A multi-disciplinary chronology for Alt Clut, Castle Rock, Dumbarton

by Leslie Alcock

SUMMARY

In 1974–5 small-scale excavations were carried out at Castle Rock, Dumbarton, the early British stronghold of Alt Clut, by the Department of Archaeology of Glasgow University, under the direction of the writer. This research was part of a long-term programme of sampling early historic fortifications in Scotland. The full account of the excavations still awaits various specialist reports, but already it is possible to correlate historical, archaeological and radiocarbon methods of dating to produce a historical account of Alt Clut. In particular, the fortification implied by Bede in AD 731 has been identified, and its destruction attributed to the Vikings Olafr and Ivarr the Boneless in AD 870.

INTRODUCTION: EARLY HISTORIC FORTIFICATIONS IN SCOTLAND

The early history of Scotland is particularly rich, by comparison with other areas of Britain, in references to secular centres of power. These may be described in the vernacular as *dun* or in Latin as *urbs* or *civitas*. Some of the places mentioned defy any reasonable attempt to identify them on the ground, but some fifteen or sixteen can be located with a greater or lesser degree of probability. Table 1 is a provisional list of such sites, intended partly as a basis for criticism and discussion by historians, partly as a programme for archaeological fieldwork. Comments on individual identifications can be found in Anderson (1973), Bannerman (1974), Jackson (1963) and Watson (1926).

In most cases, places occur in the list because of some military action, referred to in the sources as *obsessio*, *combustio*, or *vastatio* of Dun X. But it should be remembered that, in the brief annals which constitute our main source, mention of a battle, *bellum*, in the same phrase as a dun, is no guarantee that the fort itself was involved in the action. This is made clear by the case of *Bellum Duin Nechtain* (AU 686), seemingly the battle of, or at, or in, Nechtan's fort. The name is preserved, of course, in Dunnichen, near Forfar, and there may indeed be traces of a fort on the southern slopes of Dunnichen Hill (Wainwright 1948). But whether this is so or not is irrelevant to the actual battle. Of our other references, the Welsh source *Historia Brittonum* calls the battle *gueith lin garan*, 'the strife of Crane Lake', while the Northumbrian source which lay behind Symeon of Durham's account gives us the name *Nechtanesmere, quod est stagnum Nechtani*, 'the pool or swamp of Nechtan'. There seems no doubt that the battle was fought in the valley bottom below Dunnichen Hill, and there can be no guarantee that Nechtan's fort was built or occupied at the time of the battle.

If there is one fortified place where we can be certain both of its identification on the ground and of its military role, it is Alt Clut, Ail Cluaide, Petra Cluit, Clyde Rock; in modern terms,

TABLE 1

EARLY HISTORIC FORTIFICATIONS IN SCOTLAND: A PROVISIONAL LIST

Early name	*Modern name with National Grid reference*	*Historical references*
Aberte	DUNAVERTY NR 6807	712 (AU)
Alt Clut	CASTLE ROCK, DUMBARTON NS 4074	731 (BEH); 756 (SD); 780 (AU); 870 (AU)
Castellum Credi	Scone NO 1226	728 (AU)
Coludesburh, Coludi urbem	COLDINGHAM NT 9169	679 (ASC); 731 (BEH) (etc.)
Creic	Creich NM 3124	736 (AU)
Din Eidyn, Etin	EDINBURGH NT 2573	pre-600 (G); 638 (AU)
Dun Att	DUNADD NR 8393	683 (AU); 736 (AU)
Dynbaer, Dunbarre	Dunbar NT 6879	680 (LW); *c* 850 (OSC)
Dun Duirn	DUNDURN NN 7023	683 (AU); 889 (RL)
Dun Foither	Dunnottar NO 8883	681 (AU); 694 (AU); 889–900 (OSC)
Dun Ollaigh	DUNOLLIE NM 8531	686 (AU); 698 (AU); 701 (AU); 714 (AU); 734 (AU)
Eperpuill	Aberfoyle NN 5200	*c* 600 (LB)
Giudi, Iudeu	STIRLING NS 7993	*c* 654 (HB); 731 (BEH)
Monad Croib	Moncreiffe NO 1319	727 (AU)
Rathinueramon	Inveralmond NO 1026	862 (RL)
Tairpirt Boitter	Tarbert Loch Fyne NR 8668	712 (AU); 731 (AU)

Note: in the list of modern names, an attempt is made to indicate two levels of probability. Where the original reference is early, and the topographical identification is precise and unambiguous, the name is in upper case (DUNAVERTY). Lower case (Scone) indicates various uncertainties, such as a late source, toponymic ambiguity, and lack of clear archaeological indications.

