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Research Article

Buckquoy, Orkney: addressing the Pictish-Viking transition in northern Scotland

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An increase in knowledge is usually beneficial but can also highlight misapprehensions of existing data. Such is the case for the Pictish-Norse transition in Northern Scotland in the later first millennium AD. New radiocarbon dates from the key 'transitional' settlement of Buckquoy, Orkney, reveal that traits previously published as indicative of incoming Norse influence pre-date the start of the Viking Age, suggesting a greater level of endogenous change than hitherto has been appreciated. Here, the authors underscore the need for a re-evaluation of other settlement sequences across the later Pictish and early Norse periods, reopening many questions about the transition.

Keywords: Britain & Ireland, Orkney, Pictish, Viking, Norse, radiocarbon dating, cultural change

Introduction

Recent years have seen substantial advances in our understanding of the art, settlement and material culture of the Picts, who inhabited much of northern and eastern Scotland in the first millennium AD (Noble & Evans 2019, 2022). Archaeological evidence, including stone sculpture, metalwork, burials, ogham inscriptions and settlements (Graham-Campbell & Batey 1998: 7–14), indicates that the islands composing Orkney and Shetland were culturally well connected with north-eastern Scotland in the Pictish

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era, and they are seen by historians as important, if at times contested, parts of the wider Pictish kingdoms (Woolf 2007; Noble & Evans 2022: 24–25). Yet, large gaps in our knowledge persist; archaeological chronologies are vague and historical information for the first millennium AD is almost non-existent, with an even greater dearth of historical sources than for mainland northern Britain.

A long-running scholarly tradition holds that the Pictish presence in northern Scotland was erased by the early Viking conquest (traditionally thought to be around AD 800), in a 'Big Bang' (Crawford 1987: 139) that resulted in a complete ethnic and cultural replacement. Such an absolute and early transition is overly simplistic, however, and the most recent scholarship stresses more incremental change towards a Scandinavian-influenced society (e.g. Griffiths 2019, 2023; Maldonado 2021; Noble & Evans 2022: 249–89; Dockrill & Bond 2023). Yet our understanding of this transition is still far from complete, and suffers from rather static binary conceptions of 'Pictish' and 'Viking'. In the twentieth century, architectural style was a dominant factor in determining cultural association, but more nuanced, multistranded approaches are now emerging.

Here, a redated and reinterpreted settlement sequence at an influential site is presented for the first time. Excavated in the early 1970s, the site of Buckquoy on Orkney has been central to the debate around the Pictish to Viking Age transition in the Northern Isles. New dates now reveal that the site has much more to tell us about the dynamics of Pictish settlement prior to the Viking Age, helping re-evaluate settlements of the later Pictish period and their implications for the transition to the Viking Age in northern Scotland, and highlighting just how much is still left to be ascertained regarding the character and timing of the transition.

Buckquoy, Orkney: a key transitional site?

The settlement at Buckquoy, excavated by Anna Ritchie in 1970–1971, is now mostly eroded away by the sea. It was located at Birsay Bay, on the north-west mainland of Orkney (Ritchie 1977), and comprised a settlement mound around 20m in length, known locally as 'Sinclair's Brae', on the cliff edge of the Point of Buckquoy, a small peninsula. The peninsula extends towards the Brough of Birsay, a small but prominent tidal island that has seen extensive excavations of Pictish, Viking Age and later settlement. Birsay has been an important locale throughout recorded history. According to the *Orkneyinga Saga,* this was where the eleventh-century Norwegian earl of Orkney, Thorfinn the Mighty, had his residence and built a church that became the seat of the first bishop of Orkney (Pálsson & Edwards 1978: 75; Crawford 1987: 80–81). Birsay was also significant in the pre-Viking era; a non-ferrous metalworking area with numerous clay moulds mainly for producing pins and penannular brooches was identified during excavations in the 1930s on the Brough (Morris 2021). In 1935, a symbol stone was found depicting an eagle, a 'Pictish beast', a crescent and V-rod and a 'mirror case', along with three spear-and-shield-bearing warriors in profile, and a number of ogham inscriptions are also known from the islet (Morris 2021: 83). Other Pictish-period

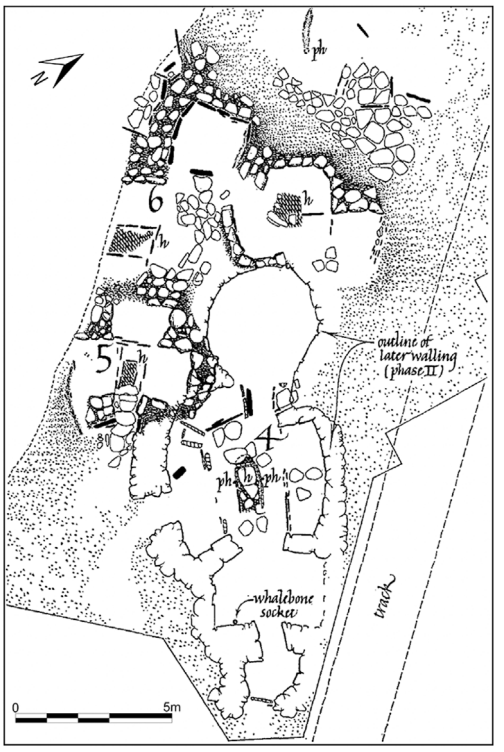

Figure 1. Plan of Buckquoy phases I–II, Houses 4, 5 and 6 (after Ritchie 1977: fig. 2 (image cropped); reproduced by kind permission of the Society of Antiquaries of Scotland).

burials and structures are known from around Birsay Bay (Graham-Campbell & Batey 1998: 11), but none are as extensive nor as rich in finds as the Buckquoy settlement.

