

Developer-funded fieldwork in Scotland, 1990–2003: an overview of the prehistoric evidence

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ABSTRACT

The paper is in two parts. The first presents a digest of the prehistoric evidence recovered by developer-funded archaeology between 1990 and 2003 and compares it with the results of projects funded by Historic Scotland. The second reflects on the wider significance of this material in relation to past and present research on Scottish prehistory and its implications for the archaeology of Britain and Ireland.

PART ONE

Tim Phillips

The *National Planning Policy Guideline for Archaeology and Planning* (NPPG5) states:

The primary policy objectives are that they [archaeological remains] should be preserved wherever feasible and that, where this proves not to be possible, procedures should be in place to ensure proper recording before destruction, and subsequent analysis and publication. (Scottish Office 1994, para 4)

This document goes on to advise that the planning authorities should, ‘ensure, where appropriate, that the prospective developer arranges for an archaeological assessment and, if necessary, a field evaluation’ (para 25). These guidelines have ensured that archaeology has become part of the planning process, with the developer being responsible for funding any necessary work. This has been the case for nearly 15 years and has resulted in a large number of watching briefs, evaluations and excavations across Scotland. Indeed, the number of contract field projects increased more than threefold between 1990 and 2000 (Carter 2002, 870). Generally,

independent commercial archaeological units have conducted this fieldwork. There have also been several hundred field surveys undertaken in advance of afforestation and linear schemes such as road building and pipelines.

The Scottish archaeological units have an enviable record of publication of their most important excavations, but the full extent and content of this work has never been quantified. Because of the requirements of planning legislation, destruction or damage to the known body of standing monuments is limited. This report aims to provide an overview of the prehistoric evidence revealed by this work and to consider it in relation to the results of more ‘traditional’ archaeology.

It is possible to conduct such a survey because of two requirements of the Scottish system. A copy of the report detailing any fieldwork is sent to the National Monuments Record for Scotland (NMRS), part of the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS), based in Edinburgh, and held in their library. At a practical level, this means that all the material can be consulted in one place. A summary, sometimes with site photographs and plans, is almost always published in an

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annual report of all the fieldwork carried out in a particular year, *Discovery and Excavation in Scotland (DES)*. This is published within a few months of the project taking place. This can be compared to the unsatisfactory situation in England where there is no central repository for the reports. They are held by the local and regional Sites and Monuments Records and Urban Archaeological Databases in nearly 100 locations spread across the country (Bradley & Phillips, forthcoming). Annual summaries are published in some counties and regions, but there is no national published report apart from a retrospective list: *Gazetteer of Archaeological Investigations in England* (BIAB 1997–2003). This contains a very brief summary of the fieldwork and lacks explanatory site plans and photographs. Full academic publication in parts of England is also limited or non-existent.

METHODOLOGY

Firstly, the NMRS in Edinburgh was visited by Tim Phillips in 2003 as part of Richard Bradley's AHRB-funded project on British and Irish prehistory. All the reports in its holdings were consulted. Any parts that contained evidence of prehistoric activity were photocopied, including site plans. Secondly, each volume of *DES* between 1990 and 2003 was consulted, which identified work and some projects that were not represented amongst the reports held in Edinburgh. All developer-related fieldwork was highlighted, and the archaeological periods represented in each project. This information was checked against unpublished data supplied by Historic Scotland. The fieldwork projects included in the sample were all developer-funded watching briefs, evaluations, excavations and field surveys. Desk-based assessments were not included. The field surveys carried out by the commercial units relate mainly to afforestation, and linear projects. These were among the material collected.

This information was entered into a database consisting of two 'tables'. The first records all the development-related fieldwork conducted between 1990 and 2003, as listed in *DES*. All these projects have been funded, or part-funded, by commercial developers. They also include major road schemes funded by the Scottish Office/Executive Roads Directorate but managed through Historic Scotland, and development work funded by local authorities. The projects are listed as 'prehistoric', 'Roman', 'medieval', 'post-medieval' (up to AD 1800), or 'negative' for projects where no evidence was found from any of these phases. This database can be used as a reference tool for investigators researching other archaeological periods apart from prehistory. The second table contains more detailed information about the prehistoric evidence. Further information is given in four fields detailing the prehistoric period (Mesolithic, Neolithic, Bronze Age, Iron Age, or 'Prehistoric' where the exact dating is uncertain), a description of the features found, the artefacts recovered and any additional notes. This database is now held by Historic Scotland.

RESULTS

The results of this review are summarized in Table 1. The bulk of the fieldwork consisted of watching briefs and evaluations, followed by field surveys and excavations. This reflects the planning process, where limited exploratory work only leads to full-scale excavation if particularly important remains appear to be present. Very few excavations have produced entirely negative results. Relatively less archaeological evidence has been revealed by the watching briefs and evaluations, yet this work is important in defining areas with little archaeological material. The amount of prehistoric evidence compares well with the evidence from the medieval period. Indeed, prehistory is well represented amongst the targeted excavations, giving the highest number

in the sample. The amount of evidence that is recognizably 'Roman' is very low. Many sites occupied during the earlier first millennium AD may be without recognizable 'Roman' artefacts. The highest values are represented by the post-medieval evidence.

The location of fieldwork projects involving actual intervention (watching briefs, evaluations and excavations) shows a distinctive pattern (illus 1). The major cities and towns of Scotland are plainly visible, as is the line of the M74 motorway in the south-west. It must be stressed that this is not a distribution map of archaeological finds but shows where development has taken place. It should also be noted that a watching brief, an evaluation and, in some cases, a larger excavation may all have taken place on the same site, each generating a separate event record. Much of the work has been in urban areas, especially watching briefs and evaluations, concentrated through the central belt from Glasgow to Edinburgh and along the southern coast of the Firth of Forth. Other concentrations are along the Ayrshire coast, through Fife and Angus, and along the southern shore of the Moray Firth. The major gaps are the Northern and Western Isles, the west coast, much of the Highland Council area, the Grampian Mountains, the interior of south-west Scotland and, to a lesser extent, inland south-eastern Scotland.

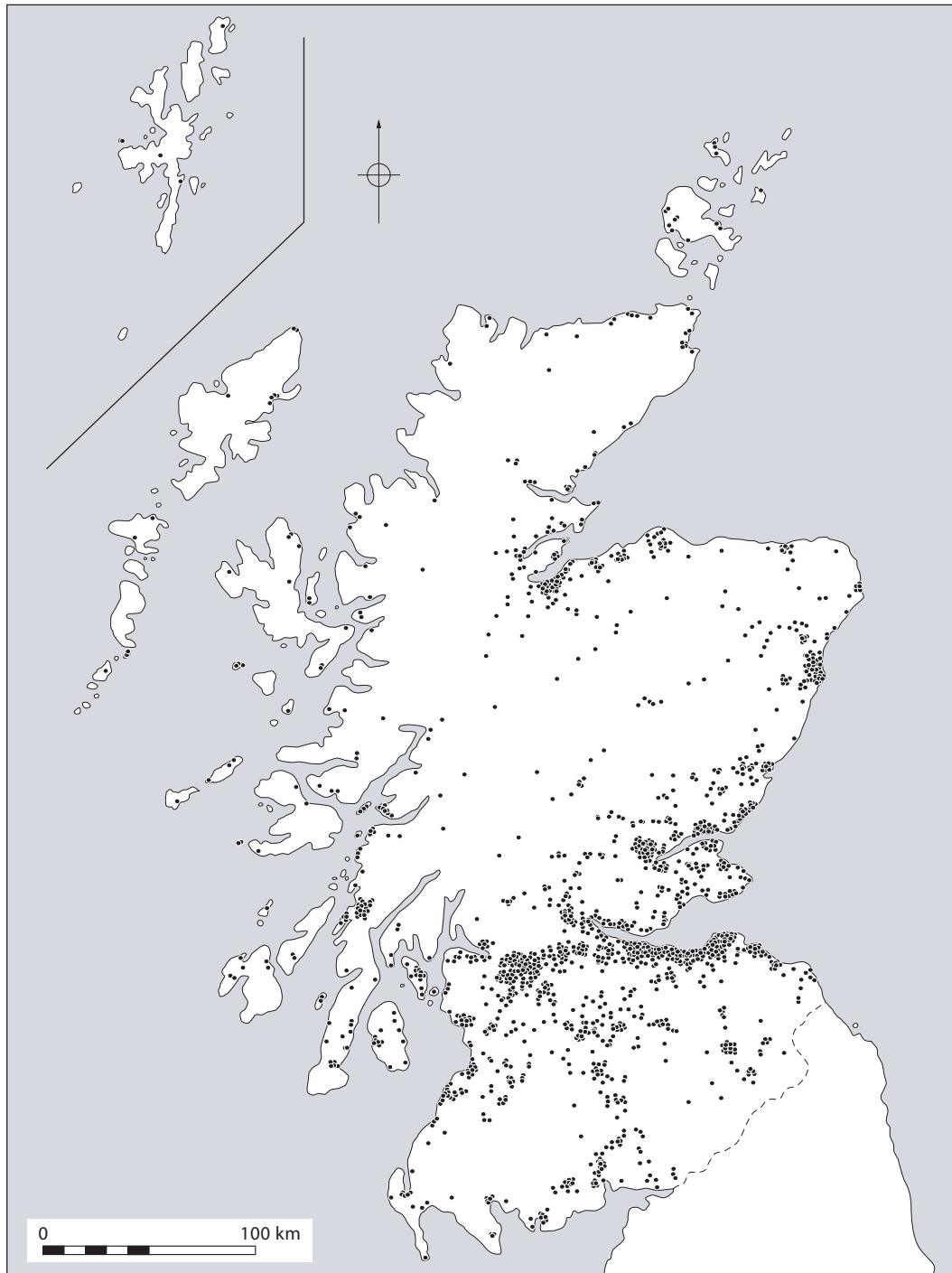
The locations of field surveys are concentrated in the Central Highlands, the west coast, Lanarkshire and Ayrshire and around

parts of the Firth of Forth (illus 2). Some of these relate to afforestation in what are marginal areas today. Thus, they are in different zones from the main areas of development that have involved excavation. To some extent this complements the work represented by illus 1, but the actual methodology is different, for the field surveys reveal signs of past human activity that are visible on the surface. The major gaps in this work are in the south-eastern Scottish Borders, Fife, Angus and the north-east. Also under-represented are areas inland from the west coast of Argyll and Highland, the interior of northern Sutherland and Caithness, and much of Dumfries & Galloway. In the Northern and Western Isles, there have been many coastal surveys related to the threat of erosion to archaeological features, but these have been funded by Historic Scotland rather than developers. This distribution map can be compared to the locations of the RCAHMS surveys conducted between 1987 and 2002 (Stevenson 2002, fig 3). In southern Scotland the Royal Commission Surveys have been carried out in large parts of Dumfries & Galloway and in smaller areas of the Scottish Borders Council area. In central and eastern Scotland, large areas have been surveyed to the south and east of Edinburgh, across Perth & Kinross and along Strathdon. Smaller areas of the north-east and Highland have also been covered.

