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Crannogs and chronologies

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SUMMARY

A batch of new radiocarbon dates for south-western Scottish crannogs are presented. The relationship between Irish and Scottish crannogs is analysed in the light of these dates and it is suggested that the notion of the crannog, a defended lacustrine homestead consisting of an artificial island encircled by piling, appeared in Scotland early in the first millennium BC *and filtered through to Ireland sometime in the late sixth century* AD. *The survey was funded by Historic Scotland.*

INTRODUCTION

As a result of the Historic Scotland survey of crannogs in south-west Scotland and subsequent excavations at Buiston, in Ayrshire, there is now a substantial group of radiocarbon dates for Scottish crannogs (Barber & Crone 1993). These dates have already been discussed within a Scottish framework (*op cit*) but no attempt, as yet, has been made to consider their significance in terms of the relationship between Irish and Scottish crannogs. The purpose of this paper is to attempt this analysis.

THE DATES FOR SCOTTISH CRANNOGS

Prior to the recent work there were only seven published radiocarbon dates available for Scottish crannogs: two from south-west Scotland and five from the Highlands (Guido 1974; Morrison 1981, Dixon 1981). These all fall within the first millennium BC, across the flat part of the calibration curve between c 800 and 400 BC and, therefore, cannot be resolved, in terms of calendar years, to a range of less than 400 years (Baillie & Pilcher 1983). Nevertheless, the radiocarbon dates probably place the samples and, by implication, the sites within the correct 'chronological ballpark'. These dates contrasted with the evidence of the artefactual assemblages retrieved during the many 19th-century crannog excavations which indicated occupation during the pre-Roman and Roman Iron Age, the Dark Ages and the medieval period (Oakley 1973); however, because of the insecure provenance of most of these finds little weight could be placed on their interpretation.

During the Historic Scotland survey of crannogs in south-west Scotland four lochs were selected for underwater examination and six crannogs were sampled for dating material.

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Wherever possible two structural timbers, usually stakes, were sampled. In all, 10 samples were submitted for dating. By selecting structural timbers we could be certain that the dates related to some anthropogenic activity on the crannog. However, without excavation we cannot be sure whether this activity relates to primary construction or later refurbishment.

Some 13 radiocarbon dates are now available from the excavations at Buiston. Many of these dates were obtained either to test theories about the archaeological stratigraphy or to fix those timber features and contexts which could not be related stratigraphically within the chronological framework of the site. It will suffice here to quote only one date for each of the four major structural phases defined by the excavator (Barber & Crone 1993).

Finally, two radiocarbon dates are available from Erskine Bridge crannog, on the Clyde (Hanson, pers comm). Two oak piles were sampled, along with other timbers, during a survey of the crannog (Hanson *et al*, forthcoming).

The details of this group of 23 radiocarbon dates are summarized in Table 1 and illus 1.

