# Burning Matters: the Rise and Fall of an Early Medieval Fortified Centre. A New Chronology for Clatchard Craig 

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ONE OF the most significant developments in early medieval northern Britain was the reemergence of fortified enclosures and settlements. As in western England and Wales, the fort rather than the hall formed the most prominent material manifestation of power of an elite and their client group. While fortified sites dominate our knowledge of the form that central places of power and governance took in the early medieval period in northern Britain, our historical sources reveal little about the character, longevity and lifespan of many of these important nodes of power and archaeological investigation has also tended to be limited. Hence only a handful of fortified sites in northern Britain provide well dated and investigated sequences for these critical sites for understanding the character of post-Roman society in the north. As part of the Leverhulme Trust-funded Comparative Kingship project a suite of new radiocarbon dates were produced using archived material from excavations at the nowdestroyed early medieval hillfort of Clatchard Craig (NO 2435 1780) in Fife, eastern Scotland, one of the most complex early medieval forts known. Some 35 years ago CloseBrooks (1986) oversaw the publication of a report on the hillfort based on excavations which had occurred more than two decades earlier in response to the quarrying of this multivallate hillfort. Due to the imprecision and scarcity of radiocarbon dating a broad 6th to 8th+ century $A D$ chronology for the defences and occupation of the interior was obtained. With higher precision AMS dates and a new Bayesian model a much tighter sequence of dating has been produced suggesting the development and destruction of the monumentally enclosed phase of the site centred on a much shorter period in the 7th century $A D$. The new chronology for the site, which suggests the fort was constructed and destroyed within a few generations at most, has important implications for the role of fortifications and the character of warfare in early medieval society. The burning of the fort suggests a catastrophic and rapid end to a site that is likely to have been constructed by the Pictish elite.

[^0]The fort may have been a victim of the tumultuous events of the latter half of the 7th century when southern Pictland came under Anglo-Saxon control before being wrested back into Pictish overkingship in the aftermath of the Battle of Nechtanesmere of AD 685.

## INTRODUCTION

In northern Britain fortified sites dominate our understanding of the form that central places of power and governance took in the early medieval period. ${ }^{5}$ While the historical sources for northern Britain are limited, they include references to sieges, battles and other important events occurring at fortified centres, and suggest that the construction and use of fortified settlements in northern Britain were key manifestations of a growing hierarchy of power. ${ }^{6}$ Alt Clut (modern Dumbarton), for example, a hillfort within Brittonic territory situated on the River Clyde in western Scotland, was recorded in the Irish chronicles and the 'Life of Saint Columba' as the seat of the 'king of Clyde Rock': occupying and controlling this fort was clearly central to the Brittonic kingship of this part of northern Britain. ${ }^{7}$ For eastern Scotland, sources suggest hilltop fortifications ${ }^{8}$ were also places of royal authority: the Pictish king Bridei's fort was the setting for a number of encounters between the Pictish elite and St Columba in Adomnán's hagiography. ${ }^{9}$ While these sources provide some detail on the important role of these forts, only some of the sites recorded in the sources have been identified on the ground. Fewer have been excavated, and if they have, rarely to any significant degree, though the pioneering work of Alcock in identifying and providing outline chronologies for a number of sites in Scotland provided a huge stimulus to research. ${ }^{10}$

Although not mentioned in any sources, one early medieval hillfort in eastern Scotland that has been investigated on a larger scale was Clatchard Craig, Fife. Clatchard

[^1]Craig was a prominent early medieval hillfort situated above the town of Newburgh, Fife, eastern Scotland, but was unfortunately completely destroyed by quarrying in the latter half of the 20th century. Limited rescue excavations mounted by Roy Ritchie in 1953 and 1954 and by Richard Hope-Simpson in 1959 and 1960 recorded some of the fort prior to its destruction. With at least seven lines of defence this was one of the most complex and heavily defended early medieval hillforts identified in northern Britain, and one of the very few with clear evidence for buildings in the interior of the fort. ${ }^{11}$ Within the interior an important assemblage of early medieval metalworking moulds was also found, along with a range of other objects including E-ware and a silver ingot, all indicative of an elite presence. ${ }^{12}$ In 1986 the results of the excavations were brought together for publication by Joanna Close-Brooks, who obtained five radiocarbon dates for timbers from the ramparts and conclusively demonstrated that the visible defences were largely, if not entirely, early medieval. ${ }^{13}$ However, the chronology established in the 1980s left many unanswered questions about the development of the site. This article outlines the results of a re-dating project that used archived samples to produce a new, more detailed, and robust, chronology for Clatchard Craig hillfort, providing a key case study for the longevity and demise of an early medieval hillfort in northern Britain.

## THE FORT AND LANDSCAPE

Prior to quarrying, the hillfort of Clatchard Craig overlooked Newburgh on the southern shore of the Firth of Tay in northwest Fife (Fig 1; Fig 2), ${ }^{14}$ in an area that would have been part of the territories of the southern Picts. ${ }^{15}$ As Close-Brooks noted, ${ }^{16}$ it was situated in a well-connected area with major routeways extending east-west along the north coast of Fife, and overlooked a gap in the hills leading to the south to Collessie and to the southeast towards Cupar. ${ }^{17}$ The position of the fort would have been very visible in the local landscape with a prominent natural feature, the High Post, a projecting pillar of rock some 27 m high, having formerly stood just below the fort. The High Post was destroyed in 1846 during the construction of the Edinburgh and Northern Railway. ${ }^{18}$ The fort itself was quarried for

[^2]andesite which was used as ballast for railways and for road metalling. Between WWI and WWII an application for preservation was made by the Ministry of Works, but this was unsuccessful and post-WWII the Ministry's strategy turned to mitigation with two campaigns to excavate parts of the fort prior to its destruction. After the excavations quarrying continued apace and the fort had been entirely removed by 1970 (Fig 3). ${ }^{19}$

Clatchard Craig fort itself was multivallate with the defences enclosing the summit of the hill and springing from a precipitous cliff-edge on the north side. ${ }^{20}$ There were at least seven lines of defence, making it one of the most complex and heavily defended early medieval hillforts yet identified in northern Britain (Fig 2). The ramparts generally followed the contours of the hill with the exception of Rampart 2 which ran obliquely to the sloping topography. Rampart 1 enclosed an area of 0.2 ha on the summit of the hill, with Rampart 2 enclosing an area of around 0.5 ha . Ramparts 3-6 were largely concentric and were wrapped tightly around the lower flank of the hill, enclosing at least 0.7 ha, but including the area of defences, covered an overall area of up to 2 ha. Where the entrances to the fort lay is uncertain. ${ }^{21}$ In terms of internal features known prior to excavation there was a natural spring, known as the Bluidy Well, that emerged from a rock hollow, and so-names as the water that came from it was said to have run red (Fig 1).

In this part of northwest Fife, Clatchard Craig sits within a group of six forts strung along around 10 km of a northeastern extension of the Ochil Hills overlooking the north Fife coastal plain (Fig 2). ${ }^{22}$ On plan, Clatchard Craig appears the most complex fort in this part of Fife, with the exception of Norman's Law, an extensive 'nuclear fort' with a summit citadel

[^3]of around 0.13 ha with four or more subsidiary enclosures occupying an area up to 6.4 ha. ${ }^{23}$ Several other early medieval sites lie in the environs of Clatchard Craig. Just to the east, across Lindores burn, a few hundred metres to the east, was Mare's Craig, a small hill that was also quarried away in the 20th century. ${ }^{24}$ From Mare's Craig an early Christian hand bell was recovered and what may have been early Christian long cists, along with the masonry remains of what appears to have been a (later) church building. ${ }^{25}$ Two kilometres to the west of Clatchard Craig stands the Mugdrum Cross, ${ }^{26}$ an unusual free-standing cross, decorated with four mounted figures, a hunt scene featuring hounds and a stag, and vine-scroll and key pattern; the monument is likely to date to the 9th-century AD. ${ }^{27}$ An earlier, possibly 6th-7th century AD Class I Pictish symbol stone ${ }^{28}$, decorated with a triple-disc and ornate crescent and V-rod on one face and a mirror on another, was found just over 2 km to the southeast at Kaim Hill overlooking Lindores Loch. ${ }^{29}$ These remains suggest an important early medieval presence in the lowlands surrounding Clatchard Craig.

## THE EXCAVATIONS

Excavation took place over 18 days during 1953-4, and over about six weeks in 1959-60, by which time stretches of the eastern ramparts had already been destroyed and other parts of the fort damaged by quarry roads (Fig 3). In 1986, Joanna Close-Brooks, curator at the National Museum of Scotland, brought together the information available from the two excavation programmes to provide an excellent overview of the results in an article in the Proceedings of the Society of Antiquaries of Scotland. ${ }^{30}$ Broad phasing was established for the site using stratigraphy, a limited number of radiocarbon dates and artefact typologies. Early activity at the site was represented by Early Neolithic pottery that was found within the trenches in the upper citadel and the find of a carved stone ball recorded from the site suggests later Neolithic activity. Throughout the trenches sherds of Iron Age pottery were also found,

[^4]suggesting some level of Iron Age occupation on the hill. The early medieval deposits comprised the ramparts themselves and a hearth, floor layers and artefact spreads concentrated in the upper citadel.

The ramparts, where identifiable, were built with dry-stone wall facings, with clear evidence for timber-lacing within ramparts $1-3$. In places they survived up to 2 m high and were 3-4 m thick, but the ramparts generally survived in a denuded fashion, having collapsed and been partly robbed of their stone. Rampart 2 showed some constructional differences with stone with mortar attached included in the rampart makeup. This stone was probably reused Roman masonry from the Roman legionary fortress at Carpow, just over 3 km to the west. ${ }^{31}$ The timber-lacing was of oak where identifiable, and evidence for destruction of the ramparts by fire was found across each section excavated of the innermost ramparts 1-3.

In the upper enclosure a large hearth and associated floor deposits were recorded (Fig 4 and 5). The hearth measured 1.8 m by 1.1 m and was well-built, made of red sandstone kerbstones with limestone paving. Above the hearth was a layer of loose soil, ash and some animal bone (level F5), which was up to 0.15 m thick. This layer was interpreted as a resurfacing and final use of the hearth. A pivot stone was situated northeast of the hearth and at the edge of the floor layer. The position of the pivot stone and the extent of the floor layers suggest a rectangular building around 9 m by 4 m in extent. ${ }^{32}$ No radiocarbon dates were obtained for the structure, but an extensive assemblage of metalworking moulds were found on and within the floor layer of the building, under the hearth and spread across the areas excavated in the upper enclosure. Fragments of tuyéres, a heating tray and the silver ingot from the upper enclosure provided further evidence of fine metalworking. Two sherds of Eware also came from the upper enclosure, indicative of elite levels of international trade which are known from other early medieval high-status sites. ${ }^{33}$

Of the metalworking finds the brooch moulds are particularly important (Fig 6). These included some for small brooches with triangular terminals and others for larger penannular brooches with both triangular and rounded terminals. ${ }^{34}$ Close-Brooks did not speculate on the date of the smaller brooch types, but following Stevenson linked the larger

[^5]brooch types to a series of penannular brooch styles found in eastern and northern Scotland. Brooch forms with large triangular terminals have been identified as being 'distinctly Pictish' since the publication of the St Ninians Isle (Shetland) hoard by Wilson. ${ }^{35}$ The dating of these brooches has often been considered as relatively late, with the interpretation of the St Ninians Isle hoard as being a treasury hidden from Viking raiders implicitly shaping the dating of these brooches. ${ }^{36}$ Stevenson dated triangular terminal brooch forms such as that found at Clatchard Craig and St Ninian's Isle to the 8th century or later based on his dating of pseudopenannular brooches such as the Hunterston brooch to around AD 700, from which he argued the triangular terminal examples developed. ${ }^{37}$ Close-Brooks followed this logic to pin an 8thcentury date to the Clatchard Craig examples.

