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The Helmsdale Bowls, a re-assessment

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ABSTRACT

This article seeks to clarify precisely when and where at Helmsdale the remarkable group of copper alloy bowls and strainers were found. The bowls are described and discussed, along with the results of analysis of their composition. It appears likely that the bowls consist of a mixture of Continental and British pieces, some manufactured in the later second century AD. Others may be later than this and it is quite possible that the group was not deposited until the third or perhaps even the fourth century AD.

INTRODUCTION

The discovery of the remarkable group of copper alloy bowls and strainers at Helmsdale during the second half of the 19th century was first reported on in these *Proceedings* by the Rev J M Joass, minister of Golspie, founder of the Duke of Sutherland's museum and antiquarian (1886, 214–18). In his report Joass provided illustrations and a brief description of the bowls, and indicated that they had been:

> 'found in 1868 during the progress of railway works near Helmsdale, on the south-east coast of Sutherland. They lay packed one inside another, at the back of a large earth-fast boulder in the steep face of an old sea terrace, about one foot under the present surface.'

The circumstances and date of their discovery given by Joass have been accepted at face value by subsequent investigators of the bowls. However, during research undertaken in order to display the bowls, which are now on loan from the Sutherland Trust to the National Museums of Scotland, it became apparent that there was a degree of confusion about precisely where and when the bowls were discovered. There is, for instance, no evidence of railway works of any kind taking place at Helmsdale until 1869. Moreover, the first extant reference to the bowls in the catalogues of the Duke of Sutherland's museum at Dunrobin dates to 1869 and simply records them as:

> 'Seven bronze dishes found in cutting for road diversion, half a mile west of Helmsdale – packed within each other under two feet of mossy detritus. (Probably Native and Medieval)',

while an early label for the bowls used for their display at Dunrobin Castle Museum reports them as having been found in:

> 'Sept. 1862 (subsequently changed to 1868) during the progress of railway works'.

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The first part of this article, therefore, seeks to clarify precisely when, why and, as far as possible, where the bowls were discovered. The bowls are then described and discussed in more detail. An analysis of the composition of the Helmsdale Bowls has also been undertaken by Mr P Wilthew of the National Museums' Conservation and Analytical Research Department. Mr Wilthew's findings have been integrated with the typological description of the bowls and the details of his analysis appear in fiche 1:D1–10.

RAILWAY CONSTRUCTION IN SUTHERLAND

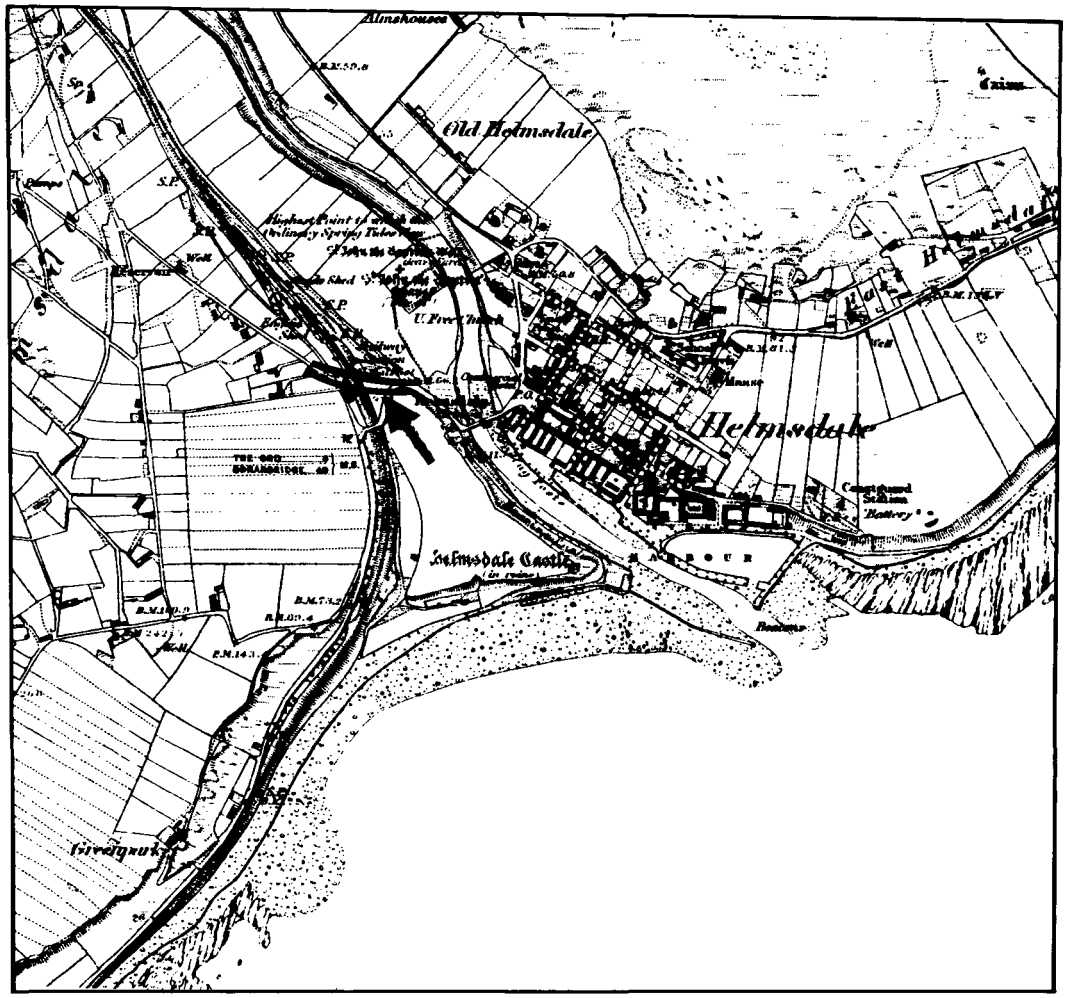
The Highland Railway reached Bonar Bridge in 1864 and the following year the Sutherland Railway was authorized to extend the line to Brora, a distance of some 33 miles. By 1868, after several years of debate, only the first 26 miles of that route had been completed. Then, in November 1868, the Duke of Sutherland announced that he was prepared, at his own expense, to extend the railway from Golspie to Brora and through on to Helmsdale. In January 1869, engineers finalized their detailed specifications for the railway and in March, work commenced on the Helmsdale section of the railway about a mile to the west of the town. At the same time various roads which crossed the proposed route of the railway were diverted. One such road was the parliamentary road between Helmsdale and Portgower, the re-routing of which was completed, according to the *Caithness Courier*, in June 1869. Work on the main length of the railway itself progressed steadily throughout 1869, but engineering problems at either end of the line meant that by 1870 the line was still three-quarters of a mile short of Helmsdale and that the two-mile stretch between Dunrobin and Golspie was incomplete. A temporary station was, therefore, constructed at Gartymore, known as West Helmsdale, and trains ran between there and Dunrobin until the full line was opened in June 1871.

