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BEYOND STONEHENGE

ESSAYS ON THE BRONZE AGE IN HONOUR OF COLIN BURGESS

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Contents

14. Dating the Scottish Bronze Age: 'There is clearly much that the material can still tell us'

Alison Sheridan

ABSTRACT

Results from a current National Museums of Scotland (NMS) radiocarbon dating initiative, the Dating Cremated Bones Project, are presented. This project takes advantage of a recent development in radiocarbon dating that enables reliable dates to be obtained from cremated bone. The results indicate that Collared Urns were in use in Scotland between 2000/1950 BC and 1600/1550 BC. The radiocarbon-established sequence does not map neatly onto Burgess' 'Early', Middle' and 'Late' typochronological scheme, other than by confirming that two typologically 'Early' examples fall within the first half of this date range. Results for other cinerary urn types in Scotland and for some other kinds of Early Bronze Age grave good are also discussed.

Keywords
Bronze Age, Scotland, Collared Urns, Dating

INTRODUCTION

Establishing a chronological framework for the British Bronze Age has been an abiding interest of Colin Burgess (e.g. Burgess 1980). His other consistent passions have included Bronze Age artefact studies (e.g. Schmidt and Burgess 1981) and the prehistoric archaeology of northern Britain (e.g. Burgess 1976; Burgess and Miket 1985). This contribution, on the results of a current radiocarbon dating programme in Scotland (and focusing in particular on the dates relating to Collared Urns), touches on all these areas of interest and is offered in the hope that it will provide some useful additional nuggets of information for Colin to enjoy over his G&T on the terrace in *La France Profonde*.

RADIOCARBON DATING: A PROBLEM AND A POSSIBLE SOLUTION

In 1986, Colin presented a critical review of Ian Longworth's chronological scheme for Collared Urns in Britain and Ireland (Longworth 1984; Burgess 1986). In this he bemoaned the shortcomings of radiocarbon dating as a tool for working out the typochronology of this ceramic tradition (Burgess 1986, 341–2), and relied instead on typology, associations and context to arrive at his proposed replacement, an 'Early, Middle and Late' scheme.

While stratigraphic and associational data remain valuable clues, which should not be ignored (although reliance on the latter in the absence of a firm chronological foundation can lead to circularity of argument), matters have moved on significantly in the realm of radiocarbon dating since 1986. Burgess was right to urge circumspection in using the dates then available, most of which had been obtained from charcoal, using the large amounts which were required before the advent of accelerator mass spectrometry (AMS) dating. Many of the dates published in Longworth's *corpus* (Longworth 1984, chapter 6 and appendix 11) have standard deviations in excess of 100 years, and few would meet today's standards of rigour in terms of sample selection (e.g. single entity sampling, using charcoal from short-lived species: see, for example, Ashmore 1999). In a recent evaluation, it was estimated that a third of the 75 charcoal-derived dates then available for English and Welsh Collared Urns should be discounted as unreliable (Needham pers comm).

Two major developments have occurred since 1986. The first, which has been associated with (but not exclusively caused by) the embracing of the small-sample AMS dating technique, has been a general improvement in the rigour with which archaeologists select and submit their dating samples, and an increasingly sophisticated use of radiocarbon dating to target specific research questions. One dividend of this improvement in archaeological practice that is of particular relevance to the study of Collared Urns has been the discovery that Peterborough Ware (and in particular its 'Fengate' variant) – the supposed progenitor of the Collared Urn tradition – may well have fallen out of use several centuries before Collared Urns began to be used (Gibson and Kinnes 1997; Gibson 2002,79–80). Some other explanation is therefore required to account for the appearance of the tradition. Perhaps, in this regard, the intriguing relationship between Vase Urns and 'Early' Collared Urns might profitably be revisited (*cf.* Burgess 1986, 349)? This point will be touched upon below.

The other major advance has been the emergence of a new technique of AMS dating that is capable of producing accurate and fairly precise dates (with standard deviations usually of ±35–60 years) from burnt human and animal bone. Developed by Jan Lanting and Dr Johannes van der Plicht of the University of Groningen, building on pioneering work by French scientists, this focuses on the structural carbonate (bioapatite) that recrystallises in bone when it is heated to 600°C (Lanting et al 2001). Previous attempts to date burnt – or rather charred – bone, by aiming to measure organic carbonate (e.g. carbonized collagen), had produced highly unreliable results, but extensive tests have shown that structural carbonate produces much more trustworthy determinations (Lanting and Brindley 1998; Aerts *et al.* 2001; Lanting *et al.* 2001). This new technique therefore offers us a key with which to unlock the potential of a huge, hitherto undatable resource: we can now date Collared Urns – and indeed a host of other material, of various periods – from the cremated remains that are directly associated with them. Only a small sample (1.5 grams) is destroyed in the process, and as long as the bone has been well burnt, it does not matter what texture it has; from where on the body it has come; or what was the deceased's diet (in other words, there is no 'marine reservoir effect' with cremated bone). Cremated bone also appears to be immune to the problem of contamination that can affect unburnt bone (for which see, for example, Hedges 2002).

Having witnessed the significant advances in our understanding of Irish Bronze Age pottery (*inter alia*) that have resulted from a systematic dating programme carried out by Lanting with Anna Brindley, using cremated bone as well as conventional AMS samples (Brindley 1995; 2001; forthcoming), the present author decided to initiate a similar programme for Scottish material, focusing chiefly on the Bronze Age. The NMS *Dating Cremated Bones Project* has been running since 2001, co-funded by the NMS and the Society of Antiquaries of Scotland and latterly with additional sponsorship from Historic Scotland and Aberdeenshire Archaeology. In addition, the University of Groningen has generously provided some dates free of charge. To date (July 2005), around 80 samples from many parts of Scotland have been dated (along with three faience-associated samples from England), and more are currently being processed at Groningen. In addition, further NMS dating programmes undertaken in Oxford and East Kilbride, targeted at dating unburnt remains associated with Food Vessel and Beaker pottery and supported by Historic Scotland and the Natural Environment Research Council, have provided around 20 further dates. Since the inception of the NMS *Dating Cremated Bones Project*, others in Scotland have embraced the technique; in 2003–4, for example, two entire Bronze Age cremation cemeteries were dated in this way by CFA Archaeology Ltd (Skilmafilly, Aberdeenshire (Johnson and Sheridan 2004) and Lesmurdie Road, Elgin, Moray). These various dating initiatives complement Historic Scotland's ongoing efforts – spearheaded by Patrick Ashmore – to create a reliable chronological framework for Scottish archaeology as a whole (see Ashmore *et al.* 2000 and www.historic-scotland.gov.uk). Elsewhere, Jan Lanting (in collaboration with Frances Lynch and Adam Gwilt) has been obtaining Groningen AMS dates for Welsh Bronze Age cremated bone, and one dividend of particular interest to Colin Burgess has been confirmation that the Bedd Branwen Collared Urns are indeed earlier than had been indicated by the original, charcoal-derived British Museum radiocarbon dates, as he had suggested (Burgess 1986, 350; Lanting and Gwilt pers comm).

The purpose of this contribution is not to present an exhaustive discussion of all the results so far obtained, because many of these have already been published and, in some cases, fully discussed elsewhere (Sheridan 2001; 2002a; 2002b; 2003; 2004a; 2004b; 2006; in press; Sheridan and Shortland 2004). Rather, it is intended to provide an update on the dating of Scottish cinerary urns (including a consideration of Colin Burgess' Collared Urns scheme in the light of the dates now available), together with comments on the dates for other specific Bronze Age artefact types. Unless specified otherwise, dates are expressed as calendar dates BC throughout, with individual calibrated determinations given as 'cal BC' and cited at the 2 probability level. They have been calibrated using OxCal v.3.9, with atmospheric data from Stuiver *et al.* 1998.

COLLARED URNS REVISITED ONCE MORE

The current author's recent publication on dating Scottish Bronze Age urns (Sheridan 2003) was intended to address Colin Burgess' call for the establishment of

regional typochronologies, akin to that proposed for British Beaker pottery by Lanting and van der Waals (1972). It was concluded, on the basis of the 12 reliable radiocarbon dates then available, that Collared Urns were in use in Scotland by *c.*2000/1900 BC, and continued in use until *c.*1600/1550 BC (Sheridan 2003, 206–7). They were not the earliest type of cinerary urn to have been used here: urns in the Vase tradition (which includes Encrusted Urns) may well have been in use from *c.*2100 BC (*ibid*, 203–6). The currency of this tradition overlapped with that of Scottish Collared Urns, and also with that of Cordoned Urns (which, it was argued, probably constitute an adaptation of the Collared Urn form in north and west Britain and Ireland: *ibid*, 207–8). The earliest Bucket Urns may also have begun to be used while Collared Urns were still being made.

Since that article was published, the number of reliable Collared Urn radiocarbon dates has nearly trebled (with fourteen of these 35 dates relating to the aforementioned Skilmafilly and Elgin cemeteries). These new dates are consistent with the ones discussed in 2003 and, as **Figure 14.1** demonstrates, provide a tightly-grouped set of

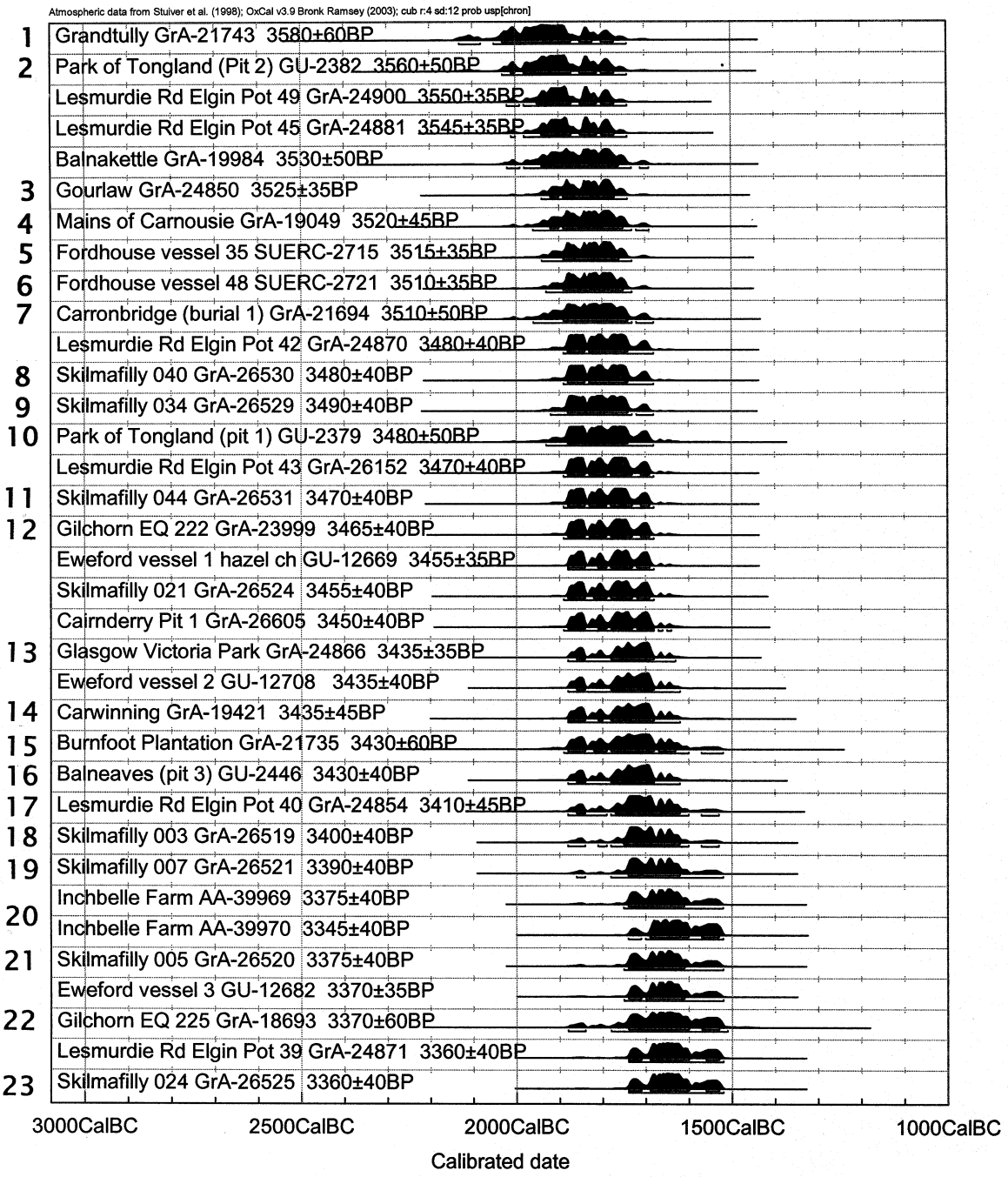


Fig. 14.1 Radiocarbon dates for Scottish Collared Urns (see Appendix for further details). Numbers beside the table provide the key for Figure 14.2

results, clustering mostly within the 1900–1600 BC bracket. (Details of all the dates cited in this paper are given in the Appendix.)

