

Perth and Kinross Archaeological Research Framework

Chapter 6. Early Medieval



Images © as noted throughout the text



Perth and Kinross Archaeological Research Framework

Chapter 6. Early Medieval

Written by David Strachan, Adrián Maldonado, Mark Hall
and Juliette Mitchell

with contributions by Jennifer Allison, Christina Donald, Cathy
MacIver, Coralie Mills, Lily Mulvey, Bess Rhodes, Michael Stratigos
and Grace Woolmer-White

Supported by:

Society of Antiquaries
of Scotland



HISTORIC
ENVIRONMENT
SCOTLAND

SCOTLAND'S
ARCHAEOLOGY STRATEGY 



Contents

6.1 Introduction	4
6.2 Historical Background	4
6.3 The Archaeological Resource	6
6.4 Landscape and Settlement	6
6.5 Daily Life	16
6.6 Economy and Industry	23
6.7 Religion and Ritual	28
6.8 Transport and Movement	43
6.9 Conflict	45
6.10 Research Agenda	47
6.11 Bibliography	55

6.1 Introduction

This early medieval chapter deals with the period around AD 350–1058 and will follow a new structure which aligns with those used for the medieval and post-medieval chapters. In the past the period was often viewed as ‘the Dark Ages’ at the end of ‘prehistory’. The emphasis was on the ‘otherness’ of the period, and about how much information was simply unknown, either through archaeology or history. However, increasingly there is an emphasis on the parallels between the early medieval and the rest of the Middle Ages.

Current consensus favours labelling this as the early medieval period, as outlined in the ScARF Medieval Panel (2012). The period has previously been labelled as the Dark Ages (now antiquated), Late Antique, the Early Christian, the Long Iron Age and the Early Historic. The last two labels recognise both the importance of the continuing influence of prehistoric lifeways and traditions (ScARF 2012; Noble et al 2013) and the indigenous adoption of a new form of evidence, the written word which was a wider Roman legacy. The overlaps are demonstrated in the chronology diagram created by Scotland’s Archaeological Periods and Ages (ScAPA) shown below. ScAPA summarises the period as ‘defined by the adoption of Christianity and the emergence of identity from cultural groups leading to state formation after the end of the Roman Empire’.



Excerpt based on the ScAPA timeline defining chronology of the period over the 1st millennium AD

Across the rest of Britain and much of Europe, study of the early part of the period focuses on elements of continuity with the Roman Empire. However, within Perth and Kinross the overlap with the Long Iron Age is arguably a more appropriate framework, given the limited and sporadic nature of the Roman presence.

The political, social and economic changes which occurred in the Iron Age to medieval transition are reflected in the development of different site types and monuments. These include the introduction of elongated house forms, longhouses or byre-houses, first identified as a new and distinct settlement type in the uplands of north-east Perth and Kinross (RCAHMS 1990). Later these house forms became

known as Pitcarmick-type buildings (Carver et al 2013; Strachan et al 2019). Another significant change across northern Britain, as in Ireland, western England and Wales, was the re-emergence of fortified enclosures as manifestations of power, and as a symbol of more developed social hierarchies (Alcock 2003, 179–99; Noble 2016).

The period also saw the introduction of Christianity, which in this area probably began with missionaries from Iona moving eastwards through Glen Lyon, Loch Tay and Loch Earn. Monastic sites were established in the 7th and 8th centuries AD (Taylor 1999; Taylor 2000; for the posited earlier conversion episode, see Clancy 2000, 95–6 and Smyth 1989, 82–3). At this time, new ritual landscapes were introduced, leaving a primary archaeological signature of square barrows and barrow cemeteries (Maldonado 2017; Mitchell et al 2020). Finally, important new Insular art forms developed, significantly Pictish sculpture, including symbol stones and cross-slabs (Henderson and Henderson 2004; Fraser 2008; Hall et al 2020). While Roman influence persisted in the earlier part of the period, through the role of silver as a status symbol and catalyst for social change (Blackwell et al 2017).

Finally, in the latter part of the period the foundations for the emergence of the kingdom of Scotland were laid. Major medieval religious sites were established, and international connections became increasingly significant for the economy and culture of the region. Significantly, the written word began to play an increasing role in society, shaping both the nature of communication and memory, and providing us with additional evidence to compare with the archaeological record. Although the challenges of researching the early medieval period are not identical to those of understanding the later medieval period, they have sufficient overlap to make organising the content in a similar way desirable. This more thematic approach has less emphasis on monument types and artefacts that dominate the prehistoric chapters.

6.2 Historical Background

There is a comparatively rich corpus of early medieval events recorded in contemporary textual sources which can be located within our region. These have been used to guide archaeological interventions in the past, and if used with care, can enrich our interpretation of archaeological finds. However, they are limited largely to major battles and the movements of kings and bishops, and so give only a partial view of life in early medieval Perth and Kinross.

The place-names *Dun Chaillden* (Dunkeld) and *Schiehallion* are a remarkable witness to the first

group of people named in Roman sources for what is now Scotland, the Caledonii (Fraser 2009, 20), even though these are much later Gaelic place-names. Other place-names capture the fame of St Columba and his successors at the monastery of Iona (Taylor 1999; 2000). They are evidence for early engagement between Dál Riata and the realm of Atholl where the relics of St Columba would later be translated. St Columba was said to have been familiar with the people and the ‘great king’ of the Tay by the late 6th century (Fraser 2009, 99–103). Perthshire is often assumed to have been a Pictish realm, but it seems links with Dál Riata were just as important, and it may be only after the late 7th century that Atholl came under control of the kings of Fortriu (Woolf 2017). In 739 we hear of a separate king of Atholl, but only when he was drowned by Onuist map Uurguist (Óengus mac Fergus), king of the Picts (Fraser 2009, 298). By 965, the men of Atholl were one among many who fought for control of Alba. A battle was fought at *Dorsum Crup*, likely [Duncrub](#) near Dunning, against the king, at which fell ‘Dubdon *satraps*’, presumably the mormaer of Atholl, and Dunchad abbot of Dunkeld (Woolf 2007, 201–2). Less than a century later, in 1034, Donnchad mac Crínáin, son of another abbot of Dunkeld, would become the first in a line of kings extending down to Alexander III (McGuigan 2021, 68–93).

Reconstructing the political geography of the region is complicated by the late date of the surviving sources, often dating no earlier than the eleventh and twelfth centuries. Certainly the kingdom of Atholl seems to have represented a major political entity for much of the early medieval period, perhaps the core territory of Pictland south of the Mounth (Fraser 2009, 101–3). The lowland zone was latterly dominated by the earls of Strathearn. The region has the greatest evidence for 8th- and 9th-century Pictish relief-carved cross-slabs as well as major ecclesiastical foundations like Forteviot, Dunblane and Muthill. It was long thought that the kingdom of Fortriu was based here, but it is now suggested that this was based around the Moray Firth, with the realm of Mag Circin or Gergind eventually incorporating the Mearns, Strathmore and Strathearn (Noble and Evans 2019, 19). The lack of clarity comes from the major political disjuncture of the early medieval period: the arrival of the Vikings, the fall of the Pictish kingdoms and the rise of the Gaelic-speaking Kingdom of Alba, all of which have impacted the survival of textual evidence. In the 8th century, northern Britain was dominated by the kingdom of Pictavia/Pictland, which had a northern core focused in north-east Scotland and a southern one in Atholl and Strathearn, and the Anglo-Saxon kingdom of Northumbria. Both realms were severely impacted by the Viking campaigns of

the 9th century. A catastrophic, unlocated battle in 839 seems to have taken out the leading families of both the Picts and Dál Riata (Woolf 2007, 66). The Viking threat led to constructive reorganisation in Scottish kingship, and Forteviot was central to this (Campbell and Driscoll 2020, 30). While the nature of Gaelic expansion into the area remains unclear, the result was the emergence of the Kingdom of Alba in around AD 900. It has been suggested that the southern province of Circin was divided into three, each with their own royal centre (*manorium*): Angus with [Forfar](#), Gowrie with [Scone](#) and Strathearn with [Forteviot](#) (Campbell and Driscoll 2020, 30). By the end of the first millennium, the kings of Picts and later of Alba seem to have been based on the Tay, with a ‘central transit zone’ consisting of the major centres of Dunkeld, Forteviot, Scone and St Andrews (Woolf 2007, 198).

A number of battles and events, consequential enough to have been noted in the contemporary Irish annals, took place in the region. The hillfort of Dundurn in Strathearn was besieged in 682, and remained occupied as late as 889, when the Pictish King Giric was said to have died there (Fraser 2009, 214–5; Woolf 2007, 125). In 728, Onuist map Uurguist defeated the Pictish King Alpín at Moncrieffe, beginning his rise to power over both Pictavia and Dál Riata (Fraser 2009, 288). King Causantín mac Fergusa (789–820) is commemorated by the Dupplin Cross, or Constantine’s Cross, which overlooked the valley of the Earn near Forteviot. Cináed mac Alpín certainly died at the palace of Forteviot in 858 (Campbell and Driscoll 2020). Both Causantín and Cináed have been linked to the foundation of a monastery dedicated to St Columba at Dunkeld in the first half of the 9th century (Broun 1997). The arrival of relics of St Columba in 849 have been interpreted as a response to repeated Viking attacks on Iona, but inland monasteries were not much safer. Dunkeld was subject to Viking raids from at least the reign of Cináed mac Alpín, when ‘Danes’ were said to have raided Pictland as far as Dunkeld and Clunie. In addition, the Strathearn monastery of Dunblane was ‘burned’ by the Britons around this time (Broun 1997, 120–2; Woolf 2007, 94–5, 101–2). King Causantín, son of Cináed mac Alpín, was killed by Healfdane, a leader of the Great Heathen Army, in Atholl in 875 (Woolf 2007, 112). Further raids on Dunkeld took place in 878, which caused the community of Columba to seek refuge in Ireland, and again in 903 (Broun 1997, 121–2).

Domnall mac Alpín, Cináed’s brother and successor, also occupied Forteviot, but died in 862 at Cennbelathoir, which is identified as Rathinveramon, at or near the site of the Roman fort of Bertha across the Tay from Scone (Woolf 2007, 103–4). The royal

inauguration site of Scone itself was first mentioned in 906, when an important summit between King Constantine mac Aed of the newly-minted Kingdom of Alba and Bishop Cellach was held atop the ‘Castellum Credi’ or Hill of Faith, presumably the hillock later known as the [Moot Hill](#) (Woolf [2007](#), 134–8).

During the course of the 10th and 11th centuries, the centre of power for the Kingdom of Alba began to move further east, with the early monasteries of Abernethy and St Andrews becoming increasingly important. However, Scone would continue to be the traditional inauguration place of the kings of Scots for centuries. The 12th-century Foundation Legend of St Andrews retained mentions of royal foundations at Forteviot and Meigle, showing the power of tradition even as times changed.

6.3 The Archaeological Resource

Compared to some other periods, and the Iron Age in particular, there have been relatively few extensively excavated early medieval sites in Perth and Kinross. Historically, the archaeology of the period was largely unknown (Wainwright [1955](#) until relatively recently. A good example is the poorly understood character of houses, which only began to change with the work of Ralston ([1997](#)). Those sites that have been explored fall within three broad categories: secular elite sites, essentially forts and cemeteries; high-status religious sites, ie early monastic sites; and rural lower status peasant houses, ie Pitcarmick-type byre-houses that survive mainly in the uplands of Glen Shee and Strathardle. These categories are not rigid; for example, there are a small number of burials interpreted as lower status rather than elite, such as the male inhumation from [Blair Atholl](#) (Czére et al [2021](#)). Exploration of this limited range of site types, with an emphasis on those of high-status, has undoubtedly influenced what can be said about the period. Additional forms of evidence, notably the carved stones (Fraser [2008](#); Henderson and Henderson [2004](#)), and textual references (Woolf [2007](#)), do little to alleviate this bias, as they are also exclusively focused on the upper echelons of society.

The artefactual material from Perth and Kinross is critical for understanding the early medieval period. Documentary references to places in the region are sparse and concentrate on power centres in the east, while the distribution of diagnostic artefacts demonstrates occupation from the Highland glens to the lower Strathhtay. The majority of finds from early medieval sites are not chronologically diagnostic and require other dating evidence.

The movement and reuse of objects is both a

challenge and opportunity for understanding the period. The Anglo-Saxon segmented bead from [Lair](#) was probably an heirloom when deposited, and the decorated spindle whorl from the same site was of non-local sandstone. While this can be problematic in terms of understanding the origins and journey of some items, others give a clearer indication of trade networks. One such example are the imported E-wares, which are found on high-status sites such as the forts of [Dundurn](#) (Alcock et al [1989](#); Campbell [2007](#); Campbell [2020](#); Campbell and Bowles [2009](#)) and the [King’s Seat](#), Dunkeld (Strachan and MacIver [forthcoming](#)).

The date range of objects recovered by excavation focuses on the mid-centuries of the early medieval period, around AD 700–900. The material is, unsurprisingly, primarily indicative of aristocratic activity, given the nature of the majority sites investigated, but also perhaps due to the difficulties of dating mundane tools such as knives, whetstones and querns. Finds from before the 7th century are rarer, in contrast to the wealth of burial evidence from this period (Winlow [2011](#)). There is also strong evidence of ‘Viking Age’ (about 800–1100) artefacts which is bolstered by stray finds. The period ends with the establishment of the earliest burghs, particularly Perth, where its origins in the early medieval period are revealed by the material culture, well before its first royal charter was issued in the 12th century.

6.4 Landscape and Settlement

As with the Iron Age period (PKARF Iron Age Chapter), the debate continues over the significance of the upland/lowland divide, as determined by the geological and geographic Highland Fault line. This is complicated by biases in available information. One issue is the identification and survival of sites in the lowlands, where later sites have destroyed earlier remains. Comparison of the RCAHMS surveys of the north-east ([1990](#)) and south-east ([1994](#)) of Perthshire illustrate this well. A second issue, as outlined in previous chapters, is the bias created by the rest of Perth and Kinross not having seen a similar level of consistent survey as for these two volumes. This is a problem which is exacerbated by the lack of a RCAHMS County Inventory.

6.4.1 Upland and Lowland Settlement

Upland Settlement

Early medieval domestic buildings were largely unknown archaeologically in mainland Scotland until the 1980s, when survey of north-east Perthshire identified a new and distinct building type: large, turf-built byre-houses (RCAHMS [1990](#)). They survive in the upper zone of the uplands, and occur primarily in

Strathardle and Glen Shee, with four principal groups at Balnabroich (RCAHMS [1990](#), 98–9), Knockali (RCAHMS [1990](#), 148–50), Lair (RCAHMS [1990](#), 150–2) and Pitcarmick (RCAHMS [1990](#), 75–8). The sites are commonly found to re-occupy sites of prehistoric settlement and activity, and do not tend to overlap later post-medieval ‘ferms’ and ‘fermtouns’. Excavations at Pitcarmick and Lair have since helped to characterise these building types.



Aerial survey photograph of Lair, used to identify Pitcarmick structures © HES

The type-name was applied following excavations at [Pitcarmick North](#) by Barrett and Downes in 1993–5 (MPK2614; [Carver et al 2013](#)). Here, two houses were dated to the 8th–11th centuries AD. The elongated buildings, with their round-ends, were interpreted as byre-houses (see Building Traditions). Very few finds were recovered in context, although a stone pot lid, cannel coal bangle and animal bone were attributed to this phase.

Evidence of early medieval upland settlement was in fact first uncovered in 1987 when excavation of the large prehistoric hut circle group at [Carn Dubh](#) produced 7–9th century AD dates from the hearth of a sub-rectangular structure (MPK1752; [Rideout 1996](#)). This appeared to be an attempt to construct a rectangular building on the footings of an abandoned roundhouse. This resulted in a narrowing, slightly sunken form, with some similarity to the Pitcarmick-types, but much wider and more irregular in plan ([Rideout 1996](#), 159).

The site at Lair, Glen Shee, identified as significant due to a potential sequence of successive Pitcarmick-types (RCAHMS [1990](#), 12), has since been more extensively studied with seven buildings excavated (Strachan et al [2019](#)). This confirmed the introduction of the site type in the early 7th century AD. The development of this site type is clearly linked to the

warming climate and can be seen as a purposeful reoccupation of a previously neglected landscape. The study also excavated the first building annexe, a characteristic of the type, and importantly identified early medieval buildings that were simpler than the classic Pitcarmick-type. These were interpreted as an integrated and prosperous farm complex comprising a byre-house and outbuildings. Pollen analysis confirmed the presence of both arable and pastoral upland economies. A wider study suggested contemporary upland economic ‘recovery’ across Scotland. Lair appears to have been stable and productive until the 11th century when poorly understood change resulted in its demise.

The distribution of known Pitcarmick-types was influenced by the extent of the 1980s RCAHMS ([1990](#)) survey, and since then a number of possible examples have been recognised west of the River Tay. These include examples found amid recurrent settlement spanning the Bronze Age to the late 1st millennium AD in Strathbraan (Cowley [1997](#)), at [Griffin Wind Farm](#), sites 11, 19 and 25 (MPK7348, MPK7350 and MPK7345), Aberfeldy (Bailey [2014](#)) and also possibly at [Bunrannoch](#), Kinloch Rannoch (MPK237; MacGregor [2010](#)). It is possible they were once ubiquitous across the region’s inhabitable uplands but further work is required to confirm examples outside the RCAHMS 1990 and 1994 study areas. Another potentially important site, on the terraces above the strath floor at Logierait (EPK1488), produced a number of early medieval features. These include a suite of 44 postholes representing structures occupied in the late 7th to late 8th centuries AD, a buried soil of late 8th or 9th century AD date, containing indirect evidence of ironworking, and ditched boundaries dated to 9th century AD (Ellis et al [2021](#)).

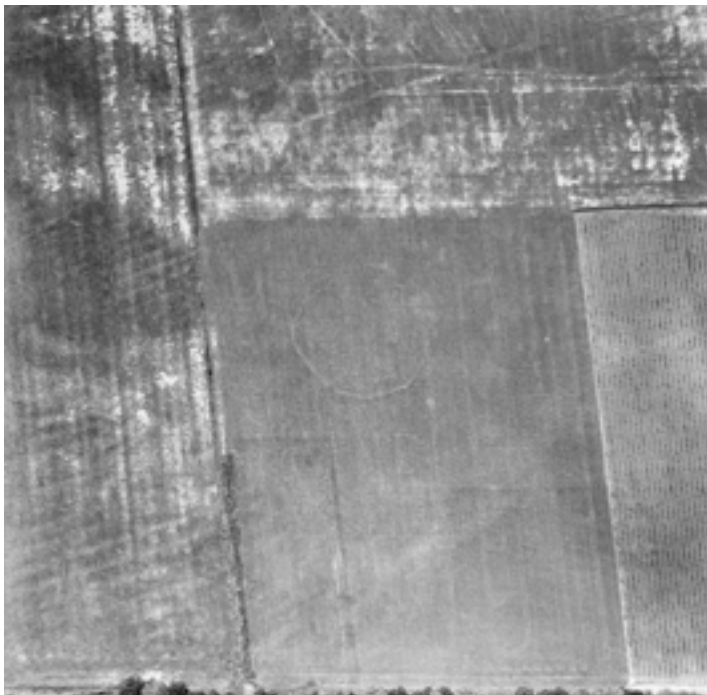
Lowland Settlement

In contrast to the uplands, there is a lack of lowland settlement evidence both in this region and across most of lowland Scotland. At [Easter Kinnear](#) and [Hawkhill](#), Fife, a series of sub-rectangular cropmarks were confirmed through excavation to be sunken buildings, around 10x7m long with rounded corners and stone wall footings. Evidence at the former produced up to three phases of activity including a remodelling into sub-rectangular timber buildings of earth fast timber and wattle wall construction, dated between the 6th and 7th centuries AD (Driscoll [1997](#)).

It would be reasonable to assume that cropmark evidence should exist for early medieval structures in Perth and Kinross, but to date none is known. This in part may result from the nature of the largely turf construction with minimal, if any, cut features,

so easily removed by the plough and leaving no diagnostic cropmarks. It is possible that the lowland equivalent of the Pitcarmick-types may be identified as cropmarks by their sunken interiors, appearing as simple, straight linear features around 10–20m in length (Halliday pers comm).

One of around 60 palisaded enclosures, almost all known as cropmarks, has been shown to be early medieval through excavation. [Upper Gothens](#) (MPK5496), Meikleour, was explored on the basis of the coincidence of a lithic scatter and an irregular, sub-circular enclosure, assumed to be Neolithic (Barclay [2001](#), 35). It produced dates of the 9th–13th centuries and was shown to be a potentially high-status site associated with metalworking (Barclay [2001](#), 43). It indicates the potential for the identification of enclosed settlement for the period.



Cropmark of round, palisaded enclosure at Upper Gothens ©HES

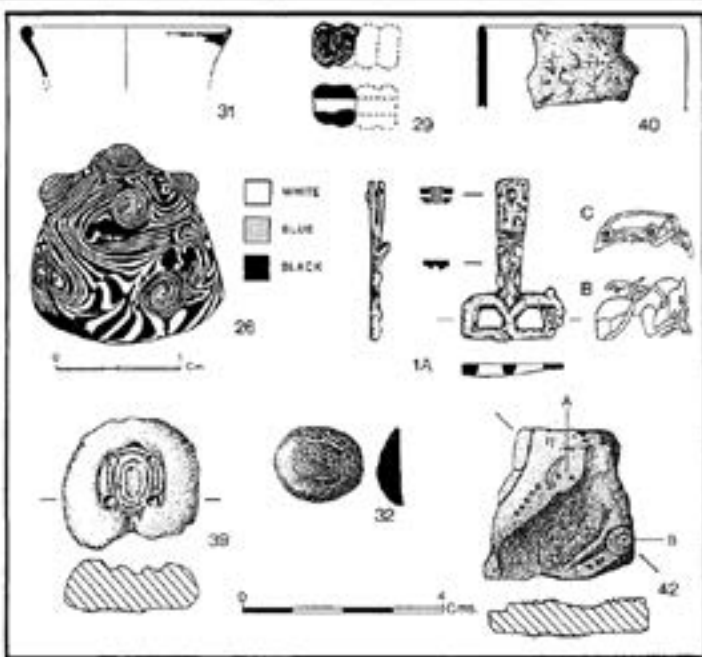
This paucity of earthwork and cropmark evidence makes the identification of early medieval settlement and activity through programmes of excavation on multi-period sites all the more vital. At Bertha Park, Perth, activity spanning the Neolithic to early medieval period identified in 2013–14 was further excavated in 2016 (MPK20178-88; Engl [2020](#)). The majority of the excavated structures were interpreted as representing the truncated remains of an early medieval farmstead and its ancillary structures occupied between the late 7th to 12th centuries AD. Features excavated included a rectangular post-built structure, two posthole/pit alignments, a posthole/pit group, and a large pit containing articulated cattle bone (MPK20180). The post-built

structure, measuring around 10.5x6m, may be similar to the sub-rectangular domestic structures at Easter Kinnear, Fife (Engl [2020](#), 18). It may also have parallels with later sites at [North Scotstarvit](#), which dates between the 11th and 13th century AD (MacGregor [1998](#)), and [Newbarns](#), Angus, dating from the 8th–11th centuries AD (McGill [2004](#); Dunwell and Ralston [2008](#)).

While no structural settlement evidence was found at [Newmill](#) West, the A9 dualling programme between Luncarty and Pass of Birnam saw the excavation of a grain drying kiln dated to AD 421–547 (MPK2331; Wilson and Clarke [2019](#)). Cereal drying kilns are known in association with sub-rectangular domestic structures, such as that at North Scotstarvit in Fife (MacGregor 1998). While North Scotstarvit is later (AD 1043–1282), it suggests the Newmill kiln as a proxy for settlement in the area, further evidence of which might survive beyond the limited area evaluated as part of the A9 development.

6.4.2 High Status Sites

One aspect of Roman influence on the Iron Age communities was an accumulation of wealth resulting in increased social stratification and political reinvention (Campbell and Driscoll [2020](#), 28–9). In secular terms this is reflected in the emergence of ‘localised’ kingships in the 5th–9th centuries, which can be seen through fortified power centres, the first of which was recognised at [Dundurn](#) (MPK346) in the 1970s (Alcock et al [1989](#)). Alongside this, the introduction of Christianity to Scotland had increasing influence during this period. While most aspects of this conversion remain unclear, the impact of St Columba’s missionaries from the 6th century resulted in the establishment of a number of regionally important religious centres, or church settlements. Indeed, the development at sites such as at Fortingall and [St Serfs](#) (Loch Leven; MPK3030) were part of long-term strategies to underpin regional scale lordship, probably derived from these early power centres (O’Grady [2017](#), 24).



Dundurn, glass and fine metalworking (Alcock et al 1989, illus. 14)



Glass bead from Dundurn © Hunterian Museum, University of Glasgow

Of these early power centres, [Forteviot](#) (MPK1935) was to have a uniquely special place in Scottish history, with the death of Cináed son of Alpín (King Kenneth mac Alpín), recorded at the ‘palace’ there in AD 858. Already a major royal centre in an emerging Gaelic nation – first as the Kingdom of Alba and then its successor Scotland, the site was located beside one of the most extensive early prehistoric ritual complexes in mainland Scotland (Brophy and

Noble [2020](#)). This dynamic natural amphitheatre of memory and invented tradition was recently explored through the Strathearn Environs and Royal Forteviot (SERF) project (Campbell and Driscoll [2020](#)). As a site of royal inauguration, Forteviot was ultimately to be replaced by [Scone](#), where radiocarbon dates suggest construction of the moot-hill ‘at some time either side of c.AD 1000, or less probably, c.AD 900’ (MPK5474; O’Grady [2018](#), 142–3). It would become the inauguration and later the [coronation](#) site of the Scottish kings down to the 17th century.

While most Scottish forts are considered to be of Iron Age date (Lock and Ralston [2017](#); Halliday [2019](#)), a small number were created as centres of power and elite crafts in the early medieval period. They represent elite and royal strongholds, and reflect increasing social stratification (Ralston [2006](#); Harding [2004](#); Alcock [2003](#)). They were first proposed as ‘Dark Age Capitals’ and categorised as ‘nuclear forts’ by Stevenson ([1949](#), 187) following his survey of [Dalmahoy Hill](#). They are characterised by a central summit fort, or citadel, often on a rocky outcrop, with a series of outer works on descending terraces, and are usually smaller than Iron Age forts (Harding [2004](#), 169 and 235).

The few historic references for the period are often connected with strongholds and significant events and a series of excavations at sites mentioned in early medieval annals included [Dundurn](#), near St Fillans (MPK346; Alcock [1978](#); Alcock et al [1989](#)). Occupying a rocky knoll, controlling the pass from Loch Earn to the east, it has an inner dun-like enclosure on the summit surrounded by a series of lower terraces enclosed by walls. Radiocarbon dates confirm early medieval construction of the upper fortifications with the timber-laced wall of the summit enclosure, and stone wall around the uppermost terrace dated to the 7th to 9th centuries AD. An initial palisaded phase in the 6th to early 7th centuries AD has been suggested based on the build-up of midden deposits on the slope and the presence of structural timbers recovered from an overlying wattle floor (Alcock et al [1989](#)).

Despite limited excavation, Dundurn produced a remarkable array of high-status finds dating primarily to the 7th–9th centuries. These included imported glass and pottery, evidence of specialist craftworking, mainly non-ferrous and possibly ferrous metalworking, as well as leather and possibly glass working (Alcock et al [1989](#)). Remarkably, waterlogged deposits accrued behind the upper enclosure defences and preserved oak timbers and a well-preserved decorated leather shoe (Alcock et al [1989](#)). The E-ware of 7th-century date, and the later imports and finds of 9th-century date suggest a longer occupation than most hillforts excavated

in Scotland so far. It supports the documentary evidence for royal occupation here as late as AD 889. Further details of the assemblage can be found across the various sections below.



