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Culduthel

An Iron Age Craftworking Centre in North-East Scotland

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Chapter 7

CRAFT AND SETTLEMENT IN LATER IRON AGE NORTH-EAST SCOTLAND

Introduction

Culduthel is an exceptionally rare site in Scotland, both in the range and quality of the material culture recovered and the archaeological features identified. The circumstances that allowed for the excellent preservation of the site, the large quantities of waste debris from the various industries and successive layers of hillwash, created the optimum conditions to seal and protect parts of the site. The intact stone bases of the smelting furnaces contained their final firings, and stone walls, paving and yards survived. Blacksmithing tools, glass rods, crucibles and moulds were found where they had been discarded or lost and deliberately deposited artefacts were located where they had been originally placed. For a site situated in a heavily ploughed field this evidence is remarkable.

The quality of this record has allowed for a detailed examination of many aspects of the occupation of the land, from the Neolithic to the early 1st millennium AD (Chapters 3 to 5) and especially for the period of intense industrial activity in the Middle Iron Age. The depth and complexity of the archaeological evidence for this period has allowed for rare insights into the processes undertaken to manufacture iron, bronze and glass items and the workshops and furnaces where these activities took place. The detailed exploration of these remarkable findings is within Chapters 4 to 6 and will not be repeated here. This final chapter will instead explore what can be understood about the community that worked and lived there by looking at the social context of the settlement; at how labour might have been organised, for expressions of identity of the craftworkers and the community, the social significance of metal- and glassworking and the rituals woven into their production and into daily life. Here there will also be an opportunity to look at evidence for the scales of production and the community's networks of contact, exchange and mobility. We will then turn to look at the community's neighbours along the Moray Firth coastal plain to help place Culduthel within a broadly contemporary settlement landscape and explore its wider social and cultural networks.

Living and working at Culduthel

Although overshadowed by the establishment of the Iron Age craftworking centre, there is good evidence for Early and Late Neolithic activity and Early Iron Age occupations. Clusters of pits filled with discarded pottery defines the Neolithic activity, potentially representing seasonal visitations over many generations. Similar activity can be seen right across the terrace in earlier prehistory, perhaps linked to periodic visits to the rectilinear enclosure 200m to the north-east.

The land was first permanently settled in the Early Iron Age by farming communities growing crops and keeping livestock. The palisade was a significant investment in the land and, alongside the ambitious design of the buildings (one very large roundhouse and a technically complex ring-groove), a picture emerges of affluent communities living on the fertile terrace. At neighbouring Early Iron Age settlements (e.g. Balloan Park – Carter and Russell-White 1993; Wordsworth 1999) and those across the low-lying coastal plains of southern edge of the Moray Firth similar groups of unenclosed roundhouses, some with palisades close by, have been identified. A data set that suggests that this was a typical site type in the region in this period.

Once this occupation was over the land was not settled again for least a century. The craftworking settlement was established in earnest with the construction of a series of purpose-built workshops, many containing iron smelting furnaces, and four post-built roundhouses. The settlement seems to have been active at some point between the 2nd century BC and the early to mid-2nd century AD with most production taking place prior to the late 1st/early 2nd centuries AD. It was primarily an iron production site, manufacturing and repairing iron tools, weapons, fixings and fastenings. Other pyrotechnical industries were also ongoing, including secondary glassworking, the casting of bronze and the production of metalworking ceramics. Iron tools recovered from site show that organic crafts including leather-, wood- and textileworking could have produced goods in tandem with the metal and glass objects.

The layout of the craftworking settlement gives the impression that the majority of the workshops could have co-existed as a contemporary group. This arrangement, alongside their uniform design and identical furnaces, potentially indicates that the entire enterprise was established following a pre-determined scheme. Does this evidence then suggest that the site was built and controlled by a chief or head craftworker or under the patronage of a local elite? Or does it reflect that the site had been relocated from an established craft-working centre or an

industrial quarter of a domestic setting they had outgrown, perhaps by an egalitarian community of craftworkers (cf. Giles 2007, 397)? The answers here remain unclear but we can at least surmise, with so little domestic and agricultural evidence identified during the excavation, that the site was built primarily as a place of industry.

Furnaces were extant within five of the workshops and it is likely that they were present in at least another two. These smelting furnaces were each located close to the entrances of the workshop with their openings facing the doorway, a configuration that would have maximised the daylight and ventilation. The smoke and fumes emitted by a furnace in use would have rendered the interior of a roofed building unbearable for the ironworkers and the walls of the workshops may have been wholly or partially made from removable wattle panels to increase the airflow when required. Whatever the design of the workshops the risk of fire would have been constant, and it is surely a testament of the skills of the ironworkers that none appear to have burnt down.

While the furnaces were almost identical in design, the workshops did vary in size and entrance orientation. Ethnographic evidence recognises that ironmaking was frequently a collective endeavour by extended family units (Pleiner 2000, 104). The subtle differences in workshop design may reflect that each building was constructed by a semi-autonomous team of craftworkers who were adapting a blueprint for their individual requirements.

Other metalworking activities may have also taken place around the smelting furnaces. The long-lived Middle Iron Age workshop identified at Mine Howe in Orkney was undertaking various craft processes including smelting, smithing and bronzeworking. Its interior contained small smithing hearths and anvils made of stone, wood and whalebone beside the large central hearth, with raw materials (such as charcoal, ore and clay) stored in recesses in the walls (Harrison 2005, 12). This evidence demonstrates that the entire iron production process at Culduthel could have taken place under one roof. If this was the case could each workshop have worked semi-independently and specialised in the manufacture of a specific range of iron products?

The archaeological record for the ferrous metalwork at Culduthel demonstrates that this was a dynamic and adaptable group of workers, constantly remodelling, repairing and rebuilding their buildings and furnaces over time. It was obviously a highly proficient group, who created a diverse range of goods in iron and high-quality natural steel with periods of intense manufacture. The labour force required to supply the raw materials, run the furnaces and produce finished items must have been sizable and well-organised to achieve the quality and quantity of the products seen.