This overall picture of Scottish Collared Urn currency is consistent with Brindley and Lanting's results for Ireland, where an overall date range of *c.*1950–*c.*1500 BC has been proposed (Brindley 1995). Collared Urns were also in use by the 20th century BC in Wales (Gwilt pers comm) where, incidentally, the similarity between some examples and some Vase Urns is such that 'shared and exchanged decorative traits make disentanglement impossible' (Lynch 2000, 118). The new dates for the Bedd Branwen Collared Urns lend weight to the idea that Burgess' 'Early' Collared Urns may owe something to Vase Urn design (although this is not to imply that the influence on Collared Urn design necessarily came from Wales).

The dating of English Collared Urns still leaves much to be desired; but if it is accepted that the earliest examples date to 2100/2000 BC (Needham 1996), then Burgess and Longworth's view that they were initially used in England, and were then adopted slightly later elsewhere, would seem to be borne out (Sheridan 2003, 207). As noted in that publication, the fact that some of the earliest-dated examples are from Ewanrigg in Cumbria does not rule out Burgess's suggestion (1986, 348 echoing Longworth 1984, 81) of an initial Collared Urn-using 'heartland' south of the Mersey-Humber line. (It should also be noted that the Ewanrigg report (Bewley *et al.* 1992, 350–1) does not specify the species of charcoal used for dating, and that the date with a quoted result of 2450–1830 cal BC has an unacceptably large standard deviation of ±120 years. Re-dating of the Ewanrigg material, using the cremated bone from the urns, is therefore desirable.)

It also seems likely (*contra* Burgess 1986, 349) that the practice of depositing cremated remains in cinerary urns started broadly simultaneously in Britain and Ireland at the end of the third millennium BC. Scaled-up versions of Vase Food Vessels were used where these had been a dominant ceramic tradition (and also in parts of southern England: see Burgess 1986, 349); and Collared Urns – whose design, as hinted above, may well have been influenced by Vase Urns – were used elsewhere. The question of why the Collared form was subsequently added to the repertoire in northern and western Britain and in eastern Ireland is an intriguing one, for which no firm answer can be proposed here; suffice it to say that extensive networks of contact already linked these areas (e.g. in relation to the movement of raw materials for bronze manufacturing: Sheridan and Shortland 2004), so that people may well have been aware of the ceramic designs in use in different parts of Britain and Ireland.

So much for the overall picture of Collared Urn adoption; do the Scottish dates tally with Burgess' proposed scheme? Many of the dated urns are shown in **Figure 14.2**, and Burgess' scheme in **Figure 14.3**. The reader is encouraged to study Burgess' article in order to understand the somewhat complex criteria used to distinguish between his Early, Middle and Late groups; he seems to have arrived at his group definitions by using a mixture of seriation and associational and stratigraphic data. One is forced to conclude that there is little obvious 'read across' from the radiocarbon-dated urns to the hypothetical sequence; and indeed there is nothing that offers a clear-cut sequence within the set of dated urns. There is only one classic 'Early' example (as defined as having at least three out of the eight 'Early' stylistic traits), but this may simply bear out Burgess' and Longworth's observation that 'Early' Collared Urns are very rare in Scotland. This 'Early' example, from Gourlaw, is in fact not the earliest dated Scottish Collared Urn, although its date lies within the first half of the overall currency of Collared Urn use. The same is true of the example from Carronbridge, which could arguably also fall within Burgess' 'Early' category. The other urns, which are of Burgess' 'Middle' and 'Late' types, appear to be broadly contemporary with these and indeed span the whole period of Collared Urn currency in Scotland, without showing a clearly definable progression between 'Middle' and 'Late' designs. How can this be explained?

On the one hand, it has to be admitted that there are still limitations on the interpretation of the radiocarbon dates, even though we can be confident about their overall reliability. The existence of a plateau in the calibration curve around 3500 BP means that calibrated dates for such determinations will tend to cluster between 1900 and 1700 BC, masking any changes that may have occurred over this period. Furthermore, the imprecision inherent in each date's standard deviation hinders fine-grained sequencing. It may be, therefore, that the radiocarbon results do not give sufficiently fine chronological resolution for us to be able to detect specific trends in design change while Collared Urns were in use in Scotland. On the other hand, we *can* actually detect one major design trend, and this relates to the emergence of the Cordoned Urn – not only in Scotland but also in Ireland, the Isle of Man and parts of Wales and northern England – as an adaptation of the Collared Urn form. In Scotland, this development may have started as early as the 19th century BC (or at least from the 18th century), with Cordoned Urns remaining in contemporary use with Collared Urns throughout their currency, and continuing to be used for up to a century thereafter (**Fig. 14.5**). In Ireland, according to Brindley (forthcoming), the currency of Cordoned urn use was similar, extending from *c.*1750 BC until shortly after 1600 BC.

Notwithstanding the continuing limitations of radiocarbon dating, it is no longer possible to dismiss this source of information, as Burgess was able to do when its reliability was subject to reasonable doubt in the 1980s. The picture that is now emerging is one of

considerable diversity, not only in ceramic design but also in funerary practices, over the first half of the second millennium BC. Not only was there variability in Collared Urn design, with Cordoned Urns emerging as an additional, major variant form. As **Figure 14.8** indicates, while Collared Urns were in use in Scotland, Vase Urns were still being used (in the same areas of Scotland), as were Food Vessels and late Beakers; and in the Northern Isles, regional types of cinerary urn had already emerged. In terms of funerary practice, some people were still interring their dead as unburnt bodies, while many others had adopted cremation as the norm. The archaeological data's resistance to neat, 'chest-of-drawers' pigeonholing should not occasion surprise, since changes in prehistoric people's traditions were subject to complex factors, as Burgess has acknowledged. Indeed, what this new dating information permits is a clarification (and chronological adjustment) of the diversity of practices outlined by Burgess in 1986.

The rest of this contribution summarises the current state of knowledge about the dating of other Scottish urn types and of associated grave goods.

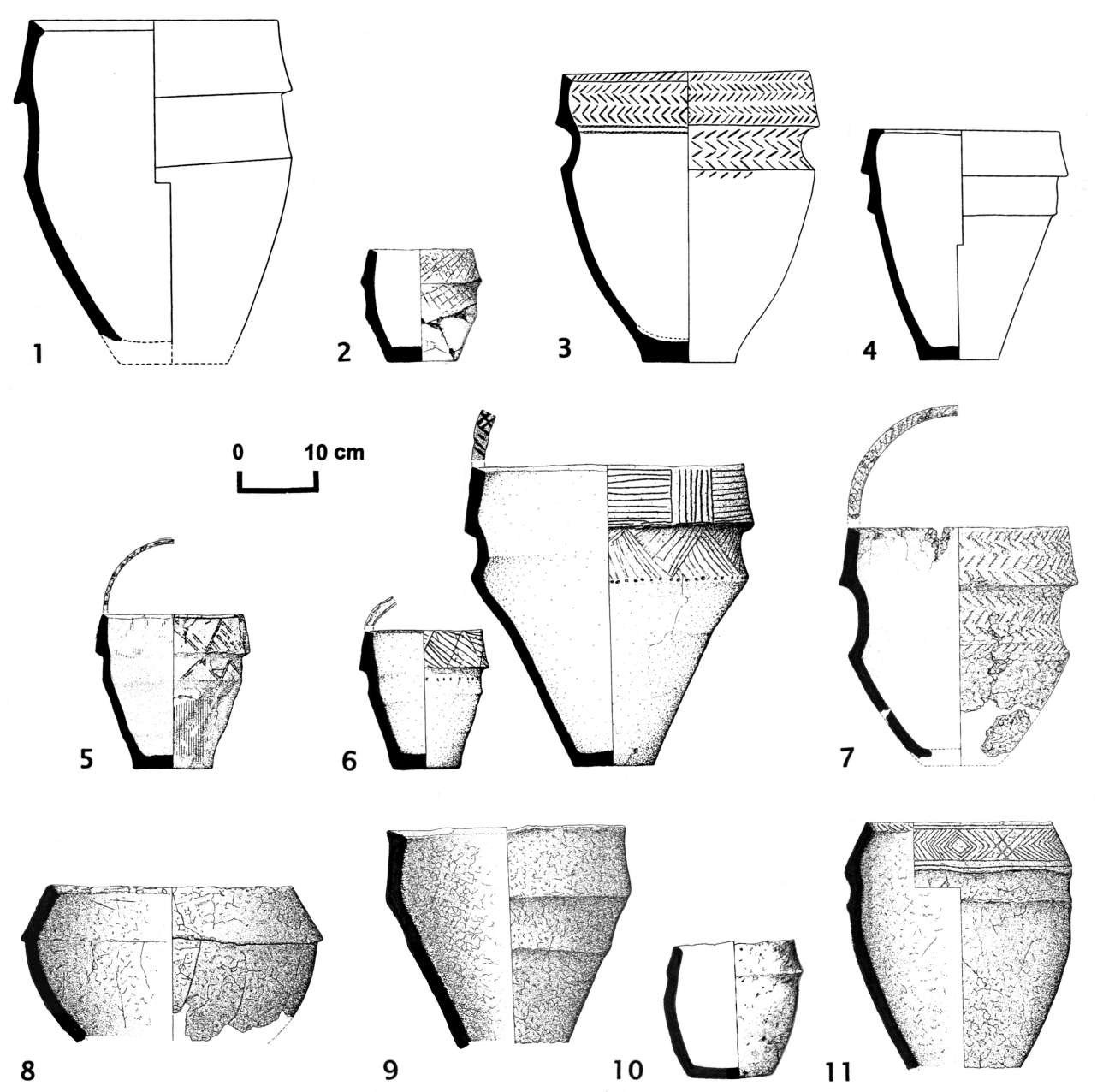


Fig. 14.2 Examples of dated Scottish Collared Urns. Numbers relate to entries in the date table in Fig. 14.1; No 6 includes a small Collared Urn found in the same pit as the larger urn (Fordhouse vessel 48). Sources: various; illustrators include Alan Braby and Marion O'Neil