If the discovery of the bowls was indeed associated with the construction of the Sutherland Railway, they must surely have been found in 1869, and not 1868 or 1862. Fortunately, a search through local newspaper reports for 1869 was rewarded with the following article from the *Northern Ensign* for 13 May 1869:

> 'Bronze relics in Sutherlandshire. – In a cutting connected with the Sutherland Railway works, about a mile to the west of Helmsdale, one of the workmen found last week, about three feet below the surface, seven bronze dishes. The largest, which is about twelve inches in diameter and four inches deep, is a flat bottomed circular dish of thin beaten bronze, with a patch riveted on its side. Three others, smaller than the first and of similar form, were packed within it. Another, resembling a grocer's movable scale or weighing saucer, is somewhat thicker, and two more are cup shaped and perforated in an ornamental pattern. One of these shows traces of the attachment of a handle. The other has a rim about one and a half inches broad, like the brim of a hat, ornamented with the characteristic chevron pattern of Celtic urns and steatite paterae roughly embossed. We cannot venture to assign even an approximate date to these vessels, but may suppose that they were hidden in some troublous time several hundred years before there was any word of a railway cutting on the braes of Marril.'

The detail of this account may be due to the presence in northern Scotland of such men as Joass in Golspie, or Joseph Anderson in Wick. Anderson was at that time editor of the *John O'Groat Journal*, but only two months later he was appointed the first Keeper of the Society of Antiquaries of Scotland's museum in Edinburgh. In any case the standard of the report and its chronological proximity to the date of discovery make it our most reliable description of their discovery. Unfortunately, the article does not indicate the exact provenance of the bowls, although the fact that they were noted as from a 'cutting connected with the Sutherland Railway' might suggest that they were not found on the line of the railway itself. The *Northern Ensign's* report may, therefore, be in agreement with the first record of the bowls in the Dunrobin Museum register which notes them as

having come from 'a cutting for a road diversion'. If so, the most likely contender for this diversion is the parliamentary road between Helmsdale and Portgower which the *Caithness Courier* noted as being diverted at this time. Fortuitously, there are maps of the area for 1868 by Burnet and Scott (National Library of Scotland, EMSb2 153) and 1870 by the Ordnance Survey which show the layout of the roads before and after the construction of the railway. These two maps [illus 1] make it clear



ILLUS 1 Excerpt from the 1870 OS map of the Helmsdale area, with the original line of the parliamentary road and the likely findspot of the bowls marked

that the new road did indeed require a cutting to be made into the north-west face of the raised beach across the river from Helmsdale itself.

Whilst it is impossible to be certain about the bowl's precise findspot it seems very likely that the bowls came from the road cutting indicated by an arrow on illus 1 and on the photograph of Helmsdale taken by George Washington Wilson shortly after the Railway had reached Helmsdale (illus 2).

ILLUS 2 Photograph of Helmsdale from the south, taken by George Washington Wilson shortly after the railway was completed. The likely findspot of the bowls is marked

THE HELMSDALE BOWLS

After their discovery the bowls, according to Joass, 'had been rather severely scrubbed with lime and sand' before being presented to the Duke of Sutherland, who placed them in his museum at Dunrobin Castle. The bowls are now the property of the Sutherland Trust who in 1986 placed them on long-term loan with the National Museums of Scotland (NMS). In the following catalogue the bowls are listed by their NMS Department of Archaeology loan registration numbers, while Dunrobin Castle Museum's accession numbers are also noted. The latter numbers were ascribed during an indexing of the archaeological section of the collection in 1966 and therefore carry the 1868 date taken from Joass's publication. The composition of each bowl has been determined by Mr Wilthew using standard X-ray fluorescence techniques. Where present, evidence for the manufacture of these vessels has been noted, although several of the vessels were burnished to remove tool marks, and their cleaning prior to being presented to the Duke has also helped to obscure evidence of manufacture.