In a dedicated area of the site, glass and copper alloy objects were being manufactured. This was also specialist work, which was clearly undertaken by a confident and well-resourced team with a wide range of skills. These crafts required non-local raw materials and it is perhaps through the exchange networks first established by the iron producers that copper, lead and glass became accessible to the site. The success of the iron manufacture may have led other craftworkers to the site or the community may have invited them in to increase the range of products and exploit new markets. The glass and bronze objects found on site shows that these makers were skilled artisans with extensive knowledge of indigenous styles over a wide geographical area. If Culduthel was a renowned craftworking centre, these bronzeand glassworkers could have travelled great distances to join this successful enterprise.

The evidence for domestic occupation of the site is limited. The four post-ring roundhouses seen in Period 3a had no obvious links to the industries seen on site and three (located on the northwest edge of the site) potentially predate the establishment of the craftworking site. The roundhouse House 10 stands out here. Three successive buildings were constructed on this plot and this location must have held considerable significance to the entire community. The cumulation of these buildings in the early centuries AD was monumental in size, embellished in stone and surrounded by a cobbled yard. Clearly a house of visible status built in a place with deep ancestral heritage.

This building, along with a similar and likely contemporary roundhouse to its north-east (House 4), could have housed extended family groups of up to 50 people (Armit and McKenzie 2013, 501), and in a domestic Iron Age setting this interpretation would seem entirely appropriate. The assemblages of discarded, lost or structurally deposited artefacts however show that these buildings were intrinsically linked to the craft-working community throughout their existence, from construction to abandonment and collapse. The interiors of both houses were dominated by ring-ditches, potentially functioning as a series of subterranean 'workshop' compartments to undertake specific manufacturing tasks and to store finished objects, rare raw materials and traded or gifted goods. This evidence suggests that these buildings were multi-functional spaces, to securely store goods; to polish, assemble display and trade objects in a dry charcoal free space and a place to create fine leather and wooden goods, potentially under the control of an elder craftworker or community leader.

Status, society and trade

Houses and workshops

The craftworking site could have been the industrial quarter of a domestic settlement located across the northern side of the terrace or a separate enterprise connected to one or several groups living in the local area. The architecture of the workshops and roundhouses of the earliest phases of the site tell us little about the prosperity or identity of the community who worked here, or who, if anyone, ultimately controlled it. These were each fairly modest buildings and practically designed to serve their purpose. Equally, the fact that the settlement was unenclosed gives no indication of the community's wealth or social organisation, as this was a typical arrangement for settlements in the north-east in this period, when elaborate defences were seemingly neither a necessary statement nor an indication of status.

More can be surmised in the later phases of the settlement, with the construction of two large-scale roundhouses in early 1st millennium AD. Now we see the medium of architecture beginning to play a role in the community's, or individuals', expressions of identity. These houses would have been monumental structures that dominated the modest workshops on their doorsteps and would have been prominent landscape features from a considerable distance. These complex and elaborate buildings would have been a huge community investment of labour and resources and a significant event in the life of the settlement. The stimulus for their construction is unknown but it is possible that they were built to respond to internal competition within the community or the rise of individual prosperity and power of one craftworker. This move away from the communal household towards individual status is a broader cultural shift in the 1st millennium AD and the creation of large houses at this time may have been one avenue to gaining status within a community (Armit 2006, 255; Armit and McKenzie 2013). There are hints that the plot for House 10 was held by a single familial group for a significant length of time and could have been passed down through the generations, with each new cohort renewing the structure to herald their ownership and reaffirm the ancestral seat (Armit 2005).

One of the objectives in building these monumental houses must have been to externally display the social identity, status and stability of certain individuals of developing status within the community, or of the wider community to outsiders. The ringgroove roundhouse is increasingly common in the north-east in the first few centuries of the 1st millennium AD, often seen at a large scale and built in key locations within settlements (e.g. at Seafield West in Inverness and Birnie and Clarkly Hill in Moray). Were these new buildings at Culduthel adhering to this wider regional trend? The increasingly felt proximity of the Roman world may also have been a factor in the adoption of this architecture. Contact with the Roman world, or its material, is believed to have played a role in the development of the 'massive' metalwork in the north-east in the 1st century AD (Hunter 2007d, 289). Was the perceived threat of Rome also the catalyst for conspicuous displays of identity and tenure through the construction of increasingly big houses?

It is within these houses that we also get a glimpse of some of the ritual practices of the community undertaken to mark important stages in the lives of the buildings and those who dwelled within them (Webley 2007). The two separate ceremonies to decommission the grandest building on site (House 10/3) are the most striking here but in both buildings the structured deposition of objects were clearly well-planned, complex events with rare and precious items carefully selected and grouped together as offerings to reflect significant events in the life of the house, its occupants and the wider community. Alongside the prestige Roman and indigenous objects were deposits of metalworking debris such as iron fragments, coiled lead objects, copper alloy strips and manufacturing tools, including a miniature iron axe, placed close to the entrances or within the ring-ditches. Similar deposition of metalworking debris or hoards of objects associated with manufacture (such as currency bars) have been observed in these 'liminal' locations, such as ditches and doorways, at other Iron Age settlement sites (Hingley 1990, 1997, 2006), which has led to the suggestion that these transitional zones' locations were deliberately chosen for deposition to reinforce and reflect the magical and dangerous act of metalworking manufacture (Hingley 1997).

Imports and exports

The material culture recovered from site offers us a clearer picture of both the lifestyle and the affluence of the community. The range of iron objects shows that the site's primary products were utilitarian items, mainly agricultural and craftworking tools, fixtures and fittings, presumably manufactured for use within the community and for wider trade and exchange. Prestige iron items, such as the chariot linchpin and weapons, were also being made and repaired. The daggers are rare finds in Scotland and their intact nature and deliberate deposition indicates that these were important objects within the community. The ability to make and repair fine weapons could have been the apex for a community that specialised in ironworking and must have guaranteed notoriety in the region and beyond. Chariot fittings are also incredibly rare finds in the Scottish Iron Age. The linchpin alongside the range of woodworking tools found on site suggests that the Culduthel craftworkers could have built chariots. This undertaking would have been a substantial investment in labour and resources, with up to an estimated 100 man-hours needed just to cut and shape the wood (Carter et al 2010, 61) and up to 36kg of iron required for the chariot's fittings (Halkon 2011, 153, 160). Given the time, raw materials and ability it took to make a chariot, it must have been a highly visible expression of elevated status in this period (Piggott 1986; Halkon 2011). It is notable therefore that the community at Culduthel does not appear to have been alone in its chariot ownership in the region at this time, with chariot fittings and a range of horse gear also found at the Middle Iron Age settlement at Birnie in Moray (Hunter 2005d, 28).