Abbreviations: ASC, *Anglo-Saxon Chronicle;* AU, *Annals of Ulster;* BEH, Bede, *Ecclesiastical History;* G, *Gododdin* LB, *Life of Berach;* LW, Eddius, *Life of Wilfrid;* HB, *Historia Brittonum;* OSC, *Old Scottish Chronicle;* RL, *Regnal Lists;* SD, *Symeon of Durham.*

Castle Rock, Dumbarton. Reliable historical references over several centuries witness the importance of its defences and tell of its military role (MacIvor 1958). The quality of these references made Alt Clut an obvious first choice for excavation in a long-term campaign of research on historically-documented forts. Excavations in 1974–5 produced structures and finds to fill out the references, and also samples for radiocarbon dating to give precision to the chronology. These three types of evidence, historical, archaeological and radiocarbon, are now discussed in turn.

THE EARLY HISTORY OF ALT CLUT

The earliest unambiguous reference to Castle Rock, Dumbarton, is in Book I of Bede's *Ecclesiastical History*, completed in AD 731. In chapter i, describing the geography of Britain, he refers to what is clearly the Firth of Clyde, *ubi est civitas Brettonum munitissima usque hodie, quae vocatur Alcluith*, 'where there is a political centre of the Britons strongly defended up to the

present day, which is called Alt Clut'. In chapter xii, he refers to *urbem Alcluith, quod lingua eorum significavit Petram Cluit; est enim iuxta fluuium nominis illius*, 'which in their language means Clyde Rock, for it is by the river of that name'. In the same chapter he describes the Roman wall of turf, known to us as the Antonine Wall, *tendens contra occidentem terminatur iuxta urbem Alcluith*, 'stretching to the west, ends near the town Alt Clut'.

It has, on occasion, been argued that this last statement by Bede rules out the identification of Alt Clut as Castle Rock, Dumbarton, for the end of the Antonine Wall, at Old Kilpatrick, is almost four miles from that site. Instead it has been suggested that Bede is referring to Dunglass, only one and a half miles from Old Kilpatrick. But by no stretch of the imagination could the insignificant promontory of Dunglass be described as Clyde Rock, whereas Castle Rock is, after Ailsa Craig, by far the most striking feature of the Firth of Clyde. There can be no serious doubt that it was this to which Bede was referring.

Bede's account tells us, then, that Alt Clut had been defended some time before AD 731; that it was some form of political centre, *civitas* or *urbs*; and that it belonged to the Britons, which agrees well with its Gaelic name, Dun Breatann, Fort of the Britons. The Bedan identification also allows us to benefit from references to Clyde Rock in British, Irish and English sources.

The earliest of these references is also the most contentious. Some time in the middle or the second half of the 5th century, St Patrick wrote a letter to the soldiers of one Coroticus. The core of the letter was that these soldiers had been raiding Patrick's Christian converts in Ireland, and had been selling them as slaves to the apostate Picts. The mention of the Picts is the only topographical clue contained within the letter itself; but when, late in the 7th century, Muirchu wrote a life of Patrick, he referred to the conflict of St Patrick with *Coirtech regem Aloo*. It is normally agreed that *Aloo* is an abbreviation of *Alocluade* (Ferguson 1886, 116), a name which occurs in the *Annals of Ulster* for 780, apparently referring to Alt Clut. If this is accepted, then Coroticus was ruler of Strathclyde with his seat at Alt Clut, and he may be identified with Ceretic Gwledig who appears in the genealogy of that kingdom (Miller 1976; Kirby 1978). Other scholars identify Coroticus with Ceretic, son of Cunedda and eponymous founder of the kingdom of Ceredigion in west Wales (Bieler 1949, 37).

We are faced then with two Ceretics, either of whom may have been the leader of the soldiers addressed by Patrick. It seems to this writer that the genealogies lack sufficient fixed points to enable us to date either of these persons with precision (Alcock 1971, 126–9). In any case, if we could date both of them, it would then be necessary to decide which of the two possible Patricks might have been contemporary: the one who died 457 x 461, or the one whose obit is recorded as 491 x 493 (recent summary with references: Hanson 1968). In short, it is impossible to be certain whether or not Patrick, writer of the letter to the soldiers of Coroticus, was a contemporary of Ceretic of Strathclyde rather than of Ceretic son of Cunedda. If the former, then there could well be an authentic tradition behind Muirchu's description of Coirtech as *regem Aloo*, if by Aloo he was referring to Alt Clut.