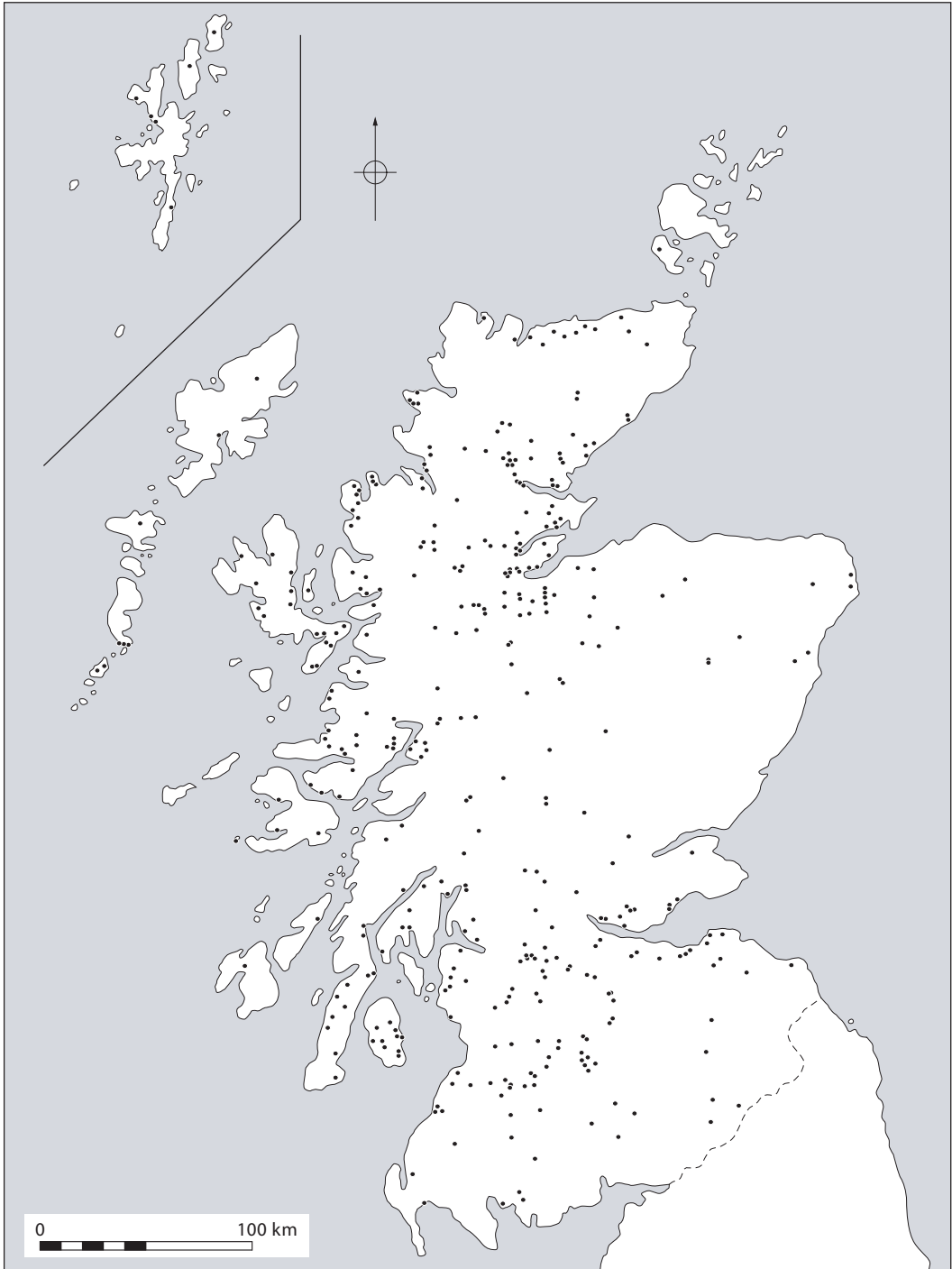
The results from the second table of the database (the prehistoric evidence) are summarized in the following sections. They are dealt with under the headings of Mesolithic, Neolithic,

TABLE 1
Developer-funded Fieldwork in Scotland 1990–2003

<i>Fieldwork</i>	<i>Total</i>	<i>Prehistoric</i>	<i>Roman</i>	<i>Medieval</i>	<i>Post-medieval</i>	<i>Negative</i>
Watching Brief	920	72	13	97	127	660
Evaluation	913	116	40	202	202	463
Excavation	203	92	25	65	60	19
Field Survey	388	91	2	70	264	99
Total	2424	371	80	434	653	1241



ILLUS 1 Location of developer-funded excavations, evaluations and watching briefs in Scotland 1990–2003. Note that, due to the number of projects in urban areas, not all of these are illustrated by a single symbol



ILLUS 2 Location of developer-funded field surveys in Scotland 1990–2003

Bronze Age, and Iron Age and 'Later Iron Age' which includes the Roman period. The final section is entitled 'Prehistoric Evidence' and relates to projects where the material recovered was dated as 'prehistoric' but not assigned to a specific phase. Radiocarbon dates have been calibrated to 2 sigma.

Lastly, it should be mentioned that rescue excavations and field surveys have also been funded by Historic Scotland. Some of these took place where there is little commercial development, particularly in areas threatened by coastal erosion. Where appropriate, this account compares the results of this fieldwork with those of the developer-funded projects catalogued in the database. The following sections provide a digest of the main results of fieldwork. Their wider significance is assessed in the second part of this article.

A SUMMARY OF THE MESOLITHIC EVIDENCE

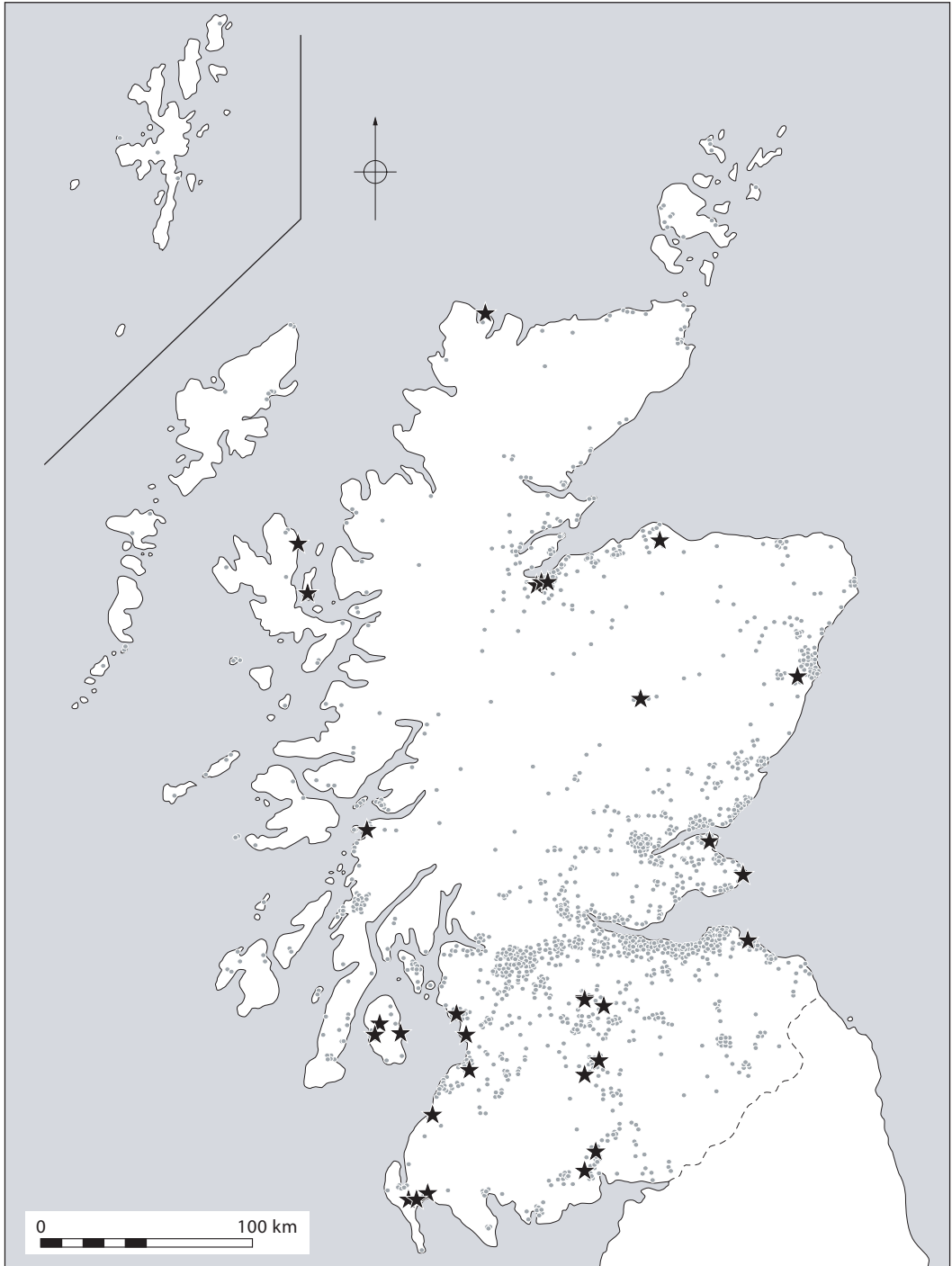
The Mesolithic of Scotland has been characterized by lithic scatters and by shell middens in coastal locations. Few features have been identified at most sites. It is rare for organic or faunal evidence to be recovered from the lithic scatters, although a wealth of faunal evidence is preserved in the alkaline conditions of some of the shell middens, especially those on Oronsay (Mellars 1987). Because of the rarity of cut features, it is impossible to locate Mesolithic sites through most methods of archaeological prospection. Fieldwalking has been the main way of finding them, but this is also constrained by the availability of cultivated, or otherwise unvegetated, land. Coastal sites have been revealed by erosion, but here the pattern of settlement is skewed. Although the sea level has dropped since the prehistoric period, in many areas evidence may have been lost to marine transgressions between 6100 and 4800 BC (Ballantyne 2004; Cressey et al 1997). To overcome these problems, research projects

have attempted to develop predictive models of where Mesolithic sites could be expected within a particular landscape (Mithen 2001, ch 6). These are based on the characteristics of the known sites.

Evidence for Mesolithic activity has been identified in a number of regions (illus 3). In the north and west, the locations tend to be on or near the coast, often on raised beaches. In the north-east, there is limited evidence for activity in the upper Dee valley. Southern Scotland presents a different picture. Although there are a number of coastal sites, especially on the Ayrshire and Solway coasts and on Arran, more inland sites have been identified than elsewhere. These tend to be located on the lower slopes of the Southern Uplands, both north and south of this range of hills. Significant gaps in site distribution can be identified in the Northern and Western Isles, in the interior of the Highland Region, across the central belt and the south-east.

The distribution of Mesolithic evidence complements and enhances what is known from research work. The coastal nature of the evidence is emphasized, especially on the west coast. In Argyll, and on the west Highland coast, Arran and Skye, the information complements the 'Scotland's First Settlers' project (Hardy & Wickham-Jones 2002). This has been supplemented by the discovery of a significant number of sites on the Ayrshire coast. On the east coast there has been the addition of a number of coastal sites in Fife and beside the Moray Firth near Inverness. Where the distribution has been expanded is through the identification of a number of other inland sites, found mainly on the lower slopes of the uplands of south-west Scotland, although there is also one on the edge of the Grampian Mountains.

Most of the evidence recovered consists of lithic scatters of flint, chert, quartz and, to a lesser extent, other worked stone. At many sites these artefacts appear to be almost exclusively Mesolithic in date. The major exceptions are the sites on the edges of the Southern Uplands where there is often a mixture of Neolithic



ILLUS 3 Mesolithic evidence (overlaid on illus 1)

and Bronze Age material at the same location. At Spurryhillock Junction, Aberdeenshire (Alexander 1997), a large pit containing carbonized material and lithics in a blade technology was radiocarbon dated to between 4910 and 4540 BC. Again, there was later activity at the site in the Neolithic period.

Occupation horizons and occasional cut features are associated with the lithics at some sites, as well as shell middens at coastal locations. At An Corran, on Skye, salvage investigations in advance of road widening located a rock-shelter containing a midden of this kind (Saville & Miket 1994). At other sites many of the cut features are too amorphous to be interpreted, but hearths, pits (often with hazelnut shells) and post-holes, probably representing windbreak structures, have been identified. At Chapelfield, Stirling, three pits containing carbonized material, but no lithics, were dated to the later Mesolithic period (Atkinson 2002). The site was also occupied throughout the Neolithic when further pits were dug. A structure excavated recently at the North-East Quarry, Dunbar (Gooder & Hatherley 2003), has been interpreted as a Mesolithic roundhouse. This fitted neatly into a natural hollow and had an internal circular setting of post-holes stratified beneath a dark organic deposit. Radiocarbon samples from post-holes returned dates between 7160 and 6870 BC and 7030 and 6740 BC. Another possible Mesolithic house was excavated at Craighead Golf Course, Fife (Wickham-Jones & Dalland 1998).

