

Viking Age and Late Norse gold and silver from Scotland: an update

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ABSTRACT

There are two parts to this paper, the first of which takes the form of addenda and corrigenda (mainly of an antiquarian nature) to the author's catalogue of Viking Age and Late Norse gold and silver from Scotland (Graham-Campbell 1995). The second part brings together (and catalogues) all the relevant finds that have either been discovered or newly recognised during the decade since its publication (to 2006).

INTRODUCTION

During the period since the completion of *The Viking Age Gold and Silver of Scotland* (Graham-Campbell 1995), one complete silver arm-ring, three fragments of arm-rings, one of which is gold, a silver finger-ring and two gold strips have been published, recognised for the first time, or newly discovered. In addition, there are three, recently metal-detected, silver ingots, which are likewise to be considered as being either (or most probably) of Viking Age or Late Norse date, together with a possible fourth.¹ These are brought together here for the first time, with the addition of a lost coin hoard and three lost gold rings from Scotland, seemingly of the same date, which have since been noted in earlier literature. Some of this 'new' material was first presented to the 14th Viking Congress, held in the Faroes (2001), and the immediately following section is, in part, an edited version of the relevant passages from its proceedings (Graham-Campbell 2005: 125–7), in the form of addenda to the original catalogue, together with some minor corrections. The discovery of the silver finger-ring is reported in a preliminary account of the excavations at Cille Pheadair,

South Uist, found in the ruins of House 500 (Phase V), as was 'a coin of Cnut (minted in York, probably between 1017 and 1024)' (Parker Pearson et al 2004: 248).

ADDENDA AND CORRIGENDA (1995–2006)

HOARDS

The first (and oldest) correction needing to be made is largely a matter of antiquarian interest. It has been discussed in detail in a recent paper that reviewed the history of the discovery of the Vikings in Scotland (Graham-Campbell 2004), in which it was demonstrated how this author had been deceived into believing (as was intended) that a book on Orkney published in London in 1700, by one James Wallace, was a first edition, whereas it had in fact largely been written by his father (of the same name) and had originally been published in Edinburgh, in 1693, five years after his death.²

The result of this filial deception is that an extant hoard, which first featured in his father's book (Wallace 1693; cf Small 1883: 31 & fig),

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consisting of nine ‘ring-money’ found in a mound at Stenness, Orkney (Graham-Campbell 1995: 95–6, no. 2, pl 2), must have been discovered before 1688, making it the earliest known discovery of Viking Age silver from Scotland.³

In 1995, the total of Viking Age hoards, lost and surviving, that had been discovered within the modern kingdom of Scotland was said to amount to 34, but there is nothing very precise about this figure. It has, for instance, been suggested in a review by Mark Blackburn (*Numismatic Circular* 1996, 104(3): 87–8), that it was a mistake to have divided the (1780) Tree hoard into two finds, one from 1780 and the other from 1782 (Graham-Campbell 1995: 97–8, no. 4 & 99, no. 7). A further problem is presented by the two mixed hoards proposed for Dunrossness in Shetland, which likewise might represent one hoard rather than two (ibid: 100–1, no. 11, & 103, no. 16). Alternatively, as Gareth Williams (pers comm) has suggested, there may have been just the one hoard (no. 11) and a single-find of a Norwegian coin (no. 16); but see also Graham-Campbell (2005: 128–9) for some further discussion of this matter.

One early reference to a lost hoard, with a good claim to be of Viking Age date, was overlooked in 1995. This is a report of an 18th-century find on St Kilda, where a couple of pagan Norse graves were subsequently recorded in the 19th century (Graham-Campbell & Batey 1998: 77). According to *The Scots Magazine* (June 1767):

Edinburgh, May 11. We hear from Glasgow, that some fishermen lately dug up on the island of St Kilda, two antique urns, containing a quantity of Danish silver coin, which by the inscription appears to have lain there upwards of 1800 years.