Aerial view of Dundurn © HES



Leather shoe from Dundurn © HES

The combination of the choice of site, construction and morphology, and a suite of artefacts evidencing specialist craftworking and imported goods related to feasting is recognised at other early medieval royal strongholds, notably [Dunadd](#), Argyll (Lane and Campbell [2001](#)). Recent and ongoing excavation at the [King's Seat](#), Dunkeld or the 'Fortress of the Caledones' (MPK5444; Jackson [1954](#), 14–6) has revealed a similar choice of site and morphology and 'signature' assemblage as found at Dunadd and Dundurn. Here, an upper, inner enclosure was

flanked by two enclosures on lower terraces. The middle and upper enclosures produced radiocarbon dates from the 6th–7th centuries, recovered from two hearths and a posthole related to construction of the middle terrace enclosure bank. The lowest enclosure produced a radiocarbon date of 5th–7th centuries from a metalworking deposit which likely post-dated the lower enclosure construction (Strachan and Maclver [forthcoming](#)). The extensive and significant finds assemblage, similar to other high-status sites of the period, includes iron metalwork, metalworking moulds, crucible fragments, E-ware pottery and imported glass. Three hearths were excavated across the site, with the excellent preservation of the large central hearth packed with animal bone suggesting feasting within a substantial structure within the upper enclosure (Strachan and Maclver [forthcoming](#)). The relevance of the assemblage from the King's Seat to various aspects of early medieval life is further discussed below. An important point to highlight here is simply that, despite close similarities in date, morphology and assemblages, the fort at the King's Seat was not mentioned in the sources which record events at the forts of Dunadd and Dundurn.

An important aspect of these forts is their strategic location on both a local and regional scale. It may be significant that both Dundurn and Dunkeld are located on the Highland Fault line, and that both control access through important riverine/terrestrial passes. The King's Seat controls the north-south route, known as King's Pass, into the uplands on the region's main river, the Tay, and this may be significant. Dundurn occupies a similar, narrow valley where an important route through the southern Highlands links Perth and Kinross to the west coast (Alcock et al [1989](#), 195).

Forts were not simply places where high-status goods were consumed, but were also the centres for production of the material culture that conferred such status. Hearths and debris attest to an intensive phase of non-ferrous metalworking at the King's Seat fort, Dunkeld, including crucibles and ingot moulds, which point to the working of precious metals in the 6th–7th centuries (Strachan and Maclver [forthcoming](#)). A complete silver ingot from a 7th-century context at the [Clatchard Craig fort](#), Fife, attests to similar production at comparable sites (NMS X.HHC 121; Close-Brooks [1986](#), 163). It suggests that the raw materials themselves, as well as the high-status objects crafted, were exchanged at these sites. Similarly, the varied E-ware pottery assemblage that represents a number of different vessel forms and Anglo-Saxon glass beads indicates engagement with wider trading networks to the west and south.

Without excavation, it is difficult to assign early medieval dates to other forts in Perth and Kinross, although there are other possible examples. *Dunison*, mentioned in the Pictish king lists, has been suggested to be [Dunsinane Hill](#) (MPK4823). The summit enclosure is defined by three concentric ditches, while an outer enclosure encompasses a number of lower terraces. The fort attracted early antiquarian interest as ‘MacBeth’s Castle’ (Atlas) and the site remains heavily scarred from the early excavations around 1799 and the 1840s (Strachan et al [forthcoming](#)). No early medieval material was identified during the early excavations, so the date of the fort remains uncertain (Alcock [1981](#)). Conversely, the fort at [Moncreiffe Hill](#), long suggested to be early medieval, primarily through association with a Pictish dynastic battleground, has been confirmed by excavation to be Iron Age (MPK3203; Strachan et al [forthcoming](#); see PKARF Iron Age Section).

The uplands west of the River Tay contain a notable concentration of massive, stone-walled roundhouses, found on high ground associated with pasture overlooking upland passes. They have previously been referred to as ‘ring-forts’ (Stewart [1969](#)), ‘homesteads’ (Taylor [1990](#)) and ‘monumental roundhouses’ (Hingley [1992](#); Strachan [2013](#)). Stewart suggested they represented early medieval migration into Highland Perthshire from the west coast in the 8th–10th centuries ([1969](#), 31). Since then, three examples have been shown to be constructed in the Iron Age. One of the two at [Aldclune](#) dates to between the 1st and 2nd centuries BC and other between the 2nd and 3rd centuries AD, with two phases of occupation at each site (MPK3; Hingley et al, [1998](#)). The [Black Spout](#) was constructed between the late 3rd and late 2nd centuries BC and occupied until the end of the 1st century BC (MPK1607; Strachan [2013](#), 53). Both sites have indicated some early medieval activity or reuse. At Aldclune, post-occupation deposits contained a spectacular 9th-century silver penannular brooch (NMS X.FC 304; Stevenson [1985](#)) and a rare iron ‘fire steel’, now identified as a purse mount of likely 7th-century Anglo-Saxon origin (Blackwell [2018](#), 128).

At the Black Spout, a phase of rebuilding of a collapsed section of the enclosure wall at the entrance was dated to AD 870–1000 (Strachan [2013](#), 53). Early medieval activity and evidence of metalworking from the 7th–9th centuries AD has been noted (Strachan [2013](#), 36–7) at other sites of this type, including [Litigan](#) (MPK413) and the [Queens View](#) (MPK1212; both Taylor [1990](#)), and at [Bunrannoch](#), Kinloch Rannoch (MPK239, MPK14637-8; MacGregor [2010](#)). It has been suggested that the nature and scale of these abandoned structures may have made them suitable for reuse for this pur-

pose in the early medieval period. A handful of 5th–10th century AD radiocarbon dates are also known from crannogs with radiocarbon identified phases in Loch Tay. These could be viewed as analogous to the reuse of the terrestrial sites (Dixon [2007](#); Hamilton pers comm). A number of more irregular duns, such as [Dun Geal](#) (MPK4400), above Fortingall, have been found in the uplands west of the Tay. As yet undated, they may prove to be early medieval, or perhaps of Iron Age construction with similar reuse as at the monumental roundhouses.



Moothill at Scone © HES

Open-air assembly mounds, used as judicial courts throughout medieval Scotland, have their origins in the early medieval period (O’Grady [2008](#)). The area includes the ultimate expression of the form in the moothill at [Scone](#) (MPK5474), constructed at some point in the late 9th or early 10th century AD (O’Grady [2014](#); [2018](#)). Some were adapted prehistoric barrows and cairns, and were closely associated with early church sites. There are records of at least ten possible ‘moot’ and ‘assembly’ sites, including sites with ‘court’ in the name field, in the Perth and Kinross HER, with place-names indicative of others. These are discussed more fully in the PKARF Medieval chapter.

6.4.3 Building Traditions

Despite the increase in available data since Wainwright's limited exploration of 'Houses and Graves' in the seminal *Problem of the Picts* (Wainwright 1955), early medieval settlement studies continue to be problematic. Settlement evidence has been notoriously elusive in mainland Scotland, with the notable exception of the Pitcarmick-type houses (Carver et al 2013; Strachan et al 2019). Elsewhere in Scotland, settlement evidence broadly indicates a widespread and complete movement away from the prehistoric roundhouse form and towards less monumental multi-cellular structures (Hedges 1990; MacKie 2007). In Caithness and on the Northern Isles, where stone architecture was typical, wheelhouses and WAG-type buildings show a trend towards cellular buildings (Ralston 1997). These are often associated with earlier settlements and sometimes used the abandoned structures for building materials such as at the Iron Age sites of [Gurness](#), [Wag of Forse](#) and [Buckquoy](#). More locally in Fife, where timber architecture predominates, single cell structures which employ similar construction techniques to those of the Bronze and Iron Ages are apparent. Importantly the round building forms were superseded by rectangular structures, such as at [Easter Kinnear](#) and [Hawkhill](#) (Driscoll 1997, 91).

until the 19th and early 20th centuries (Carver et al 2013; Strachan et al 2013). They take their name from the type-site, excavated by Barrett and Downes (1993; 1994), as discussed above. While Continental parallels have been recognised, they most likely evolved from the local roundhouse tradition as part of a northern European trend (Strachan et al 2019). Recent analysis and reconstruction of turf buildings in the Netherlands suggested that the rounded corners were used to prevent long walls from tearing apart at the corners (Nicolay and Postma 2018). The byre-houses were constructed with turf or turf-and-stone layered walls with timber roof-supports. They were constructed on inclines with the domestic 'house' including a hearth upslope, while animals were stalled on either side of the lower end, with a drain removing waste downslope out of the building.



Early medieval turf structure in Glen Shee © Perth and Kinross Heritage Trust

Pitcarmick-type houses

These are large, elongated buildings with rounded ends, sometimes with bowed walls, often narrowing to one end, which is often sunken. With turf-built walls over stone footings, they range from 10–30m in length and are frequently constructed on an incline with the narrow end downslope (RCAHMS 1990). They are architecturally similar to the byre blackhouses once common in the Highlands and Western Isles



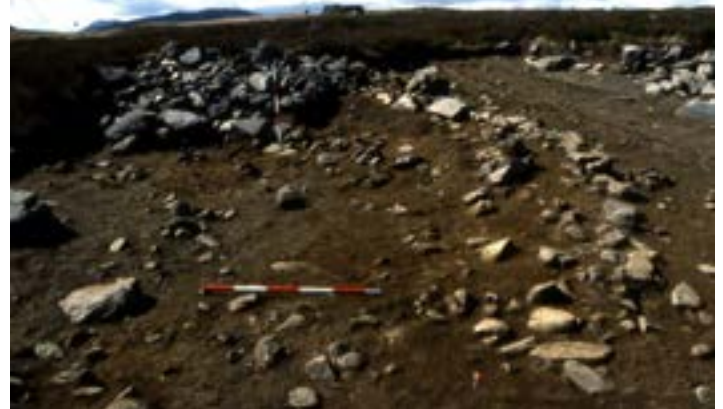
Reconstructed drawing of a Pitcarmick house © Alan Braby, courtesy of Perth and Kinross Heritage Trust



Excavated hearth from Pitcarmick structure (Carver et al 2013)

[Buildings 1 and 2](#) (MPK4456) at Lair, also in Glen Shee, were initially described as 'Pitcarmick related' and may represent the development of the Pitcarmick style over time (RCAHMS 1990). Building 1, built almost entirely with turf, timber and thatch, was very

long (25m internally) with rounded ends and straight sides. The downward slope towards the north-west end suggesting the need for drainage supports the interpretation of this structure as a byre-house. Building 2 was constructed using considerably more stone along with turf. It was much shorter than building 1 (13m long) and had the characteristic bowed sides of a Pitcarmick building. The possible function of this building ranges from an outhouse to the domestic dwelling associated with non-domestic building 1. Building 3 was large (20 x 5.5m) and had at least two phases. Evidence within this building supports an interpretation of the building being used for storage, working and as a byre-house over the course of its lifespan. [Buildings 3, 4 and 5](#) are referred to as the Pitcarmick-type proper and seem to represent a network of structures which developed as additional storage and workspace was needed (MPK4384; Strachan et al [2019](#)). The excavation at Lair offered a new perspective on Pitcarmick-type sites, suggesting specialist use of the annexes associated with the Pitcarmick buildings. This defining feature of the site type was previously unrecognised (Strachan et al [2019](#), 150).



Buildings 1 and 2 during excavation at Pitcarmick (Carver et al 2013)

Crannogs

Crannogs are artificial island dwellings ‘enclosed’ by the surrounding water. The majority have Iron Age origins; however, there are Scottish examples spanning the Neolithic to the medieval periods (Crone [2012](#)). They are found in the lochs of Perth and Kinross and those in Loch Tay have formed part of a number of studies (Dixon [1981](#); [2004](#); Dixon and Shelley [2006](#)). One sampling programme, which identified mainly Iron Age activity, did include evidence of early medieval reuse during the 6th to 9th centuries AD at [Craggan](#) and [Dall Bay North](#) (Dixon [2007](#)). The Living on Water project targeted seven crannogs in Loch Tay to explore the chronological relationships of Iron Age occupation using radiocarbon wiggle-matching. Reuse in the 7th century AD was indicated at Dall Bay North, and 5th to 7th century AD reuse was identified at [Eilean Breaban](#) (MPK180), [Fearnan Hotel](#) (MPK495) and [Milton Morenish](#) (MPK170) (Hamilton pers comm). A field survey in 2004 at [Loch Drumellie crannog](#) returned an early medieval date from an oak timber (Dixon and Shelley [2006](#)). While there has been no comprehensive excavation of an early medieval crannog in Perth and Kinross, excavated sites of the period elsewhere in Scotland have evidence of high-status occupation. The use of crannogs as high-status centres may have been widespread (RCAHMS [1994](#)). For example, E-ware pottery and crucibles for fine metalworking were recovered at [Loch Glashan](#), Argyll, which may link it to other high-status sites such as the forts of Dunadd and Dundurn (Crone and Campbell [2005](#)). To the east, [Castle](#) and [Prison](#) Islands, Loch Kinord, Aberdeenshire, have demonstrated phases of use sometime in the 6th–12th centuries AD (Stratigos and Noble 2014: 2018). The potential of further late first millennium AD crannogs across all of northern Scotland including in Perth and Kinross has also recently been highlighted (Henderson et al. [2021](#); Stratigos and Noble [2021](#)).



Excavation at Lair, Glen Shee in 2013 © Perth and Kinross Heritage Trust

The transition of form from roundhouses to elongated buildings remains unclear. Whether it was the consequence of external influences, or an emergence from the existing roundhouse tradition, remains an open question. The rounded ends of Pitcarmick-type buildings may relate to turf construction and/or the maintenance of turf walls against erosion by cattle and the weather. It is likely that some roundhouses remained in use for some time after the introduction of the Pitcarmick-types, but as yet no clear early medieval examples have been discovered.



Reconstructed crannog at The Scottish Crannog Centre on Loch Tay © Gunther Tschuch



Croft-na-Caber crannog under reconstruction © HES

Early medieval finds from crannogs in the area are scarce as a result of the lack of deliberate work investigating crannogs dating to the period. Yet, the potential for illuminating the early medieval period with material culture from crannogs has to be very high given their usual waterlogged or submerged conditions. Preserved wooden artefacts and cloth at the Iron Age [Oakbank crannog](#) (MPK484) demonstrate the preservation possible in waterlogged deposits. It also shows the potential for further understanding of early medieval activities not usually detected on terrestrial sites. Although, this presumption should be tempered as not all excavated crannogs produce excellently preserved and abundant artefact assemblages (eg Cults Loch crannogs, Dumfries and Galloway; Cavers and Crone [2018](#)).

While the recorded find circumstances are vague, it is worth mentioning the late 7th- or early 8th-century hoard from [Tummel Bridge](#) (MPK540), at the western end of Loch Tummel. The hoard comprises three silver penannular brooches, and fragments of a bronze hanging bowl and a cup, probably of Roman origin. The fragmented bronze items contrast with the complete, but possibly unfinished, silver brooches, and it has been interpreted as a Pictish metalworker's hoard (Anon [1888](#); Cessford [1999](#)). The material would not be unexpected at a high-status fort but non-ferrous metalworking also took place at crannogs, recalling Hebridean examples, such as [Eileann Olabhat](#), North Uist (Armit et al [2008](#), 82–92). In a similar vein, the 19th-century stray discovery of two Pictish, silver penannular brooches of 8th–9th-century date from close to [Clunie Castle](#), a crannog site in Loch Clunie (MPK5520; Youngs [1989](#), 114–5) may support elite residence and manufacture at that site. A metal-detector find of a fragment of a third brooch in 1990, allocated to the National Museums Scotland to accompany the two complete brooches, may substantiate that supposition. Viking raiding in the area may have prompted their deposition or loss, and the crannog, which was later occupied by the bishop of Dunkeld's castle, may have been at this time a Pictish lordly residence (RCAHMS [1994](#), 91).

The early medieval reuse of crannogs on Loch Tay also offers the opportunity to develop tree-ring chronologies for the period as oak timbers, so far only radiocarbon dated, survive. Furthermore, one oak from the multi-period submerged woodland at [Craggantoul](#) in Loch Tay returned a radiocarbon date of AD 410–570 (MPK 17641; Dixon [2007](#)). This potentially suggests a cohort of oak remains which could augment tree-ring data from the early medieval phases on some of the Loch Tay crannogs. However, a tentative indication from the Living on Water project suggests the use of oak in early medieval contexts on crannogs decreased in comparison to the Iron Age.

This may limit the targeted acquisition of sample material with the ability to develop 1st millennium AD dendrochronologies in Perth and Kinross.

6.4.4 Settlement Continuity

The evidence of upland and lowland settlement, outlined above, confirms that early medieval communities occupied previously settled landscapes and sites. As with the debate regarding continuity from Bronze Age to Iron Age settlement, it is pertinent to ask whether a Late Iron Age – early medieval settlement continuum existed. The distribution of known Pitcarmick-type buildings has a close affinity to prehistoric monuments. They share upland landscapes with later prehistoric unenclosed hut circle groups rather than the 'fermtouns' (farmsteads) of the late medieval and post-medieval periods (Strachan et al [2019](#), 22–6). Possible explanations for this relationship include the reuse of the existing field systems (Carver et al [2013](#), 185) and land previously cleared and improved for cultivation (Cowley [1997](#), 166). The analysis of pollen from Lair, however, suggests that long intervals of hundreds of years existed between farming phases, and that no continuum existed (Strachan et al [2019](#), 108–9). The location of these surviving sites must be borne in mind, however, as their altitude may have made them more marginal and continuity may have prevailed on lowlands sites, or even on the valley floor of the upland glens.

House 8 at [Carn Dubh](#) (MPK1752), where a roundhouse amidst a predominantly Bronze Age dated settlement appears to have been adapted to a sub-rectangular early medieval structure, is also relevant. Rideout ([1996](#)) questions whether House 8 was actually roofed. It is also unclear whether the evidence indicates settlement or merely the presence of people in the hills such as herders tending livestock (Strachan et al [2019](#), 132). With only one known example of such adaptation, it remains to be seen whether House 8 represents an anomaly or provides a signpost to otherwise unidentified, unexcavated evidence still awaiting discovery (Strachan et al [2019](#), 132).

It is also likely that some early medieval crannog sites in Perth and Kinross remained usable island sites into the medieval period as they did elsewhere in Scotland (Stratigos and Noble [2014](#); [2018](#); [2021](#)). A possible example is Clunie; during the reign of Cináed mac Ailpin (843–58), a Viking raid was said to have reached as far as Clunie. This suggests that it was a centre of political and administrative importance (Woolf [2007](#), 94–5, 102). Although it is unclear where the early medieval site was located, one possibility is the artificial island on [Loch Clunie](#), where the bishop of Dunkeld's tower house was built

in the medieval period (MPK5255; RCAHMS [1994](#), 90–1), as discussed above. A case has been made for the [Tower of Lethendy cross-slab](#) (MPK7010) originating from Clunie and probably marking an early church site there. It may have been associated with the royal assembly mound that sits on the lochside, adjacent to the crannog. (Hall [2015](#), 191–2). The deliberate use of lochs and crannogs in the development of landscapes of assembly and power is well articulated in Ireland, and hints of similar or parallel crannog-use in these ways have been identified in northern Scotland (Stratigos and Noble [2021](#)).



Artificial island on Loch Clunie © HES



Cross slab from Tower of Lethendy © HES

6.5 Daily Life

6.5.1 Farming and Husbandry

The main evidence comes from ecofacts, animal remains and artefacts from excavated sites, such as at [Dundurn, Lair](#) and the [King's Seat](#), Dunkeld and elsewhere. These have uncovered a relatively small, but informative assemblage of finds and ecofacts relating to health and diet in the area. However, no synthesis of the role of food in identity as exists for England (Frantzen [2014](#)) has been produced.

Recent excavations at [Bertha Park](#) revealed the striking ritual interment of cattle remains in a pit dating between the late 8th century and the 10th centuries AD (MPK20180; Engl [2020](#)). It has few obvious parallels within early medieval Scottish archaeology. The most obvious and directly comparable is the collection of cattle bones deposited in a pit within the annexe of the Pitcarmick-type Building 3 at Lair, dated to the 7–8th centuries AD (Smith [2019](#), 106). Smith's interpretation of the deposit concludes that the 'ritual' activity that leads to these assemblages could be as simple as a celebratory meal between a small group of people marking a significant event, such as the commissioning of a building' (Smith [2019](#), 106). It is noteworthy that Lair and Bertha Park offer both upland and lowland examples of 'ritual' cattle bone deposition in Perth and Kinross which could represent a localised continuation of what is otherwise recognised as a prehistoric ritual practice (Engl [2020](#), 17–8). In Scotland this is best known from the examples in the Western Isles, including the lamb and sheep remains placed beneath the Iron Age wheelhouse floor at [Sollas](#), North Uist (Campbell [1991](#), 141–7). Evidence for such practices in the Iron Age of Perth and Kinross is yet to emerge.



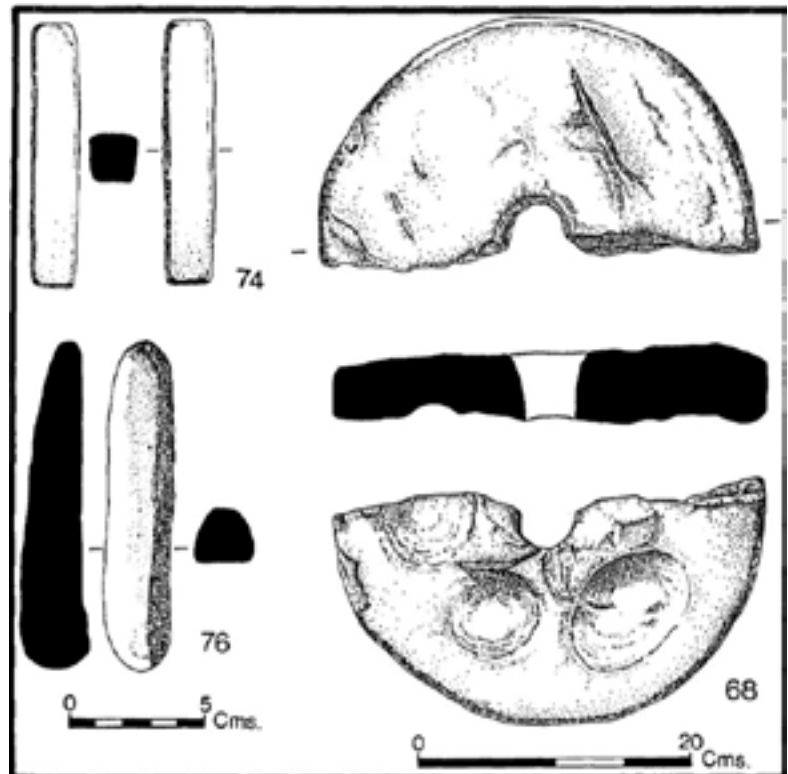
Partial cattle burial within Pit [1971] at Bertha Park © Rob Engl

Pollen data recovered at Lair, Glen Shee and cultivation evidence at Pitcarmick confirm upland arable land use from the 7th to 11th centuries AD. This appears to have followed a similar pattern to that in the lowlands; contrary to assumptions that uplands were farmed differently due to high soil acidity and high elevation (Strachan et al [2019](#), 140). Both arable and pastoral farming is well represented at Lair, and can be defined as extensive rather than intensive (Strachan et al [2019](#), 137–40). Upland woodlands in the north-east uplands of the area saw a marked reduction from the 7th century AD onwards. With better climatic conditions enabled the cultivation of oats, barley and rye, as well as increasing fodder crops in those cleared, higher elevation landscapes. Ard points found at Pitcarmick offer some indication of the technology employed (Carver et al [2013](#)). Stable *Calluna* heath over hundreds of years in the north-east uplands, especially around Lair, provides further evidence of the upland farmers' highly skilled and careful management of pastoral grazing (Strachan et al [2019](#), 140).

Recent developer-funded excavation in the lowlands repeats the upland picture and consolidates the notion that a similar agrarian pattern existed across the region in this period. In advance of the A9 dualling between Luncarty and the Pass of Birnam, over 7,000 cereal grains and chaff were recovered from eight deposits, including a grain drying kiln, in land parcels around the [Newmill West](#) site, dated to between AD 389–575 (MPK2331; Milburn and Robertson [2021](#)). The kiln contained substantial concentrations of burnt grain, with hulled barley being the most common species followed by unhulled barley and then oats. A small number of chaff fragments suggests that only small-scale cereal processing was practised (Milburn and Robertson [2021](#)).

The presence of hazelnut shells within the early medieval deposits indicate that farmed foods were complemented with wild foods. A similar range of grains alongside hazelnut shells were encountered in excavations at Forteviot, though there charred oats and six-row barley were found in large pits within the ceremonial core of the site, suggesting bonfire rituals involving large sacrifices of grain (Campbell and Driscoll [2020](#), 81–5, 92, 100). Although oats are widely recognised as a core crop for the Scottish medieval diet, the considerably higher quantities of hulled barley from Newmill West suggest that oats continued a prehistoric pattern of secondary economic importance, possibly with an alternative function such as animal feed (Campbell and Driscoll [2020](#), 10). The Bertha Park (MPK201780) excavations also recovered important agricultural evidence where, in addition to the hulled barley, oats and wild foods, bread/club wheat cereals were

also noted. Added to these, a large quantity of flax was recovered from a single feature suggesting food storage or possible flax processing into oil or cloth (Engl [2020](#), 14–5). Bread wheat was also frequently encountered at [Green of Invermay](#) ringwork castle site, dated to the 11–12th centuries, presumably grown locally in the fertile fields of Forteviot (MPK1910; Ramsay in Campbell and Driscoll [2020](#), 184).



Whetstone from Dundurn (Alcock et al 1977)

The reduction in woodland noted in the uplands is also apparent in the lowlands. The small charcoal assemblage from Newmill West indicates that the alder, birch, hazel, and oak resources that were available for construction and fuel during the site's prehistoric occupation became less accessible by the early medieval period (Milburn and Robertson [2021](#), 18). The cultural selection of species is highlighted as an alternative interpretation of the changes observed at Newmill West. As more sites are investigated and charcoal assemblages analysed, the situation and patterns may become clearer.

There are several aspects of early medieval animal husbandry about which we remain poorly informed, including the use of bells in the movement, care and ownership of animals. A distinctive class of Roman period bells, which could have been worn by animals – dogs, horses, pigs, sheep, goats and cattle are all possible, is discussed in the Iron Age section. Early medieval bells are generally of a type associated with ecclesiastical practices. We know that similar kinds of

bells were used with animals, both for practical and apotropaic purposes, from their depictions on Pictish sculpture, where they are shown fastened to the necks of cattle. The two examples are the cross-slab from [Eassie](#), Angus (Purser [2004](#)) and from [Fowlis Wester](#), Perth and Kinross (MPK1535; Hall et al [2000](#), 181; Bourke [2020](#), 247 and fig 14.4). These scenes, echoing the discussion in Bourke ([2020](#), 246–51), may represent one of or a combination of, movement of cattle to fresh pasture, ecclesiastical ownership, an episode in the life of a saint or a communal celebration of farming continuity and fertility.



Fowlis Pictish stone showing a tethered cow wearing a bell © HES

The poorly provenanced quadrangular iron handbell from Perthshire, now in the National Museums Scotland (X.KA 7; PSAS [1882](#), 153–4) stands 8.9cm high and splaying from 5.7–9.5cm base to mouth. Its physical differences from the broader group of ecclesiastical handbells, notably its ‘flat’ profile and transversely placed handle, have encouraged the suggestion that it may be a cowbell (Maldonado [2021](#), 173). Identification as an animal bell remains attractive, but the recent discussion of animal bells by Bourke ([2020](#), 246–51) suggests a level of interoperability between ‘ecclesiastical’ and

‘animal’ bells, including the entanglement of some cowbells in the hagiography of some Irish saints. If the Perthshire bell is an animal bell, then it could have been used, and across several generations, with one of several species, but determining which is not currently possible. The bell, like the other early medieval bells from Perth and Kinross ([see discussion below](#); Bourke [2020](#)), is amenable to multiple interpretations but certainly aids our understanding of both practical and ritual practices around human-animal relations.

6.5.2 Hunting and Feasting

At the [King’s Seat fort](#), Dunkeld (MPK5444), a rectangular hearth 1.5m x 0.75m was found within the inner, summit enclosure. Much larger than the hearths found on the lower enclosures of the site, it was flanked by two pairs of postholes, suggestive of an A-frame superstructure for spit-roasting large animals. The hearth itself had evidence for multiple phases of use, with reworking to the structure and kerb and was packed with animal bone fragments. A notable concentration of iron blades or knives were also identified in the vicinity. Its size and location, at the centre of the complex, suggests high-status feasting, supported by evidence of exotic imports transported in the E-ware pottery and vessel glass fragments which were also recovered. Such feasting most likely carried significant social value, both within the community, and with neighbours and more distant peer groups (Strachan and MacIver [forthcoming](#)).