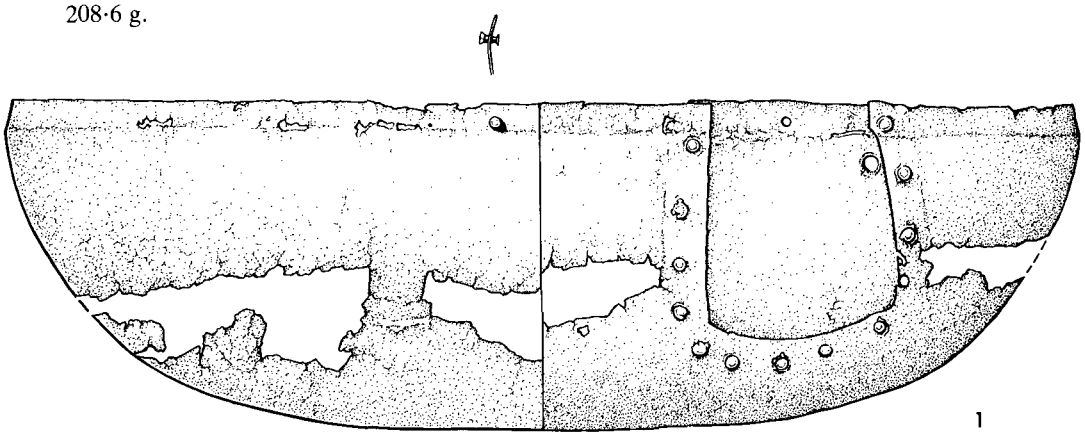
xL.1986.4 LARGE SHALLOW BOWL

(Dunrobin Castle Museum No 1868.55) (illus 3:1).

Dimensions

c 273 mm diameter, 65–73 mm high, 0·3 mm thick.

Weight
208·6 g.



ILLUS 3 Bowl *xL.1986.4* (scale c 1:2)

Composition

Seven components of the bowl were analysed, the bowl itself, the patch, the two rim rivets and three of the patch rivets. Both the bowl and the rivets were of a copper–zinc–tin alloy although the bowl contained rather less tin. The patch in contrast was a bronze (ie a copper–tin alloy) although it did contain traces of zinc (see fiche 1:D5 for details).

There were no significant differences between the rim and patch rivets analysed, which were of sufficiently similar composition to have come from the same batch of metal.

Construction

The body of the bowl was made from a single sheet of metal. The only surviving tool mark is a point mark at the centre of the bowl's interior.

Alteration

The side of the bowl has been patched with a piece of bronze sheet (69 mm wide × 73 mm long × 0·3 mm thick). The patch extends from the rim to the base of the vessel and was secured with solder and 13 rivets, inserted from the outside of the vessel. The rivet-heads are of a counter-sunk nail-headed form (3 mm in diameter).

The rim of the bowl had been strengthened and thickened by means of a strip or strips of metal (now missing) fixed inside and out with solder and secured with a single rivet at each quadrant of the rim. The lip of the body of the bowl was rebated inward to take this reinforcement. The dimensions of the strengthened rim appear from the height of the rebate and the position of patches of surviving solder to have been 7·8–8·5 mm internally and 9–10 mm externally. The dimensions of the two rivets remaining in the rim would suggest that the finished rim would have been 3·7 mm thick (as compared to 0·3 mm for the body of the bowl).

The form and composition of the rivets surviving in the patch and on the rim are sufficiently similar for them to have been made from the same batch of metal (see fiche 1:D5). If so, the rim reinforcement and patch may either have been applied at the same date, or the rim reinforcement re-secured with rivets after the patch had been interleaved between it and the vessel wall.

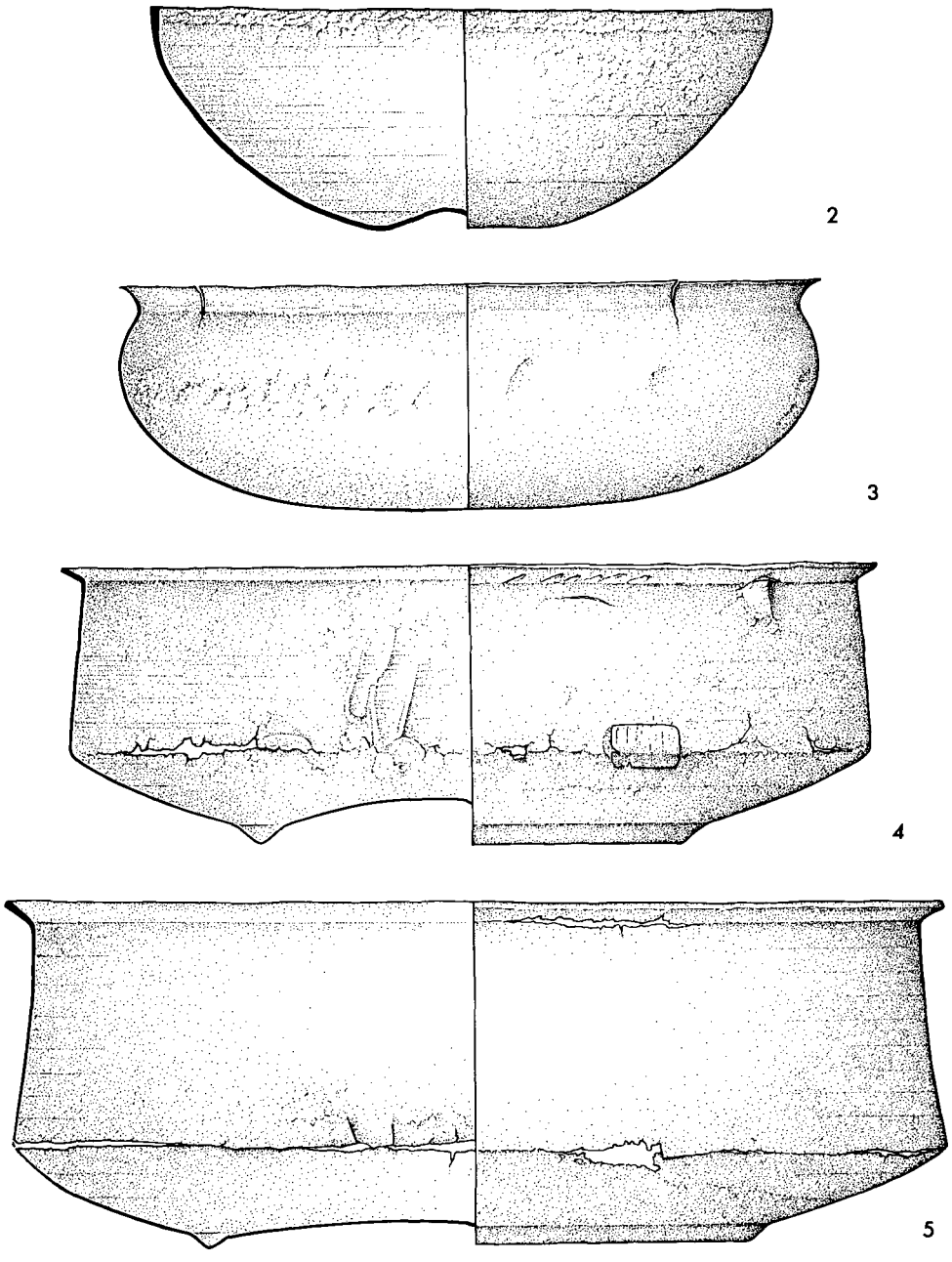
Two circular holes (5 mm diameter) had been roughly pierced through the vessel just below its rim, one through the repair patch and the other in the opposing vessel wall. The resulting ragged edges on the interior of the bowl show signs of wear on their upper edges and it seems likely that a swing-handle had been added to suspend the bowl.