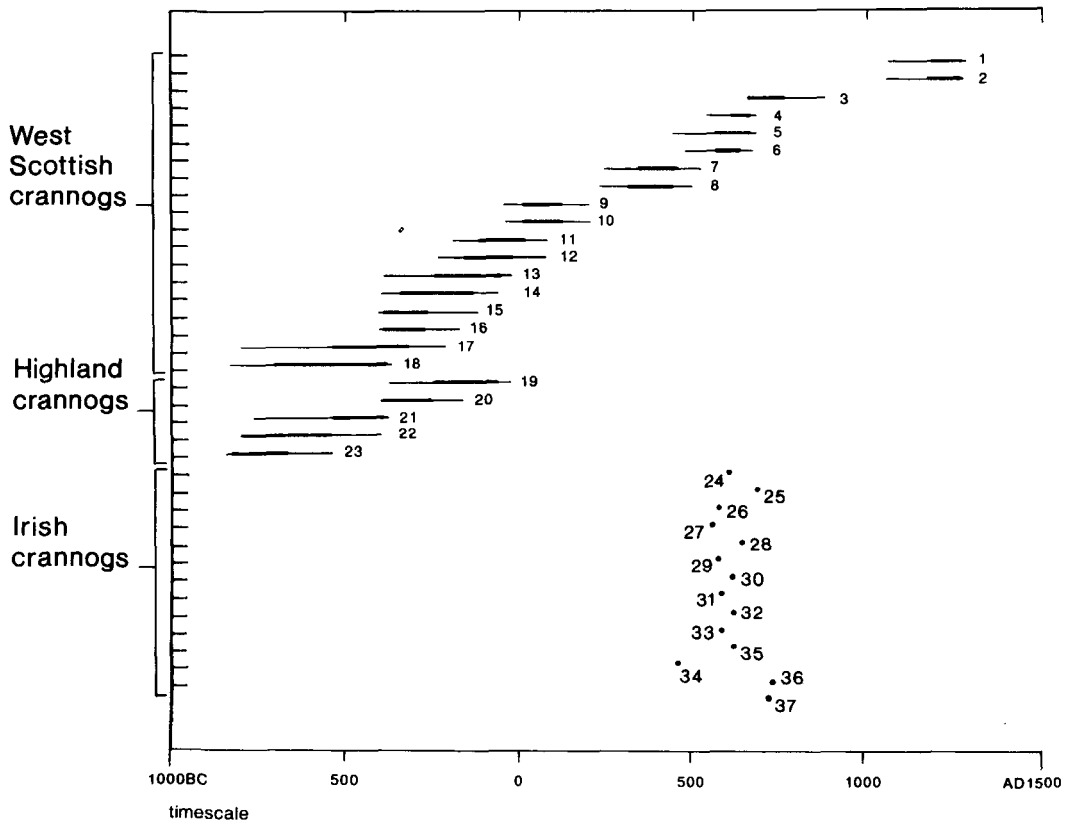
TABLE 1
Radiocarbon Dates from Scottish Crannogs

No (illus 1)	Site name	Context dated	Lab No	C14 Date	Calibrated Dates 1 sigma	2 sigma
1	Lochrutton	pile	gu-2639	820±50 BP	AD 1180–AD 1270	AD 1060–AD 1280
2	Lochrutton	pile	gu-2640	830±50 BP	AD 1175–AD 1270	AD 1055–AD 1275
3	Barean Loch	pile	gu-2641	1280±50 BP	AD 655–AD 765	AD 655–AD 880
4	Buiston	pile	gu-2636	1430±50 BP	AD 605–AD 665	AD 540–AD 680
5	Milton Loch 3	pile	gu-2646	1460±70 BP	AD 565–AD 665	AD 440–AD 680
6	Milton Loch 3	pile	gu-2645	1470±50 BP	AD 560–AD 640	AD 475–AD 670
7	Buiston	hearth ash	gu-2688	1640±50 BP	AD 340–AD 450	AD 245–AD 520
8	Buiston	hearth ash	gu-3004	1680±50 BP	AD 310–AD 440	AD 230–AD 495
9	Buiston	brushwood	gu-3000	1950±50 BP	AD 10–AD 120	AD 45–AD 200
10	Erskine Bridge	pile	gu-2328	1950±50 BP	AD 10–AD 120	BC 45–AD 200
11	Milton Loch 2	pile	gu-2647	2060±50 BP	BC 120–AD 15	BC 195–AD 75
12	Milton Loch 1	pile	gu-2648	2080±50 BP	BC 160–BC 20	BC 235–AD 70
13	Barean Loch	pile	gu-2642	2140±60 BP	BC 250–BC 50	BC 390–BC 30
14	Erskine Bridge	pile	gu-2383	2170±60 BP	BC 350–BC 135	BC 400–BC 65
15	Loch Arthur	pile	gu-2644	2240±60 BP	BC 400–BC 265	BC 405–BC 120
16	Loch Arthur	pile	gu-2643	2260±50 BP	BC 400–BC 275	BC 405–BC 175
17	Milton Loch 1	ard	k-1394	2350±100 BP	BC 545–BC 320	BC 805–BC 215
18	Milton Loch 1	pile	k-2027	2440±100 BP	BC 705–BC 380	BC 835–BC 375
19	Firbush Pt	pile	gu-1324	2140±55 BP	BC 250–BC 65	BC 380–BC 30
20	Ederline	pile	gu-2415	2220±45 BP	BC 395–BC 255	BC 400–BC 170
21	Oakbank	pile	gu-1325	2410±60 BP	BC 540–BC 385	BC 756–BC 380
22	Fearnan Hotel	pile	gu-1322	2475±55 BP	BC 805–BC 545	BC 805–BC 405
23	Oakbank	pile	gu-1323	2545±55 BP	BC 385–BC 665	BC 845–BC 540