It has naturally to be assumed that ‘1800 years’ is a misprint for ‘800’, and an 18th-century description of the coins as being ‘Danish’ should not necessarily be taken literally (Graham-Campbell 2004), although the coins in question might well have been of Cnut.

In 1995, Graham-Campbell and Sheehan published a paper on ‘A hoard of Hiberno-Viking arm-rings, probably from Scotland’, supplementing the discussion of two such rings with a Scottish provenance, in the British Museum (Graham-Campbell 1995: 105–7, no. 21, pl 7), by linking them to a collection of five base metal copies in the National Museum of Ireland (ibid: fig 33). The subsequent recognition that one of these copies in Dublin is in fact of an arm-ring with a 19th-century Oxfordshire provenance (Graham-Campbell 2005: 125) has only served to add further to the confusion surrounding this find.

A couple of additional early references for the (lost) hoard from Caldale (1774), Orkney (Graham-Campbell 1995: 96–7, no. 3), have been located concerning its dispersal (Graham-Campbell 2004: 208–9). Finally, by way of ‘addenda’, there is a further reference to be noted concerning the mixed hoard from Inch Kenneth, off Mull, which was deposited c 998–1002 (Graham-Campbell 1995: 100, no. 10, pl 3b–c). When its silver chain (now in the British Museum) was exhibited to ‘The Archaeological Institute’, on 5 January 1849, the hoard’s finder, Major Ker Macdonald, stated that as well as the three (previously noted, but already dispersed) ‘silver armillæ, resembling Indian bangles’, there had been ‘some weights of lead bound with iron’ (*Archaeological Journal* 1849, vi: 72).

GOLD RINGS

There is an 18th-century report, by the Rev George Low (1778), of ‘a Gold ring encircling a thigh bone’ in one of the burials that had recently been uncovered ‘on the Links of Trenaby’, the well-known area of pagan Norse graves at Pierowall, on Westray (Graham-Campbell & Batey 1998: 129–30, fig 7.8). Even if the veracity of the ‘thigh-bone’ must be rejected, gold and silver rings are on record from two other graves in the Northern Isles: likewise from Orkney, there is a lost gold ring from a burial at Colli Ness, on Sanday (Graham-Campbell 1995:

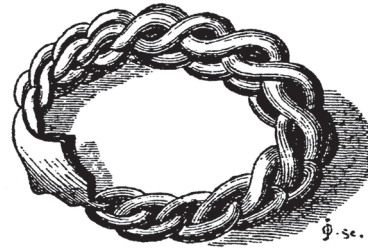
165, U1); with, from Shetland, the lost (but depicted) silver arm-ring from a female burial at Clibberswick, on Unst (ibid: 154–5, S4, pl 71b).

Remaining in Orkney, there is good evidence for the discovery of a Viking Age gold finger-ring shortly before 1796, when the original *Statistical Account of Scotland* was published. In this, the Rev George Barry reported that, ‘some short time ago’ in ‘a subterraneous building of a singular nature’, near Cliffdale on Shapinsay:⁴

there was found a gold ring of an uncommon construction. The outside of that ring was broad and large, composed, as it were, of three cords twisted or plaited together; the inside was much narrower, and pretty well fitted for the use of the finger. No inscription whatever appeared on any part of it; and at the joining, instead of being soldered, it seemed to have been beaten together with a hammer (*Statistical Account of Scotland* xvii, 237).

This is a well-observed description of what must surely have been a Viking Age gold finger-ring, similar to the extant three-rod examples from both the ‘Hebrides’ and Stenness, Orkney, gold hoards (Graham-Campbell 1995: 127–9, no. 25 & 130–1, no. 27, pl 50).