The most that can be said with certainty is that two centuries or more after the time of Coroticus, Muirchu apparently thought that he was ruler of Alt Clut. He may, of course, have been led to look to Strathclyde rather than to Ceredigion by the reference in the letter to the sale of Christian women to the Picts. Similar considerations may influence us today. But whatever lies behind Muirchu's reference, it gives us no evidence that Castle Rock, Dumbarton, was a fortified place in the 5th century AD, only that it was known to be a seat of kings by Muirchu's own day, the late 7th century.

A similar implication may be drawn from Adomnan's *Life of Columba*. Writing late in the 7th century, Adomnan refers to the prophecy of the blessed man *de rege Roderco filio Tothail*

qui in petra Cloithe regnavit, 'who ruled in Clyde Rock' (Adomnan, I, 15). This is not necessarily evidence that Riderch hen map Tutagual, ruler of Strathclyde in the late 6th century, had his seat at Alt Clut; but it does show that a century later it was thought appropriate that he should have done. In sum, the references to Clyde Rock by Muirchu and Adomnan merely reinforce Bede's statement that Alt Clut had been 'strongly defended up to the present day' (i.e. 731), without adding any new information.

The first clear reference to military activity at Alt Clut is under the year 756 in the *Historia Regum* attributed to Symeon, an early 12th-century monk of Durham. Despite the late date of Symeon's *History*, it is considered that some of it, including the present notice, is based on earlier sources, namely a series of Northumbrian annals (Whitelock 1955, 118, 241). Symeon tells us that Eadberht of Northumbria and Unust (Angus) king of the Picts led an army *ad urbem Alcwith*. There, on 1 August, the Britons accepted terms. But the triumph of the Pictish and Northumbrian allies was brief. Nine days later, Eadberht lost almost his whole army, in unknown circumstances, apparently in southern Pictland.

Our next source of information is the *Annals of Ulster*. In 780 these record the burning of Ail Cluathe on the first of January: a cryptic entry which tells us nothing about the circumstances of the burning, whether it was the result of domestic accident or hostile attack. Given the time of year, the former is perhaps the more likely.

Of the events of 870–871, by contrast, we have a good measure of detail. The *Annals of Ulster* record

> *Obsesio Ailech Cluathe a Nordmannis, i.e. Amlaiph et Imhar ii regis Nordmannorum obsederunt arcem illam et destruxerunt in fine 4 mensium arcem et predaverunt.*
>
> 'The siege of Alt Clut by the Northmen; that is Olaf and Ivar, two kings of the Northmen besieged that citadel and at the end of four months destroyed and plundered the citadel.'

Fragment III of Duald MacFirbis' *Annals of Ireland* adds that the well had dried up miraculously, and the inhabitants were overpowered by hunger and thirst. Discounting the element of miracle, this indeed seems the most likely way in which such a naturally strong place might have been captured. The event resounded throughout the British kingdoms: the *Welsh Annals* record that *arx Alt Clut* was broken by the heathen, while *Brut y Saeson* refers to the breaking of *twr Alclut*.

The two kings of the Northmen were, in fact, Olafr, Norwegian ruler of Dublin, and his Danish ally Ivarr *inn beinlausi*, 'the Boneless' (Smyth 1975). The attack on Alt Clut was part of a wider campaign of looting, ravaging and plundering throughout much of Britain. The direct consequence of the destruction of the fortress of Alt Clut appears in the Ulster *Annals* in the following year, when 'Olafr and Ivarr came again to Dublin from Scotland with two hundred ships and a very great booty of Englishmen, Britons and Picts taken off with them to slavery in Ireland'.

The final group of references relevant to early Alt Clut are epitomised by the *Welsh Annals* for 946: *Strat clut* (Strathclyde) *vastata est a saxonibus*. In English sources, this appears in the *Anglo-Saxon Chronicle* for 945, and this is the correct date: 'King Edmund ravaged all *Cumbra land* and granted it all to Malcolm *Scotta cyninge*, on condition that he should be his ally both on sea and on land'. General circumstances, no less than the Welsh annal, make it clear that *Cumbra land* included Strathclyde as well as Cumbria south of the Solway. The ravaging of Strathclyde was the final triumph in the meteoric career of Edmund of England, which had taken him through Mercia in 942 and Northumbria in 944. Although there is no direct reference to Alt Clut, either in the campaign or in the grant to Malcolm, it is reasonable to believe that the fortress must have passed to the kingdom of the Scots, however temporarily.

THE ARCHAEOLOGICAL EVIDENCE

The evidence gained in the excavations of 1974–5 falls into two categories: portable objects, and structures. In structural terms, it had been expected that the fortifications of Alt Clut would conform to the class of nuclear fort, which was clearly datable to the 7th–8th centuries at Dunadd, Argyll, and perhaps also at Dundurn, Perthshire (Stevenson 1949). It was even suggested that faint traces of a citadel and subordinate enclosures could still be seen, despite the centuries of later building. As a preliminary to the excavations, therefore, these traces were surveyed early in 1974, and a hypothetical plan of a nuclear fort was drawn out to be tested by excavation. In the present context it is enough to report that trenching in 1974 revealed that none of the apparent early fortifications could be earlier than the late 13th century, and some were at least as late as the 18th. In brief, the hypothesis of a nuclear fort was decisively demolished in 1974.