ANALYSIS OF DATES

There now appear to be, on the basis of radiocarbon dates alone, three distinct phases of crannog construction in Scotland. Some 65% of the dates lie between 850 BC and AD 200, that is, in the pre-Roman and Roman Iron Age. After a short hiatus there is another spate of crannog-building from the fourth to seventh centuries AD and, after a considerable hiatus, some crannog-building in the medieval period.

This chronological distribution confirms the tentative chronology derived from the artefacts alone (see above). It seems that the presence of chronologically diagnostic



ILLUS 1 Calibrated radiocarbon and tree-ring dates from Irish and Scottish crannogs (numbers refer to Tables 1 & 2).

artefacts may, in fact, reflect periods of use on the crannogs. It has been argued that the presence of Roman artefacts on sites which have produced mainly Dark Age material indicates late acquisition, possibly through looting, of the Roman material for its curiosity/relic value rather than as a result of direct contact with the Roman population (Alcock 1979). A small assemblage of Roman objects recovered at Buiston by Munro has also been interpreted in this way but the recent excavations have uncovered evidence of an early phase of construction dated to 0±50 BC/AD uncal (GU-3000; Date 9) indicating that the crannog was probably inhabited when the Roman objects were in circulation. Similarly, at Milton Loch 1, an enamelled dress fastener was first used to date the site to the second century AD (Piggott 1953) and then dismissed as the result of post-abandonment activity, 'Roman or native . . . doing a spot of fishing . . .', after a stake and an ard found in the substructure produced mid-first millennium BC radiocarbon dates (Guido 1974, 55). The new radiocarbon date for Milton Loch 1, 130±50 BC uncal (GU-2648; Date 12) indicates another phase of construction in the late first millennium BC and increases the likelihood that the dress fastener represents crannog occupation rather than post-abandonment activity.

It appears, therefore, that the chronological evidence of artefacts and radiocarbon dates complement each other. The apparent gap in the radiocarbon chronology in the third to fourth centuries AD is complemented by an absence of Roman artefacts of this period on any crannog; all Roman artefacts found on crannogs have been dated mainly to the first and second centuries AD (Robertson 1970; Oakley 1973, 106–8).

Only three crannogs – Buiston, Barean Loch and Milton Loch 3 – have produced radiocarbon evidence for Dark Age occupation but artefacts from Langbank in Renfrewshire, Hyndford in Lanarkshire, Dowalton in Wigtownshire, Lochlee in Ayrshire, and Lochan Dughaill and Loch Glashan in Argyll all indicate occupation or usage during that period (Oakley 1973).