Hunting wild game, such as the boar depicted on a cross-slab from Gask, now at [Moncrieffe House](#) (MPK3162), is a frequently-depicted motif on Pictish cross-slabs. The mounted riders depicted on the large cross-slabs of [Meikle](#) (MPK5400) and the panel from Dull (MPK1016; NMS X.IB 58) are surrounded by hunting dogs, the latter shown wearing collars. The buried cattle remains from Bertha Park may be the remains of a large feast, possibly linked to the power centre at Rathinveramon. Similar, smaller domestic hearths are also known from the Pitcarmick-type byre-houses, which may have been used both for cooking and for small-scale craft use as at Lair (Strachan et al [2019](#), 44–5).

the ‘unfinished’ nature of the plain silver brooches alongside bronze scrap, but the brooches were clearly buried intact unlike the associated bronze objects. Suggested dating has fluctuated widely over the last century, most dating the hoard by its oldest objects, the hanging bowls of 5th or 6th century type, but the plain brooches will not easily support such an early date. The latest assessment (Stevenson in Bruce-Mitford [2005](#)) argues that the brooches may be as late as the 7th century, supported by a reassessment of similar Irish brooches (Murray and McCormick [2012](#), 24–6). The find-spot is at an important crossing over the River Tummel but which is otherwise isolated from known early medieval settlement. However, the area around Loch Tummel has a concentration of monumental roundhouses, some of which have episodes of early medieval activity (Taylor [1990](#), fig 9, 53; Strachan [2013](#)). There is at least one crannog in [Loch Tummel](#) (MPK1067) known to have been occupied in the late medieval period.



Cross slab from Gask depicting boar and other wild animals © HES

6.5.3 Clothing and Dress

Whether as single stray finds or found in hoards, early medieval brooches provide a fascinating glimpse into the kinds of material culture used by the occupants of the power centres discussed above.

The earliest is a hoard from [Tummel Bridge](#), which was found before 1888 and primarily known for three silver penannular brooches with flared triangular terminals (MPK450; [X.FC 162](#), [163](#) and [164](#)). It was found alongside another six fragments of three copper-alloy vessels. The first ([X.FC 165–166](#)) are fragments of the rim and base of a bronze hanging bowl of reconstructed diameter 29.6cm, along with an openwork peltaic escutcheon ([X.FC 168](#)) probably belonging to the same bowl. The others are a fragment of a bronze cup of unknown type ([X.FC 167](#)) is a fragment of a bronze cup of unknown type, and rims from a smaller bronze bowl, whose diameter has been reconstructed as 15.5cm ([X.FC 169–170](#)). It has been considered a metalworker’s hoard given



Silver brooch from Tummel Bridge © NMS

Three penannular brooches, of 8th–9th -century date, are now known from Loch Clunie (as discussed above). These have been found at different times and under different circumstances. The first [two](#) (MPK5520; [X.FC 176](#) and [X.FC 177](#)) were said to be from ‘the neighbourhood of Perth’ when first described (Anderson [1880](#)), but were originally found ‘near Cluny Castle’ (Stevenson [1985](#), 236). FC 176 is of cast silver and dated to the 7th century through comparison with a mould from [Clatchard Craig fort](#), Fife (Close-Brooks [1986](#), 163, illus 25). FC 177 is among the most accomplished of Pictish brooches, dated to the 8th or 9th century (Henderson and Henderson [2004](#), 105–7). A third is now attributed to this site, a fragment of a gilt-silver terminal of an elaborate 8/9th-century brooch with chip-carved and filigree ornament, with an empty setting for a large gem or stud, found north-east of the Castle Hill in 1990 ([X.1993.7](#); RCAHMS [1994](#),

90–1). While the deposition circumstances for all three finds remain obscure, it is possible they were once part of a silver hoard, similar to late 8th/9th-century Pictish brooch hoards known from Scotland at Croy, Inverness; Rogart, Sutherland; St Ninian's Isle, Shetland; and Broch of Burgar, Orkney (Graham-Campbell [1987](#), 255–7; Maldonado [2021](#), 83–5). [Clunie Castle](#) (MPK3954) is a medieval motte of uncertain date, and it is possible that a power centre here, perhaps on the crannog in the loch, was raided by Vikings in the reign of Cináed mac Alpín (Batey [2002](#)). An important power centre in this general area has long been posited (RCAHMS [1994](#), 90–1; Hall, Henderson and Taylor 1998), for which the brooches provide tantalising evidence. Another recent metal-detected find of a penannular brooch fragment from [Cambusmichael](#) near Scone (MPK15390) shows clear stylistic links to the Clunie brooches (Hall 2007a, 70–1), supporting local participation in broader 'Pictish' fashions (David Wilson in Small et al [1973](#), 97–103).



Pennanular brooch from near Clunie Castle © NMS

A particularly fine silver penannular brooch with gilt chip-carved panels and red and blue glass insets was recovered from [Aldclune](#) monumental roundhouse (MPK3; NMS [X.FC 304](#); Stevenson [1985](#); Hingley et al [1997](#), 419). Of likely 9th-century date, it was found in post-occupation deposits in an otherwise Iron Age site, probably indicating a short-lived, temporary reuse of the site.



Pennanular brooch from Aldclune © NMS

In addition to these important penannular brooches, the 'Breadalbane Brooch' is a virtuoso example of an Irish/Dál Riata pseudo-pennanular brooch of Hunterston-Tara style (British Museum [1919,1218.1](#)). Notably, its connecting bar has been removed, and its pin replaced, modifications which made it more suited to the 'Pictish' fashion for penannular brooches (Youngs [1989](#); Brunning [2020](#)). It may represent another tangible connection to the Gaelic west, facilitated by the glens of Highland Perthshire, but its provenance is not known and the name is derived from it having been in the collection of the Earl of Breadalbane.

Beads and other accessories

Several excavated sites in the area have produced early medieval glass beads, which appear to have been in common use. One of the earliest is an Anglo-Saxon 'traffic light' bead of 5th- or 6th-century date from the monastic site at [Fortingall](#) (MPK457; Blackwell [2018](#), 227–8). Another early example is a rare segmented green glass bead, with early Anglo-Saxon parallels, from [Lair](#), Glen Shee; it came from a pit beneath a building occupied between the 6th to 8th centuries (MPK4456; Campbell in Strachan et al [2019](#), 103–4). A yellow glass example from the [Queen's View](#) (MPK1212) monumental roundhouse, and a distinctive blue and white cable decorated bead from [Forteviot](#) (MPK1887) have been more precisely dated to between AD

700–900 (Taylor [1990](#), 33; Blackwell [2020](#), 88–89). The more common blue glass beads found at, for example, [Dundurn](#) (MPK346; Alcock et al [1989](#), 216), Forteviot (Blackwell [2020](#), 88–90), [Carn Dubh](#), Moulin (MPK1752; Rideout [1996](#), 151–3), and as a stray find from [Newton of Pitcairns](#), Dunning (MPK13475; Hunter [2000](#), 72) are not closely datable, however. Ranging from Iron Age to early medieval, they require chemical analysis to help to narrow the date range and the nature of production.



Glass bead from Glen Shee © Heather Christie; available on Sketchfab: <https://sketchfab.com/3d-models/glenshee-bead-b1ff4af123af49708118f8ddd7a8562a>

A segmented blue glass bead found during excavations at Forteviot is a rare imported type with parallels from Viking Age sites and burials ([Cradle of Scotland](#); Blackwell [2020](#), 88–9). It is one of a growing number of finds with Viking Age and Late Norse parallels from central Scotland. Excavations at [Castle Craig](#) broch revealed 10th-century reoccupation of the site; finds included a polyhedral ring-pin of Irish Sea type (MPK1399; [Cradle of Scotland](#); James [2011](#), 17). A disc-headed pin from Carn Dubh, Moulin, formerly thought to be Viking Age, is now understood as an 11–12th-century type (Newman in Rideout [1996](#), 156, fig 9). Its closest parallels are from Hiberno-Norse Dublin and Clonmacnoise, Co. Offaly (Ó Floinn [1987](#)), though more examples of such stick pins are being recognised from Scotland (cf Maldonado [2021](#), 204–5).

Leather Items

An important addition to our understanding of early medieval clothing is the well-preserved decorated leather shoe from Dundurn fort. Unique in Scotland, it evokes those worn by kings and clerics on Pictish cross-slabs (Ritchie [2005](#), 37–8). Its closest parallels in Scotland are two decorated leather shoes from the early monastery of Iona (Barber [1981](#)). Evidence for leatherworking was also found in the waterlogged deposits of Dundurn itself (Alcock et al [1989](#)).



Leather shoes from Dundurn © HES

6.5.4 Other Material Culture

Artefacts of the period have significant potential to increase understanding of life at all levels of society. The majority of finds are not chronologically diagnostic, however, and require other dating evidence. For example, rotary querns and iron knives appear in nearly all settlements from the period. At [Dundurn](#), the unusual nature of certain finds, including a knife with angled blade and a finely-shaped and polished schist whetstone, allowed them to be dated to the 9th century. This was also supported by their stratigraphic position at the end of the occupation layers (Alcock et al [1989](#), 217–8). Examples of 7th- to 9th-century knives can also now be related to well-dated occupation layers at [Lair](#), Glen Shee (MPK4456 and MPK4384; Strachan et al [2019](#)) and the [King's Seat](#), Dunkeld (MPK5444; Strachan and Maclver [forthcoming](#)).

Rare evidence of iron dress pins and buckles from Lair (MPK4456 and MPK4384; Strachan et al [2019](#), 94–6) may indicate dress styles associated with a well-to-do farmer class. These provide an important counterpoint to the copper-alloy, silver and gold dress fasteners being manufactured and worn at hillforts like Dundurn. The recovery of an iron buckle (Perth Museum 2003.21.3) from the 10th-century palisaded enclosure site at [Upper Gothens](#) (MPK5496; Clydesdale [2001](#); Photo-Jones [2001](#)) in the mid-Tay valley zone, near Meikleour extends the distribution of non-precious metalwork dress fittings further. Additional examples include the metal-detected discoveries of dress pins from [Redgorton](#) (MPK19620; copper alloy; Perth Museum accession 2016.62) and Pitlochry (silver; Perth Museum accession 2018.98). The Upper Gothens buckle was surface treated by tinning to imitate the look of higher-status silver items. Iron survives much worse in the archaeological record than other metals but the discovery of the iron axe-headed pin at [Rhynie](#) (Noble [2017](#); Campbell et

al [2020](#)) suggests there may be a level of material we are as yet missing in Perth and Kinross.

Occupants of both Dundurn and Lair had valuables that needed protection, as indicated by the iron barrel padlocks found there (Strachan et al [2019](#), 91–3).

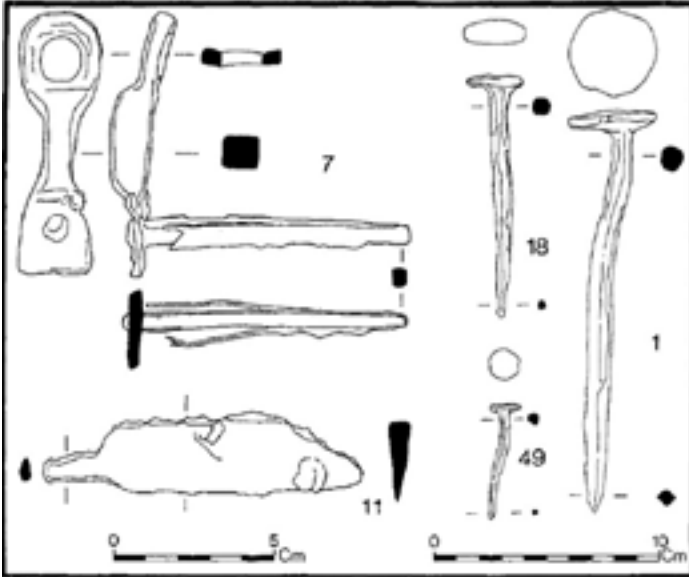


Illustration of finds from Dundurn, including a padlock (7) © Leslie Alcock

Unique in an early medieval context from Scotland is the silvered copper-alloy strap dangle from Dundurn (Alcock [1980](#), 345–7; Alcock et al [1989](#), 217). Its animalistic decoration has affinities with Anglo-Saxon art, and helps to confirm the 7th-century date assigned to it. It provides evidence of elite and middle-ranking contacts across Insular Britain, as shown by the 6th-century harness pendant from South Leckaway, near Forfar, Angus (Dickinson et al [2006](#)). Recent finds of metalwork through the Scottish Treasure Trove system confirm and extend – in both space and time – such linkages. Early medieval strap ends of Anglo-Saxon type have been metal-detected from Logierait (copper alloy) and from Stanley (silver), possibly suggesting transit up and down the Tay valley. The Logierait example is of the type that was probably being made in Anglian Scotland (Thomas [2000](#), 238). Both can be broadly dated to the 8th–9th century.

The portability and reuse of objects is both a challenge and an opportunity for understanding the period. For example, we know that stone could be transported considerable distances; Roman masonry was reused in the construction of the forts at Dundurn and [Inchtuthil](#) (MPK3644) (Alcock et al [1989](#), 203; RCAHMS [1994](#), 52–5). A rough out for a quern was used as the upright closer of the foot end of a long cist at [Blair Atholl](#), dated AD 400–600 (MPK1168; Czére et al [2021](#)). A complete rotary quern, upper and

lower stones, was also found in a long cist in [Pitlochry Golf Course](#) (MPK1624; Mitchell [1921](#), 27). It is only presumed that these were objects contemporary with the burial contexts in which they were found. Excavations at monumental roundhouses, which appear to be of later Iron Age constructions, have also revealed finds from later periods that suggest reoccupation (Strachan [2013](#), 36, 107). The portability of objects as a part of their function (eg reliquaries) has received some initial consideration (Hall [2007a](#)) but needs further analysis, not least in the light of new finds such as discussed above.

The remarkable conical glass stud with bosses of blue and white spirals from Dundurn (Hunterian Museum [GLAHM:138398](#)) was the only one of its kind from Britain until a similar example recently excavated from Lindisfarne was identified by Hall (Alcock et al [1989](#); Pina-Dacier [2020](#)). Alcock was inclined to see this as a decorative boss but more recently Hall ([2007](#)) has suggested that they are gaming pieces. The basal socket exhibited by both this and the Lindisfarne piece were probably to hold a peg with a pointed terminal that would have been used with a peg-hole gaming board, most probably of wood. Without other pieces from their respective sets, it is impossible to know whether they are pawns or king pieces, but certainly they are fine enough to be the latter, in Insular variants of *tafl*-type board games (Hall [2007](#); Hall and Forsyth [2011](#)). Their biographical complexity within traditions of Roman and Irish glass-making and use is the subject of a forthcoming paper (Graham-Campbell et al [forthcoming](#)). The introduction of board games to Britain has been linked to Roman policies (Hall and Forsyth [2011](#)). Gaming pieces and boards are known from several Roman forts (Bertha, Inchtuthil and Strageath) and there is a slate board fragment from the [Newmill](#), Bankfoot souterrain (MPK2309; Watkins [1978–80](#), 190–1). However, we have yet to find much indigenous evidence of early medieval gaming from Perth and Kinross with the notable exception of Dundurn. Such material offers insights into leisure activities at all social levels, though it is often seen as an elite privilege, given the luxuriousness of artefacts like the Dundurn piece.



Conical glass stud from Dundurn © University of Glasgow

6.6 Economy and Industry

6.6.1 Economic Networks

The most tangible evidence for trade and economic networks in early medieval Scotland is through the exotic imported goods found at high-status sites. In Perth and Kinross, these were once known only from [Dundurn](#) fort (Alcock et al [1989](#)); however, the recent assemblage of over 300 finds from the [King's Seat](#), Dunkeld (Strachan and MacIver [forthcoming](#)) has added significantly to this. At Dundurn, imports included Continental glass vessels and a single sherd of E-ware ceramic, imported from Gaul (Campbell [2007](#)). A sherd of deep red glass and a sherd of unidentified ceramic are both imports of 8th–9th-century date with no comparisons from Scotland, though a Rhenish origin has been proposed for the latter (Campbell [2007](#), 63, 78). These finds suggest exploitation of long-distance trade and possible gift-exchange networks utilising high-status objects (Lane and Campbell [2001](#); Campbell [1991](#), 237–8). When only the material from Dundurn was known, it was seen as an outlier to trade which came up the west coast of Britain and then inland from Dál Riata and Strathclyde. However, these latest discoveries push the find spots further east and suggest that it is time to look again at the question of trade transported from the east coast.



Sherds of E-ware from King's Seat © Perth and Kinross Heritage Trust

Significantly, evidence of metalworking at these sites, in the form of crucible fragments and both stone and clay moulds, suggest that they were also specialist centres of production. They presumably supplied items locally and traded with a network of similar sites further afield. Further detail of the types of production carried out are presented below.



Small crucible from King's Seat, suggesting silver working at the site © Perth and Kinross Heritage Trust

The region's only early medieval coin hoard, from Dull, is one of only a few hoards of 11th-century coins in Scotland (Bateson [1993](#)). It is a single rouleau of Hiberno-Norse silver pennies, minted in Dublin and deposited around 1025. Recovered by metal-detecting to the south of the village in 1989, the minimum of 16 coins were heavily fragmented and plough-damaged. It is only one of three hoards from Scotland that contains Hiberno-Norse coins; it provides evidence for continued strong links between Ireland and Highland Perthshire at the

end of the early medieval period. The deposition of the coins seemingly fresh from the mint means we cannot assume that they were ever 'in circulation' and instead were valued as bullion.

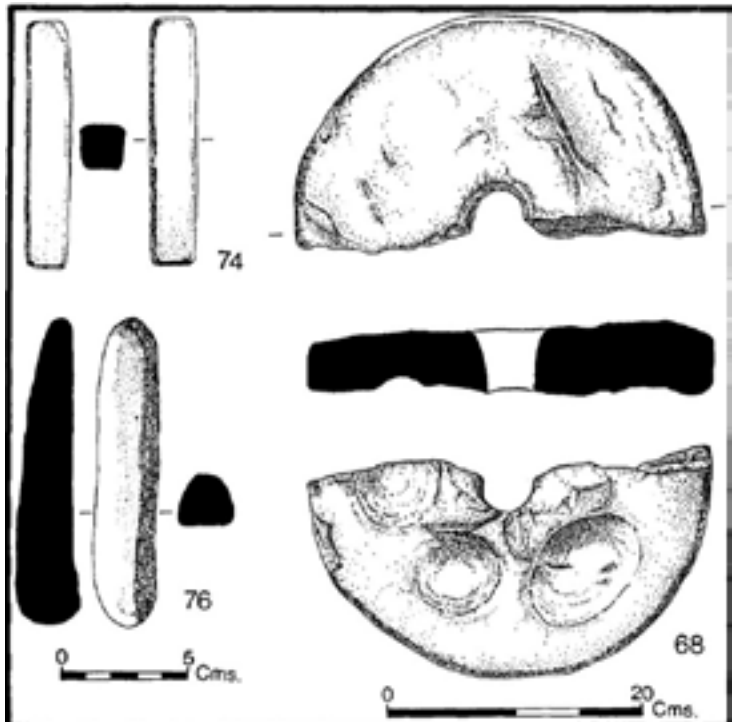


Clay mould for a brooch or ring from King's Seat © Perth and Kinross Heritage Trust

At the end of the period, a market settlement began to take shape on the banks of the Tay, as evidenced by Shelly ware ceramics imported from London. Radiocarbon dating of residues from these wares confirmed their 10/11th-century use (Hall et al 2006). This provides some much-needed context for antiquarian finds of a 10th-century cross-slab, a possibly Viking Age sword from the [Watergate](#) (MPK3362), now in Perth Museum, and a glass linen smoother of Viking Age or later date now in NMS ([X.IL 364](#); Batey 2002). The linen smoother should be seen alongside the four other examples excavated from Perth, and which extend their use into the 13th century (Hunter 2011, 117–8). The clutch of early material and dates associated with Perth is important evidence for the origins of urban centres that supported long-distance trade in Scotland before the 12th century when the first royal burgh charters were issued by David I.

6.6.2 Food and Drink Production

Perhaps the clearest evidence of food production is in the querns recovered from sites, including [Lair](#) (Strachan et al 2019, 83). [Dundurn](#) fort produced two quern stones that indicate food production on site. A possible early medieval corn-drying kiln was excavated at the [Kinross High School](#) site (MPK17086; Cachart 2008, 33), as well as at [Newmill West](#) (MPK2331; Wilson and Clarke 2019).



Pot quern stone (68) and whetstones (74, 76) from Dundurn © Leslie Alcock

Evidence of early medieval livestock husbandry is provided by the bones of cattle from [Bertha Park](#) (MPK20180; Robertson 2020) and cattle, pigs and sheep/goats at [Lair](#) (Smith 2019). Live cattle and sheep would have provided milk for human consumption, most likely processed and consumed as cheese and butter, since fresh milk spoils quickly. Upon slaughter, cattle, sheep/goats and pigs provided a source of meat protein and fats. Isotopic analysis of [Blair Atholl](#) man, an individual dating to the 5th–6th centuries AD, indicated a high trophic terrestrial protein diet which most likely originated from pork consumption (MPK1168; Czére et al 2021).

By-products of animal slaughter such as hides, skins, woolfells, sinew and bone were also important as raw materials in artefact manufacture.

6.6.3 Textile Production

The occurrence of spindle whorls from both [Lair](#) and the [King's Seat](#), as proxy evidence of textile production, is significant for showing similar processes of textile manufacture at sites with very different social statuses. The decorated stone example from [Lair](#) (Johnson in Strachan et al 2019, 85–7), while originally used as a spindle whorl, may have subsequently been used as an amulet or worn as a pendant.

Six spindle whorls from the [King's Seat](#) fort, [Dunkeld](#), were of stone with the exception of one ceramic example. Importantly, the number of these suggests

textile-working on site, rather than casual loss. This is notable as only one example was found at [Dundurn](#). A cancell coal armlet and spindle whorls were also among the post-occupation material at [Aldclune](#), but this activity remains undated (Hingley et al [1997](#), 419).



Detail of decorated spindle whorl at King's Seat © Perth and Kinross Heritage Trust



Spindle whorl from Glen Shee © Perth and Kinross Heritage Trust

The importance of cloth to the Christian Church may be reflected in the spindle whorl found in [Ecclesiamagirdle](#), near Forteviot (MPK6139; Perth Museum 1992.563). It appears to have a depiction of a free-standing wheel-headed cross of about 10th century date, which may be contemporary with one found at Forteviot (Hall [2011](#), fig 3.2).

There is a dearth of confirmed loom weights from the area, as has been noted in early medieval Ireland, where it is possible that different kinds of looms were used in comparison to England and southern Scotland (O'Sullivan et al [2014](#), 238–9).

Leatherworking would have been an important industry, especially given the long pedigree of pastoral agriculture in Highland Perthshire. Thus far, leatherworking has only been encountered at early medieval Dundurn hillfort and in the later burgh of Perth.

6.6.4 Metalworking

Metalworking is a well-represented activity at excavated sites in the area. Important evidence of 7th–9th-century blacksmithing was found in Pitcarmick-type Building 3 at [Lair](#), Glenshee, including a rare rotary grindstone, a stone anvil and hammer-scale flakes (MPK4384; Strachan et al [2019](#), 98–102). The quality of the finished iron products from the site, including knives, pins, buckles and barrel padlocks, is a reminder that ironworking was a highly skilled craft. The assemblage of iron artefacts, some of which are securely dated and are contemporary with the Pitcarmick building, are very significant as domestic metalwork of the period is rare.



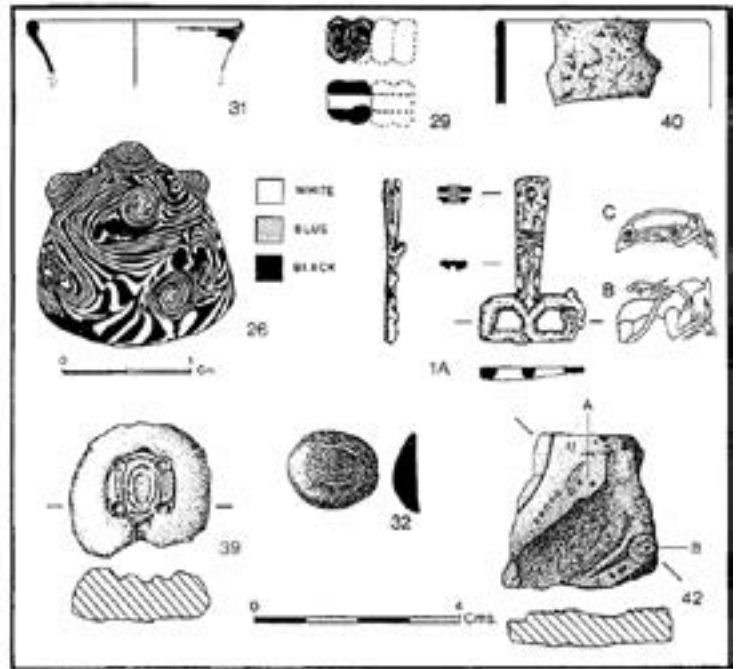
Fragment of a bronze metal vessel possible from a Pictish metalworkers hoard found at Tummel Bridge © NMS

While no evidence of ferrous metalworking was recovered at [Dundurn](#) fort various iron objects including a padlock, knives and nails were recovered, and were assumed to have been made on site (Alcock et al [1989](#), 217–8). Significantly, ferrous metalworking with evidence for both smithing and smelting on site was confirmed at the [King's Seat](#),

Dunkeld, both in the upper enclosure and within the east enclosure on the lowest terrace. Here an area of iron-working which contained slag was dated to the 5th–7th centuries AD. The upper enclosures also produced knives and other iron objects including a key, part of a set of shears, chisel and other iron tools and proxy evidence for edged tool use such as whetstones (Strachan and Maclver [forthcoming](#)).



Volunteers at King’s Seat excavating metal working waste dumped on the interior of the bank © Perth and Kinross Heritage Trust



Glass and fine metalworking objects from Dundurn, including 1A, the zoomorphic ‘dangle’ mentioned above © Leslie Alcock



Excavation of a hearth at King’s Seat © Perth and Kinross Heritage Trust

Both Dundurn and the King’s Seat also produced good evidence of non-ferrous metalworking. At Dundurn, bronze-working was attested through crucible fragments and two moulds. One was for an elaborate stick pin with spatulate head and four insets; the only comparable example, though it is not close, is the similarly unique ‘Pictish’ pin from the Udal, North Uist (Heald [2005](#), 76 A zoomorphic ‘dangle’ or strap-pull of silvered copper-alloy was recovered at Dundurn; though it conforms to Insular forms of animal art, it is of a form which is otherwise unattested in Britain or Ireland. (Alcock [1980](#), 345–7).



Mirror mould from King’s Seat © Perth and Kinross Heritage Trust



Stone ingot mould from King's Seat © Perth and Kinross Heritage Trust

The 9th-century Aldclune silver penannular brooch was found in post-occupation deposits in an otherwise Iron Age site (NMS [X.FC 304](#); Stevenson [1985](#); Hingley et al [1997](#), 419). These secondary deposits also included a rare iron 'fire steel', now identified as a purse mount of likely 7th-century Anglo-Saxon origin (Blackwell [2018](#), 128). The excavators suggested the possibility that either of these finds could have been disturbed from a pit-burial of an adult male which is also evidence of secondary occupation but lacks a precise date. (Hingley et al [1997](#), 419).

6.6.5 Pottery

Early medieval Scotland was largely a-ceramic with the exception of the late prehistoric to modern sequence in the Hebrides (Lane [2007](#)) and more broadly from the imported E-wares discussed above under Economic Networks. Mention should, however, also be made of radiocarbon dated residues from Shelly ware ceramics imported from London which confirm a 10th-11th -century origin for the trading settlement at Perth, at least a century before the burgh was formally established under David I (Hall et al [2006](#)).



E-ware found at King's Seat © Perth and Kinross Heritage Trust

6.6.6 Timber and Woodworking

Remarkably, the [Dundurn](#) excavations recovered a number of radially-split oak planks from the waterlogged deposits which had built up behind the citadel's defences (Alcock et al [1989](#)). Two of these were submitted to Queens University Belfast for tree-ring analysis (Crone [1998](#)). They have good ring counts but remain undated, probably because of insufficient sample replication and because they are from local sources which are too distant to date against early medieval oak chronologies in Ireland and south-west Scotland (Crone [1998](#)). So far the only early medieval and prehistoric archaeological dendro-dates in Scotland are from oak timbers from south-west Scotland, close enough to Ireland to date with their more continuous oak tree-ring records. The successful application of tree-ring dating in Perth and Kinross will depend upon the development of long regional native tree-ring chronologies here (Mills [2021](#)).