The remaining (lost) gold finger-ring needing to be added to the corpus is that reputedly ‘dug up a few years since [= pre-1846] on the field of Bannockburn’, being noticed in print only because of its resemblance to one that ‘is reported to have been found on the field of Flodden’, in Northumberland (*Archaeological Journal* 1846, iii: 269). The gold finger-ring, said to be from Flodden Field, was illustrated on this occasion (illus 1), so that it can be readily recognised as belonging to the same type as the Late Norse gold finger-ring, of plaited rods, that forms part of the small coinless (1923) hoard found on Iona, in St Ronan’s Church (Graham-Campbell 1995: 166–7, U7, pl 73k). The lost Bannockburn ring should therefore also be attributed an 11th/12th-century date, given that such plaited/twisted-rod rings do not seem to have continued in fashion into the following century (ibid: 55–6).



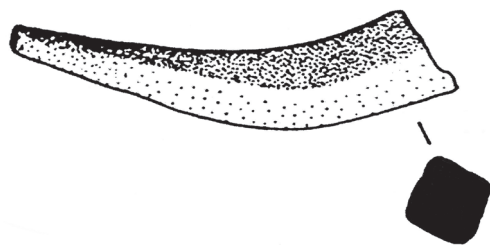
ILLUS 1 Gold finger-ring from Flodden Field, Northumberland (after *Archaeological Journal* iii 1846, 269)

COINS (SINGLE FINDS)

Although it is not the intention here to update the hand-list of single finds of coins from Scotland, prepared by Donal Bateson for the original publication (1995),⁵ it is necessary to draw attention to the following six omissions of earlier discoveries: three imitative *solidi* of Louis the Pious, of which only one is provenanced, to Elgin, Morayshire (it has been perforated twice for use as an ornament);⁶ a coin of Eadgar, which was donated to the British Museum in 1810, when it had been ‘lately found in the neighbourhood of Newburgh, Fife’;⁷ and two coins found (in 1991) in plough-soil in Churchyard Holm field, Hoddum, Dumfriesshire, both of which were originally listed as being ‘Northumbrian’ (Bateson & Holmes 1997: 544). These Hoddum coins were subsequently published by Elizabeth Pirie (2000: 77, no. 212 & Appendix A, 21–2, no. 5), as (i) a Northumbrian styca of Æthelred II (moneyer, Fordred), and (ii) a cut fragment of a denier of Louis the Pious, struck (819–22) at Pavia in northern Italy.⁸

THREE ‘NEW’ VIKING AGE ARM-RING FRAGMENTS

A terminal fragment of silver ‘ring-money’ from the Whithorn excavations (illus 2) has been published by Andrew Nicholson (in Hill 1997: 398 & 400, no. 13, fig 10.82).⁹ This arm-ring



ILLUS 2 Silver terminal fragment of 'ring-money' from the Whithorn excavations, Galloway. Scale 2:1 (after Hill 1997: fig 10.82)

terminal appears to form part of the material which 'probably originated in a craftsman's workshop of the latter part of Period IV, although most of the objects [including this fragment] had been displaced into Period V graves' (ibid: 398). Period IV at Whithorn comprises 'the new settlement' established 'in the earlier eleventh century', which 'survived into the later-thirteenth century' (ibid: 22).

A further example of a piece of 'ring-money' has now been identified in the form of a hoop fragment from South Uist (illus 3), recently recognised by Fraser Hunter amongst a collection of surface-finds from South Uist. These were recovered from a wind-eroded hollow on Kildonan Machair, by Kenneth Maclean, who presented them to the Museum in 1964, when this small piece of hack-silver was incorrectly registered (GS 213) as being made of 'lead'. It is a slight example, cleanly cut at both ends, but in good condition (with no nicking) and is



ILLUS 3 Fragment of silver 'ring-money' from Kildonan, South Uist. Scale 2:1 (© Trustees of the National Museums of Scotland)

well paralleled, for example, by the slightest of the fragments in a small hoard of 'ring-money' (no. 2) from the Isle of Skye (Graham-Campbell 1995: 105, no. 19.4, pl 4b). There need be no surprise at the presence of such a silver fragment amongst this scatter of midden material from Kildonan because Maclean's original collection included a Viking Age ringed-pin (GS 200), of the common plain-ringed, polyhedral-headed type (Fanning 1983: 337, no. 25), and he subsequently (1975) recovered a fragment of an oval brooch from the same site (Graham-Campbell 1975: 213, pl 28d).