The material associated with manufacture also suggests that the community at Culduthel was actively trading in sustained markets of exchange over considerable distances. Glass, copper alloys and iron were all being brought to the site. The limited amount of imported iron coming into the site is likely to have arrived through exchange or trade in the region but the glass had a longer journey, coming via the Eastern Mediterranean as clear blocks or ingots and perhaps being coloured at a secondary site before coming to Culduthel (Freestone and Davis, Chapter 6). The Roman glass was also supplied ready-made, with preformed blue and white cable or trail intended for inlay in beads imported onto site as a specialist component. The source of the copper is unknown but the majority of the lead was coming from south-west Scotland, presumably via another series of trading networks.

Other Roman goods were also coming onto site. The majority of this material, the glass beads, the brooch and the glass vessel, conform to the type of luxury Roman material seen on many Scottish Iron Age sites in this period and relate to feasting and personal adornment (Hunter 2007a, 15). These imports may have been highly symbolic. For example, wearing the disc and fantail enamelled brooch, an item that is similar to the local style but clearly of Roman manufacture, must have given considerable social value to the wearer. As this preference for indigenous styles of Roman brooches was widespread in the region at this time, ownership of this brooch would be in harmony with local trends (Hunter 2014a, 335). The glass vessel buried within a pit inside House 10 may also hint that some within the community were

turning their backs on communal feasting and wished to individually demonstrate their wealth (ibid, 16). The Roman coins would also have been rare and exotic items in the region in the 2nd century AD. In a non-monetary society these coins may have been a portable way to own and store valuable raw materials. Equally, they could have been used for particular transactions within the settlement's networks (Hunter 2001a, 20) or as powerful ritual items which held the memories of contact and exchange.

This access to Roman goods is reflected right across the Moray Firth in the 1st and 2nd centuries AD, with availability of this material beginning in earnest after c.AD 80 (Hunter 2007a, 18-22). The corpus and distribution of this material has increased substantially over the last two decades with commercial and research excavations now complementing the picture previously formed by antiquarian investigations, metal-detecting and stray finds. Many settlements active in the region in the first few centuries AD do have Roman items, with those located along the southern coast containing greater quantities and higher quality finds including coin hoards, brooches and toilet instruments (e.g. the settlement sites of Birnie (Hunter 1999-2000, 2002-2005c, 2006c, 2007b, 2008-2010), Seafield Road West (Cressey and Anderson 2011), Clarkly Hill (Hunter 2011a; 2012) and the ritual site of Sculptor's Cave, Covesea (Armit et al 2011)). Hunter (2007a) suggests that this distribution across the rich arable lands on the south side of the Moray Firth reflects the ability of the local elites to access this material through trade, diplomacy or tribute, directly with the Romans or indirectly via tribes to the south. This pattern of access is also seen in southern Scotland where early Roman material of the 1st and 2nd century AD was centred at prominent sites (e.g. at brochs, crannogs and hillforts). Here Macinnes (1984, 242) has suggested that these wealthier settlements were acting as hubs of access and redistribution for this material.

The ability of select communities to access Roman goods, whether as diplomatic gifts through direct contact with Roman emissaries (i.e. as possibly seen with a series of coin hoards at Birnie) or through exchange within local networks, suggests there was a 'hierarchy of access' to this material (Hunter 2007a, 18). The Roman assemblages from Culduthel and other wealthy local settlements along the Moray Firth coastal plain suggest that these sites may have been deliberately targeted by the Romans or other communities with access to this material in the first few centuries AD. Whether these objects were gifts, bribes or traded, relationships seem to have been purposefully established using this material.

And what of the status of the craftworkers themselves? The act of creating iron objects from bog ore may have been considered a restricted magical act, highly prized, with strong symbolic and social connotations within Iron Age society (cf. Hingley 1997; McDonnell 1998b; McDonnell and Dockrill 2005; Giles 2007). Early Celtic and Norse literature demonstrates the significant role the smith had within communities and the special status and mobility of some craftworkers (e.g. Gillies 1981; Scott 1986; Kelly 1988), while ethnographic and anthropological studies of metalworkers show that they could be regarded as powerful but liminal figures on the outskirts of normal society (Helms 1993; Herbert 1993; Hingley 1997).

Where identified in the archaeological record, smelting appears to be a task that was kept separate on other production sites (e.g. at Wakerley in Northhamptonshire - Jackson and Ambrose 1978, and at Brooklands, Surrey - Cleere 1977). This was presumably due to the dangerous nature of the activity to the surrounding community, but perhaps it was kept at a distance in response to its transformative nature. Burials show that both the craftspeople and their tools were highly regarded in society. A cache of well-made blacksmithing tools identified within a pit at the Iron Age site of Garton Slack in East Yorkshire, with a basket of carbonised grain placed over them, suggests a deliberate act of burial to link the ironworking to the agricultural cycle (Giles 2007, 396). The burial of a young male at the Iron Age cemetery at Rudston in East Yorkshire appears to be a rare example of a craftsperson's internment. It contained blacksmiths' tongs and a hammer alongside spears and a short sword (Stead 1991), which may represent a blacksmith buried with his tools and his finest products (Halkon 2011, 158).

The smelter and smith may therefore have been slightly separated from society, highly regarded but detached from normal social relations, associated with rituals and magic, and seen as skilful individuals with 'a privileged understanding of the way that the world worked' (Giles 2007, 400). Their ability to manufacture weapons for combat or protection and tools for cultivation and food production may also have deemed them as having supernatural powers that meant they were able to make, repair or break objects that greatly impacted on daily life; the ability to maim or kill, eat, create life and assist in death (ibid, 400-5). In addition, the highly skilled nature of their work, the physical power and mental stamina required, and their ability to source raw material to achieve this, suggests that they were powerful and influential individuals with the ability to create prosperity for the wider community (ibid, 407).

The social standing of the glass- and bronzeworkers in Iron Age society may have been similar to the ironworkers. As these were highly complex items made from rare and valuable imported raw materials, bronze- and glassworking is likely to have been a highly restricted activity and these craftworkers may have been elevated above the ironworkers on site (Henderson 1991b, 119). As their products were mainly for personal adornment and feasting, with some of the techniques used (such as enamelling) only seen on prestige objects in this period, their ability to make items of outstanding beauty and value must have been highly regarded. If, as outlined below, bronze- and glassworkers were a mobile group who were not part of the permanent community at Culduthel, their special status may have been redefined by the very fact that they were strangers in the midst of the community.