Similarly there are radiocarbon dates for only one medieval crannog, that at Lochrutton, but medieval pottery from Lochan Dughaill, Friars Carse in Dumfriesshire, Hyndford, and Loch Kinellan in Ross and Cromarty, as well as a tripod cauldron from Loch Arthur, indicate much more widespread usage during this period (Oakley 1973). Indeed, Lochrutton may be entirely medieval in origin. Earlier excavations there identified the stone structure on the crannog as a hall-house of the mid-13th century while the large assemblage of pottery retrieved was all of a 13th- to 14th-century type (Truckell & Williams 1967). However, although the new radiocarbon dates are entirely consistent with the excavated evidence the possibility that an earlier crannog underlies the medieval foundation at Lochrutton cannot be ruled out. The late medieval superstructure at Loch Arthur together with the tripod cauldron clearly indicate medieval usage (Williams 1971) but the new radiocarbon dates indicate a phase of activity 2000 years earlier in the mid-first millennium BC.

The radiocarbon dates for Scottish crannogs thus span nearly 2000 years. If the Neolithic site at Loch Olabhat, North Uist, is accepted as a crannog, and it fulfils some of the criteria in that it is at least partially man-made (Armit 1989), then their chronological range must be extended further back in time. At the other end of the timescale there is documentary evidence of their use and even for the construction of new crannogs in the late 16th century in parts of the Highlands (Morrison 1985, 23).

Clearly crannogs have not been used continuously over five millennia. Even if we ignore the, as yet, unique case of Loch Olabhat and concentrate on the two millennia spanned by radiocarbon-dated crannogs evidence for such continuity is absent. At Buiston the crannog was re-occupied at least twice after periods of abandonment lasting up to two centuries. The radiocarbon dates from Milton Loch 1, Erskine Bridge and Barean Loch all hint at abandonment for varying periods of time followed by refurbishment and reoccupation.

It would seem, therefore, that crannogs were a site type resorted to over the centuries when a given set of circumstances prevailed. We can, at present, only guess at these circumstances. Morrison has attempted to elucidate the intended function of the crannog by examining its position in relation to its physical environment (Morrison 1984, 74–80). He has put forward a number of possible functions, some based on contemporary documentary references, ranging from prison to feasting-spots, from boltholes in times of trouble to neutral territory for treaty-signing. However, their most obvious feature is their security or 'defensiveness'. At Buiston the phases of occupation and construction are roughly contemporaneous with periods of great political upheaval in southern Scotland and it is tempting (if somewhat dangerous, given that we are comparing historical dates with calibrated radiocarbon dates) to see each phase of reconstruction as a response to national events. The first-phase structure at Buiston was built probably about the time of the Roman invasion of southern Scotland c AD 79; the second phase of occupation spans the period from

the end of the fourth to the late fifth century when, after a half-century of unrest the Romans finally withdrew from Britain and the fourth phase, dated to the seventh century AD, is contemporary with the surge north of the Northumbrians under Ecgfrith (Kirby 1962, 81).

Buiston is not so far from the northern shore of the loch that it would be secure from fire-arrows and it certainly would not have been secure from the determined onslaught of a large army. Rather, in times of uncertainty and disruption its situation offshore would have acted as a deterrent against unwelcome visitors such as cattle- and slave-raiders and would have provided some protection in the event of local small-scale aggression.

IRISH CRANNOGS

The only other region in the British Isles with a similar concentration of crannogs is the area to the west and north-west of the central plain of Ireland (Wood-Martin 1886). Those in Northern Ireland have been the subject of considerable attention by the dendrochronologist Mike Baillie when, in the early 1970s, he was searching for suitable material to extend his chronology back in time (Baillie 1979). The results of the dendrochronological analysis produced a remarkably tight cluster of dates. It was found that samples of timbers from six crannogs were all felled within 80 years in the late sixth/early seventh century (see illus 1 and table 2).