It can be safely assumed that crannogs around Perth and Kinross would substantially illuminate our understanding of early medieval dendrochronologies, woodworking and woodland economy in the region. No early medieval crannog has been deliberately targeted by a substantial programme of excavation. The potential of submerged crannog sites in the region for allowing timber analysis is well established, specifically at [Oakbank](#), Loch Tay (MPK484; Sands [1997](#); Dixon [2004](#)).

Boat Building

The [Errol 2](#) logboat (MPK4700; Dundee Museum and Art Gallery accession number DMAG 69-255) is one of two surviving examples from a concentration recorded from the Tay estuary (Mowat [1996](#), 28–

30; Strachan [2010](#)). Recovered in 1895 from the Habbiebank sandbank, the 9m oak vessel appears to have been on display in Dundee ever since (Donald pers comm). Early reports suggested an animal head prow, and possibly a figurehead, and the boat has since yielded radiocarbon dates of AD 548 and 599 (Strachan [2010](#), 129–30).

While logboats, along with skin and hide vessels, were well-suited to rivers and estuaries, the evolution of plank-built, sail-carrying ships over the early medieval enabled increased seaborne travel (Crumlin-Pedersen [2010](#)). The Tay estuary, providing river access several kilometres inland, would have provided excellent opportunities for transport and trade.

6.6.7 Other Industrial Activity

It used to be thought that fragments of imported glass were transported as scrap glass to be recycled as beads or bangles (Alcock et al [1989](#), 216). However, it is now recognised that full glass vessels were imported, and fragments of these have been recovered at Dundurn and the [King's Seat](#), Dunkeld. Two glass items from [Dundurn](#) appear to be of 'cullet', presumably from imported vessels which were subsequently broken and then recycled. This is significant in that it indicates some degree of glass working at the site (Alcock et al [1989](#), 216).



King's Seat glass fragment from a Kempston style beaker or drinking vessel © Perth and Kinross Heritage Trust

6.7 Religion and Ritual

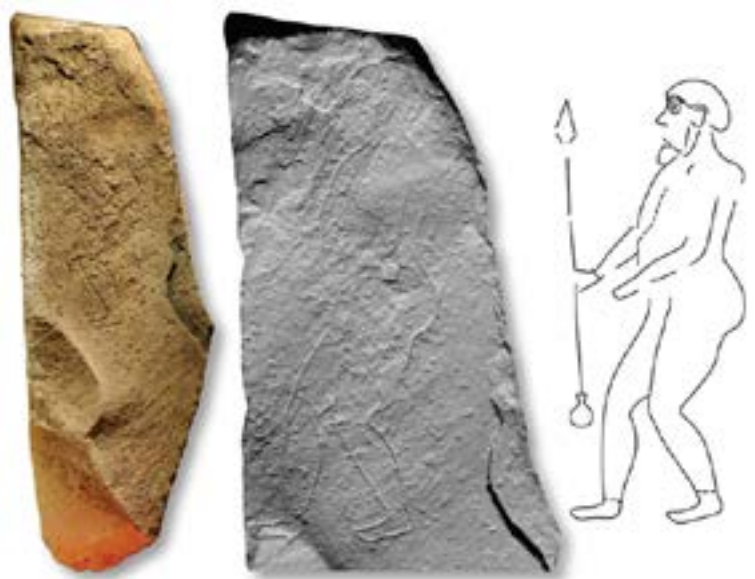
6.7.1 Pre-Christian Sites

There is little concrete evidence for pre-Christian religious sites in Perth and Kinross. It is often suggested that Pictish symbol stones without crosses, of which there are now ten from the case study area, are indicative of 'pagan' or at least pre-Christian commemorative activity, but it is difficult to put exact dates on any single stone. The recent excavations at

Rhynie, Aberdeenshire have made it likely that one type of symbol stone, the armed walking figures, can be associated with royal cult centres. The recently discovered example from [Tulloch](#), Perth may represent a warrior deity. (MPK19094; Hall et al [2021](#); cf Noble et al [2019](#)). A 30m square enclosure at [Forteviot](#) has been interpreted as having a possible Roman Iron Age ritual focus, based on parallels on the Continent (MPK1883; Campbell and Driscoll [2020](#), 59–63). It

certainly appears to have been the focus for early medieval burial from the 5th century, but its function and exact dating remains unclear. Otherwise, evidence for ritual activity comes mainly in the form of special deposits of objects. Human remains as well as artefacts appear to have been deposited in similar ways within houses in the Iron Age (Shapland and Armit [2012](#); Büster [2021](#)). Mapping where artefacts, including human bone, were buried or left behind in settlements reveals patterns of activities which may stem from ritual activity (eg Hingley et al [1997](#), 451–5).

Entrances and thresholds were often marked with special deposits, and events like the 'death' of houses were marked with rituals of passage such as feasts or bonfires (eg Armit [2000](#), 584–5). Abandoned houses continued to attract burials and special deposits, such as the 9th-century Aldclune brooch and other early medieval finds from an Iron Age settlement complex (Hingley et al [1997](#), 419). Rather than envisioning 'temples' or pagan 'shrines', we should expect that pre-Christian ritual activity was most often folded into the structures of everyday life, taking place in the home as well as in natural places in the landscape.



Tulloch Warrior stone © University of Aberdeen

Evidence that natural places like groves, wells and trees could be seen as sacred in the early medieval period is recorded by early place-names. The Gaelic name-element *neimhidh* comes from an older Celtic word for sacred grove and was borrowed into Latin as *nemeton*, sanctuary. It is present in at least three names in Perthshire, at Newtyle where there was formerly an elaborate [Pictish cross-slab](#), Tarnavie near Dunning, and Duneaves near Fortingall (Watson [1926](#), 247–9). There are several holy wells associated with early saints across Perthshire, with a strong, recurring link to abbots and bishops of Iona. For instance, in Pitlochry alone, there are the Gaelic place-names Tobair Chalmaig and Tobair Fheargáin, the wells of St Columba and his successor as abbot, Fergnae; the latter survives as the modern [Toberargan Road](#) (MPK1629; Taylor [1997](#), 56–7). What is unclear is whether the veneration of such wells pre-dates the cult of the saints ascribed to them.

The place-name element *bile*, surviving in the Strath of Appin place-name Coshievile, denotes a sacred tree (Watson [1926](#), 248; Robertson [1997](#), 136). While the veneration of trees seems to be indicative of pre-Christian practices, we know of several examples of trees associated with early medieval assembly places and royal centres from elsewhere in Scotland and Ireland (Gondek [2007](#), 251–4). The celebrated [Fortingall Yew](#) (MPK442) may well be a surviving example of such a *bile*. The Fortingall Yew, often described as the oldest living thing in Britain (Rodger et al [2006](#), 149) has been variously estimated to be up to 4,000 years old. While its vast girth suggests a truly great age, unfortunately this cannot be precisely determined through dendrochronology as the original central stem no longer exists. It is located beside the parish church, which is at the centre of an early monastic settlement. This suggests the tree may have been significant in the siting of the church, as seen in similar associations across Britain and Ireland (Morton [2009](#)).

Bevan-Jones ([2017](#), 36) offers a more modest age of about 1,500 years, based on the tree being a remnant of the early saint's cell of the 6th century, and identifies the tree as a possible living cultural ecofact of the early church. The cultural associations of ancient yew trees are greatly under-researched in Scotland compared to England and Wales (Morton [2009](#)) and would merit investigation. Other ancient yews, some listed in Hunter's 'Woods, forests and estates of Perthshire' ([1883](#)) could form a useful starting-point, including consideration of any other early church site associations or indicators. Ancient, sacred groves of trees were not necessarily yew of course and the study of specific trees should be linked to further place-name analysis. Variations of the *nemeton* place-names mentioned above are

often indicative of this. Perthshire has several Pictish/British places named after or in association with trees, notably including Perth (Hall et al [2011](#)). The roots of later tree place-names such as the Gaelic Crieff are also worth investigating in this context.



Fortingall Yew tree © Trish Steel (CC BY-SA)

Certainly the location of the early monastery at [Fortingall](#) (MPK457) was determined by several other factors, including the existing sacred geography marked by the extraordinary density of prehistoric monuments in the fields surrounding the village (eg, Canmore IDs 24999, 25000, 25002). The monastery of [Dull](#) is similarly associated with a complex of ancient monuments, and it may be that these landscapes were deliberately appropriated for use as ceremonial centres in the Christian period (MPK1006; O'Grady [2008](#), 290–3; Driscoll [1998](#)). Rather than proposing a linear, chronological continuity between pre-Christian religious/ritual sites and their successors in any of these cases, we can instead envision a recognition on the ground of ancestral activity. Such activity could have been manipulated through the invention of tradition so as to create a perception of continuity as a power dynamic. (Bradley [1987](#); see PKARF Early Medieval Section [6.7.2](#)) This seems to have been particularly acute at Forteviot, where the prehistoric monument complex was first marked by a scatter of Roman finds and eventually a square-ditched enclosure, interpreted as a possible Romano-Celtic cult site. It is around this site that the earliest 'Pictish' barrows of the 5th/6th century seem to cluster (Campbell and Driscoll [2020](#), 64–6).

6.7.2 Christian Sites

Little is understood about the development of the early Christian Church in Scotland before the 11th century (Driscoll [2011](#), 270). Historical accounts have placed missionary saints like Fillan and

Columba at the heart of conversion myths for this region (Taylor [2000](#), [2001](#); Clancy [2001](#)). However, these narratives simplify a wider, more complex story (Fraser [2009](#)). Archaeology has the potential to disentangle these pseudo-historical narratives (Foster [2019](#)). The foundation date of most sites and the form of the earliest buildings are largely unknown; however, it is likely that the earliest churches built of timber. In Perth and Kinross there are 20 possible early medieval church sites recorded in the HER, as well as a further 37 miscellaneous ecclesiastical sites. Over the last 30 years, research excavation conducted by academics and volunteers have largely focused on church sites outside of Perth and Kinross (Foster [2019](#), 36–7).



Meigle 2 on display at Meigle museum © HES

Place-name evidence is also invaluable in charting a path through the complexities, and the University of Glasgow's online [Saints in Scottish place-names](#) database ([2014](#)) provides the identification and classification of different church sites. Place names containing the element 'annat', from Gaelic *andóit* meaning ancient or mother church, may indicate the sites of early medieval chapels or churches. In Perth and Kinross, these include [Tobbermore](#) 'Annatland' (MPK2196); [Annatybank, New Scone](#) (MPK3254);

and [Balnahanaid](#) (MPK199). This is supported at Balnahanaid where a cast iron handbell, possibly early Christian, was discovered in the 19th century. It has since been lost (Bourke [2020](#), cat. 73, 378–9).

Several churches have saint's dedications that point to early medieval origins or the desire on the part of the Church to demonstrate early foundation. The church at [Longforgan](#) (MPK5117) was supposedly established by St Modwenna, a disciple of St Patrick around AD 500 but her legend has become deeply entangled with that of St Modwenna of Burton-upon-Trent. Taylor's recent ([2017](#)) discussion of [St Vigeans](#) in neighbouring Angus reminds us of the complexity and caution needed when interpreting such dedications. Early church sites and monastic sites often have a *vallum*, usually an oval or curvilinear boundary ditch or wall, denoting the extent of the sacred enclosure. More recently it has been recognised that rectilinear, sub-rectangular enclosures as found at [Iona](#), [Portmahomack](#), Easter Ross, and [Fortingall](#) in Glen Lyon (MPK457) are in fact the main form of *vallum* used by major monasteries in Scotland (Campbell and Maldonado [2020](#), 58–63; Hindmarch [2014](#)). Surviving church buildings on these, and other sites, tend to be late medieval at the earliest, however.

Early medieval carved stones and handbells also provide indications of an earlier foundation at some sites. There are ten bells which have survived down to modern times, from major monasteries like [Forteviot](#) (MPK1865), [Dunkeld](#) (MPK5447) and [Fortingall](#), to lesser known sites like [Cladh Bhranno](#) (MPK66) and [Balnahanaid](#) in Glen Lyon (see further discussion below). In the lowlands, the importance of [Meigle](#) (MPK5400) as an early Christian site is primarily indicated by the range and quality of the 27 carved Pictish stones, matched only by the collections at [St Andrews](#) and [St Vigeans](#) (Hall [2014](#); Geddes [2017](#)). The sub-circular graveyard may indicate the original church site (Ritchie 1995). Excavations at Forteviot church, said to have been founded in the 8th to early 9th century, revealed multiple phases of remodelling; the foundations of the 11th–12th-century building were visible on the east side of the present building. (Campbell and Driscoll [2020](#), 107–16).

as well as a fragment of 9th/10th century cross-slab (Maldonado and Gondek [2012](#), 10, fig 8; Hall et al [2020](#), 162–3).



The Forteviot Hand Bell © The Hunterian, University of Glasgow 2015 and courtesy Forteviot Kirk Session

A similar sequence was encountered through keyhole excavation at the base of the square stone tower of [St Serf's Church](#), Dunning (MPK1999). The square tower is no earlier than the 12th century, but a small-scale intervention to investigate its relationship with the nave of the later parish church revealed the foundations of an earlier structure (Campbell et al [forthcoming](#)). Radiocarbon dating of an inhumation burial cut by this earlier foundation shows it can be no earlier than the 11th century.

However, disarticulated bone from these layers returned 9/10th century dates, showing there was an early cemetery matching the date of the carved cross-slab fragment now on display inside the church. In addition, a hearth bottom for possible ironworking from this trench was dated to the 7th/8th century. Earlier excavations at [Dunning Primary School](#) (MPK15522 and MPK17457) had identified what may be the monastic vallum for St Serf's Church, returning two eighth-century dates from the basal fill of the large ditch (Cook [2008](#)). Subsequent excavations outside the north wall of the churchyard at Castle Wynd encountered another section of the same ditch turning toward the church,



St Serf's, Loch Leven © Perth and Kinross Heritage Trust

At [Abernethy](#) (MPK3088), a possible early dedication to St Brigid may suggest an early church, or may reflect church-politics in the later first millennium AD. There are conflicting early royal associations with Pictish kings suggested by historical sources (Anderson [1922](#) vol. 1, 247; Macquarrie [1992](#); Macquarrie [1997](#), 175–81). One version of the legend suggests that a king Gartnaid was buried there in the late 6th/early 7th century and that he refounded the monastery and dedicated it to Brigid. Another records that a king Nechton founded the church in the 7th or early 8th century. Both accounts make the church of Abernethy older than Dunblane, where the diocese of Strathearn was based from at least the 13th century, and not strongly Columban, a political issue that may have influenced the creation of the foundation legends.

Limited excavations at the School Wynd near the round tower revealed evidence for an early medieval occupation at the site at least as early as the 8th to 9th centuries (Fyles [2008](#)). The clutch of Pictish sculpture from the site (Butler [1897](#); Proudfoot [1997](#)) gives an 8th–10th-century focus, with perhaps earlier symbol stones ([MPK3076](#) and [MPK3078](#)), although one is fragmentary and so of uncertain date.



Abernethy multi-headed stone © Perth Museum and Art Gallery



Abernethy cross slab shaft © NMS

The multiple-headed *quadricephalos* stone (Perth Museum 1997.432; Proudfoot 1997, 58–9) hints at pre-Christian ritual practices, perhaps connected to a well site and which may be linked to later activity at the Iron Age fort on [Castle Law, Abernethy](#) (MPK3069; Strachan et al 2020; 46–53; Strachan et al [forthcoming](#)). The presence of both

a religious and an elite power centre here would have been attractive to an early church foundation. The site was later adopted by the Culdees before the 22m high round bell tower was constructed in around 1100, one of only two known in Scotland. The Culdee / *céli Dé* ascetic movement originated in early 9th-century Ireland, practising extreme abstinence (Clancy 1996, 114, 117–8). Their influence is known at other early church sites in the area, including a small monastery with a modest sanctuary enclosure around the church on [St Serf's Island](#) (MPK3030) on Loch Leven which has been studied (Hall 2007b; O'Grady 2018).

Despite the rather derogatory nature of the term 'Culdee' in later historical sources, Abernethy received major royal investment in these centuries, with a number of ambitious stone crosses in Irish style surviving in fragments (eg NMS [X.IB 255](#), [X.IB 290](#); Maldonado 2021, 179–81). There was an important Gaelic scriptorium here as well, producing works such as the 11th-century *Lebor Bretnach*, a Gaelic translation of the *Historia Brittonum* (Clancy 2000). When William I of England brought his army north in 1072, it was at Abernethy where he and Máel Coluim III came to terms (McGuigan 2021, 253–75). A small priory of [Augustinian canons](#) was subsequently founded in 1272, which replaced the Culdee house.

[Struan Church](#) has a cross-slab, two cross-marked stones and an early medieval handbell (MPK1184; Hall 2004; Bourke 2020, cat 72, 377–8) and is dedicated to St. Fillan, whose cult is particularly strong in Highland Perthshire and includes Strathfillan, now in Stirlingshire (Taylor 2001). [Fortingall Parish Church](#) is dedicated to St Coeddi, abbot of Iona, and was founded around AD 700 (MPK430; Robertson 1997; Taylor 1999). It has fragments of Pictish cross-slabs, a Celtic handbell and an early font (Robertson 1997; Bourke 2020, cat 75, 380). A [monastic vallum](#), visible as a cropmark, has been dated to the 7th–9th centuries AD while other finds and radiocarbon dated features attest to early medieval settlement activity from the 6th to as late as the 11th century AD (MPK457; Hindmarch 2014; O'Grady 2011).



St Fillan's handbell, Struan Church © Perth Museum and Art Gallery

Dedications preserved in the landscape also suggests early sites now lost, such as [St Mary's chapel](#), with the place-name 'Maolrubha's ford' indicating an early Christian church site 'Cill Ma-Ruibhe' (MPK5227; Watson [1926](#)), although no trace of a chapel survives. At [Dunfallandy](#) (MPK1645) although no trace of a chapel is visible, there is a circular or oval boundary wall. Another strong candidate for finding evidence of early medieval Christian structures is [Dull](#) (MPK1015), dedicated to St Admonan of Iona, with numerous early stone crosses of various forms including one inscribed *Becli-* in 8th-century script. Early but undated clay-bonded stone walls were found underneath the floor of the parish church (Will et al [2003](#)). Other promising targets for future work are the churches at Fortingall and Meigle, already discussed, and Logierait, also dedicated to St Coeddi, with two elaborate Pictish cross-slabs surviving from the churchyard ([MPK1676](#), [MPK5378](#)). Two other interesting sites are [Cladh Bhranno](#) (MPK66) in Glen Lyon, with an evocative place-name, an early handbell and early medieval sculpture; and [St Fillans chapel](#) (MPK345), said to have been built by St Fillan, has a 16th-century ruin on the site.



Early medieval font outside Dull Parish Church © HES

6.7.3 Carved Stones

Perth and Kinross preserves a significant quantity, diversity and richness of early medieval sculpture, with excavations, survey work and casual discoveries continuing to turn up important new finds. Recent examples include a rare Pictish warrior/warrior deity carving found during roadworks in Tulloch, Perth (MPK19094), which probably dates to the 5th–6th centuries (Hall et al [2020](#)). Another rare example is the 8th-century cross-slab (MPK1016; Perth Museum 2007.1.1.1) excavated from beneath the floor of [Dull](#) parish church, incised with the probably female personal name 'Becli-' (Will et al [2003](#)). Additionally, a small fragment of a 9th/10th century cross-slab was excavated at the external base of the churchyard wall in Dunning. To these finds may be added several cross-marked stones recorded during survey work in the cemetery at Fortingall (Robertson [1997](#)). These examples show that early medieval, and specifically early Christian, carved stones are one of the richest resources in this region, and more new finds should be expected from future development.



Early cross carved stone from Dull © HES

These sculptures are one of the most recognisable and important cultural heritage resources of early medieval Perth and Kinross. They have been the subject of antiquarian and archaeological research since at least the 18th century and the landmark publication in 1903 of Allen and Anderson's *Early Christian Monuments of Scotland* remains a key reference for the corpus of monuments. Of course many more stones have been discovered since then and the framework of analysis has changed. Their three-class system of stones with symbols only, stones with symbols and Christian crosses and stones without symbols places too much emphasis on a chronological sequence. It also neglects other sculptures, notably simple incised crosses – (Henderson [1987](#)). Although local surveys have captured some of the additions (eg for Perth and Kinross, RCAHMS [1990](#) and [1994](#)) and some national surveys have updated elements of the corpus (Fraser [2008](#)) complete regional and national surveys of the entire corpus are still a high priority (Foster et al [2016](#), 20–1). Each region has different concentrations and clusters of types of sculpture, and in Perth and Kinross there are many fewer symbol stones, but there are many more cross-slabs. Many of these are of the highest quality, indicative of the growing wealth and importance of early medieval Perthshire.



Cross slab from Meigle © HES

The exact meaning of the symbols remains unknown, but they likely formed a symbolic language (Forsyth [1997](#)) that may have emerged in an initial form as early as the 4th century (Noble et al [2019](#)). They appear to have been carved onto standing stones from the 5th century onwards (Noble et al [2019](#)). Some of the early examples have been found on or adjacent to burials, but they tend to survive in a collapsed and fragmentary state, so that their original position in relation to any burials is unknown. Many have had 'multiple lives', having been removed, reused and repurposed (Clarke [2007](#); Hall [2015](#)). Examples include the [Abernethy](#) (MPK3076) symbol stone found in the 19th century in the foundations of a house. It had previously been trimmed for building use and was subsequently erected against the south face of Abernethy tower (Proudfoot [1997](#), 48; for a broader discussion Gondek [2015](#)). The [Inchyra](#) symbol stone (MPK5427; Perth Museum 5/1945) was discovered in 1945 during ploughing; it was found lying flat over a small cairn of 49 water-rounded stones, which overlay the remains of a human skeleton.

There are differently aligned multiple paired symbols and four ogham inscriptions that suggest multiple phases of re-purposing and re-carving of the stone (Forsyth [1996](#); Clarke [2007](#); Hall [2012](#)). The erection of monumental symbol stones was driven by commemorative and memorialising practices (including funerary rites) and by boundary and

threshold marking, though the balance of these and other factors in any individual case is often opaque. The Inchyra stone shares its story with the massive cross-slab from [St Madoes](#) (MPK8540); both were erected in an already ancient landscape, perhaps to help Christianise it (Hall [2012](#)).



Abernethy roundtower stone © Perth and Kinross Heritage Trust

The carved stones tend to be found along the river valleys and main routeways in Perth and Kinross. There are 11 symbol stones with abstract and animal symbols incised on boulders and standing stones. Most were subsequently incorporated into buildings or recovered through ploughing, although some may be in or near their original locations. [Peterhead](#) (MPK15111) stands in arable farmland and was probably originally a prehistoric standing stone and [Keillor](#) (MPK5353) is positioned on a possibly prehistoric burial cairn beside a public road.



The Keillor Pictish stone © ScARF

Most cross-slabs which fuse symbols and overtly Christian iconography or deploy only the latter have been found in medieval parish churches or burial grounds. It suggests these were church sites of some importance since the early medieval period, allowing for the later gathering of stones found in the wider landscape at nodal church sites. Some of the stones remain in the landscape but many have been collected into museums, such as the exceptional collection at [Meigle](#) (MPK7). was probably both a royal and ecclesiastical centre, from at least the 8th century; given the concentration of recumbent monuments, it was apparently the location of royal/high-status burials as well as having been a monastic centre for some time. (Henderson [1982](#); Hall [2014](#); Whitworth [2020](#)).

The collection includes massive elaborate cross-slabs, Meigle 1 and 2, which in the later medieval period were re-positioned to flank the burial ground entrance and the approach to Vanora's mound (Ritchie [1995](#); Hall [2014](#)). Notable examples of cross-slabs have also been found at [St Madoes](#) (MPK8540; Perth Museum 1992.815), [Logierait](#) ([MPK1676](#) and [MPK5378](#)), [Dunfallandy](#) (MPK1631; originally near [Killiecrankie](#) (MPK1775), [Rossie Priory](#) (MPK6660), [Tullibole](#) (MPK1842; NMS [X.IB 99](#)), [Fowlis Wester](#) ([MPK1535](#) and [MPK5375](#)), [Crieff](#) (MPK894; Perth Museum 1999.75; Hall et al [2000](#)), [Murthly](#) (MPK2260; Calder [1950-1](#)), and [Kettins](#) (MPK4744). Beyond Meigle, there are also significant sculptural groups or clusters at Forteviot, Dull and Fortingall.



Display of Christian Pictish stones from Meigle © HES

These generally later monuments encompass a range of forms and functions between the 7th–10th centuries. Their overtly Christian design repertoire encompasses crosses carved in relief, dominating one or both sides of the stone. They are decorated with intricate key pattern knotwork and accompanied by space-filling stories or myths, hunting scenes, rulers and warriors, fabulous beasts and Pictish symbols. The Perth and Kinross corpus also includes significant evidence for inscriptions, in both ogham and the Roman alphabet. The key ogham inscriptions are on the Inchyra stone, discussed above, and a more fragmentary but well-executed panel of relief sculpture at [Abernethy](#) (MPK3078; NMS [X.IB 98](#)). Equally difficult to read and somewhat more damaged are the Roman letter inscriptions. The ‘Becli’ inscription from Dull is mentioned above. On the Crieff Burgh cross-slab an inscription panel survives but only one or two letters remain legible (Forsyth and Trench-Jellicoe in Hall et al [2000](#), 166–8). It was probably contemporary with the better surviving but still limited inscription on the spectacular free-standing [Dupplin Cross](#) (MPK1916). The inscription was identified by Forsyth, and shown to be linked to the early 9th-century king of Pictland and Dál Riata, Constantine/Custantin (Forsyth [1995](#)).

Amongst the cross-slabs there is other evidence for architectural sculpture which may relate to tombshrines, altars or other internal church furnishings. These mainly consist of oblong panels of stone carved on one side, of which there is a complete instance from [Murthly](#) (MPK2285; NMS [X.IB 101](#)) and a fragment of a second from nearby [Pittensorn](#) (MPK7011; Hall et al [1998](#)). Amongst the many carved stones from monasteries there are fragments of similar panels at [Dull](#) (NMS [X.IB 58](#)) and a lost stone depicting a chariot from [Meigle](#) (Henderson and Henderson [2004](#), 219–20). Other sculpture from Meigle suggests a complicated mix of indoor and

outdoor commemorative monuments, including a possible lintel ([Meigle 22](#)) suggesting a lost stone church. Possible candidates for carved panels include the ogham-inscribed fragment from Abernethy mentioned above, as well as a possibly unfinished stone depicting a horse rider with a drinking horn from [Dunkeld](#) (MPK5440). Along with the monolithic [Forteviot Arch](#) (MPK6385; NMS [X.IB 36](#)), these architectural fragments suggest there is high potential for discovering the remains of a stone-built church from the Perth and Kinross area.



Dupplin cross stone © HES



Carved slab from Murthly © NMS



Portion of the Forteviot Arch showing 'Agnus Dei' and figures of men © NMS

6.7.4 Burials

At the start of the early medieval period, commemoration of the dead in formal but unenclosed cemeteries became common (Maldonado [2013](#)). From around the 8th century, burial practice became more standardised as it moved towards Christian churchyard burial. In Perth and Kinross a wide variety of burial practice is recorded, including long cists, log or plank-built coffins, flat graves and barrow or cairn monuments. Of an approximate total of 1,081 funerary monuments in the PKHER, 61 are of forms associated with early medieval burial, 15 relating to long cist and 47 to square barrows, the majority of which are known as cropmarks and have seen no further investigation.

Long cist graves are dug graves edged with stone slabs. They are generally thought to be early medieval in date but the tradition began in the Iron Age (Maldonado [2013](#)). They are often referred to as 'stone coffins' in antiquarian accounts, such as those discovered at [Evelick Castle](#) (MPK5357) during the 19th century, and one at [Cairn Wochel](#) (MPK807) during the 18th century. Other records might describe the graves as stone cists or simply cists, such as the 'stone cists and human bones' discovered at [Bruceston](#) (MPK5045) making classification of these early discoveries quite difficult.