A SUMMARY OF THE NEOLITHIC EVIDENCE

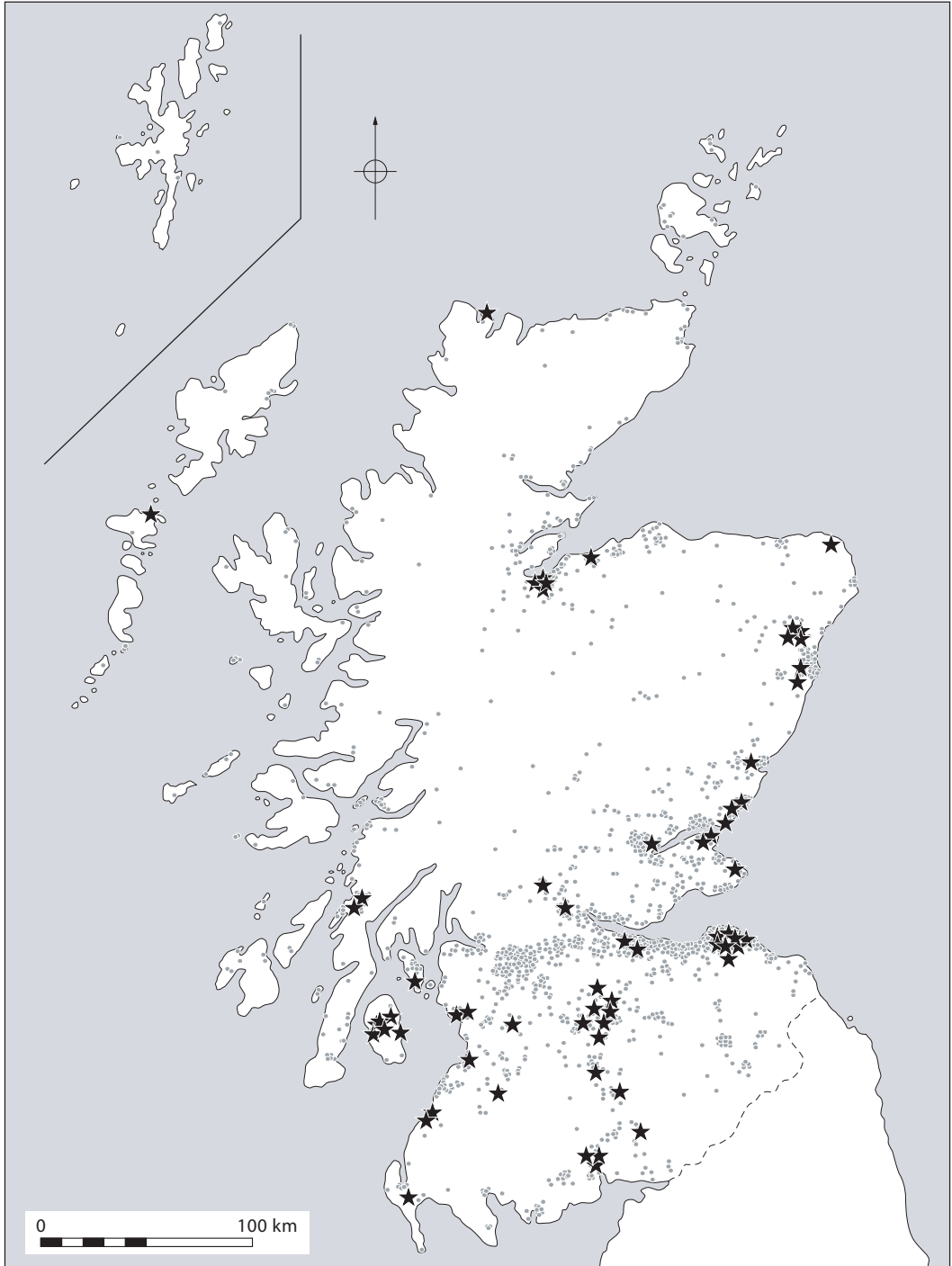
Developer-funded work has revealed widespread evidence for Neolithic activity (illus 4). This is particularly the case in southern Scotland and along the east coast. The main gaps in the distribution of sites are the Northern and Western Isles, the west coast, the Grampian Mountains, much of the Highland region and south-east Scotland. Within the local topography

the developer-funded work has been able to investigate lower ground and this is where most material has come to light.

In many cases the settlement evidence has been limited to lithic scatters. These are sometimes associated with pits and other features. The surface scatters can be mixed with Bronze Age lithic material in the central and southern areas and also with Mesolithic finds. Some structures have been excavated. Small Neolithic round and oval houses have been excavated at Chapelfield where oval stake-built structures were dated to the earlier Neolithic (Atkinson 2002). At Spurryhillock Junction a curving length of ditch and a cluster of pits were associated with Unstan Ware (Alexander 1997). Circular structures dating from the later Neolithic have been excavated at Beckton Farm, S Lanarkshire, where they were associated with Grooved Ware (Pollard 1997). On the later Neolithic site at Lamb's Nursery, Midlothian, enigmatic slots, post circles and cut features appear to relate to buildings (Cook 2000a).

There are too few of these sites to offer a representative sample, but the results of developer-funded fieldwork are augmented by those of projects funded by Historic Scotland. These have identified a number of other structures. They range from stone houses in the Northern and Western Isles (Ballin-Smith & Petersen 2003) to timber houses on the mainland. At Ratho, near Edinburgh, funded by the Roads Directorate, a rectangular structure associated with Carinated Bowls was discovered (Smith 1995). One, and possibly two, small rectangular buildings were excavated at Kinbeachie on the Black Isle (Barclay et al 2001) and have been dated to the later Neolithic. A possibly similar structure was investigated near Lairg (McCullagh & Tipping 1998), which underlay a cultivated soil and was associated with Grooved Ware and Beaker pottery.

There has been little evidence in Scotland for large Neolithic enclosures on the scale of the causewayed and other enclosures in England (Barclay 2003a, 147). In fact, the developer-



ILLUS 4 Neolithic evidence (overlaid on illus 1)

funded work has encountered few Neolithic enclosures of any kind. Of note are Loudon Hill in E Ayrshire (Atkinson 2000), and Wellbrae (Dunwell 1991) in S Lanarkshire. At Loudon Hill, a double palisaded enclosure contained a possible roundhouse. There was evidence for a long period of use, and the entrance and outer palisade were altered during two further phases of activity. At Wellbrae, two adjacent rectangular enclosures known from cropmarks were excavated. One contained pits and post-holes associated with later Neolithic pottery and carbonized grain but no evidence for formal deposition, while the other enclosure contained few internal features, apart from a cremation accompanied by a stone axe and Beaker pottery. At Annieston, S Lanarkshire, a possible hengiform monument has been investigated (Neighbour 1995). There was no direct dating evidence, but it may have been built during the later Neolithic.

By contrast, upstanding Neolithic monuments have been identified during surveys funded by Historic Scotland. Possible long cairns (Wildgoose et al 1997; Alexander 1998) and the occasional chambered cairn (Burgess & Church 1997; Carter & Wordsworth 1997; Moore & Wilson 1998) number among these discoveries. They tend to be in isolated areas and were noted during field surveys related to afforestation and coastal erosion. The same is true of possible stone circles found on Lewis (Burgess & Church 1997). Heel cairns have been recorded by surveys undertaken in Shetland (Moore & Wilson 1996; 1997). An enigmatic monument was discovered at Crantit on Orkney (Ballin-Smith 1998), where a megalithic tomb with side cells was cut into a broad hillside platform.

One of the most important contributions of developer-funded work has been the recognition of monument complexes in low-lying areas. These are sometimes timber constructions and can only be observed by air photography and archaeological excavation. The line of a possible cursus was investigated in a watching brief at Curriestanes, Dumfries & Galloway (Brann

2003), and a post-defined cursus and timber circle were discovered at Upper Largie in the Kilmartin Valley in Argyll (Terry 1997). Another project, this time funded by Historic Scotland, identified an unusual post-defined cursus at Castle Menzies, Aberfeldy (Halliday 2002).

Recent developer-funded excavations on the A1 at Eweford, Dunbar, have uncovered another monument complex, which was used throughout the Neolithic period (MacGregor & Shearer 2002). In the earlier Neolithic the top of a glacial bank was associated with two sub-rectangular structures similar in plan to timber 'mortuary houses'. These had been burnt down. Nearby two pit- and post-alignments were associated with a circular timber enclosure and Later Neolithic Impressed Ware. This phase was followed by the deposition of Grooved Ware and Beaker pottery. At Pencraig Hill, E Lothian, there was evidence for Neolithic cremated bone (McLellan 2002). Within a trapezoidal enclosure there was a cremation pyre with conjoining sherds of pottery. There was also evidence for a palisade which had been burnt down. More cremated bone was recovered from cut features dated to the Neolithic period at Drumoig in Fife (Simpson 1997).

The deposition of special artefacts, including fine flints and pottery, occurred on a number of sites. For example, Impressed Ware was recovered from pits at Mill of Dyce Quarry, Aberdeen (Centre for Field Archaeology 1994a) and Unstan Ware from a pit group at Spurryhillock Junction (Alexander 1997). The discovery of Grooved Ware pits (Cowie & MacSween 1999) had been more common on sites in the south and east of Scotland, such as at the Craighead Golf Course in Fife (Dalland 1996) and Hillend on the North-West Ethylene Pipeline in S Lanarkshire (Armit & Hamilton 1992), but they have now been discovered at Fordafourie, Fraserburgh (Murray 2003), in the north-east of Scotland. Grooved Ware in the Durrington Walls sub-style was recovered at Milton of Leys, Inverness (Conolly & MacSween 2003), where it constitutes the most

northerly find of this type of pottery and one of the earliest dates for the style in Britain.

The evidence for resource exploitation comes mainly from archaeobotanical and palynological evidence. Evidence for the cultivation of emmer wheat and barley was recovered at Deer's Den on the A96 Kintore Bypass in Aberdeenshire (Alexander 2000). Barley was identified at Beckton Farm (Pollard 1997), but at Chapelfield wild resources were being exploited as well as cultivated crops (Atkinson 2002). Barley has been identified at Ratho (Smith 1995). Among projects funded by Historic Scotland, both barley and wheat were associated with the Neolithic house at Kinbeachie (Barclay et al 2001). It is clear that agriculture was an important component of the subsistence economy.

Another important aspect has been the identification of cultivation layers and possible fields on Arran (Donnelly et al 2000), but, apart from the well known evidence from Shetland (Whittle 1986), very little evidence for Neolithic cultivation has been recovered. Barclay (2003a, 142) has argued on the basis of evidence from sites in Perth & Kinross and Sutherland that spade and hoe cultivation took place within plots defined by ephemeral boundaries, which on most sites would be difficult to show by excavation. A similar view is taken by Gibson (1992).