Condition

Crazed and pitted over whole surface. Perforated and torn in several places with only the repair patch attaching the upper wall and rim of the bowl to its base. Measurement of the bowl's diameter is therefore based on the vessel's reconstructed form.

xL.1986.5 A ROUND BASED BOWL WITH CURVED EVERTED RIM
(Dunrobin Castle Museum No 1868.56) (illus 4:3).

Dimensions
c 187 mm diameter, c 62 mm high, 0·7 mm thick at rim, body slightly less.



ILLUS 4 Bowls: 2, *xL.1986.8;* 3, *xL.1986.5;* 4, *xL.1986.7;* 5, *xL.1986.6* (scale c 1:2)

Weight

126·9 g.

Composition

The bowl is made of a bronze with traces of zinc. Black material present around a hole in the bowl suggested that a patch might have been attached to it, although XRF of the area did not provide evidence of solder (see fiche 1:D8 for details).

Construction

The body of the bowl was made from a single sheet of bronze. There are turning marks on the interior and exterior of the bowl, the centre of which is point-marked on the interior only. There are hammer-marks under the rim on the exterior of the bowl. The presence of turning marks on the interior of this bowl would suggest that it had been finished on a lathe. Likewise, the presence of hammer-marks under the rim indicate that the rim at least had been formed by beating.

Alteration

A dark sub-circular stain on the interior and exterior of the bowl around a hole in its base. Its position and sub-circular form would suggest that some attempt had been made to patch the vessel.

Condition

The rim has sprung slightly at five different points. One quadrant of the vessel's base is holed and torn in several places and the surface elsewhere is lightly crazed and pitted.

xL.1986.6 A CARINATED BASIN WITH FOOT-RING (THE LARGER OF TWO)

(Dunrobin Castle Museum No 1868.57) (illus 4:5).

Dimensions

247–64 mm diameter, 90·5–93 mm high, 2 mm thick at rim, body less than 1 mm thick.

Weight

407·5 g.

Composition

The basin is made of a bronze, with no detected traces of zinc. A grey/black material was present close to the break in the vessel, but no convincing analytical evidence for this material being solder was found (see fiche 1:D8 for details).

Construction

The body of the basin was made from a single sheet of bronze. Centre point and turning marks survive most clearly on the interior although they are present on both the interior and exterior of the vessel. A 10 mm diameter area around the internal centre point is devoid of turning marks reflecting the position of the headstock of the lathe during finishing. There are hammer-marks on the exterior of the vessel around the inside of the foot-ring and under the rim. The former are associated with the formation of the foot ring by indenting the base, while the latter indicate that the rim had been hammered back on itself to thicken and square it up.

Alteration

There are patches of grey/black material on the interior of the basin where the basal angle was torn. It seems likely that some attempt had been made to patch the vessel.

Condition

The basin has been reconstructed from two pieces, the base having broken away from the sides and rim at some point in the past. The central area of the base is heavily pockmarked and all surfaces of both

base and sides are crazed and pitted. Only small patches of the basin retain a sub-patina surface. The everted rim has sprung at several points and has broken away from the sides of the vessel in a number of places.

xL.1986.7 A CARINATED BASIN WITH FOOT-RING (THE SMALLER OF TWO)
(Dunrobin Castle Museum No 1868.58) (illus 4:4).

Dimensions
c 226 mm diameter, c 76 mm high, 1·2–2·2 mm thick at rim, body less than 1 mm.

Weight
202·8 g.

Composition
As with the other carinated basin *xL.1986.6* the copper alloy used is a bronze with no trace of zinc being detected in the alloy. However, the bronze was not sufficiently similar to suggest that both bowls came from the same batch. One of the holes in the basin was patched with a bronze plate of significantly different composition to the vessel itself. XRF of the join showed that the plate had been soldered to the bowl. Black/grey deposits near other holes suggested that they had also had patches soldered to them and in some cases this was confirmed by XRF. In others the analytical evidence for solder was unconvincing but it is highly probable that all the deposits were solder (see fiche 1:D9 for details).