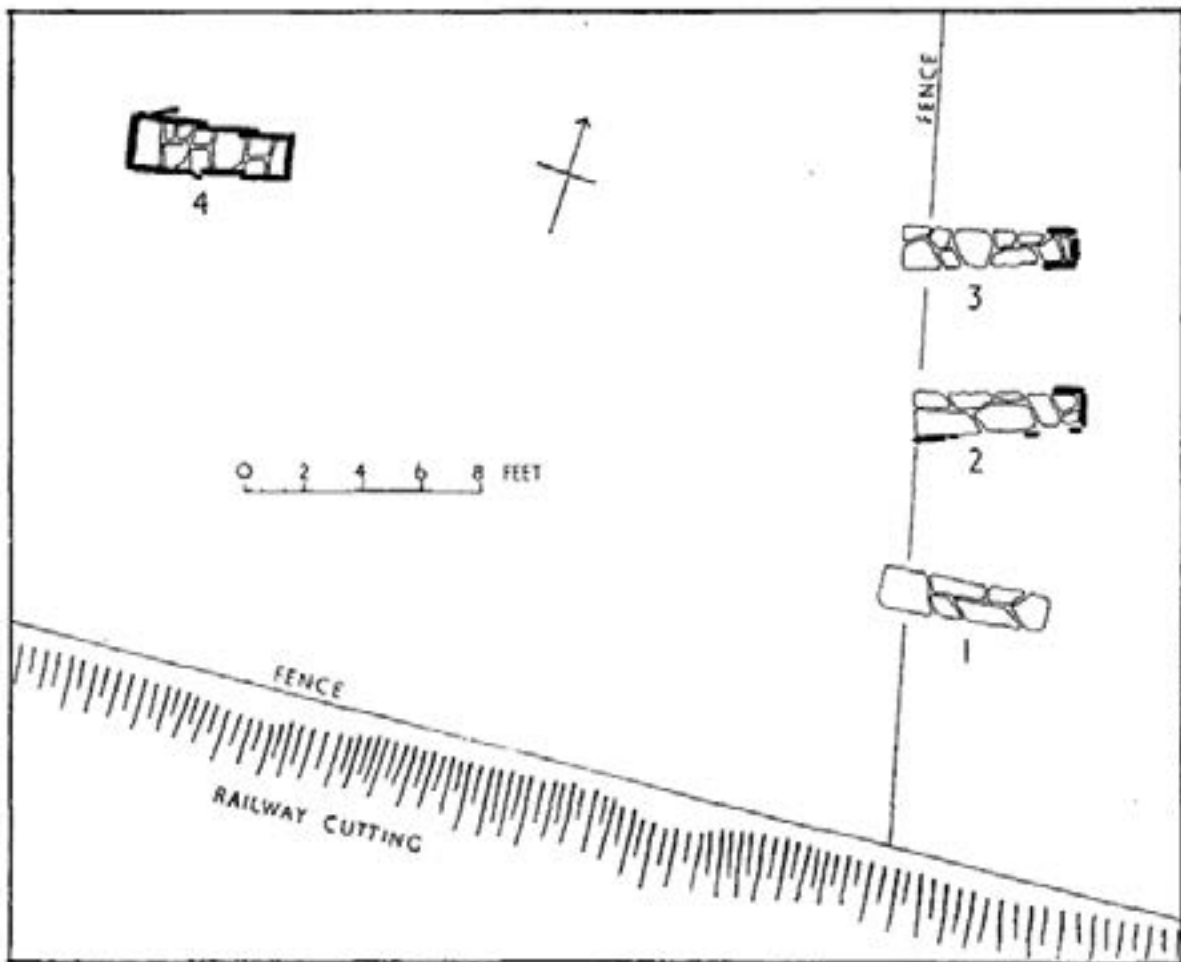
Although skeletal preservation is generally poor due to acidic soils in Perthshire, good survival does occur. For example, at [Blair Atholl](#), where a long cist grave with possible cairn capping was found to contain a skeleton of a male who died aged around 45 years in the late 5th–early 6th centuries AD (MPK1168; Reid and McLaughlin [1987](#)). Multi-isotope analysis highlighted the diet and mobility of the individual, supplying valuable new insights into life and mobility in the period in Scotland. For example, his diet was found to be consistent with early medieval and Pictish individuals studied, rich in terrestrial resources, especially pork, and suggested a childhood in the west coast of Scotland (Czére et al [2021](#)).



Reconstruction of Blair Atholl man by Hayley Fisher © Perth Museum and Art Gallery

At [Kingoodie](#) (MPK5105), three long cists were discovered in 1956, with one adult female radiocarbon dated to the early 5th to mid-6th centuries AD (Winlow and Cook [2010](#)). At Peterhead (MPK18243; adjacent to [Peterhead](#) enclosure (MPK1287) three graves were excavated 35m from [Peterhead Farm](#) Pictish symbol stone (MPK15111). Only the long cist grave had surviving skeletal material, that of a poorly preserved, probable adult male, radiocarbon dated to the 5th to early 7th centuries AD (Dingwall [2019](#)).

The second grave had evidence of a log coffin, and the third grave had no surviving remains. While no barrow ditches were identified, it seems likely there was some form of above-ground marker to prevent burials being intercut. The graves are spaced, organised head to foot, in a similar way to the group at [Powmyre Quarry](#), Angus (Bailey and Smith [2012](#), 46) and a group at [Redcastle](#), Angus, where barrow ditches may have been ploughed away (Alexander [2005](#)).



Plan of long cists at Kingoodie, Longforgan by DB Taylor © Society of Antiquaries of Scotland

Barrow and cairn cemeteries of square and circular monuments are generally considered to be Pictish. The distribution extent broadly aligns with the Pictish symbol stones. The square monuments, especially those with causeways at the corner, are particularly recognisable. It is possible that cemeteries with round barrows only are also early medieval, for example [Blairhall](#) (MPK5480) but without square barrows they are harder to categorise (Winlow [2011](#)). Upstanding examples at [Garbeg](#) and [Whitebridge](#), both Highlands, show something of the original construction, as low platform mounds. The majority of barrow cemeteries in Perth and Kinross survive as cropmarks but there is an unusual upstanding barrow at [Hallhole](#) (MPK5323). It is exceptionally large with three circuits of ditches and banks (Abercromby [1904](#)): cropmarks of square and circular barrows lie immediately to the south. Another possible example of an upstanding cemetery is at [Balmenoich](#) (MPK18620), where seven low mounds were identified during a walkover survey.

Almost all of the known early medieval burial sites in Perth and Kinross are cropmark sites. [The Welton](#) (MPK5494) barrow cemetery of around 12 circular and square barrows lies in arable farmland at the edge of a river terrace. Excavation at cropmark sites in Scotland often reveals extensive truncation (Dunwell and Ralston [2008](#)). At Forteviot, much like other excavated barrow cemetery sites, the barrow ditches and grave cuts were being actively ploughed away (Campbell and Driscoll [2020](#), 68–9). It is possible that some of these cropmark sites will be lost in the next few years (Dunwell and Ralston [2008](#); Mitchell et al [2020](#)). Excavation of a barrow cemetery at [Bankhead of Kinloch](#) (MPK18751; Mitchell et al [2020](#), 21–5; see [Bankhead of Kinloch Case Study](#)) encountered two round barrows, two conjoined square barrows and another square barrow, none of which were previously recognised as cropmarks. Only square barrow SQB1 had stone grave furniture: two large boulders may have held a lid in place. The two round barrows had evidence of an organic lining at the base of the grave. In the grave fill of SQB3 there was charred material, possibly the remains of a wooden coffin or some charred material deposited in

the upper fill similar to the round barrow at Forteviot. Preservation was poor but the fragmentary remains of three individuals were radiocarbon dated to between the 4th to 6th centuries AD.



Hallhole from the air © HES



Cropmarks of burials at Welton © HES

Excavations at Forteviot as part of the SERF project encompass the wide variety of burial and provide a window on the evolution of burial practice through the early medieval period. The cropmarks of square barrows were long ago recognised on aerial photography of Forteviot (Alcock 1980). Between 2007

and 2011, three areas were excavated: two square barrows to the south (MPK1890); adjacent to the Neolithic enclosure (MPK1882) which may have been the earliest element in the sequence. To the north there are two conjoined causewayed square barrows, one round barrow and 12 flat graves (MPK1883) which were adjacent to the large probably Roman period square enclosure. There were also eight flat graves within the churchyard extension area (MPK20323) that were later in the sequence and probably dated to around the 9th century. Many of the graves and barrow ditches were heavily truncated and no human remains were recovered. Despite this, a lot of information was obtained on the wide variety of burial types represented. The causewayed square barrows are of the typical Pictish type recognisable in aerial images, but the southern examples had continuous ditches. Two log or plank-built coffins were identified, and post holes around the graves of the two causewayed square barrows suggested the possibility of a structure projecting above the barrow (Maldonado in Campbell and Driscoll 2020).

Within wider burial landscapes, prehistoric burial monuments were being reappropriated as the focus for early medieval burial, possibly to signify links to an ancestral past (Driscoll 1998). At North Mains of Strathallan, extended graves were set within a prehistoric henge (MPK1359; Barclay 1983 [SET4]) and at Market Knowe, Longforgan, a long cist and flat grave were interred at the edges of what was an old burial monument (MPK5119; Cachart and Hall 2014). At Forteviot, an extensive prehistoric landscape formed part of the new early medieval burial landscape, and even more dramatic engagement with the prehistoric monuments was identified, with fire pits and cremated human bone buried in prehistoric features dated from the 6th to 11th centuries (Campbell et al 2020). Fire rituals are also suggested with the charring of oak coffins at Peterhead and Forteviot, and the burnt branches in the grave fill of the Forteviot round barrow. The barrow cemeteries extended out across the landscape in a linear but organic distribution, hugging the topography and framing terraces, routeways and rivers (Winlow 2011; Mitchell and Noble 2017).

By the 8th century burials started to become more standardised as churchyards were established (O'Brien 2003; Maldonado 2011). Evidence is more limited from this period onwards, in part due to the continuance of the sites as religious or sacred sites into the modern period. Excavations at ecclesiastical sites in the eastern firthlands at Auldham, Isle of May and Kirkhill, St Andrews have all turned up evidence for the accrual of lay burial grounds – denoted by the mixed population of men, women and children – from about the 8th century onwards

(Melikan in Crone and Hindmarch [2016](#) [SET5], 51; James and Yeoman [2008](#), 17–20; Wordsworth and Clark [1997](#)). It is therefore likely that this shows a gradual move toward churchyard burial at this time. Excavations in Forteviot churchyard revealed simple grave pits cut into the natural gravel which must represent the earliest days of the cemetery, but no bone survived to be dated (Maldonado in Campbell and Driscoll [2020](#), 119–22). However, at nearby [St Serf's](#) (MPK1999), Dunning, a slit trench at the base of the square tower showed a crowded accumulation of burials dated as early as the 9th century, indicating the likely foundation date of the cemetery here (see [Christian Sites](#)).

There is only scattered evidence for 'pagan Norse' burial in Perth and Kinross, consisting mainly of stray finds of Viking Age dress items and weapons as discussed below ([Migration](#); [Weapons and Equipment](#)). The association of 'hogback' stones – recumbent stones with curved profiles bearing 'roof tile' tegulated ornament – with Scandinavian colonists is no longer very clear. However, it is still most likely that they are a form of grave marker dating to the 9–12th centuries in Scotland (Williams [2015](#); cf Lang [1974](#)). The 'hogback' from [Meigle](#) (number 25) is perhaps the earliest in the series, bearing part of the local Pictish 'house style' and with an odd shape (Ritchie [1995](#), 7). A very weathered and fragmented tegulated coped stone in [Tullibole](#) churchyard identified by Robertson in 1991 may be a partly reworked hogback (MPK6715).

However, in this area there are examples of later medieval tegulated coped stones such as one from [Dunkeld](#) (MPK2449) which are no earlier than the 12/13th centuries. It may be that the majority of 'hogbacks' and related stones from the eastern firthlands relate to the rise of a knightly class rather than anything to do with the Vikings (Maldonado [2021](#), 195–6). It is more likely that the simple, undecorated cross-marked stones which occur in small numbers but are spread widely across the region hold the best evidence for churchyard burial in the 9–12th centuries, even if they are nearly impossible to date closely. Simple outline or low-relief crosses with no other ornament (cf Henderson [1987](#)) occur widely in churchyards of the area – eg Fortingall, Dull, Weem, Cladh Bhranno, Muthill. Finally, it is also possible that burial outside of churchyards continued to a lesser extent in these centuries. A long cist cemetery developed within the east half of the Neolithic henge of North Mains of Strathallan. While such cemeteries are most frequently dated to the 5th–7th centuries, a female teenager in one of these cists was radiocarbon dated to AD 640–1040 (Barclay et al [1984](#), 145; GU-1382 recalibrated using IntCal 20 curve).

6.7.5 Other Religious Artefacts

Perthshire, and particularly the Highland glens, have produced some of the most critical survivals of the early medieval period, in the form of intact handbells, crosiers and other reliquaries of the early Church. In addition to early medieval carved stones and saints' dedications, they are important witnesses to the earliest days of Christianity in Scotland. As they were often kept in or near the churches they were associated with, they also tell us a great deal about how early medieval objects impacted on later medieval and early modern identities.



Bell shrine from Inchaffray Abbey © NMS

Most notable in this respect is the density of surviving handbells. Quadrangular bells of iron coated with bronze, and later of copper alloy only, were commonly used in early Irish monasteries in Ireland and Scotland to mark time and help to shape monastic rituals, including calling the brethren to prayer. Over the years many of these bells became venerated as relics in their own right. Out of 27 bells recorded in Scotland, ten are from Perthshire (Bourke [2020](#)), a testament to other close links between the Highland glens of Perthshire with Ireland, notably via the Columban network of churches. In addition, several more bells recorded in historical sources and tradition have not survived, so this is only a fraction of what was once available.

Only one, a rather different and probably later cowbell from 'Perthshire' now in the NMS (PKARF Early Medieval Section 6.5.1), has no connection to an early saint or ecclesiastical place. The role of the dewar, or hereditary keeper of relics, seems to have been honoured for much longer in the Perthshire glens than elsewhere. It may be that they continued to have peace-keeping and other civic roles even after monasteries to which the relics pertained were long gone (Márkus [2009](#)). This has certainly been a factor

in the survival of so many bells in this region. At least two bells, from Forteviot and Strowan, were recast in early modern times, attesting to their continued significance to the community in the post-medieval period (Campbell and Driscoll [2020](#), 122–8; Hall et al [2000](#), 177–9). Only a small handful remain in local display or private possession, and sadly several have been lost since being recorded, including one from Balnahanaid and most recently the bell from Fortingall, stolen from the church in 2017.



Quadrangular bell of cast bronze, associated with St Fillan, from Strathfillan, Perthshire (9th century) © NMS

At least one handbell was given an elaborate shrine casing in the 11th century. The Inchaffray Shrine (NMS accession [X.KA 32 A-B](#)) is the crest of a bell-shrine similar to a series of 11th-century examples from Ireland (Bourke 2020, no 76, 380–1). Crafted of openwork bronze inlaid with silver and niello, its Ringerike style is a rare example of the fusion of Insular and Scandinavian styles popular in Ireland at the turn of the millennium (Caldwell et al [2012](#), 226).

In addition to the handbells, there is another notable reliquary surviving from the region, the crosier and Coigreach of St Fillan, from Glendochart (NMS [H.KC 1](#) and [H.KC 2](#); Anderson [1889](#); Michelli [1987](#)). The crosier survives as a bronze casing of 11th-century

make, possibly once enclosing a wooden crook. The Coigreach is the name given to the later casing of silver gilt, which incorporated filigree panels that were formerly attached to the 11th-century crosier. This outer reliquary was further embellished several times through to the 16th century, and kept by the Dewar family of Glendochart until it was gifted to the Society of Antiquaries of Scotland in the 19th century. It is a reliquary of St Fillan, an early Irish saint with a strong regional cult in western and northern Perthshire (Taylor [2001](#)). A bronze bell of St Fillan from Strathfillan is also now in the National Museums Scotland ([H.KA 2](#)), while the Struan, Blair Atholl bell, also associated with St Fillan, is now in Perth Museum (accession 3/1939).



Crosier head of St Fillan of Glendochart, of Irish or West Highland type, bronze with bands ornamented with niello (11th century) © NMS

6.8 Transport and Movement

Land Routes

It is assumed Roman roads would have continued to be used, to some degree, over the period, although there is little evidence to support this. Carved stones commonly depict warriors on horseback and this is considered the most likely form of elite, terrestrial transport over any significant distance. We also know from a lost, but recorded, stone at Meigle that wheeled transport was available (Henry and Trench-Jellicoe [2005](#), 232, fig 15.7). A two-wheeled, covered 'cart' is shown, but presumably four-wheel vehicles were also available. A similar depiction of a horse-drawn cart or chariot on a cross-slab was recorded at Newtyle in 1569, but is also now lost (Henderson and Henderson [2004](#), 218–9). Evidence for vehicles may be in short supply, but as greater numbers of finds are reported through the Treasure Trove process, it may be possible to reconstruct overland routes by the spread of objects like harness mounts (eg Hall [2007a](#)).



Reliquary, known crozier shrine, of St Fillan of Glendochart, silver gilt, 15th-century, incorporating earlier work © NMS

Overall, Perthshire remains especially rich in intact ecclesiastical metalwork from the early medieval period. The handbells alone date from the early iron types (700–900) to later bronze types (800–1000) and a bell-shrine of the 11th century. However, given their portability, the findspots of bells and other shrines, and the traditions attached to them, can only be used with caution to tell us about how they were used in the early medieval period. The fact of their preservation may actually tell us as much about belief and legal customs in medieval and early modern Perthshire. The bell of St Fillan at Struan remained in use until the early 20th century and it was only then that a new bell was commissioned to replace it, at which point the now redundant bell passed into the collections of Perth Museum (Bourke [2020](#), cat 72, 377–8). The bell until recently at Innerwick, Glen Lyon, had only been there since the late 19th century. Prior to that it had been kept in a niche in the ruined nearby chapel, Cladh Bhranno, having been moved there when its former chapel of reputed Adomnan foundation had been demolished in the 14th century (Bourke [2020](#), cat 74, 379–80). Following the theft of the Fortingall bell, the Innerwick bell was donated to Perth Museum (accession 2022.35).



Meigle stones 10 and 11, showing a two wheeled horse drawn cart © HES

Waterways

There are only a small number of early medieval boats from the inland waterways of Perth and Kinross (see above, Boat building [6.6.6](#)). However, it is clear that the early routeways through Perthshire cluster mainly on the rivers and lochs which shape its upland glens and water its fertile river valleys. The most powerful lords of the area were the earls of Strathearn, and the earliest evidence for long-distance trade built up around the tidal reaches of the Tay at Perth (above, Economic Networks [6.6.1](#)), with major royal centres further along the river at Scone and Dunkeld.

Migration

Some of the clearest evidence for the movement of people within Scotland comes from the Highland glens of Perthshire. It is here where we have some of the earliest evidence for Gaelic culture spreading to the east of Scotland from Dál Riata, largely in the form of saints' cults and Irish-style Christian material culture such as handbells (see above, Christian Sites [6.7.2](#) and Other Religious Artefacts [6.7.5](#)). The place-name Atholl seems to mean 'New Ireland', referring perhaps to its distinctive population of Gaelic-speakers from early on (Clancy [2010a](#); [2010b](#)).

A number of early medieval dress items made in the 8th and 9th centuries also bear evidence for shared fashions across east and west as mediated through the Perthshire glens (above, Clothing and Dress [6.5.3](#)). Many of these potentially tell us a great deal about the movement of Viking Age armies across the region. The Crieff mounts are an important set of finds – a pair of chip-carved silver-gilt harness mounts of a kind only rarely found in Scotland (NMS [X.FC 3](#) and [X.FC 4](#)). These are particularly fine examples of the class, with distinctive human and bird heads, and insets of imported amber and rock crystal. They were supposedly found with a bronze belt or harness loop (NMS [H.TXB 94](#)) which may relate to their function as horse gear, or their reuse in this capacity (Spearman [1993](#)).

In recent years other chip-carved harness fittings and enamelled mounts of similar date have been found through metal-detecting at Dunning (TT16/19), [Cambusmichael](#) (MPK15390), [Cargill](#) (MPK15361), and [Carpow](#) (MPK15357; Hall [2007a](#)). Further enamelled mounts have recently been discovered at Fowlis Wester (Perth Museum 2013.127) and Guildtown (Perth Museum 2019.42). Such fittings are frequently found reused in Viking Age graves in Norway (Wamers [1985](#); Youngs [1989](#)), indicating they were in active use during the early viking raids in Britain and Ireland. Indeed, the Crieff mounts show signs of at least one episode of reuse, suggesting they may have

been lost in a Viking Age context (Spearman [1993](#)). An enamelled harness pendant from Cambusmichael also looks to have been modified into a pendant, suggesting Viking Age reuse (Hall [2007a](#), 71–2).



Bronze gilt mount in an Irish style, set with crystal and decorated with a smiling human face and two peacock heads, a Christian device associated with the risen Christ, 8th century, from Crieff © NMS



Bronze gilt Irish style mount ornamented with interlaced work and crystal, 8th century, from Crieff © NMS

Stray finds of Viking Age date are sparse but growing (PKARF Early Medieval [6.5.3](#); PKARF Early Medieval [6.5.4](#)). Antiquarian finds of Viking Age artefacts from Perth have been mentioned above (Economic Networks). An enigmatic pair of Scandinavian oval brooches acquired in the late

18th century in [Errol](#) (MPK6444) by the Literary and Antiquarian Society of Perth (now Perth Museum, accessions 144 and 144A) have an uncertain provenance. At one time it was accepted that they had been found locally (Greig [1940](#), 100–1) but more recently it is thought that they were brought to Errol from elsewhere (Graham-Campbell and Batey [1998](#), 104). Metal-detecting has added significantly to the visibility of the Loch Leven and Culross area (the latter in the former old county of Perthshire), including finds of ring-pins, strap ends and other dress items (Buchanan [2012](#), 232–4, 237–8). These join an older find of a ring-pin from [Dunkeld](#) (MPK2479; NMS [X. FC 235](#); Fanning [1983](#), 338 no 29) and a more recent one from Castle Craig broch mentioned above (Other Material Culture [6.5.4](#)). Possible Viking Age weapons are dealt with below.



Pair of Viking brooches found in Perth © Perth Museum and Art Gallery

In contrast to the number of finds with Irish or Hiberno-Norse parallels, there are very few items of Northumbrian or Danelaw origin in the region, despite an overall high amount of reported metal-detecting activity. Blackwell ([2018](#), 407, Table 5.16) reports only four sites with Anglo-Saxon finds from Perth and Kinross, three of which were from excavations and discussed above: the glass vessels from Dundurn, the purse mount from Aldclune, and the glass bead from Fortingall. To this we can now add the Anglo-Saxon segmented bead from [Lair](#), Glen Shee (MPK4456). The only Northumbrian find not from an excavation is a metal-detected ‘raquet headed’ pin with ring and dot decoration of 8th–10th-century type from [Blackhill House](#) (MPK2441), between Dunkeld and Clunie (Blackwell [2018](#), 174–5). There are also Northumbrian strap ends from Logierait and Stanley (above, Other Material Culture [6.5.4](#)).

Stray finds representing the last part of the early medieval period, the 10th and 11th centuries, are

more sparse, but highly significant in a national context. Already mentioned are 11th-century imported ceramics from excavations at Perth, the Inchaffray bell-shrine and the Dull coin hoard, deposited around 1025.

6.9 Conflict

Our sources for military activity comprise written accounts, places – defensible enclosures – and things – weapons and horse gear. All three categories of evidence are scarce.

Texts and things

The textual evidence, including for the location of battles or skirmishes between various Pictish and Scottish dynasties and places of viking raiding, is translated in Anderson ([1980](#); [1990](#)) and has been reviewed in the context of viking raiding, for example in the Dunkeld Annals (Hall et al [1996](#), 141–2). During the reign of Cinead mac Alpin, the Annals record that the Danes (‘Danari’) laid waste to Pictland as far as Clunie and Dunkeld (Anderson [1980](#), 250), probably in the late 850s as it happened just before Cinead’s death in 858. The moving of some of St Columba’s relics to Dunkeld in the 9th century may have been, at least in part, a response to viking raiding against Iona and reminds us how violent actions had knock-on effects in other areas of social life.

There is a debate about whether the relics were moved by Cinead as part of his (re-)founding of Dunkeld or whether it happened earlier in the 9th century under Constantin son of Uurguist. In 875 Dunkeld was presumably further attacked – in that year the Danes were victorious in the battle of Dollar and wreaked havoc as far as Atholl, remaining in Pictland for a further year (Anderson [1980](#), 250; Broun [1997](#), 118). In 903 the Norse (‘Normani’) plundered Dunkeld and all Alba (Anderson [1980](#), 251; Broun [1997](#), 120 n 39). In addition to the stray finds of harness and other mounts with signs of modification and reuse mentioned above (see Migration), hoards of objects such as the group of brooches from Loch Clunie may also be proxy evidence for unrest in the 9th century (Maldonado [2021](#), 82–5).

Fortifications

While primarily an Iron Age phenomena, forts were constructed or reoccupied across Scotland in the early medieval period (Alcock [2003](#); Harding [2004](#); Ralston [2006](#)). Suggested early medieval forms include ‘nuclear’ forts (Stevenson [1949](#)), promontory forts, and ring forts (Noble [2016](#), 27). Assigning chronology on the basis of morphology alone has proved problematic, however. For example, [Moredun fort](#) (MPK5232), Perth, was for a long time believed

to be a 'nuclear' fort, with an inner, summit enclosure and lower enclosed terraces. However, targeted excavation to date the various enclosures has produced only Iron Age dates (Strachan et al [forthcoming](#)). Moredun is thought to have been the location of a battle between claimants to the Pictish kingship in the 8th century; it is often cited as additional evidence which points to an early medieval power centre there (Hall et al [2006](#), 277). The new archaeological evidence might suggest that the battle at Moredun was perhaps no more than coincidental to that place, though perhaps the remains of an older fort were seen as an appropriate, legitimising arena for the conflict. Of 15 or so examples excavated in the region, only two – Dundurn and the King's Seat – have been confirmed as early medieval (Alcock et al [1989](#); Strachan and Maclver [forthcoming](#)).



Aerial view of Upper Gothens cropmarks © HES

Of over 60 known palisaded enclosures in Perth and Kinross, almost all discovered as cropmarks, fewer than ten have seen any archaeological excavation. While palisaded enclosures are generally considered to be prehistoric, rare early medieval examples have been identified elsewhere in Scotland, for example at [Rhynie](#), Aberdeenshire (Noble and Evans [2019](#)) and [Titwood](#), East Renfrewshire (Johnson [2003](#)). Palisade phases are also known at some forts, so early medieval palisaded enclosures could be regarded as

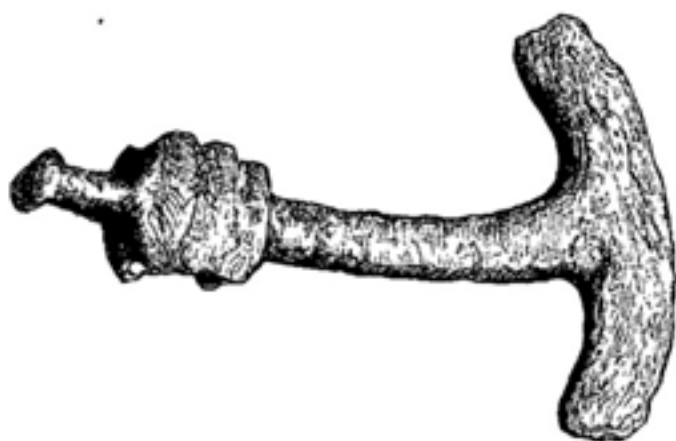
fortifications (RCAHMS [1994](#), 51; Noble et al [2013](#)).

The only early medieval palisaded enclosure in the area was discovered through limited excavation at [Upper Gothens](#) (MPK5496) near Blairgowrie. Originally thought to be Neolithic (see PKARF Neolithic section), excavation revealed an irregular octagonal inner palisade ditch and an exterior ditch with evidence of multiple phases of activity. Three radiocarbon dates from secondary ditch fills provided dates spanning the 9th–13th centuries AD. A medieval iron buckle (PKARF Early Medieval LINK) and metalworking slag were also recovered from the site, which was suggested to have been the seat of an early medieval lordship (Barclay [2001](#)).