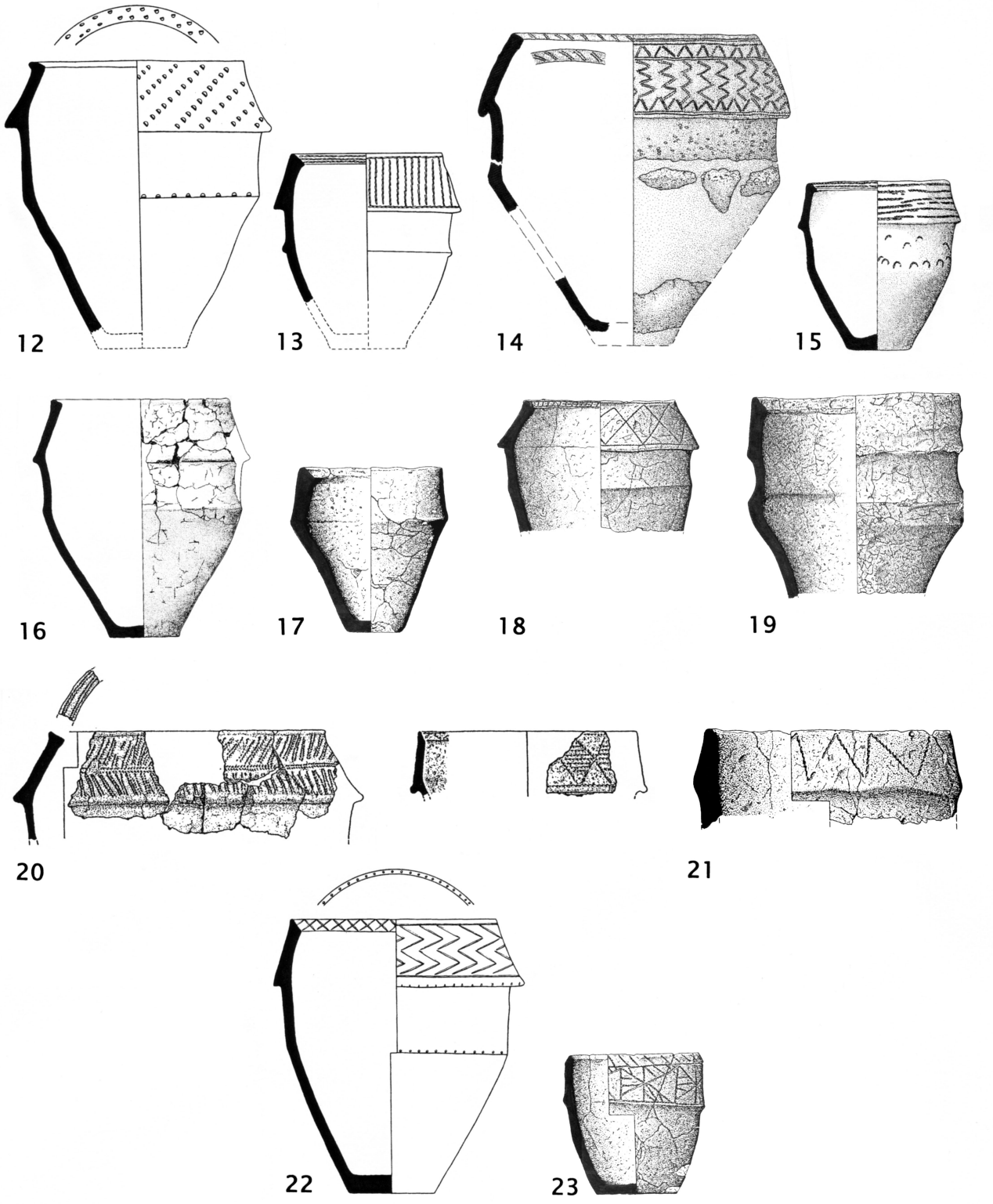


Fig. 14.2 (continued) Same scale as for pots 1–11

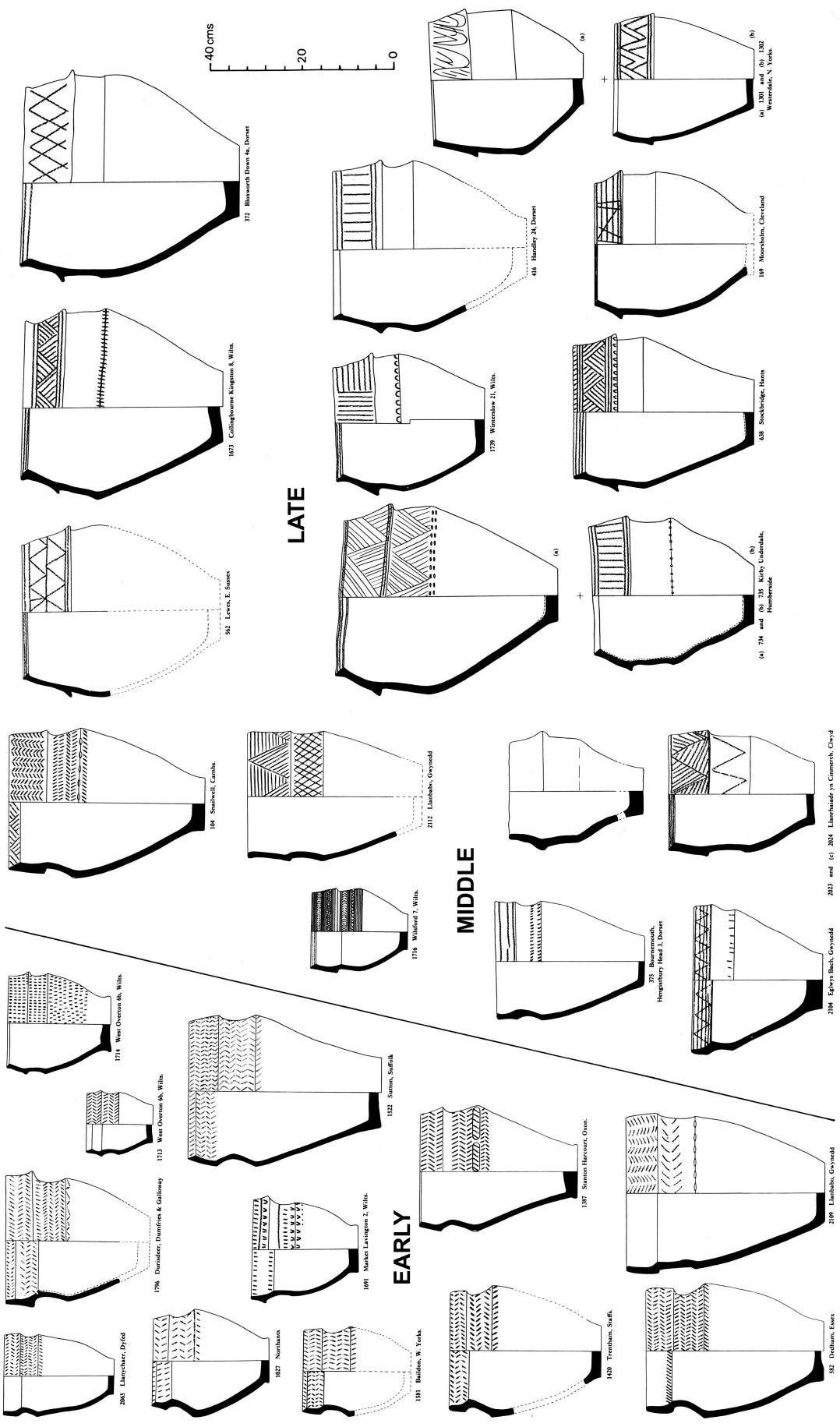


Fig. 14.3 The Burgess Collared Urn scheme, from Burgess 1986

NEW DATES FOR OTHER SCOTTISH URN TYPES

Since the publication of the 'New dates for Scottish cinerary urns' paper (Sheridan 2003), a number of new radiocarbon dates have been obtained by the NMS *Dating Cremated Bones Project* and by other initiatives, in addition to those already discussed for Collared Urns. In addition, certain anomalies (e.g. two apparently late dates for Vase Urns) have now been resolved, and a clearer picture of the overall pattern of ceramic use for the late third and second millennia has emerged (**Fig. 14.8**). In the following paragraphs, an attempt will be made to avoid repeating points already covered in the 2003 paper; similarly, the reader is directed to that publication for illustrations of some of the urns in question.

Fifteen dates are now available for **Vase Urns**, including those for one urn (from Straiton Quarry, Fife) with strong connections with a variant found in Ulster, one urn from Sand F[i]old in Orkney that appears to represent a distant outlier of the mainland distribution, and seven urns of the Encrusted variety. As **Figure 14.4** shows, most appear to date between the 22nd or 21st and 19th centuries BC, with one slightly later example from Tayport, dating to around 1800 BC. Two even later dates that had been included in the Vase Urn date table in the 2003 publication, for Mill of Marcus and Hoprig, can now be discounted: in the former case, it emerged that the cremated remains had actually been associated with a Cordoned Urn, while in the latter case some doubt surrounds the association of the remains with the urn in question. This revised date range brings the Scottish Vase Urns even closer in line with the currency of their counterparts in Ireland, which Brindley and Lanting estimate at *c*.2050–1750 BC. The few available Welsh dates suggest a similar currency for this type of urn there.

Cordoned Urns, as discussed above, appear to have a currency extending from the 19th or 18th century to the 16th century; some 21 dates are now available (plus three virtually identical duplicate dates: **Fig. 14.5**). These urns show differing degrees of divergence from the Collared Urn design, with some being so similar that it would be more appropriate to regard Collared and Cordoned Urn design as representing a continuum of manufacturing choices, rather than as two clear-cut categories. While the examples that diverge most markedly from Collared Urns tend to fall within the later part of the currency, after 3400 BP (e.g. Raigmore, Highland), some equally divergent examples (such as Mid Gleniron I, cremation H: Sheridan 2003, fig 13.9.2) are known to be earlier than this.

As for **Bucket Urns** – a loose term that encompasses funerary pottery that is also known by the equally unhelpful term 'flat-rimmed ware' – the thirteen dates now available suggest a currency of *c*.1600 BC to *c*.800

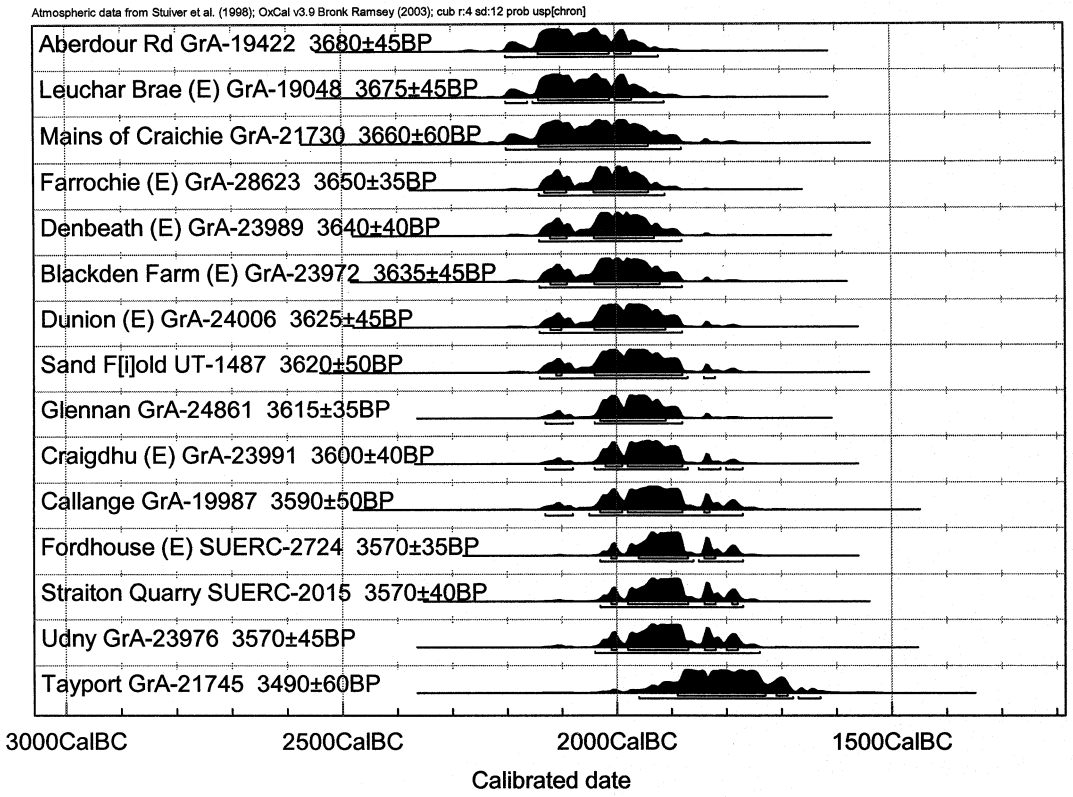


Fig. 14.4 Radiocarbon dates for Scottish Vase Urns (with Encrusted Urns indicated by 'E')