Scales of production and networks of exchange

Iron

Iron production was the dominant industry on site. The wide range of high-quality steel objects, including specialists craft tools, weapons, fixture and fittings, must have been manufactured for the workers on site, for the local domestic settlements and for wider trade and exchange. Calculating the scale of iron production at Culduthel is problematic as clearly only a part of the site was excavated. Excavators of the Iron Age iron production site at Crawcwellt in Wales used the estimated total weight of the slag dumps to calculate the number of ironworking cycles and the amount of fully refined bar iron produced (Crew 1998, 30). As Crawcwellt was an upland site, undisturbed by the plough, Crew's inferences seem fairly accurate but, as slag was only preserved in certain places at Culduthel and was only partially sampled during the excavation, calculations for the amount of iron produced at Culduthel will have to be fairly ambiguous.

Using Crew's calculations (1998, 31), if Culduthel produced one tonne of slag (a low estimate given that over a third of a tonne was recovered through the sample excavation of the waste debris), 180 ironworking cycles (smelting and refining) would have taken place and up to *c*.70kg of refined iron could have been produced. As the 150 iron finds recovered from site weighed *c*.2.4kg, 70kg of refined iron could have produced well over 1000 items.

Evidence from southern England and Wales shows thriving and extensive trade networks in iron currency bars and other bulk items in the late pre-Roman Iron Age (Crew 1994; 1995; 1998). Much work will need to be done to meet this level of understanding of the iron industry in Iron Age Scotland and, as many older excavations routinely threw away slag, there will be a heavy reliance on recent work to create a model for this industry (Hunter et al 2006). At the time of writing there are no regional models in mainland Scotland for Iron Age ironworking but the publication of Birnie in Moray (the only other sizable assemblage of iron in the region in this period) and Gemma Cruickshank's 2017 doctoral research on Scottish production will certainly help develop this picture.

If we stay with our calculation of 70kg of iron, more than a tonne of bog ore and 10 tonnes of charcoal would have been required to produce this amount and these resources must have been close to site. The management of timber, coppicing and harvesting hectares of woodland, making charcoal and transporting it would have required a considerable amount of labour and time. As these tasks were seasonal, with the timber requiring to be dried for several months before the charcoal was burned over the summer (DeRoche 1997, 22), supply must have been well-organised and programmed. Collecting the clay and stone for furnace construction and the bog ore would have also been incredibly labour-intensive and time-consuming, with considerable local knowledge and skill required.

Bronze

Non-ferrous metalworking evidence has been identified on only a handful of sites of Middle/Late Iron Age date in Scotland and production in this period may have been both an infrequent activity and a technology restricted to certain groups or individuals (Hunter 2014a, 330; 2015; Heald 2005). While the complete range of bronze products made at Culduthel is unknown, it is clear that bronze-casting and sheet working was carried out and prestige metalwork was being made, some of which was enamelled. Although the markets for these goods is not known, the circulation of a regional group of massive metalwork along the coastal plains of the Moray Firth (Hunter 2014a, fig. 35.1) indicates that there was vigorous trade and exchange networks in prestige bronze objects in the north-east in the first few centuries AD.

The best evidence for sheet production is the fine bar ingot and the reused quern with its moulds for a bar ingot, a roughout for sheetworking, perhaps for feasting vessels such as cups and caldrons. As the skills required for sheetwork are distinct from casting, this work may well have been undertaken by specialist sheetworkers (Hunter 2015, 235). For the casting, the harness strap mount is the best example from the site as it was certainly made on site by highly skilled bronzeworkers who had an awareness of styles from beyond the region. As its style reflects wider traditions of British Celtic art of central Britain in the first two centuries AD and not the local 'massive metalwork' tradition that flourished in the 1st/2nd century AD in this region (Hunter 2014a, 333), it can be presumed that these bronzeworkers had influences from beyond the region. The recovery of similar horse equipment on other sites in the north-east in this period also shows that the community at Culduthel was tuning into a general trend of showing affiliation with central Britain through these objects (ibid).

Other elements of the bronzeworking taking place on site can be surmised. The worn copper alloy hilt guard appears to have been brought onto site for repair, perhaps travelling over a considerable distance to be fixed. Seen alongside the iron daggers and spearhead, it may be suggested that Culduthel had a considerable trade in the production and repair of weapons.

The assemblage of copper alloy objects, crucibles and moulds does not inform us of the level of bronzeworking taking place on site. It can be surmised that the bronzeworkers were highly skilled and had access to a range of raw materials, technologies and influences from beyond the local area. It is also probable that the bronzeworking at Culduthel was intimately linked to the production of glass, notably through the enamel used to inlay metal objects but also through the shared technology and the requirement for highly skilled artisans. The archaeological evidence suggests that bronze- and glassworking were undertaken together in a designated workshop; notably a turf and not a timber structure, which must have had an air of impermanence about it when surrounded by the workshops for ironworking. Does all this evidence suggest that the bronze- and glassworking at Culduthel was a short-lived or periodic set-up? Were groups of mobile specialist bronze (and glass) workers intermittently visiting the site and working for a time before moving onto another production site in the region or beyond?

Glass

The glass production at Culduthel gives us perhaps the clearest insight into the site's networks of trade and exchange but little can be defined about the level of production. Two identifiable styles of glass beads were made on site – the Guido's Class 8 and Class 13 beads (Guido 1978). Their production at Culduthel confirms previous held theories that these beads were being manufactured in north-east Scotland at some point between the 2nd century BC and the 2nd century AD (Henderson 1989a). Culduthel appears to have been part of a wider regional glass manufacturing tradition based in the north-east and may have been one of a network of glass production centres in the region.

One other known glass production site has been identified in the region at Culbin Sands, a long strip of dunes located between the mouths of the rivers Nairn and Findhorn on the southern shore of the Moray Firth, c.16 nautical miles from Culduthel. More than 250 beads (including Guido's Class 8, 13 and 14 beads) and glassworking waste have been identified across the bay but as yet no evidence of hearths or workshop has been found (Henderson 1989a, 69-71). The wealth of earlier prehistoric material from Culbin associated with production (especially barbed and tanged arrowheads, bronze axes and faience beads - cf. Bradley et al 2016) and the site's potential to be a sheltered inlet for people travelling along the coast, allowing access inland via the rivers, has led to the suggestion that this place had a long-standing specialist role in production and exchange and may have been the location of a well-established beach market (Carver 1999, 57; Bradley et al 2016).