Weapons and Equipment

An assemblage of antiquarian finds from St Serfs Priory, Loch Leven, includes a Scandinavian-style iron arrowhead of 10th/11th century date (Perth Museum K1972.149; Hall [2007b](#)). It fits into the picture of Norse/Viking activity in this area (see also Taylor [2004](#); Taylor [2007](#)). Another antiquarian find, poorly provenanced, from Loch Leven, is a decorated iron axe (Perth Museum K1972.291; Caldwell [1981](#), 268–9), which conforms to Petersen's Type M Danish broad axes ([1919](#), 46-7, figs 44–45). It is likely to date to the 11th/early 12th century. The decoration comprises silver inlay, comprising spirals around the neck and shaft hole, with long strings of decoration alternating with elaborate spears, radiating towards the cutting edge. The inlay was subjected to XRF analysis at National Museums Scotland, showing that the silver was of a high purity and mixed with traces of copper, gold and possibly mercury.

This suggests that the silver may have been gilded. This was a high-status weapon that must have belonged to someone of importance. Caldwell ([1981](#), 269 and n 45) gives examples of silver decorated axes from the Continent (Germany and Finland) of a similar date. There are two further axes that should be noted. The first derives from the Perth High Street excavations (Caldwell [2012](#), cat 5, 191; Caldwell [1981](#), 269–70) classified as a Petersen Type M, which begins in the 11th century. However, its imprecise High Street phasing means it could have been in use as late as the 14th century. The second axe is in the collections of National Museums Scotland ([H.RY 8](#)) and was found at [Leargan](#), Rannoch (MPK255). Long suggested to be a probable 16th century example (Caldwell [1981](#), 286, fig 158), a recent reassessment (Bourke [2001](#), 87) proposes such T-shaped axes had an earlier, 6th–11th-century currency. They are depicted in the Bayeux Tapestry and the 9th/10th-century Hurbuck hoard contains two examples. In this case we may then be dealing with an axe from the close of the first millennium AD.



Drawing of iron axehead from Leargan © Society of Antiquaries of Scotland

Perth also provides the provenance for two apparently Viking Age swords, one comprising pattern-welded blade and hilt fragments (MPK3362; Perth Museum 147) and the other a lobed hilt only, from the Perth High Street excavations (Caldwell [2012](#), cat 1, 189–91, including PMAG 147 at 191). The first was found in the 19th century, during work on [Watergate](#), one of Perth's earliest, pre-12th-century streets. The PHS example was recovered from a later context suggesting it, possibly both, survived as heirlooms before being committed to the ground (Hall et al [2006](#), 277; Gilchrist 2013, 174–5). A Viking Age date means they are just as likely to have been used by Picts or Scots as Viking raiders.

One final weapon to be noted is the iron spearhead from [Kinclaven](#) (MPK5865; Perth Museum 1991.55). This was found by chance in the River Tay, opposite Kinclaven Castle. At the time of its discovery, it was presumed to reflect 13th-century activity and possibly be linked to the AD 1297 skirmish between Wallace and the English during the Wars of Independence. More recently a re-evaluation suggested that typologically the spear head was a good fit for Germanic and Anglo-Saxon typologies with a 6th/7th century date. At the same time the surviving fragment of ash haft preserved inside the socket was radiocarbon dated to the 11/12th century. If this represented a re-hafting of the spear rather than the original haft it might suggest a spearhead made in the 10th century. If rehafted as an heirloom, it may have been deliberately placed in the river at the end of its life.

The high-status of the inlaid Loch Leven axe is matched by the 11th/early 12th century, 'Romanesque' gilded spur in Perth Museum and recovered from early levels of the Perth High Street excavation (Ellis [2012](#), cat 20, 194–7; Pedersen and Rosedahl [2008](#), 32, fig 3). It is a copper-alloy prick spur with considerable gilding surviving. The neck is formed as an animal

head with the tapered point of the 'prick' issuing from its mouth. Of course, spurs were used when riding horses whether in conflict situations or not, and the same applies to a range of horse gear, including mounts, some examples of which are cited above (Migration). To them we can add the metal-detector found, copper-alloy harness pendant from [Inchyra](#) (MPK18584; Perth Museum 2013.16; Hall [2021](#), 475–7). Of probably 11th century date, by analogy with Continental examples it may well have been gilded and so can be regarded as of comparable high-status to the spur and the axe. In situations of conflict, such gear and its ornament may have taken on extra significance in terms of seeking to compel supernatural protection (Hall [2021](#), 474–84).

6.10 Research Agenda

The Research Agenda defines five **overarching research themes**, which represent common priorities aimed at addressing wider multi-period priorities: ***Environment***; ***Upland/Lowland Relationships***; ***Periods of Transition***; ***Rivers as Routeways***; and ***Investigative Disparity***.

This section presents the *early medieval* agenda themes, under the overarching theme headings and others which are **period-based**. Where appropriate, a short explanatory note is provided detailing the underlying thematic priorities which is then followed by the research questions.

6.10.1 Environment

Priority 1: Archaeobotanical studies

Little is known about early medieval crop husbandry, agriculture practices and plant exploitation within the region, as until recently early medieval settlements have remained elusive. The discovery and excavation of sites, such as at Lair, Glen Shee (Strachan et al 2020) and Bertha Park (Engl 2020), and the corn-drying kiln at Kinross High School (Hastie in Cachart 2008) offer the opportunity for enhanced sampling for macroplant / archaeobotanical remains to inform our understanding of early medieval crop processing, agricultural practices and use of wild plants (see [PKARF section 9.4 Archaeobotany](#)). Sampling of any charred or waterlogged material from in-situ early medieval settlement remains / sites, should be a priority, with samples targeting deposits offering potential for the preservation of early medieval archaeobotanical / macroplant remains.

Priority 2: Dendrochronology

The Perth and Kinross area has potential to develop long native tree-ring chronologies including the early medieval period. Some surviving oak timber of the period has been identified from Loch Tay

and Dundurn. Every opportunity should be taken to recover samples for dendrochronological analysis to develop tree-ring chronologies for this key region (Mills 2021). A successful tree-ring chronology would offer precision dating of to a year, as well as an annual climate record, woodland impact insights and other valuable environmental data. The development of such chronologies for Perth and Kinross is likely to depend upon accumulating data from a combination of archaeological and natural sub-fossil material, as has been achieved for native Scots pine further north, principally around the Cairngorms, though with some long-lived pine living tree data already collected from Perth and Kinross to start that process for pine here (Wilson et al 2011; Rydval et al 2017; Mills 2021). Oak is the timber species most likely to be encountered archaeologically and probably has the greatest promise for long chronology development and archaeological dating applications in the area, although other species including pine, alder, ash and elm also have potential and should not be dismissed. The Fortingall Yew signals the association between ancient trees and early medieval church sites which could be further investigated across Perth and Kinross.

Priority 3: Zooarchaeology

The available zooarchaeological evidence from lowland sites is scarce; and only slightly less so for the uplands. With new insights from elsewhere to draw upon, such as the Northern Picts, there is scope to explore this area further. New techniques, such as multi-isotope analysis, are available as new sites are investigated, or as previously 'lost' assemblages are reviewed, such those from Alcock's excavations at Dundurn which are currently being dated by Aberdeen University.

Priority 4: Geoarchaeology

Inorganic phosphate analysis offers significant potential to understand domestic farming settlements (Banks 1996) and are particularly valuable in understanding turf-built Pitcarmick-type byre-houses. Ongoing PhD geoarchaeological research into occupation layers from Lair (Reid forthcoming) has highlighted the value of assessments of pH, electrical conductivity, magnetic susceptibility, organic matter content, multi-element analysis and micromorphology. It has been designed to identify activity areas within structures and characterise the post-depositional processes and offers significant opportunity for future research (see [PKARF Section 9.3 Geoarchaeology](#)).

Research Questions

PKARF Qu 6.1: What differences can be identified, if any, between the later prehistoric and early

medieval periods in terms of crops cultivated, farming practices, including animal husbandry and foods gathered?

PKARF Qu 6.2: What evidence is there for the introduction of new plants and can this identify new trade links during this period?

PKARF Qu 6.3: What differences can be identified between the crops cultivated and agricultural practices between lowland and upland areas within the region, including any differences in stock and manuring practices?

PKARF Qu 6.4: How can long tree-ring chronologies, including for the early medieval period, be developed in Perth and Kinross – for archaeological dating applications and the provision of annually resolved climate and environmental data?

PKARF Qu 6.5: Is there an association between ancient yew, and other trees, and early medieval church sites in the area? Can scientific techniques including dendrochronology assist in confirming this association?

PKARF Qu 6.6: Can we locate more sites of early medieval date in the lowlands?

PKARF Qu 6.7: Can some faunal remains of this period be considered as ritual deposits?

PKARF Qu 6.8: Can the re-evaluation of museum collections, for example, Hurlly Hawkin, Angus, provide insights relevant to Perth and Kinross.

PKARF Qu 6.9: To what extent can episodes of abandonment and reoccupation/reuse be observed in the early medieval structural record?

PKARF Qu 6.10: To what extent can geoarchaeological techniques such as phosphate surveys enable the identification of settlement?

PKARF Qu 6.11: Is the general lack of floor layers observed across early medieval structures the result of natural or anthropogenic processes?

PKARF Qu 6.12: Can analysis of human dietscapes evidenced through multi-isotope studies be extended to animals in order to determine where domestic livestock were raised as opposed to where they were consumed? Can oxygen and strontium isotopes in animal teeth provide evidence of the geographical point of origin as per Czére et al 2021?

6.10.2 Upland and Lowland Relationships

Priority 1:

The RCAHMS (1990) survey of Glen Shee and Strathardle highlighted the early medieval Pitcarmick-type byre-houses, surviving as earthworks in the largely unimproved uplands of the area. While some examples have now been recognised west of the River Tay, no lowland equivalents have been discovered to date, and the nature of lowland settlement remains essentially unknown. Identification and excavation of lowland buildings and structures should be a priority with a view to better understanding the nature of settlement across the whole region.

Priority 2:

The nature of high-status sites across the uplands and lowlands should be considered a priority for study. Forts in both areas are constructed on rocky outcrops on top of hills. Upper Gothens palisaded enclosure, constructed on the summit of a low hill, has been confirmed as early medieval and suggested as high-status (Barclay 2001). It is probable that at least some of the early medieval crannogs in the area are of high status, as is the case elsewhere. The nature of these various forms requires further study – do their distributions indicate differences in lowland and upland society, or are they simply broadly comparable sites which are simply adapted to local topography?

Priority 3:

Can we see the impact of the developing Church on the existing network of sites and the Highland/Lowland divide? Did it affect conversion in any way? The locations of early churches and monasteries in both Highland and lowland zones reflects a conversion process and a targeting of existing elite and sacred sites.

Research Questions

PKARF Qu 6.13: How can we best identify the lowland buildings and related activity through pre-development evaluation and excavation?

PKARF Qu 6.14: Can mapping an analysis of cropmark evidence help to identify early medieval settlement in the lowlands? Plough-truncated Pitcarmick-type buildings could potentially result in linear features around 10–20m in length (Halliday pers comm).

PKARF Qu 6.15: Could terrain modelling help to predict possible cropmark sites in the lowlands?

PKARF Qu 6.16: To what extent is the ‘upland/lowland divide’ the result of differential monument survival?

PKARF Qu 6.17: Were there similar economic models

in the lowlands and uplands?

PKARF Qu 6.18: Are there Pitcarmick-type buildings in the lowlands, and could there be other forms such as the example at Easter Kinnear in Fife (Driscoll 1997)?

PKARF Qu 6.19: How do upland settlements connect to the exploitative hierarchical model of society envisioned by the archaeologies of forts, crannogs and royal sites?

PKARF Qu 6.21: In addition to Upper Gothens, are there other early medieval palisaded enclosures in the area?

PKARF Qu 6.22: Are there morphological or locational attributes that can help us identify early medieval palisaded enclosures in the cropmark record?

PKARF Qu 6.23: What level of status do palisaded enclosures in the lowlands reflect? Are any of them equivalent to high-status forts?

PKARF Qu 6.24: How best can we identify early medieval crannogs in the area, and establish their status?

PKARF Qu 6.25: What were the links between church and elite lordship/royal sites?

PKARF Qu 6.26: How did church/monastic sites in the uplands and lowlands differ?

6.10.3 Periods of Transition

The early medieval period can be viewed as transitional, from later prehistory to the medieval and early modern worlds. The transition from the Iron Age was marked by the introduction of new building and monument types, such as elongated byre-houses, new fort types with tiers of enclosing works on small, rocky outcrops and new burial monuments in the form of square barrows and barrow cemeteries. In the sphere of ritual and belief, conversion to Christianity introduced a range of new ecclesiastical buildings. Accompanying or preceding some of these were important new Insular art forms, significantly including Pictish symbol stones and cross-slabs, and a range of new high-status jewellery notably including silver brooches. A small number of sites – notably Glenlyon and Glen Quaich – suggest there were places of ritual that fused Christian conversion with pagan tradition and there is work to do to test the extent of this and how it is also reflected in more mobile art forms and in monumental sculpture.

The transition from the early medieval into the medieval period was focused partly on the increasingly important role of Christianity. It was a highly successful mode of cult practice that

accessed the divine to sanction both secular and sacred elites. The period also saw the formalisation of secular power on local, regional and ultimately national scales; international connections became increasingly significant for the economic and cultural life of the region.

Priority 1:

The Long Iron Age transition to the early medieval period is poorly understood and little is known about the immediate post-Roman and earlier part of the period, around AD 350–600, either through sites or artefacts.

Priority 2:

In the latter part of the period the foundations were laid for the emergence of the kingdom of Scotland. There is scope for interdisciplinary research involving archaeology, folk traditions, written records and place-names and environmental evidence to inform us about the processes which shaped this transition.

Research Questions

PKARF Qu 6.27: How best can we identify sites, both religious and secular (or a blend of both) from the immediate post-Roman period around AD 350–450?

PKARF Qu 6.28: What was the nature of early medieval activity in the monumental roundhouses found in uplands west of the River Tay (Strachan 2013). Is it possible to identify settlement nearby?

PKARF Qu 6.29: How best can documentary sources, and place-name evidence be brought to good use alongside the archaeological record?

6.10.4 Rivers as routeways

Priority 1:

The high-status forts of Dundurn and the King’s Seat control river valleys which are also important terrestrial routes connecting the area to the west and north of Scotland respectively.

Priority 2:

The 6th century AD Errol 2 logboat is a reminder of the importance of watercraft for the transport of people and goods. Such vessels would have been used around the Tay estuary, in lowland rivers and on lochs. The evolution of plank-built, sail-carrying ships over the period saw increased seaborne travel, however, and the connectivity of rivers and lochs should be explored both within the area, and with respect to trading networks beyond. We know from documentary sources that by the 11th century ships came up the Tay to deliver goods to Scone Priory. Perth’s early harbour was critical to

this but archaeologically we know almost nothing about it. The reuse of ship-timbers in the buildings of Perth, some of them from earlier levels, could offer a valuable route into the scale and form of early shipping.

Research Questions

PKARF Qu 6.30: How best can we explore and model trade networks of known sites, such as the King’s Seat and their connectivity through riverine and terrestrial routes?

PKARF Qu 6.31: What could detailed consideration of the Errol 2 logboat within its environmental and cultural context tell us about early medieval littoral economies, and wider trading connections?

6.10.5 Investigative Disparity

No county inventory for Perthshire was published by RCAHMS, however Kinross was published with Fife and Clackmannan (RCAHMS 1933). While the most areas of Perth and Kinross were studied through the Marginal Land Survey over 1956–58 (Geddes 2013), the imbalance between Kinross and Perthshire was only, in part, resolved through the significant surveys of north-east and south-east Perthshire (RCAHMS 1990; 1994). These documented well the field archaeology found north of the Tay estuary and east of the River Tay. However, there has been no large-scale, consistent survey across the rest of Perth and Kinross since. Occasional smaller-scale landscape studies have been carried out, such as at Menstrie glen, in part within historic Perthshire, in the Ochils (Cowley and Harrison 2001), below Ben Lawers (Atkinson 2016) and in lower Strathearn (Campbell and Driscoll 2020). This patchwork of survey has no doubt influenced thinking regarding the period and should be considered when research is being planned.

Priority 1:

The distribution of known Pitcarmick-type buildings was dictated by the extent of RCAHMS (1990) survey. Since then, examples have been recognised west of the River Tay, including Strathbraan and near Kinloch Rannoch. It is possible they were once ubiquitous across the region’s inhabitable uplands, but further work is required to confirm examples outside the RCAHMS 1990 and 1994 study areas.

Research Questions

PKARF Qu 6.32: To what extent can new technology such as LiDAR help to identify Pitcarmick-type buildings west of the River Tay?

PKARF Qu 6.33: Can the morphology and topography assist in identifying potential early

medieval buildings among later post-medieval sites?

6.10.6 High-Status Sites

Priority 1:

Two early medieval forts are now known in the area and it is probable others exist. Confirming these will require further targeted excavation, but they can now be more easily identified given their recognisable archaeological signature. It is important, however, to better understand their environmental context, relationship to other contemporary sites and monuments, and to explore their political role and peer and trading networks within Scotland and beyond.

Priority 2:

The region is at the centre of a nationally important story of the creation of the medieval state. It has been described, in the context of Forteviot and the SERF Project, as the Cradle of Scotland, the title given to the joint Hunterian Museum and Perth Museum exhibition that shared the results of the excavations (see <https://serfexhibition.archaeology.arts.gla.ac.uk>). There is a need to better understand the processes behind this development in the latter part of the period, and the relationship between power centres in lower Strathearn, the estuary and River Tay, including Forteviot, Abernethy, Rathinveralmon and Scone.

Priority 3:

The Moot Hill at Scone is one of the most important early medieval assembly mounds in Scotland (O’Grady 2014; 2018). While preliminary research has been carried out on other sites in the area (O’Grady 2008; Hall et al 2005, 310–1; Hall 2015), there is scope for more detailed research and fieldwork to enhance our understanding of these and bringing the insights of excavation and studies of monumental art closer together. The recent Early Kingship project has opened several lines of enquiry for the understanding of the development of kingship in Pictland (the edited papers of the project are forthcoming as Hall, Sanmark and Geddes).

Research Questions

PKARF Qu 6.34: What could a comprehensive programme of multidisciplinary landscape research in the Loch Earn, upper Strathearn area tell us about the role of Dundurn as a power centre?

PKARF Qu 6.35: What could a comprehensive programme of multidisciplinary landscape research in the Dunkeld area tell us about the role of the King’s Seat as a power centre including any relationship with the abbey and the cathedral?

PKARF Qu 6.36: How was early kingship in Pictland linked to the prehistoric landscape?

PKARF Qu 6.37: What could a programme of research targeted at Rathinveramon contribute to our understanding of the period?

PKARF Qu 6.38: How can further non-intrusive survey and excavation of the moothill at Scone contribute to our understanding?

PKARF Qu 6.39: Can interdisciplinary research, combining archaeological field work, documentary and place-name studies improve on existing research on early assembly sites, some known as moothills (cf Semple et al 2021)?

6.10.7 Building Traditions

Priority 1:

The nature of the transition of form from roundhouses to elongated buildings remains unclear. It may have been the result of external influences, an emergence from the existing roundhouse tradition, or a combination of these factors. The rounded ends of Pitcarmick-type buildings may be a result of their largely turf construction, however.

Priority 2:

A number of monumental roundhouses, found in uplands west of the River Tay (Strachan 2013), show evidence of early medieval activity. How best can we understand the nature of this activity, for example, is it possible to identify settlement nearby?

Priority 3:

There are a number of more irregular duns, such as Dun Gael, above Fortingall (ID) in the uplands west of the Tay. As yet undated, they may prove to be early medieval, or perhaps of Iron Age construction with similar reuse as at the monumental roundhouses.

Priority 4:

What was the origin of the square barrows and cemeteries that were introduced in the period?

Priority 5:

How best do we identify the phasing of crannog site? Are they best approached as multi-period phenomena?

Research Questions

PKARF Qu 6.40: Is it possible that further excavation, with Bayesian analysis, of roundhouses and Pitcarmick-type buildings can shed light on the introduction of the elongated building form in the 6th–7th centuries?

PKARF Qu 6.41: Could systematic dating and Bayesian modelling of more contexts from the Pitcarmick archive improve our understanding of its synchronicity with Lair in Glen Shee?

PKARF Qu 6.42: Could the chronological development of Pitcarmick-type buildings be better understood by excavated clusters related buildings, as at Lair, creating a larger data set for analysis?

PKARF Qu 6.43: What do other sites in regions contiguous to Perth and Kinross tell us about other forms of lower status settlement, such as Easter Kinnear (Driscoll 1997)?

PKARF Qu 6.44: Can better chronological resolution of square barrows and cemeteries help to identify their origin and the process of their introduction?

PKARF Qu 6.45: Is there any continuity from early to later medieval power centres on crannogs? Recent work on crannogs has turned up tantalising early medieval dating evidence, but few have been investigated to date.

6.10.8 Farming and Husbandry

Farming is also a significant transitional theme within the early medieval period (Fowler 2002), not least in the changing social framework that controlled it and which it underpinned.

Priority 1:

A better understanding of contemporary land use around Pitcarmick buildings is needed along with clarification of the role of transhumance.

Priority 2:

Pollen analysis remains the best way to establish the continuity of land use, provided that the temporal resolution of analyses is sufficiently small, though it does not, of course, define the continuity of settlement itself.

Research Questions

PKARF Qu 6.46: How typical of the uplands is the extraordinary array of field systems at Pitcarmick, which remain uninvestigated?

PKARF Qu 6.47: How typical of the uplands was the agricultural regime defined at Lair? Was it slightly different to most other Pitcarmick-type farms because it was lower and warmer than most?

PKARF Qu 6.48: What could a programme of pollen analysis and research at field systems close to Pitcarmick-type buildings tell us about the continuity of land use?

6.10.9 Economic Networks

Priority 1:

The application of scientific analysis techniques to a range of material culture objects will enable us to explore the sourcing of materials and places of production. This will increase our understanding of the pattern of economic networks.

Priority 2:

By pursuing new evidence and re-analysing existing assemblages, we will be able to refine our understanding of how patterns of trade changed over the first millennium AD. This includes the transition from west coast trade to the east coast, notably using the Tay valley.

Priority 3:

Synthesising the evidence for the domestic agricultural base, including the pivotal results from Lair, with those for the manufacture and import of goods will ensure that we gain a better, holistic understanding of the economy.

Research Questions

PKARF Qu 6.49: What can the artefact assemblages from the high-status forts of Dundurn and the King's Seat tell us about trade networks both within Scotland and beyond?

PKARF Qu 6.50: What new scientific techniques exist to analyse material culture objects to help explore the sourcing of materials and places of production to assist with our understanding of the pattern of economic networks?

PKARF Qu 6.51: Can DNA of zooarchaeological evidence help to refine our understanding of the domestic agricultural base and the pattern of economic networks?

6.10.10 Early Christianity

We still have much to learn about the pace, timing and up-take of the conversion to Christianity in Perth and Kinross.

Priority 1:

Recent decades have seen a multitude of studies focusing on specific monumental sculptures, groups of sculptures, more mobile material culture, sites and groups of sites, including Meigle, Gellyburn, Crieff/Strowan, and the Iona-linked monasteries of Glenlyon, Forteviot and St Madoes. Few works of synthesis have been attempted at this regional level (but note Hall 2005) and a symposium that draws these together would lay the grounds for a new

wider synthesis of early Christianity in Perth and Kinross. A second route to this end would be the completion of the regional corpus of early medieval sculpture, either for Perth and Kinross only, or in conjunction with the contiguous areas of Angus, Stirling, Clackmannanshire and Fife.

Priority 2:

Greater clarity should be sought on the transition pagan cultures to Christian ones through fieldwork and survey. There also needs to be a close examination of aspects of paganism which were carried through into Christianity, both in continuing magical practices and in more formal aspects of monumental art.

Priority 3:

We need to refine our understanding of how kingship and the Church worked together to define routes to the supernatural as part of the wider dynamics of defining and enacting power.

Research Questions

PKARF Qu 6.52: How can we best promote interdisciplinary explorations of a wider range of functions and activities in terms of overt political and secular interests, at early medieval monastic centres?

PKARF Qu 6.53: How can we facilitate further landscape-scale investigations to consider church settlements in terms of the political organisation of sacred space and the networking of multiple sites across the early medieval landscape?

PKARF Qu 6.54: How can we identify changing political functions of churches, as occurred at St Serf's from the mid-12th century through the interests of wider governmental power and the reform of monastic and diocesan Church administration?

PKARF Qu 6.55: How were the forces of Christianity and paganism played out in the political context of Forteviot and elsewhere?

PKARF Qu 6.56: How are early medieval social transformations revealed in the archaeological record?

6.10.11 Material Culture

The material culture from Perth and Kinross is nationally significant where it exists, and preserved in a range of local and national museums and in many churches, but there are some gaps in some key areas. It is nationally significant in the following areas:

- Material dating to around AD 700–900, particularly dress items, craftworking debris and carved stones.

- Connections with the material culture of Ireland, apparent especially in early Christian material culture such as handbells; dress items such as the Breadalbane Brooch and several finds of Hiberno-Norse ring-pins; and a hoard of Dublin pennies from Dull.
- Early Christianity, particularly carved stones and metalwork shrines/reliquaries; more than a third of all handbells from Scotland are from Perth and Kinross.
- Early medieval penannular brooch typology, with important examples from Tummel Bridge, Aldclune, Loch Clunie, a modified pseudo-pennanular brooch from 'Breadalbane' and a broken penannular brooch from Cambusmichael.
- Pre-burghal settlement archaeology: the early medieval origins of Perth were established largely by dating carbon residues from ceramic alongside other diagnostic finds.

Areas of good or emerging potential for new research are:

- Early medieval metalworking and other craft production, particularly linked to forts such as Dundurn and the King's Seat, but also blacksmithing at Lair.
- Upland settlement, especially byre-houses and the material culture of transhumance.
- Distribution and dating of imported glass beads, given numerous finds across the region.
- Viking Age and Hiberno-Norse material culture, bolstered by recent finds from excavation and metal-detecting in combination with reassessment of museum collections.
- The importance of communication routes through the landscape – the distribution of handbells and hoards of early metalwork can be placed alongside the main east-west routes across the Drumalban range, and key north-south routes between the glens. The stray finds of horse-harness gear, primarily of 8th to 9th-century date, also reveal major overland routes between power centres used in this period (Hall 2007a, 75–6).
- The sensorial perception of material culture and its significance to ritual performances in communicating with the supernatural and in the demonstration of power through

movement and performance. This includes the use of colour, for example in the painting of monumental sculpture (an enquiry encouraged by recent studies of Roman sculpture – Campbell 2020) (Hall 2020).

Areas where the material culture resource in Perth and Kinross is lacking:

- Finds from the earlier part of the period, around 400–700, are limited mainly to the early imported ceramics from Dundurn and the King’s Seat; Anglo-Saxon finds from Aldclune, Fortingall and Lair; the recent discovery of a Pictish warrior stelae from Tulloch, Perth; and other non-diagnostic finds such as glass beads, querns and iron knives.
- Tools and domestic items such as axes, spindle whorls, gaming pieces which can be indicators of high status, etc.
- Finds other than carved stones from early church sites.
- Organic materials such as textiles, basketry and wooden objects may well survive best at early medieval crannog sites, as at the royal crannog at Llangorse, Wales (Lane and Redknap 2019).

Priority 1:

There is a need to find and identify material culture dating to the post-Roman and earlier part of the period around AD 400–700. The lack of artefacts from this period is a major gap in our knowledge of the development of the region in the immediate post-Roman period. This is particularly intriguing given the presence of major silver hoards showing the recycling of late Roman silver in surrounding districts: [Gaulcross](#), Aberdeenshire; [Norrie’s Law](#), Fife; and the deposition of massive silver chains from Lanarkshire to Inverness (Blackwell et al 2017).

Priority 2:

Carry out new scientific analysis of non-diagnostic artefacts – iron knives, whetstones, spindle whorls, quernstones, glass beads – to refine typologies, especially to distinguish Iron Age from early medieval types where possible. Increased investigation of upland domestic settlement sites may be the key to establishing tighter object chronologies.

Priority 3:

Establish a coherent archaeological signature for the Viking Age and the formation of Alba, the Gaelic-speaking kingdom based north of the Forth

from the 10th century onward. This should include investigations of ecclesiastical sites such as Dunkeld and Muthill, which may in turn tell us about the origins of the medieval town and parish.