Integrating the radiocarbon dates with the typological dating of the brooch moulds Close-Brooks proposed a chronological scheme for Clatchard Craig that encompassed early medieval phases from the 6th to the 8th centuries AD and possibly later. With the inner ramparts Close-Brooks suggested that the sequence of enclosure may have begun with the construction of Rampart 1 and 3 in the 6th-7th century AD. Ramparts 3a-6 were suggested to have been added to Ramparts 1-3 or even replaced them. Rampart 2 was thought to be the latest in the sequence as it did not follow the contours of the hill or the other ramparts. ${ }^{38}$ As for occupation, Close-Brooks suggested that this was focused on the upper citadel and consisted of at least two phases of early medieval occupation - a 7th century AD episode associated with E-ware that was broadly contemporary with the early defences and a secondary period of occupation in the 8th century or later based on the typological dating of the metalworking mould assemblage recovered from the fort. The structure found in the upper citadel was thought to date to the 8th century or later (anything up to the 12th century). ${ }^{39}$

Of course, with only a few radiocarbon dates to go on there were uncertainties in the dating scheme. The radiocarbon date from Rampart 2 did not substantially differ from those from Rampart 1 and 3, but this was attributed to residual material being incorporated in Rampart 2. Moreover, it was not clear that Ramparts 3-6 were later additions. With regards to the outer ramparts, the original excavator interpreted the stratigraphical evidence as

[^6]indicating that the outer ramparts were all broadly contemporary and stratigraphical evidence also suggested Rampart 3 was at least contemporary with Rampart 4 (and thus that the majority of the defensive scheme may have been broadly contemporary). This was suggested by the fact that collapse from Rampart 4 overlay part of the collapse of Rampart 3 including layers that were argued to be the burnt remains of the upper parts of Rampart 3. ${ }^{40}$ These burnt layers extended as far as the wall face of Rampart 4, but no further. ${ }^{41}$ Ramparts 4 and 5 b were of a similar build and the plan of these outer ramparts also suggested broad contemporaneity.

The date and stratigraphic position of the structure did not seem securely founded either. Given that the structure was thought to be substantially later than Rampart 1 and its destruction, it was argued that the rampart was already ruinous when it was built and CloseBrooks suggested tumble from wall had been cleared back towards the wall face in order to build the structure in this location. However, from a stratigraphic point of view there was no clear reason why the structure was not contemporary with Rampart 1 or near contemporary. The line of the rampart was very clearly delineated in the sections from the upper citadel trenches and in plan, too, the structure followed the line of the rampart very closely (Trenches B and G), with the floor layers in trench B curving towards the approximate line of the wall face (Fig 5). The artefact spread in the interior also included artefacts that extended to near the wall face line, though some of these pre-dated at least one phase of the structure. Rampart wall collapse also sealed parts of the floor, ${ }^{42}$ though Close-Brooks suggested this could have been due to a later episode of collapse of Rampart 1 (of either the original rampart or a later rebuild). Thus, although placed in a late phase by Close-Brooks, the position of the structure following the line of the rampart, the fact that the floors curve towards the rampart and the fact that rampart wall collapse was found overlying the floors suggested that the building could have been contemporary or broadly contemporary with the rampart. The one overriding factor in placing the structure in a later phase and one that perhaps influenced CloseBrooks' thinking more than any other factor was the typological dating of the brooch moulds to the 8th century or later, which given that some of the moulds were found under the structure appeared to provide a terminus post quem for the structure. ${ }^{43}$

[^7]The phasing proposed by Close-Brooks for Clatchard Craig ${ }^{44}$ can be summarised as follows and the early medieval phases summarised in Fig 7:

- Phase 1: Early Neolithic pottery deposited.
- Phase 2: Late Neolithic stone ball lost.
- Phases 3 and 4: Iron Age and Roman Iron Age occupation of the hill.
- Phase 5: Construction of Ramparts 1 and 3 in the 6th-7th century AD.
- Phase 6: Ramparts 3a-6 added or replacing Rampart 1 and 3.
- Phase 7: Occupation in interior associated with E-ware.
- Phase 8: Construction of Rampart 2 perhaps after a break of occupation.
- Phase 9: Final occupation in upper enclosure with Rampart 1 partly dismantled and cut away - short phase of metalworking of 8th century AD followed by construction of rectangular building (8th-12th century AD).


## RADIOCARBON (RE)DATING

The five radiocarbon determinations for the 1980s excavation report were obtained from the then Glasgow University Radiocarbon Laboratory in 1984. All five dates were on large samples ( $80+$ grams) of charcoal from what appear to have been burnt in situ timbers from the cores of Ramparts 1, 2 and 3. The dates are not of high precision, and the larger charcoal samples used increases the likelihood for 'old wood' offsets in the results as many years of tree growth are probably incorporated in these dates. ${ }^{45}$ Each date has an error margin of 55 to 75 years, with the five dates giving calibrated dates ranges spread across the range cal AD 390-880 ( $95 \%$ probability), ie from the 4th to 9th century AD. Their usefulness in dating the site and assessing the sequence of defence by themselves was thus limited.

In 2018 new dates were sought as part of the Comparative Kingship project at the University of Aberdeen. ${ }^{46}$ The Comparative Kingship project aims to further our understanding of power and governance in northern Britain and Ireland in the period AD 11000 with one key strand being investigating and dating power centres of the early medieval period. Clatchard Craig is one of only a handful of hillforts of this date identified from Pictland and few of those have firm chronologies, ${ }^{47}$ so any opportunity to date the sequence

[^8]at Clatchard Craig more accurately was an important one to grasp in fleshing out our understanding of the date and development of elite centres in northern Britain.

The archives for Clatchard Craig are kept at the National Museums Scotland. ${ }^{48}$ The redating project focused on the animal bone collection, given that the majority of the retained charcoals were from large oak timbers - from which dates may well have been susceptible to the 'old wood' effect. The new samples were all single-entities of short-lived material to avoid any potential problems with mixing and/or in-built age offsets. ${ }^{49}$ Viable contexts were identified from the 1982 bone report. ${ }^{50}$ Animal bone was available from contexts associated with Ramparts 1-3 and from the structure in the upper citadel, including the hearth, floor layers and context F5, which represents the final layer associated with it. Animal bone could of course be residual and clear examples of residuality were identified, ${ }^{51}$ but generally the stratigraphic relationships and the relative dating of samples showed clear and correct sequences with bone in later contexts providing later dates. ${ }^{52}$ In the case of Ramparts 1 and 2 animal bone samples also provide terminus post quem and terminus ante quem dates for the charcoal samples, meaning that the original charcoal dates could be included in a Bayesian model and their large errors constrained by stratigraphy and the modelling. ${ }^{53}$ So, for example, with Rampart 1 animal bone from below the core of the rampart provides a terminus post quem of $1452 \pm 26$ BP (SUERC-82048) for GU-1795 and SUERC-82046 can be used as a terminus ante quem for the same GU date; and for Rampart 2 the stratigraphically earlier bone from Level 9 (possibly an old ground surface) provides a terminus post quem for animal bone and charcoal from Levels 6 and 7 (rampart core) (Fig 8). No additional successful samples could be obtained for Rampart 3 - unfortunately two animal bone samples

[^9]failed due to a lack of collagen, but the two original dates were still able to be included in the overall model. The new dates from the upper citadel included animal bone from the floor layer of the structure itself and from Level F5, the stratigraphically latest layer identified in the building.

The samples were pre-treated, combusted, graphitised and measured by accelerator mass spectrometry at the Scottish Universities Environmental Research Centre. ${ }^{54}$ The results are presented as conventional radiocarbon ages, ${ }^{55}$ quoted according to the international standard set at the Trondheim Convention. ${ }^{56}$ The date ranges in Table 1 and in the models have been calculated using the maximum intercept method, ${ }^{57}$ and quoted with the endpoints rounded outward to 10 years. ${ }^{58}$ The ranges given in the figures were calculated using the probability method (Fig 9 and 10). ${ }^{59}$ The calibrations used the internationally-agreed calibration curve for terrestrial samples (IntCal13), ${ }^{60}$ and were calculated using OxCal v4.3. ${ }^{61}$ These dates were modelled following a Bayesian approach to chronology building. ${ }^{62}$

Samples SUERC-82047 and SUERC-87107 were excluded from the modelling as they were clearly residual - SUERC-82047 producing a date in the Early Iron Age and SUERC-87107 a date in the 5th to 6th century AD (see new phasing below) (Table 1). One of the charcoal dates (GU-1794) was also removed as it was substantially earlier than both a charcoal date from the same layer and a date from bone (SUERC-82048) obtained from a stratigraphically earlier context - the early determination is likely due to an old wood effect. This left 13 samples, with the model accounting for the stratigraphic relationships where known. Dates were grouped by context.

The primary model has good agreement, ${ }^{63}$ showing good correlation between the archaeological stratigraphy and modelled sequence. The model estimates that the dated activity in association with Ramparts 1, 2 and 3 and upper citadel occupation at Clatchard Craig began in cal AD 580-650 (95\% probability; Fig 9; start: Clatchard Craig), and

[^10]probably in cal AD 590-630 ( $68 \%$ probability). The activity took place over a period of $0-85$ years ( $95 \%$ probability; Fig 10; span: Clatchard Craig), and probably 20-70 years ( $68 \%$ probability). Dated activity ended in cal AD 610-690 (95\% probability; Fig 9 end: Clatchard Craig), and probably in cal AD 640-670 (68\% probability).

## DISCUSSION

## Establishing a new sequence

The new dating suggests a much shorter chronology for the ramparts and occupation at Clatchard Craig than proposed in the 1980s. Sampled material from all three ramparts (Ramparts 1-3) centre on the first half of the 7th century AD. The dating suggests that Ramparts 1, 2 and 3 are in fact likely to be contemporary and may have been constructed within a relatively short period of time. While Close-Brooks suggested that Rampart 2 may have incorporated material from Phase 5 of the enclosure sequence (and therefore the dates may be residual), there is little indication of this. The dating evidence from Rampart 2 includes bone (SUERC-82055) from below the rampart (possibly from an old ground surface); charred oak from a large timber from the rampart core (highly likely to come from the timber-lacing) (GU-1796), animal bone from the core (SUERC-82053) and animal bone from a layer high-up in the rampart (SUERC-82052) ${ }^{64}$ (the latest date chronologically and stratigraphically) (Fig 8). While residuality is possible, there are no obvious residual dates, for example from the Roman Iron Age given the incorporation of Roman stonework and pottery in the body of Rampart 2. ${ }^{65}$ Rather the charred oak from the wall core and the tight grouping of dates suggests that these determinations provide a robust chronology for Rampart 2 and activity associated with construction. While Rampart 2 does not follow the contours like the other ramparts - as Close-Brooks noted it does follow a direct line to enclose a substantial area of ground while economizing on materials needed - the differing line of this rampart appears to have been due to differing priorities (eg maximising area enclosed for minimum investment) rather than representing a different construction phase.