Truncation of the Buckquoy mound by erosion on its southern side prompted Ritchie's rescue excavations, which revealed eight buildings within 0.5m of surviving stratigraphy. These were interpreted as a series of farmsteads in five phases, of which phases I and II were interpreted as Late Iron Age or Pictish, and phases III–V as 'Viking' or 'Norse', primarily based on a change from cellular to rectilinear architecture. No absolute chronology for the site was obtained, but a furnished Scandinavian-style grave capped the mound (phase VI), from which a cut silver halfpenny of Eadmund of Wessex (AD 939–946) provided a *terminus ante quem* for the sequence. Artefacts of Insular or Pictish type were found throughout all five settlement phases. The presence of pre-Viking objects in apparently Scandinavian occupation layers was taken as evidence, as one authoritative account elegantly put it, of "social intercourse between the incoming Norse and native peoples" (Graham-Campbell & Batey 1998: 164). Ritchie saw the persistence of Pictish material into the apparently Norse phases as evidence of coexistence, which differed from interpretations of the transition elsewhere, notably that of the excavator of the multiperiod settlement Coileagan an Udal in North Uist (Western Isles), who proposed a much more violent and destructive scenario for a Scandinavian takeover (Crawford 1981).

Phase I at Buckquoy comprised two 'cellular' houses (Houses 5 and 6) with central rectangular spaces and rectangular cells extending from the central area (Figure 1). The artefact assemblage associated with these two buildings consisted of bone pins, points and a comb (Figure 2), all typical of later Iron Age settlements in Orkney. Phase II comprised a cellular house with a central long hearth between side benches and a round annexe (House 4) (Figure 3), comparable to houses found on other Late Iron Age settlement sites such as Gurness (Orkney) and Loch na Beirghe (Western Isles) (Sharples 2003: 160). Associated with phase II was an artefact assemblage that included an ogham-inscribed spindle whorl, a painted pebble (an artefact type peculiar to later Iron Age settlement in Atlantic Scotland), hipped bone pins and points, a knife blade and

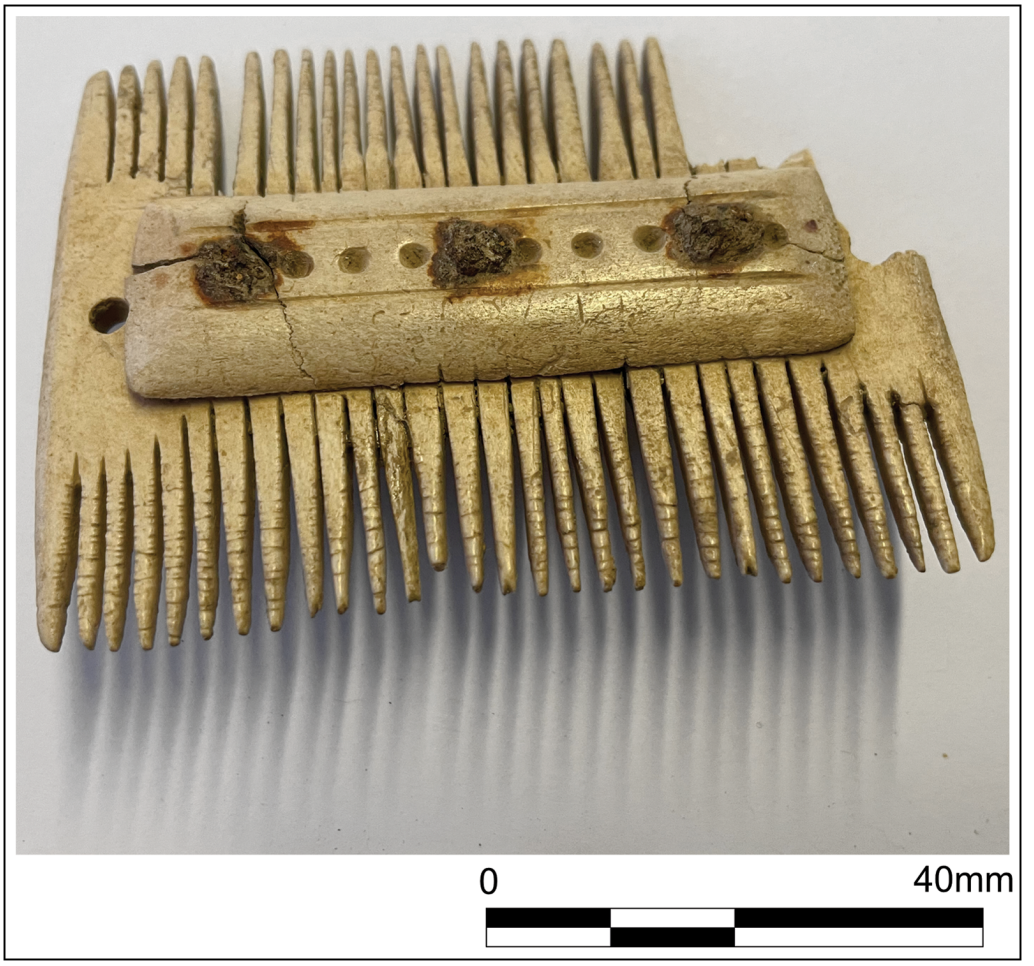

Figure 2. Bone comb from phase I, sampled for dating (Table 1: SUERC-90215) (photograph courtesy of the University of Aberdeen).

pottery of the type found widely on settlements in the Northern and Western Isles in the first millennium AD.