In the following season, however, clear evidence for defensive work of early character was found on the eastern spur of Castle Rock, overlooking the isthmus which links the Rock to the mainland. Here, on a slight easing of the slope, had been built a length of timber-and-rubble rampart. Oak beams, set vertically in a foundation trench, had shored the front of a drystone bank, and had been tied back into the hillside with horizontal timbers. The whole work, a revetted terrace or fighting platform, had been 2·5 m wide and at least 2 m high to the terrace level. No doubt the timbers had been carried up higher to support a breast work. The length of the work could not be determined, because no trace of it is visible on the ground, but its two ends probably rested upon precipitous crags. As a means of controlling the only landward approach, which in early times was apparently tidal (Hardyng *in* Hume Brown 1891, 21), it would have been both effective and economical.

This timber-and-rubble defence had been totally destroyed by fire: hence the absence of visible traces. The front posts had collapsed forwards, producing a thick layer of charcoal downslope. Large lumps of charcoal in the core of the rampart bore witness to the horizontal tie-beams. Much of the stonework, whether collapsed downslope or still roughly in position, was fired red, or even vitrified. In a line marking the rear of the rampart, the rock of the hill was fire-reddened where burning timbers had been in contact. Destruction had been total, and the consequent disturbance of structural remains and stratification was considerable.

In itself, this defensive work cannot be dated on typological grounds. It constitutes, of course, a kind of vitrified rampart, but it would no longer be suggested that this by itself dates the fortification to a short bracket in the final centuries BC. Recent research has shown that vitrified forts, and the timber-laced forts which are unburned versions of the same structural form, have a long history in the first millennium BC (MacKie 1976). But timber-and-rubble ramparts, potentially vitrifiable, are also known in later centuries (Alcock 1972; Laing 1975). As we shall see, at Alt Clut the evidence of radiocarbon age-determinations is decisive for an early historic date for its vitrified rampart.

The significant portable objects from Alt Clut were mostly unstratified, but on typological grounds they can be divided into two groups, one datable to the third quarter of the first millennium AD, the other belonging to the 9th–10th centuries. In the first group are about twelve sherds of amphorae (fig 1, 1–5) from the East Mediterranean (Thomas 1959; Alcock 1971, 201–9), of Classes Bi and Bii. These are datable to about AD 470–600; significantly a sherd of Bii underlay the timber-and-rubble rampart (fig 1, 3). There are also four or five sherds of kitchenware of Class E (fig 1, 6–7) (Thomas 1959). The dating and ultimate source of this are uncertain (*pace* Peacock and Thomas 1967), but site evidence in Britain and Ireland suggests that it appears rather later than Class B and continues to AD 700 if not later. Among various crucible sherds are