The date of the outer ramparts has not been clarified by scientific dating - no viable samples were identified in the archives. As noted above, Close-Brooks argued the outer ramparts may have post-dated Ramparts 1 and 3, however, the original excavator thought that stratigraphically these outer ramparts were likely to be contemporary with Rampart 3 at

[^11]least. ${ }^{66}$ If that was the case then the outer ramparts could have been part of the same scheme as the inner Ramparts 1-3 or additions made soon after. Rampart 4 of the outer scheme was almost certainly in place by the time Rampart 3 was burnt as the destroyed remains from Rampart 3 slumped downslope up to the wallface of Rampart 4 and the burnt deposits were overlain by Rampart 4 collapse. ${ }^{67}$ As noted above, Ramparts 4 and 5 b were also of a similar build (Rampart 6 was not excavated) and the plan of these outer ramparts also suggest possible broad contemporaneity. Therefore, there is a good case for all the ramparts to be of the same construction scheme or at least following on close to one another in date, with ramparts 3a-6 perhaps added to $1-3$ to strengthen the original defensive scheme. Thus, in this case at least, multivallation does not necessarily mean multi-period - in the case of Clatchard Craig at least there is a good case for the ramparts having been built over a relatively short period of time in relation to a perceived and/or real threat of attack. ${ }^{68}$ The lack of evidence for the destruction by fire of the outer ramparts is notable, but is not necessarily evidence of a protracted period of construction and use, for the burning event that destroyed Ramparts 1-3 may have simply been focused on the internal defences and the outer ramparts may have had less in the way of timber-lacing to enable their destruction by fire.

With regards to occupation of the interior, the new radiocarbon dating provides clear evidence for the structure in the upper citadel being contemporary with the Ramparts 1-3 and of also of 7th-century date. A radiocarbon date from floor layer F3/FF4 (SUERC-82057) calibrates to cal AD 580-660, ie broadly contemporary or only slightly later than the dates associated with the ramparts. From F5, a layer that is stratigraphically the latest within the structure comes another date (SUERC-87106) that provides one of the latest determinations from the site - cal AD 600-670. ${ }^{69}$ Layer F5 was interpreted as activity contemporary with the final use of the hearth giving a probable end date for activity in this part of the interior.

[^12]Turning to the artefacts, the new radiocarbon dates from Clatchard Craig provide invaluable data for reconsidering the dating of the Clatchard Craig metalworking mould assemblage. The stratigraphy of the upper citadel trench makes it clear that at least some of the metalworking assemblage pre-dated the structure and the date from the stratigraphically latest hearth layer (F5) was cal AD 600-670 (Fig 5) (Fig 9). Layer F5, provides a terminus ante quem for most if not all of the metalworking assemblage and certainly for the mould fragments found under the hearth and incorporated within or under the floor layers. The dating of the Clatchard brooch moulds in the original report drew on parallels with brooches found in the St Ninian's Isle hoard ${ }^{70}$ and the Croy hoard in particular. ${ }^{71}$ However, the penannular brooches with flared triangular terminals from the St Ninian's Isle hoard (which are a similar shape to a hacked brooch terminal from Croy) are not particularly close parallels for the Clatchard Craig broad penannular terminals. ${ }^{72}$ Nor are the Croy or St Ninian's Isle finds closely dated. ${ }^{73}$ One assemblage that Close-Brooks or Stevenson did not have as a comparison is that from Dunadd. At Dunadd large decorated panel brooches of closely similar form to those at Clatchard Craig were being produced in Phase IIIA of the early medieval fort, closely dated through artefactual typologies and radiocarbon dates to the 7th century AD. ${ }^{74}$ The new dates from Clatchard Craig, combined with the evidence from Dunadd, provide much-needed chronological fixed points in brooch dating and the evidence can undoubtedly lead to a much wider rethink of brooch typology and dating. ${ }^{75}$

[^13]Overall, the new scientific dating from Clatchard Craig and the comparable dating evidence from Dunadd shows that the metalworking assemblage from the upper citadel of Clatchard Craig is of 7th century AD date. Moving the metalworking moulds into the 7th century suggests the assemblage is likely to be broadly contemporary with the ramparts and occupation recorded in the interior, suggesting that all of the major elements of the fort and assemblage recovered in the rescue excavations are of 7th century (or earlier) date. The new dating evidence from Clatchard Craig and the discussion above allows a revised phasing for the site to be proposed. Activity in the new model can be summarised as below (and shown in Fig 11):

## Phase

1. Early Neolithic activity on the hill.
2. Late Neolithic activity.
3. Iron Age occupation - scatter of pottery in upper and lower enclosures. Iron Age radiocarbon date on animal bone within core of rampart 1: 810-590 cal BC (SUERC82047). No evidence of enclosure.
4. Roman Iron Age occupation? A small number of artefacts of Roman Iron Age date, eg cast openwork ornament of possible trumpetenmuster type, Samian sherd and brooch pin. ${ }^{76}$ No evidence of enclosure.
5. 5th-6th century occupation? A small number of artefacts were ascribed to this date in the original report. A small sherd of glass was recovered that was interpreted at the time as a 5th-century type, ${ }^{77}$ and while the colour and decoration is commonest in Anglo-Saxon glass in the 5th and 6th centuries AD this glass type is found in the 7th century as well. ${ }^{78}$ However, a glass bead was also identified as of possible 5th to 6th century AD type, a peltaic decorated mount is probably of this date, ${ }^{79}$ and a 5th-6th century AD radiocarbon date from an animal bone clearly redeposited within the occupation layer within the hearth of the structure within the upper citadel (SUERC87107), does provide some direct evidence of 5th-6th century AD activity. No evidence of enclosure.

[^14]6. Construction of Ramparts 1-3 and initial activity in the interior in the period cal $A D$ 580-650 (95\% probability) or cal AD 590-630 AD (68\% probability) (Fig 9; Boundary Start: Clatchard Craig). Initial occupation within interior. This included at least one phase of metalworking activity occurred prior to construction of the structure found in the upper citadel. Iron production appears to have occurred in the lower enclosure evidenced by large quantity of smelting and smithing slag and furnace/hearth lining fragments from this part of the site. ${ }^{80}$
7. Defences augmented? The phasing of Ramparts 3a-6 is uncertain, but were thought to be a unitary programme of construction by excavator and on plan appear to augment Ramparts 1-3.
8. Destruction and abandonment. While the model cannot directly date the destruction of the ramparts, the overall modelling suggests an end date of cal AD 610-690 (95\% probability); cal AD 640-670 (68\% probability) (Fig 9; Boundary End: Clatchard Craig). With the redating of the mould assemblage there is now no evidence for occupation of the interior beyond the 7th century. The date from Level F5 suggests occupation of the structure ended in the 7th century and provides a terminus ante quem for at least some of the metalworking assemblage. The archaeological evidence provides clear evidence for the destruction of Ramparts 1-3 (see below). The lack of clear evidence for destruction of Ramparts 3a-6 may be due to lesser or absent timber-lacing within these ramparts. Rampart 4 collapsed over the burnt remains of Rampart 3.

The new chronology and phasing suggests that rather than an extended sequence from the 6th to at least the 8th century AD (and anything up to the 12th century AD), the early medieval monumentally enclosed phase comprising construction, occupation and abandonment, may have occurred over a very restricted phase during the early to mid-7th century $\mathrm{AD} .{ }^{81}$ Of course, we will never know what was lost to quarrying at the site (Eg further buildings and deposits within the interior), nor what larger open-area excavation may have revealed, but the dates from all of the major elements of the fort provide only evidence for activity during the 7th century AD in association with the defences. The entire duration of the enclosed phase of the fort and occupation occurred over a maximum of 90 years (1-85

[^15]years ( $95 \%$ probability)) and possibly as few as $20-70$ years ( $68 \%$ probability; Fig 10) - ie little more than two generations, possibly less.

## Rulership and fortifying power

As noted in the introduction, the study of hillforts has formed a key element of scholarship for 1st millennium AD northern Britain. ${ }^{82}$ The prominence of hillforts, as noted in the introduction, is due to defended settlements being among the few identifiable locations in the slim historical literature we have for northern Britain. Sources for this region, especially the Irish annals, ${ }^{83}$ and Adomnán's 'Life of Saint Columba', ${ }^{84}$ imply that hilltop settlements were at the top of the settlement hierarchy. Yet despite their oft centrality to how we view the early medieval period of the north we have to recognize just how few of these sites have been identified and dated. So for Pictland, for example, other than Clatchard Craig, there are fewer than 20 confirmed or likely sites with evidence for the construction of defences of any kind in the period AD 500-900 AD (Fig 12), and far fewer of these are hillforts with multivallate defences of the character of Clatchard Craig. In terms of multivallate hilltop enclosures that provide morphological parallels for Clatchard Craig, the examples in northern Britain with more than five radiocarbon dates for defences and internal settlement is a very modest number indeed and consists of just six other sites: Mither Tap o' Bennachie, Aberdeenshire; Dundurn, Perthshire; Abbey Craig, Stirling; Dunollie, Argyll; Dunadd, Argyll and Trusty's Hill, Dumfries and Galloway, two of which are recent excavations that are not yet published. ${ }^{85}$ Dates from these six sites span a period of at least the 4 th century AD to the late 1 st millennium AD (Table $2 ; 68 \%$ probability). The small number of these sites, but the longevity of many, underline their status as uncommon but important elite nodes in the early medieval landscapes of power and rulership of northern Britain.

The tight dating from Clatchard Craig allows some speculation regarding the construction of the site, its possible status, and the figures who may have been involved in its

[^16]construction. Clatchard Craig is located close to Abernethy, one of the major churches of southern Pictland and a possible bishopric centre. ${ }^{86}$ Both versions of the Pictish king-lists credited a Nectan son of Irb/Uirp with the foundation of the monastery of Abernethy, the shorter version including him instead of the longer lists' King Nectan nepos ('grandson' or 'descendant') Uerp, in the early 7th century at around the same time as the construction of Clatchard Craig. ${ }^{87}$ Nectan nepos/filius Uerp's reign in the shorter king-list common source was 21 years, 20 years in the longer list, but since his name is not found in surviving Irish chronicles, the dates of his reign are uncertain. ${ }^{88}$ Perhaps drawing on the same local information as the shorter king-list, the mid-12th-century St Andrews Foundation Legend Account B stated that a Nechtan son of Irb underlay the place-name Naughton in Balmerino parish in northern Fife, around 15 km to the east of Clatchard Craig. ${ }^{89}$ Even if the equation of Nectan son of Uirp with Nectan nepos Uerp (through nepos being replaced by the more normal filius) is not accepted, it is probable that they were closely related, with Nectan son of Uirp slightly earlier than his near namesake. ${ }^{90}$ It is therefore quite likely that the family of King Nectan nepos Uerp had connections to the north Fife coast and may have been involved in the creation of the fort at Clatchard Craig as well as the ecclesiastical centre at Abernethy, especially since Rampart 2 at Clatchard Craig reused masonry from Carpow, which the boundary description in the longer Pictish king-list indicates was within the bounds of Abernethy's core territory. ${ }^{91}$ Certainly, the rarity of multivallate forts and the limited historical sources for forts of this kind would suggest that the construction of such a fort was the preserve of elites such as Nectan.

