

III.

NOTICE OF THE DISCOVERY OF A HOARD OF THE BRONZE AGE
CONSISTING CHIEFLY OF PERSONAL ORNAMENTS OF BRONZE,
AMBER, AND GOLD, AT BALMASHANNER, NEAR FORFAR. BY
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MUSEUM.

In the beginning of February last I was informed by Mr Robert Whyte, F.S.A. Scot., of the discovery of a remarkable hoard of bronze articles, &c., on the farm of Balmashanner, of which a notice had also appeared in a local newspaper. The account given of the nature of the find was sufficiently suggestive of its archæological interest, and I requested Mr Whyte to endeavour to obtain the articles for description and exhibition to the Society. Meantime, however, the Crown had claimed the find as treasure trove, and the bulk of them were transmitted to me by Mr John Knox, schoolmaster, "on behalf of the Crown," and the remainder which were recovered by Mr Whyte, Procurator-Fiscal, were subsequently sent by the Queen's Remembrancer.

It appears that the articles were found when ploughing, the plough having pierced and broken the clay vase in which they seem to have been deposited.

The objects found are as follows :—

Eleven penannular rings or bracelets of bronze (of which two are shown in fig. 1) measuring $2\frac{1}{4}$ to $2\frac{1}{2}$ inches in their longer diameter,

and about $1\frac{3}{4}$ inches to $1\frac{7}{8}$ inches in their shorter diameter, inside measurement, the opening between the ends measuring from $\frac{3}{4}$ inch to

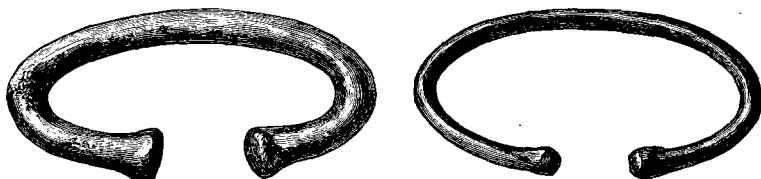


Fig. 1. Two Penannular Rings of Bronze (actual size).

$\frac{1}{4}$ inch in width, and the thickness of the ring varying from a little more than $\frac{1}{4}$ inch to scarcely more than $\frac{1}{8}$ inch.

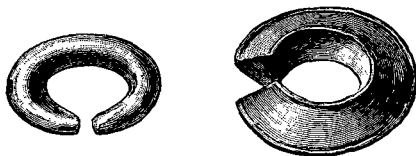
Three completely circular rings of bronze 3 inches internal diameter, one having a thickness of about $\frac{3}{16}$ inch, the other two somewhat less.

Five complete rings of bronze of smaller size, varying from $1\frac{1}{8}$ inch to $\frac{5}{8}$ inch internal diameter, and not more than $\frac{3}{16}$ inch in thickness.

Two broken rings, one of which is of bronze, $1\frac{3}{4}$ inches diameter and scarcely $\frac{1}{8}$ inch in thickness; the other, which is slightly over $1\frac{1}{4}$ inch in diameter and about the same thickness, appears to be made of iron.

Socketed axe of bronze, with oval socket and loop at the side, the lower part broken off and showing a very impure metal in the fracture.

Three small penannular rings, from $\frac{3}{4}$ inch to a little less than $\frac{1}{2}$ inch in diameter, formed of a core of cast bronze wrapped round with a covering of thin beaten gold, one of these is shown in fig. 2. I have



Figs. 2 and 3. Small Penannular Rings of Gold (actual size).

submitted these to Mr A. J. S. Brook, F.S.A. Scot., for information as to how the wrapping of gold is fastened on the core of bronze, so as to give the ring the appearance of a ring of solid gold. He says—"A strip of gold plate has been shaped out and wrapped round the core, with the

edges overlapping, and the end pieces turned over to the inside of the circle, the inside being then burnished down and the edge of the ends only soldered. All three are made in the same manner, and the middle-sized one shows signs of repair at a later date." Similarly shaped rings with cores of copper are not unfrequently recorded as occurring in Ireland. Sir William Wilde's *Catalogue of the Antiquities of Gold in the Museum of the Royal Irish Academy*, enumerates fifteen such rings of solid gold, from $\frac{3}{8}$ inch to $\frac{3}{4}$ inch in diameter, and six, which consist of a plate of thin gold wrapped round a core of base metal, whether copper or bronze. "It is very remarkable," says Wilde, "that while the joining of this golden envelope cannot be discovered along its edge or length, it is, in all instances, very rudely and ostensibly bent in, and hammered over the ends of the copper without any effort at concealment." These solid gold rings of small size have been fancifully called ring-money, and the counterfeit ones have been accounted for on the supposition that they were meant to defraud, like counterfeit coin; but there is no ground for supposing that there ever was a system of ring-money, or that the motive for thus putting a gold exterior over a core of baser metal was anything more discreditable than the desire for economy in personal ornament, which leads to the wearing of sham jewellery and counterfeit diamonds.