In 2003, a fragment of a Viking Age gold arm-ring was discovered at Kilcheran on Lismore, Argyll (*Discovery and Excavation in Scotland* 2004: 33, fig 17). This is the expanded terminal plate (illus 4) which would have originally linked the two ends of a twisted rod arm-ring, such as that from Oxna, Shetland (Graham-Campbell 1995: 158–9, S11, pl 72a–b). The Oxna link-plate is plain, whereas that from Lismore is decorated with a cross-shaped arrangement of



ILLUS 4 Fragment of gold arm-ring from Kilcheran, Lismore (© Crown Office)

eight punched dots, recalling the decoration on the link-plate of one the gold finger-rings in the Stenness, Orkney, hoard (ibid: 130, no. 27.2, fig 53). It is usual for such Viking Age finger-rings ‘to reproduce standard-types of neck- and arm-ring in miniaturized form’ (ibid: 55).¹⁰ The Lismore link-plate was crudely sheared through

at both ends for use as a piece of hack-gold, or ‘mini-ingot’.

THE ARDSKENISH, COLONSAY, SILVER ARM-RING

The final example of a Viking Age arm-ring for consideration here is a complete, band-shaped silver arm-ring (Diam: 756mm), its tapered terminals simply twisted together, ornamented with a row of stamped decoration (illus 5). This was metal-detected, in 1999, in the machair on the west side of Tràigh nam Bàrc, on the Ardskenish peninsula, Colonsay, Argyll (Hunter 1999: 15). It is a fine example of a well-known type of Scandinavian arm-ring, in excellent condition (with no nicks). Colonsay and Oronsay are of course well known for their important pagan Norse burials (Graham-Campbell & Batey 1998: 90–1), most notably the boat burial at Kiloran Bay (ibid: 118–22; but see now Bill 2005).



ILLUS 5 Silver arm-ring from Ardskenish, Colonsay. Scale 1:1 (© Trustees of the National Museums of Scotland)

Ardskenisish itself has produced possible evidence for another grave (Grieg 1940: 61, fig 34), in the form of a ringed-pin (Fanning 1983: 335, no. 7) and an Insular buckle (Paterson 2001: 130–1, fig 11.6), found in unknown circumstances in 1891.

The Ardskenish ring is best paralleled in Scotland by a fragment (in two pieces) in the hoard from Stornoway, Isle of Lewis, deposited c 990–1040 (Graham-Campbell 1995: 149–50, no. 33:27, pl 70c). This is, however, more simply decorated with two rows of punched dots. The stamp employed around the Ardskenish ring is the well-known ‘hour-glass’ type consisting of a pair of opposed triangles, both containing three pellets (ibid: fig 28, nos 28–30). This is similar to the ornament on a lost fragment from a savings hoard deposited at Sandur on Sandoy, in the Faroes, at the end of the 11th century (Graham-Campbell 2005: 129–30), which was likened on discovery to that in the largest known Viking Age hoard from Denmark, that from Vålse, on Falster, deposited shortly after 1000 (ibid: fig 4).

Other parallels include three examples found in Iceland, one of which is a fragment in the coinless hoard from Miðhús, which has parallels with the well-known mixed hoard from Skaill, Orkney, so that it was presumably

likewise deposited during the second half of the 10th century (ibid: 130, 135–6).¹¹ Three further examples from Danish coin-dated hoards (with differing stamped decoration) may also be noted: from Harrendrup, Fyn, deposited during the second half of the 10th century (Skovmand 1942: 82–3, no. 26); from Tolstrup, Jutland; and from the island of Yholm (in Svendborg Sound), both of which were deposited shortly after 1000 (ibid: 49–54, no. 4, fig 9 & 90–2, no. 32). It would seem appropriate therefore to suggest that the Ardskenish arm-ring dates from the 10th century.