In contrast to the dwellings of phases I and II, the more rectilinear structures of phases III–V were ascribed to the Viking Age and to 'Norse' or Scandinavian settlement. These included the truncated remains of a building, at least 3m wide and 8m long, interpreted as a byre (House 3) (Figure 3). Like the phase I and II buildings, the walls were turf-built with an inner stone facing, but the interior had much less sub-division, with the only element being a short cross-wall. House 2 of phase IV survived only as the truncated end of another rectangular building. This was well made with straight wall-faces, angular internal corners and unusually fine paving. The latest structural phase was House 1 in phase V, a rectangular building measuring 4.5–5m wide and at least 6m in length, identified as a Scandinavian-style 'hall-house' (Ritchie 1977: 189). The phase III–

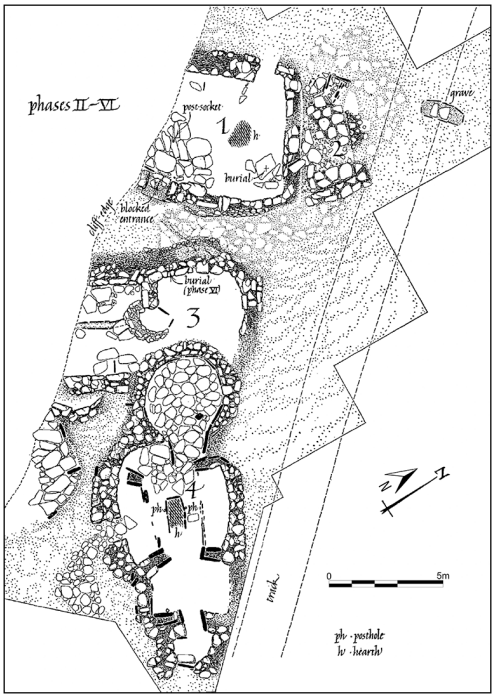

Figure 3. Plan of Buckquoy phases II–IV, Houses 1–4 (after Ritchie 1977: fig. 3; reproduced by kind permission of the Society of Antiquaries of Scotland).

V artefact assemblage differed little from the phase I and II finds. It included bone combs and pins, stone spindle whorls, beads and iron blades. The main differences were a relative lack of pottery (the few sherds present were argued to be residual) and the presence of gaming boards (though these are of a type found in both Viking Age and pre-Viking era settlements). The possible influence of tenth-century style Scandinavian design on two combs of local type was stressed (Ritchie 1977: 186), but this now seems doubtful given our greater knowledge of comb forms, dating and stylistic parallels (S. Ashby, *pers. comm.*).

Later reinterpretations of Buckquoy included that of Graham-Campbell and Batey (1998: 160–64) who suggested that House 3 could have been a reused or modified Pictish building based on the rounded end wall and the partly sunken construction methods, but they also compared the building to Viking Age structures in Iceland. A slightly more recent reappraisal (Brundle *et al.* 2003) explored alternative interpretations of the evidence at Buckquoy but reiterated the Norse character of the rectangular phase III–V buildings and identified potential Scandinavian parallels for a small number of artefacts. The sequence at Buckquoy has continued to be debated, and it still often features as a touchstone for characterising the Pictish-Viking transition (e.g. Owen 2023: 1).

Redating the Buckquoy sequence

No radiocarbon dates were obtained prior to Ritchie's 1977 publication. Two dates were obtained from archived excavated material in the late 1990s: from the phase VI burial and from an unconnected Iron Age long cist burial, neither of which illuminated the settlement sequence (Barrett *et al.* 2000: 6; Barrett 2003: 103). In 2019–2021, a new series of radiocarbon dates was sought from the Buckquoy archive as part of the Leverhulme-funded Comparative Kingship project at the University of Aberdeen. Unfortunately, the animal bone assemblage from the site is missing, presumed lost, and thus the only option for fresh dating was using bone artefacts held in Orkney Museum (see Table 1 for full details of the objects). Eight items were sampled for accelerator mass spectrometry (AMS) dating, targeting one to two per phase. Incomplete objects

Table 1. Radiocarbon determinations from Buckquoy.

Site	Lab no.	Material	Context	Museum no.; catalogue entry and illustration	Radiocarbon age (BP)	$\delta^{13}C$ (‰)	$\delta^{15}N$ (‰)	Calibrated date (95% confidence) cal AD	Calibrated date (68% confidence) cal AD
Buckquoy, Orkney	SUERC-90215	Bone: unknown; ?animal	Double-sided composite bone comb; Phase I	1976.49; cat.50; fig. 7	1461±24	−21.5	5.7	565–645	585–635
Buckquoy, Orkney	SUERC-90214	Bone: unknown; ?animal	Bone point; Phase I	1976.46; cat.36	1336±21	−21.6	6.3	650–775	660–755
Buckquoy, Orkney	SUERC-90222*	Bone: whale	Squared block of cetacean bone; Phase II	1976.50; cat.62	1840±24	−14.1	16.3	600–855	660–780
Buckquoy, Orkney	SUERC-90213	Bone: unknown; ?animal	Bone point; Phase III	1976.73; cat.40	1355±24	−22.7	8.9	645–770	650–685
Buckquoy, Orkney	SUERC-90217	Bone: unknown; ?animal	End plate double-sided comb; Phase III	1976.102; cat.51	1308±21	−21.9	2.6	660–775	670–765
Buckquoy, Orkney	SUERC-90218*	Bone: unknown; ?animal	Bone handle; Phase IV	1976.103; cat.44; fig. 6	1640±21	−12.4	16.9	780–1045	845–990