## Better to burn out than fade away?

[^17]Following occupation that lasted a maximum of 85 years, and perhaps a period as short as 20 years activity at the fort appears to have ceased (by cal AD 670 or 690 (Fig 9)). While the trenching carried out at the site provides only a sample of the fort, there is now no artefactual evidence from the site that indicates activity beyond the 7th century AD and the short span of Clatchard Craig provides a marked contrast to other sites of this kind which have generally been excavated using similarly limited trenching strategies (Table 2). ${ }^{92}$ The high-quality excavation and the detailed report compiled by Close-Brooks allow us to highlight the reason for the activity at Clatchard Craig coming to such an abrupt end: the clear evidence for the destruction of the site by fire as evidenced directly by the state of the ramparts attested in excavation, ie these were clearly destroyed by fire with no evidence for the reconstruction of these defences following destruction.

For the prehistoric period, the destruction of forts by fire and vitrification process has been hotly debated with three main theories proposed in the past - that forts were destroyed by accident, that forts were ceremoniously decommissioned by ritualised acts of destruction or that they were destroyed by enemy action. ${ }^{93}$ In the early medieval period the benefit of historical sources points to the latter being the prime cause for the destruction of forts in northern Britain. Dunollie, Argyll, for example, a fort that is likely to have been one of the main centres of Dál Riata, is recorded in the annals as being destroyed by fire in AD 685 and again in AD 698 or 699 (see Table 3). It was also destroyed in AD 701 by Selbach, the king of the Cenél Loairn kindred of Dál Riata, though in this case the method of destruction was not recorded. A fort was then constructed anew by Selbach in AD 714. Thus, over a tumultuous period of less than 20 years the fort was destroyed three times with fire clearly the main method utilised, and after a period of 12-13 years the fort was rebuilt once again. ${ }^{94}$ At Dunollie this complex sequence of fort building and destruction was an integral part of the struggle over the kingship of the Cenél Loairn and that of Dál Riata as Cenél Loairn sought to replace Cenél nGabráin as the dominant lineage of the wider Dál Riata polity. ${ }^{95}$ As well as illuminating the importance of forts in dynastic and elite struggles in early medieval polities, these references also highlight the potentially very short lifespan of some of these forts.

[^18]In Northumberland a fuller account of the attempted burning of the ramparts of a fort is preserved in an account by Bede. He records that Penda, a Mercian king, laid siege to the royal Northumbrian fort of Bamburgh and, being unable to capture the fort through arms or a siege, his army attempted to burn it down. Bede wrote that Penda ordered his army to gather a great quantity of wood from the settlements around the fort and pile it high (in magna altitudine) against the ramparts. He credited St Aidan with saving the fort for he prayed for the wind to change, resulting in the fire turning in the direction of the invading Mercians. ${ }^{96}$

Combustio events appear regularly in the Irish Chronicles for sites in Scotland (Table 3). ${ }^{97}$ There are six direct references to the burning of forts in chronicles for the period 4311000 and 12 references to forts being under siege. ${ }^{98}$ The references to burning concentrate in the period AD 686 to 780 , in the period when Iona and probably a Pictish source was used, before the record for northern Britain declines substantially. ${ }^{99}$ The number of references in the annals to the burning of forts in Scotland is notable given that it is obvious that our sources contain only a partial record. As Kathleen Hughes has noted, secular and ecclesiastical siege and burning items (including those for Ireland) before AD 800 tend to cluster in particular periods: AD c 615-45, 671-714, 731-57, 775-790. ${ }^{100}$ Therefore, the inclusion of such items is unlikely to reflect the actual frequency of destruction events at major forts, rather the varying practices of chroniclers and copyists. There is also a limited geographical coverage; not a single Pictish fort has been identified north of Dunnottar (Aberdeenshire), which is south of the Mounth. This may reflect problems in identifying northern Pictish sites, due to a combination of place-name change, lesser later use of such forts, and lower survival of texts concerned with this region. Nonetheless, even with the minimum numbers recorded in the sources, six burnings over the period AD 685 to 780 averages one every 16 years, suggesting that major destructive events of this nature occurred more than once per generation. Including all the direct references to sieges, successful occupations, and destruction over the period AD c 640 to 780 produces an average of one recorded episode of conflict involving elite sites in the annals every nine years, but given the

[^19]record's partial character, such events presumably took place much more frequently than this figure indicates. ${ }^{101}$

Overall, historical sources and direct archaeological evidence from sites such as Clatchard Craig, combine to foreground destruction by fire as a recurring act bringing to an end particular phases of fort building in early medieval northern Britain. What is particularly notable about the Clatchard Craig evidence is just how short the entire lifespan of the monumentally enclosed phase of the site was, and the lack of evidence for reoccupation after the destruction of the ramparts. While burning is recorded through the documentary sources at sites such as Dunollie and through the archaeological record, episodes of burning did not curtail the long-term significance of these places: Dunollie, for example, has radiocarbon dates that extend throughout the later 1st millennium AD and into the 2nd millennium AD suggesting that the fort(s) there had numerous phases (Table 2). ${ }^{102}$ Clatchard Craig in contrast has no evidence of occupation and no radiocarbon dates that extend beyond the 7th century AD. After the catastrophic destruction of the late 7th century it appears to have been abandoned and forgotten until the modern period.

## An endgame for a major early medieval fort

In terms of the destruction of Clatchard Craig, we do not have any references that can be linked directly with the undocumented site, but the probable end date of cal AD 610-690 (95\% probability)/cal AD 640-670 (68\% probability) (Fig 9; Boundary End: Clatchard Craig) does coincide with a period of Northumbrian dominance over southern Pictland and the subsequent Pictish overthrow of this rule in AD 685 at the Battle of Nechtanesmere. ${ }^{103}$ The Battle of Nechtanesmere is one of the most notable historical events of the 7th century in northern Britain. The destruction of the site could have occurred during events leading to the Battle of Nechtanesmere or its immediate aftermath. However, the powerbase of Bridei son of Beli appears to have lain in the north - he is the first king explicitly called rex Fortrenn 'king of Fortriu' in the Irish chronicles. Fortriu (a polity centred around the southern shores of the Moray Firth) became the overkingship of Pictland in the 7th century and Bridei's victory and ascent to overking may have required the brutal extinguishing of both Anglian

[^20]foes and internal rivals. Bridei is said to have destroyed the Orkneys in AD 681, ${ }^{104}$ and he may have also been responsible for attacks on Dunnottar, Aberdeenshire, in AD 680, and Dundurn, Perthshire, in AD 682. ${ }^{105}$ The destruction of southern centres of power such as Clatchard Craig may have gone hand-in-hand with the lead up to Bridei's famous victory at Nechtansmere, with perhaps a rival or even an Anglian endorsed ruler at Clatchard Craig ousted by Bridei as part of, or following on from, the dramatic expulsion of Anglian overlordship from southern Pictland that occurred on 20th May AD 685. ${ }^{106}$

However, the Battle of Nechtansmere lies at the margins of the calculated end date for the site (AD 610-690 (95\% probability)) and lies outwith the most likely period at which the site came to an end (cal AD 640-670 ( $68 \%$ probability)). Bede in his 'Ecclesiastical History' of AD 731 stated that during the reign of King Osuiu (642-70), probably from the 650s660 s , most of the Picts, in the south at least, came under the control of the Northumbrians. ${ }^{107}$ This control seems to have been re-established and extended in the 670s following a period of Pictish rebellion, since Stephen's 'Life of Wilfrid', written in the 710s, stated that a Pictish uprising was crushed in battle in the early years of the reign of Ecgfrith, king of the Northumbrians (670-85).. ${ }^{108}$ This has been plausibly connected to the deposition of the Pictish king Drest son of Donuel in 671. ${ }^{109}$ While Stephen's statement that the defeat of the Picts early in Ecgfrith's reign reduced them to slavery is likely to have been an exaggeration, his claim that this (and a defeat of Mercia) increased Ecgfrith's territory and Wilfrid's ecclesiastical jurisdiction as Bishop of York to include the Picts is not implausible. ${ }^{110}$ Moreover, Bede stated that as a result of Nechtanesmere the Picts regained terra possessionis suae quam tenuerunt Angli, 'the land of their settlement which the English held', whereas the Britons and Gaels simply regained their freedom. ${ }^{111}$ Bede also wrote that after the battle the English in Pictland were either slain, enslaved or they fled, the current Northumbrian bishop over the Picts, Trumwine, doing the latter. While this may be exaggerated, it is plausible (and comparable with the Northumbrian expansion into British lands) that by 685 English people

[^21]had been granted Pictish lands and were active inside Pictland politically and ecclesiastically.. ${ }^{112}$

Given the most probable end date for Clatchard Craig is AD 640-670, it is tempting to connect the end of the site with conflict between the Picts and the Northumbrians before the reign of Ecgfrith. However, even during this period, conflict between local potentates could have occurred, as is indicated by the Battle of Srath Ethairt (Strathyre in upland Stirlingshire) in c 654/5 between the Pictish king Talorcen son of Ainfrith and Dúnchad son of Conaing (probably of the Cenél nGabráin dynasty of Argyll). A battle in Fortriu also took place in 664, and in 676 an item records that many Picts were drowned during a probable period of conflict at the unidentified Land Abae. ${ }^{113}$ Bernician hegemony before Ecgfrith may initially have involved the taking of tribute and expressions of subordination from local Pictish rulers with limited direct interventions in Pictish territory. ${ }^{114}$ Nevertheless, Northumbrian domination must have been underpinned by military power, and as the foremost power in southern Pictland from at least the 660s onwards, the Northumbrians are the prime candidates for the destruction of Clatchard Craig, with its related lands and rights presumably redistributed to create a network of loyal supporters in the area. Unfortunately, we cannot narrow the destructive event down further chronologically or historically, and much remains speculation, but it is notable that like Dunollie, a major burning event at an early medieval fort occurred during a tumultuous time we have for this period and region, when the area was subject to varying competing overlords.

## CONCLUSIONS

Clatchard Craig was one of the most complex defended centres of early medieval northern Britain hitherto identified. Yet it is a defended centre that appears to have reached a violent demise within a few generations of construction, perhaps caught up in some of the most pivotal events of 7th century northern Britain. The site can be plausibly connected to the activities and expressions of status and power of the southern Pictish kings. Its destruction

[^22]too may have also been bound up in the events that at first led to the removal of Pictish rule of parts of southern Pictland and then its spectacular re-establishment during and in the lead up to the Battle of Nechtanesmere. The rescue excavations conducted by Roy Ritchie and Richard Hope-Simpson and the write-up of their work by Joanna Close-Brook provided a valuable resource for understanding the site and the archival resources to re-evaluate the sequence with benefit of the much more precise dating methods at disposal today. Even though the site of Clatchard Craig tragically no longer exists, this project demonstrates the value of excavating in the archives for improving the chronologies of the early medieval period and understanding the dynamics of early medieval rulership and the biographies of fortified centres.