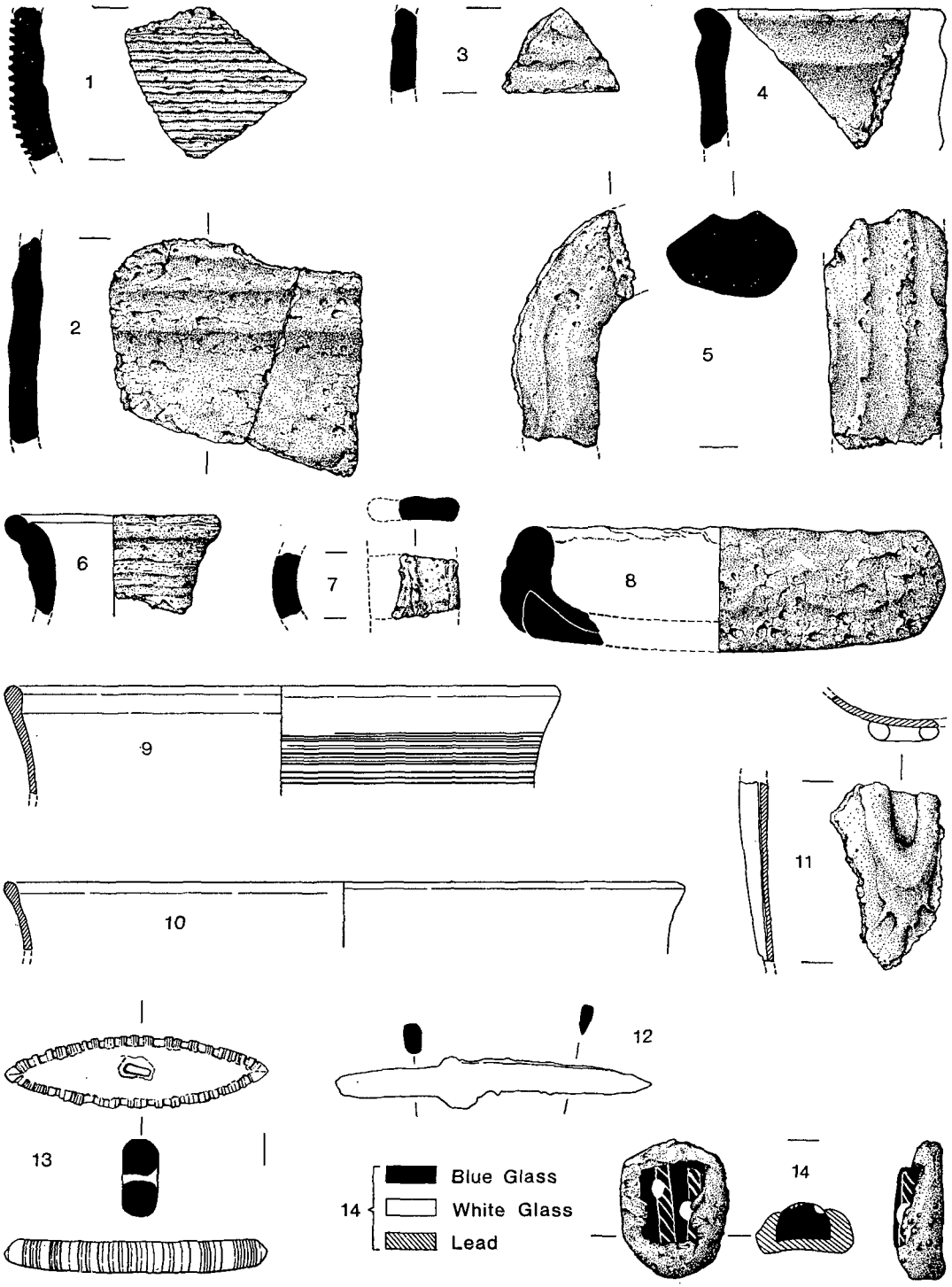

FIG 1—see caption on opposite page

two from straight-sided, flat-bottomed bowls (fig 1, 8) which can be matched at Mote of Mark (Curle 1914, 157–60), a site which can certainly be placed in the period AD 450 (or earlier) to AD 700 (or later) (Laing 1975). To the same centuries belong sherds from glass beakers (fig 1, 9–11) which recall the Merovingian glass from other western forts such as Mote of Mark in Scotland (Harden 1956, 149–51) and Dinas Powys in Wales (Harden *in* Alcock 1963, 178–88). Mr John Hunter informs me (*in litt*) that the Alt Clut vessels could all appear in contexts of the 5th, 6th or even early 7th centuries. Finally, there are two iron knife-blades (fig 1, 12) of a well-known Germanic and Celtic type, with short thick tangs, pronounced shoulders, and very marked whetting of the blade (Alcock 1971, 356), one of them from the disturbed core of the rampart. Again, a date in the third quarter of the first millennium would be appropriate.

Distinctly later than the group just described are two other significant objects. The first, unfortunately found unstratified, is a fragment of a glass bangle set in a lead matrix (fig 1, 14). The bangle, of blue glass decorated with white spots and blue-and-white cabling, is an Irish type, best known from the crannog at Lagore, Co Meath, where a date in the 7th or later centuries is indicated (Hencken 1950, 145–50). The lead matrix is almost certainly a weight, and the setting of ornamental fragments in lead weights is characteristically Viking. Examples may be cited for instance from a grave at Kiloran Bay, Colonsay (Grieg 1940, 55), which is likely to date to the 9th or early 10th century; and from Talnotrie, Kirkcudbrightshire, with coins of the late 9th century (Maxwell 1913). The second object, found in the disturbed core of the rampart, is an iron pommel-bar (fig 1, 13) for a Viking sword of Petersen Type I. The bar is straight, and is ornamented with raised ribs; there is no evidence for silver or bronze inlay between the ribs. Mr Aidan Walsh informs me (*in litt*) that Petersen Type I 'occurs from 850–950 AD but is very common between 850–900 AD. This fits very nicely with the activities of Ivar the Boneless.'