(*Continued*)

Table 1. (*Continued*)

Site	Lab no.	Material	Context	Museum no.; catalogue entry and illustration	Radiocarbon age (BP)	$\delta^{13}C$ (‰)	$\delta^{15}N$ (‰)	Calibrated date (95% confidence) cal AD	Calibrated date (68% confidence) cal AD
Buckquoy, Orkney	SUERC-90216	Bone: unknown; ?animal	Double-sided comb fragment; Phase IV	1976.105; cat.54; fig. 7	1253±24	−21.4	2.7	680–870	700–810
Buckquoy, Orkney	SUERC-90223	Bone: unknown; ?animal	End plate single-sided comb; Phase V	1976.114; cat.49; fig. 7	1284±24	−22.1	2.7	670–795	685–765

Dates were calibrated in OxCal v.4.4.4 (Bronk Ramsey 2021) using either a terrestrial calibration curve (Reimer *et al.* 2020) or a marine curve (*) (Heaton *et al.* 2020). Probabilities were calculated as single ranges in OxCal (after Stuiver & Reimer 1993). Catalogue entry and illustration references Ritchie (1977).

were preferred, and sampling breaks minimised adverse impact where possible. One object (SUERC-90222: Table 1), a squared block of cetacean bone was, in retrospect, an unwise choice given the offset associated with marine mammals. While the simple calibrated result using the Marine20 calibration curve (Heaton *et al.* 2020) is in agreement with the results on terrestrial animals calibrated with the terrestrial IntCal20 curve (Reimer *et al.* 2020), the calibration cannot be refined with an accurate ΔR as some whales have localised habitats and others migrate long distances. Another object (SUERC-90218: Table 1), a bone handle, also turned out to be from a marine mammal (as identified by its isotopic signature; see $\delta^{13}C$ and $\delta^{15}N$ values in Table 1), and is placed out of sequence by the simple Marine20 calibration. As a result, these two objects were not included in the chronological model (Table 1 & Figure 4).

The samples were dated at the Scottish Universities Environmental Research Centre (SUERC) following established methods (Dunbar *et al.* 2016). The dating showed good concordance with site stratigraphy and original phasing, showing a clear progression from phase I to phase V. Thus, there is no reason to believe that the Pictish-style artefacts from the later phases are residual. Basic calibration provided ranges extending from the sixth century through to the early ninth century AD. The chronological model follows the simple bounded-phase approach (Hamilton & Kenney 2015), using OxCal v.4.4.4 (Bronk Ramsey 2021). It shows that dated activity at the site began in *cal AD 520–655* (*95% probability*; Figure 4; *start: Buckquoy*), or *cal AD 590–645* (*68% probability*), and ended in *cal AD 675–860* (*95% probability*; Figure 4; *end: Buckquoy*), or *cal AD 690–780* (*68% probability*). Phase III, the earliest phase of rectangular structures, is estimated to have occurred around *cal AD 640–760* (*95% probability*; Figure 4; *1976.73 Cat.40 Phase III*), or *cal AD 650–675* (*68% probability*), and is thus likely to have been seventh century or early eighth century at the latest.

Given that the phases interpreted by Ritchie as 'Norse' probably began between the mid-seventh and mid-eighth century (*1976.73 Cat.40 Phase III*; *cal AD 640–775; 95% probability*), these radiocarbon results could be taken to herald a dramatic redating of the Scandinavian takeover to much earlier than expected. Phases III–V do not appear to date beyond the eighth century (*1976.114 Cat.49 Phase V*; *cal AD 660–770*; *95% probability*), but the overall site occupation may stretch into the ninth century (Figure 4; *end: Buckquoy; cal AD 675–860; 95% probability*), and this could be extended further if bone selected for the carving of objects was already old when utilised (though given that the sequence shows clear progression there is no evidence that substantially older bone was used for carving).

The most convincing interpretation of the Buckquoy sequence is that the entire occupation falls within the Pictish period, with only relatively local forms of material culture identifiable throughout the sequence, and that occupation ended sometime in the eighth or early ninth century. Why the settlement was abandoned is hard to say, the inhabitants may simply have moved to a new site nearby. The phase VI Scandinavian-style burial, dated by its artefactual contents to post-AD 939, was therefore inserted into the top of the mound after the underlying settlement had ceased to be occupied.