Construction
The body of the basin was made from a single sheet of bronze. Centre point and turning marks survive clearly on the interior and exterior of the vessel. A 15 mm diameter area around the internal centre point is devoid of turning marks reflecting the position of the headstock of the lathe during finishing. There are hammer-marks on the exterior of the vessel around the inside of the foot-ring and under the rim. The former are associated with the formation of the foot-ring by indenting the base, while the latter indicate that the rim had been hammered back on itself to thicken and square it up.

Alteration
There are patches of grey/black material at four points on the exterior of the basin where the basal angle has torn. It seems likely that some attempt had been made to patch the vessel, and in some cases this material was confirmed by XRF to be solder. One patch of bronze sheet (18×13 mm) remains in position. There are three incised zig-zag lines radiating from the foot-ring of the basin.

Condition
Areas of sub-patina surface remain intact, but the majority of the surface is crazed and pitted.

xL.1986.8 A HEMISPHERICAL BOWL WITH OMPHALOS BASE
(Dunrobin Castle Museum No 1868.59) (illus 4:2).

Dimensions
c 166 mm diameter, 60 mm high, 1·5–2·5 mm thick at rim, body c 1 mm.

Weight
249·2 g.

Composition
The bowl is made of bronze (see fiche 1:D6 for details).

Construction
The body of the bowl was made from a single sheet of bronze. Centre point and turning marks survive clearly on the interior of the vessel. A 10·5 mm diameter area around the internal centre point is

devoid of turning marks reflecting the position of the headstock of the lathe during finishing. The exterior of the bowl has also been finished on a lathe, but planishing hammer-marks are still recognizable spiralling the vessel. The rim is slightly inverted and has been thickened to produce a slight lip by being hammered back against its edge. The omphalos base has been indented to give the bowl a base ring of 45 mm diameter.

Alteration

There is no evidence of secondary working.

Condition

The sub-patina surface remains reasonably intact.

xL.1986.9 A BOWL-SHAPED COLLARED COLANDER

(Dunrobin Castle Museum No 1868.60) (illus 5:6).

Dimensions

c 135 mm diameter, c 64 mm high, 0·5 mm thick at rim, body slightly less.

Weight

180·2 g.

Composition

The colander is made of a bronze (see fiche 1:D6 for details).

Construction

The colander was made from a single sheet of metal. The centre of the sheet is point-marked on the interior, although the impression is visible on the exterior as well. There are turning marks on the interior of the vessel indicating that once formed it was finished on a lathe. The rim of the colander is strongly everted to form a 34 mm-wide collar. This was first raised in an arch to form a rebate for the rim of any lower container and then extended at right angles to the sides of the colander bowl. The collar would have also acted as a handle.

The holes of the colander were made with a single circular cutting punch applied to the interior of the vessel to produce 1·5 mm diameter holes. The punch was flawed at one point on its circumference and the perforations are torn and left ragged on the underside of the colander. Lines of perforations form three concentric decorative fields each defined by a further ring of perforations. The inner (lowest) field consists of the outline of a six-petal rosette. The interstices between the petals are filled with further perforations forming irregular triangles. The middle field consists of opposing pairs of interlinked 'C' scrolls the positions of which reflect the six petals of the central rosette. Perforations in the outer field form a single series of interlocking 'S' scrolls positioned to reflect all 12 points, inner and outer, of the previous field.

The collar of the colander is decorated with two zones of crude repoussé work. Two staggered rows of point punch marking have been applied to the underside of the arched inner rim. Originally this would have given a lightly pimpled effect to this part of the rim, but with corrosion and cleaning some of these punch marks now pierce the collar. The outer part of the collar had been decorated with a radiating series of double chevrons being formed by four alternately abutting chisel marks applied to the underside of the rim.