THE TWO GOLD STRIPS

A small fragment of a ‘gold strip was found during the sorting of environmental residues from the floor of the eleventh-century house at Bornais’, South Uist (Sharples & Smith 2009: 116; Sharples 2005). It is described as being ‘identical’ (Sharples & Smith 2009: 16) to ‘a decorated gold strip which seems to have been wound around someone’s finger before it was lost’, found in the midden associated with House 500 (Phase IV) at Cille Phedair, also in South Uist (Parker Pearson et al 2004: 246, fig 9). Their original function is unknown.

THE SILVER INGOTS

During 2002–4, four silver ingots (or fragments) were metal-detected in Scotland of which one may confidently be identified as ‘Viking’; two others are less diagnostic, but are most probably of Viking Age (or Late Norse) date, whereas the fourth is more likely to be ‘Early Historic’.

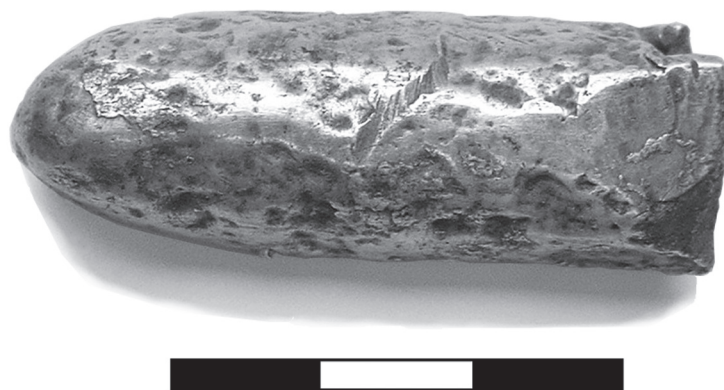
The latter is the only complete ingot among these four finds (L: 35.5mm; Wt: 10.6g) and was found at Whitmuirhaugh, Roxburghshire (Heald 2005: 125; see also Crawford 2005: illus 12a–b), near the early Anglian centre of Sprouston (Smith 1991), from which no material of Late Anglo-Saxon or Viking Age type is known. An Early



ILLUS 6 Silver ingot from Whitmuirhaugh (near Sprouston), Roxburghshire (© Crown Office)

Historic date is thus suggested for this small flat ingot (illus 6), which is lacking any secondary treatment that might otherwise have been indicative of a Viking Age date, as is clearly the case with the newly-discovered ingot fragment from the Glebe, Maxton, Roxburghshire (Hunter 2003: 116; Crawford 2005: illus 12a–b).

The Maxton fragment (L: 47.5mm; Wt: 70.8g), of standard plano-convex section, with a rounded terminal (illus 7), can immediately be



ILLUS 7 Terminal fragment of a silver ingot, with nicking, from Maxton, Roxburghshire (© Crown Office)

seen to be far more substantial than that from Sprouston. The ingot has seemingly been cut in half (so that it would originally have weighed at least 140g). It has also undergone extensive nicking, along both sides – the characteristic form of silver testing encountered in Viking Age silver hoards from the late 9th century onwards (Graham-Campbell 1995: 33).