THE RADIOCARBON DATES

The burnt timbers of the rampart described above provided an obvious source of charcoal for radiocarbon dating. Three samples, weighing between 30 and 78 gm, were sent to the Palaeoecology Laboratory, Queen's University, Belfast. Mr G W Pearson comments (*in litt* 18.x.76) that 'the quality of material was excellent and . . . there was no shortage either'. The results, using the Libby half-life of C^{14}, and not calibrated to the bristlecone pine curve, are given in Table 2.

TABLE 2

QUB Laboratory reference	*Alt Clut excavation reference*	*Sample weight*	*Age bp*	*Age ad*	δC^{13}
UB 2060	AC/E 023/I	73·7 gm	1465±40	485	−24·1±0·2
UB 2061	AC/E 023/II	32·5 gm	1410±30	540	−24·1±0·2
UB 2062	AC/E 023/III	78·2 gm	1295±40	655	−24·1±0·21

Although the three samples came from what appeared to be a single structure, the central dates which they gave are spread over 170 years. It might therefore be asked whether the dates are significantly different or not. A test of significance is proposed by Lavell (1971, 1.5):

FIG 1 Representative finds from Alt Clut. 1, combed body sherd of B_i amphora; 2, ribbed body sherd of B_{ii} amphora; 3, ridged body sherd, B_{ii}, from base of rampart; 4–5, rim and handle from B_{ii} amphorae; 6–7, rim and strap handle, E ware, perhaps from the same pitcher; 8, shallow bowl crucible; 9, rim of beaker, colourless glass, marvered opaque white trails; 10, rim of beaker, dark yellow/green glass; 11, wall sherd from conical beaker, light yellow/green glass with applied white trail; 12, iron knife blade; 13, iron pommel-bar from Viking sword; 14, lead weight, ornamented with fragment from blue-and-white glass bangle. Scales: all 1 : 2, except 9–11 and 14, 1 : 1

To discover whether two dates are significantly different, compare their arithmetic difference with the square root of the sum of the squares of each error term. The arithmetic difference should exceed twice the combined error before it becomes probable that the two ages are significantly different.

In the case of UB 2060 and 2061, the arithmetic difference is 55 years, the combined error is only 50 years, so the ages are not significantly different. For UB 2061 and 2062, however, the arithmetic difference is 115 years, which is more than twice the combined error of 50 years, so UB 2062 is significantly younger than UB 2061, and, *a fortiori*, younger than UB 2060.

This statistical analysis is, of course, not the only way of looking at these figures, and not even necessarily the best way. The dates are from structural timbers, and therefore require interpretation in constructional terms: that is, as an index to a sequence of human activities including felling the timbers, possibly squaring them to shape, and finally erecting them into a defensive work. One possible interpretation on these lines is that UB 2060 and 2061 are from an original fortification, while 2062 reflects a repair about a century later.

There is, however, a simpler explanation which may be preferred. It is that the timbers for the Alt Clut rampart came from large mature oaks; and that samples UB 2060 and 2061 are from near the centres of trees, whereas 2062 is from the outer part of a tree. On this hypothesis, all three samples could come from trees cut down and used as structural timber at the same time. The hypothesis would be considerably strengthened if the annular rings had been observed to show that UB 2060 and 2061 were in fact from nearer the centre of a tree than 2062. Unfortunately, no such observations were made on the original samples. Despite this, the interpretation offered here is inherently probable, and has the merit of simplicity.

If we accept this, then we can say that, at the 2-sigma confidence level, there is a 95% chance that the timber was cut, and the Alt Clut rampart erected, not earlier than the latest of the three dates: $655-80 = 575$ ad. Since we do not know how close UB 2062 was to the exterior of the tree, we cannot assert a similar probability that the work was built before $655+80 = 735$ ad. It may seem unnecessary to labour this point, for the logic is inescapable once it is appreciated that a carbon-dated timber, like other dated artefacts, can provide only a *terminus post quem*. Unfortunately, C^{14} age determinations are all too frequently quoted by archaeologists as though the central date was *the* date for their site or structure.

At Alt Clut a further complication arises because the site falls in the historical period, within a framework of dates in calendar years. We want to compare the date in 'radiocarbon' years with the historical dates provided by Bede and the *Annals*. We must therefore seek to approximate the Alt Clut C^{14} dates to 'real-time' dates by means of one of the published correction tables based on the calibration of radiocarbon dates with dendrochronological dating. The calibration chosen here, as a matter of convenience, is the MASCA table (Ralph, Michael and Han 1973). On the structural model proposed above, we are only interested in the earliest likely date for UB 2062. This has first to be corrected from a date based on the Libby half-life (i.e. 1295 ± 40 bp) to one based on the new calculation for the half-life: 1334 bp or 616 ad. Secondly, the MASCA procedure requires that ± 10 be added to the quoted standard deviation giving 616 ± 50 ad. So the C^{14} date that we wish to calibrate is, at the 1-sigma level, 566 ad, and at the 2-sigma level 516 ad. On the MASCA calibration table, these dates are AD 650 and 600 respectively. There is, on this basis, a 95% chance that the rampart of Alt Clut was erected after AD 600, and a 68% chance that it was built after AD 650. So far as dates can be scaled off the table proposed by Clark (1975, fig 1), they would seem to agree well with these figures.