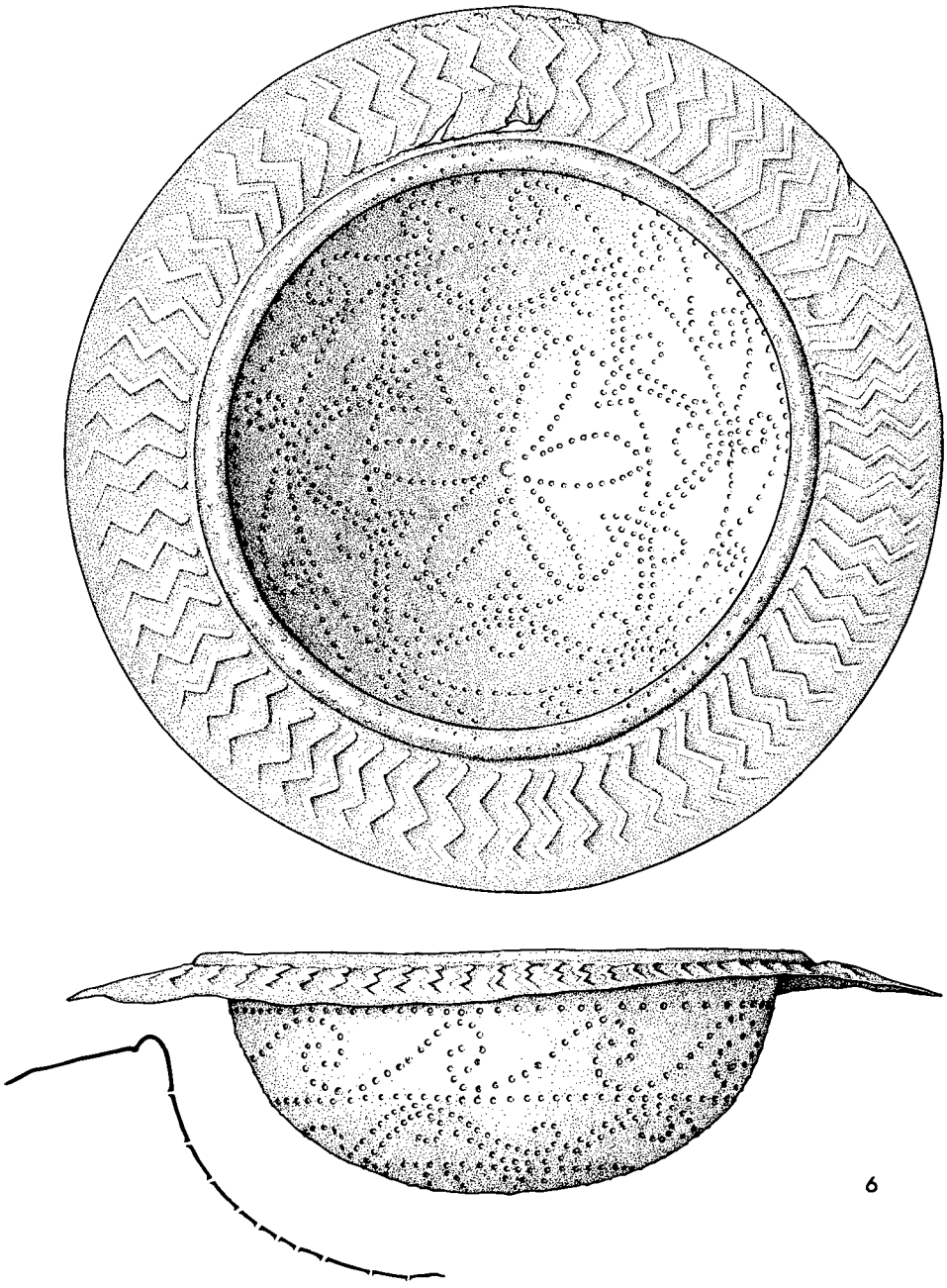
Although ambitiously conceived, and perhaps planned in two dimensions, the three dimensional geometry of the work is poorly executed. Only the centre point and field divisions are accurately located. Consequently the internal 'C' and 'S' scrolls decoration is distorted, although the number of scrolls is correct.

Alteration

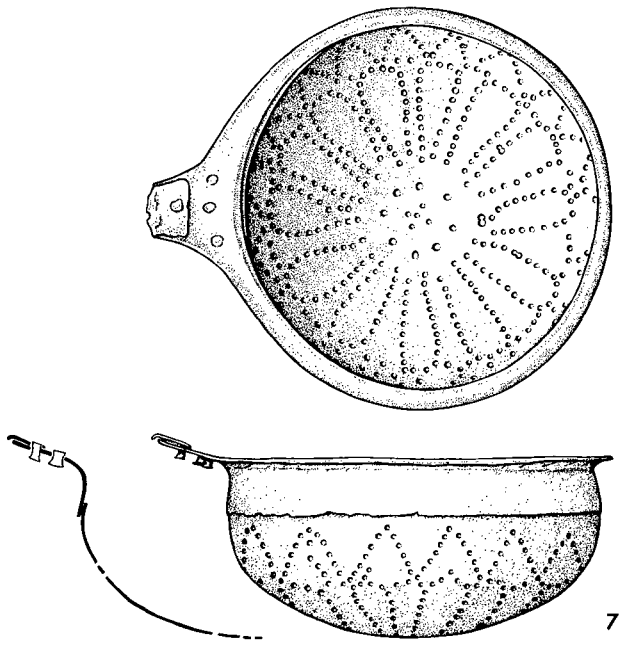
There is no evidence of secondary working.

Condition

The collar has torn away from the bowl of the colander for a short part of its length.



ILLUS 5 Colander *xL.1986.9* (scale c 1:2)



ILLUS 6 Dipper-strainer *xL.1986.10* (scale 1:2)

xL.1986.10 A DIPPER-STRAINER WITH BROKEN HANDLE

(Dunrobin Castle Museum No 1868.61) (illus 6:7).

Dimensions

Bowl 107 mm diameter, 51 mm high, 1·2–2 mm thick at rim, body 0·8 mm thick.

Weight

100·2 g.

Composition

This strainer has seven components: the strainer bowl, the soldered-on rim and handle stump, a fragment of an additional handle and four rivets through the handle area.

The rim and three rivets through it were all of a similar bronze. However, the bowl of the strainer and a fourth rivet which passes through the handle re-inforcement appear to be of a slightly different bronze. The additional fragment of handle re-inforcement is a copper–zinc–tin alloy (see fiche 1:D6 for details).

Construction

The strainer would originally have been made in one piece but has been repaired to such an extent that, as seen now, it is of composite construction. The rim and lower handle of the strainer were marked-out with a light-point punch and then hammered from below to form a rebate for the matching dipper pan which would have accompanied the strainer (see discussion below). As with the previous colander the perforations of the strainer bowl form a decorative pattern, although in this case the holes are of two diameters, 1·3 and 2 mm, which have been cleanly cut with either a drill or circular file. There are three zones of decoration remaining on the bowl of the strainer. The innermost of these is delimited by a ring of the larger (2 mm diameter) perforations. The centre point of the bowl is marked by a single small (ie 1·3 mm diameter) perforation boxed by four further small holes. Radiating from the ring of larger perforations surrounding this centre arrangement are the outlines of 13 rounded, open-bottomed, petals.