Research Questions

PKARF Qu 6.57: Is the lack of material culture dating AD 400–700 due to a selective focus on forts and monasteries of the seventh century and later, limiting our ability to detect earlier settlement?

PKARF Qu 6.58: Is the lack of Northumbrian type objects cultural choices, or a product of selective excavation strategies?

PKARF Qu 6.59: How were Iron Age monuments perceived in the early medieval period, and were any occupied for long-term settlement?

PKARF Qu 6.60: How were stone tools quarried and transported? More research is needed on mundane object types, such as iron knives, rotary querns, spindle whorls and whetstones, in order to refine object chronologies.

PKARF Qu 6.61: What sources of metal were exploited, and where are the ironworking deposits so ubiquitous in other early medieval settlements? More research is needed on mundane object types, such as iron knives, rotary querns, spindle whorls and whetstones, in order to refine object chronologies.

PKARF Qu 6.62: There is evidence for leatherworking at Dundurn; is there more evidence for a cattle-based economy and its by-products?

PKARF Qu 6.63: How can we identify what kinds of looms were in use?

PKARF Qu 6.64: How do material culture links between sites relate to the formation of the Kingdom of Alba after around 900?

PKARF Qu 6.65: How does the early medieval monastery compare to the better-known archaeological signature of a fort in this period, and what changes occur during and after the Viking Age?

PKARF Qu 6.67: How can we link the movement of objects with the well-attested reoccupation of ancient monuments in this period?

6.11 Bibliography

A

Aitchison, N 2006 *Forteviot: a Pictish and Scottish Royal centre*. Tempus: Stroud.

Alcock, L 1980 'Three decorated objects from Dundurn, St Fillans, Perthshire', *Antiquaries Journal* 60, 344–347.

Alcock, L 2003 *Kings and Warriors, Craftsmen and Priests in northern Britain AD 550–850*. Society of Antiquaries of Scotland monograph: Edinburgh.

Alcock, L, Alcock, E and Driscoll, S T 1989 'Reconnaissance excavations on Early Historic fortifications and other royal sites in Scotland, 1974–84: 3, excavations at Dundurn, Strathearn, Perthshire, 1976–77', *Proceedings of the Society of Antiquaries of Scotland* 119, 189–226.

Alcock, L and Alcock, E 1993 'Reconnaissance excavations on Early Historic fortifications and other royal sites in Scotland, 1974–84; A, Excavations and other fieldwork at Forteviot, Perthshire, 1981; B, Excavations at Urquhart Castle, Inverness-shire, 1983; C, Excavations at Dunnottar, Kincardineshire, 1984', *Proceedings of the Society of Antiquaries of Scotland* 122, 215–287.

Alexander, D 2005 'Redcastle, Lunan Bay, Angus: the excavation of an Iron Age timber lined souterrain and a Pictish barrow cemetery', *Proceedings of the Society of Antiquaries Scotland* 135, 41–118

Anderson, J 1880 'Notice of a Fragment of a Silver Penannular Brooch, ornamented with Gold Filigree Work and Amber Settings, found at Achavrole, Dunbeath, Caithness, in 1860, and of two Silver Brooches, the property of Andrew Heiton, F.S.A. Scot., said to have been found in the neighbourhood of Perth. and of two silver brooches, the property of Andrew Heiton, said to have been found in the neighbourhood of Perth', *Proceedings of the Society of Antiquaries of Scotland* 14, 445–452.

Anderson, J 1889 'Notice of the Quigrich or crosier, and other relics of St Fillan, in the possession of their Hereditary Keepers, or Dewars, in Glendochart, in 1549–50', *Proceedings of the Society of Antiquaries of Scotland* 23, 110–118.

Anderson, A O (ed) 1990 (1922) *Early sources of Scottish history AD 500 to 1286*. 2 vols. Edinburgh, corrected reprint Paul Watkins: Stamford.

Anderson, M O 1980 *Kings and kingship in early Scotland*. John Donald: Edinburgh.

Anderson, M O 2004 'Kenneth I [Cináed mac Alpin, Kenneth Macalpine] (d. 858)'. Entry in *Oxford Dictionary of National Biography*, Oxford: Oxford University Press, online edition: <https://doi.org/10.1093/ref:odnb/15398>

Anon 1882 'Donations', *Proceedings of the Society of Antiquaries of Scotland* 16, 144–156.

Anon 1888 'Donations to and purchases for the Museum and library, including articles exhibited in the Museum', *Proceedings of the Society of Antiquaries of Scotland* 22, 268–275.

Armit, I 2000 'The abandonment of souterrains: evolution, catastrophe or dislocation?', *Proceedings of the Society of Antiquaries of Scotland* 129, 577–596. Accessed 3 April 2021. <http://journals.socantscot.org/index.php/psas/article/view/10057>

Armit, I, Campbell, E and Dunwell, A 2008 'Excavation of an Iron Age, Early Historic and medieval settlement and metalworking site at Eileann Olabhat, North Uist', *Proceedings of the Society of Antiquaries of Scotland* 138, 27–104.

Atkinson, J 2016 *Ben Lawers: An Archaeological Landscape in Time. Results from the Ben Lawers Historic Landscape Project, 1996–2005*. Scottish Archaeological Internet Reports 62. DOI: [10.9750/issn.1473-3803.2016.62](https://doi.org/10.9750/issn.1473-3803.2016.62)

B

Bailey, L 2014 'Excavation and survey in advance of the Griffin Wind Farm, Aberfeldy, Perth and Kinross', *Tayside and Fife Archaeological Journal* 19/20, 20–35. [Online] Accessed 1 February 2022. https://www.tafac.org.uk/wp-content/uploads/2021/05/V19_20p20-35-Bailey.pdf

- Bailey, E and Smith, A 2012 'The excavation of Neolithic, Bronze Age and Early Historical features at Powmyre Quarry, Strathmore, Angus', *Tayside and Fife Archaeological Journal* 18, 41–61. [Online] Accessed 11 April 2022 <https://www.tafac.org.uk/wp-content/uploads/2021/05/V18-p41-62.BaileySmith.pdf>
- Banks, I B J 1996 *Rural society and settlement: isolated monuments and farming communities in northern and western Scotland in the late Atlantic Iron Age*. Unpublished PhD thesis in Archaeology. University of Glasgow.
- Barber, J W 1981 'Excavations on Iona, 1979', *Proceedings of the Society of Antiquaries of Scotland* 111, 282–380.
- Barclay, G 2001 'The excavation of an early medieval enclosure at Upper Gothens, Meikleour, Perthshire', *Tayside and Fife Archaeological Journal* 7, 34–44.
- Barrett, J C and Downes, J 1993 'North Pitcarmick (Kirkmichael parish)', *Discovery and Excavation Scotland* 1993, 102–103.
- Barrett, J C and Downes, J 1994 'North Pitcarmick (Kirkmichael parish)', *Discovery and Excavation Scotland* 1994, 87–88.
- Bateson, J D 1993 'A Hiberno-Norse Hoard from Dull, Perthshire', *The Numismatic Chronicle* 153, 211–214.
- Batey, C 2002 'Scandinavian Influence? I: Archaeological Background', in *Perth & beyond: resourcing the medieval burgh, an archaeological perspective*, Tayside and Fife Archaeological Committee Accessed 30 March 2021. <http://www.tafac.org.uk/batey.pdf>
- Bevan-Jones, R 2017 *The ancient yew: A history of Taxus baccata* (3rd edition). Oxbow Books: Oxford.
- Blackwell, A 2018 *A reassessment of the Anglo-Saxon artefacts from Scotland: material interactions and identities in early medieval northern Britain*. Unpublished PhD thesis: University of Glasgow. Accessed 30 March 2021. <http://theses.gla.ac.uk/30708/>
- Blackwell, A 2020 'Artefacts', in Campbell, E and Driscoll, S (eds) *Royal Forteviot: excavations at a Pictish power centre in eastern Scotland: SERF Monograph 2*. CBA Research Report 177. Council for British Archaeology: York, 88–90.
- Blackwell, A., Goldberg, M. and Hunter, F. 2017. *Scotland's Early Silver: transforming Roman pay-offs to Pictish treasures*. National Museum of Scotland: Edinburgh.
- Bourke, C 2001 'Antiquities from the River Blackwater III, Iron Axe-Heads', *Ulster Journal of Archaeology* 60, 63–93.
- Bourke, C. 2020. *Early Medieval Handhand-Bells of Ireland and Britain*. Dublin: National Museum of Ireland: Dublin.
- Bradley, R 1987 'Time regained: the creation of continuity', *The Journal of the British Archaeological Association* 140(1), 1–17.
- Brophy, K and Noble, G 2020 *Prehistoric Forteviot*. Council for British Archaeology: York. <https://doi.org/10.5284/1082002>.
- Broun, D 1997 'Dunkeld and the origin of Scottish identity', *Innes Review* 48(1), 112–124.
- Bruce-Mitford, R L S 2005 *A corpus of Late Celtic hanging-bowls with an account of the bowls found in Scandinavia*. Oxford University Press: Oxford.
- Brunning, S 2020 'Touching the past: the Breadalbane brooch and its bearers', in Thickpenny, C, Forsyth, K, Geddes, J and Matthis, K (eds) *Peopling Insular art: practice, performance, perception*. Oxbow: Oxford, 99–106.
- Buchanan, C H 2012 *Viking artefacts from southern Scotland and northern England: cultural contacts, interactions, and identities in peripheral areas of Viking settlement*. Unpublished PhD thesis: University of Glasgow. Accessed March 30, 2021. <http://theses.gla.ac.uk/3391/>
- Büster, L 2021 "'Problematic stuff": death, memory and the interpretation of cached objects', *Antiquity* 95(382), 973–985.

Butler, D 1897 *The ancient church and parish of Abernethy*. Edinburgh.

C

Cachart, R 2008 'Excavations at Kinross', *Tayside and Fife Archaeological Journal* 14, 26-55. [Online] Accessed 1 February 2022. https://www.tafac.org.uk/wp-content/uploads/2018/11/V14_p26-55.pdf

Cachart, R and Hall, D 2014 'Early Christian long cists at Pitkerro, Drumsturdy Road, Dundee and Market Knowe, Longforgan', *Tayside and Fife Archaeological Journal* 19/20, 49-60. [Online] Accessed 1 February 2022. <https://www.tafac.org.uk/wp-content/uploads/2017/11/pTFAJ49-60-CachartHall.pdf>

Calder, C S T 1951 'Note on a Pictish cross-slab from Gellyburn, Perthshire', *Proceedings of the Society of Antiquaries of Scotland* 85, 175-177.

Caldwell, D H 1981 'Some notes on Scottish axes and long shafted weapons', in D H Caldwell (ed) *Scottish weapons and fortifications, 1100-1800*. Edinburgh: John Donald, 253-314.

Caldwell, D H 2012 'The weapons', in Caldwell, D H and Ellis, B 'The military metalwork and spurs', in Hall, D W et al (eds) *Perth High Street archaeological excavations 1975-77 Fascicule 2: The ceramics, the metalwork and the wood*. Tayside and Fife Archaeological Committee: Perth, 189-194.

Caldwell, D H, Kirk, S, Márkus, G, Tate, J and Webb, S 2012 'The Kilmichael Glassary bell-shrine', *Proceedings of the Society of Antiquaries of Scotland* 142, 201-244.

Campbell, E 1991 'Excavations of a wheelhouse and other Iron Age structures at Sollas, North Uist, by R.J.C. Atkinson in 1957', *Proceedings of the Society of Antiquaries of Scotland* 121, 117-173.

Campbell, E 2007 *Continental and Mediterranean Imports to Atlantic Britain and Ireland, AD 400-800*. Council for British Archaeology: York.

Campbell, E 2020 'A handful of sherds: a retrospective look at imports in Atlantic Britain', in Duggan, M, Jackson, M and Turner, S (eds) *Ceramics and Atlantic connections: Late Roman and early medieval imported pottery on the Atlantic seaboard*. Archaeopress: Oxford, 7-12.

Campbell, E and Bowles, C 2009 'Byzantine trade to the edge of the world: Mediterranean pottery imports to Atlantic Britain in the sixth century', in Mango, M (ed.) *Byzantine Trade 4th-12th centuries: the archaeology of local, regional and international exchange: papers of the thirty-eighth Spring Symposium of Byzantine Studies, St John College, University of Oxford, March 2004*. Farnham, 297-314.

Campbell, E and Driscoll, S 2020 ***Royal Forteviot: excavations at a Pictish power centre in eastern Scotland***. SERF Monograph 2. CBA Research Report 177. Council for British Archaeology: York. DOI: [10.5284/1082003](https://doi.org/10.5284/1082003)

Campbell, E and Maldonado, A 2020 'A New Jerusalem 'at the ends of the earth': Interpreting Charles Thomas's excavations at Iona abbey 1956-63', *Antiquaries Journal* 100, 33-85.

Campbell, E, Hamilton, D, Taylor, S, Gondek, M, Noble, G and Evans, N 2020 'A powerful place in Pictland: interdisciplinary perspectives on a power centre of the 4th to 6th centuries AD', *Medieval Archaeology* 63(1), 56-94.

Campbell, E, Driscoll, S, Gondek, M and Maldonado, A forthcoming 'Excavations at St Serf's Church, Dunning, Perth and Kinross, 2012-13'. Unpublished Data Structure Report. University of Glasgow: SERF Project Reports.

Campbell, L 2020 '[Polychromy on the Antonine Wall Distance sculptures: non-destructive Identification of pigments on Roman reliefs](#)', *Britannia* 51, 175-201.

Carver, M 2019 *Formative Britain: an archaeology of Britain, fifth to eleventh century AD*. Routledge: London and New York.

Carver, M, Barrett, J, Downes, J, Hooper, J, Sheridan, A, Hunter, F, Rowe, P, Edmonds, M, Hall, D and Holmes, M 2013 'Pictish byre-houses at Pitcarmick and their landscape: investigations 1993-5', *Proceedings of the Society of Antiquaries of Scotland* 142, 145-199. <http://journals.socantscot.org/index.php/psas/article/view/9788>

Cavers, G and Crone, A 2018 *A lake dwelling in its landscape, Iron Age settlements at Cults Loch, Castle Kennedy, Dumfries and Galloway*. Oxbow Books: Oxford.

Cessford, C 1999 'The Tummel Bridge Hoard', *Pictish Arts Society Journal* 14, 38–47.

Clancy, T O 1996 'Iona, Scotland and the Céli Dé', in Crawford, B E (ed) *Scotland in Dark Age Britain*. Scottish Cultural Press: Edinburgh, 111–130.

Clancy, T O 2000 'Scotland, the 'Nennian' recension of *Historia Brittonum*, and the *Lebor Bretnach*', in Taylor, S (ed) *Picts, Kings, saints and chronicles: a festschrift for Marjorie O. Anderson*. Four Courts Press: Dublin, 87–107.

Clancy, T O 2001 'The real St Ninian', *Innes Review* 52(1), 1–28.

Clancy, T O 2010a 'Atholl, Banff, Earn and Elgin: 'New Irelands' in the east revisited', in McLeod, W et al (eds) *Bile ós Chrannaibh. A festschrift for Professor William Gillies*. Clann Tuirc: Brig o' Turk, 79–102.

Clancy, T O 2010b 'Gaelic in medieval Scotland: advent and expansion', *Proceedings of the British Academy* 167, 349–392.

Clarke, D V 2007 'Reading the multiple lives of Pictish symbol stones', *Medieval Archaeology* 51, 19–39.

Close-Brooks, J 1986 'Excavations at Clatchard Craig, Fife', *Proceedings of the Society of Antiquaries of Scotland* 116, 117–184.

Clouston, R 1993 'The bells of Perthshire', *Proceedings of the Society of Antiquaries of Scotland* 122, 453–508.

Clydesdale, A 2001 'X-radiography of the buckle', in Barclay, G J 'The excavation of an early medieval enclosure at Upper Gothens, Meikleour, Perthshire', *Tayside and Fife Archaeological Journal* 7, 35–44, at 40.

Coleman, R and Hunter, F 2002 'The excavation of a souterrain at Shanzie Farm, Alyth, Perthshire', *Tayside and Fife Archaeological Journal* 8, 77–101.

Cook, M 2008 'An early Christian vallum in Dunning?', *Tayside and Fife Archaeological Journal* 14, 9–15. [Online] Accessed 1 February 2022. https://www.tafac.org.uk/wp-content/uploads/2018/11/V14_p9-15.pdf

Cowley, D. 1997. "Archaeological Landscapes in Strathbraan, Perthshire," *Tayside and Fife Archaeological Journal* 3, : 161–175. [Online] Accessed 1 February 2022. <https://www.tafac.org.uk/wp-content/uploads/2017/02/TAFAJ-Vol-3-10-Archaeological-landscapes-in-Strathbraan-.pdf>

Cowley, D and Harrison, J 2001 '*Well sheltered and watered*': *Menstrie glen, a farming landscape near Stirling*. RCAHMS: Edinburgh.

Crawford, B E 1987 *Scandinavian Scotland*. Scotland in the Early Middle Ages 2. Leicester University Press: Leicester.

Crone, A 1998 'The development of an Early Historic tree-ring chronology for Scotland', *Proceedings of the Society of Antiquaries of Scotland* 128, 485–493.

Crone, A 2012 'Forging a chronological framework for Scottish crannogs; the radiocarbon and dendrochronological evidence', in Midgley, M S and Sanders, J (eds) *Lake dwellings after Robert Munro: proceedings from the Munro international seminar: the lake dwellings of Europe 22nd and 23rd October 2010, Edinburgh*. Sidestone Press: Leiden, 139–162.

Crone, A and Campbell, E 2005 *A crannog of the first millennium AD: excavations by Jack Scott at Loch Glashan, Argyll, 1960*. Society of Antiquaries of Scotland: Edinburgh.

Crone, A and Hindmarch, E 2016 *Living and dying at Auldham, East Lothian: the excavation of an Anglican monastic settlement and medieval parish church*. Society of Antiquaries of Scotland: Edinburgh.

Crumlin-Pedersen, O 2010 *Archaeology and the sea in Scandinavia and Britain: a personal account*, 3 Maritime Culture of the North. : Roskilde.

Czére, O, Fawcett, J, Evans, J, Sayle, K, Muldner, G, Hall, M, Will, B, Mitchell, J, Noble, G and Britton, K 2021 'Multi-isotope analysis of the human skeletal remains from Blair Atholl, Perth and Kinross, Scotland', *Tayside and Fife Archaeological Journal* 27, 31–44. [Online] Accessed 1 February 2022. <https://www.tafac.org.uk/wp-content/uploads/2021/11/V27-p31-44-Czere-at-al-1.pdf>

D

Dickinson, T, Fern, C and Hall, M A 2006 'An early Anglo-Saxon bridle-fitting from South Leckaway, Forfar, Angus, Scotland', *Medieval Archaeology* 50, 249–260.

Dingwall, K 2019 'Redating and rethinking: the discovery of a cropmark enclosure, burials and kilns at Peterhead, Perth and Kinross', *Tayside and Fife Archaeological Journal* 25, 47–59. [Online] Accessed 1 February 2022. <https://www.tafac.org.uk/wp-content/uploads/2019/11/Dingwall-p47-59-1.pdf>

Dixon, N 1981 'Preliminary excavation of Oakbank crannog, Loch Tay: interim report', *International Journal of Nautical Archaeology* 10(1), 15–21.

Dixon, N 2004 *The crannogs of Scotland: an underwater archaeology*. Tempus Publishing Ltd: Stroud.

Dixon, N 2007 'Submerged woodland, Craggantoul, Loch Tay: assessment survey', *Discovery and Excavation in Scotland, New Series* 8, 162–163.

Dixon, N and Shelley, M 2006 'Perthshire Crannog Survey 2004', *Tayside and Fife Archaeological Journal* 12, 70–80. [Online] Accessed 2 February 2022. https://www.tafac.org.uk/wp-content/uploads/2021/05/V12p70-80_DixonShelley.pdf

Driscoll, S T 1997 'A Pictish settlement in northeastern Fife: the Scottish Field School of Archaeology excavations at Easter Kinnear', *Tayside and Fife Archaeological Journal* 3, 74–118. <http://www.tafac.org.uk/category/journals/>

Driscoll, S T 1998 'Picts and prehistory: cultural resource management in early medieval Scotland', *World Archaeology* 30(1), 142–158.

Dunwell, A and Ralston, I 2008 *Archaeology and Early History of Angus*. The History Press:.

E

Ellis, B 2012 'The spurs', in Caldwell, D H and Ellis, B 'The military metalwork and spurs', in Hall, D W et al (eds) *Perth High Street archaeological excavations 1975-77 Fascicule 2: The ceramics, the metalwork and the wood*, Tayside and Fife Archaeological Committee: Perth, 194–197.

Ellis, C, Cruickshanks, G, Hall, D, Bjarke Ballin, T, Ramsay, S and Anderson, S 2021 'The Logierait terraces, a place of significance', *Tayside and Fife Archaeological Journal* 27, 8–22. [Online] Accessed 1 February 2022. <https://www.tafac.org.uk/wp-content/uploads/2021/11/V27-p8-22-Ellis.pdf>

Engl, R 2020 'A palimpsest of pits Prehistoric and early medieval occupation at Bertha Park, Perth', *Tayside and Fife Archaeological Journal* 26, 7–20. [Online] Accessed 22 July 2021. <https://www.tafac.org.uk/wp-content/uploads/2020/11/V26p7-20-Engl.pdf>

F

Fanning, T 1983 'Some aspects of the bronze ringed pin in Scotland', in O'Connor, A and Clarke, D V (eds) *From the Bronze Age to the 'Forty-five*. John Donald: Edinburgh, 324–342.

Feachem, R W 1955 'Fortifications', in Wainwright, F T (ed) *The problem of the Picts*. Nelson: Edinburgh.

Forsyth, K 1995 'The inscriptions on the Dupplin Cross', in Bourke, C (ed) *From the isles of the north early medieval art in Britain and Ireland*. HMSO: Belfast, 237–244.

Forsyth, K 1997 'Some thoughts on Pictish symbols as a formal writing system', in Henry, D (ed), *The worm, the germ and the thorn: Pictish and related studies presented to Isabel Henderson*. Pinkfoot Press: Balgavies, Angus, 85–98.

Forsyth, K and Trench-Jellicoe, R 2000 'The Inscribed Panel', in, Hall, M A, et al 166–168.

Foster, S 2019 "'A bright crowd of chancels": whither early church archaeology in Scotland?', in Blackwell, A E (ed) *Scotland in early medieval Europe*. Sidestone: Leiden, 35–50.

Foster, S, Forsyth, K, Buckham, S and Jeffrey, S 2016 *Future thinking on carved stones in Scotland: a research framework*. NCCSS/ScARF, available at: [Future Thinking on Carved Stones in Scotland – The Scottish Archaeological Research Framework \(scarf.scot\)](http://Future Thinking on Carved Stones in Scotland – The Scottish Archaeological Research Framework (scarf.scot))

Fowler, P 2002 *Farming in the first millennium AD British agriculture between Julius Caesar and William the Conqueror*. Cambridge University Press: Cambridge.

Frantzen, A 2014 *Food, eating and identity in early medieval England*. Anglo-Saxon Studies 22. Boydell Press: Woodbridge.

Fraser, I (ed) 2008 *The Pictish symbol stones of Scotland*. Royal Commission on the Ancient and Historical Monuments of Scotland: Edinburgh.

Fraser, J E 2009 *From Caledonia to Pictland: Scotland to 795*. Edinburgh University Press: Edinburgh.

Fyles, C 2008 'Excavations at School Wynd, Abernethy', *Tayside and Fife Archaeological Journal* 14, 16–25.

G

Geddes, G 2013 'Archaeology at the margins – RCAHMS emergency survey in the 1950s', *Proceedings of the Society of Antiquaries of Scotland* 143, 363–391.

Geddes, J 2017 *Hunting for Picts: medieval sculpture at St Vigeans, Angus*. Historic Scotland: Edinburgh.

Gilchrist, R 2013 'The materiality of medieval heirlooms from biographical to sacred objects', in Hahn, H P and Weiss, H (eds) *Mobility, meaning and transformations of things. Shifting contexts of material culture through time and space*. Oxbow: Oxford, 170–182.

Gondek, M 2007 'Early Historic sculpture and landscape: a case study of Cladh a'Bhile, Ellary, Mid-Argyll', *Proceedings of the Society of Antiquaries of Scotland* 136, 237–258.

Graham-Campbell, J, and Batey, C E 1998 *Vikings in Scotland*. Edinburgh University Press: Edinburgh.

Graham-Campbell, J, Hall, M A and Petts, D forthcoming

Greig, S 1940 *Viking antiquities in Great Britain and Ireland II: Viking antiquities in Scotland*. Aschehoug: Oslo.

Guido, M 1978 *The glass beads of the prehistoric and Roman periods in Britain and Ireland*. Thames and Hudson: London.

H

Hall, D W et al 2012 *Perth High Street: archaeological excavation 1975–77. Fascicule 2: the ceramics, the metalwork and the wood*. Tayside and Fife Archaeological Committee: Perth.

Hall, M A 2005 'Of holy men and heroes: the cult of saints in medieval Perthshire', *Innes Review* 56(1), 60–87.

Hall, M A 2007 *Playtime in Pictland*. Groam House Museum: Rosemarkie.

Hall, M 2007a 'Context and meaning: finding a place for some fragments of early medieval metalwork from Perthshire, Scotland', in R Moss (ed) *Making and meaning in Insular art*. TRIARC Research Studies in Irish Art. Four Courts: Dublin, 70–78.

Hall, M 2007b 'Liminality and loss: the material culture of St Serf's priory, Loch Leven, Kinross-Shire, Scotland', in Ballin-Smith, B, Taylor, S, and Williams, G (eds) *West over sea: studies in Scandinavian sea-borne expansion and settlement before 1300*. The Northern World 31. Brill: Leiden, 379–399.

Hall, M A 2011 'Tales from beyond the Pict: sculpture and its uses in and around Forteviot, Perthshire from the ninth century onwards', In Driscoll, S T, Geddes, J and Hall, M A (eds) *Pictish progress new studies on northern Britain in the Early Middle Ages*. Brill: Leiden and Boston, 135–165.

Hall, M A 2012 'Three stones, one landscape, many stories: cultural biography and the early medieval sculptures of Inchyra and St Madoes, Carse of Gowrie, Perthshire, Scotland', in, Dudley, S H, Barnes, A J, Binnie, J, Petrov, J and Walklate, J (eds) *Narrating objects, collecting stories, essays in honour of Professor Susan M. Pearce*. Routledge: London and New York, 84–102.

Hall, M A 2014 'The Meigle stones: a biographical overview', *Northern Studies* 46, 15–46.

Hall, M A 2015 'Lifeways in stone: memories and matter-reality in early medieval sculpture from Scotland', in Williams, H, Kirton, J and Gondek, M (eds) *Early medieval stone monuments: materiality, biography, landscape*. Boydell: Woodbridge, 181–215.

Hall, M A 2020 'Show and tell: re-articulating the monumentality of power or Picts in the museum', in Thickpenny, C, Forsyth, K, Geddes, J and Mathis, K (eds) *Peopling Insular art: practice, performance, perception*. Oxbow: Oxford, 207–213.

Hall, M A 2021 'Status, magic and belief: exploring identity through dress accessories and other amulets in medieval Scotland: a Perthshire case study', *Scottish Historical Review* 100(3), 469–492.

Hall, M A and Forsyth, K F 2011 'Roman rules? The introduction of board games to Britain and Ireland', *Antiquity* 85(330), 1325–1338.

Hall, M A, Henderson, I and Taylor, S 1998 'A sculptured fragment from Pittensorn Farm, Gellyburn, Perthshire', *Tayside and Fife Archaeological Journal* 4, 129–144.

Hall, M A, Forsyth, K, Henderson, I, Scott, I, Trench-Jellicoe, R and Watson, A 2000 'Of makings and meanings: towards a cultural biography of the Crieff Burgh Cross, Strathearn, Perthshire', *Tayside and Fife Archaeological Journal* 6, 154–188.

Hall, M A, Henderson, I and Scott, I G 2005 'The early medieval sculptures from Murthly, Perth and Kinross: an interdisciplinary look at people, politics, and monumental art', in Foster, S M and Cross, M (eds) *Able minds and practised hands: Scotland's early medieval sculpture in the 21st century*. Society for Medieval Archaeology and Historic Scotland: Edinburgh, 293–314.