The proximity of Culduthel to Culbin Sands and the production of identical beads in both locations implies that, if these sites were operating contemporarily, they worked together to receive and distribute imported raw materials and to make and supply glass objects. The consistency of bead styles, the complex technologies used to create them and the skill levels required to make beads and inlay metalwork also suggests that specialist glassworkers could have been a mobile and cohesive workforce, which may have moved frequently between production sites over a sizable region (cf. Hunter 2015, 237). Given the evidence from Culduthel, it is a possibility that these glassworkers moved alongside a group of bronzeworkers, or that these specialist workers were in fact one and the same.

This concept of a group of glassworking specialists working within a defined area is further validated by the concentrated and geographically restricted distribution of Class 13 and 14 beads in the north-east between the Dee and the Moray Firth (Guido 1978, fig. 34, 86 and fig. 36, 88). These beads, along with Class 8 and blue beads, have been recovered from a variety of sites in the region, including those considered to be settlements of the local elite (i.e. Birnie in Moray and Clarkly Hill), reflecting both the increased use of ornamental items throughout society from the 2nd/1st centuries BC and the uptake of certain items within this cultural package. These beads also travelled great distances and have been found as far afield as Skye, the Orkneys and Western Isles and south-west Scotland (Henderson 1991b, fig. 5). These objects were highly portable and could have arrived on sites from many different sources but to some extent this distribution must reflect the far-flung exchange networks that bead producers (including those working in the north-east) were tapped into, either directly through the exchange of goods or through their notoriety and the desirability of communities to obtain their products.

Neighbours across the north-east

To gain a better picture of the later prehistoric landscape in which Culduthel was situated, an area along the coast of the Moray Firth has been looked at in detail (Illus. 7.1). This area of study covers



Illustration 7.1 The later prehistoric sites within the study area

the entire length of the southern coastline (the coast of Nairnshire, Morayshire, Banffshire and Aberdeenshire), extending approximately 15 miles inland to encompass the low-lying coastal plain. Broadly characterising the settlement landscape of this area through an analysis of distributions of particular settlement forms will help define local and regional settlement morphologies and how Culduthel may have fitted within these. The study area has also been extended northwards to include the Inner Moray Firth (the Beauly, Cromarty and Dornoch Firths) and the southern coast of Sutherland to look for differences and similarities either side of the firth.

The ability to characterise the later prehistoric settlement within the study area has considerably improved in the last two decades, due to a sharp increase in development-led and research excavations across the region. At the forefront of this has been the archaeological work in and around the city of Inverness (detailed in Chapter 1) and across Morayshire and Nairnshire, and research excavations led by Fraser Hunter of the National Museum of Scotland that have targeting two settlement sites that had previously produced a range of Roman finds through metaldetecting (Birnie and Clarkly Hill in Moray). Data has also been gathered for this study from the National Monuments Record of Scotland (NMRS, now the NRHE) and the lists of archaeological sites and monuments produced by the Royal Commission for the Ancient and Historical Monuments of Scotland (RCAHMS, now HES) for Nairn district in 1978 and North-east Inverness in 1979 (RCAHMS 1978; 1979). An overview and brief synthesis of the later prehistoric archaeological record for the Moray Coast is also included within the monograph In the Shadow of Bennachie (RCAHMS 2007). Another major source of data is the cropmark record. Coverage by aerial photography is variable across the study area but was improved across the Moray coast with the 'The Moray Aerial Survey' undertaken in the late 1980s by Barri Jones (Jones et al 1993). This survey included selected areas along the coastal plain and, although biased towards finding Roman archaeology, did identify sites of a range of periods.

The archaeological record

The archaeological record along the southern edge of the Moray Firth is dominated by unenclosed settlements visible as crop marks located along the low-lying coastal plain (Illus. 7.1; Halliday 1999, 57; Jones et al 1993, fig. 3.8, 59). Enclosed cropmark settlement sites defined by a palisade enclosure are also here, but in fewer numbers. None have been excavated but some, such as Aldourie Farm near Inverness (NH63NW 34) and Blackhill in Inverness-shire (NH74NW 32), are circular palisades of *c*.30m in diameter containing single roundhouses. The large oval double palisaded enclosure at Balblair in Nairnshire (NH85NE 46) is also defined by an external ditch. The interior contains at least one roundhouse which is surrounded by further settlement. Souterrains are also scattered across the area, seemingly a denser distribution than to the north but investigations are needed to confirm their chronology and form or relationship to settlement.

Larger enclosed or defended sites form a diverse group across the region but not to the scale or numbers seen further south in Perthshire or East Lothian. Smaller forts, some with evidence of vitrified walls, are spread eastward and inland, such as Dun Davie, Dun Garbhlaich, Dun Fhamhair and Caisteal Rollach in Inverness-shire, Castle Finlay in Nairnshire and the Doune of Regulas in Morayshire. Their function as enclosed farms or outlook posts may be valid given the small size of the enclosures (all less than 0.15 ha) but the fort at Dun Mor, located to the west of Inverness, may have a different function with its modest summit citadel and large lower bailey enclosed in a single scheme (Feachem 1966). Smaller still are a group of oval enclosures defined by a single drystone wall located in Inverness-shire (Cnoc a' Chinn, Dun a' Chliabhain, Dun Mor II, Dun Fionn and Aigas). In Argyll these would be 'dun' enclosures with occupation perhaps extending to the mid-1st millennium AD (Mackie 1974; Nieke 1990) but work is clearly needed here to understand these sites in the north-east.