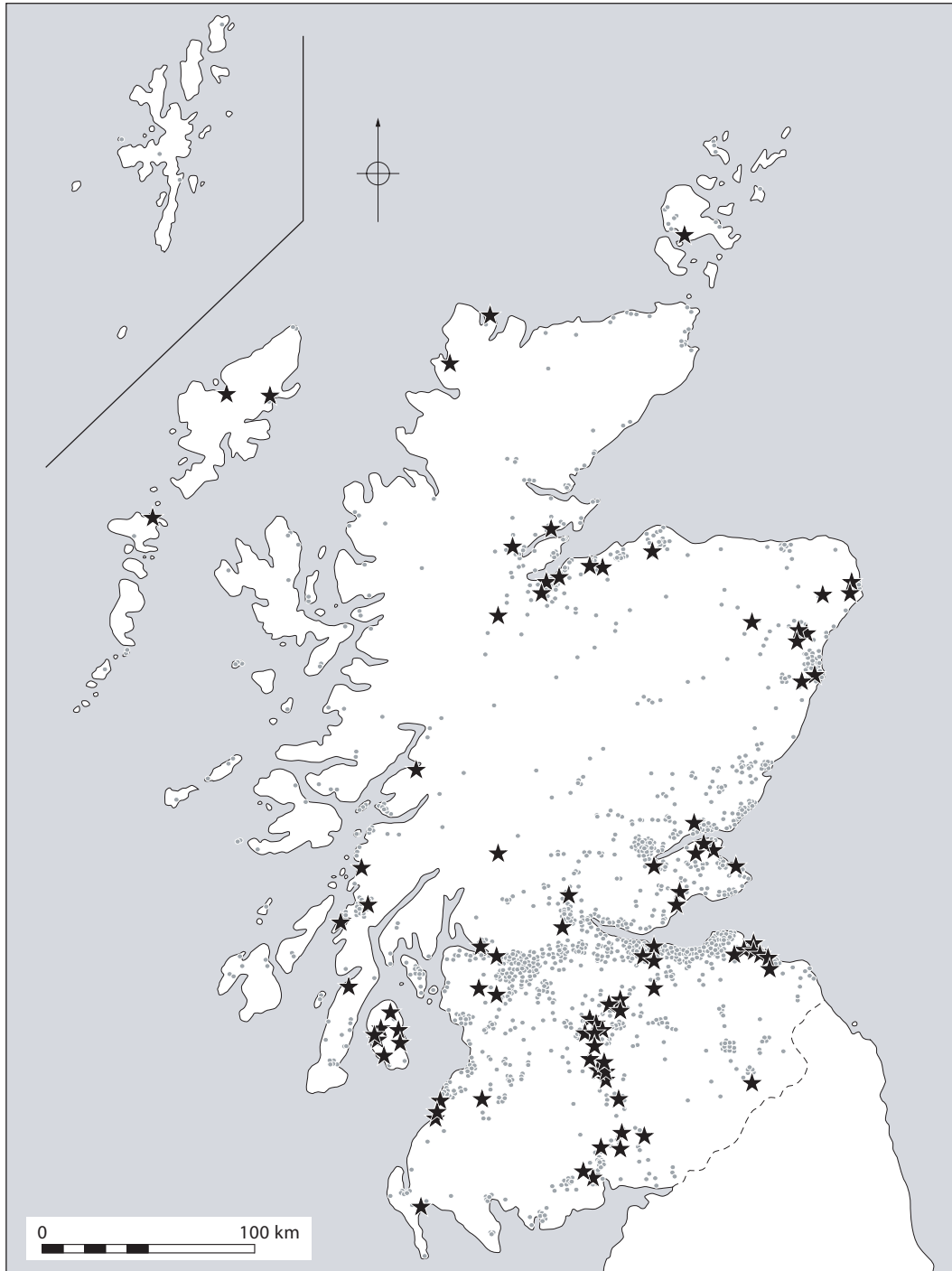
A SUMMARY OF THE BRONZE AGE EVIDENCE

For ease of description the division between the Neolithic and the Bronze Age is defined by the appearance of Beaker pottery, following the scheme used by Edwards and Ralston (2003). The distribution of Bronze Age sites revealed by developer-funded fieldwork (illus 5) resembles the Neolithic pattern (illus 4), which, over such a large region, suggests some continuity of activity. Pre-afforestation surveys in marginal areas have revealed integrated agricultural landscapes with settlements, clearance cairns and field systems. Some of these could well

date to the Bronze Age, but some may be later in date, spanning the second and first millennia BC (Cowie & Shepherd 2003). Because of the lack of information, they are considered in a later section under the broad heading of 'Prehistoric' sites.

Activity that can be firmly dated to the Bronze Age comes mainly from southern central Scotland and along the east and west coasts. Settlement evidence is based mainly on lithics, pottery scatters and excavated houses. A number of settlements with structural evidence have been found during developer-funded excavations. At Fox Plantation, Dumfries & Galloway, roundhouses appeared to be associated with a pit-alignment containing Beaker pottery (MacGregor et al 1996). In S Lanarkshire, at Annieston, the houses were also associated with a number of pits, one of which contained Beaker ceramics (Neighbour 1995). Middle Bronze Age roundhouses and similar circular structures have been excavated at Lamb's Nursery (Cook 2000a), and a Late Bronze Age roundhouse settlement was discovered at Ednie, near Peterhead (Strachan & Dunwell 2003). At Garvald Quarry, it would appear that a Bronze Age structure had been purposefully burnt down (Duncan et al 1998). At Forest Road (Cook 2001) and Deer's Den (Alexander 2000), Kintore, a large number of excavated roundhouses provide a structural sequence extending from the Early Bronze Age to the Iron Age (Cook & Dunbar 2004).

A distinctive feature of the Scottish landscape is the 'platform settlement' where roundhouses were constructed on hillside terraces (Cowie & Shepherd 2003, 158). Developer-funded projects shed some light on these sites. At Elvanfoot, on the M74 motorway, an unenclosed platform settlement was dated between 1880 and 1510 BC (Terry 1993). Excavations at Lintshie Gutter, S Lanarkshire, dated a settlement of the same type to the Middle Bronze Age (Terry 1995). The Arisaig to Kinsadel road improvements, Highland, encountered a small stone structure built against a rock face (Halliday 2001), beneath which were earlier stone structures, and



ILLUS 5 Bronze Age evidence (overlaid on illus 1)

a radiocarbon date between 1380 and 1040 BC was associated with deposits at the base of the sequence.

Two Historic Scotland-funded projects have revealed important settlement evidence. At Carn Dubh, Perth & Kinross, a roundhouse constructed in the Late Bronze Age was associated with agricultural activity (Rideout 1995). The investigation of part of a surviving prehistoric landscape at Tulloch Wood, Moray, recorded a Bronze Age co-axial field system (Carter 1993), which was associated with a clearance cairn and a contemporary hut circle. At both this site and Carn Dubh agricultural activity and settlement continued into the Iron Age.

The environmental evidence suggests a great deal of local variation, with mixed agriculture at some sites, specialist pastoralism at others, and the continuing exploitation of wild resources. Barley and emmer wheat are the main cereal crops recovered on the Bronze Age sites, such as the settlement at Deer's Den on the A96 Kintore Bypass, where evidence for weeds of cultivation and waste ground was also present (Atkinson 2000). There is limited evidence for the cultivation of domesticated oats. They were associated with the Middle Bronze Age settlement of Lamb's Nursery (Cook 2000a). At the platform settlement of Lintshie Gutter, S Lanarkshire, small quantities of grain were recovered (Terry 1995) but the lack of quern stones suggested that this may have been a specialist pastoral site. There was a predominance of barley in the Bronze Age features at Ratho, but smaller amounts of emmer wheat and oats were represented (Smith 1995).

This evidence can be compared with that derived from Historic Scotland-sponsored projects. Oats, barley and cultivated flax were recovered from the Late Bronze Age settlement at Carn Dubh (Rideout 1995), and there was also evidence for intensive woodland clearance through fire, grazing and the establishment of grassland.

Burnt mounds are ubiquitous in the British Bronze Age. At Drumoig an example with a

preserved wooden trough was associated with a group of ring-ditch houses (Simpson 1997). Two were excavated at Beechwood Farm, Inverness (Cressey & Strachan 2003), where they were dated to the Early Bronze Age. Another burnt mound was excavated at Kirkhill Farm, Dumfries & Galloway (Pollard 1993). Other aspects of Bronze Age life have been revealed by developer-funded fieldwork. At Rough Castle, Falkirk, a cobble layer discovered beneath peat has been interpreted as a ford across a filled-in water channel (Hamilton et al 2001). This was dated to the early first millennium BC. Historic Scotland funded the excavation of a log boat in a waterlogged context in the Tay estuary at Carpow (Strachan & Glendinning 2002), and the boat was subsequently radiocarbon-dated between 1220 and 910 BC. It is not clear how most of these features were related to the settlements of the same period.

The evidence from the few excavated monuments such as Wellbrae (Dunwell 1991) and Loudon Hill (Atkinson 2000) suggests continuity from the Neolithic period. At Drumoig, Fife, the Bronze Age settlement may have been associated with a palisaded enclosure, but that feature was not securely dated (Duncan et al 1998). Ceremonial sites also remained in use, or were deliberately reused. For instance, the site of the post-built cursus at Kilmartin was chosen as the position of an Early Bronze Age timber circle (Terry 1997). At Eweford, a ring cairn was constructed next to the Neolithic monument (MacGregor & Shearer 2002).

Pits with specially-placed deposits, especially Beaker pottery, have been found across the central and southern regions. Beaker pits were associated with a previously known cremation cemetery in a developer-funded project at Drumchapel, Glasgow (Cullen 1997). Other examples were at Garvald Quarry (Duncan et al 1998) and at Thistly Cross/Spott Road on the A1 upgrading scheme, E Lothian (Sneddon 2003). Investigations along the line of the Kelvin Valley Sewer at Inchbelle Farm, East Dunbartonshire found evidence for the formal

deposition of Cordoned Urns (Massen & MacSween 2002).

Few standing monuments have been discovered recently. On the route of the M74 Motorway at Stoneyburn Farm, S Lanarkshire, two small cairns covered cremation burials (Banks 1995). Developer-funded excavation at Cairnwell, Aberdeenshire, revealed a complex sequence starting in the Neolithic period (Rees 1997), in which a stone circle contained a later timber enclosure. This was eventually replaced by a Bronze Age ring cairn. Historic Scotland has also funded fieldwork which has resulted in the discovery of standing monuments. At Achinduich, Creich, a kerbed cairn covering a cist with Beaker and Food Vessel pottery was constructed over some earlier pits (McCullagh & Tipping 1998). At Mousland, in Orkney, an earthen burial mound with a stone kerb covered a cist (Downes 1994).

Cist cemeteries cluster in low-lying areas along the east coast from the Borders to the Moray Firth. These are mainly flat cemeteries, but at Leven, Fife (Lewis 2002), and Seafeld West, Inverness (Cressey & Sheridan 2003), the cemeteries were enclosed within a ring-ditch. At both these sites further cist burials had been inserted outwith the enclosures. Inhumations and cremations are represented, sometimes in the same cemetery. Urned cremation cemeteries have also been excavated. At Kirkton of Cults, Fife, the urns had been placed in pits (MacGregor & Jones 1996), but at Elgin they were enclosed by a ring-ditch (Suddaby 2002). An open cemetery of almost 40 cremation pits was excavated at Skilmafilly on the St Fergus to Aberdeen Pipeline (Cameron 2001), including both urned and unurned cremations. Similar information comes from two projects funded by Historic Scotland. There may have been another cist cemetery at Carronbridge, Dumfries & Galloway (Johnston 1994), and on the A836 at Lairg, Sutherland, an urned and an unurned cremation had been placed within another ring-ditch (Robins 1996).

The discovery of cemeteries within, or associated with, ring ditches is important as

it can be difficult to know if some sites once included above-ground monuments. There was no evidence for a destroyed cairn in these particular cases, but in the Kilmartin Valley (Terry 1997) cist burials were associated with nearby cairns. At Hoprig, Scottish Borders, the cist was inserted into the centre of a ring-ditch (Rees 1999). On the North-West Ethylene Pipeline at Elmwood Nursery, S Lanarkshire, there were two inter-cutting multiple cremation burials, one of them in a cist (Armit & Neighbour 1992). This may have formed part of a larger cemetery.

There is similar evidence from a number of projects funded by Historic Scotland. Cist burials were associated with nearby cairns at Sanaigmhor Warren on Islay (Cook 1999). At Mains of Balgavies in Angus (Eames 1990) and Kilmartin Farm in Glen Urquhart (Wordsworth & Harden 1994) the cists had been inserted into the tops of natural mounds. At Ascog, in Bute, the cist was in a level area at the highest point of a beach (Proudfoot et al 1996).