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## Abbreviations

AT Annals of Tigernach, ed. Stokes
AU Annals of Ulster, ed. Mac Niocaill and Mac Airt
CS Chronicum Scotorum, ed. Hennessy
NRHE National Record of the Historic Environment (Scotland)

## CAPTIONS

Fig 1 Location map and distribution of forts in vicinity of Clatchard Craig. 1 Clatchard Craig 2 Black Cairn 3 Braeside Mains 4 Glenduckie 5 Norman's Law 6 Green Craig. Contains OS data © Crown Copyright/database 2020. An Ordnance Survey/EDINA supplied service).

Fig 2 The 1980s plan of the site (reproduced by kind permission of the Society of Antiquaries of Scotland).

Fig 3 Aerial image from 1960 showing excavations and quarrying in progress with over 50\% of the site destroyed © Historic Environment Scotland 1902264.

Fig 4 Hearth of the structure within the upper citadel and Rampart 1 under excavation 1959 © Historic Environment Scotland 1902341.

Fig 5 Plan of the structure found in the interior of the upper citadel (reproduced by kind permission of the Society of Antiquaries of Scotland.

Fig 6 Two of the triangular terminal moulds from Clatchard Craig © Historic Environment Scotland SC 50380.

Fig 7 Schematic illustration of the original phasing of the site.

Fig 8 Sites with confirmed or likely enclosure phases of the Pictish period 500-900 AD. Examples of major hilltop forts with confirmed multivallate defences are underlined 1Urquhart Castle (radiocarbon) 2- Craig Phadrig (radiocarbon) 3- Doune of Relugas (radiocarbon) 4- Burghead (radiocarbon; sculpture) 5-Knock of Alves (radiocarbon) 6Green Castle, Portknockie (radiocarbon) 7- Cullykhan (radiocarbon) 8- Tap o’Noth (radiocarbon) 9- Cairnmore (radiocarbon) 10- Rhynie (radiocarbon; finds; sculpture) 11Maiden Castle (radiocarbon; finds) 12- Mither Tap, Bennachie (radiocarbon) 13- Dunnottar (Referenced - 7th and 9th C AD) 14- King's Seat (radiocarbon; finds) 15- Dundurn (Referenced - 7th and 9th C AD; radiocarbon) 16-Rathinveralmon (Referenced $-9^{\text {th }} \mathrm{C} A D$ ) 17- Clatchard Craig (radiocarbon) 18- East Lomond (radiocarbon; sculpture) 19- Abbey Craig (radiocarbon) 20 Giudi (?Stirling) (Referenced - 8th C AD).

Fig 9 Redrawn sections from Ramparts 1 and 2 showing the stratigraphic sequence and the contexts of the new dates (after Close-Brooks 1986, Illus 7 and 15).

Fig 10 Radiocarbon model outlining the dates for Ramparts $1-3$ and occupation in the upper citadel.

Fig 11 Likely span of activity at Clatchard Craig.
Fig 12 New phasing at Clatchard Craig.

TABLE 1 Radiocarbon determinations from Clatchard Craig, Fife.

TABLE 2 Multivallate early medieval forts from northern Britain with more than five dates from ramparts and occupation. Based on Bayesian models of all 1st millennium AD radiocarbon dates from each site with the dates modelled as a single group. The ranges for many of these sites are wide reflecting longevity of use, but also lack of precision in the original dating in some cases. *Dunadd: only Phase IIB-II dates have been included.

Table 3 List of sites in Scotland recorded in the Irish annals as being burned, destroyed, captured, constructed, under siege, or otherwise mentioned.

Figures


Fig 1 Location map and distribution of forts in vicinity of Clatchard Craig. 1 Clatchard Craig 2 Black Cairn 3 Braeside Mains 4 Glenduckie 5 Norman's Law 6 Green Craig. Contains OS data © Crown Copyright/database 2020. An Ordnance Survey/EDINA supplied service).


Fig 2 The 1980s plan of the site (reproduced by kind permission of the Society of Antiquaries of Scotland).


Fig 3 Aerial image from 1960 showing excavations and quarrying in progress with over 50\% of the site destroyed © Historic Environment Scotland 1902264.


Fig 4 Hearth of the structure within the upper citadel and Rampart 1 under excavation 1959
© Historic Environment Scotland 1902341.


Fig 5 Plan of the structure found in the interior of the upper citadel (reproduced by kind permission of the Society of Antiquaries of Scotland).


Fig 6 Two of the triangular terminal moulds from Clatchard Craig © Historic Environment Scotland SC 50380.


Fig 7 Schematic illustration of the original phasing of the site.


Fig 8 Sites with confirmed or likely enclosure phases within Pictland of 500-900 AD date. Examples of major hilltop forts with confirmed multivallate defences are underlined showing just how rare these sites are. 1- Urquhart Castle (radiocarbon) 2- Craig Phadrig (radiocarbon) 3- Doune of Relugas (radiocarbon) 4- Burghead (radiocarbon; sculpture) 5Knock of Alves (radiocarbon) 6- Green Castle, Portknockie (radiocarbon) 7- Cullykhan (radiocarbon) 8- Tap o'Noth (radiocarbon) 9- Cairnmore (radiocarbon) 10-Rhynie (radiocarbon; finds; sculpture) 11- Maiden Castle (radiocarbon; finds) 12- Mither Tap, Bennachie (radiocarbon) 13- Dunnottar (Referenced $-7^{\text {th }}$ and $9^{\text {th }}$ C AD) 14- King's Seat (radiocarbon; finds) 15- Dundurn (Referenced $-7^{\text {th }}$ and $9^{\text {th }}$ C AD; radiocarbon) 16-

Rathinveralmon (Referenced - $9^{\text {th }}$ C AD) 17-Clatchard Craig (radiocarbon) 18- East Lomond (radiocarbon; sculpture) 19- Abbey Craig (radiocarbon) 20 Giudi (?Stirling) (Referenced -8 ${ }^{\text {th }}$ C AD).


Fig 9 Redrawn sections from Ramparts 1 and 2 showing the stratigraphic sequence and the contexts of the new dates (after Close-Brooks 1986, Illus 7 and 15).


Fig 10 Radiocarbon model outlining the dates for Ramparts 1-3 and occupation in the upper citadel.


Fig 11 Likely span of activity at Clatchard Craig.


Fig 12 New phasing at Clatchard Craig.

| Site | Lab No | Material | Trench/Level | Context | Radiocarbon Age (BP) | $\delta^{13} \mathrm{C}$ | Calibrated date (95\% confidence) | Stratigraphy/Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rampart 1 |  |  |  |  |  |  |  |  |
| Clatchard <br> Craig, <br> Fife | $\begin{aligned} & \text { SUERC- } \\ & 82047 \end{aligned}$ | Animal Bone: <br> Mammal <br> Shaft <br> Fragment (Calcined) | Trench B, Level 6 | Animal bone from core of Rampart 1 | $2583 \pm 26$ | -21 | $\begin{aligned} & 810-590 \mathrm{cal} \\ & \text { BC } \end{aligned}$ | Residual - Iron Age. Not included in modelling |
| Clatchard <br> Craig, <br> Fife | $\begin{aligned} & \text { GU- } \\ & 1794 \end{aligned}$ | Charcoal: <br> Quercus sp. | Trench B, Level 6 | Radially split timber from core of Rampart 1 | $1560 \pm 55$ | -24.4 | $\begin{aligned} & \mathrm{cal} \text { AD } 400- \\ & 640 \end{aligned}$ | Old wood effect. Removed from modelling |
| Clatchard <br> Craig, <br> Fife | $\begin{aligned} & \text { SUERC- } \\ & 82048 \end{aligned}$ | Animal Bone: Cattle Radius Proximal | Trench B, Level 7 | Animal bone from layer below core of Rampart 1 | $1452 \pm 26$ | -22.3 | $\begin{aligned} & \text { cal AD 570- } \\ & 650 \end{aligned}$ | Earlier than GU1794, GU-1795, SUERC-82047, SUERC-82046 |
| Clatchard Craig, Fife | $\begin{aligned} & \text { GU- } \\ & 1795 \end{aligned}$ | Charcoal: Quercus sp. | Trench B, Level 6 | Large fragments of radially split timber from core of Rampart 1; Bulk sample | $1350 \pm 75$ | -25.5 | $\begin{aligned} & \text { cal AD 550- } \\ & 880 \end{aligned}$ |  |


| Clatchard Craig, Fife | $\begin{aligned} & \text { SUERC- } \\ & 82046 \end{aligned}$ | Animal Bone: <br> Cattle <br> Humerus <br> Distal | Trench B, Level 3 | Animal bone from layer above core of Rampart 1 | $1347 \pm 26$ | $-22.1$ | $\begin{aligned} & \mathrm{cal} \text { AD 640- } \\ & 780 \end{aligned}$ | Later than GU1794, GU-1795, SUERC-82047 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rampart 2 |  |  |  |  |  |  |  |  |
| Clatchard Craig, Fife | $\begin{aligned} & \text { GU- } \\ & 1796 \end{aligned}$ | Charcoal: Quercus sp. | Trench A, Level 7 | Fragments of oak timber c. 40 mm thick from core of Rampart 2 | $1475 \pm 55$ | -23.8 | $\begin{aligned} & \mathrm{cal} \text { AD 430- } \\ & 660 \end{aligned}$ |  |
| Clatchard Craig, Fife | $\begin{aligned} & \text { SUERC- } \\ & 82054 \end{aligned}$ | Animal Bone: Pig Scapula | Trench A, Level 7 | Animal bone from core of Rampart 2 | $1456 \pm 26$ | -21.9 | $\begin{aligned} & \mathrm{cal} \text { AD 570- } \\ & 650 \end{aligned}$ |  |
| Clatchard Craig, Fife | $\begin{aligned} & \text { SUERC- } \\ & 82055 \end{aligned}$ | Animal Bone: <br> Cattle Rib <br> Shaft | Trench A, Level 9 | Animal bone from below core of Rampart 2. | $1427 \pm 26$ | -21.8 | $\begin{aligned} & \text { cal AD 590- } \\ & 660 \end{aligned}$ | Earlier than SUERC-82054, GU-1796, SUERC-82053 |
| Clatchard Craig, Fife | $\begin{aligned} & \text { SUERC- } \\ & 82053 \end{aligned}$ | Animal Bone: <br> Cattle <br> Metapodial <br> Shaft <br> (Metatarsal?) | Trench A, Level 6 | Animal bone from core or Rampart 2 | $1426 \pm 26$ | -22.1 | $\begin{aligned} & \text { cal AD 590- } \\ & 660 \end{aligned}$ | Should be earlier or same as GU1796 |
| Clatchard Craig, Fife | $\begin{aligned} & \text { SUERC- } \\ & 82052 \end{aligned}$ | Animal Bone: <br> Large <br> Mammal | Trench A, Level 5 | Animal bone from above | $1396 \pm 26$ | -22.3 | $\begin{aligned} & \mathrm{cal} \text { AD } 600- \\ & 670 \end{aligned}$ | Later than SUERC-82053; |


|  |  | Vertebral <br> Fragment |  | core of rampart |  |  |  | $\begin{aligned} & \text { SUERC-82055; } \\ & \text { GU-1796 } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rampart 3 |  |  |  |  |  |  |  |  |
| Clatchard <br> Craig, <br> Fife | $\begin{aligned} & \text { GU- } \\ & 1797 \end{aligned}$ | Charcoal: <br> Alnus <br> glutinosa; <br> Quercus sp. | Trench D, Level 3 | Fragments of alder and oak roundwood, each c. 60 mm diameter from core of Rampart 3 | $1470 \pm 60$ | -25.9 | $\begin{aligned} & \text { cal AD 430- } \\ & 670 \end{aligned}$ |  |
| Clatchard <br> Craig, <br> Fife | $\begin{aligned} & \text { GU- } \\ & 1798 \end{aligned}$ | Charcoal: Quercus sp. | Trench H, Level 27 | Oak roundwood from core of Rampart 3 | $1400 \pm 55$ | -24.4 | $\begin{array}{\|l} \text { cal AD 550- } \\ 780 \end{array}$ | Should be earlier or same as GU1797 |
| Clatchard <br> Craig, <br> Fife |  | Animal Bone: <br> Large <br> Mammal <br> Shaft <br> Fragment | Trench C Level 6 |  | Failed |  |  |  |
| Clatchard <br> Craig, <br> Fife |  | Animal Bone: <br> Large <br> Mammal <br> Vertebral <br> Fragment | Trench C, Level 6 |  | Failed |  |  |  |
|  |  |  |  | Interior occu | ation |  |  |  |


| Clatchard <br> Craig, <br> Fife | SUERC- <br> 87107 | Animal Bone: <br> Pig Tibia | Trench F/FF, <br> Level F5 | 'Occupation' <br> layer above <br> hearth | $1603 \pm 24$ | -22 | cal AD 410- <br> 540 | Residual, not <br> included in <br> modelling |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Clatchard <br> Craig, <br> Fife | SUERC- <br> 82057 | Animal Bone: <br> Cattle <br> Metatarsal <br> Proximal | Trench F/FF <br> Level F3 and <br> FF4 | Floor layer <br> of structure | $1435 \pm 26$ |  |  |  |