This pattern is executed using the smaller perforations as is the single line of deep chevron decoration which surrounds it. The prior existence of other decorative fields, presumably removed during repairs, is indicated by torn perforations along one quadrant of the wall below the rim.

Alteration

As has been indicated the strainer has seen considerable wear and repair. All that remains of the handle is the stump of its junction with the rim. There has, however, been a skilful attempt to repair or replace the broken handle. The broken end of the stump has been squared off and then either a new or the old handle riveted and soldered back into position. The two pieces of the handle were sandwiched between a thin (0·3 mm) sheet of metal on top and, to judge from the position and length of the four bronzed rivets, a stronger sheet of metal (0·9 mm) below.

The strainer bowl is attached to the rim by solder. As discussed below this is an unusual method of construction for a well known vessel type. Such strainers are also usually several centimetres deeper and it is this fact, along with the rough edges of both the rim and bowl, which indicate how the vessel has been skilfully repaired. The perforated, and presumably torn, upper walls of the strainer have been removed and the edges of the rim and lower bowl squared up in so far as the pattern of perforations would allow. The bowl of the strainer was then slightly widened and soldered back into place within the original rim to produce a shallower but effective strainer.

Condition

The remaining parts of the strainer are in good condition with areas of the sub-patina intact.

DISCUSSION

All but one of the Helmsdale vessels, the large bowl *xL.1986.4*, were made from a bronze containing less than 2% of lead and, at most, traces of zinc, although their tin contents varied quite considerably, from 9·7% to 13·4%. A copper–zinc–tin alloy was used for the bowl *xL.1986.4* and a small amount of a similar alloy was used to repair the handle attachment of the small strainer *xL.1986.10*. The 'gold' surface appearance on parts of some of the bowls is probably due to previous conservation treatments. No gold or mercury was detected in any of the un-abraded areas analysed and it is highly improbable that any of the objects were gilded. It was not possible to analyse the solders or possible solders present on several of the objects quantitatively but in several cases semi-quantitative analysis suggested high levels of tin and, in some cases, lead in these areas. Where solders are referred to in this article, they are almost certainly of the tin–lead type but no comment on the relative proportions of tin and lead can be made on the basis of the analyses carried out. Where solder was suspected but no analytical evidence was found the deposit may have been degraded solder, perhaps too thin to be identified by the fairly crude method used.

Although the bowls have seen considerable wear and repair, none of them bears any sign of heat damage, and it is unlikely that they had ever been used for cooking. The presence of two strainers as well as the fine quality of several of the other pieces would suggest that the Helmsdale Bowls were intended to be used in the preparation and consumption of drinks and as tableware.

The circumstances of the discovery of the Helmsdale Bowls, as discussed above, mean that their dating must rest on the identification of dated parallels. The repeated repair of several of the bowls would suggest, however, that at least some of them were already old when buried, and it is quite possible that the group had been collected over a period of time and from a variety of sources. Typological dating and sourcing of the bowls is not helped by the fact that the form and methods of manufacture of several of the bowl remained unchanged during the Roman and post-Roman periods.

James Curle, in an earlier review of the date of the Helmsdale Bowls, noted that while the small strainer *xL.1986.10* was unlikely to be later than AD 150, the other bowls and strainer perhaps dated to the third century AD (1932, 306–10). Curle's dating of the small strainer was based on Willers's

arguments that the style of strainer being produced in Roman bronze-working factories in Italy, Gaul and Lower Germany changed from a hemispherical to a more flat-bottomed form during the mid second century AD (Willers 1907, 82–84). Willers's dating of the manufacture of these vessels has remained largely uncontested, although the interaction of the Capuan, Gaulish and Lower Germanic bronze-working industries remains understudied. In particular, it may be possible with further quantitative analysis of vessel and ore compositions to identify any regional characteristics of the copper alloys used in these industries. It has already been suggested that copper ores from Central European or German sources contain high levels of antimony, nickel, silver and arsenic (Mortimer *et al* 1986, 36–42). At present, however, it is only safe to conclude that as the copper alloys used for the Helmsdale Bowls contain very low levels of antimony, nickel, silver and arsenic, a Central European or German source for their metal and manufacture is unlikely. Although the small strainer's date and place of manufacture must, for the moment, remain loosely defined, the late first or early second centuries AD provide an acceptable date for its manufacture. Such strainers appear, however, to have had a long life. A number of similar hemispherical strainers have been found in other parts of Northern Europe, many of which are from inhumations that have been dated on the basis of other grave-goods to the second or even the third century AD (Eggers 1951, 174, Karta 45; den Boesterd 1956, 20; Gunther & Kopstein 1975, 205).

One advantage of this type of strainer being so well known is that it is possible to reconstruct the original appearance of the now much repaired Helmsdale strainer. It would have been manufactured with a matching ladle or dipper, and would have been some 20 to 30 mm deeper, the vertical walls of the strainer bucket having been removed during its repair. The handle, now missing, would have been long and flat, most commonly with a biconical grip finishing in a fan-shaped terminal. Only two other strainers of this type, both with their accompanying dippers, are known from Scotland, one from Glenshee, Perthshire (NMS reg nos FT 43a & b) and the other from near Lanark (NMS reg nos FT 5 & 6). Another fine example from northern Britain, which is now in the Museum of Antiquities, Newcastle upon Tyne, was found on Whitfied Moor, Northumberland [reg no 1848.15]. Unfortunately all three strainers are isolated finds.

There are three known parallels for the collared colander *xL.1986.9*, all from the British Isles. The closest was found on Marston Moor, Yorkshire, in the mid-19th century and is now in the Yorkshire Museum. The remaining two colanders come from Coygan Cave, Kyngadle Farm, Camarthenshire, and Thorp, Surrey (Tomalin 1989, 53–65). The former is in the National Museum of Wales, the latter is in Weybridge Museum. Unfortunately, of the three other known colanders only the Coygan Cave example was found with objects. The dating of these curious colanders therefore revolves around the Helmsdale and Coygan Cave finds.