Of the four other penannular rings of thin gold which (as shown in fig. 3) are of triangular section and hollow, instead of being filled with cores of other metal, one has unfortunately been so much damaged that it is impossible to give its exact size, though it is clearly considerably larger than the other three, which are about $1\frac{1}{8}$ inches in diameter, the central opening being $\frac{1}{2}$ an inch diameter, and the opening between the penannular ends of the ring from about $\frac{1}{8}$ to $\frac{3}{16}$ inch in width. They are all unornamented, except the second largest, which is here figured of the actual size. It is very finely tooled all over the two exterior surfaces with a pattern of oblong spaces, alternately plain and filled with parallel lines arranged in rows concentrically as shown in fig. 4. The construction of these objects is very peculiar, and I am glad to be able to explain it on the authority of Mr A. J. S. Brook, who has carefully examined them with a view to ascertain how they have been made. He

states that "the most perfect of the three weighs 1 dwt. 11 grs., and is of pure or almost pure gold. It is constructed of six pieces, viz.—the lining of the inner circle, the two bands which form the upper and lower faces, the marginal tubular wire on which these converge, and the two triangular end plates. The method of construction is that the outer edge consists of a hollow wire or tube opened up on the inner side to permit the two converging plates to be slipped in and afterwards soldered to it, and to the upper and lower edges of the inner circular lining. After being soldered the edges of the inner lining have been rubbed over. Of the use of solder, there can be no doubt whatever, as in places where the edge is worn away it can easily be seen, and there are unquestionable signs of fine gold solder at several other places." It is stated by Evans¹ that "soldering is considered to have been entirely unknown in the Bronze Age, and even during the earlier times of the Iron Age; but the art of burning bronze on to bronze was certainly known, and instances of its practice have been pointed out." There is some reason to believe, however, from the fact of an alloy of tin and lead in such proportions as to make a soft solder, having been found at Achtertyre, Elginshire (associated with a socketed celt, two spear-heads, and several (probably six) penannular rings or bracelets of bronze), that its use was not entirely unknown in the latter part of the Bronze Age, to which in all probability these articles belong. The use or purpose of these double conical perforated and penannular discs of triangular section is not known. They are very rare. We have in the Museum only two examples. One is about the same size as the three from Balmashanner, being $1\frac{1}{4}$ inches in diameter and slightly damaged. It was found in a gravel pit at Gogarburn House, in the parish of Corstorphine in 1811. A bronze sword and scabbard-point and a penannular brooch of bronze, which came from the same gravel pit, are also in the Museum, but it is not certain that they were all found together, though that has been assumed.

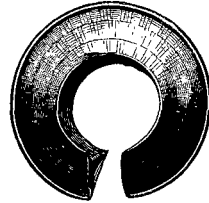


Fig. 4. Penannular Gold Ring of Triangular Section, ornamented (actual size).

¹ *Ancient Bronze Implements of Great Britain*, p. 425.

The other, which is a good deal larger, is $1\frac{7}{8}$ inches in diameter and weighs 11 dwts. It was found in a moss, along with two penannular armlets of gold with slightly expanding or knobbed extremities, and the three articles having been sold to a jeweller in Dumbarton, by the labourer who found them, the probability is, that the locality of the find was not far distant, although the finder kept his own counsel in fear of the law of treasure trove. This was unfortunate, because there is no doubt that the reward given by the Crown would have been more than a local jeweller could afford to give for the articles as bullion. These two examples are the only ones hitherto known in Scotland. The Museum of the Royal Irish Academy had four examples when Sir W. Wilde's *Catalogue* was made up, and Mr John Abell of Limerick possessed two, found together with three penannular armlets of gold and a small gold ring, in the County of Limerick, in 1845. They were of different sizes, one being fully 2 inches in diameter, and the other $1\frac{1}{4}$ inches.¹ They have not been often recorded in England. There is a notice of some found with penannular armlets of gold at Gaerwen in Anglesea, which were sold to a silversmith in Newcastle, and passed into the possession of Dr Collingwood Bruce. The precise number found is unknown. One found in the Heathery Burn Cave, near Alnwick, is in the collection of Canon Greenwell, Durham. These are all the examples I have been able to find in the British Isles. The form does not appear, so far as I am aware, among the gold ornaments found on the Continent. At least I have not met with it in any Continental Museum, or seen it described in any record of Continental Antiquities.