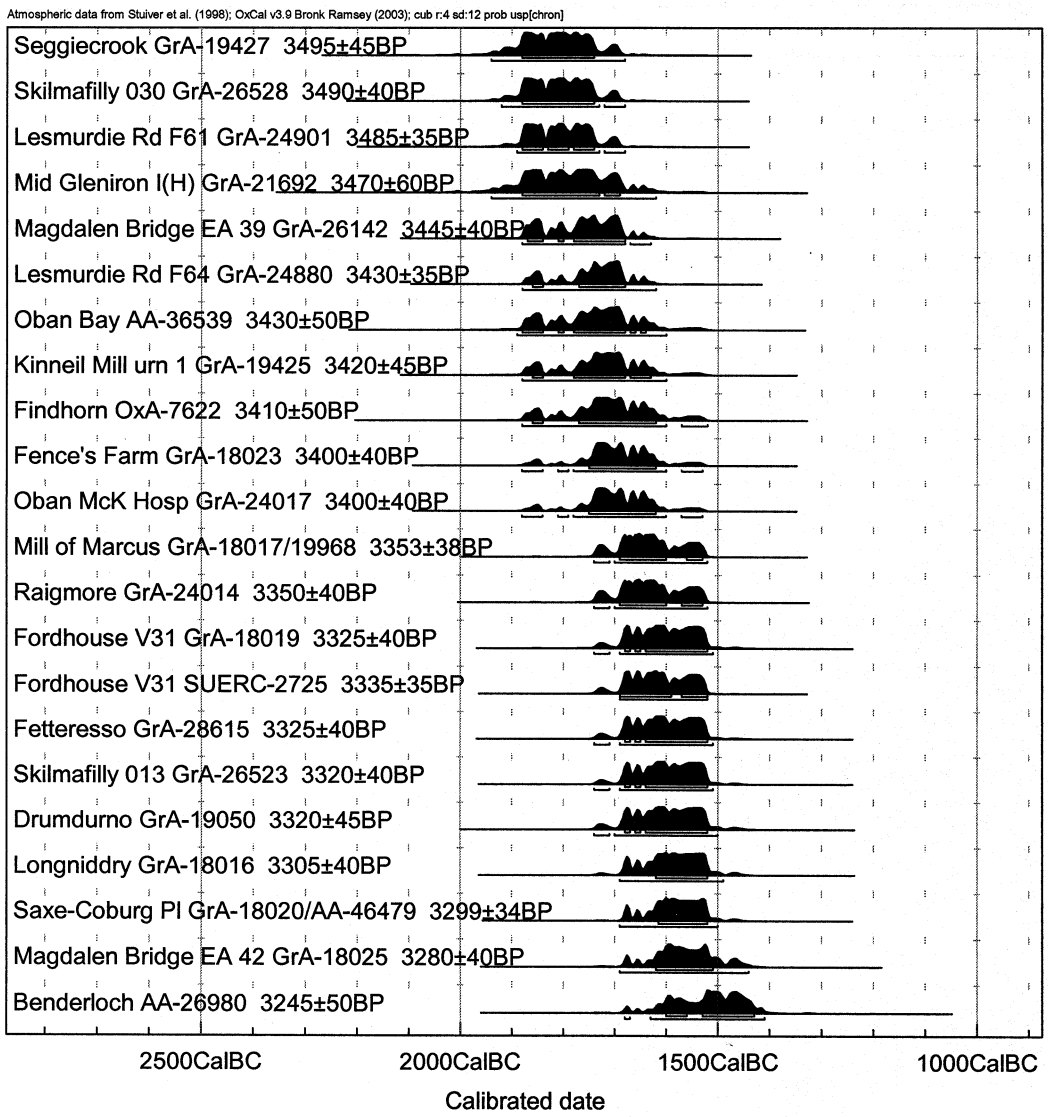


Fig. 14.5 Radiocarbon dates for Scottish Cordoned Urns

BC (**Fig. 14.6**). One of these dates is likely to be of particular interest to Colin Burgess as it relates to the pit, containing two upright Bucket Urns, from his excavations at Meldon Bridge in the Scottish Borders (feature F22b, 75): 3040±50 BP (GrA-23406, 1420–1120 cal BC).

A further date, for a pair of Bucket Urns from Balloch Hill, Argyll and Bute, that had been included in the 2003 publication and which suggested an earlier use around the 17th century, must now be regarded with circumspection, as its standard deviation has been increased by Patrick Ashmore to ±110 to account for the fact that the date was determined before the mid-1980s. Given that one of these urns was associated with an accessory vessel of a kind familiar from other mainland urn types, it is not impossible that the Balloch Hill finds do indeed date to the second quarter of the third millennium; confirmatory dating of the associated cremated bone is recommended. That Bucket Urns had begun to be used by the 16th century BC is suggested by the date for the High Torrs example (as listed in the Appendix).

In the 2003 publication, it was observed that the catch-all terms 'Bucket Urns' and 'flat-rimmed ware' probably encompass diverse, but morphologically similar, ceramic traditions. For example, whether the makers of the Sanaigmhor Warren 'Bucket Urns' on Islay were consciously echoing mainland fashions or were following a local, Hebridean tradition is a moot point, with the latter a distinct possibility; the diversity of regional traditions is returned to below. As for the origins of 'Bucket Urns' in mainland Scotland, evidence from the south west – and in particular, from the cemetery at Ardeer on the Stevenston Sands, North Ayrshire (Mann 1906, 378–96) – suggests that this form developed from simple Cordoned Urns, at least in this part of Scotland.

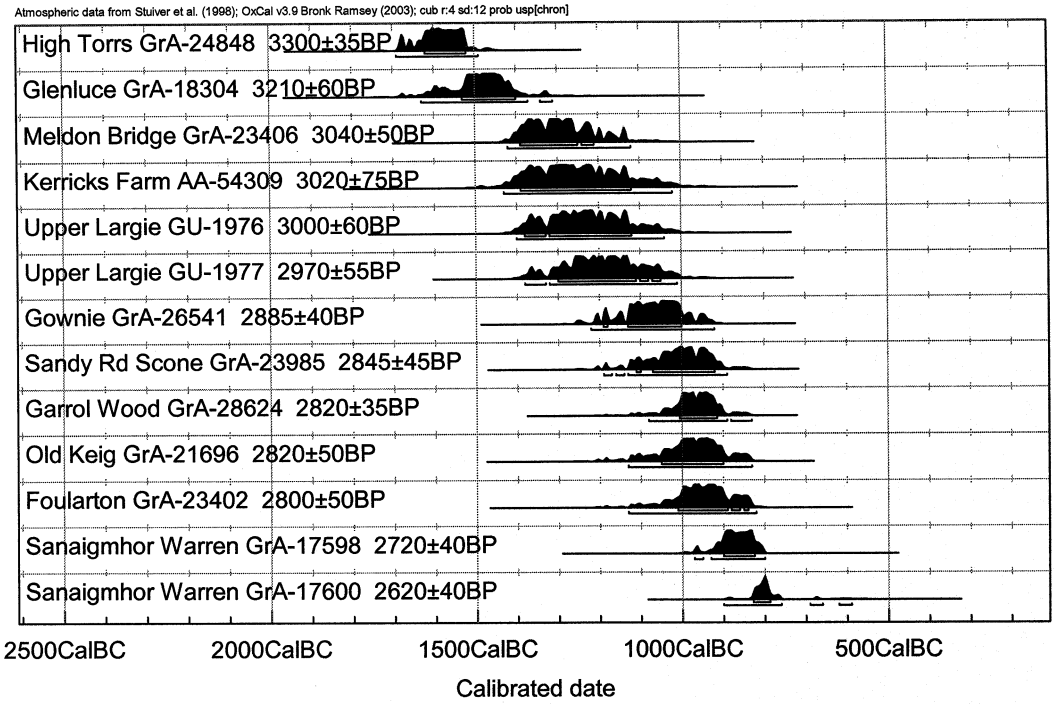


Fig. 14.6 Radiocarbon dates for Scottish Bucket Urns

Unfortunately, the bones from the urns in question were mixed in the past and are thus not worth dating (Rose pers comm).

Elsewhere on the mainland, a group of five Bucket Urn/flat-rimmed ware dates from central and north-east Scotland cluster between the 12th and 9th century. In four of these cases (Garrol Wood, Old Keig, Foularton and Gownie), the dates attest to the re-use of Early Bronze Age sacred sites (namely three stone circles and a possible Clava ring cairn) for funerary purposes at this time; further, but undated instances of this Later Bronze Age re-use of earlier monuments in north-east Scotland can be cited (e.g. from Croft Moraig and Loanhead of Daviot), and are discussed in Bradley and Sheridan in press.

The existence of **regionally-specific urn types** was noted in the 2003 review, with one or more distinctive traditions being manifest in the **Northern Isles** (Sheridan 2003, 211–3). Since then, three new dates relating to ceramic or steatite urns in Orkney and Shetland have been obtained through the NMS *Dating Cremated Bones Project*, and excavation of a kerbed cairn with a steatite urn at Loth Road, Sanday, Orkney has produced dates that bracket its use between 1700 BC and 1300 BC (Sharman pers comm; Card 2004). In addition, Jane Downes' work for the *Orkney Barrows Project*, and various rescue excavations in Orkney, have helped to fill out the broader picture of second millennium funerary traditions there.

The thirteen dates that are directly associated with Northern Isles urns are presented in **Fig. 14.7** (with a fourteenth, for the possible Vase Urn from Sand F[i]old, having already been presented in **Fig. 14.4**); the date bracket for the Loth Road urn fits within this overall range. It can be seen that urn use spans a considerable period, from around the 21st century BC to the mid-first millennium AD. The late date for the steatite urn from near Stromness has been confirmed by dating the cremated bone twice, with virtually identical results; independent evidence for the use of steatite urns during the first millennium AD is discussed in Sheridan in press (b). The gap of two millennia between the mid-second millennium BC and mid-first millennium AD steatite urns in Orkney suggests that we are not dealing with a continuous tradition of steatite urn use here.

The contrast in design between Northern Isles urns and mainland urn traditions appears marked, but whether this is to be explained in terms of isolation, or of the desire to express a distinct identity/ies (or indeed both, to a certain degree), is open to debate. There does indeed seem to be a marked geographical gap between the northernmost mainland distribution of Vase, Collared and Cordoned Urns (Sheridan 2003, figs 13.2, 13.3) and the Northern Isles. However, that Orcadians were aware of mainland practices (and indeed vice versa) is suggested not only by the aforementioned Sand F[i]old urn but also by the discovery of a typical, mainland style accessory vessel on North or South Ronaldsay (Clarke *et al.* 1985, fig 5.38). (The presence of stone and ceramic urns at Aucorn and Battle Moss in Caithness that echo Orcadian forms suggests that the flow of influence could be reciprocal.) More spectacularly, evidence from the

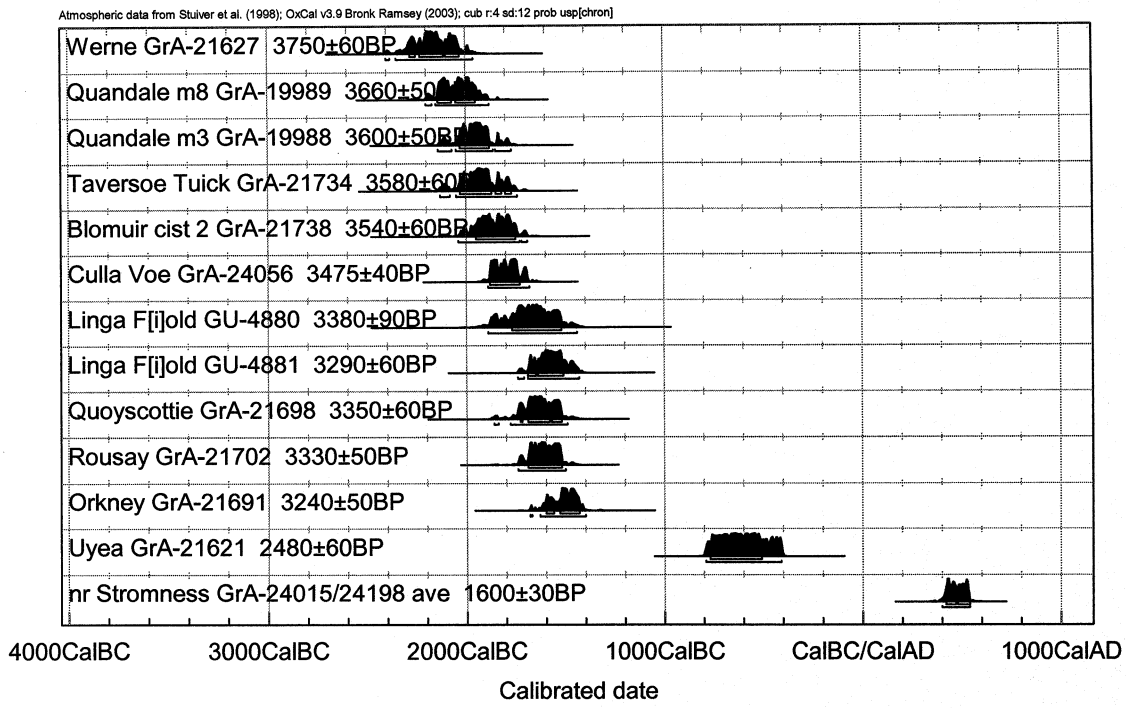


Fig. 14.7 Radiocarbon dates for Northern Isles urns; see Appendix for details of which ones are of steatite