A plain, biconical, lead weight (Diam: 26mm; Wt: 51g) was discovered at the same time as the Maxton ingot (Crawford 2005: illus 12a), and there is no reason why this should not also be of Viking Age date. A similar biconical weight is reported from the recent excavations at Tarbat, Ross-shire, and Cecily Spall (York) is of the opinion that both could date from the 9th–11th centuries.¹² Although a long-lived and

widespread form, it was not in fact a common Viking Age type; for instance, no examples were known to Susan Kruse from either Scotland or England when she published her summary in 1992. There are, however, two biconical lead weights amongst those published to date from Hedeby (Jankuhn 1943: illus 88s & 88v), and a copper-alloy example forms part of a set of three weights buried, with scales, in Birka grave 644 (Arbman 1940: pl 126.4), with a lead one known from grave 715 (ibid: pl 127.15).¹³ The existence of a Scandinavian weight-unit in the mid-20 grams is generally accepted, and thus a case could be advanced for the Maxton weight being a multiple of two (for relevant discussions of metrology, see Kruse 1992: 85–9, and Williams 2000: 32–4, with refs).

The discovery of this fragment of a Viking Age ingot in south-eastern Scotland necessarily brings to mind

the presence of two complete examples in the lost coinless hoard from Gordon, Berwickshire (Graham-Campbell 1995: 102, no. 14, pl 6), which has been attributed a deposition date in the late 9th or early 10th century (ibid: 27–8). It has been speculated that this may have resulted from ‘the plundering of Lowland Scotland by Ivarr and his kinsmen during the year after his expulsion from Dublin in AD 902, or with the slightly later activities of Ragnall’ (ibid: 62, with refs).

The silver ingot terminal metal-detected near Dores, Inverness, is similar to Maxton in likewise being of plano-convex section, with a rounded terminal (illus 8), but it is much slighter and more elongated in form, with no nicks (L: 35.5mm; Wt: 13.6g). It would certainly not be



ILLUS 8 Terminal fragment of a silver ingot and a copper-alloy, 'frustrum-headed', stick-pin from near Dores, Inverness (© Crown Office)

out of place in a Viking Age hoard, but the other artefact recovered on the same occasion was a copper-alloy, 'frustrum-headed', stick-pin (illus 8), as represented (for example) by two such finds from Urquhart Castle, Inverness, which have been published by Colleen Batey, who concluded that they are 'likely to be post-13th century in date' (1992: 353).

The final ingot fragment for consideration (illus 9) is from a gravel deposit at the side of Piltanton Burn, Old Luce, Dumfries and Galloway (*Discovery Excav Scot* 2003: 50). It is of flat plano-convex section and has been cut through at both ends (L: 28mm; Wt: 9.8g). Its surface is considerably abraded, not surprisingly given its find-context, although it does not appear



ILLUS 9 Silver ingot fragment from Piltanton Burn, Old Luce, Dumfries and Galloway (© Crown Office)

to have been subjected to nicking. There is little more that can be said about it, other than it is of good quality silver and that silver was certainly in circulation in this general coastal region during the Viking Age, as is indicated by the various coins and other finds known from Luce Sands to the Solway Firth (Graham-Campbell 1995; 2001; Hill 1997).

CATALOGUE

ARM-RING AND RING FRAGMENTS

Ardskenish, Colonsay, Argyll (1999)

Silver annular arm-ring (NMS: IL 971), consisting of stamp-decorated band, tapering to rod-shaped ends which are joined by being tightly twisted to either side of each other (illus 5). The decoration consists of 32 impressions from a single stamp, in the form of a pair of opposed triangles, both containing three pellets. The main part of the decorative scheme consists of a vertical row of 25 adjacent impressions, with (at the narrow ends) a row of four placed horizontally on one side of the join, and of three on the other. This arm-ring is in excellent condition, with no nicking. Nicks: 0. Diam: 756mm; W: 9mm; Th: 2.5mm; Wt: 27.4g.

Kilcheran, Lismore, Argyll (2002)

Gold fragment, comprising the terminal linking-plate from an arm-ring, crudely cut through at both ends (illus 4). It is ovoid in form, with a cruciform arrangement of

eight punched dots (6+2) on its outer face. The inner face has been diagonally scored, perhaps for testing purposes. X-ray fluorescence analysis indicates that it consists of 94% gold, corresponding to 22 carat purity. L: 28.9mm; W: 9.6mm; Th: 3.6mm; Wt: 13.6g. Allocated: Campbeltown Museum (TT.113/03).

