeared, all those handed over to the Society seem to have survived. This in itself is quite a tribute to the care bestowed on the Society's collections by the various curators during the long period of more than one hundred and forty years.

In the Society's earliest Letter Book, vol. i., 1780-1781, p. 43, is a communication from Sir Alexander Dick to the Earl of Buchan which describes the discovery of the hoard while dredging up marl from the bottom of the loch. The bronze objects were brought up in a mass in the "collecting leather bag for the Marle" from a bed of this material, 5 to 7 feet thick, which lay about 140 yards from the edge of the loch next the King's Park. Some human skulls and bones were recovered "out of the same place with these brass arms." Even without the definite statement that the bronze weapons had been found in a mass, it is evident that they belonged to the same hoard, as their surface condition shows that they had all been preserved under similar conditions and had been subjected to the same kind of treatment in breaking them up.

The hoard, as now preserved in the Museum, consists of the ring of a cauldron, thirty-two fragments of swords, the point of a rapier blade, the larger part of a small dagger or knife, all shown on the upper half of fig. 4, and fragments of fourteen spear-heads, appearing on the lower part of the illustration.

The cauldron ring (No. 1), which is of square section and measures 2\(\frac{3}{4}\) inches in diameter, is inserted in a strong, broad, reeded staple that has two transverse grooves on the top. Of the thirty-two sword fragments (Nos. 2 to 33) nine (Nos. 2 to 10)\(^1\) are portions of hilts, and as no two pieces fit together, it is evident that, at least, nine swords are represented.

\(^1\) No. 5 may be part of a blade.
in the hoard. There are five points (Nos. 11 to 15), varying from 3 inches to 9\frac{1}{2} inches in length, and eighteen portions of blades measuring from 1 inch to 10\frac{1}{2} inches in length. Only two hilt fragments show the butt end, and these are of triangular form in both cases. The condition of the blades is such that it is impossible to say whether they had notches on the edge near the butt end; although No. 10, which is better preserved than any of the others, seems to be without them, their absence may have been the result of the vigorous filing which the object has undergone since its discovery. There is a considerable variation in the number of rivet-holes in the different hilts. In the examples preserving the whole or greater part of the hilt, No. 8 has two rivet-holes in the grip and two in each haunch, No. 2 has three and two in these parts, and No. 7 has three and three. Nos. 3 and 4, which have only part of the grip surviving, seem to have had two in the grip, and Nos. 9 and 10, which show only the haunches, have one rivet-hole in each side, the two rivets remaining in position in the former and one in the latter. The point of the rapier blade (No. 34) measures 5\frac{3}{4} inches in length, and the small blade (No. 35), which is rounded at the butt, imperfect at the point, and without rivet-holes or a tang, measures 2\frac{3}{5} inches in length.

Several types are represented amongst the fragments of spear-heads, all of which have been of fairly large size. Seven of them (Nos. 36 to 42) are of the ordinary leaf-shaped variety, with the socket extending into the blade in the form of a prominent, rounded, hollow midrib. The most complete (No. 36) wants more than 2 inches of the point, and now measures 10\frac{1}{2} inches in length. No. 42 shows the peculiarity of a small knob of metal projecting from the point, and the edges are ragged. Nos. 43, 44, and 45 have a small bead in the angles between the wings and midrib, and the last two have a similar bead running down the medial line of the midrib as well. The remains of two fine spear-heads, with lunate openings in the wings, are represented in Nos. 46 and 47. The first of these has a beading along the medial line of the midrib, in the angles between the latter and the wings and round the lunate openings, but though no part of the midrib of the second survives, a bead round the lunate opening and in the angle between the wing and the midrib can be detected. Only a small portion of the wing of a blade is represented by No. 48. So far as I am aware, No. 49 is the only example of its type found in Scotland, though several have been found in England. It has a broad blade with almost parallel edges for a considerable part of its length, a short point, and two small lunate openings with a small square midrib between them near the base, which is imperfect. The midrib contains burnt clay, as if the core had not been removed. This specimen should be compared with one found in the
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Thames, at Broadness, between Greenhithe and Northfleet;\(^1\) and another from Broadward, Shropshire,\(^2\) both of which are preserved in the British Museum.

This find is the largest hoard of bronze implements recorded from Scotland. It has been suggested that the spot from which the bronze objects were dredged up may have been the site of a crannog which had been destroyed by fire, one of the results being that the bronze weapons used by the inhabitants had got fused. But I think the hoard is rather a founder's stock of weapons collected and broken up for the purpose of recasting. While Duddingston Loch is quite a likely place to find lake dwellings, I have never heard of any having been located in that stretch of water, and, further, all the other Scottish crannogs which have been examined belong to a later period than the Bronze Age. The spear-heads seem to have been smashed up, but some of the swords have been broken by heating them near the middle of the blade and bending them backwards and forwards until they snapped. This is perfectly clear from the burnt condition of the metal and the cracks in the surface on either side of the break. It should be noted that the hoard consists practically of swords and large spear-heads, and that no axes are present. The only other Scottish hoard that can be compared with this one in the matter of the number of swords is that found, about two and a half miles distant, in Grosvenor Crescent, Edinburgh, which contained, at least, twelve swords, three rings, and a pin, as well as a socketed axe which recently came to light, in the possession of the son of one of the workmen who was present when the hoard was discovered.

The hoard belongs to the end of the Bronze Age when the sword and spear-head had attained their highest stage of development. The swords and spear-heads all belong to this period, but the rapier point seems to be a survival from an earlier time. We have already commented on the occurrence of the very rare type of spear-head, No. 49, but the cauldron ring is also worthy of special notice, as it shows that cauldrons which continued to be used into the Early Iron Age must have been known in Scotland before the close of the Bronze Period. Further evidence of this is seen in the hoard found at Kilkerran, Ayrshire, which contained two very large cauldron rings in reeded staples as well as four socketed axes and two fragments of a sword, all of bronze, and in the Poolewe hoard,\(^3\) which contained a cauldron ring, a hollow ring, 2 inches in diameter, and a penannular armlet with large cup-shaped ends, all of bronze.

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\(^2\) *Archaeologia Cambrensis*, 4th series, vol. iii. p. 349.
\(^3\) *Proceedings*, vol. xiv. p. 45.
Since this paper was set up, I have learnt that evidently three fragments of the swords from Duddingston Loch, consisting of two points and a hilt portion, were presented to Sir Walter Scott. Three such objects are figured in the Abbotsford Edition of the *Waverley Novels*, vol. ii. p. 103. From their contorted shape and resemblance to the fragments in the National Museum, there can be no doubt regarding their provenance. On enquiry at Abbotsford these cannot now be found, and it would seem that they have disappeared.