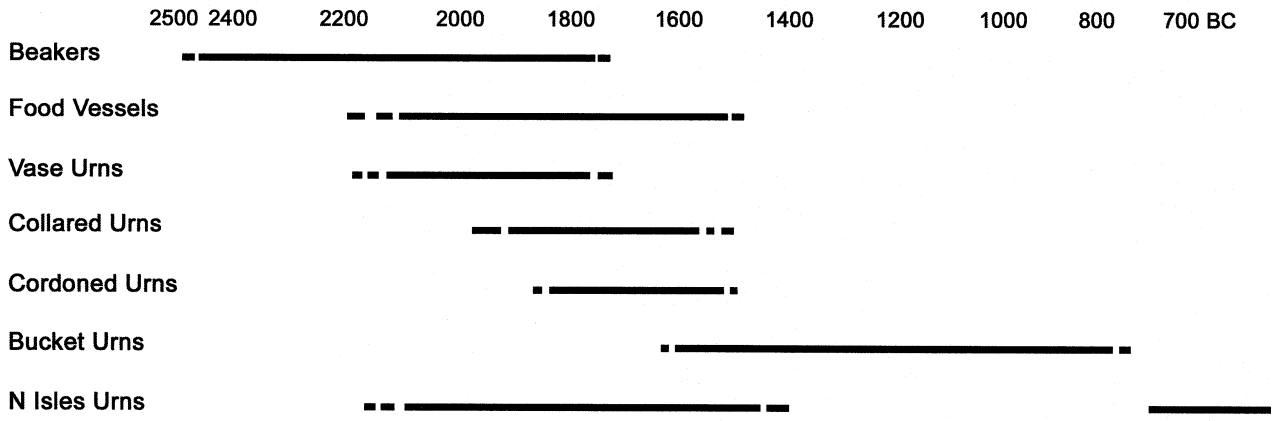


Fig. 14.8 Summary of ceramic styles in use as funerary pottery in Scotland from the mid third to the first millennium BC

Knowes of Trotty and elsewhere in Orkney (reviewed in Sheridan *et al.* 2003) indicates that some Orcadians enjoyed long-distance links with the south of England during the early second millennium BC. This, and the Orkney–Shetland links implied in the importation of urns made from steatite and steatitic clay (that may, it is believed, have come from northern Shetland: Sharman pers comm), demonstrates that Orcadians were anything but isolated. It seems at least plausible that the regionally specific urn types seen in the Northern Isles reflect the desire to express a distinct identity/ies. The complexity, or sophistication, of the Orkney elite's expression of identity is demonstrated in the contents of the prominent barrows adjacent to the Ring of Brodgar henge. Here, in a landscape with more or less explicit references to Wessex – with the Ring of Brodgar arguably evoking the design of Avebury, and with a Wessex-like cluster of barrows nearby – the elite chose to bury their cremated dead in the large, prestigious steatite urns that are found only in the Northern Isles. Similarly, just a few

kilometres away, in the Wessex-style linear cemetery at the Knowes of Trotty, other members of the local elite chose to bury one of their members with Wessex-style finery (including parts of an old amber spacer plate necklace and amber dress accessories that must have been imported from that part of England) in a barrow that, on the outside, is indistinguishable from southern English examples, but that on the inside echoes older Orcadian traditions of monument construction (Card pers comm).

Regional urn syles elsewhere in Scotland are much less well known (notwithstanding the presence of Vase Urn-like vessels in domestic contexts at Ardnave and Kilellan on Islay: Ritchie and Welfare 1983; Ritchie 2005). On the north-west Mainland and in the Western Isles, and particularly in the Outer Hebrides, very few urns of any description have been found. Unfortunately, the one date obtained for an atypical Vase Urn from Cnip, Lewis, has been rendered unusable by the necessary adjustment of its standard deviation to ±110 (Sheridan 2003, 205; Ashmore *et al.* 2000). Currently the only reliable dating evidence comes from two aforementioned early first millennium BC 'Bucket Urns' from Sanaigmhor Warren on Islay (*ibid,* 222 and fig 13.11). It may be that further in-urned Bronze Age burials of cremated remains have simply not yet been found in these areas; records exist of 19th century discoveries of in-urned cremation deposits that were subsequently lost (e.g. on South Uist). However, the results of recent Sheffield University excavations at Cladh Hallan in South Uist (Parker Pearson 2002) indicate that locally specific funerary traditions, which did not feature cremation but rather the active deployment of preserved ancestral remains in domestic contexts, were practised during the late second millennium BC. The same excavations have also revealed a cemetery of un-urned cremated remains, dating to *c.*1300 BC (Parker Pearson *et al.* 2004, 614). It is clear that no single pan-Scottish funerary tradition existed, and that regional narratives will have to continue to be developed.

THE DATING OF OTHER BRONZE AGE ARTEFACT TYPES

The NMS *Dating Cremated Bones Project* did not simply set out to clarify the typochronology of Scottish cinerary urns; it also targeted specific artefact types, such as faience beads. The following sections summarise the results; for information on further artefact types not discussed here (e.g. the stone pendant from Seggiecrook, Aberdeenshire), the reader is directed to the appendix of the Sheridan 2003 publication.

Accessory vessels

Ten dates, relating to eleven accessory vessels, are currently available, with four of these provided by the *Dating Cremated Bones Project* (**Fig. 14.9**). An eleventh, for an example from Balloch Hill, Argyll and Bute, now has an unacceptably large standard deviation (as discussed above) but would nevertheless fall within the overall date range, which spans the first half of the second millennium BC.

These small pots have been found associated with all the mainland urn types mentioned above, and have occasionally been found on their own in burials of cremated bone. Their function and deployment as part of the funerary rites is still somewhat unclear, despite a recent attempt to determine their function using analytical techniques from organic chemistry; but it does appear that many may have been placed on the pyre in an unfired state, and transformed, along with the corpse, by the cremation process (Gibson 2004).

Insofar as any developmental sequence can be inferred, the key point to emerge is that the vessel which appears to be a miniature version of a Vase Food Vessel (Craigdhu) – and which was associated with a Vase Urn – is the earliest. The other dated examples (of which the one from Straiton Quarry was associated with a Vase Urn, and all the others with Collared Urns) are either of closed, mostly biconical forms, or are globular or simple open shapes; some are decorated with geometric designs, some with a looser, simpler, sometimes very shallow design, and some are plain. These miscellaneous designs do not appear to show any clear chronological patterning, and indeed at Gilchorn one plain, open example was found alongside a decorated bipartite example.

A similar overall pattern has been emerging for Irish accessory vessels, with miniature Food Vessels being succeeded by biconical and other forms (Brindley forthcoming and pers comm).

Faience beads

As explained in detail elsewhere (Sheridan and Shortland 2004), it seems that faience had begun to be used in Britain and Ireland perhaps as early as the 19th (or even perhaps the 20th) century BC, and continued to be used until 1500 BC or possibly a little later. There are now 27 dates for faience use from Britain, Ireland and the adjacent coastal fringe of the Continent, most of these determined from cremated bone by Jan Lanting. The seven Scottish dates (shown in Sheridan and Shortland 2004, fig 21.1) span most of the overall currency. The predominant ceramic association in Scotland is the Cordoned Urn; over a wider geographical scale, several other urn (and non-urn) types of pottery are also associated.

It now appears that the know-how for making faience reached Britain and Ireland from central Europe, the transmission of this knowledge probably being linked with the establishment of a robust tin supply network, supplying the Continent (as well as Britain and Ireland) with tin from south-west England at the beginning of the second millennium BC (*ibid*).

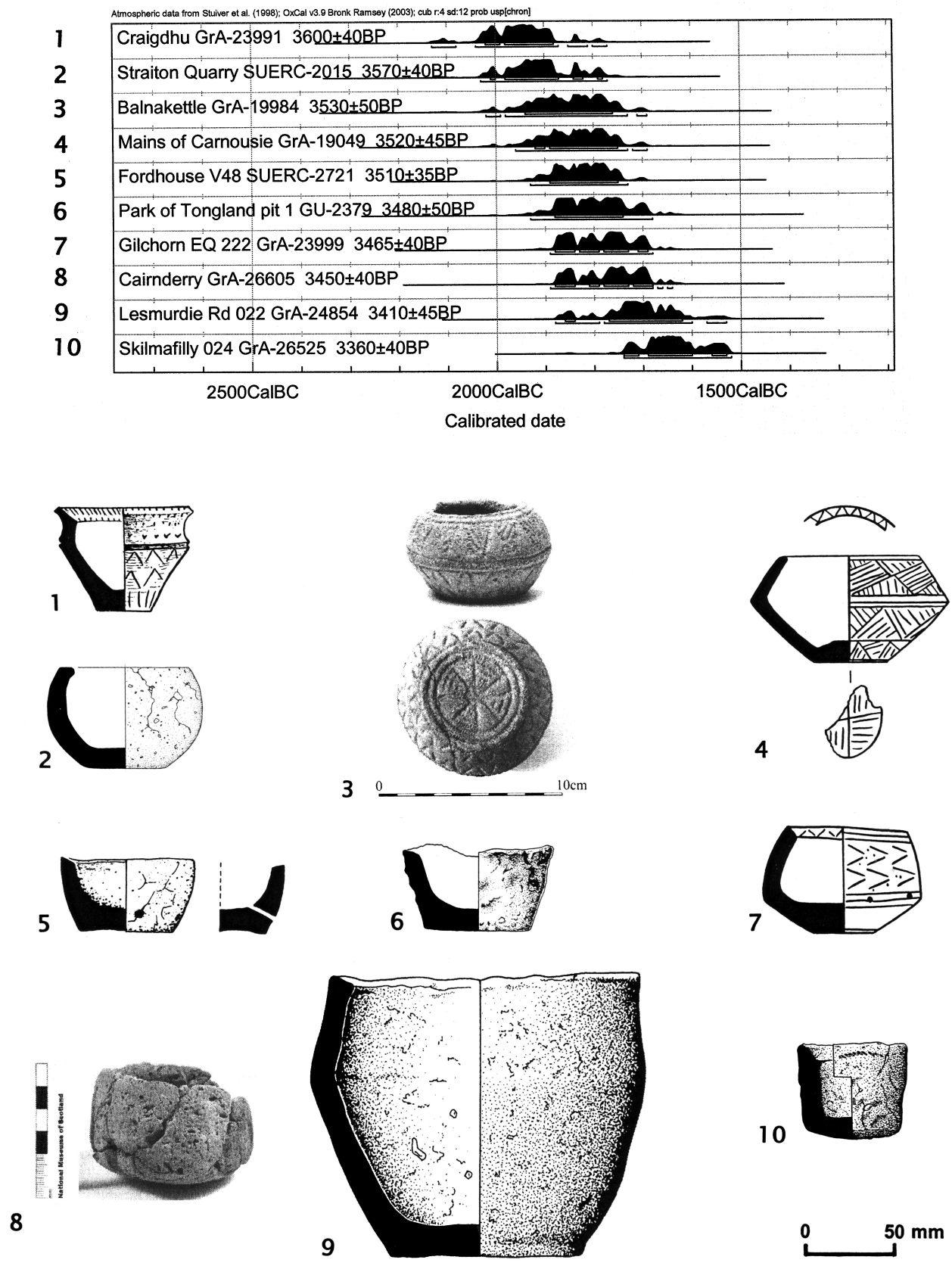


Fig. 14.9 Radiocarbon-dated Scottish accessory vessels. Sources: various (including Proceedings of the Prehistoric Society *and* Proceedings of the Society of Antiquities of Scotland*; photos: NMS). Note: the Cairnderry and Lesmurdie Road vessels (Nos 8 and 9) do actually have shallow scratched decoration*

Battle axeheads and a macehead

The *Dating Cremated Bones Project*, along with other initiatives, has provided confirmation that Fiona Roe's proposed sequence of Bronze Age battle axehead types (Roe 1979) is essentially correct (**Fig. 14.10).** An 'Early' ('Woodhenge style') example, from a Food Vessel-associated burial in an organic coffin (?coracle) at Barns Farm, Fife, has been dated to around the 20th century BC. This was achieved by dating three cremated individuals whose remains must have been placed in the coffin at the same time as a flexed corpse; traces of the battle axehead shaft overlay one of the cremated bone deposits (Watkins 1982, 70–4). Since the date is consistent with other dates relating to Food Vessels of the same general type, it is assumed that the cremated remains were not significantly older than the corpse with whom the battle axehead was associated.