Besides these ornaments of bronze and gold, there was a necklace of 32 beads, of which 28 were of amber, and 5 of jet or albertite. The amber beads are chiefly of globular shape, more or less compressed, and with flattened sides. The perforations are large in comparison to the diameter of the bead. Through their long burial in the soil, the surface is encrusted with an opaque clayey deposit, and the amber has darkened considerably, the interior of the broken beads, showing a rich dark red colour, very rarely seen, unless in similar circumstances. Amber beads are frequently found in Britain in association with Bronze Age interments.

¹ *Arch. Jour.*, vol. x. p. 74 ; *Collectanea Antiqua*, vol. iii. p. 136.

Sir Richard Colt Hoare records thirty-three cases in which amber was found in the barrows of Wiltshire. Strings of beads, varying from 20 to 100, and in one instance 1000, were found. In form they are chiefly globular, and mostly of red amber, covered with a straw coloured encrustation produced by partial decomposition. They are less numerous in the barrows of the north of England, and not at all common in Scotland. A necklace of badly made beads, found with two thin circular discs of gold with embossed ornamentation in a barrow at Huntisgarth, Orkney, is the principal, if not the only authentic, instance of their occurrence in Scotland. As the ancients were aware, at least since Pliny's time, who makes mention of the fact, amber is one of the products of Britain. Dr Thurnam states that both the pale honey-coloured kind and the more valuable red sorts are washed out of the cliffs at Cromer in Norfolk, where Sir Thomas Brown tells us that in his day pieces of a pound weight were sometimes to be met with. Boece and Pennant both vouch for its occurrence on the coast of Aberdeenshire, and Dr Thurnam remarks that, although we cannot determine with certainty, we may, on the whole, conclude that the great majority of the amber ornaments found in the barrows of Great Britain are of native manufacture.

There remain to be noticed the two vessels which accompanied the find, and in which it is presumed the objects were contained. One of these, the larger, is of clay, shaped like the usual cinerary urns of the Bronze Age, flat bottomed, and with a conical under part like an ordinary flower-pot, but considerably thicker in the sides and bottom, and coarser in texture. No portion of the upper part of the vessel has been recovered, and this seems rather to point to the inference that the clay vessel had been inverted, and that the plough had consequently broken off the bottom part and thrown it up in the furrow with the contents, the rim portions remaining in the ground. Judging from the apparent diameter of the bottom, the vessel may have stood from 10 to 12 inches high. It is coated internally with a carbonaceous deposit, and though burned to a brownish red on the exterior, three-fourths of its thickness is quite black.

The other vessel (fig. 5) is the most interesting part of the find, and so far as I know is unique in Britain. It is of cast bronze, and is still

as it came from the mould, the superfluous metal along the line of the junction of the two halves of the mould, and many small protuberances, due to porosities or accidental hollows in the sides of the mould, remaining uncleaned away. The probable reason why the casting had

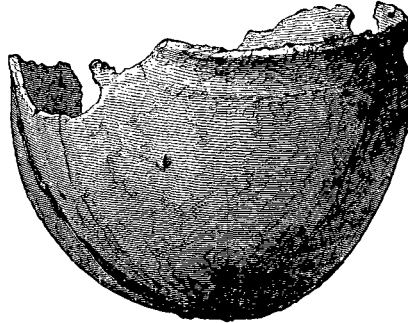


Fig. 5. Globular Vessel of Cast Bronze. $\frac{1}{2}$.

not been cleaned up is that on one side, for about an inch and a half along the rim horizontally, and an inch in depth down the side, the metal has failed to run, and consequently there is a gap in that part, which makes the casting a waster. The vessel is almost semi-globular in form, being as nearly as may be 4 inches in diameter at the mouth and $3\frac{3}{4}$ inches in depth, the greatest thickness of the metal being about $\frac{1}{8}$ inch. No similar vessel of bronze has yet been found, as far as I am aware, in Great Britain or in Ireland. Large caldrons built up of many plates of thin bronze, hammered to the round and riveted together, are well-known products of the late Bronze and early Iron Ages, but vessels of cast bronze are for this period unknown. This circumstance, taken in connection with the rarity and interest of the gold objects, makes this find in some respects the most important hoard of the Bronze Age hitherto brought to light in Scotland.

I ought to add that the credit is due to Mr John Knox of the Public School, Forfar, of having recognised the importance of securing that the separate portions of the find should be preserved together, and not suffered to go astray, in passing from hand to hand, as has been the fate of so many other finds, consisting of a number of small objects.