If, however, the structural model postulated here is not accepted, then the calibrated dates are best quoted as a range at the 2-sigma confidence level:

UB 2060: AD 440–600
UB 2061: AD 540–640
UB 2062: AD 600–760

Another set of dates based on the methods of physical science may ultimately become available for Alt Clut, namely those for the destruction of the rampart. It might be hoped that temperatures sufficiently high to have fused basalt rubble might thereby have set a physical clock; perhaps one to be read by the thermoluminescence technique. Research towards a similar end is already in progress on the heat-affected rock of burnt mounds (Huxtable, Hedges, Renfrew and Aitken 1976). The results so far reported are scarcely encouraging for our purpose. A method where three stratified samples are 'dated' in a reverse order to the stratification, and where the TL dates are not readily reconcileable with the C^{14} dates, does not at present give the kind of precision required in a historical context.

SYNTHESIS

The three classes of dating evidence have now been set out in turn. It remains to correlate them so as to construct a chronology for Alt Clut.

The earliest relevant archaeological material comprises the imported pottery of Class B and the Merovingian glass. This may all go back to the 5th century, and is unlikely to persist much beyond AD 600. It antedates the most likely *terminus post quem* for the timber-and-rubble rampart above the isthmus, and significantly a sherd of a Bii amphora lay at the base of that rampart. This early material demonstrates that Castle Rock was already occupied before the building of the known defences, but it does not necessarily prove that the Rock was undefended at this time. It could well mark an occupation contemporary with the rule of Rhydderch Hen, and, if we accept the later dating for St Patrick (*obit* 491 x 493), it could even extend back to his day. This would be compatible with one dating system proposed for the dynasty of Strathclyde and in particular for Ceretic Gwledig (Kirby 1978).

The probable radiocarbon date for the timber-and-rubble rampart, not earlier than AD 600, suggests that this was the defence implied expressly by Bede, and more indirectly by Adomnan and Muirchu. The Class E pottery would be appropriate for the century before the *Ecclesiastical History*, and some of the Class B amphorae and Merovingian glass might also have lingered on. The iron knives and crucibles could also belong here, but could equally well go back into the preceding century.

For the 8th and early 9th centuries there are no distinctive finds, nor have we any archaeological evidence for the events of 756 and 780. On the other hand, the activities of Olafr and Ivarr in 870 seem clearly to be represented by the sword pommel-bar and by the lead weight, especially since the ornamental bangle fragment is of Irish origin. The destruction of the timber-and-rubble rampart by fire may reasonably be attributed to the activities of the two Vikings. But we must not overlook completely the *combustio* on 1 January 780. Here a technique for dating vitrified rock, and capable of discriminating between 780 and 870, would be extremely useful. On the present evidence, however, we must take the occurrence of the pommel-bar in the disturbed body of the rampart as a clear witness to the later date for its destruction.

Taking these diverse forms of evidence altogether, we may feel a reasonable confidence in the historical account which they make possible for Alt Clut and its defences.

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REFERENCES

Adomnan Anderson, A O and M O (eds), *Adomnan's Life of Columba*. Edinburgh, 1961.

Alcock, L 1963 *Dinas Powys, an iron age, dark age and early medieval settlement in Glamorgan*. Cardiff.

Alcock, L 1971 *Arthur's Britain. History and archaeology AD 367–634*. London.

Alcock, L 1972 *'By South Cadbury is that Camelot . . .' Excavations at Cadbury Castle 1966–70*. London.

Anderson, A O 1908 *Scottish annals from English chroniclers*. London.

Anderson, A O 1922 *Early sources of Scottish history AD 500–1286*. Edinburgh.

Anderson, M O 1973 *Kings and Kingship in early Scotland*. Edinburgh.

Anglo-Saxon Chronicle Plummer, C (ed), *Two of the Saxon Chronicles parallel*. Oxford, 2 vols, 1892, 1899.

Annals of Ulster Hennessy, W M (ed), *Annals of Ulster*. Dublin, 1887.

Bannerman, J 1974 *Studies in the history of Dalriada*. Edinburgh.

Bede, *Ecclesiastical History* Colgrave, B and Mynors, R A B (eds), *Bede's Ecclesiastical History of the English people*. Oxford, 1969.