Table 1. Radiocarbon determinations from Clatchard Craig, Fife.

| Hillfort | Documented? | No. of <br> radiocarbon <br> dates | Start <br> $\mathbf{9 5 \%}$ | Start <br> $\mathbf{6 8 \%}$ | End 95\% | End <br> $\mathbf{6 8 \%}$ | Span <br> $\mathbf{9 5 \%}$ | Span 68\% |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Abbey <br> Craig | No | 5 | $360-770$ | $540-750$ | $720-1120$ | $730-950$ | $0-685$ | $0-395$ |
| Clatchard <br> Craig | No | 13 | $580-650$ | $590-630$ | $610-690$ | $640-670$ | $0-85$ | $20-70$ |
| Dundurn | 7th and 9th <br> century AD | 6 | $370-670$ | $520-660$ | $650-1000$ | $650-840$ | $0-575$ | $0-330$ |
| Dunollie | 7th and 8th <br> century AD | 6 | $310-1010$ | $500-815$ | $770-1280$ | $800-$ <br> 1000 | $0-895$ | $0-581$ |
| Dunadd* | 7th and 8th <br> century AD | 14 | $180-530$ | $290-470$ | $910-1370$ | $1040-$ <br> 1200 | $520-$ <br> 1100 | $620-890$ |
| Mither <br> Tap | 10th century <br> AD? | 9 | $600-760$ | $630-680$ | $690-810$ | $710-780$ | $0-175$ | $45-145$ |
| Trusty's <br> Hill | No | 6 | $375-580$ | $475-560$ | $545-710$ | $560-630$ | $1-295$ | $1-140$ |

Table 2 Multivallate early medieval forts from northern Britain with more than five dates from ramparts and occupation. Based on Bayesian models of all 1st millennium AD radiocarbon dates from each site with the dates modelled as a single group. The ranges for many of these sites
are wide reflecting longevity of use, but also lack of precision in the original dating in some cases. *Dunadd: only Phase IIB-II dates have been included. ${ }^{1}$
${ }^{1}$ This list does not include Iron Age forts re-used in the Pictish period such as Craig Phadrig. Nor does it include the recent dates obtained from King's Seat, Dunkeld, Perthshire. Dates from: Mither Tap: unpublished University of Aberdeen; Dundurn: Alcock et al 1989; Abbey Craig: unpublished, Murray Cook pers.comm; Dunollie: Alcock and Alcock 1987; Dunadd: Lane and Campbell 2000; Trusty's Hill: Toolis and Bowles 2016.

| Date <br> (AD) | Source | Text |
| :--- | :--- | :--- |
| Ca.640 | AU <br> 638.1 | obsesio Etin, 'siege of *Etin [Edinburgh] (also AT kl 141.1; CS 637.1) |
| Ca.642 | AU <br> 641.5 | obsesio Rithę, 'siege of *Rithé' <br> 672 |
| $?$ AU <br> 673.3 | Gabail Eliuin m. Cuirp, 'The taking of Eilén of Mac/mac Cuirp [or mac Uirp or <br> moccu [U]irp]', cf. AU 742.10.' |  |
| 679 | AU <br> 680.5 | Obsesio Duin Baitte, 'Siege of Dún Baitte' <br> 680 <br> 682 |
| AU <br> 683.3 | Obsessio Duin Foither, 'Siege of Dún Foither [Dunottar] <br> Duirn' [Dundurn] |  |

${ }^{1}$ See Charles-Edwards 2006, I, 159, n.7, for the view that this is a place in Scotland, and Fraser 2007 where he argued that Eliuin represented the Pictish personal name Elphin or Elpin and m. Cuirp_represents an original moccu Irp. While certainty is not possible, the existence of AU 742.10, combined with the appearance in Eliuin of $i$ between $l$ and $u$ indicates that the word is more likely to be a form of the Auiliuin in AU 742.10 (where it is clearly a place) than the personal name Elphin or Elpin.

| 685 | $\begin{aligned} & \hline \text { AU } \\ & 686.1: \\ & 7 \end{aligned}$ | combusit tula aman Duin Ollaigh, 'he burned tula aman of(?) Dún Ollaigh' [Dunollie] ${ }^{2}$ |
| :---: | :---: | :---: |
| 691 | $\begin{aligned} & \hline \mathrm{AU} \\ & 692.6 \end{aligned}$ | Obsesio Duin Deauę Dibsi, 'Siege of Dín Deauę Dibsi' ) |
| 693 | $\begin{aligned} & \hline \mathrm{AU} \\ & 694.4 \end{aligned}$ | Obsesio Duin Fother, 'Siege of Dún Fother' [Dunottar] ) |
| 698/699 | $\begin{array}{l\|} \hline \mathrm{AU} \\ 698.3 \end{array}$ | Combusti[o] Duin Onlaigh, 'Burning of Dún Onlaigh' [Dunollie] |
| 701/702 | $\begin{aligned} & \hline \mathrm{AU} \\ & 701.8 \end{aligned}$ | Distructio Duin Onlaigh apud Sealbach ['Destruction of Dún Onlaigh by Selbach' [Dunollie] ${ }^{3}$ |
| 704 | $\begin{aligned} & \hline \mathrm{AU} \\ & 703.4 \end{aligned}$ | Ailén Daingen ędifiacatur, 'Ailen Daingen is built' (also AT kl 203.4.), cf. AU 714.3 |
| 704 | $\begin{aligned} & \hline \text { AU } \\ & 703.6 \end{aligned}$ | Obsesio Rithe, 'Siege of *Rithe' (cf AU 641.5) |
| 712 | $\begin{aligned} & \hline \mathrm{AU} \\ & 712.2 \end{aligned}$ | Combustio Tairpirt Boitter, 'Burning of Tairpert Boitter' [Tarbert in Kintyre?] cf. AU 731.4 |

[^23]| 712 | AU <br> 712.5 | Obsessio Aberte apud Selbachum, 'The siege of * Aberte by Selbach' [Dunaverty, <br> Kintyre?]. )' |
| :--- | :--- | :--- |
| 714 | AU <br> 714.2 | Dún Ollaigh construitur apud Selbachum, 'Dunollie is constructed by Selbach' <br> [Dunollie]; also AT kl 214.2 |
| 714 | AU <br> 714.3 | Alen Daingen distruitur, 'Ailen Daingen is destroyed', cf. 703; also AT k1 214.3. <br> Cf. AU 703.4. |
| 725 | AU <br> 725.2 | Ailen mac Craich construitur, 'Ailen mac Craich is constructed'; also AT kl <br> $225.2^{5}$ |
| 728 | AU <br> 728.4 | (Battle among the Picts) iuxta Castellum Credi, 'near/at Castellum Credi', ['the <br> castle of belief', possibly at or near Scone]. AT kl 228.5 has Caislen Credhi, with <br> castellum translated as caisel. ${ }^{6}$ |
| 731 | AU <br> 731.4 | Combustio Tairpirt Boittir apud Dunghal, 'Burning of Tairpert Boittir by Dúngal <br> [Tairpert Boittir]. cf.AU 712.2] |
| 734 | AU <br> 734.6 | Talorrggan filius Drostain conprehensus alligatur iuxta Arcem Ollaigh. 'Talorgan <br> son of Drostan is apprehended and manacled near/at the fort of Ollaigh' [Dún <br> Ollaig, ie Dunollie] |
| 734.7 | Dún Leithfinn distruitur post vulnerationem Dungaile 7 in Hiberniam a potestate <br> Oengusso fugatus est, 'Dún Leithfinn is destroyed after the wounding of Dúngal |  |

[^24]|  |  | [son of Selbach of Cenél Loairn] and he fled to Ireland from the power of Óengus' [i.e. Onuist son of Uurguist, King of the Picts]. |
| :---: | :---: | :---: |
| 736 | $\begin{aligned} & \hline \mathrm{AU} \\ & 736.1 \end{aligned}$ | [Onuist son of Uurguist ravages Dál Riata], obtenuit Dun At, 7 combussit Creic, 'captures Dún Att [Dunadd] and burns *Creic' (also AT kl 236.1).'? |
| 742 | $\begin{aligned} & \hline \mathrm{AU} \\ & 742.10 \end{aligned}$ | Obsesio Auiliuin filii Cruip, 'Siege of *Auiliuin filii Cruip'. cf.AU 673.3 |
| 780 | $\begin{aligned} & \text { AU } \\ & 780.1 \end{aligned}$ | (AU text: Combustio Alo Cluadhe in Kl. Ianair, 'The burning of Ail Cluaidhe on the Kalends [ $\left.1^{\text {st }}\right]$ of January' [Dumbarton Rock] |
| 870 | $\begin{aligned} & \text { AU } \\ & 870.6 \end{aligned}$ | Obsesio Ailech Cluathe a Norddmannis, .i. Amlaiph \& Imhar, duo reges Norddmannorum obsederunt arcem illum \& distruxerunt in fine .iiii. mensium arcem \& predauerunt. 'The siege of Ail Cluaithe [Dumbarton Rock] by the Northmen, that is Amlaíb and Ímarr, two kings of the Northmen. The besieged that stronghold and destroyed the stronghold at the end of four months, and they plundered. ${ }^{8}$ |

Table 3 List of sites in Scotland recorded in the Irish annals as being burned, destroyed, captured, constructed, under siege, or otherwise mentioned. ${ }^{9}$

[^25]
[^0]:    ${ }^{1}$ Department of Archaeology, School of Geosciences, University of Aberdeen, St. Mary's, Elphinstone Road, Aberdeen, AB24 3UF
    ${ }^{2}$ Department of Archaeology, School of Geosciences, University of Aberdeen, St. Mary's, Elphinstone Road, Aberdeen, AB24 3UF
    ${ }^{3}$ National Museums Scotland, Chambers Street, Edinburgh EH1 1JF, UK
    ${ }^{4}$ Scottish Universities Environmental Research Centre, University of Glasgow, Rankine Avenue, East Kilbride G75 0QF, UK