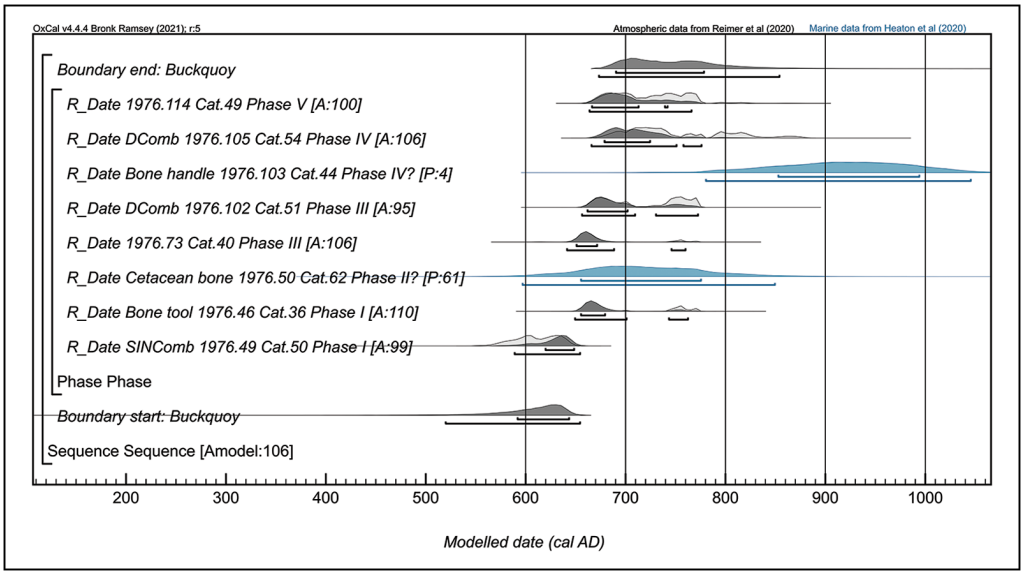

Figure 4. Chronological model for sampled artefacts from Buckquoy. The probability distributions shown in blue are calibrated dates from marine mammal samples and have been excluded from the chronological modelling (figure by authors).

Architecture and cultural change

It would be easy with hindsight to be unduly critical of the 1970s interpretations of Buckquoy. The idea that Pictish architecture was exclusively non-rectilinear was then widely accepted and continued to exert a strong hold on academic thinking in the decades that followed. At the time, many of the examples of Late Iron Age or Pictish settlement identified in the Northern and Western Isles were of cellular or sub-circular form, hence logic allowed that the rectilinear-style structures from phases III–V at Buckquoy were something different, intrusive and out of character. However, a recent review of Pictish settlement has demonstrated that rectilinear buildings are now well documented across Pictish Scotland from the central lowlands to the Northern and Western Isles (Noble & Evans 2022: 52–93) (Figure 5). The rectilinear form is apparent from at least the third or fourth century AD and was ubiquitous by the seventh century (Noble *et al.* 2019; Noble & Evans 2022: 81–2), including in upland areas (RCAHMS 1990; Strachan *et al.* 2019; Noble & Evans 2022: 70–82). Thus, Buckquoy now fits more comfortably within the architectural sequence of pre-Viking northern Britain than it did in the 1970s, and holds the potential to deepen our understanding of Pictish settlement in the Northern Isles, and more widely. The site shows a change towards the more rectilinear architectural style in the seventh or early eighth century AD, but elsewhere in the Northern Isles different sequences are evident (Noble & Evans 2022: 70–80). An unchanging architectural tradition was clearly not a defining feature of the Northern Isles prior to Scandinavian settlement.

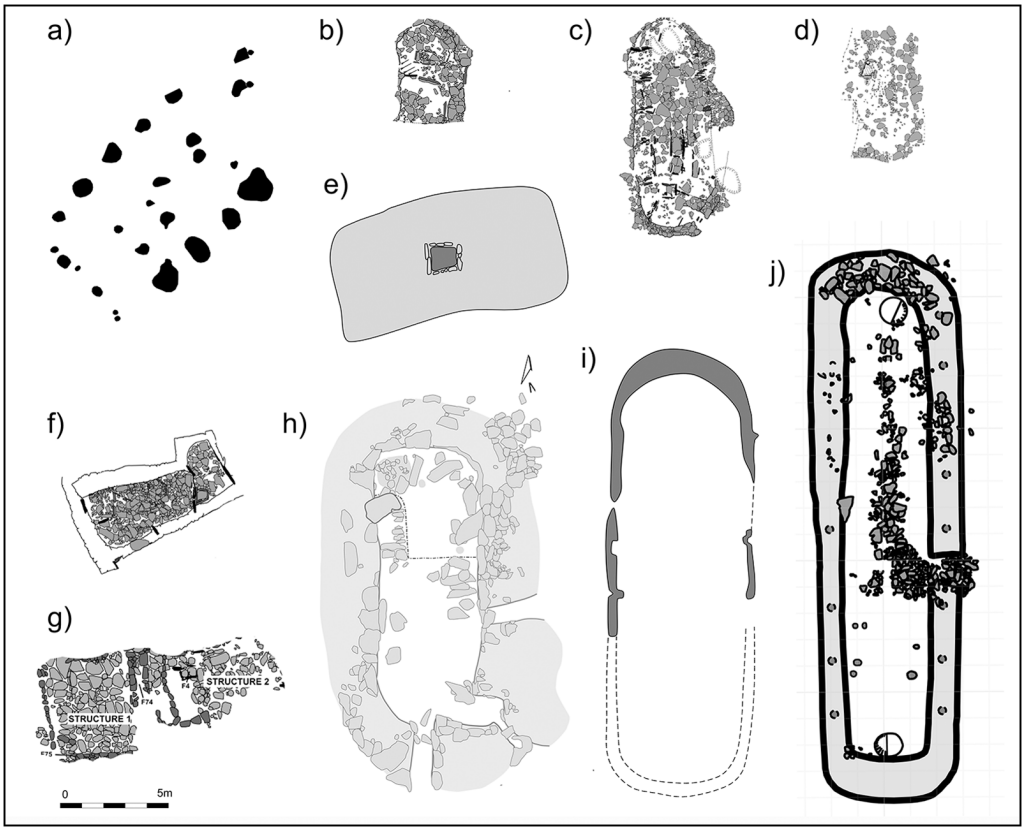

Figure 5. Rectilinear structures from Pictish Scotland: a) Rhynie, Aberdeenshire; b, c & f) Howe, Orkney; d) Dun Vulan, South Uist; e) Clatchard Craig, Fife; g) Skaill, Deerness, Orkney; h) Wag of Forse, Caithness; i) Newbarns, Angus; j) Pitcarmick, Perthshire (figure by authors).