Kildonan Machair, South Uist (1964)

Silver rod fragment, cleanly cut at both ends (NMS: GS 213), of lozenge section; in good condition, displaying signs of hammering (illus 3). It has been cut from the hoop of a piece of plain 'ring-money'. Nicks: 0. L: 39mm; W: 5mm; H: 5mm; Wt: 5.3g.

Whithorn (pre-1997)

Silver terminal fragment, of lozenge-sectioned rod, tapering to a pointed end (illus 2). It has been cleanly cut from a piece of plain 'ring-money'. L: 36mm; W: 8mm; H: 7.5mm; Wt: 6.26g.

INGOT FRAGMENTS

Dores, Inverness (2002)

Silver ingot terminal fragment, cut and broken from a narrow oblong bar of plano-convex section, with rounded end (illus 8). Nicks: 0. L: 35.5mm; W: 7.5mm; H: 7.0mm; Wt: 13.6g. Allocated: Inverness Museum (TT.51/02).

Maxton (the Glebe), Roxburghshire (2002)

Silver ingot terminal fragment, cut and broken from an oblong bar of plano-convex section, with rounded end (illus 7). It is nicked along both angles, with 7 on one side (6+1) and 5 on the other (from both directions: 3+2). Nicks: 12. L: 47.5mm; W: 17.5mm; H: 12.5mm; Wt: 70.8g. Allocated: Hawick Museum (TT.42/02).

Piltanton Burn, Old Luce, Dumfries and Galloway (2003)

Silver ingot fragment, cut through at both ends, from an oblong bar of flat plano-convex section, with a slight protuberance on one side (illus 9). Its surface is very abraded, from having been found in gravel at the side of the burn, at a point where it is still tidal. There is, however, no apparent nicking. Nicks: 0. L: 28mm; W: 10mm; H: 7mm; Wt: 9.8g. Allocated: Stranraer Museum (TT.16/03).

Silver analyses

The following silver objects from those catalogued above have been analysed in the National Museums of Scotland by non-destructive X-ray fluorescence (XRF) to determine their alloy composition. No abrasion was undertaken and, because XRF is a surface technique, the analyses may not be representative of the bulk of the material as chemical alteration of the surface, due to corrosion, is likely. Indeed, silver is commonly enhanced and copper depleted in archaeological silver alloys, hence the surface composition may be silver rich compared to the original. For discussion of the silver composition of Viking Age ornaments and ingots from Scotland, see Kruse & Tate (1995).

The Dores ingot is made 'of almost pure silver' (97%), with 'traces of iron, copper and gold', whereas the Maxton ingot 'contains major silver [95%], with a few percent of copper and traces of iron, zinc, gold and lead' (Analytical Research Section Report No. 03/03, by Laurianne Robinet). The ingot from Piltanton Burn, Old Luce, is 'of almost pure silver', containing 'approximately 96% silver, with around 1% gold and traces of iron, copper and lead' (ARS Report No. 03/10, by Laurianne Robinet), whereas the Sprouston ingot is published as containing 89% silver (Heald 2005: 125). The Ardskenish arm-ring 'is made of almost pure silver', being 'approximately 98%, with trace levels of copper, gold, lead and bromine', the latter 'probably present from surface alteration' (ARS Report No. 03/31, by Laurianne Robinet).