TABLE 2
Dendrochronological Dates from Irish Crannogs

No (Illus. 1)	Site name	Date	Reference
24	Island MacHugh	AD 594±9	Ivens *et al* 1986
25	Island MacHugh	AD 627±9	Ivens *et al* 1986
26	Midges Island	AD 570±9	Baillie 1979
27	Mill Lough	AD 552	Baillie 1979
28	Mill Lough	AD 643±9	Baillie forthcoming
29	Ross Lough	AD 570±9	Baillie 1979
30	Ross Lough	AD 614	Baillie forthcoming
31	Lough Tamin	AD 584±9	Baillie forthcoming
32	Lough Tamin	AD 618±9	Baillie 1979
33	Teeshan	AD 581	Baillie 1979
34	Teeshan	AD 543±9	Baillie 1979
35	Moynagh Lough	AD 625	Bradley forthcoming
36	Moynagh Lough	AD 748	Bradley forthcoming
37	Kilnock	AD 722±9	Baillie 1979

That crannogs were an Early Christian settlement type was already known from the excavations by Hencken in the 1930s at Lagore in County Meath, Ballinderry 1, County Westmeath, and Ballinderry 2, County Offaly (Hencken 1950, 1942, 1936). Lagore produced a very rich artefactual assemblage dated by the excavator on the basis of documentary references to the site (Hencken 1950). The dating and analysis of the assemblage has formed the basis for a typological framework for some Early Christian artefact types and has been used to date other sites. The dating of Lagore is the subject of intense debate but there seems to be no reason, on the artefactual evidence alone, for pushing the start of Lagore any earlier than the seventh century date originally proposed by Hencken (Lynn 1986; Warner 1986). Similarly, at Ballinderry 2 artefactual evidence suggests that the crannog 'might have been founded in the seventh [century]' (Hencken 1942, 2; and see Newman 1986).

Both the artefactual and dendrochronological evidence indicate, therefore, that there was a major initial phase of crannog building in the half-century straddling the late sixth/early seventh century AD.

There has been a tendency among some Irish archaeologists to see crannogs as an indigenous development of long ancestry (O'Riordain 1979, 95; O'Kelly 1989, 298). This desire has been fostered by the presence of Late Bronze Age levels below Early Christian crannogs at Ballinderry 2 (Hencken 1942), Moynagh Lough (Bradley 1983) and Island MacHugh (Ivens *et al* 1986). However, at none of these can continuity between the Bronze Age and the Early Christian levels be demonstrated. At Ballinderry 2 and Moynagh Lough Bronze Age occupation ceased when the lake levels rose. These deposits most probably represent Bronze Age occupation of a natural knoll or promontory which then became inundated forming small natural islands. These were then later utilized by the Early Christian crannog-builders. There is increasing evidence for a tradition of lakeside settlement in the Late Bronze Age in Ireland (Mallory & McNeil 1991, 125–7) and sites such as Lough Eskragh Sites B and C in County Tyrone (Williams 1978), Lough Enagh, County Londonderry (Davies 1941), and more recently Lough MacNean Lower, County Fermanagh (Mallory & McNeil 1991, 127), and Clonfinlough, Co. Offaly (Moloney 1993), clearly belong in this tradition.

Lynn (1983) has argued that these are not the true precursors of the ubiquitous Early Christian crannog in that there is, as yet, no evidence of continuity in architectural tradition stretching across a gap of one and a half millennia. Early Christian crannogs tend to be substantial defended structures encircled by a stockade of deep-set piles while those Bronze Age sites which are clearly wholly artificial, such as Site A at Lough Eskragh (Williams 1978) are small flimsy platforms.

COMPARISON WITH SCOTTISH DATES

We must conclude, therefore, that while there was a tradition of timber-built lakeside settlements in Late Bronze Age Ireland it was not until the late sixth century AD that crannogs *sensu stricto* (after Lynn 1983) first appear. It is in the intervening gap that such crannogs – that is, artificial islands encircled with piling and incorporating a substantial timber component – first appear in south-west Scotland. By the time such crannogs appear in Ireland they already had a long ancestry in Scotland. The implication is clear: the concept of a defended lacustrine homestead/crannog originated in Scotland and took root in Ireland sometime in the sixth century AD. South-west Scotland as the source for Irish Early Christian crannogs had already been postulated by both Lynn (1983) and Edwards (1990) on the basis of Roman artefacts found on a number of south-west Scottish crannogs and on similarities in structural detail. This new body of dates supports their hypotheses.