The redated Buckquoy evidence can lead us to look afresh at other key settlement sequences in the Northern Isles, especially those currently lacking an absolute chronology. It is possible that other rectilinear buildings have been misidentified as 'Viking'. For example, J.R.C. Hamilton's interpretation of phases and chronology at Jarlshof, Shetland (Hamilton 1956), was led by then-current assumptions surrounding architectural form and cultural association. He saw the presence of Pictish artefacts within rectangular 'Viking' buildings as indications of the presence of native 'serfs' within a Scandinavian-dominated community (Hamilton 1956: 89, 94, 111), but the Buckquoy sequence provides a counternarrative. There are also issues with chronology. Hamilton's over-arching interpretation was of a rapid transition from 'native' to Viking, citing the 'watershed' date of AD 800, in line with the then-prevailing views of Haakon Shetelig (1940) and others regarding the start of the Viking Age. However, in a recent review of the evidence for Hamilton's 'Parent Farmstead', Adrián Maldonado (2021: 77) highlights finds of probable tenth- and even eleventh-century dates from this long-lived structure. Jarlshof is thus long overdue a reconsideration of its sequence and dating, with a

reappraisal of the architectural sequence and attribution sorely needed (this is currently being undertaken by Colleen Batey and follows contextual investigations of the palaeoeconomy of Jarlshof; Dockrill & Bond 2023).

Similar stark, binary opposition between 'Pictish' and 'Scandinavian' architectural forms has affected our understandings of other sequences. In the report on excavations at Skaill, Deerness, Orkney (conducted by Peter Gelling from 1963–1981), Pictish and Norse material were considered in different chapters (Buteux 1997). House 1, a small rectangular building originally thought by Gelling to be Pictish, was included in the chapter on Norse settlement, at least in part influenced by the sequence at Buckquoy (Edwards 1997: 70–81, 263). Given that the material culture associated with this rectangular building (as at Buckquoy) was overwhelmingly of the type found on later Iron Age/Pictish sites, Gelling's original interpretation can perhaps now be reinstated.

Cultural distinctions based mainly on architecture continue to cast a long shadow in the Northern Isles. Even in more recent excavations, similar equations of cultural attribution based on shape are evident. Excavations at Pool, Sanday, Orkney (1938–1988), produced a sequence from the Neolithic, encompassing a later Iron Age phase (phase 6), a 'transitional phase' (phase 7) and a period of Norse settlement (phase 8) (Hunter 2007). In the final site report, a shift towards rectilinear architecture in the transitional phase 7 was seen as part of the "first tangible presence of Scandinavian *dominance* ... [providing] some of the earliest evidence for Vikings in Orkney" (Hunter 2007: 121, emphasis added). The earliest rectilinear building in phase 7 was Structure 25, a longhouse of up to 16–18m in length. The structure was described as "a fundamental change in cultural ethos" (Hunter 2007: 123) and while the building was noted as having neither Pictish nor Scandinavian parallels, a Norse attribution was favoured in the site report. Structure 25 in fact replaced another pre-Viking Age rectilinear building of similar size and construction (Structure 23), which incorporated an ogham inscription and a Pictish-style symbol stone (Hunter 2007: 114–15). Structure 25 also fits comfortably within the wider evidence of rectilinearity in later Pictish building styles (see Figure 5). Thus, there seems little justification in relying on architectural form in determining questions of cultural dominance at Pool, or elsewhere.

Towards more integrated approaches

Examining the interface between Pictish and Scandinavian presence will require more complex datasets, better dating and more integrated approaches. The excavations by Stephen Dockrill, Julie Bond and others at Old Scatness (Shetland) have highlighted how the changes that may characterise Scandinavian influence may be fragmentary and subtle, requiring careful teasing out of the sequence and the significance of changes in material culture and architecture. Old Scatness was excavated between 1995 and 2006 and represents the most comprehensively investigated, dated and scientifically analysed sequence of the later first millennium AD in the Northern Isles (Dockrill *et al.* 2010). The earliest Scandinavian settlement influence at Old Scatness comprised subtle architectural changes, including the modification and dismantling of Pictish buildings, alongside changes in material culture and resource use. At Old Scatness, several Pictish

buildings were infilled with a mixture of rubble, midden material containing objects that appear to have Scandinavian origins or influences (Dockrill & Bond 2023: 32). These include steatite (soapstone), often seen as a marker of Norse influence in the later first millennium AD, in the infill of Structures 5, 11 and 34, including objects that have clear parallels in Norway. Subtle architectural changes may include a building (Structure 34, possibly a longhouse) that had a 'long hearth' of the type found in some Scandinavian-style buildings added over the ruins of Structure 11. There is also evidence of economic change, with flax seeds and deeper-sea fishing becoming more prevalent. Around the hearth of Structure 34 were found 40 soapstone and mica-schist loom-weights and an angle-backed knife that find parallels in Viking York. Structure 6 may have also been modified from a domestic structure to one associated with the smoking or drying of fish, and perhaps the creation of salted or dried stockfish, while the floor of the building had abundant examples of clench or boat nails—traditions and artefacts better known in Scandinavia (Dockrill & Bond 2023: 34–35).