[^1]:    ${ }^{5}$ Alcock 2003, 179; Fraser 2009, 358-60, 366; Noble et al 2013; Foster 2014, 44-61; Noble et al 2019, 57-9. Driscoll (1998) suggests a move towards lowland, less defended sites in the late first millennium AD.
    ${ }^{6}$ Eg Bannerman 1974, 15-16; Alcock 2003, 179-200; Woolf 2007; Fraser 2009; Evans 2014; Noble and Evans 2019, 39-57.
    ${ }^{7}$ Mac Airt and Mac Niocaill 1983, 130, 154, 176, 234, 326 (AU 658.2, 694.6, 722.3, 780.1, 870.6); Stokes 1896, 253 (AT [752].2; annals either given as 'kl.' plus annal number or with corrected A.D. dates in square brackets using Evans 2010: 236-43); Alcock and Alcock 1990, 98; Adomnán, 'Life of St Columba', I.15), in Sharpe 1995, 123.
    ${ }^{8}$ Lowland complexes may have been a feature too, certainly by the end of the 1 st millennium AD: Driscoll 1998, 169-70. The enclosure complex at Rhynie was enclosed by ditches, banks and a palisade, but does not sit in a hilltop location (Noble et al 2019). In contemporary occupation however, and located overlooking the Rhynie complex, was Tap O'Noth fort, a 16ha hilltop enclosure suggesting some complexity to earlier elite centres of the Picts.
    ${ }^{9}$ Adomnán, Life of St Columba, II 33, 35, in Sharpe 1995, 181-2, 184. See Alcock et al 1989, 192; Woolf 2007, 105 for further discussion of hillforts and elites.
    ${ }^{10}$ See summaries and comments in Alcock 2003, 179-99; Ralston 2004, Carver 2011, 1479-83; Driscoll 2011; Noble et al 2013, 1140. For the pioneering work of Alcock see Alcock 1976, 1981, 1988, 2003; Alcock and Alcock 1987, 1990; Alcock et al 1989). Alcock's campaign of excavations in Scotland began in 1974 and took place over a decade.

[^2]:    ${ }^{11}$ Ritchie 1954; Close-Brooks 1986.
    ${ }^{12}$ Campbell 2007; Table 19.
    ${ }^{13}$ Close-Brooks 1986, 175.
    ${ }^{14}$ NRHE 30074; NO 24351780.
    ${ }^{15}$ Woolf 2007, 9-13.
    ${ }^{16}$ Close-Brooks 1986, 118.
    ${ }^{17}$ The Newburgh to Collessie route is the route of the main Edinburgh to Perth trainline today and the route to Cupar is marked on William Roy's map of 1747-55 https://maps.nls.uk/roy/index.html
    ${ }^{18}$ Ibid, 119.

[^3]:    ${ }^{19}$ Ibid, 119-20 for full discussion of the site history and details cited above. Although Close-Brooks gives the date of 1980 for its complete destruction, Robert Dickson of OS Archaeology Division visited on 20th May 1970 and recorded 'The fort has been completely destroyed by quarrying'. We can thus bracket the actual destruction of the fort to roughly 1950-70. This latter observation is courtesy of Strat Halliday.
    ${ }^{20}$ Max 120m OD.
    ${ }^{21}$ The entrances to the ramparts were placed in the southeast quadrant by 19th and 20th century sources, but were not evident by the time of the excavations, with the exception of a possible entrance through Rampart 4 in this area (Close-Brooks 1986, 122). Calder's 1933 plan placed the entrance to Rampart 2 in a gully where HopeSimpson excavated Trench H, but Hope-Simpson found that the rampart continued across the putative entranceway (Close-Brooks 1986, 139). The presence of entrance 4 where there is no corresponding entrance in Rampart 3 could indicate Rampart 3 was later than Rampart 4, but this is very uncertain given the lack of investigation in this area. See below for discussion of the dating of the outer ramparts.
    ${ }^{22}$ The forts are Black Cairn, a large oval univallate fort around 0.9 ha ; Braeside Mains, another univallate fort around 0.55 ha in extent; Glenduckie, a bivallate fort enclosing an area of 0.46 ha ; Green Craig, an irregular bivallate fort around 1.1ha and Norman's Law. See Lock and Ralston 2017: SC3124, SC3123, SC3122, SC3144 and SC3143. To the west, the SERF project, led by the University of Glasgow, has investigated around a dozen forts along the north face of the Ochils near Forteviot, Perthshire. None were shown to have early medieval phases apart from a 10 th -11 th century phase at Castle Craig (NMRS 26048).

[^4]:    ${ }^{23}$ Norman's Law was identified by Feachem (1963, 125; 1966, 82) and by later scholars (e.g. Hanson and Maxwell 1983) as a classic nuclear fort, a site type often thought to date to the early medieval period, but no excavations have ever been conducted at the site.
    ${ }^{24}$ NRHE 30073.
    ${ }^{25}$ Watson 1929, 149-51; Stevenson 1952, 111; Close-Brooks 1986, 179.
    ${ }^{26}$ NRHE 30065. This would have been a very impressive monument, taller than the Dupplin Cross, Forteviot, but now much degraded. On the east side the decorative scheme is broken into four panels with hounds and deer, two horse riders carrying spears and single riders in the top two panels. The west side appears to have been the cross-side, but is particularly eroded (See Proudfoot 1997, 54-55, 62).
    ${ }^{27}$ Allen and Anderson 1903, 311-13, 367; Proudfoot 1997, 62.
    ${ }^{28}$ Dating based on Noble et al 2019, 1341-2.
    ${ }^{29}$ NRHE 30019; Allen and Anderson 1903, 343-4. The two symbols on the front of the stone are superimposed on an earlier and unusual rectangular symbol. Dating based on typology in Noble et al 2019, 1341-1342.
    ${ }^{30}$ Close-Brooks 1986.

[^5]:    ${ }^{31}$ Ibid, 139; Carpow Legionary Fortress, Late 2nd to early 3rd century AD: NRHE 30081; NO 2071117898. Re-used Roman masonry in the form of sandstone slabs with mortar attached was also found at Dundurn, Perthshire, probably taken from nearby Roman forts of Strageath or Dalginross (Alcock et al 1989, 203). Dundurn appears to have been occupied throughout the 7th century AD.
    ${ }^{32}$ Ibid, 143-145.
    ${ }^{33}$ Campbell 1986, 155; Campbell 2007, Table 19.
    ${ }^{34}$ Close-Brooks 1986, 162, illus 23 and 24.

[^6]:    ${ }^{35}$ Wilson 1973.
    ${ }^{36}$ Wilson 1973, 147-8.
    ${ }^{37}$ Stevenson 1974, 36-8, Table III.
    ${ }^{38}$ Close-Brooks 1986, 147.
    ${ }^{39}$ Ibid, 143-145.

[^7]:    ${ }^{40}$ Ibid, 130.
    ${ }^{41}$ Though see comments by Close-Brooks 1986, 134.
    ${ }^{42}$ Ibid, 144.
    ${ }^{43}$ Close-Brooks 1986, 164; Stevenson 1974, 36-7, Table III.

[^8]:    ${ }^{44}$ Ibid, 149.
    ${ }^{45}$ See Ashmore 1999. (and in the case of GU-1797 the use of mixed charcoals)
    ${ }^{46}$ https://www.abdn.ac.uk/geosciences/departments/archaeology/Comparative_Kingship.php
    ${ }^{47}$ The other hillforts are Urquhart Castle (probable based on Alcock's excavations: Alcock and Alcock 1992), Tap o'Noth (University of Aberdeen excavations), King's Seat (See http://pkht.org.uk/projects/current-

[^9]:    projects/kings-seat/ including downloadable DSR reports), Dundurn (Alcock et al 1989), East Lomond (Excavations on a terrace below the fort suggests Late Roman Iron Age to early medieval occupation of the hill, though the defences remain unexcavated: https://www.centreforstewardship.org.uk/archaeology/) and Abbey Craig (Recent excavations - Murray Cook pers comm). See Ralston 2004; Noble and Evans 2019, chapter 3 for general overview of Pictish forts; Noble et al 2013, full article and online supplement for the most recent list of relevant dates, though recent excavations make this list already out of date.
    ${ }^{48}$ Zena Timmons and Jerry Herman from the Natural Sciences department at National Museums Scotland facilitated access with Derek Hamilton of SUERC obtaining the samples using a Dremmel drill to take small core samples from each bone.
    ${ }^{49}$ Ashmore 1999.
    ${ }^{50}$ See Barnetson 1986, C6-C14.
    ${ }^{51}$ Eg SUERC-82047 and SUERC-87107, Table 1.
    ${ }^{52}$ Eg Rampart 1 animal bone from Level 7 is earlier than animal bone from Level 6 of the rampart (SUERC82048) and this in turn earlier than a date from above the core of the rampart (SUERC-82046). Rampart 2 includes animal bone from below rampart (SUERC-82055) that is earlier than bone from core of rampart (SUERC-82053) and in turn earlier than animal bone from above core of rampart (SUERC-82052) (Table 1).
    ${ }^{53}$ This is important as the charcoal dates include timber highly likely to have been used in the timber-lacing of the ramparts.

[^10]:    ${ }^{54}$ Dunbar et al 2016.
    ${ }^{55}$ Stuiver and Polach 1977.
    ${ }^{56}$ Stuiver and Kra 1986.
    ${ }^{57}$ Stuiver and Reimer 1986.
    ${ }^{58}$ All non-high precision calibrated dates rounded to 10 years; modelled ages to 5 years due to the calibration curve using a 5 -year random walk algorithm to model decadal data.
    ${ }^{59}$ Stuiver and Reimer 1993.
    ${ }^{60}$ Reimer et al 2013.
    ${ }^{61}$ Bronk Ramsey 2009.
    ${ }^{62}$ Buck et al 1996.
    ${ }^{63}$ Amodel=147.2

[^11]:    ${ }^{64}$ The latter two samples seem most likely to come from activity associated with the construction of the fort.
    ${ }^{65}$ The only obviously residual date from a rampart context is SUERC-82047, an Iron Age determination from Rampart 1 where occupation activity was concentrated.

[^12]:    ${ }^{66}$ See discussion in Close-Brooks 1986, 133-7.
    ${ }^{67}$ As noted above there is an entrance in Rampart 4 that does not contrast with an obvious entrance in Rampart 3 that could suggest that Rampart 3 was later than Rampart 4. However, given the lack of clear evidence for the entrances for ramparts 1-3 not much weight can be given to this observation.
    ${ }^{68}$ Contra Close-Brooks 1986, 136. The phasing and contemporaneity of the multiple enclosures of multivallate early medieval forts, the so-called 'nuclear type' has been debated since Stevenson (1949; See also Feachem 1955; Alcock et al 1989, 206-13). The evidence from Dunadd suggested that the multiple enclosure form developed through a lengthy gestation period (Lane and Campbell 2000, 92-5), but work at other forts such as Mither Tap o' Bennachie, Aberdeenshire, suggest a more rapid development or indeed unitary programme of construction. Feachem $(1966,84)$ included Clatchard Craig in his defensive enclosure type, a group that replaced his earlier nuclear and citadel fort types.
    ${ }^{69}$ The only later dates are the charcoal sample (GU-1795) from Rampart 1 that has a wide error margin ( $\pm 75$ ) and SUERC-82046) that comes from a layer above the core of Rampart 1 - the latter could conceivably be redeposited over the rampart following stone robbing and post-depositional disturbance of the fort interior.