A further seven battle axeheads – including a miniature from a child's burial at Doune, Perth and Kinross (McLaren 2004) – have now been dated. The results cluster tightly between 3450±40 BP (at Cairnderry) and 3400±40 BP (at McKelvie Hospital, Oban); all the battle axeheads probably date to between 1850 and 1600 BC, and possibly to an even shorter time bracket. Around two centuries later than the Barns Farm 'Early' example, these seven specimens are all of Roe's 'Intermediate' and 'Developed' types. Once more, the dating evidence concords with that obtained in Ireland: a 'Developed' example from a Cordoned Urn from Ballintubbrid, County Wexford has been dated to 3440±40 BP (GrA-13393: Lanting and Brindley 1998, 5).

These dates should help to provide comparative dating information for other battle axeheads elsewhere. This, in turn, may help to clarify the dating of Collared Urns in England in the absence of a *corpus* of reliable cremated bone dates there: for instance, one particular example that actually supports Burgess' scheme is that of a 'Developed' battle axehead, associated with a 'Late' urn, from Westerdale, North Yorkshire (Longworth 1984, nos. 1301–2; Burgess 1986, fig 1). This should be broadly contemporary with the Oban and Ballintubbrid examples.

One date has been obtained for a macehead: a centrally-perforated example with gently rounded ends, from an un-urned deposit of cremated bone from Cleughhead, Aberdeenshire, has been dated to 3355±40 BP (GrA-18021, 1740–1520 cal BC). Roe's category of 'mace heads with centrally placed shaftholes' (Roe 1979, 30 and fig 10) appears somewhat disparate in its morphology and associations, so no especial significance can be attributed to this date. Unfortunately, attempts to date a miniature pestle macehead that was found with the unburnt remains of a ?female aged 15–21, buried with a Food Vessel in a cist at Glenhead near Doune (close to the cist with the miniature battle axehead), have been frustrated by contamination from ancient consolidant used on the bone.

Probable 'shroud' fasteners: toggles and pins

Toggles and pins of bone and antler have occasionally been found with urned and un-urned burials of cremated bone, and it seems likely that these were fasteners for some funerary garment as they are consistently found in a burnt condition. A tendency to be associated with child burials has been noted (McLaren pers comm). Occasionally, as at Moncreiffe, Perth and Kinross (Stewart 1985), both toggles and pins are found together.

Toggles come in various shapes and with various numbers and positions of perforations; the commonest variants are the collared and flat lozenge-shaped forms. Stuart Piggott claimed, somewhat unconvincingly, that the former were skeuomorphs of segmented faience beads (Piggott 1958); however there are some toggles which may indeed fit that bill (e.g. Farway Down, Devon (ibid, no 4) and Westerdale, North Yorkshire (Longworth 1984, no 1302)).

There are now twelve dates for pins and toggles in Scotland, ranging from the end of the third millennium BC until *c*.1600 BC; these are shown, along with a comparative date for Eagleston Flat, Derbyshire, in **Figure 14.11**. (A further date for a bone object which may or may not be a toggle, from Gourlaw, Midlothian, is omitted.) From this it would appear that the slightly more elaborate forms of toggle (which tend to be associated with Collared Urns) date to the earlier part of the period in question, while the flat, mostly lozenge-shaped form (whose ceramic association is almost exclusively the Cordoned Urn) dominates the later part of the time range; the two dated pins show no chronological clustering.

Metalwork

The *Dating Cremated Bones Project*, along with the other NMS dating programmes and with results obtained from recent Scottish excavations, has helped to provide valuable information on the dating of Scottish daggers and knife-daggers. These dates are also useful for dating the series of richly-furnished graves in Wessex (Burgess 1980), as they include examples that are closely comparable with specimens there. A full listing and discussion of Scottish daggers and knife-daggers has already been published elsewhere (in Baker *et al.* 2003, table 4), so only a few comments will be offered here (**Fig. 14.12**. See also Brindley 2001 on some recently-obtained dates for Irish daggers). To the list of dates published in Baker *et al.* can be added a new, corrective date for the Butterwick-type dagger from Seafield West, Highland: re-dating of the scabbard in Groningen has recently produced a new result (averaged from two determinations) of 3600±30 BP (GrA-27037/27039, 2040–1820 cal BC).

The nine reliable radiocarbon dates currently available for Scottish daggers and knife-daggers – including a pair of very close dates from the dagger scabbard and associated cremated bones from Collessie, Fife – confirm

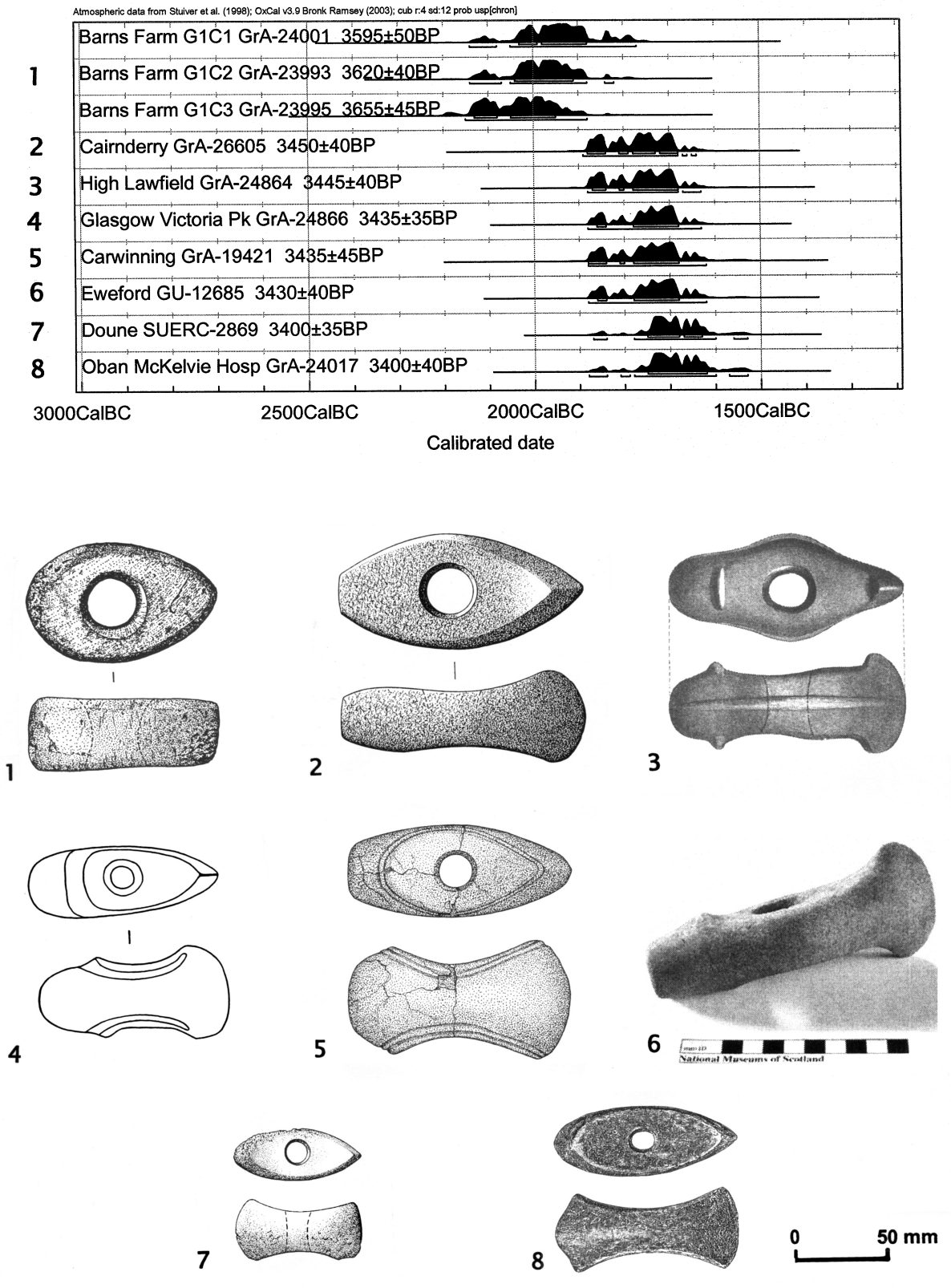
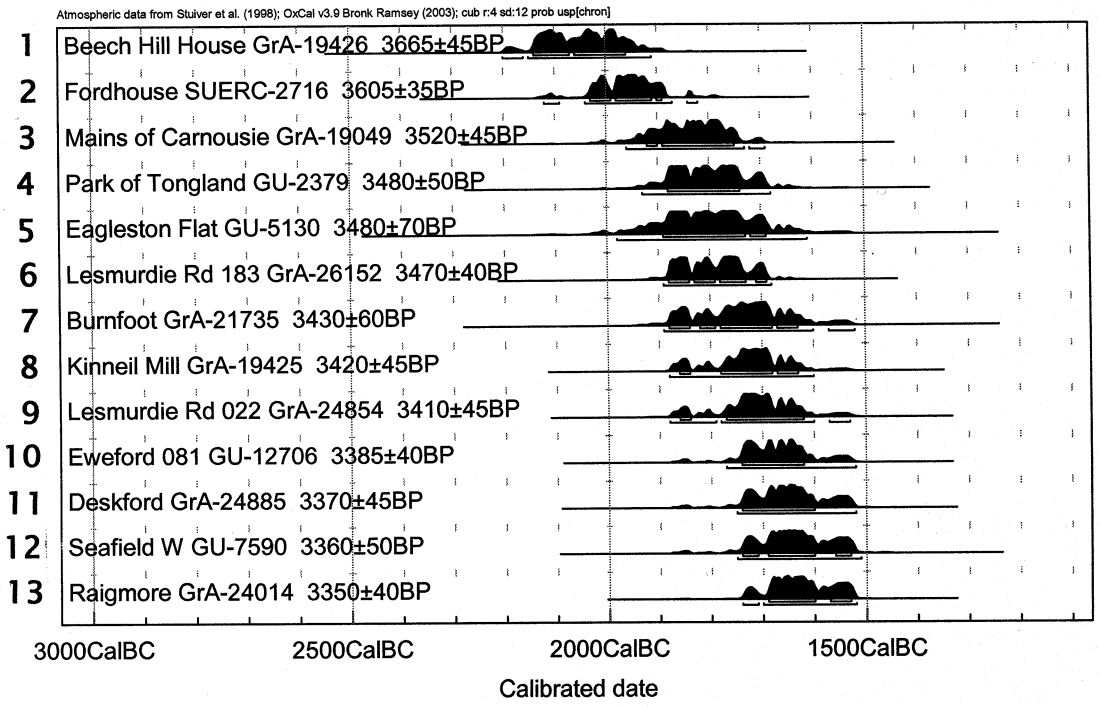


Fig. 14.10 Radiocarbon-dated Scottish battle axeheads. Sources: various (including Proceedings of the Society of Antiquities of Scotland*; photo: NMS)*