Detailed sequences, such as those published for Old Scatness, will undoubtedly help to chart the Pictish-Viking Age transition and identify the complex reuse and modification of earlier buildings and relatively subtle changes in material culture and economy. This is not to say that all issues will be resolved and ambiguities addressed. While introductions such as flax or deeper-sea marine fishing may indicate cultural change through settlement of new groups, we should again be mindful of how 'exotic' material may be introduced according to local dynamics and how, at a basic level, it can be caught up in rapidly developing new trade networks at times of culture contact. Indeed, innovations may be explained by dynamics other than population change, for example, flax appears in phase 7.1 at Pool (Bond 2007: 186–87), a phase with mainly cellular buildings and Structure 25 which we argue above fits comfortably among Pictish vernacular traditions. Moreover, evidence for deep-sea fishing, widely seen as characteristic of the Viking Age, has also been found in the form of gadid bones at Pictish sites on mainland Scotland (e.g. Burghead, Moray; Noble & Evans 2022: 108–11).

Despite the complexities of agency and the multilayered meanings of objects, archaeologists of all time periods still occasionally seek to uncritically identify population movements and expansions of settlement through the presence of particular forms of material culture, at times distilling cultural complexity and overlooking the strategic character of ethnicities via the reification of particular cultural norms (e.g. Dores Cruz 2011: 340). Thus, we need to be careful of couching the identification of items such as iron clench nails and angle-backed knives as 'Viking'—especially when such objects and styles are rarely diagnostic and are found at pre-Viking Age sites from Scotland (e.g. from fifth/sixth-century contexts at Rhynie, Aberdeenshire: Noble *et al.* 2019). Similarly, while the presence of certain types of steatite does in some cases suggest direct links with Norway (see Forster 2010: 258–303), and possibly direct Scandinavian settlement, questions of context and quantity must be considered. At Pool, for example, the total amount of steatite found in the 'transitional' phase (around 50 sherds) is vastly outnumbered by the ceramic assemblage (more than 800 sherds), representing hundreds of individual vessels. The pottery of the 'transitional' phase shows clear continuities in technology, form and fabric types, indicating relatively little change from preceding later Iron Age phases in the making and using of local pottery forms. In the same phase,

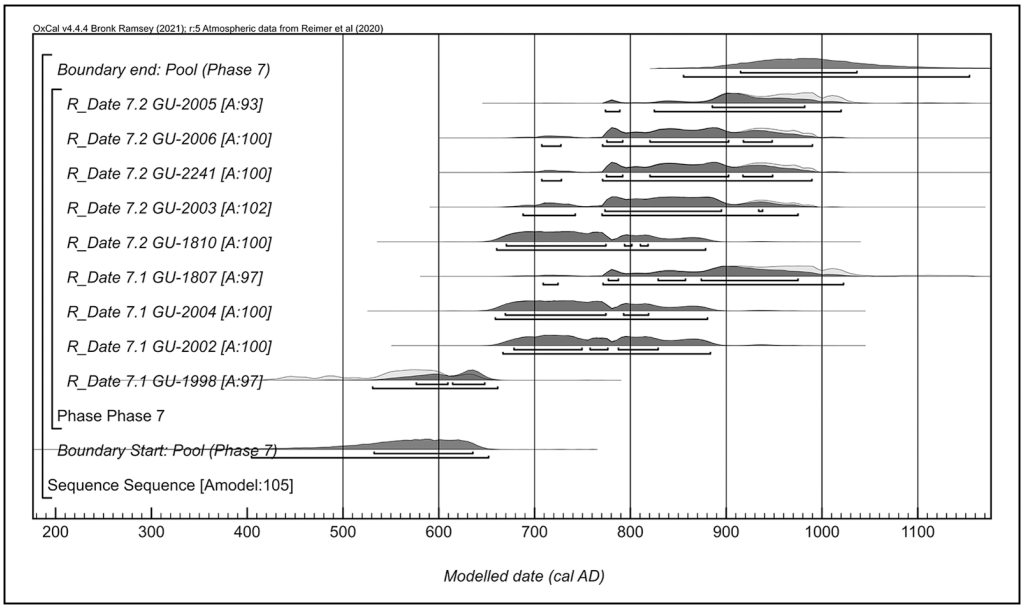

Figure 6. Chronological model for phase 7 at Pool, Orkney (figure by authors).

other forms of material culture, such as bone pins and combs, also remained largely the same (Hunter 2007: 469, tab. 8.8.5). These observations do not preclude the arrival of new forms of material culture with incoming Scandinavian populations, but again highlight the need to be careful around the interpretations we make when trying to chart population change from material culture.

Modelling chronologies and change

The evidence from Buckquoy and the questions surrounding other classic sequences such as those from Skaill, Deerness and Jarlshof, and even from sites with radiocarbon-dated sequences such as Pool, accentuate the need for new and more detailed chronological modelling. This, in the Northern Isles and elsewhere, will allow us to more closely map the changes that happened in the late first millennium AD, although the presence of a plateau in the radiocarbon calibration curve during this period and the common occurrence of redeposited material culture in some of the 'tell-like' settlements of the Northern Isles means this endeavour is not without difficulties. The sequence from Buckquoy may indicate that local Pictish-style architectural forms and material-culture styles extended into the ninth century but, even with the new dating, the period of abandonment remains poorly defined. Similar issues affect other sites. Modelling of radiocarbon dates from phase 7 at Pool (Figure 6) suggests a wide range for this 'transitional phase', with an end-date falling somewhere around *cal AD 855–1155* (*95% probability*; *end: Pool (Phase 7)*) or *cal AD 915–1040* (*68% probability*). A recent reappraisal of dates from the Brough of Birsay, also highlights uncertainty, indicating that