Bieler, L 1949 *The Life and legend of St. Patrick*. Dublin.

Clark, R M 1975 'A calibration curve for radiocarbon dates', *Antiquity*, 49 (1975), 251–66.

Curle, A O 1914 'Report on the excavation . . . of the Mote of Mark', *Proc Soc Antiq Scot*, 48 (1913–14), 125–68.

Duncan, A A M 1975 *Scotland. The making of the kingdom*. Edinburgh History of Scotland, vol I.

Ferguson, S 1886 'On the Patrician documents', *Trans Royal Irish Acad*, 27 (1877–86), 67–134.

Grieg, S 1940 *Viking antiquities in Scotland, in* Shetelig, (ed), *Viking Antiquities in Great Britain and Ireland*, 6 vols, Oslo 1940–54, vol II.

Hanson, R P C 1968 *Saint Patrick, his origins and career*. Oxford.

Harden, D B 1956 'Glass vessels in Britain and Ireland, AD 400–1000', *in* Harden, D B (ed), *Dark-Age Britain*, London, 132–67.

Hardyng, J The chronicle of John Hardyng in metre from the first begynnyng of Englande unto the reigne of Edward the Fourth, *in* Hume Brown, P (ed), *Early Travellers in Scotland*, Edinburgh, 1891, 16–23.

Hencken, H 1950 'Lagore crannog: an Irish royal residence of the 7th to 10th centuries AD', *Proc Royal Irish Acad*, 53, Section C (1950), 1–247.

Huxtable, J, Hedges, J W, Renfrew, A C and Aitken, M J 1976 'Dating a settlement pattern by thermoluminescence: the burnt mounds of Orkney', *Archaeometry*, 18 (1976), 5–18.

Jackson, K H 1963 'On the northern British section in Nennius', *in* Chadwick, N K (ed), *Celt and Saxon, studies in the early British border*, Cambridge, 20–62.

Kirby, D P 1978 'British dynastic history in the pre-Viking period', *Bulletin Board Celt Stud*, 27 (1976–8), 87–113.

Laing, L 1975 'The Mote of Mark and the origins of Celtic interlace', *Antiquity*, 49 (1975), 98–108.

Lavell, C 1971 *Archaeological site index to radiocarbon dates for Great Britain and Ireland*. London.

MacIvor, I 1958 *Dumbarton Castle*. Edinburgh.

MacKie, E W 1976 'The vitrified forts of Scotland', *in* Harding, D W (ed), *Hillforts. Later prehistoric earthworks in Britain and Ireland*, London, 205–35.

Maxwell, H 1913 'Notes on a hoard . . . from Talnotrie, Kirkcudbrightshire', *Proc Soc Antiq Scot*, 47 (1912–13), 12–16.

Miller, M 1976 'Historicity and the pedigrees of the North-countrymen', *Bulletin Board Celt Stud*, 26 (1974–6), 256–80.

Muirchu, Life of Patrick Stokes, W (ed), *The tripartite life of St. Patrick* (= Rolls Series, 89 (1887). London).

Patrick, *Letter to soldiers of Coroticus*. Bieler, L, '*Libri epistolarum sancti Patricii Episcopi*', *Classica et mediaevalia*, 11 (1950), 91–102; 12 (1951), 191–210.

Peacock, D and Thomas, C 1967 'Class E imported post-Roman pottery: a suggested origin', *Cornish Archaeol*, 6 (1967), 35–46.

Ralph, E K, Michael, H N and Han, M C 1973 'Radiocarbon dates and reality', *MASCA Newsletter*, 9 (1973), 1–20.

Smyth, A P 1975 *Scandinavian York and Dublin*. Vol I, Dublin.

Stevenson, R B K 1949 'The nuclear fort of Dalmahoy, Midlothian, and other Dark Age capitals', *Proc Soc Antiq Scot*, 83 (1948–9), 186–98.

Symeon of Durham, *Historia Regum* Arnold, T (ed), *Symeonis monachi Historia Regum* (= Rolls Series, 75, Vol II (1885). London).

Thomas, C 1959 'Imported pottery in dark-age western Britain', *Medieval Archaeol*, 3 (1959), 89–111.

Wainwright, F T 1948 'Nechtansmere', *Antiquity*, 32 (1948), 82–97.

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

Welsh Annals E Phillimore, 'The *Annales Cambriae* and Old-Welsh genealogies from Harleian MS 3859', *Y Cymmrodor*, 9 (1888), 141–83.

Whitelock, D (ed) 1955 *English historical documents c* 500–1042 (= Douglas, D C (ed), *English Historical documents, Vol I*). London.