Promontory forts along the Moray coast are markedly larger than those further north with timber and stone ramparts, or earthen banks and ditches, bounding large internal areas. The triple ditched cropmark site of Gilchrist to the west of the Beauly Firth is the only inland site of this type and encloses a tongue of land surrounded by marsh. Along the Moray Coast the fort at Cullykan was settled, probably discontinuously, from the later Bronze Age and developing into fortified settlement by the mid-1st millennium AD (Greig 1971; 1972) while investigations at the fort at Portknockie indicated it was a small defended domestic settlement from the early 1st millennium BC, potentially emerging as an important site in the mid-1st millennium AD (Ralston 1980; 1987). Further east, the promontory occupied at Dundarg Castle in Aberdeenshire is likely to have prehistoric origins prior to its development as a medieval stronghold (Fojut and Love 1983). The most exceptional promontory fort in Scotland is at Burghead, located on a headland on the south Morayshire coast. It is the largest fort of its type in Scotland, enclosing an area of 3 ha divided into an upper citadel and lower annexe, each enclosed by large walls. A corpus of Pictish stone plaques with bull symbols and an elaborate rock-cut well within its interior suggest that Burghead was a high-status centre in the early medieval period. Radiocarbon dating through piecemeal excavation work has shown that the upper citadel wall was built around the middle of the 1st millennium AD (Edwards and Ralston 1978, 206) and recent work by the University of Aberdeen has identified buildings of this date surviving within the interior of the fort (Noble and Sveinbjarnarson 2016).

Regionally distinct are the oblong forts enclosed by a single massive thick timber-laced wall. They may well date to Middle Iron Age (Cook 2010b) but have also been shown to represent one phase of enclosure within multi-phase sites (Feachem 1966, 68; Dunwell and Ralston 2008, 88; RCAHMS 2007, 101). Their distribution is closely paralleled centuries later by the massive metalwork distribution along the southern side of the Moray Firth (Hunter 2014a, 325–6 and fig. 35.1) and, along with the distribution of glass beads across the area (Guido 1978, figs. 34 and 36), suggest that a distinct region with strong identities was in place for many centuries in the north-east.

Two sites within the study area are defined as ritual sites. Deskford is the location of the Deskford Carnyx, the head of an Iron Age trumpet made of sheet bronze and brass that is likely to have been constructed between AD 80 and 250 (Hunter 2001c). It was discovered in Banffshire in the bottom of a peat moss in the

19th century and subsequent excavations around the findspot have shown that the carnyx was likely to have been placed into this wet location as part of a series of votive offerings (ibid). The Covesea caves are a series of caves located on the south shore of the Moray Firth. The Sculptor's Cave is the best known for its Pictish carvings along its entrance walls, but excavations within the interior of the cave have recovered significant assemblages of Late Bronze Age metalwork, Roman Iron Age artefacts and distinct burial rites of multiple decapitated individuals from both periods (Armit et al 2011). Recent excavations of a second cave to the west of Sculptor's Cave (Cave 2) have identified Iron Age metalworking overlying concentrations of disarticulated human bone of Late Bronze Age date (Büster and Armit 2014; 2015), and it is now recognised that these caves may have been part of a Late Bronze Age and Iron Age mortuary complex.

Unenclosed settlements

The unenclosed sites are mostly modest sized roundhouses, predominantly within small-scale settlements (e.g. south of Inverness at East Beechwood Farm – Engl 2011; Lower Slackbuie and Balloan – Wordsworth 1999; and along the Moray Coast at Grantown in Forres – Cook 2003; 2008; 2010a, and Coul Braes in Moray – Suddaby 2008) but the substantial ring-groove house at Seafield West in Inverness suggests that bigger houses were also constructed in the region (Cressey and Anderson 2011) (Illus. 7.2).

The 2nd century AD bronze brooch found within the house perhaps suggests that these larger buildings were built and in use well into the 1st millennium AD, similar to the evidence seen further north at the substantial house at Bellfield Farm in North Kessock (Murray 2011). Where radiocarbon dating evidence is available it does show some large houses were built in the late 1st millennium BC and evidence of the long-term use of single plots of land both before this period and after is frequent. At Romancamp Gate in Fochabers in Moray, four large unenclosed roundhouses were built and occupied in the late 1st millennium BC, three of which overlapped and superseded one other after the previous structure had burnt down (Barclay 1993, illus. 3, 258). Further east at Tulloch Wood in Moray, eight hut-circles were identified within a landscape of banks, lynchets and field clearance cairns (Carter 1993). Three single-walled hut-circles and a bank had been built later in the 1st millennium BC, while a further hut-circle and field wall show the land was settled much earlier, at least by the late 2nd millennium BC (ibid).

Many of these sites have identified small-scale ironwork, usually located in the heart of a settlement seemingly producing tools and objects for everyday life in the communities. At East Beechwood the settlement of roundhouses and palisade had a possible furnace and dumps of slag that included smelting and smithing waste (Engl 2011). Slag from settlements at Milton of Leys (Halliday 2000) and Slackbuie (Site F on Illus. 1.8 – Fyles 2007; Dutton 2007) also show that ironworking was modest and



Illustration 7.2

Excavated unenclosed settlement sites within the study area. The locations of promontory forts, ritual sites and glass manufacturing sites are also shown.
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related to the community's needs. Two sites in Forres also show evidence of small-scale iron production. At Tarras Farm several stone-built iron-smelting furnaces and hearths and large quantities of iron slag and furnace bottoms were of probable Iron Age date (Will 1998b), while at Grantown Road two furnaces, charcoal rich spreads and slag were identified within a settlement of roundhouses (Cook 2008, 123).

Two sites in the region have produced evidence of ironworking taking place within buildings. The later Iron Age settlement at Seafield West in Inverness, a potential contemporary of Culduthel, is one of the few sites in the region where an Iron Age smithing hearth has been identified within a building (Cressey and Anderson 2011). Occupied between the 1st century BC and the 3rd century AD the excavations identified eight roundhouses including one large ring-groove building (Structure A), a possible double-ring roundhouse within a palisade (Structure B) and a roundhouse with a ring-ditch (Structure C). One of the roundhouses (Structure H) contained a centrally located pit edged with stone slabs and filled with in situ ironworking debris including hearth bottoms. The charcoal within the hearth was dated to 180 BC and AD 70 (ibid, 23). Two Roman copper-alloy

brooches were recovered suggesting that the inhabitants were of some status.