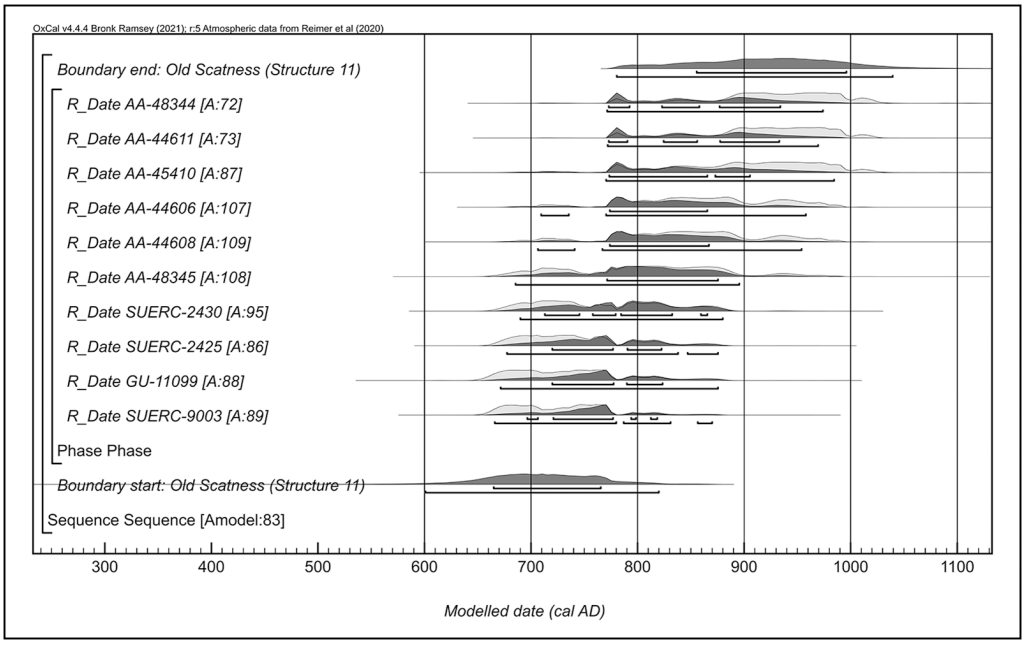

Figure 7. Chronological model for the use of Structure 11 at Scatness, Shetland (figure by authors).

"the initial Scandinavian occupation in Birsay occurred at the earliest within the *eighth century* but [possibly] as late as the *twelfth century*" (Morris & Outram 2021: 560).

Neither of these extremes are probable, but pinpointing the main phase of transition is difficult. Even with the excellent contextual data and broad swathe of dating evidence from Old Scatness, some key sequences lack full clarity. An example is that of Structure 34 (the possible longhouse) overlying Structure 11 (the earlier roundhouse); the fact that some dates from Structure 34 appear to pre-date the underlying Structure 11 suggests redeposition of material is an issue here (Dockrill *et al.* 2010: tab. 4.3.6). Modelling of the dates from Structure 11 and its final use, where there was no artefactual material of likely Scandinavian origin (Dockrill *et al.* 2010: 116), provides some idea of when the earlier (Pictish) building may have been abandoned (Figure 7), but uncertainty is again evident, with a Bayesian model suggesting that the Late Iron Age roundhouse could have been abandoned anywhere between *cal AD 780 and 1040* (*95% probability*; *end: Old Scatness (Structure 11)*) or between *cal AD 855 and 1000* (*68% probability*) (see also discussion and probability distributions in Dockrill *et al.* 2010: 114–16). However, archaeomagnetic dating of the last use of the hearth of Structure 11 (prior to infill; AD 920–1000) indicates that the 68% probability range of the radiocarbon calibration is most likely, suggesting a relatively late transition at this site (though see discussion in Dockrill *et al.* 2010: 361–62). Better chronologies can only help our understandings of culture change in the Northern Isles, but this will require substantial investment in additional dating and modelling approaches.

Conclusion

In this article, a key and oft-cited excavated sequence at Buckquoy has been redated and reinterpreted using the only surviving viable material, providing new information for Pictish settlement in Orkney. All phases (I–V) likely pre-date the early ninth century AD, with Late Iron Age material culture found throughout the sequence and architecture fitting within our expanding understanding of Pictish traditions. Given the prominence of Buckquoy in discussions of the Pictish-Viking transition, this redating challenges long-standing wider conventions of site interpretation bequeathed to us by the culture-history era. The idea of an architectural shift from cellular to rectilinear as solely indicative of the Scandinavian arrival can be firmly discarded in the light of growing evidence for endogenous change in domestic architecture and settlement forms now known to occur throughout the first millennium AD in Scotland. These findings help situate much-needed reappraisals of other first-millennium AD settlement sequences of the Northern Isles, and highlight the need for new and more intensive chronological modelling with integrated interpretative approaches to architectural expression and material culture, and wider reconsideration of the historical context.

Scandinavian settlement in the Northern Isles may have occurred in some places as early as the mid-ninth century, but there is much detail on contact and chronology yet to be established. We should be open to the Pictish-Viking transition being long and complex, and perhaps divergent in impact from place to place. From the current fragmentary picture, it seems that there could have been some initial points of contact that led to locally intense interactions (as evidenced by a relatively small number of high-status ninth-century pagan burials from Orkney, such as those from Westness, Rousay; J. Graham-Campbell, *pers. comm.*), but these may have been individual, sporadic and small-scale before the Scandinavian cultural presence became more consolidated across the landscape in the tenth century. The history, landscape, traditions, language and placenames of Orkney and Shetland undoubtedly show that Norse became the dominant language of the medieval period, but exactly how and when Scandinavian culture, technology and lifeways first took hold in the Northern Isles now appears to require much more critical reflection than was generally perceived to be necessary during much of the twentieth century.

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