THE TRANSFER OF IDEAS

Artefactual material found in Northern Ireland, southern Scotland and the north of England suggests that there was contact between these areas during the Romano-British period, as indeed there was throughout prehistory. On the basis of this artefactual material Warner has suggested that Irish settlers and craftsmen settled in lowland Scotland in the first few centuries AD bringing with them certain artistic styles and technical skills (Warner 1983). These settlers or their descendants later returned to the north of Ireland taking back Scottish

objects and building techniques. Strangely enough these 'reflux' immigrants did not, at that time, take back to Ireland the concept of the crannog although they must almost certainly have encountered crannogs in their travels in Scotland; Warner cites a comb from Langbank crannog and a mirror handle from Lochlee crannog as examples of Irish designs in Scotland (Warner 1983, 168). One possible explanation is that the economic and political framework in Ireland was not ripe for the introduction of the crannog. It is generally agreed that the stimuli for change from a static, underdeveloped Iron Age society to the highly developed dynamic and creative society of the Early Christian period came from Roman and sub-Roman Britain (Mytum 1991, 23). Mytum has suggested that it was the transfer of ideas rather than objects that so radically transformed Irish Iron Age society and that these ideas, on religion, technology, social and political structure would only have been fully absorbed and understood within kin groups whose connections stretched across the Irish Sea (Mytum 1991, 28–9). New improved agricultural techniques would lead to increased wealth and population which in turn would foster competition for land and resources. It is in these circumstances that the idea of a crannog, a watery citadel, might become both attractive and necessary to the petty kings of Ireland who ruled *tuaths*, or small kingdoms, often no bigger than an English parish.

DISCUSSION

New dating evidence from south-west Scotland confirms that crannogs had existed in that area for nearly a millennium before they appeared in Ireland and the thesis developed here is that the crannog was an idea introduced from Scotland to Ireland. This is obviously a very simplistic approach smacking, as it does, of the old diffusionist model in which ideas spread from a single source or origin. It therefore behoves the author to present those scraps of evidence which hint at an alternative, ie insular development within Ireland.

The argument presented above hinges on the quite sudden appearance of crannogs in Ireland in the late sixth century AD as indicated by the artefactual and dendrochronological evidence. Although Baillie (1979, 79) described his sampling of northern Irish crannogs as random, it was far from random in that he sampled only large long-lived oak timbers for measurement. At Moynagh Lough, apart from a reused wooden plank in the entrance with a 385-year sequence dated to AD 625±9 and the radially converted planks of Palisade 1 dated to AD 748 (Bradley, forthcoming) the bulk of the wood assemblage was small oak and non-oak roundwood, 80% of which was less than 40 years of age (Crone 1988, 52). At both Ballinderry 1 and Lagore the pile palisades, major features of the crannogs' design, were composed of small stakes, 0.05–0.15 m in diameter many of which were non-oak species (Hencken 1936, 118, 127; 1950, 43, 55). This is precisely the type of material that Baillie would, quite rightly, have ignored for his chronology-building but which, on the excavated evidence, constitutes an important structural element of many Irish crannogs. It is therefore possible that earlier (and later) building phases have been missed. Radiocarbon dating of such features is futile when one is trying to compare the results, with a calibrated range of 200–300 years, against dendrochronological results which can be accurate to the year, and against artefacts which, in the Early Christian period, can apparently be dated to the half-century. Unfortunately, dendrochronological dating of short oak and non-oak sequences has, as yet, been relatively unsuccessful (Crone 1988).

There is some evidence that an earlier fifth century AD phase existed at Teeshan crannog (Baillie 1979, 83). None of the timbers with sequences ending in the mid-fifth century AD has

sapwood and some of the shorter sequences from this 'phantom phase' may be the inner sections of radially split planks and, therefore, may belong to the later AD 581 construction phase (Baillie forthcoming). However, there are some very long sequences ending in this 'phantom phase' and it cannot be argued that these are trimmed planks felled in AD 581 because they would have had to be converted from trees nearly 500 years old '– a rare occurrence for Irish oaks at any time in the last seven millennia' (Eckstein *et al* 1984, 33).