Sometimes the burials were located in relation to an existing monument, or monuments, as happened on the developer-funded site at Upper Largie in the Kilmartin Valley (Terry 1997). Burials of similar date were close to the Neolithic monument at Eweford (MacGregor & Shearer 2002). All the cist burials associated with Beaker pottery are inhumations, while those with Food Vessels can be either inhumations or cremations (Holden & Sheridan 2001). The cremations deposited in pits are associated with Beaker ceramics at Wellbrae (Dunwell 1991) and with Food Vessels and Cordoned Urns on other sites.

Projects funded by Historic Scotland supply further examples. A particularly rich cist burial was investigated at Rameldry Farm, Fife (Baker, Sheridan & Cowie 2003). This included a bronze dagger of Milston type and V-perforated buttons of Whitby jet. An unusually small cist was excavated at Balblair, Beaully, which contained a Beaker (Hanley & Sheridan 1994). At the Mill Road Industrial Estate,

W Lothian, burnt and unburnt bone represented the remains of five children and one adult (Cook 2000b). At Glennan, Argyll, an urned cremation was excavated in a boulder shelter (MacGregor 2003). Examination of the deposits in cists exposed by reservoir erosion at West Water, Scottish Borders, revealed *Filipendula* type pollen (Hunter 2000). At Doons Law, Berwickshire, the pollen count included large amounts of *Filipendula* type and Brassicaceae (Clarke & Hamilton 1999). Indeed, this was the largest sample of Brassicaceae ever discovered in a Scottish cist burial. This evidence suggests that floral tributes were deliberately deposited with the dead (Tipping 1994).

A SUMMARY OF THE IRON AGE EVIDENCE

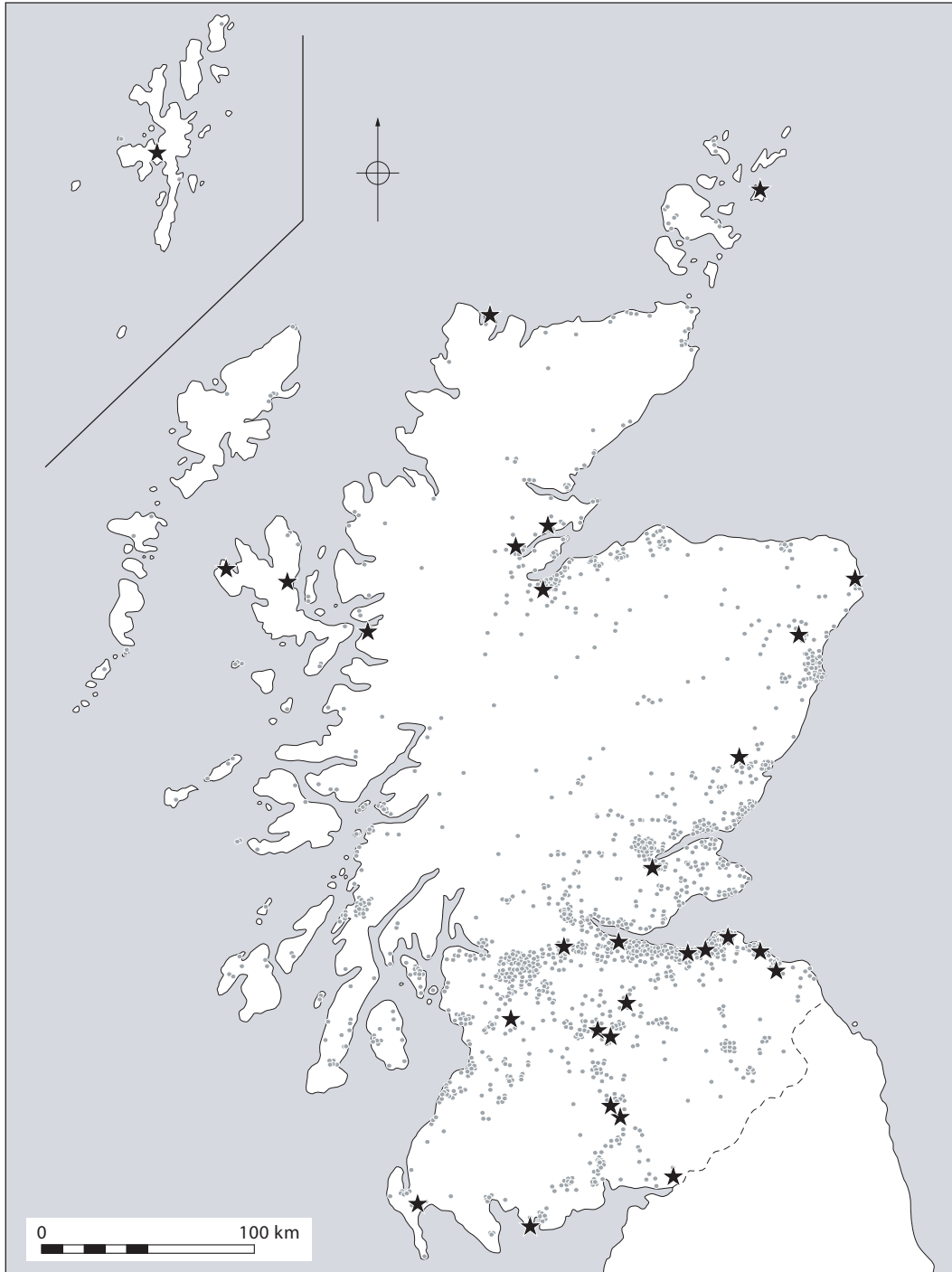
Developer-funded excavations have recovered most Iron Age material from coastal regions. The exceptions are a few inland sites on the east coast and along the line of the M74 in the south-west (illus 6). The same pattern can be seen in the later Iron Age (illus 7) and raises question of archaeological visibility. The paucity of Iron Age pottery on excavated sites presents a problem unless the excavated features are radiocarbon dated. Clearly many of the Iron Age settlements were integrated into the agricultural landscapes that have been recorded by field survey, but this evidence can be difficult to date with confidence and may represent a palimpsest originating in the Bronze Age, or even earlier. It will be discussed in the next section.

Several settlement excavations have been funded by developers, and the basic domestic structure is the roundhouse. Three examples at Novar Windfarm, Highland, were associated with an area of clearance cairns covering nearly 2ha (Wordsworth 1997). One produced a radiocarbon date between 770 and 380 BC. On the Isle of Arran, another roundhouse had an attached souterrain (Mudie 2001). A post-hole

structure at Brechin, Angus, was also associated with a souterrain (Baker & Moloney 1998), as was another, funded by Historic Scotland, at Newmill, Perth & Kinross (Watkins 1980). Perhaps the largest unenclosed settlement has been located at Kintore, Aberdeenshire. Several seasons of excavation have taken place here (Alexander 2000, Cook & Dunbar 2004) and 8.75ha have been investigated, leading to the discovery of a long sequence of roundhouses whose history extends from the Early Bronze Age to the late pre-Roman Iron Age. This is a unique site in Scotland due to the size of the area investigated.

Similar evidence comes from projects funded by Historic Scotland. At Carn Dubh there were signs that settlement continued after the Late Bronze Age (Rideout 1995). Within a shell midden at Coroghon Mòr on the Isle of Canna was a roundhouse which had burnt down, the collapsing roof crushing a number of Iron Age pots (Spearman 1992). Souterrains have been found without any associated structures, as at Shanzie, Perth & Kinross (Coleman 2000). Another, built out of timber, has been excavated at Nether Kelly, Angus (Carter 1992). There may have been important differences between individual sites. At Ross Bay, Dumfries & Galloway, settlement features were accompanied by grains of emmer and einkorn (Parry 2003). This site has been dated to the Early Iron Age. On the other hand, very little grain was recovered at Uppercleuch, Dumfries & Galloway. There were no querns in the artefact assemblage and the excavator suggested that the site was used by pastoralists (Terry 1991).

Enclosed settlement is well represented in the results of developer-funded excavations, such as Eweford Road, Dunbar (Innes 2003), and Albie Hill, Dumfries & Galloway (Strachan 1994). Many sites were occupied for long periods. The valley-side enclosure at Phantassie Farm, E Lothian, showed a lengthy sequence, in which a large rectangular building was eventually replaced by a circular structure (Lelong 2002).



ILLUS 6 Iron Age evidence (overlaid on illus 1)

Historic Scotland-funded projects include Balloan Park, Inverness, where excavation revealed Iron Age settlement features outwith a palisaded enclosure (Wordsworth 1999), and the Fisher's Road enclosure in E Lothian experienced an equally complex history (Haselgrove & McCullagh 2000). St Germain's, E Lothian, started as an open settlement and was enclosed at a later date (Alexander & Watkins 1998). In the Roman period the enclosure was rebuilt on a defensive scale, then, in the late first or early second century AD, it reverted to an open settlement.

There is growing evidence of interaction with the Roman world. The Pathhead Roman temporary camp in Midlothian had a 'native' enclosure as an annexe (Leslie & Will 1998). A Roman military camp was constructed on the site of a native settlement at Kintore (Alexander 2000) and also at Smeaton in Midlothian where one overlay prehistoric features (Dunwell 1995). A similar pattern was identified in a project funded by Historic Scotland on a pre-Roman enclosure at Carronbridge. Again occupation continued into the Roman period and a temporary Roman camp was constructed nearby (Johnston 1994).

Historic Scotland-sponsored excavation on an unusual site at Candle Stane in Aberdeenshire revealed a large circular timber structure dated to the Iron Age built beside a recumbent stone circle (Cameron 1999). A similar sequence has been identified at the Strichen recumbent stone circle, Buchan, where an Iron Age roundhouse appears to have been constructed inside the monument itself. This was demonstrated by research excavation during the early 1980s (Phillips et al, forthcoming).

Environmental analyses at Inchtute, Perth & Kinross (Miller & Ramsay 2001) and at the enclosed settlement at Uppercleuch (Terry 1991) show that barley and emmer wheat were the main cereal crops. At Inchtute there was evidence for the cultivation of oats and small amounts of einkorn, which is rare in prehistoric Scotland (Miller & Ramsay 2001). Ergot fungus was