The Coygan Cave colander is of the same general construction and size as the Helmsdale colander, but has a simpler and more crudely executed decorative motif. It was found between 1800 and 1810 along with a patera with additional base-plate and reputedly numerous coins of Carausius, AD 287–293 (Wainwright 1967, 85–88). The patera, base-plate and colander survive, but unfortunately the coins were lost in the 19th century and their identification has been called into question (RCAMW 1917, 188–9). The dating of the Coygan Cave colander, like the Helmsdale example, rests therefore on the identification of the remaining bronzes. The patera from Coygan Cave is, like the smaller Helmsdale strainer, likely to have been made on the Continent, perhaps in a Capuan workshop, during the first or early second century AD. As the Coygan Cave colander was almost certainly made in Britain to accompany the patera it must date to a time between the manufacture of the patera and the deposition of the hoard. The only other surviving item in the hoard, the bronze base-plate, is also likely to have been made locally for use with the patera. It has been dated, on the basis of the open-work triskele at its centre, to between the second and fourth centuries AD

(Wainwright 1967, 88). A *terminus post quem* somewhere in the fourth century AD for the deposition of the hoard is, therefore, possible and would fit with the unconfirmed identification of the lost coins from the hoard as being Carausian.

The two carinated basins from Helmsdale *xL.1986.6 & 7* are fine examples of a broad category of steep-walled basins produced in a variety of forms from the first century AD to early medieval times. A more precise dating of these two basins is fraught with difficulties, but the workmanship and use of lathe machinery is extremely competent and it is likely that they were both made in the same workshop. Some of the best parallels for these bowls come once again from the Continent and similar horizontally-rimmed basins with integral foot-rings were certainly being produced in Lower Germany during the late first and second centuries AD and continued in use up to the fourth century AD (Willers 1907, 62–4; den Boesterd 1956, xxvi, 56, nos 192–5). Some of the Continental examples have escutcheons and suspension rings, but there is no indication of any such attachments on the Helmsdale examples. There are no closely comparable British examples although one of the basins now in the Museum of Antiquities, Newcastle upon Tyne (reg no 1890.11/2) from a hoard found at Prestwick Carr, Northumberland is of similar form and construction. Several vessels in the hoard have been dated by inscription and makers-marks to the first half of the second century AD (Hodgkin 1892, 159–66; Dodds 1926, 25–34). Hence, although it is impossible to be certain, there is no reason to suppose that these two basins were not produced on the Continent at much the same time as the smaller strainer *xL.1986.10*.

Of the remaining bowls the large shallow bowl *xL.1986.4*, the round-based bowl with curved everted rim *xL.1986.5* and the small omphalos-based bowl *xL.1986.8* are all of constructions which might date to both Roman or post-Roman times. It is worth noting, however, that while the form of the omphalos-based bowl is comparable to such later vessels as the St Ninian's Isle bowls, its weight and manufacture are strikingly similar to the omphalos basins in the Yorkshire Museum from Knaresborough, Yorkshire (reg nos H 144.8–13 & 22; *Yorkshire Philosophical Society* 1891, 141–4). These are part of an extremely large hoard of vessels, many of which are now lost, but which also includes bronze-working tools and a blank for the manufacture of a similar bowl (reg no 144.18). The dating of this hoard is made difficult by the number of missing pieces, but Continental imports in the hoard, including flat-bottomed strainers of the type noted above, would suggest that it should be seen as belonging to between the second half of the second century AD and the end of the fourth century AD (den Boesterd 1956, xxii).

While there is no tidy explanation of the date and origin of the Helmsdale Bowls, it does seem likely that they consist of a mixture of Continental and British pieces, the manufacture of which, where this can be dated, appears to lie in the later second century AD. Several pieces may nevertheless be later than this, and it is quite possible that the bowls were not buried until the third or perhaps even the fourth century AD. Indeed the pattern of deposition of Roman artefacts beyond the frontiers of the Empire, in Ireland and on the Continent, would strongly suggest that Roman objects could remain in circulation for some considerable time before they were buried or discarded (Eggers 1951; Bateson 1973, 21–98; Parker-Pearson 1989, 198–226).

While the Helmsdale Bowls can be accounted for within the context of a limited distribution of Roman material from native sites in Scotland, their quality and northern provenance undoubtedly make them an exceptional find. In general the quantity of Roman material found on native sites in Scotland is small and its quality poor: mainly small pieces of metalwork and fragments of pottery (Robertson 1970, 198–226). The peak both in volume and distribution of this material is in the second century AD, while post-Antonine and later Roman artefacts come mainly from central and southern Scotland. Roman artefacts seem, therefore, to have been most widely available to native communities in the periods and areas of military operation, although the overall distribution of these

objects must mean that some Roman goods were being traded and exchanged over a wider area (Macinnes 1989, 108–16). As regards the Helmsdale Bowls, it is worth noting that these northern waters were not completely uncharted. The Roman navy is known to have been active around the north of Scotland during Agricola's campaigns (Tacitus, *Agricola*, 25) and in the second century AD Ptolemy of Alexandria recorded the existence of an *Ila fluvii ostia* on the north-east coast of Scotland. This place-name has been linked to certain pre-Norse names found near Helmsdale (itself a Norse name), notably Strath Ilidh through which the River Helmsdale flows and Dun Ilidh by which the town of Helmsdale was also known (Rivet & Smith 1979, 375).

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