At another Iron Age settlement occupied through the Middle Iron Age at Bellfield Farm in North Kessock a small circular roundhouse (c.4m diameter) contained the remains of an iron-smelting furnace (Structure 3 in Area 2a, Murray 2011). The building was similar in design to the workshops at Culduthel, with a south-facing porch. The furnace was a large circular pit that contained 3.1kg of ferrous metalworking waste, the majority of which was unclassified iron slag/runned slag and furnace bottoms. A 4th to 2nd century BC date was obtained from charcoal recovered from the lower fill (ibid). Surrounding the building and to the south-west (Area 3) and east (Area 1) were pits containing a range of ironworking debris. The majority has been interpreted as residual, but some seems to have been deliberately and sequentially deposited. One pit contained fragments of saddle querns at its base and planoconvex hearth bases in the upper fill. Given the depth of the pit (c.1m), and the numerous deposits between the lower and upper fill, it may have been returned to repeatedly in order to deposit specific artefacts.



Illustration 7.3 Aerial shot of excavations at Birnie, Moray in 2008. © Aberdeenshire Council Archaeology Service AAS-08-4 DG CT_0326

The two sites excavated within Moray by Fraser Hunter (Birnie and Clarkly Hill) stand out within the region. These were wealthy and prosperous settlements of considerable status and their assemblages of prestigious goods suggests that both were local power centres in the region, comparable to, or, in the case of Birnie, beyond the status of Culduthel.

The discovery of the Iron Age settlement of Birnie was prompted by the discovery of a scattered hoard of Roman denarii of Severan date (AD 193–211) within a field containing cropmarks of a settlement (Hunter 1999–2000, 2002–2005c, 2006c, 2007b, 2008–2010). Investigations identified an unenclosed settlement of at least 25 roundhouses that had been occupied in the 1st millennium BC and AD (Illus. 7.3). A period of intensive settlement in the Roman Iron Age was defined by ring-groove and postbuilt houses, some of which appeared to have been deliberately burnt down. During this period the site was producing iron, with evidence of smelting, blacksmithing, bronze casting and sheetworking alongside other crafts. This industry was at a smaller scale than seen at Culduthel, but a sizeable iron assemblage suggests production was still considerable (Hunter, Chapter 6, Iron Artefacts).

The site was clearly well-connected, with a wide range of objects imported including bronze chariot gear and exotic jewellery of amber and gold. Contact with the Roman world was confirmed by a range of Roman finds including a further Roman coin hoard of more than 300 denarii ending in Septimius Severus (AD 196–7), samian ware, a range of brooches including a enamelled plate brooch likely made in the Rhineland or northern France (Hunter 2000, 16), an enamelled bird-headed pin, fragments of a glass bowl and Black Burnished Ware pottery. This assemblage suggests long-term sustained contact between the settlement and the Roman world in the first few centuries AD.

Indigenous finds confirm the importance of the site and considerable status of the occupants. Within a substantial roundhouse built in the early 1st millennium AD a wide range of luxury goods was deposited prior to abandonment, including the terminal of a gold ribbon torc, an amber bead, glass bangles and a spiral finger ring, all of which suggest that individual wealth was demonstrated through jewellery in the settlement. A range of glass beads found across site (including Class 8 and 13) show contact with regional networks of glass production, while the range of rare horse gear (including copper alloy horse harness and bridle bit), a copper alloy terret and a fan-headed linchpin, confirms the presence of chariots and horses.

At Clarkly Hill, another scattered hoard of denarii indicated the presence of an Iron Age settlement, later confirmed as an extensive unenclosed settlement of at least eight roundhouses by a geophysical survey (Hunter 2012, Fig. 5). Two sessions of work in 2011 and 2012 identified two roundhouses and iron- and bronzeworking in the early centuries AD. One roundhouse was large, *c*.18m in diameter, and finds from the interior included Roman glass, a bronze strap fitting and a Class 13 glass bead. The second roundhouse had a range of prestige finds including a Romano-British trumpet brooch and a Roman Iron Age massive openwork finger ring. A collection of local finds (an intact iron sickle, steatite lamp and iron dagger) were found deliberately placed on a large flat slab (a possible hearth) in the centre of the house. After abandonment a series of standing stones were erected marking the location of the house and within one of their stone holes a human skull, a sherd of samian ware and a silver finger ring were found (Hunter 2012). Hunter (ibid) has suggested that the stones were a deliberate act to turn the building to a ritual site.

To the north of the settlement a trench was opened to target a highly magnetic anomaly seen in the geophysics. This trench was full of ironworking slag and bog ore. Fragments of crucibles indicated bronzeworking had also taken place. A dismantled iron smelting furnace and two hearths indicated that this area was likely to have been the metalworking centre of the settlement. Another trench targeting the location of the scattered hoard identified more than 60 denarii (the latest c.190 AD) and a few bronze coins of an earlier date (ibid).

The Roman finds alongside a high-quality local assemblage of weapons, glass beads and bronze suggest that Clarkly Hill was able to access Roman and indigenous luxury goods and was likely a site of considerable status. Evidence from the initial investigations of the industrial area to the north of the settlement shows that the community was also engaged in craftworking, including ironsmelting and smithing and bronzeworking. The Class 8 bead (from the plough soil) and the Class 13 beads prove contact was made with the region's glass manufacturing sites.

Discussion

This brief overview shows that Culduthel was part of a thriving later prehistoric landscape. From excavation work on the most common site type, the unenclosed sites, a wide range of settlements appeared to have co-existed in the Iron Age. These range from the modest roundhouses in small groups (e.g. East Beechwood Farm, Lower Slackbuie and Balloan in Inverness-shire and Balnaferry and Grantstown along the Moray Coast) to more substantial and higher status settlements at Culduthel and Birnie. The function, status and chronology of the wide range of enclosed sites is, however, still unclear. Our knowledge of the wider landscape in which these settlements existed is also fairly limited and further work has been done to begin to understand different site types in the region. Investigation of the promontory forts of Cullykan and Portknockie show that they were both settled in the later prehistoric period and have long, albeit discontinuous, occupation that extends well into the 1st millennium AD. As many of the larger hill-top sites are small in scale with few visible internal features it is possible that they were not permanently settled, and functioned as communal places for seasonal gatherings. There are strong indications that these settlements sit within an active ritual landscape, from the work undertaken at Covesea Caves and the land surrounding the findspot of the Deskford carnyx.

A model for north-east Scotland in the Iron Age postulates that the region was dominated by smaller groups or individual settlements, with unenclosed settlements of roundhouses and smaller enclosed hamlets or households, and society was organised at a local level (Hunter 2007a, 48). With no evidence for largescale centralised power centres across the Moray Firthlands and a considerable corpus of small settlements or individual households it seems likely that this model is fairly accurate. Hierarchy between these unenclosed settlement sites is potentially visible through the ability of more affluent settlements to access some Roman goods and build large ring-groove houses.