[^13]:    ${ }^{70}$ Wilson 1973, Plate 31, 33c. The hoard had been dated to around 800 AD but there is no direct dating: Wilson 1973, 147-8.
    ${ }^{71}$ Likely to date to the second half of the 9th century: Stevenson 1985, 236.
    ${ }^{72}$ The differences are clearly seen in the illustration on pg 191 of Clarke, Blackwell and Goldberg 2012 or Youngs 1989, 115
    ${ }^{73}$ For St Ninian's Isle a date of around AD 800 for the deposition of the hoard is assumed, but not proven (See discussion in Wilson 1973, 147-8). A perforated coin of the Mercian king Coenwulf (d.821) suggests the date of deposition of the Croy hoard is likely to lie in the mid 9th century providing a terminus post quem for the types of penannular represented. However, the manufacturing evidence from Clatchard Craig suggests that the snapped brooch with circular terminal from Croy could represent an object of much earlier date than the artefacts that make up the main body of the hoard (Blackwell et al 2017, 122, note 37; Blackburn and Pagan 1986, no. 51).
    ${ }^{74}$ Lane and Campbell 2000, 118-19. The form of the Clatchard Craig brooch mould and those from Dunadd are also very similar to one of a pair of intact brooches from Clunie, Perthshire. Although the Clunie example is not closely provenanced, it is the closest to Clatchard Craig, in an area where there are fewer brooch hoards.
    ${ }^{75}$ With regards to brooch typologies the evidence from Clatchard Craig (and Dunadd) suggests that diagnostic features of the 'Pictish' or St Ninian's Isle type of brooch such as the cusps separating the hoop from the terminal, and ribbing on the hoops, were already present in 7th century AD metalwork. The dating evidence also suggests further revision of Stevenson's typological scheme. Large panelled brooches like those made at Clatchard Craig in the seventh century may well be earlier than the deluxe Hunterston and Tara-type pseudopenannular brooches (although manufacturing and dating evidence for these is currently lacking), which may have been a later development of this style or a regional variant or produced for an even higher social ranking (See also Lane and Campbell 2000, 245). Similarly, the flared terminals of the snapped brooch from Croy and intact examples from St Ninian's Isle may be later forms, but could also have been developed for a different social arena or were a more regionalised form in the north of Scotland.

[^14]:    ${ }^{76}$ Close-Brooks 1986, 169-170; catalogue entries 123, 124. However, whether these necessarily relate to in situ settlement is debatable. These could be curated objects relating to early medieval occupation as is common on other high status early medieval sites.
    ${ }^{77}$ Hunter 1986, 167.
    ${ }^{78}$ Campbell 2009, 256-57, fig. 11.1.
    ${ }^{79}$ Close-Brooks 1986, 167-168; catalogue entries 119, 122.

[^15]:    ${ }^{80}$ McDonnell 1986, 177-8.
    ${ }^{81}$ With a possible unenclosed phase of 5th-6th century activity.

[^16]:    ${ }^{82}$ Often forming the focus of any consideration of settlement given the dearth of domestic traces for the early medieval period of northern Britain: Hunter 2007, 48-50; Noble et al 2020, 64-5.
    ${ }^{83}$ Bannerman 1974, 15-16.
    ${ }^{84}$ Adomnán, VSC, I.37, II.33, II. 35 (Sharpe 1995, 141, 181-2, 184).
    ${ }^{85}$ This does not include Iron Age forts re-used in the Pictish period such as Craig Phadrig. Nor does it include the recent dates obtained from King's Seat, Dunkeld, Perthshire. Dates from: Mither Tap: unpublished University of Aberdeen; Dundurn: Alcock et al 1989; Abbey Craig: unpublished, Murray Cook pers.comm; Dunollie: Alcock and Alcock 1987; Dunadd: Lane and Campbell 2000; Trusty’s Hill: Toolis and Bowles 2016.

[^17]:    ${ }^{86}$ Woolf 2007, 135. At Abernethy (dedicated to the Irish Saint Brigit of Kildare) and in its environs there is a Class I Pictish stone of probable 7th century date (based on typology in Noble et al 2019), and nine fragments of early Christian sculpture including cross-slab fragments, slabs with relief crosses, a fragment of an oghaminscribed stone that may have been part of a recumbent monument, and a number of fragments of free-standing cross(es), one bearing a crucifixion scene and three figures (Henderson and Henderson 2004, 212), and another showing a group of saints and their attributes (List in Proudfoot 1997).
    ${ }^{87}$ Anderson, 2011, 247, 272.
    ${ }^{88}$ Anderson 2011, 248, 262, 272, 280.
    ${ }^{89}$ Taylor 2010, 181-4.
    ${ }^{90}$ cf. Fraser 2009, 134.
    ${ }^{91}$ Taylor 2005; Evans 2008, 197, 200-2. Carpow is just under 2 km to the northeast of Abernethy. There is a fragment of an early medieval cross-slab from Carpow, recovered from Carpow House within the bounds of the Roman fort. Proudfoot (1997, 53-54, 61) suggests a 7th-8th century date for what would have been an impressive monument and Anderson links this monument to one of the boundary stones, Caerfuill, recorded in the Abernethy foundation legend (Anderson 2011, 92), though Taylor $(2005,16)$ suggests the nearby Mugdrum Cross, a more impressive carved stone monument may have been the boundary stone on the eastern side of the Abernethy estate.

[^18]:    ${ }^{92}$ Though it is possible that similar re-dating projects may substantially alter the accuracy of the dating of sites, particularly those with older radiocarbon determinations.
    ${ }^{93}$ Ralston 2006, 163.
    ${ }^{94}$ It was perhaps only with increasing solidity of his power base that Selbach was able to rebuild a fort 13 years after the last episode of destruction recorded in AD 701.
    ${ }^{95}$ Bannerman 1974, 110-113; Fraser 2009, 244-52, 273-4, 282-5.

[^19]:    ${ }^{96}$ HE iii: 16 (Colgrave and Mynors 1969, 262-3); Fraser 2012, 71.
    ${ }^{97}$ (Or likely to have been in Scotland).
    ${ }^{98}$ It may be that burnings were more common - we do not know how many sieges may have ended with destruction of the fort for example. Though note that Fraser 2012, 69-71 suggests that sieges tended to be resolved through negotiation. There are also three references to forts being destroyed that does not explicitly mention burning, but fire would be the most obvious way to destroy such sites. Accidental burning is possible but see discussion below.
    ${ }^{99}$ Bannerman 1974; Evans 2017; Evans 2018.
    ${ }^{100}$ Hughes 1972, 126.

[^20]:    ${ }^{101}$ During the period there are 22 burnings, sieges, destruction and captures recorded ( 16 of these are certain to be in Scotland). 141 years divided by $16=1$ every 8.81 years
    ${ }^{102}$ Alcock and Alock 1987, 127. The site went on to become the main seat of the MacDougall clan from the medieval period to the 18th century.
    ${ }^{103}$ The $68 \%$ probability end date corresponds notably to the gap in references to the burning and besieging of places between 645 and 671 in the chronicles.

[^21]:    ${ }^{104}$ AU 682.4, AT kl 182.5
    ${ }^{105}$ AU 681.5; AU 683.3.
    ${ }^{106}$ Though there is no evidence of Anglian contacts in the material culture of the finds assemblage from Clatchard Craig.
    ${ }^{107}$ Bede, HE II.5, III. 24 (Colgrave and Mynors 1969, 150-1, 292-5.
    ${ }^{108}$ Webb 2004, 128.
    ${ }^{109}$ Fraser 2009, 201-2.
    ${ }^{110}$ Webb 2004, 128-9.
    ${ }^{111}$ Bede, HE IV. 26 (Colgrave and Mynors 1969, 428-9). See Campbell 1979, 45-7, for discussion of Bede's and charter use of terra and possessio.

[^22]:    ${ }^{112}$ Fraser 2009, 178 for the Northumbrians in northern British territory.
    ${ }^{113}$ AU 654.5, AT kl 155.4, CS 651.4; AU 664.3; AU 676.3. For Dúnchad son of Conaing, see Fraser 2009, 183. Fraser suggests (2007, 146-7) that AU 676.3's i l-Laind Abae should be emended to ilind Abae and identified with Loch Awe in Argyll, but there are alternatives even if the (possibly unnecessary) emendation is made (see Watson 1926, 75). Whether in Argyll or Pictland, this event indicates continued political conflict in lands in the wider Northumbrian hegemony.
    ${ }^{114}$ Fraser (2009, 184-5, 196-7, 200-1, 213) has argued for direct control of part of southern Pictland, including Fife, by the Earldorman Beornhaeth before 685, but this argument places too much weight on the view that the Niudwari inhabiting part of Fife were an Anglo-Saxon population group.

[^23]:    ${ }^{2}$ This event, only found in AU, immediately follows the record for the battle of Nechtanesmere. It is difficult to interpret in its surviving form, but the natural reading of the text as it stands is that the victor of Nechtanesmere, Bridei son of Beli, did the burning. However, it is unclear why he was at Dunollie, and whether tula aman refers to somewhere close to Dunollie, or elsewhere.
    ${ }^{3}$ Selbach was a leader of Cenél Loairn.

[^24]:    ${ }^{4}$ Bannerman 1974, 16; Fraser 2009, 273; but Charles-Edwards 2006, vol. I, 186, n. 1, is more cautious.
    ${ }^{5}$ Bannerman 1974, 16, identifies this with Creic in AU 736.1, but this seems unlikely. Charles-Edwards 2006, vol. I, 198, translates this as 'Ailén of the son of Crach is constructed', and at ibid., n.1, he states that the final -ch may represent a Gaelicised form of a Pictish or British name.
    ${ }^{6}$ Fraser, From Caledonia to Pictland, 288, suggests this may be the same place as the collis credulitatis, 'hill of confidence' of Scone mentioned in the 'Chronicle of the Kings of Alba' for a meeting of the king and Church in the reign of Constantín mac Aeda (900-43).

[^25]:    ${ }^{7}$ Fraser 2009, 301, suggests that Creic may simply be 'the rock' of Dunadd (i.e. modern Craig), but if so, we would probably expect a definite article here. Alcock (1975-6, 104, identified it with Creich, NM 3124.
    ${ }^{8}$ Translation by Nicholas Evans.
    ${ }^{9}$ Relevant places and vocabulary are included, as are certain or likely identifications (given in square brackets). Quoted text derives from the Annals of Ulster (AU) (Mac Airt and Mac Niocaill 1983), but references to the Annals of Tigernach (AT) (Stokes 1896) and Chronicum Scottorum (Hennessy 1866) (CS) are also included. Place-name forms unaltered from the AU text are preceded by *. Discussion of identifications can be found at: Bannerman 1974, 16; Alcock 1975-6, 104; Charles-Edwards 2006 I, 207, n.5; Fraser 2009, 294, 298. AD dates are derived using Evans 2010, 241-3. Probably Scottish items are underlined.