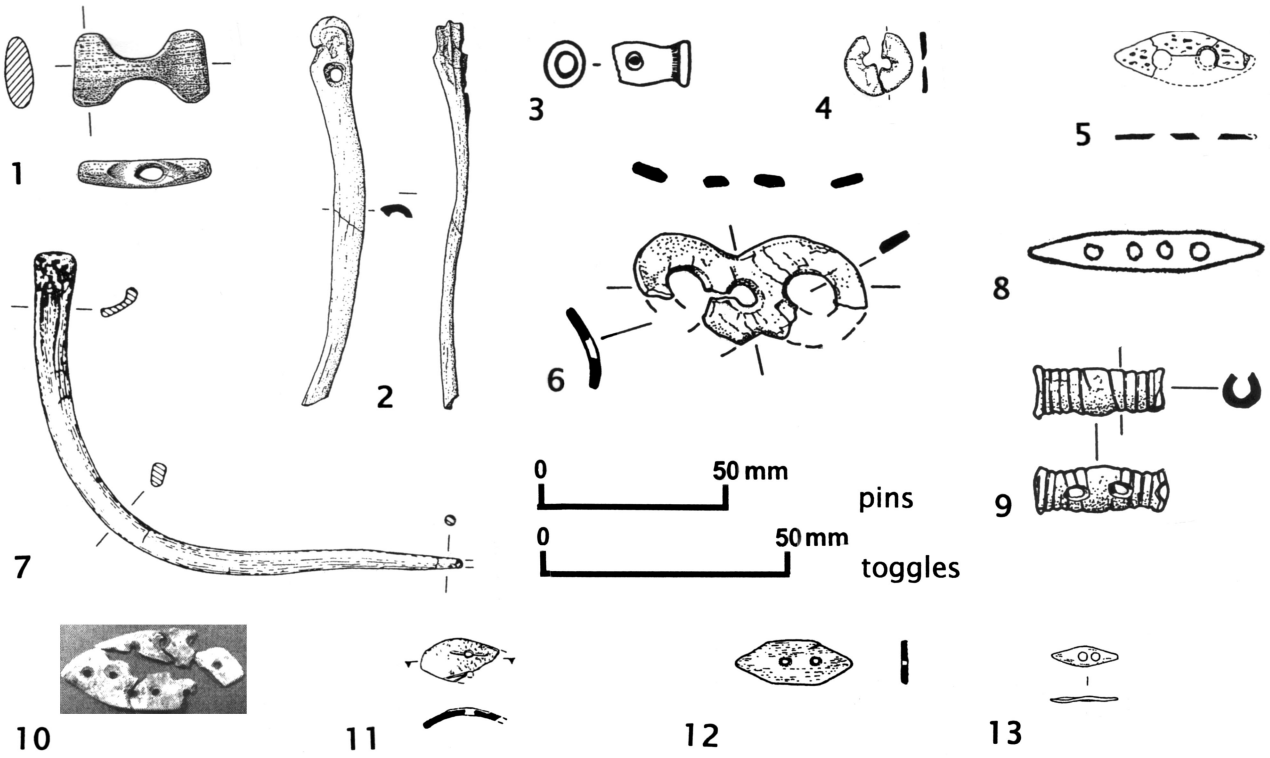


Fig. 14.11 Radiocarbon-dated Scottish toggles and pins, and dated toggle from Eagleston Flat, Derbyshire. Illustration sources: various (including Proceedings of the Society of Antiquities of Scotland *and* Proceedings of the Prehistoric Society*)*

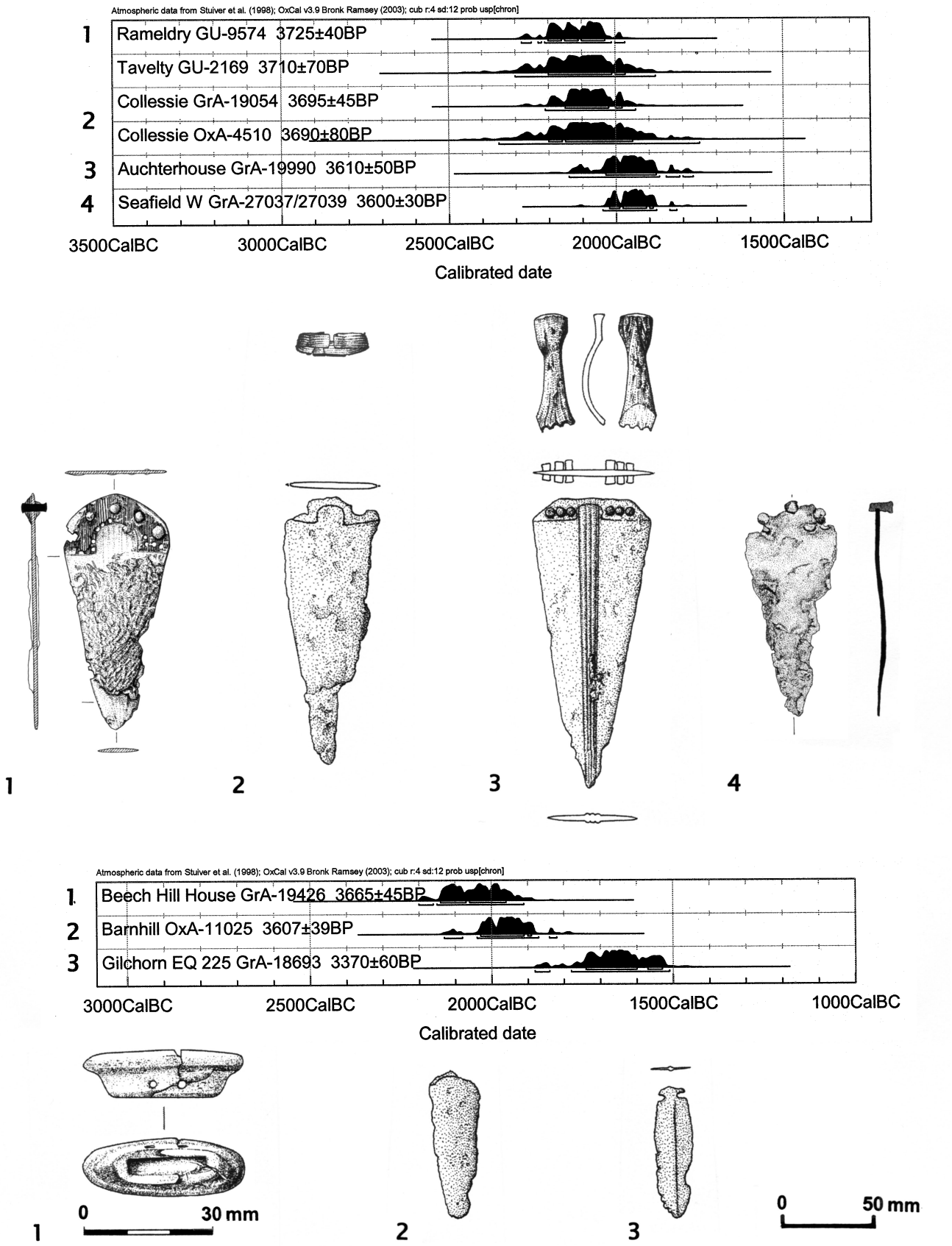


Fig. 14.12 Radiocarbon-dated Scottish daggers (above) and knife-daggers (below). Note: the Gilchorn 'knife-dagger' has also been described as a razor. Sources: Gerloff 1975, Stevenson 1995, Baker et al. *2003, Cressey and Sheridan 2003*

the basic validity of Sabine Gerloff's typological sequence for these artefact types (Gerloff 1975), while clarifying and revising the absolute chronology. Flat riveted daggers, the earliest form of bronze dagger, seem to have appeared around the 22nd century BC and continued in use until the appearance of Gerloff's Armorico-British types (of which the Auchterhouse dagger is an example), during or shortly after the 20th century BC. The Auchterhouse date provides indirect evidence for the date of comparable, so-called 'Wessex 1' daggers in Wessex. Knife-daggers in Scotland, as represented by the dated examples from Gilchorn, Barnhill and Beech Hill House, were evidently in use from as early as the late third millennium until *c*.1600 BC (at Gilchorn). The example from Barnhill, which probably dates to the 20th century BC, was found with ornamental sheet gold discs comparable to those from the 'Wessex 1' burial at Hengistbury Head, recently discussed by Case *et al.* (2003). The Gilchorn example, which Jockenhövel (1980, no 2) regards as a razor, is comparable with some items found in some 'Wessex 2' graves. (See Sheridan and Shortland 2004, and Taylor 2005, on the need to revise ideas about the dating and nature of the Wessex series of elite burials.)

Two other types of dated metal object may be mentioned in passing. Firstly, a fragment of a bronze chisel, found together with a battle axehead in a Collared Urn at Carwinning, North Ayrshire, has been dated to 3435±45 BP (GrA-19421, 1880–1620 cal BC); both items had been through the pyre. Secondly, burnt fragments of an item too large to be an awl, and thought to be the stem of a bronze pin, from a Cordoned Urn at Mid Gleniron I (cremation H), Dumfries and Galloway, were dated to 3470±60 BP (GrA-21692, 1940–1620 cal BC).

CONCLUSIONS

It is hoped that this contribution will have demonstrated that our understanding of Bronze Age chronology – a vital tool for building our interpretative narratives – can be advanced through the application of targeted radiocarbon dating programmes (*cf* Needham *et al.* 1997 on the dating of metalwork traditions in Britain). Clearly many more dates are required to clarify overall and regional sequences, and of course associational and stratigraphic data need to be used alongside absolute dating. However, the development of the Groningen technique of AMS-dating cremated bone has indeed heralded 'the dawn of a new era' in Bronze Age dating (Lanting and Brindley 1998), and has confirmed Burgess' view (1986, 351) that 'there is clearly much that the material can still tell us'. It is heartening that colleagues in England are finally beginning to embrace this particular technique, to fill gaps in our understanding of the English Bronze Age.

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APPENDIX: LIST OF SCOTTISH DATES CITED IN THIS PAPER, WITH CALIBRATED VALUES (see p. 181–185)

Dates calibrated using OxCal v.3.9, with atmospheric data from Stuiver *et al.* 1998. Further information about many of these dates can be found in Sheridan 2003. Unless stated otherwise, the dated material is cremated human bone. Dates obtained for the NMS *Dating Cremated Bones Project* are indicated by an asterisk beside the Laboratory code.

Findspot	***Laboratory code***	***Date BP***	***Date cal BC at 1σ***	***Date cal BC at 1σ***	***Material dated***
Vase Urns (E = Encrusted variety)					
Aberdour Road, Dunfermline, Fife (grave 4)	GrA-19422*	3680±45	2140–1970	2200–1920	
Leuchar Brae, Aberdeenshire (E)	GrA-19048*	3675±45	2140–1970	2200–1910	
Mains of Craichie, Angus	GrA-21730*	3660±60	2140–1940	2200–1880	
Farrochie, Malcolm's Mount, Ab'shire (E)	GrA-28623	3650±35	2130–1940	2140–1910	
Denbeath, Fife (E)	GrA-23989*	3640±40	2120–1930	2140–1880	
Blackden Farm, Angus (E)	GrA-23972*	3635±45	2120–1920	2140–1880	
Dunion, Scottish Borders (E)	GrA-24006*	3625±45	2120–1910	2140–1880	
Sand F[i]old, Orkney	UT-1487	3620±50	2110–1880	2140–1820	Plant fibres from lining of urn
Glennan, Argyll and Bute	GrA-24861*	3615±35	2030–1910	2130–1880	
Craigdhu, Fife (E)	GrA-23991*	3600±40	2020–1880	2130–1770	
Callange, Fife	GrA-19987*	3590±50	2030–1830	2130–1770	
Fordhouse, Angus (Vessel 47) (E)	SUERC-2724	3570±35	2010–1820	2030–1770	
Straiton Quarry, Fife	SUERC-2015	3570±40	2010–1780	2030–1770	
Udny, Aberdeenshire	GrA-23976*	3570±45	2010–1780	2040–1740	