Hall, M, Hall, D and Cook, G 2006 'What's cooking? New radiocarbon dates from the earliest phases of the Perth High Street excavations and the question of Perth's early medieval origin', *Proceedings of the Society of Antiquaries of Scotland* 135, 273–285.

Hall, M A, Evans, N, Hamilton, D, Mitchell, J, O'Driscoll, J and Noble, G 2020 'Warrior ideologies in first-millennium AD Europe: new light on monumental warrior stelae from Scotland', *Antiquity* 94(373), 127–144. DOI: [10.15184/aqy.2019.214](https://doi.org/10.15184/aqy.2019.214).

Hall, M A, Scott, I and Forsyth, K 2020 'Early medieval sculpture of the Forteviot area', in Campbell, E and Driscoll, S T (ed) *Royal Forteviot: Excavations at a Pictish power centre in eastern Scotland*. CBA Research Report 177/SERF Monograph 2. Council for British Archaeology: York, 129–170.

Hall, M A, Sanmark, A and Geddes, J (eds) forthcoming, *Kingship in early medieval Scotland: places of royal power and ritual*.

Halliday, S 2006 'Into the dim light of history: more of the same of all change?', in Woolf, A (ed) *Landscape and environment in Dark Age Scotland*. The Committee for Dark Age Studies: St Andrews.

Halliday, S 2007 'Unenclosed round-houses in Scotland: occupation, abandonment, and the character of settlement', in Burgess, C, Topping, P and Lynch, F (eds) *Beyond Stonehenge: essays on the Bronze Age in honour of Colin Burgess*. Oxbow Books: Oxford, 49–56.

Halliday, S 2019 'How many hillforts are there in Scotland? revisited', in Romankiewicz, T, Fernández-Götz, M, Lock, G and Büchsenschütz, O (eds) *Enclosing space, opening new ground: Iron Age studies from Scotland to mainland Europe*. Oxbow Books: Oxford, 37–51.

Harding, D 2004 *The Iron Age in northern Britain: Celts and Romans, natives and invaders*. Routledge: London.

Harris, J 1985 'A preliminary survey of hut circles and field systems in SE Perth', *Proceedings of the Society of Antiquaries of Scotland* 114, 199–216.

Heald, A 2005 *Non-ferrous metalworking in Iron Age Scotland c.700BC to AD800*. Unpublished PhD thesis: University of Edinburgh. Accessed 30 March 2021. <https://era.ed.ac.uk/handle/1842/6916>

Hedges, J W 1990 'Surveying the foundations: life after "brochs"', in Armit, I (ed) *Beyond the brochs: changing perspectives in the Scottish Atlantic Iron Age*. Edinburgh University Press: Edinburgh, 17–31.

Henderson, I 1987 'Early Christian monuments of Scotland displaying crosses but no other ornament', in Small, A (ed) *The Picts a new look at old problems*. Graham Hunter Foundation: Dundee, 45–58.

Henderson, I and Henderson, G 2004 *Art of the Picts*. Thames and Hudson: London.

Henderson, J C, Holley, M W and Stratigos, M J 2021 'Iron Age construction and early medieval reuse of crannogs in Loch Awe, Argyll', [*Proceedings of the Society of Antiquaries of Scotland*](#) 150, 435–449

Henry, D 1997 *The worm, the germ and the thorn: Pictish and related studies presented to Isabel Henderson*. Pinkfoot Press: Forfar.

Henry, D and Trench-Jellicoe, R 2005 'A perfect accuracy of delineation: Charlotte Wilhelmina Hibbert's drawings of early medieval carved stones in Scotland', in Foster, S M and Cross, M (eds) *Able minds and practised hands: Scotland's early medieval sculpture in the 21st century*. Society

for Medieval Archaeology and Historic Scotland: Edinburgh, 221–242.

Hindmarch, E 2014 'Investigations at Fortingall, Perthshire', *Tayside and Fife Archaeological Journal* 19/20, 61–68. [Online] Accessed 1 February 2022. https://www.tafac.org.uk/wp-content/uploads/2021/05/V19_20p61-68-Hindmarch.pdf

Hingley, R, 1992 'Society in Scotland from 700BC to AD 200', *Proceedings of the Society of Antiquaries of Scotland* 122(1993), 407–466. Accessed 22 February 2022 <http://journals.socantscot.org/index.php/psas/article/view/9427/9394>

Hingley, R, Moore, H, Triscott, J and Wilson, G 1997 'The excavation of two later Iron Age fortified homesteads at Aldclune, Blair Atholl, Perth & Kinross', *Proceedings of the Society of Antiquaries of Scotland* 127, 407–466. Accessed 3 April 2021 <http://journals.socantscot.org/index.php/psas/article/view/9965>

Hooper, J 2002 *A Landscape Given Meaning: An archaeological perspective on landscape history in highland Scotland*. Unpublished PhD thesis, University of Glasgow.

Hunter, F 2000 'Newton of Pitcairns, Perth and Kinross (Dunning parish), glass bead', *Discovery and Excavation in Scotland New Series* 1, 72.

Hunter, J 2011 'The glass', in Smith, C et al (eds) *Perth High Street archaeological excavation 1975–1977: living and working in a medieval Scottish burgh, Environmental remains and miscellaneous finds*. PHSE Fascicule 4. Tayside and Fife Archaeological Committee: Perth, 117–126.

Hunter, T 1883 *Woods, forests and estates of Perthshire*. Henderson, Robertson & Hunter: Perth (reprinted 2002 by Castlepoint Press, Dalbeattie).

J

Jackson, K H 1954 'Two Early Scottish names', *Scottish Historical Review* 33, 14–18.

James, H 2011 *Castle Craig Excavations 2011*. University of Glasgow: Glasgow. Accessed 30 March 2021. http://www.seriousanimation.com/wp-content/themes/vislab/serf/pdf/Castle_Craig_Excavation_Report_2011.pdf

James, H F and Yeoman, P 2008 *Excavations at St Ethernan's monastery, Isle of May, Fife*. Tayside and Fife Archaeological Committee: Perth.

Johnson, M, Rees, A Roy and Ralston, I 2003 'Excavation of an Early Historic palisaded enclosure at Titwood, Mearnskir, East Renfrewshire', *Scottish Archaeological Journal* 25(2), 129–145.

L

Lane, A 2007 *Ceramic and cultural change in the Hebrides AD 500–1300*. Cardiff Studies in Archaeology 29. Cardiff: Cardiff University School of History and Archaeology: Cardiff, available at: [CSA_29_A_Lane.pdf \(cardiff.ac.uk\)](http://CSA_29_A_Lane.pdf(cardiff.ac.uk))

Lane, A and Campbell, E 2001 *Dunadd: an early Dalriadic capital*. Oxbow Monograph: Oxford.

Lane, A and Redknap, M 2019 *Llangorse crannog. The excavation of an early medieval royal site in the kingdom of Brycheiniog*. Oxbow: Oxford.

Lang, J T 1974 'Hogback monuments in Scotland', *Proceedings of the Society of Antiquaries of Scotland* 105, 206–235.

Lock, G and Ralston, I 2017 *Atlas of hillforts of Britain and Ireland*. [ONLINE] Accessed 4 February 2022. Available at: <https://hillforts.arch.ox.ac.uk>.

M

Maldonado, A 2011 'What does early Christianity look like? Mortuary archaeology and conversion in Late Iron Age Scotland', *Scottish Archaeological Journal* 33(1–2), 39–54. Doi: [10.3366/saj.2011.0023](https://doi.org/10.3366/saj.2011.0023)

Maldonado, A 2013 'Early medieval burial in Scotland: new questions', *Medieval Archaeology* 57(1), 1–34. DOI: [10.1179/0076609713Z.00000000013](https://doi.org/10.1179/0076609713Z.00000000013)

Maldonado, A 2017 'Barrows and the conversion of the landscape of Forteviot, Perthshire', in Edwards, N, Mhaonaigh, M and Flechner, R (eds) *Transforming landscapes of belief in the early medieval Insular worlds and beyond: covering the isles II*. Brepols: Turnhout, 319–350. DOI: [10.1484/M.CELAMA-EB.5.113595](https://doi.org/10.1484/M.CELAMA-EB.5.113595)

Maldonado, A 2021 *Crucible of nations: Scotland from Viking-age to medieval kingdom*. NMS Publishing: Edinburgh.

Maldonado, A and Gondek, M 2012 *Kirk Wynd and Castle Cottage, Dunning Excavations 2012*. University of Glasgow: Glasgow. Accessed 30 March 2021. <https://www.gla.ac.uk/media/Media_296367_smx.pdf>

Márkus, G 2009 'Dewars and relics in Scotland: some clarifications and questions', *The Innes Review* 60(2), 95–144.

MacGregor, G. 2010 'Legends, traditions or coincidences: remembrance of historic settlement in the Central Highlands of Scotland', *International Journal of Historical Archaeology* 14, 398–413.

Michelli, P 1987 'Four Scottish crosiers and their relation to the Irish tradition', *Proceedings of the Society of Antiquaries of Scotland* 116, 375–392.

McGill, C 2004 'Excavations of cropmarks at Newbarns, near Inverkeilor, Angus', *Tayside and Fife Archaeological Journal* 10, 95–118. [Online] Accessed 11 April 2022. <https://www.tafac.org.uk/wp-content/uploads/2013/09/94-118.pdf>

McGuigan, N 2021 *Máel Coluim III, 'Canmore': The world of an eleventh-century king*. Birlinn: Edinburgh.

MacKie, E W 2007 *The roundhouses, brochs and wheelhouses of Atlantic Scotland c 700 BC–AD 500: architecture and material culture, the northern and southern Mainland and the Western Islands*. BAR British series 444(II), 444(1), 2 vols. British Archaeological Reports: Oxford.

Macquarrie, A 1992 'Early Christian religious houses in Scotland: foundation and function', in Blair, J and Sharpe, R (eds) *Pastoral care before the parish*. Leicester University Press: Leicester, 114–118.

Macquarrie, A 1997 *The saints of Scotland: essays in Scottish church history AD 450–1093*. John Donald: Edinburgh.

Milburn, P and Robertson, J 2021 *A9 Dualling Programme: Luncarty to Pass of Birnam Ecofacts specialist report*. Unpublished report. AOC Archaeology Group.

Mills, C M 2021 'Big tree-ring country? Dendrochronology and its potential in Perthshire', NWDG Scottish Woodland History Conference 2017, *Notes XXII*, 19–26.

Mitchell, H 1921 'The Picts in Athol', *Transactions of the Inverness Scientific Society and Field Club* 8, 20–41.

Mitchell, J and Noble, G 2017 'The monumental cemeteries of northern Pictland', *Medieval Archaeology* 61, 1–40.

Mitchell, J, Cook, M, Dunbar, L, Ives, R and Noble, G 2020 'Monumental cemeteries of Pictland: excavation and dating evidence from Greshop, Moray, and Bankhead of Kinloch, Perthshire', *Tayside and Fife Archaeological Journal* 26, 21–34. [Online] Accessed 22 July 2021. <http://www.tafac.org.uk/wp-content/uploads/2020/11/V26p21-34-Mitchell-et-al.pdf>

Morton, A 2009 *Trees of the Celtic saints: The ancient yews of Wales*. Gwasg Carreg Gwalch: Llanwrst.

Mowat, R J C 1996 *The logboats of Scotland, with notes on related artefact types*. Oxbow Monograph series, no 68. Oxbow: Oxford.

Murray, E and McCormick, F 2012 'Doonloughan: a seasonal settlement site on the Connemara coast', *Proceedings of the Royal Irish Academy. Section C. Archaeology, Celtic studies, history, linguistics and literature*. *Royal Irish Academy* 112C, 95–146.

N

Nicolay, J A W and Postma, D 2018 'Woonstalhuizen uit de Late Middeleeuwen: Variatie in Landschap en Constructiewijze', in Nicolay, J A W (ed) *Huisplaatsen in de Onlanden: De Geschiedenis van een Veeweidegebied*. Groningen Archaeological Studies 34. Barkhuis/Groningen University Library: Eelde/Groningen, 254–293.

Noble, G 2016 'Fortified settlement and the emergence of kingdoms in northern Scotland in the first millennium AD', in Christie, N and Herold, H (ed) *Fortified settlements on early medieval Europe*. Oxbow: Oxford, 26–36.

Noble, G 2017 'Investigating the Picts', [Investigating the Picts – Historic Environment Scotland Blog](#), accessed 8 March 2020.

Noble, G and Evans, N 2019 *The King in the North: The Pictish realms of Fortriu and Ce*. Birlinn: Edinburgh.

Noble, G, Gondek, M, Campbell, E and Cook, M 2013 '[Between prehistory and history: the archaeological detection of social change among the Picts](#)', *Antiquity* 87, 1136–1150.

Noble, G, Goldberg, M and Hamilton, D 2018. 'The development of the Pictish symbol system: inscribing identity beyond the edges of Empire', *Antiquity* 92(365), 1329–1348. DOI:[10.15184/aqy.2018.68](https://doi.org/10.15184/aqy.2018.68)

Noble, G, Gondek, M, Campbell, E, Evans, N, Hamilton, D, Ross, A and Taylor, S 2019 'A powerful place of Pictland: interdisciplinary perspectives on a power centre of the 4th to 6th centuries AD', *Medieval Archaeology* 63(1), 56–94.

O

O'Brien, E 2003 'Burial practices in Ireland, first to seventh centuries AD', in Downes, J and Ritchie, A(eds) *Sea change: Orkney and northern Europe in the later Iron Age AD 300–800*. Pinkfoot Press: Balgavies, Angus, 62–72.

Ó Floinn, R 1987 'Schools of metalworking in eleventh- and twelfth-century Ireland', in Ryan, M (ed) *Ireland and Insular art A.D. 500–1200*. Royal Irish Academy: Dublin, 179–187.

O'Grady, O 2008 *The setting and practice of open-air judicial assemblies in medieval Scotland: a multidisciplinary study*. Unpublished PhD thesis: University of Glasgow. ONLINE <https://theses.gla.ac.uk/506/>

O'Grady, O 2014 'Judicial assembly sites in Scotland: archaeological and place-name evidence of the Scottish court hill', *Medieval Archaeology* 58, 104–135.

O'Grady, O 2017 'St Serf's Island. Exploring a monastic landscape on Loch Leven', *Tayside and Fife Archaeological Journal* 22, 13–26. [Online] Accessed 1 February 2022. <https://www.tafac.org.uk/wp-content/uploads/2018/01/p13-26-OGrady.pdf>

O'Grady, O 2018 'Accumulating kingship: the archaeology of elite assembly in medieval Scotland', *World Archaeology* 50, 137–149. <https://doi.org/10.1080/00438243.2018.1489736>

O'Sullivan, A, McCormick, F, Kerr, T and Harney, L 2014 *Early medieval Ireland, AD 400–1100: The evidence from archaeological excavations*. Royal Irish Academy: Dublin.

P

Pedersen, A and Rosedahl, E 2008 'A Ringerike-style animal head from Aggersboirg, Denmark', in Stang, M C and Aavitslant, K B (eds) *Ornament and order. Essays on Viking and northern medieval art for Signe Horn Fuglesang*. Tapi Academic Press: Trondheim, 31–37.

Petersen, J 1919 *Norske Vikingsesvierd*. Christiana: Oslo.

Photos-Jones, E 2001 'The Upper Gothens buckle: a technical report', in Barclay, G J 'The excavation of an early medieval enclosure at Upper Gothens, Meikleour, Perthshire', *Tayside and Fife Archaeological Journal* 7, 35–44, at 40–42.

Pina-Dacier, M 2020 'Stunning 1,200 year-old glass 'King' gaming piece found on Lindisfarne', *DigVentures*. Accessed 30 March 2021. <https://digventures.com/2020/02/stunning-1200-year-old-glass-king-gaming-piece-found-on-lindisfarne/>

Poller, T forthcoming *Hillforts of Strathearn*. Publication unknown.

Proudfoot, E 1997 'Abernethy and Mugdrum: towards a reassessment', in Henry, D (ed) *The worm, the germ and the thorn: Pictish and related studies presented to Isabel Henderson*. Pinkfoot Press: Balgavies, Angus.

Purser, J W 2004 'Hand-bells of the Celtic church in Scotland', *Transactions of the Gaelic Society of Inverness* 63 (2002–04), 267–291.

R

Ralston, I 1997 'Pictish homes', in Henry, D (ed) *The worm, the germ and the thorn: Pictish and related studies presented to Isabel Henderson*. Pinkfoot Press: Balgavies, Angus, 18–34.

Ralston, I 2006 *Celtic fortifications*. Tempus Publishing Limited: Gloucestershire.

RCAHMS 1933 *Eleventh Report with inventory of monuments and constructions in the counties of Fife, Kinross and Clackmannan*. HMSO: Edinburgh.

RCAHMS 1990 *North-east Perth: an archaeological landscape*. HMSO: Edinburgh.

RCAHMS 1994 *South-east Perth: an archaeological landscape*. HMSO: Edinburgh.

Reid, A G and MacLaughlin, S M 1987 'A long cist burial at Blair Atholl', *Journal of the Perthshire Society of Natural Sciences* 15, 15–24.

Reid, V forthcoming *Geoarchaeological Approaches to Pictish Settlement Sites: Assessing Heritage at Risk*. PhD thesis: University of Durham.

Rideout, J 1996 'Carn Dubh, Moulin, Perthshire: survey and excavation of an archaeological landscape 1987-90', *Proceedings of the Society of Antiquaries of Scotland* 125, 139–195. Accessed 21 February 2021 <http://journals.socantscot.org/index.php/psas/article/view/9885>

Ritchie, A 1995 'Meikle and lay patronage in the 9th and 10th centuries AD', *Tayside and Fife Archaeological Journal* 1, 1–10. [Online] Accessed 1 February 2022. <https://tafac.org.uk/vol1-1.pdf>

Ritchie, A 2005 'Clothing among the Picts', *Costume* 39(1), 28–42.

Robertson, J 2020 'Animal bone', in Engl, R 'A palimpsest of pits Prehistoric and early medieval occupation at Bertha Park, Perth', *Tayside and Fife Archaeological Journal* 26, 7–20, at 15–17. [Online] Accessed 22 July 2021. <https://www.tafac.org.uk/wp-content/uploads/2020/11/V26p7-20-Engl.pdf>

Robertson, N M 1997 'The early medieval carved stones of Fortingall', in Henry, D (ed) *The worm, the germ, and the thorn: Pictish and related studies presented to Isabel Henderson*. Pinkfoot: Balgavies, 133–148.

Rodger, D, Stokes, J and Ogilvie, J 2006. *Heritage trees of Scotland*. Forestry Commission Scotland: Edinburgh.

Rydval, M, Loader, N J, Gunnarson, B E, Druckenbrod, D L, Linderholm, H W, Moreton, S G, Wood, C V and Wilson, R 2017 'Reconstructing 800 years of summer temperatures in Scotland from tree rings', *Climate Dynamics* 49, 2951–2974.

S

Sands, R 1997 'Oakbank Crannog', in Sands, R *Prehistoric Woodworking The Analysis and Interpretation of Bronze and Iron Age Toolmakers*. Routledge: New York. <https://doi.org/10.4324/9781315422053>

ScARF 2012 Hall, M and Price, N (eds) *Medieval Panel Report* in Scottish Archaeological Research Framework. Society of Antiquaries of Scotland. <<http://tinyurl.com/bogzn5w>>

Semple, S, Sanmark, A, Iversen, F and Meller, N 2021 *Negotiating the North: Meeting-Places in the Middle Ages in the North Sea Zone*. Society for Medieval Archaeology Monographs no. 41. Routledge: London.

Shapland, F and Armit, I 2012 'The useful dead: bodies as objects in Iron Age and Norse Atlantic Scotland', *European Journal of Archaeology* 15(1), 98–116.

Small, A, Thomas, C and Wilson, D M 1973 *St. Ninian's Isle and its Treasure*. Oxford University Press: Oxford.

Smith, C 2019 'Animal bone', in Strachan, D, Sneddon, D and Tipping, R *Early medieval settlement in upland Perthshire: excavations at Lair, Glen Shee 2012–17*. Archaeopress: Oxford, 104–106.

Smyth, A P 1989 *Warlords and Holy Men: Scotland AD 80-1000*. Edinburgh University Press: Edinburgh.

Spearman, M 1993 'The mounts from Crieff, Perthshire, and their wider context', in Spearman, R M and Higgitt, J (eds) *The age of migrating ideas: early medieval art in Northern Britain and Ireland*. National Museums of Scotland/Alan Sutton: Edinburgh, 135–142.

Stevenson, R B K 1949 'The nuclear fort of Dalmahoy, Midlothian and other Dark Age Capitals', *Proceedings of the Society of Antiquaries of Scotland* 83, 186–198. Accessed 4 February 2022 <https://doi.org/10.5284/1000184>

Stevenson, R B K 1985 'The Pictish brooch from Aldclune, Blair Atholl, Perthshire', *Proceedings of the Society of Antiquaries of Scotland* 115, 233–239.

Stewart, M E C 1969 'The ring forts of central Perthshire', *Proceedings and Transactions of the Perthshire Society for Natural Science* 12, 21–32.

Strachan, D 2010 *Carpow in Context: a Late Bronze Age logboat from the Tay*. Society of Antiquaries of Scotland: Edinburgh.

Strachan, D 2013 *Excavations at the Black Spout, Pitlochry: and the Iron Age monumental roundhouses of north west Perthshire*. Perth and Kinross Heritage Trust: Perth.

Strachan, D (ed) 2020 *Hillforts of the Tay: community archaeology at Moncreiffe Hill and Castle Law, Abernethy, Perth and Kinross*. Perth and Kinross Heritage Trust: Perth.

Strachan, D, Sneddon, D and Tipping, R 2019 *Early medieval settlement in upland Perthshire: excavations at Lair, Glen Shee 2012–17*. Archaeopress: Oxford.

Strachan, D, Cook, M and McLaren, D forthcoming. *Hillforts of the Tay: excavations at Moncreiffe, Moredun and Abernethy. 2014–17*. Archaeopress: Oxford.

Strachan, D and MacIver, C forthcoming *The King's Seat Dunkeld: excavations 2017–21*. Archaeopress: Oxford.

Stratigos, M J and Noble, G 2014 'Crannogs, castles and lordly residences: new research and dating of crannogs in north-east Scotland', *Proceedings of the Society of Antiquaries of Scotland* 144, 205–222.

Stratigos, M J and Noble, G 2018 'A new chronology for crannogs in north-east Scotland', *Proceedings of the Society of Antiquaries of Scotland* 147, 147–177.

Stratigos, M J and Noble, G 2021 'Building crannogs in the 9th–12th centuries AD in northern Scotland: An old tradition in a new landscape', in Theune, C and Dixon, P (eds) *Seasonal settlement in the medieval and early modern Countryside: RURALIA XIII*. Sidestone Press: Leiden, 179–188. <https://www.sidestone.com/books/seasonal-settlement>

T

Taylor, D B 1990 *Circular homesteads in north west Perthshire*. Abertay Historical Society: Dundee.

Taylor, S 1997 'Seventh-century Iona abbots in Scottish place-names', *Innes Review* 48(1), 45–72.

Taylor, S 1999 'Seventh-century Iona abbots in Scottish place names', in Broun, D and Clancy, T O (eds) *Spes Scotorum: Hope of Scots: Saint Columba, Iona and Scotland*, T & T Clark: Edinburgh, 35–70.

Taylor, S 2000 'Columba east of Drumalban: some aspects of the cult of Columba in eastern Scotland', *Innes Review* 51(2), 109–130. See <http://eprints.gla.ac.uk/view/author/14948.html>

Taylor, S 2001 'The cult of St Fillan in Scotland', in Liszka, T R and Walker, L E M (eds) *The North sea world in the Middle Ages: studies in the cultural history of north-western Europe*. Four Courts: Dublin, 175–210.

Taylor, S 2004 'Scandinavians in central Scotland by- place names and their context', in Williams, G and Bibire, P (eds) *Sagas, saints and settlements*. Northern World Series 11. Brill: Leiden, 125–145.

Taylor, S 2007 'The rock of the Irishmen: an early place-name tale from Fife and Kinross', in Smith, B B, Taylor, S and Williams, G (eds) *West over sea: Scandinavian sea-borne expansion and settlement before 1300: a festschrift in Honour of Dr. Barbara E. Crawford*. Northern World Series 31. Brill: Leiden, 497–514.

Taylor, S 2017 'St Vigeans: places, place-names and saints', in Geddes, J *Hunting for Picts: Medieval sculpture at St Vigeans, Angus*. Historic Scotland: Edinburgh, 38–51.

Taylor, S 2000 'Columba east of Drumalban: some aspects of the cult of Columba in eastern Scotland', *Innes Review* 51(2), 109–130.

Thomas, G 2000 *A survey of Late Anglo-Saxon and Viking Age strap ends from Britain*. Unpublished PhD thesis: University of London.

Thoms, L M and Halliday, S P 2014 'Survey and excavation at two prehistoric hut-circles in Tulloch Field, Enochdhu, Strathardle, Perthshire; with an evaluation of their research and regional contexts', *Tayside and Fife Archaeological Journal* 19–20, 2–20. [Online] Accessed 8 June 2021. http://www.tafac.org.uk/wp-content/uploads/2021/05/V19_20p1-19-ThomsHalliday.pdf

W

Wainwright, F T 1955 *The problem of the Picts*. Nelson: Edinburgh.

Wamers, E 1985 *Insularer Metallschmuck in wikingerzeitlichen Gräbern Nordeuropas: Untersuchungen zur skandinavischen Westexpansion*. Karl Wachholtz: Neumünster.

Watkins, T 1979 'Excavation of a settlement and souterrain at Newmill, near Bankfoot, Perthshire', *Proceedings of the Society of Antiquaries of Scotland* 110, 165–208.

Watson, W J 1926 *The history of the Celtic place-names of Scotland*. Birlinn: Edinburgh.

Wheeler, R E M 1943 'Maiden Castle, Dorset'. Oxford, Research Report of the Committee of the Society of Antiquaries, 12.

Whitworth, V 2020 'Uncanny monsters and telling absences: Ways of reading the Meigle recumbents', in Thickpenney, C, Forsyth, K, Geddes, J and Mathis, K (eds), *Peopling Insular art practice, performance, perception. Proceedings of the eighth international Conference on Insular Art, Glasgow 2017*. Oxbow: Oxford, 161–166.

Will, R S, Forsyth, K, Clancy, T O, and Charles Edwards, G 2003 'An eighth-century inscribed cross-slab in Dull, Perthshire', *Scottish Archaeological Journal* 25(1), 57–72.

Williams, H 2015 'Hogbacks: the materiality of solid spaces', in Williams, H, Kirkton, J and Gondek, M M (eds) *Early medieval stone monuments: materiality, biography, landscape*. Boydell & Brewer: Woodbridge, 241–268.

Wilson, R, Loader, N, Rydval, M, Paton, H, Frith, A, Mills, C, Crone, A, Edwards, C, Larsson, L and Gunnarson, B 2011 'Reconstructing Holocene climate from tree rings – the potential for a long chronology from the Scottish Highlands', *The Holocene* 22(1), 3–11.

Wilson, S and Clarke, C 2019 'A9 Dualling Programme: Luncarty to Pass of Birnam mitigation excavations addendum to post excavation assessment report'. Unpublished report. AOC Archaeology Group.

Winlow, S 2011 'A review of Pictish burial practices in Tayside and Fife', in Driscoll, S T, Geddes, J and Hall, M (eds) *Pictish Progress: new studies on northern Britain in the Early Middle Ages*. The Northern World 50. Brill: Leiden, 335–350.

Winlow, S and Cook, G 2010 'Two new dates from two old investigations: a reconsideration of The Women's Knowe, Inchtuthil and Kingoodie long cist cemetery, Invergowrie', *Tayside and Fife Archaeological Journal* 16, 48–56. [Online] Accessed 1 February 2022. <https://www.tafac.org.uk/wp-content/uploads/2021/05/V16p48-56Winlow.pdf>

Wolf, A 2007 *From Pictland to Alba 789–1070*. Edinburgh: Edinburgh University Press.

Wolf, A 2017 'On the nature of the Picts', *Scottish Historical Review* 96(2), 214–217.

Wordsworth, J and Clark, P R 1997 'Kirkhill', in Rains, M J and Hall, D W (eds) *Excavations in St Andrews 1980-89*. Tayside and Fife Archaeological Committee: Glenrothes, 7–18.

Y

Youngs, S (ed) 1989 *'The Work of Angels' masterpieces of Celtic metalwork, 6th–9th centuries AD*. British Museum Publications: London.