There are a number of Irish sites which do not quite fit into the categories of either Late Bronze Age lakeside settlement or Early Christian stockaded crannog. Knocknalappa, County Clare (Raftery 1943), Rathjordan, County Limerick (O'Riordain & Lucas 1947), and Rathtinaun, County Sligo (Raftery 1972), have all been rejected by Chris Lynn as providing evidence of Late Bronze Age/Early Iron Age crannogs (Lynn, 1983). Knocknalappa and Rathjordan were both dated by artefacts found, respectively, on the foreshore and in the body of the crannog and were not associated with occupation levels; the artefacts may have lain in old midden deposits used in the construction of the mound which, in the case of Knocknalappa, eroded out, and therefore provide only a *terminus post quem* for the construction. There is still no conclusive evidence that they were not built before the Early Christian period. The site at Rathtinaun was also associated with a hoard of Late Bronze Age objects found nearby but radiocarbon dates were also obtained for structural features on the site. Unfortunately, the dates fell within the flat part of the radiocarbon calibration curve in the first millennium BC, described above, and also had very large standard deviation of 130 years, so that doubt has been cast on the accuracy of these dates (Raftery 1984, 11–12). While it is accepted that the site was occupied as a piled crannog in the Early Christian period there is still a possibility that the site was occupied earlier in the millennium.

These sites are all crannogs in the sense that they are man-made islands but they are not defended by a swathe of piles as are the later Early Christian crannogs. A further hint that Irish crannogs may be an insular development comes from a comparison between the structural detail of Irish and Scottish crannogs. As so many were excavated before modern recording techniques were developed (in Scotland 36 of the 46 excavated crannogs were investigated prior to 1920) and were often only partially excavated this is a difficult exercise. However, it seems clear from the excavations at Ballinderry 1 and 2, Lagore and Moynagh Lough that the heavy morticed frameworks characteristic of the Ayrshire crannogs of Lochlee and Buiston (Munro 1882) are absent. Plank and post palisades are a major feature in common but on the Irish crannogs the individual posts are not joined tangentially or radially by morticed planks. At Lagore, the uprights along a section of the plank palisade are connected by horizontal planks inserted into grooves cut down the sides of the uprights. This is a feature also found at Buiston in the seventh-century framework. It should be noted here that the recent excavations at Buiston have shown that the morticed palisades are a late development in the history of the site and that the original crannog would have been encircled by a simple palisade of roundwood stakes, much like the Irish crannogs (Barber & Crone 1993). There also seems to be a smaller timber component in the substructure of the Irish crannogs. Although morticed timbers are mentioned in a number of excavation reports there is no evidence of the stacked layers of corduroy pavement recorded at Lochlee and numerous other Scottish crannogs or of the rectangular morticed rafts observed at Loch Bruiach (Blundell 1910) and Eaderloch (Ritchie 1942), both in Inverness-shire. It is possible that the 'crannog-huts' described by Wood-Martin (1886, 251–2) may have formed a similar function of raising the level of the crannog. In contrast, the Irish crannogs excavated to date appear to be quite simple structures consisting of alternating dumps of peat and brushwood

contained within palisades of varying number, width and type. These could be seen as an insular development from the earlier undefended mounds.

CONCLUSION

Crannog studies have been gathering momentum over the last 20 years but, despite the renewed interest, few total excavations to modern standards have been carried out, primarily because of lack of funds for what would be difficult and time-consuming enterprises. Hence, many of the problems touched on above have yet to be resolved. This paper is an attempt to integrate new data with old thought and, as such, it is hoped that it will stimulate fresh discussion on both sides of the Irish Sea.

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