Higher status settlements can be identified at Culduthel, Birnie and Clarkly Hill in the first centuries AD. Each had the ability to access luxury Roman goods and high-quality local products and were engaged in the specialist manufacture of ferrous and non-ferrous objects. Their shared styles and forms of material culture implies that they were each tuning into a distinctive shared regional cultural package to assert their local inter-group identities. This package included the making and wearing of prestigious metalwork and other personal ornaments, the procurement of Roman goods, the chariot and horse gear with bronze bridle bits and harness straps (many in exotic non-local styles) and the construction of large-scale houses. The need for these communities to define and curate their identities in a unified way may have come in part through the growing proximity of the Roman world at this time and the perceived threat that society and life was about to change (Hunter 2007d, 289).

Conclusions

The excavation of Culduthel has shown that an affluent and wellconnected craftworking centre was located in north-east Scotland in the Middle Iron Age. This settlement shares many cultural affiliations with other high-status contemporary settlements in the region at this time, which were manufacturing ferrous and non-ferrous objects and had access to wide networks of exchange and trade with local, regional and larger-scale affiliations. It is the sheer scale and organisation of the iron production, the manufacture of glass beads and prestigious enamelled metalwork that separates Culduthel as distinct and unique. Here we see a purpose-built, highly specialist craftworking centre, established and run as a production site by an ambitious, experimental and creative community.

Culduthel may well have been one of a network of production sites located along the fertile and well-connected southern coast of the Moray Firth. The evidence from Clarkly Hill and Birnie to the east demonstrates that both sites were likely producing iron beyond their community's requirements and could have been manufacturing for exchange and trade. The motivations behind a shift to larger-scale manufacture of iron on these domestic settlement sites is unclear but at Culduthel the construction of a new separate craftworking site suggests that the demand for iron objects in the region was significant, the control of this production was desirable and the raw materials accessible. The bronze casting and sheetwork seen at Culduthel was also underway at Birnie, evidence that demonstrates that the skills and raw materials for production of copper alloy were also available to other sites of status in the region at this time. If Birnie and Culduthel were in contemporary use, can it therefore be assumed that some level of contact, through exchange or meeting, for the sharing of skills, itinerate craftworkers, technology and resources was in play to develop this regional manufacturing tradition (cf. Hunter 2015, 237)? If skilled bronzeworkers were moving frequently to set up temporary workshops at different production sites across the southern coast of the Moray Firth, knowledge, skills and access to materials would have travelled with them. The current corpus of bronzeworking evidence in the region alludes to it being restricted to higher status sites and access to this craft, and the mobility of

the craftworkers may have been controlled by individuals or communities.

Culduthel is so far the only site in north-east Scotland identified to have been making glass beads and enamels in this period. The level of glass production here is not clear but from the range of imported glass found on site, the assemblage of native Iron Age beads found across the north-east and the evidence from the Culbin Sands, it appears that Culduthel may have been one of a number of production sites in the region. Similar to bronzeworking, and technologically connected to it, glassworking (through access to raw materials or the mobility of craftworkers) may have been equally restricted to certain communities in the region. The distribution of glass beads in the north-east in the Iron Age shows that personal ornaments were an important part of the local and regional identities in this period and participation in these networks and in the production of glass jewellery and enamelled metalworking may have been a key motivation to develop this technology at Culduthel. By controlling the distribution of these desirable products the community would have garnered an exceptional level of notoriety and status.

Complex social dynamics were also underway within the community itself. Control or central leadership during the establishment of the craftworking centre is certainly implied through the layout and organisation of the site while higher status individuals or groups are visibly emerging on site from the early part of the 1st century AD. These people are able for the first time to build larger houses and increasingly have access to the Roman material and prestigious goods that were desired across the region at this time (Hunter 2007d, 293). A hierarchy of specialist artisans may also have existed on site, determined perhaps by the prestige of their output, the rarity of materials used and their level of specialist skills. The glass- and bronzeworkers may have been occasional visitors to the site and afforded a separate special status within the community.

The craftworking centre appears to have been abandoned at some point between the mid-2nd and early 3rd century AD. This is a period of wider social change seen across the north-east of Scotland and beyond. Many sites with long histories of occupation are abandoned during this time, large-scale domestic architecture disappears, the circulation of indigenous material vanishes, and newly established settlements of this date remain stubbornly elusive to archaeologists. Settlements may have been abandoned due to a myriad of social, political and economic factors including broader changes in the structure of society and ideas of community and the individual. Why the community left Culduthel is unknown. In and around the workshops the final firings of the furnaces were in place as well as piles of waste debris containing many usable or recyclable items, evidence that suggests this was a hurried and unplanned exit. Within the large roundhouses, however, a very different, planned and drawn-out exit can be observed in the carefully curated closing rituals of the large buildings.

The proximity of the Roman world could have played a key role in disrupting the political and social landscapes of the northeast at this time. Hunter (2007a, 48) points out that the break in the settlement record in the north-east coincides with a drop in Roman imports in the region. It is not clear, however, if this lack of imports was a deliberate policy by the Romans or a change of preferences by the local elites (ibid, 51–2). On leaving the settlement at Culduthel the community left behind many Roman objects, seemingly parting gifts for the houses but potentially also symbols of a rejection of Roman culture.

The settlement of Culduthel was clearly a thriving Iron Age enterprise, a purpose-built centre producing a range of utilitarian and prestige items for use within the settlement and for trade and exchange. It was able to attract or train highly skilled workers who had an awareness of the demands of the local and regional marketplace and could import raw materials from a wide range of sources. The Roman material coming onto site may have been the result of trade, diplomacy or tribute, directly between an emerging elite at Culduthel and the Romans, or indirectly via tribes to the south. That the community was able to participate in these social and economic networks by the early part of the 1st millennium AD demonstrates that it had become a significant settlement in the landscape of Iron Age north-east Scotland.

The discovery of Culduthel from a single cropmark of an isolated palisade of little consequence should be seen as a salutary warning to archaeologists not to dismiss seemingly inconsequential sites. Unenclosed settlements and palisade enclosures dominate the landscape of the north-east and, to further understand the social and political geography of the region, work will be required on both the seemingly prestigious enclosed sites and those that appear on the surface to be far less remarkable.