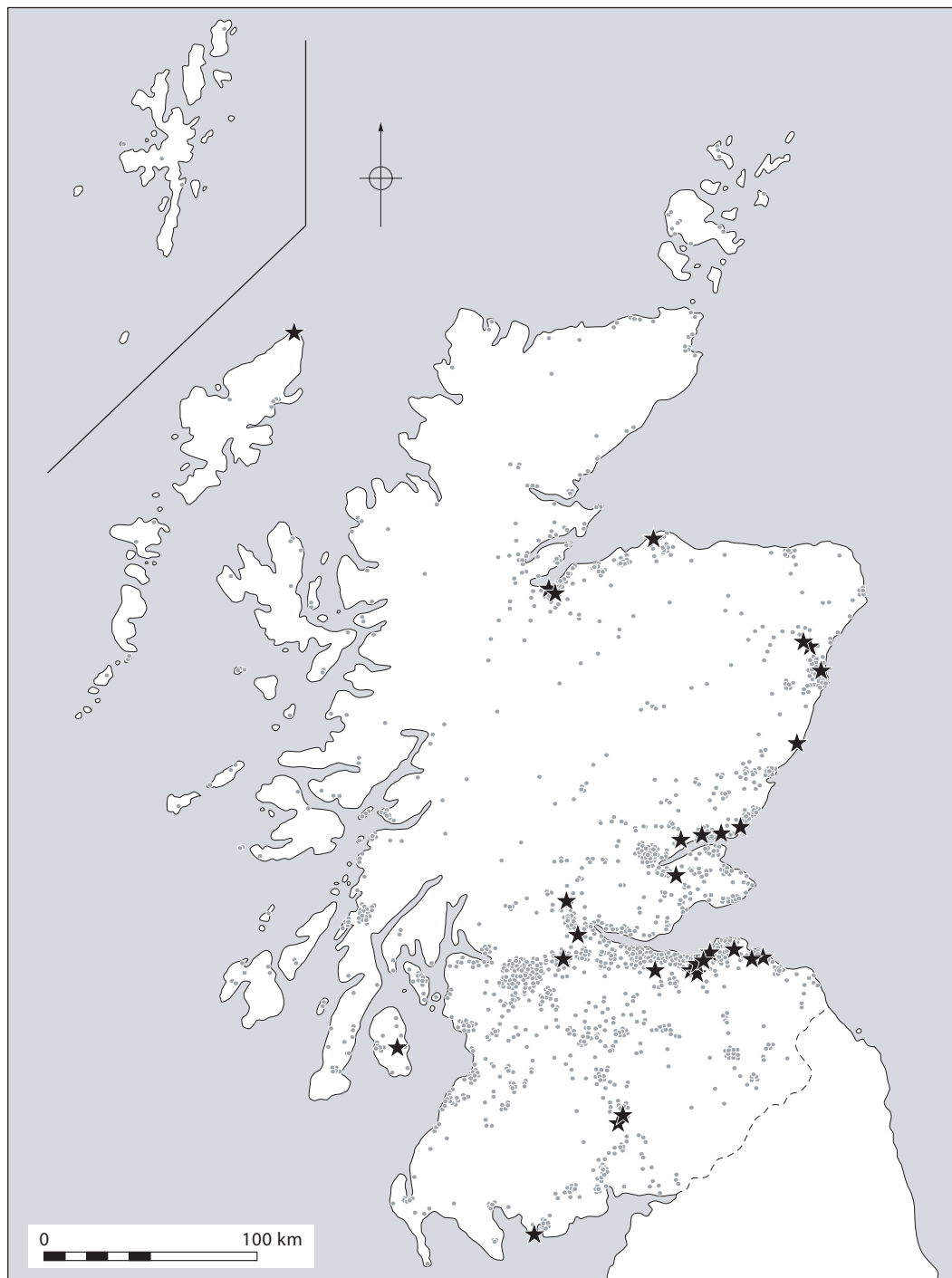
present at Uppercleuch (Terry 1991). Evidence for cultivated barley was also recovered from a midden and a nearby cist at Galson on Lewis in fieldwork funded by Historic Scotland (Neighbour et al 2000).

Developer-funded excavations have revealed other aspects of the Iron Age economy. There was evidence for coppiced hazel at the enclosed settlement of Woodend Farm, Dumfries & Galloway (Banks 2000) and excavation of the Smoo Cave near Durness in Sutherland recovered fish and mammal bones from a shell midden where they occurred together with a quern stone (Pollard 1992). This suggests that fishing and shellfish collection were integrated with agriculture. Another activity that may have been practised in the Iron Age was peat cutting. This was suggested by truncated cores taken from North Ballachulish Moss, Highland (Clarke 1998), and Auchencrosh near Ballantrae (Clarke 2001). The cutting and stacking of peat in the Bronze Age has already been documented in the Outer Hebrides (Branigan et al 2002).

Areas were still being cleared in the first millennium BC. This is evidenced by a pollen core taken near Arisaig on the developer-funded A830 road scheme (Clarke 2000a). However, the pollen evidence from Drumchapel suggested that here there was little change throughout the prehistoric sequence and that the local vegetation consisted of an open environment with patches of shrubland (Cullen 1997).

Few Iron Age field systems have been excavated; indeed, such features can be frustratingly difficult to date (Harding 2004, 72). Two possible examples are from developer-funded projects at Drylawhill, East Lothian (Masser 2002), and the service station at Gretna/Kirkpatrick Fleming, Dumfries & Galloway (Banks 1992). Post-holes and pits were also associated with the latter site, and a trackway appeared to lead to a nearby hilltop enclosure.

The tradition of burial in long cists certainly started in the Iron Age and it extended well into the early medieval period, but, in the absence of



ILLUS 7 Later Iron Age evidence (overlaid on illus 1)

artefacts and radiocarbon determinations, these can be difficult to date. Evidence for Iron Age burials has been found in developer-funded projects around and beyond the Firth of Forth. Close to Dundee, a long cist was associated with a settlement site (Centre for Field Archaeology 1994b). A short cist containing a child burial was excavated by a developer-funded project at Kingsbarns, Fife (James 2001) and excavations near Alloa have discovered a 'warrior' burial in a stone-lined grave (Mills 2004), which is provisionally dated to the first centuries BC/AD. Close to Dunbar a long cist of coursed masonry contained an inhumation dated to the first two centuries AD (Baker 2002). Perhaps the most exciting funerary discovery has been the cart burial at Newbridge, Edinburgh (Baker 2001).

More Iron Age burials come from projects sponsored by Historic Scotland. Individual long cists have been found in several areas, for example near to Arbroath (Duffy 2002). On Lewis, a Middle Iron Age cemetery contained one inhumation in a long cist and a number of cremations in a stone-lined ditch (MacLeod 2000). At An Corran, on Boreray in the Western Isles, a short cist was associated with a nearby settlement (Badcock & Downes 2000).

Extensive long cist cemeteries dating to the post-Roman period have been discovered in developer-funded fieldwork in Angus (Rees & Cameron 1998). At Thorneybank, Midlothian, an excavated cemetery contained the remains of over 100 burials (Rees 2002), two of which were contained within small square ditched enclosures and one within a four-post structure. The radiocarbon dates from this site clustered between AD 450 and 550.

Similar evidence has been recorded in work funded by Historic Scotland at Avonmill Road, W Lothian (Dalland 1993), although this site may date to the early Christian period. It has also sponsored work at the Pictish cemeteries at Hermisgarth on Sanday, Orkney (Downes 1998), and at Lundin Links, Fife (Will 1996). A cairn and a pyre were associated with the former site.

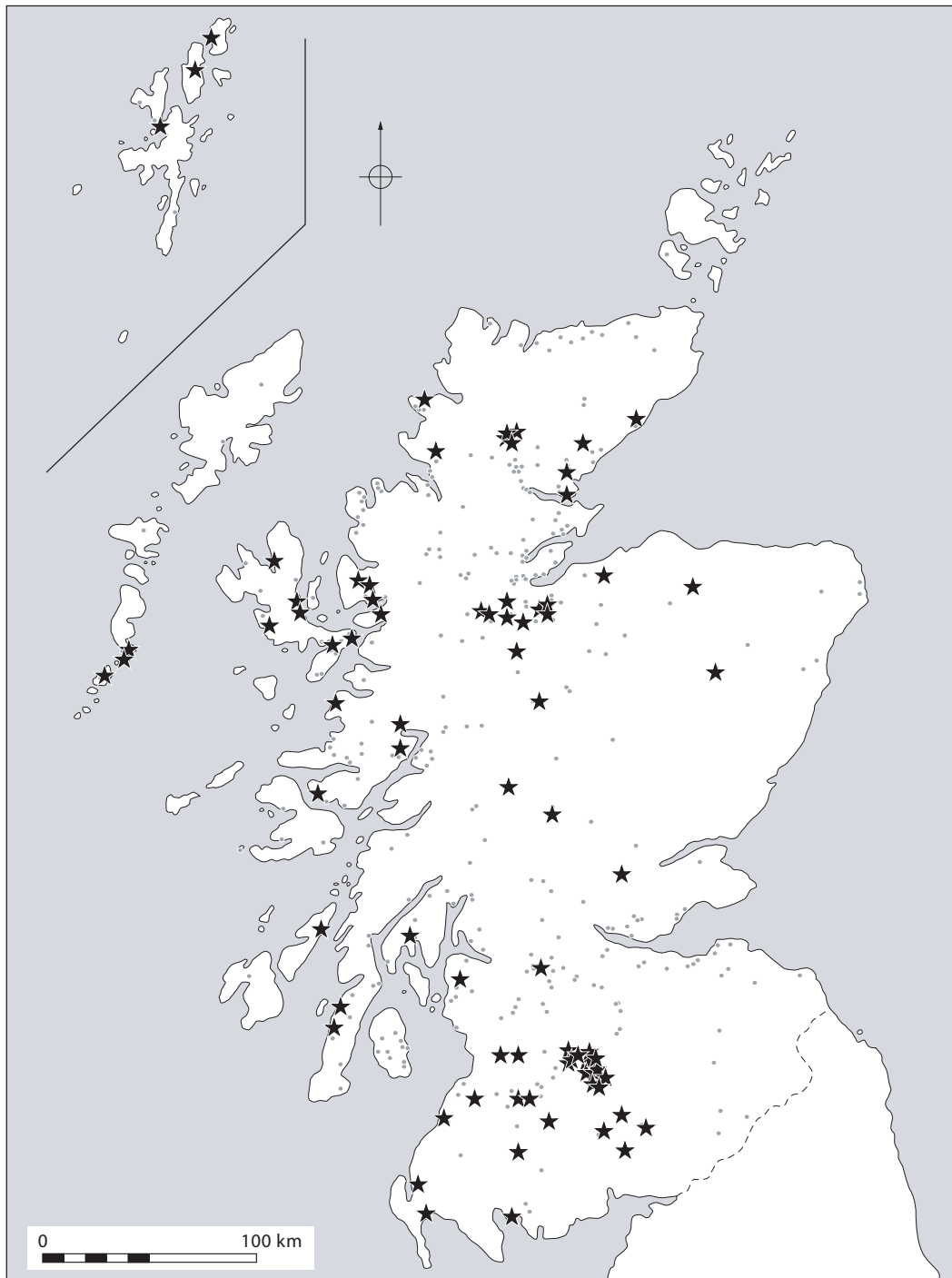
A SUMMARY OF THE REMAINING PREHISTORIC EVIDENCE

This section deals with the evidence that has not been dated to a specific prehistoric period. It relates mainly to field surveys, but there are some data from excavations. Field surveys record the physical evidence of archaeological features visible on the surface, but the landscapes recorded by field survey are complex and may have been altered in later episodes of land use (Halliday & Stevenson 1991, 135). The visible remains are often difficult to date and many probably result from activity throughout the later prehistoric period, from the second millennium BC into the first millennium AD. Some features may be even older.

'Prehistoric' remains have been recorded by field surveys in parts of Highland, south-west of the Moray Firth, along parts of the west coast and in south-western Scotland (illus 8). They include marginal areas not affected by other types of development. The major gaps are in the south-eastern area of the Scottish Borders, eastern Scotland, much of the interior of the Highlands, inland from the west coast of Argyll and Highland, and the Northern and Western Isles.

The features recorded include roundhouses, sometimes in groups, clearance cairns, burnt mounds, field systems and enclosures. Larger circular cairns have also been identified and may have been funerary monuments. Many of the features occur in apparent isolation, but others appear to form parts of integrated prehistoric landscapes. The developer-funded survey at Balblair Wood, Beauly, Highland, identified houses, burnt mounds and nearby field systems and clearance cairns (Neighbour 2000). Roundhouses were identified inside the enclosure at Coats Hill (Armit 1992), but other enclosures were apparently empty and may be related to stock control.

Such evidence is rather limited compared with the findings of projects funded by Historic Scotland. At Kilwhannel High Plantation in



ILLUS 8 'Prehistoric' evidence recorded by developer-funded field surveys 1990–2003 (overlaid on illus 2)

S Ayrshire, a group of roundhouses was associated with a field system and clearance cairns (Neighbour 1993). Similar associations were identified at Garlogie Wood, Aberdeenshire (O'Sullivan & Duffy 1994) and Rattal Farm in Angus (Lelong 1999). Field systems with clearance cairns and associated settlements have also been identified at Achrasker, Reay, Highland (Smith & Rankin 1995), and at Ratch Hill in Aberdeenshire (Carter & O'Sullivan 1995)

Excavated prehistoric field systems cannot always be dated to a specific period, but developer-funded work near Loch Ashie, Highland, did identify poorly preserved walls and associated clearance cairns (Suddaby 2001). At Dirleton, E Lothian, lines of pits and post-holes were interpreted as later prehistoric field boundaries (Baker & Moloney 1999). Fence lines were identified at Hatton Mill, Angus (Neighbour et al 1992). A trackway was associated with a ditched field system at the Maybury Business Park, Edinburgh (Collard 1992). Ard marks have often been recorded, but more recent examples have been identified at several sites on Arran (Baker 1999; Taylor 1996; Donnelly et al 1999) and at Lumphinnans in Fife (Moore & Wilson 1995).