ACKNOWLEDGEMENTS

I am most grateful to Alison Sheridan and Fraser Hunter for their assistance in the study, respectively, of the arm-ring from Colonsay and the 'ring-money' fragment from South Uist. I owe a particular debt of gratitude to the late Jenny Shiels, as also to Stuart Campbell, for showing me the Treasure Trove finds from 2002–3 and for providing me with information and illustrations. My thanks are also due to Susan Kruse for her comments on the lead weight from Maxton, and to Mark Blackburn for his advice and assistance with the coin finds. Martin Comey provided invaluable help with the preparation of the illustrations for publication: illus 2 is reproduced by courtesy of Peter Hill (from Hill 1997), and illus 3 & 5 by permission of the Trustees of the National Museums of Scotland; illus 4 & 6–9 are Crown Office copyright.

NOTES

- 1 A piece of hack-silver, metal-detected in 2006 at Crail, in Fife, is cut from a penannular brooch in the Irish or Hiberno-Scandinavian tradition (TT.101/06). This remains for future publication because it requires different discussion to the rings and ingots considered here; in addition, it has yet to be examined by me.
- 2 The Rev James Wallace had dedicated the plate in his book, *A Description of the Isles of Orkney* (1693), to Sir Robert Sibbald (Physician and Geographer in Scotland to Charles II). To complete the deception, his son re-dedicated this 'Mapp of the Orkney Isles', with its five accompanying figures (Graham-Campbell 2004: illus 1), to the Earl of Dorset, at the same time reorganising and increasing the number of figures (Graham-Campbell 1995: pl 2)
- 3 There is a further reference to this hoard, 'Found in a Grave in Orkeny', together with an illustration of a penannular ring (interpreted as a Roman 'fibula', but a piece of 'ring-money') in Sir Robert Sibbald's account of Roman Scotland (1707: 51, pl 2), based on information collected for him by Martin Martin (cf Graham-Campbell 2004: 206). I am grateful to Fraser Hunter for having drawn this reference to my attention.
- 4 This passage is quoted by William Kirkness in his account 'of an underground building at Dale, Harray, Orkney' (1928: 160).
- 5 For more recent finds, see Bateson & Holmes 1997; 2003; 2006.
- 6 I am most grateful to Mark Blackburn for having drawn these gold coins to my attention, which he has since discussed in print (2007: 69, 81, A12–14).
- 7 I am most grateful to Sir David Wilson for having drawn this find to my attention, as a result of his researches in the Central Archives of the British Museum (CE5/2,310: 4 July 1812). I am further indebted to Gareth Williams for the information that this is 'a coin of Eadgar's Circumscription Cross type, York group, moneyer Fastolf, catalogued as BMC 175 and SCBI 1116', thus dating from 'c 959–73'.
- 8 I am most grateful to Mark Blackburn for having drawn my attention to Pirie's publication (2000) of these coins.
- 9 On this fig (Hill 1997: 399), the fragment has been wrongly numbered '17'. The Whithorn excavations also produced a complete piece of 'ring-money' (Nicholson in Hill 1997: 381–2 (no. 7), fig 10.68.7), but this 'appears to be a contemporary fake, given that it is made of base metal with a silver coating' (Graham-Campbell 2005: 126, fig 2; see also Graham-Campbell 2001: 27–8, fig 18).
- 10 Related punched ornament may also be noted on the linking plates of three of the gold finger-rings in the (1864) Hebridean hoard, most probably from North Uist (Graham-Campbell 1995: 127–9, nos 25.2–3 & 5, fig 52b–d).
- 11 Graham-Campbell (2005: 130) lists only two such finds from Iceland. The third example, in the form of a piece of hack-silver, was found in 2005 in a mound near Brennugjá, during excavations at Thingvellir, the site of the General Assembly (as illustrated in *Fornleifastofnun Íslands Ársskýrsla/Institute of Archaeology Annual Report 2005*, 24).
- 12 I am grateful to Jenny Shiels for this information (from Cecily Spall) concerning the unpublished lead weight from the Tarbat excavations.
- 13 The few biconical weights from Birka are classified by Ole Kyhlberg as belonging to his Type E (1986: illus 17.7). I am grateful to Susan Kruse for having brought these references to my attention.

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