Findspot	*Laboratory code*	*Date BP*	*Date cal BC at 1σ*	*Date cal BC at 1σ*	*Material dated*
Collared Urns					
Grandtully, Perth and Kinross	GrA-21743*	3580±60	2030–1770	2130–1740	
Park of Tongland (pit 2), Dumfries and Galloway	GU-2382	3560±50	2010–1770	2030–1740	Charcoal (small diameter, fast-growing oak)
Lesmurdie Rd Elgin, Moray (F60, Pot 49)	GrA-24900	3550±35	1950–1770	2020–1740	
Lesmurdie Rd Elgin, Moray (F68/1, Pot 45)	GrA-24881	3545±35	1940–1770	2010–1740	
Balnakettle, Angus	GrA-19984*	3530±50	1940–1760	2020–1690	
Gourlaw, Midlothian	GrA-24850*	3525±35	1920–1770	1940–1740	
Mains of Carnousie, Ab'shire	GrA-19049*	3520±45	1920–1750	1960–1690	
Fordhouse, Angus (Vessel 35)	SUERC-2715	3515±35	1890–1760	1940–1730	
Fordhouse, Angus (Vessel 48)	SUERC-2721	3510±35	1890–1750	1930–1730	
Carronbridge (burial 1), Dumfries and Galloway	GrA-21694*	3510±50	1890–1740	1960–1680	
Lesmurdie Rd Elgin, Moray (026/064, Pot 42)	GrA-24870	3480±40	1880–1740	1890–1680	
Skilmafilly, Ab'shire (040)	GrA-26530	3480±40	1880–1740	1890–1680	
Skilmafilly, Ab'shire (034)	GrA-26529	3490±40	1880–1740	1920–1680	
Park of Tongland (pit 1), Dumfries and Galloway	GU-2379	3480±50	1880–1740	1930–1680	Mixed charcoal (ash, hazel, oak)
Lesmurdie Rd Elgin, Moray (183, Pot 43)	GrA-26152	3470±40	1880–1690	1890–1680	
Skilmafilly, Ab'shire (044)	GrA-26531	3470±40	1880–1690	1890–1680	
Gilchorn, Angus (EQ 222)	GrA-23999*	3465±40	1880–1690	1890–1680	
Eweford, East Lothian (Pot 1)	GU-12669	3455±35	1880–1690	1880–1680	Charcoal (hazel)
Skilmafilly, Ab'shire (021)	GrA-26524	3455±40	1880–1690	1890–1680	
Cairnderry, Dumfries and Galloway (pit 1)	GrA-26605	3450±40	1880–1680	1890–1640	
Victoria Park, City of Glasgow	GrA-24866*	3435±35	1860–1680	1880–1630	
Eweford, East Lothian (Pot 2)	GU-12708	3435±40	1860–1680	1880–1620	
Carwinning, North Ayrshire	GrA-19421*	3435±45	1880–1680	1880–1620	
Burnfoot Plantation, Dumfries and Galloway	GrA-21735*	3430±60	1880–1630	1890–1520	
Balneaves, Angus (pit 3)	GU-2446	3430±40	1860–1680	1880–1620	Charcoal (oak)
Lesmurdie Rd Elgin, Moray (022, Pot 40)	GrA-24854	3410±45	1860–1620	1880–1530	
Skilmafilly, Ab'shire (003)	GrA-26519	3400±40	1750–1620	1880–1530	
Skilmafilly, Ab'shire (007)	GrA-26521	3390±40	1740–1620	1860–1520	
Inchbelle Farm, East Dunbartonshire (context 8)	AA-39969	3375±40	1740–1610	1750–1520	Burnt hazelnut shell

Findspot	*Laboratory code*	*Date BP*	*Date cal BC at 1σ*	*Date cal BC at 1σ*	*Material dated*
Inchbelle Farm, East Dunbartonshire (context 9)	AA-39970	3345±40	1690–1530	1740–1520	Burnt hazelnut shell
Skilmafilly, Ab'shire (005)	GrA-26520	3375±40	1740–1610	1750–1520	
Eweford, East Lothian (Pot 3)	GU-12682	3370±35	1740–1610	1750–1520	
Gilchorn, Angus (EQ 225)	GrA-18693*	3370±60	1740–1530	1880–1510	
Lesmurdie Rd Elgin, Moray (048, Pot 39)	GrA-24871	3360±40	1740–1530	1740–1520	
Skilmafilly, Ab'shire (024)	GrA-26525	3360±40	1740–1530	1740–1520	
Cordoned Urns					
Seggiecrook, Ab'shire	GrA-19427	3495±45*	1880–1740	1940–1680	
Skilmafilly, Ab'shire (030)	GrA-26528	3490±40	1880–1740	1920–1680	
Lesmurdie Rd Elgin, Moray (F61, Pot 44)	GrA-24901	3485±35	1880–1740	1890–1680	
Mid Gleniron I, Dumfries and Galloway (burial H)	GrA-21692*	3470±60	1880–1690	1940–1620	
Magdalen Bridge, City of Edinburgh (EA 39)	GrA-26142*	3445±40	1870–1680	1880–1630	
Lesmurdie Rd Elgin, Moray (F64, Pot 46)	GrA-24880	3430±35	1860–1680	1880–1620	
Oban Bay, Argyll and Bute	AA-36539	3430±50	1880–1640	1890–1600	Charcoal (birch)
Kinneil Mill, Falkirk (urn 1)	GrA-19425*	3420±45	1860–1630	1880–1600	
Findhorn, Moray	OxA-7622	3410±50	1860–1620	1880–1520	Charcoal (short-lived species)
Fence's Farm, North Ayrshire	GrA-18023*	3400±40	1750–1620	1880–1530	
Oban, McKelvie Hospital, Argyll and Bute	GrA-24017*	3400±40	1750–1620	1880–1530	
Mill of Marcus, Angus	GrA-18017/ 19968 av*	3353±38	1690–1530	1740–1520	
Raigmore, Highland	GrA-24014*	3350±40	1690–1530	1740–1520	
Fordhouse, Angus (Vessel 31)	GrA-18019*	3325±40	1680–1520	1740–1510	
	SUERC-2725	3335±35	1690–1520	1690–1520	
Fetteresso, Ab'shire	GrA-28615	3325±40	1680–1520	1740–1510	
Skilmafilly, Ab'shire (013)	GrA-26523	3320±40	1680–1520	1740–1510	
Drumdurno, Ab'shire (urn 1)	GrA-19050*	3320±45	1680–1520	1740–1500	
Longniddry, East Lothian	GrA-18016*	3305±40	1620–1520	1690–1490	
Saxe-Coburg Place, City of Edinburgh	GrA-18020*/ AA-46479 av	3299±34	1615–1520	1690–1500	
Magdalen Bridge, City of Edinburgh (EA 42)	GrA-18025*	3280±40	1620–1510	1690–1440	
Benderloch, Argyll and Bute	AA-26980	3245±50	1600–1430	1680–1410	Carbonised organic encrustation in urn

Findspot	*Laboratory code*	*Date BP*	*Date cal BC at 1σ*	*Date cal BC at 1σ*	*Material dated*
Bucket Urns/'flat-rimmed ware' from funerary contexts					
High Torrs, Dumfries and Galloway	GrA-24848*	3300±35	1620–1520	1690–1490	
Glenluce, Dumfries and Galloway (urn 2)	GrA-18304*	3210±60	1530–1400	1630–1310	
Meldon Bridge, Scottish Borders (F22b, 75)	GrA-23406*	3040±50	1390–1210	1420–1120	
Kerricks Farm, Dumfries and Galloway	AA-54309 (GU-10797)	3020±75	1390–1120	1430–1020	
Upper Largie, Argyll and Bute (f2)	GU-1976	3000±60	1380–1120	1400–1040	Charcoal (alder and willow)
Upper Largie, Argyll and Bute (f2)	GU-1977	2970±55	1300–1050	1380–1010	Charcoal (alder, willow, oak)
Gownie, Ab'shire	GrA-26541*	2885±40	1190–1000	1220–920	
Sandy Rd, Scone, Perth and Kinross	GrA-23985*	2845±45	1110–920	1190–890	
Garrol Wood, Ab'shire	GrA-28624*	2820±35	1005–915	1080–830	
Old Keig, Ab'shire	GrA-21696*	2820±50	1050–900	1130–830	
Foularton, Kintore, Ab'shire	GrA-23402*	2800±50	1010–840	1130–820	
Sanaigmhor Warren, Islay (cist)	GrA-17598	2720±40	900–825	970–800	
Sanaigmhor Warren, Islay (cairn B)	GrA-17600	2620±40	828–788	900–590	
Northern Isles Urns *(Note: for Loth Rd, Sanday dates, see Card 2004. S = steatite)*					
Werne, Orkney (cist 1)	GrA-21627*	3750±60	2280–2030	2400–1960	
Quandale, Orkney (mound 8) (S)	GrA-19989*	3660±50	2140–1950	2200–1880	
Quandale, Orkney (mound 3)	GrA-19988*	3600±50	2030–1880	2140–1770	
Taversoe Tuick, Orkney	GrA-21734*	3580±60	2030–1770	2130–1740	
Blomuir, Orkney (cist 2)	GrA-21738*	3540±60	1950–1750	2040–1690	
Culla Voe, Shetland	GrA-24056*	3475±40	1880–1730	1890–1680	
Linga F[i]old, Orkney (m. 6) (S)	GU-4880	3380±90	1770–1520	1890–1440	Charcoal (alder)
Linga F[i]old, Orkney (m. 6) (S)	GU-4881	3290±60	1690–1510	1740–1430	Charcoal (alder)
Quoyscottie, Orkney (knowe 2)	GrA-21698*	3350±60	1730–1520	1860–1490	
Rousay, Orkney (S)	GrA-21702*	3330±50	1690–1520	1740–1500	
Orkney (S)	GrA-21691*	3240±50	1600–1430	1680–1400	
Uyea, Shetland (S)	GrA-21621*	2480±60	770–510	790–410	
Nr Stromness, Orkney (S)	GrA-24015/ 24198 av	1600±30	AD 420–540	AD 400–540	
Accessory vessels *(Note: all the dates in question can be found under 'Vase Urns' (for Craigdhu and Straiton Quarry) and 'Collared Urns')*					

Findspot	*Laboratory code*	*Date BP*	*Date cal BC at 1σ*	*Date cal BC at 1σ*	*Material dated*
Battle axeheads *(Note: see under 'Collared Urns' for Cairnderry, Glasgow Victoria Park and Carwinning, and under 'Cordoned Urns' for Oban McKelvie Hospital)*					
Barns Farm, Fife (grave 1, c1)	GrA-24001*	3595±50	2030–1880	2140–1770	
Barns Farm, Fife (grave 1, c2)	GrA-23993*	3620±40	2040–1910	2140–1820	
Barns Farm, Fife (grave 1, c3)	GrA-23995*	3655±45	2130–1950	2150–1880	
High Lawfield, Renfrewshire	GrA-24864*	3445±40	1870–1680	1880–1630	
Eweford, East Lothian (043)	GU-12685	3430±40	1860–1680	1880–1620	
Doune, Perth and Kinross	SUERC-2869	3400±35	1750–1630	1870–1530	Unburnt human bone
Macehead					
Cleughhead, Ab'shire	GrA-18021*	3355±40	1690–1530	1740–1520	
Toggles and pins *(Note: see under 'Collared Urns' for Mains of Carnousie, Park of Tongland pit 1, Lesmurdie Road Elgin (183 and 022) and Burnfoot, and under 'Cordoned Urns' for Kinneil Mill and Raigmore. Note also that Eagleston Flat is in England, the date being included for comparison)*					
Beech Hill House, Perth and Kinross (cist 1)	GrA-19426*	3665±45	2140–1960	2200–1910	
Fordhouse, Angus (cist)	SUERC-2716	3605±35	2030–1890	2120–1820	
Eagleston Flat, Derbyshire	GU-5130	3480±70	1890–1690	1980–1610	Charcoal (birch)
Deskford, Moray	GrA-24885	3370±45	1740–1600	1750–1520	
Eweford, East Lothian (081)	GU-12706	3385±40	1740–1620	1770–1520	
Seafield West, Highland (pit 3)	GU-7590	3360±50	1740–1530	1750–1510	Charcoal (hazel)
Daggers					
Rameldry Farm, Fife	GU-9574	3725±40	2200–2030	2280–1970	Unburnt human bone
Tavelty, Ab'shire	GU-2169	3710±70	2200–1970	2300–1880	Unburnt human bone
Collessie, Fife	GrA-19054*	3695±45	2150–1980	2210–1940	
	OxA-4510	3690±80	2200–1950	2350–1750	Scabbard (hide)
Auchterhouse, Angus	GrA-19990*	3610±50	2030–1880	2140–1770	
Seafield West, Highland	GrA-27037/ 27039 av	3600±30	2020–1890	2040–1820	Scabbard (hide and wood)
Knife-daggers *(Note: see under 'Collared Urns' for Gilchorn (EQ 225) and under 'Toggles and pins' for Beech Hill House)*					
Barnhill, Angus	OxA-11025	3607±39			Unburnt human bone

Other metal items*: see under 'Collared Urns' for Carwinning (bronze chisel fragment) and under 'Cordoned Urns' for Mid Gleniron I (bronze pin fragment)*