Similar evidence comes from projects funded by Historic Scotland. At the Moss of Achnacree, Argyll, one component of a prehistoric field system was excavated (Dalland 2001), and ard marks provide further evidence of land use. They were also discovered in excavations at Balloan Park, Inverness (Wordsworth 1999).

Field survey has demonstrated that large areas of marginal land were occupied in the prehistoric period, but not everywhere was settled during prehistory. It must be emphasized that only about a quarter of these surveys have recorded any new prehistoric evidence (Table 1). Although the extent of known settlement has widened, some regions were unattractive. Palynological investigations on the A86 by Loch Laggan, Highland, help to put this in context (Clarke 2000b). This is a marginal area

of steep rocky ground that does not include many prehistoric monuments. Analysis of a peat core concluded that there had been no human modification of the landscape during prehistory.

PART TWO

DEVELOPER-FUNDED PROJECTS AND RESEARCH ON SCOTTISH PREHISTORY

Richard Bradley

The increase in developer-funded archaeology has come at a time when a smaller number of field projects is being funded as research projects. Only limited sums are available from bodies like the British Academy, and archaeologists working in universities are less able to conduct fieldwork than was the case twenty years ago. The same applies to the staff of public bodies such as museums. Most excavations are now conducted as part of the planning process, and the second part of this paper considers their impact on our understanding of prehistoric Scotland. What are the developments that shed new light on old problems, and which topics are becoming important for the first time? Naturally, this is a personal perspective, but it is based on a similar survey of the results of commercial archaeology throughout Britain and Ireland and draws on work in progress towards a synthesis of their prehistory from the Mesolithic period to the Iron Age (Bradley in prep).

There are four areas that need to be considered: changes in the distribution of archaeological evidence; changes of chronology; the recognition of new kinds of prehistoric monuments; and new perceptions of how developments in different regions of Scotland might be related to those in other parts of these islands. They can be considered both in general terms and within the period framework followed in Part One of this paper.

The first point is the least contentious. Most developer-funded excavations have been taking place in areas that had no well-defined

archaeological record when Scottish prehistory was synthesized in an important volume published in 1962 (Piggott 1962). There were chance finds of artefacts and burials from valleys and coastal areas, but until the general application of aerial photography these were difficult to relate to a largely upland distribution of standing monuments. That is no longer the case. Rather than complementing the distribution of monuments, the lowland areas contain others of their own. Some are similar to the type-sites on which reconstructions of prehistoric life were based, but others take unfamiliar forms and are still quite difficult to relate to those that were already known. The discoveries made during developer-funded projects rarely involve substantial discoveries in regions where there was no material before. Rather, they extend the patterns that were already recorded and give them added definition. That is especially important in fertile lowland areas where the most attractive soils have always been exploited, meaning that prehistoric remains are normally ploughed out (Barclay 1992).

Second, the great increase in archaeological fieldwork over the last few years came at a time when methods of absolute dating were well established, and thus excavators were well aware of the need to collect appropriate samples. Understandably that had not been the case until the 1970s, and, even then, too few were collected and submitted for analysis. They included samples that would now be considered inappropriate: bulk samples mixing material of different origins; fragments of burnt wood that could have been centuries old when they were deposited; pieces that were only loosely related to the events that were being studied. During the 1990s the situation was improved by the use of small samples for AMS dating (Ashmore 1999; 2004a; 2004b), and now there are further advances through the direct dating of cremated bone (Sheridan 2003). The archaeological community was able to provide securely stratified material with which to build up an absolute chronology for prehistoric Scotland.

It is difficult to achieve the same in England, because not all radiocarbon dates are published, and even when they are their contexts are rarely described in sufficient detail for the results to have much impact.

The third and particularly important point concerns the identification of different kinds of monuments. There have always been two dangers. One is of trying to characterize the unfamiliar by reference to the archaeology of distant, but well researched areas, usually the archaeology of lowland England. As a result the Scottish monuments were not considered in their local contexts, and even the ideas concerning their interpretation might be imported from the south. In the process Scotland was sometimes treated as a periphery of Wessex (Barclay 2000; 2001). The second danger was seeking to characterize plough-levelled sites by reference to the standing monuments that still survived, sometimes on marginal land. That tended to obscure an important source of variation. For example, lowland Scotland contains a variety of elongated Neolithic enclosures, while the nearest equivalents in the uplands seem to be mounds and cairns.

Taken together, these observations lead to a fourth point. For many years prehistoric Scotland was assigned to Cyril Fox's Highland Zone (Fox 1932), and even more recent territorial schemes, like that developed by Stuart Piggott (1966) for the Scottish Iron Age, tended to impose 'natural' topographical divisions on an incomplete distribution of sites and monuments. The situation has improved with more recent excavations and field surveys, as well as by newer studies of portable artefacts. Now it seems clear that the right way forward is not to study the archaeological record within predefined areas, but to use it to work out where any divisions actually existed in the past. Sometimes that procedure emphasizes the specifically local, as it does in north-east Scotland during the Early Bronze Age (Needham 2004), but in other cases it suggests that areas cannot be considered in isolation. For example, some elements of the

Kilmartin complex may be as closely related to prehistoric Ireland as they are to the prehistory of Britain (Bradley 1997, ch 7). Similarly, during the Neolithic period there may have been more in common between regions along the North Sea coast from Yorkshire to Aberdeenshire than there was between communities in Orkney and Shetland (Greig et al 1989).

With this as background, is it possible to identify the new elements defined by developer-funded archaeology, and how do they differ from those identified by other kinds of research? These questions are best studied within a period framework.

In some ways knowledge of the Scottish Mesolithic had been biased by two factors: the changes of sea level that mean that large areas of the original coastline are preserved, and the influence of early work on the Obanian 'culture' (Mellars 1987). Both combined to give the impression that Mesolithic activity was predominately coastal, as also seemed to be the case in Northern Ireland (Woodman 1978). One effect of developer-funded fieldwork has been to show that the distribution of Mesolithic activity extended into inland areas, as Kevin Edwards had predicted in 1989. That is consistent with the results of pollen analysis. Occupation sites on the shoreline were undoubtedly important, but studies of the associated artefacts and the materials of which they were made suggest that there may have been networks of sites within particular regions, such as the Southern Hebrides, the Ayrshire coast and the Solway Firth (Finlayson & Edwards 2003, 120). Moreover, the specialized status of the Obanian has also been reconsidered. At An Corran, on Skye, salvage investigations in advance of road-widening located a rock-shelter containing a shell midden (Saville & Miket 1994). Obanian bone tools and a microlithic industry were stratified together. The Obanian can now be seen as one aspect of the Scottish Mesolithic, rather than something more distinctive (Bonsall 1996). That is especially important as it had always been tempting to make comparisons with

the later Mesolithic period in Ireland, whereas recent work shows that the material culture of these two areas was quite distinct.

In fact it was during the earlier Mesolithic that Scotland and Ireland had most in common, and in both countries there is evidence for substantial domestic buildings that do not have any counterparts in later phases. It is not clear whether these sites were occupied over longer periods than others, but the circular house at North-East Quarry, Dunbar, is very similar in form and date to those at Newferry in Northern Ireland (Woodman 1977) and Howick in north-east England (Waddington 2003).

At most of the sites investigated during developer-funded fieldwork the Mesolithic artefacts occur in isolation, although they can be found with Neolithic and Bronze Age material around the edges of the Southern Uplands. The very fact that this is unusual argues against the idea that Neolithic material culture was adopted by the indigenous population along with the earliest domesticates. That hypothesis has been influenced by the archaeology of South Scandinavia (Thomas 1988) but the only other part of Scotland where that comparison is possible is along the west coast where Neolithic artefacts are quite often found with Mesolithic material at what may have been specialized sites (Armit & Finlayson 1992). That region cannot provide the basis for any model of general application. Although radiocarbon dating suggests that a few sites did span the period boundary, analysis of the human bones found there suggest that there was a shift from fishing to the use of terrestrial resources (Richards 2004).

Radiocarbon dating makes another important contribution to this debate. Developer-funded projects have found Neolithic carinated bowls in many parts of Scotland, and museum research and older excavations have produced more examples (Cowie 1993). Recent fieldwork has also provided samples for radiocarbon dating, and the results show the same emphasis on the early fourth millennium BC. This is consistent

with the pattern throughout Britain and Ireland and it suggests that Neolithic material culture was adopted rapidly not long after 4000 BC (Ashmore 2004b). There is nothing to suggest that new ideas spread gradually by way of England or Ireland.

One remarkable development of recent fieldwork has been the recognition of pit- and post-alignments which were first built at this early stage. These are important for several reasons. They seem to represent a Scottish variant of the earthwork monument known as a *cursus*, but they are unlike any structures in southern Britain apart from the post-alignments buried beneath the bank barrow at Perry Oaks (Barrett et al 2000). It seems likely that this form of elongated enclosure originated in Northern Britain and that the later examples of this type in Scotland were used at the same time as the causewayed enclosures in the south (Barclay & Maxwell 1998; Brophy 1999). That contrast is important for another reason. Like long barrows, causewayed enclosures are a distinctive form of earthwork which originated in Continental Europe. *Cursuses* have no counterparts on the European mainland and the earthwork enclosures that most resemble them were actually built during the first millennium BC (Roymans & Kortelag 1999). The Scottish monuments are easy to date because those built of timber were often burnt.

The same applies to the distinctive timber halls that have been excavated in recent years, although none has been investigated as part of the planning process (Barclay et al 2002). They are another form of monument that seems to have been peculiar to Northern Britain, although a possible example has been identified from the air outside a causewayed enclosure at Freston in Suffolk (Oswald et al 2001, Fig 3.14). Again they seem to have been a local development, for they are quite different in construction and ground plan from the long houses of Neolithic Europe, which went out of use during the fifth millennium BC. These buildings have been discovered by aerial photography in cultivated

areas, although a similar building or enclosure was found beneath a large circular mound at Courthill, Dalry in Ayrshire during the 19th century (Cochran Patrick 1874). Its date remains uncertain, but like the examples excavated during recent years it had been burnt.

The distinctive character of the Scottish Neolithic is equally apparent from the domestic buildings excavated during recent fieldwork. Some were sturdy constructions, while others left little trace behind. They contrast with the massive timber halls, but they are also different from the stone houses excavated in Orkney. They do not seem to fall into a series of clearly defined types, and it is clear that rectilinear and curvilinear buildings were used at the same time (Barclay 1996; 2003b). It is impossible to compare this evidence with the situation in England and Wales, where few domestic structures have been identified, but the Scottish evidence certainly contrasts with that in Ireland where it has been argued that there is a sequence in which substantial rectangular houses date from the earlier Neolithic and were superseded by slighter round or oval structures during the later Neolithic period (Grogan 1996).

There seem to have been more local developments during the Scottish Neolithic. These have usually been defined in two ways: by the distinctive styles of decorated pottery and by different types of megalithic tomb. Although developer-funded projects like those at Eweford and Pencraig suggest that mortuary monuments may have been more varied than was once believed, it is the combination of air photography and excavation that has led to the definition of a series of smaller regional groups defined by different kinds of monuments, including henges, hengiform enclosures, *cursuses* and recumbent stone circles. Their distributions tend to complement one another and extend along the east coast from Lothian to Caithness (Barclay 2003a). They provide a quite different source of information from the more familiar studies of long barrows and megalithic tombs. On the other hand, these

different types have not been investigated to the same extent and not all of them are closely dated. The cursuses, for instance, date from the earlier fourth millennium BC (Brophy 1999), while the large henge monuments are later (Barclay 2003a). Recumbent stone circles span the conventional division between the Late Neolithic period and the Early Bronze Age (Bradley 2004), and the hengiform enclosures remain undated. The same scheme extends to Clava Cairns whose distribution complements that of recumbent stone circles to the east and hengiforms to the north-west, yet the excavated monuments at the type site of Balnuaran of Clava were built in the Early Bronze Age (Bradley 2000a). Some of these architectural traditions remain to be dated more precisely and to have their bounded distributions explained. Were the latest monuments built in conformity to social divisions that had originated during the Neolithic period, and how far can the same approach be extended to the better-preserved remains of chambered tombs?

Another chronological problem is closer to resolution. This is the dating and sequence of the styles of decorated pottery in use during the Late Neolithic and Early Bronze Age. Such work has depended on samples from recent excavations, in combination with cremated bone collected during earlier projects. The new work has been important for three reasons. First, it strengthens the argument that Grooved Ware was used in Scotland, and possibly in Ireland, before it was adopted in southern Britain (Sheridan 2004). Given the amount of stylistic variation associated with this kind of pottery, it is not clear whether it had a single origin. Secondly, a series of radiocarbon dates has been obtained for Beaker pottery in Scotland (Sheridan, forthcoming). These dates are generally consistent with the expected chronology and cover a shorter time span than the dating programme published by the British Museum which did not support any of the existing schemes (Kinnes et al 1991). That was a notable piece of research but all its results came from a single laboratory. Since they disagree so

radically with those obtained since then, it is possible that the original determinations were flawed. The third development has been a new study of Bronze Age urns based on the direct dating of the associated cremations (Sheridan 2003). These vessels are found with burials but also occur on settlement sites, and a better understanding of their history was long overdue. Again the dating programme made considerable use of samples from excavations carried out as part of the planning process.

Until the advent of developer-funded fieldwork the Early Bronze Age was best known for its burials, many of which were brought to light by cultivation. This revealed a large number of graves associated with pottery, metalwork and personal ornaments, but it was not always clear whether these had occupied the sites of ploughed out barrows or whether they formed part of more extensive flat cemeteries (Cowie & Shepherd 2003). Even now the evidence is not always clear-cut, but recent excavations have certainly shed some light on these questions. It seems clear that some of the burials were in fact associated with ring-ditches, while in other cases they were not. Two recently excavated sites emphasize these important contrasts, for radiocarbon dates show that the open cemetery at Skilmaffilly (Cameron 2001) was contemporary with the ring ditch cemetery at Elgin (Suddaby 2002). The same mixture of round barrows and groups of unmarked cists has been identified along the eastern seaboard of Ireland and sometimes there seem to have been links between the two areas. Such connections have been discussed by Sheridan in the publication of the burials at Seafield West (Cressey & Sheridan 2003).

In common with other parts of Britain, the Early Bronze Age in Scotland may have seen an expansion in the settled area. It is often claimed that in the uplands the remains of round houses, cultivation plots and clearance cairns go back to this time, although in fact some may be considerably later in date (Cowie & Shepherd 2003). These remains are usually recorded by field survey, but in Scotland some projects have

investigated them through excavation. As a result, their chronology is much clearer than it is in England, Wales or Ireland, and certain sites do date from the earlier second millennium BC. The houses are more substantial than the few recorded in England and occur in small groups which were entirely unenclosed. The platform settlements are the easiest to identify because of their distinctive earthworks. Work on Arran suggests why other traces have been elusive, for here it is clear that the sites of early roundhouses were cultivated once the buildings had been abandoned (Barber 1997). The crucial evidence survived because the landscape was eventually buried by peat, but it is a model which might well explain why their counterparts in other regions of Britain have been difficult to identify. On the other hand, that cannot supply the entire explanation, for similar structures are now being found in lowland areas. The long sequence of domestic buildings excavated in developer-funded work at Kintore began during this phase (Cook & Dunbar 2004).

There has been a temptation to divide the period into two halves, an Earlier Bronze and a Later Bronze Age, which were distinguished from one another through important developments in the settlement pattern. Ritual also seems to have changed its principal focus from specialized monuments to the domestic arena. That scheme certainly applies to parts of lowland Britain where there may have been important changes in the landscape (Bradley 2000b). Settlements, some of them enclosed, assumed a more prominent position; large areas were organized into co-axial field systems; and the ceremonial monuments of the Neolithic and Early Bronze Age finally went out of use. None of this is consistent with the results of developer-funded fieldwork in Scotland. There is only one co-axial field system, at Tulloch Wood, Moray (Carter 1993), which resembles those in southern Britain (Yates 1999), and there was no obvious increase in the construction of domestic buildings during the Middle Bronze Age. That contrasts with the situation not only in England,

but also in Ireland where developer-funded excavation have brought a number of these to light. Again they do not seem to be associated with regular field systems.

There is another way in which the results of recent fieldwork in Scotland have confounded previous expectations. In two influential papers, one of them presented to an international audience, Colin Burgess argued that climatic change in the Late Bronze Age made settlement in the north unsustainable (Burgess 1985; 1992). He even declared that no occupation sites of this period had been discovered outside lowland England. That was a possible reading of the published literature of the time, but it is completely contradicted by the results of current fieldwork. Late Bronze Age settlements had certainly been difficult to identify because of the rather undiagnostic ceramics produced during that period, but the problem has been overcome by the use of radiocarbon dating (Sheridan 2003). Not only were these settlements fairly numerous in the low-lying situations investigated as part of the planning process, it is clear that Burgess's arguments for the abandonment of the uplands were very much over-stated (Young & Simmons 1995). In contrast to the situation in England and Ireland, the settlement record from Bronze Age Scotland shows an unexpected degree of continuity and, except on a local level, there are few signs of sudden changes in the landscape.

One development which might have taken place during the earlier first millennium BC was the emergence of large hillforts, but, as standing monuments, these have rarely been the subject of recent excavation. Even so, it is worth noting that at both Eildon Hill North and Traprain Law the use of these sites seems to have commenced in the Late Bronze Age and did not resume until the Roman Iron Age (Harding 2004, 65; Rideout et al 1992, 21–71). These are among a small group of fortified enclosures in southern Scotland and northern England which have been described as 'oppida' (Harding 2004, 64–5), but the term could hardly be

less appropriate as it usually refers to the large nucleated settlements of the La Tène Iron Age. To judge from excavation at Eildon Hill North (Rideout et al 1992), these places may not have been permanent settlements. If more distant comparisons are needed, they might be made with the large Irish hillforts which now appear to be a specifically Bronze Age phenomenon (Grogan 1994).

The twofold division of this period into an earlier and later Bronze Age had one other component. If domestic sites achieved a greater prominence, ceremonial monuments were no longer used. That may be too stark a contrast, even in southern England where the scheme was first devised, but in Scotland it is completely wrong. One result of the recent programme of radiocarbon dating has been to show that older monuments were commonly reused during this period. That secondary phase was often associated with the deposition of human cremations and with the use of a kind of coarse pottery known as flat-rimmed ware. At Loanhead of Daviot (Kilbride-Jones 1935; 1936) and Moncreiffe (Stewart 1985) there was also evidence that older monuments had been used by smiths. It is obvious that many different types of structure were being used or reused during the Middle and Late Bronze Ages, including ring-cairns, kerb cairns, recumbent stone circles, Clava Cairns and other settings of monoliths (Bradley 2004). It has become the conventional wisdom that on such sites timber structures were replaced by those built out of stone, but even this may prove to be misleading. Developer-funded excavation at Cairnwell, for example, showed that at one stage in its evolution the site included a ring cairn and a timber enclosure of Middle or Late Bronze Age date (Rees 1997). Reassessment of the excavated pottery from Croft Moraig, Perth & Kinross, suggests that there a timber circle may have been constructed inside an older stone circle. It was apparently replaced by another stone setting (Bradley & Sheridan in prep), and at Strichen a timber roundhouse was constructed within the

standing remains of a recumbent stone circle (Phillips et al, forthcoming). This runs counter to the orthodox sequence in Britain but again it is very similar to the situation in Ireland where stone rows, stone circles and even henges were still being built in the late second and early first millennia BC (O'Brien 2004; Roche 2004). It is not impossible that Scottish monuments had an equally lengthy sequence, and the small hengiform enclosures normally attributed to the Neolithic period bear a disquieting resemblance to Irish ring barrows, which usually date from the first millennium BC (Raftery 1994, 188–94). This offers one way of interpreting the unexpectedly late radiocarbon dates from the henge at Picts Knowe in Dumfries & Galloway (Ashmore, forthcoming).

It seems ironic that it is only in Iron Age studies that the results of developer-funded projects have been incorporated in a new synthesis (Harding 2004). Most of the projects quoted in detail were undertaken by only one of the commercial firms operating in Scotland, but this is an improvement on the situation in the south where the fourth edition of Cunliffe's *Iron Age Communities in Britain* overlooks practically any fieldwork that has not seen full academic publication (Cunliffe 2004). Harding's initiative is important because the scope of his study is not confined by national boundaries and takes in northern England. He describes a series of regional traditions, at least as various as those illustrated by Neolithic monuments, and traces their development over time. He takes no account of the conventional division between prehistoric and early historical archaeology and his discussion of the Later Iron Age extends into what is conventionally described as the Pictish period. That is extremely helpful. His book draws on a considerable body of information, not all of it fully published, and makes it easier to assess the impact of the fieldwork carried out in relation to the planning process.

Harding describes several rescue excavations at brochs and related monuments in the Northern and Western Isles and provides a useful account

of the work funded by Historic Scotland at the hillfort of the Brown Caterthun, Angus. He also discusses excavations occasioned by commercial development which are almost entirely in lowland areas. His account considers four aspects of this work: the regional styles of timber round houses; the various forms of open and enclosed settlements; the dating and purpose of souterrains; and the burials associated with long cist cemeteries and with square and circular barrows. All these are important issues, but few play a major role in his interpretation which still depends on the results of research excavations and field survey, supplemented by aerial photography. This is ironic as Harding is one of the few scholars to take into account the results of developer-funded excavations, but his discussion is based largely on studies of well preserved monuments. He does consider important issues that arise from recent fieldwork, in particular the significance of the Newmills cart burial and its Continental parallels and even the possibility that the square barrows in eastern Scotland might have been influenced by the Arras Culture in Yorkshire, yet it seems as if the poorly preserved evidence from the lowlands plays a subsidiary role. That is surprising since these were the areas that could most easily support prosperous farming communities who could live there all year round. It is a moot point how many of the upland monuments that feature in his account were occupied only seasonally (Halliday 1999).

This illustrates a paradox that is present in every aspect of Scottish prehistory. Many field monuments are impressive and well preserved, and since the 19th century they have provided the basis for a series of syntheses, from megalithic tombs to hillforts, and from stone circles to crannogs. At the same time, much of this evidence might prove to be exceptional simply because it is from areas in which the remains of occupation sites and monuments still survive. The growth of aerial photography came as a revelation, for it provided a settlement record in the lowlands very different from the

fragmentary evidence built up from chance finds of artefacts, souterrains and cists. For the most part it is that hidden fraction of Scottish prehistory that is being brought to light today. For the first time the pace of fieldwork may have outstripped that of current research, as it has in every part of Britain and Ireland, and it remains a priority for future work to provide a more balanced picture than has been available up to now. The sites that survive as earthworks must be reunited with those that are identified as crop marks; the great stone monuments must be considered alongside their counterparts in earth and timber. Only then will it be possible to investigate the prehistoric evidence as a whole. That is a more realistic prospect in Scotland than in other parts of Britain and Ireland because the relevant information is more readily available. The real value of developer-funded fieldwork will only be apparent when its results play a central role in new accounts of northern prehistory.

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