A palaeoecologist’s view of landnám

A case still not proven?

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INTRODUCTION

The timing of the earliest human settlement, landnám, in the Faroe Islands has been the subject of much discussion, including several important contributions by Símun V. Arge (1989; 1991; 1993; Arge et al. 2005). Whilst convincing archaeological evidence has always remained elusive (cf. Krogh 1986; Dahl 1970; Jóhansen 1979; Buckland 1992; Debes 1993), one near contemporary source appears unimpeachable. The Irish monk Dicuil, writing at the court of Charlemagne’s successors ca. 825, in his otherwise often fanciful and derivative description of the World refers to a group of islands, two days sail ex nostra Scottia. These had been settled by heremitae, culdees, Christian monks in search of solitude, who had been driven away by latrones Normanni, Norse pirates, leaving behind only innumerable sheep (innumerabiles oves) (Tierney 1967, 76). It has always been tempting to link this with the name Færingeyjar, islands of sheep, and to correlate further with the Íslendingabók reference to the presence of Irish monks, papar, in Iceland before Scandinavian settlement in the mid-ninth century (Sveinbjarnardóttir 1972). The interpretation of both sources remains contentious. Arne Thorsteinsson (2005) has recently presented an iconoclastic view of Dicuil, and the late Kristján Eldjárn was always sceptical of the Icelandic literary sources, written in a Christian milieu to reinforce the Church’s priority on a land settled at least ostensibly by pagans. In the Faroes, recent finds of wooden devotional crosses, perhaps based on Irish or Scottish prototypes, at the landnám farm of Toftanes on Eysturoy (Stumman Hansen 2005) has highlighted the presence of Christians amongst the early settlers. Some have been less than critical with such finds. Rayleigh Radford (1983) saw Irishman even in Greenland, and whilst others saw less significance in the simple wooden crosses in both graves and occupation deposits, a point since substantiated by radiocarbon dates (Eldjárn 1989), simple carved stone crosses remain a point of much discussion and speculation (Ahronson 2003; Fisher 2005). In Iceland, where landnám had been largely fixed by Sigurður Þórarinsson (Thorarinsson 1944) in relation to a widespread tephra fall originating in Veðivötn in AD 871±2 (cf. Larsen 1984), the date of
the earliest Scandinavian settlement has been questioned in a much disputed thesis by Margrét Hermanns-Auðardóttir (Hermannsdóttir 1986; Hermanns-Auðardóttir 1991). As the historical sources are unlikely to yield anything new and only a spectacular new find in the archaeological record would change our view, then clearly there has long been a need for alternative approaches.

THE FOSSIL RECORD

It was Sigurður Þórarinsson’s good fortune to study in Stockholm, where Lennart von Post had developed the study of pollen preserved in Holocene sediments as a means of reconstructing past vegetation, and one perhaps can see a quiet humour in Sigurður’s adoption of VIIa/b as the number for the bicoloured Landnám tephra in Iceland and in Iversen’s (1941) use of the term ‘landnám’ for the earliest evidence of agricultural impact upon the North European forest, at the pollen zone VIIa/b boundary. Þórarinsson, however, whilst initially using this technique to look at Norse Iceland (Thorarinsson 1944, 123–131) moved in other directions, developing the science of tephrochronology, often applying it in archaeological contexts (cf. Thorarinsson 1970). As early as 1922 Jessen (Jessen and Rasmussen 1922) had used palynology in the Faroes and in the 1930’s Iversen had done similar work on Norse Greenland (Iversen 1934), but its systematic application in Iceland had to wait near thirty years before Þórleifur Einarsson (1961) demonstrated the truth of Ari Froði’s words in the mid-twelfth century

“Í þann tíð var Ísland viði vaxið á milli fjalls til fjöru”

At the same time, in a more contentious paper, Þórarinsson (1961) was able to show using tephrochronology that soil erosion was essentially a feature of human impact. Others have since shown that the relations between soils and grazing were more subtle than the bald diagrams of Sigurður and others (cf. Dugmore & Buckland 1991) would imply (e.g. Simpson et al. 2001), and some have cast doubt on the scale of human impact (cf. Ólafsdóttir and Júlíusson 2000). The fact remains, however, as Runólfsson (1978) succinctly put it

“The Icelanders owe their country more than a third of its soils”

Farmers have always tended to be Lamarkists, inheriting the acquired knowledge of their predecessors, but failing to adapt when systems become unpredictable and many were reluctant to accept the impact of their grazing animals. The work of Icelandic soil scientists has had some success in modifying
this view (but see Ólafsdóttir and Júlíusson 2000). Computer modelling (cf. Ólafsdóttir et al. 2001; Simpson et al. 2002) has been employed to examine past landscapes, but they clearly need finer tuning. If Icelandic soil and vegetation had the resilience implied, then why despite deliberately suppressed birth rates (Vasey 1996), did Malthus so often haunt the steps of longhouse and farm not only in Iceland but also the Faroes through into the post-medieval period? Both sediment input and charcoal frequency rise shortly before the Veïðivötn eruption, and the palynological evidence, neatly drawn out by Margrét Hallsdóttir (1987), and more recently by Edwards and others (e.g. Edwards et al. 2005), provides a little evidence of landscape change which can be attributed to human activity, although this adds little to the archaeological record, as there are a number of sites, including Reykjavík, with occupation preceding the tephra fall. At Goðatættur, on the small off-shore island of Papey, named either from the evidence of previous priestly occupants (papar), or as Kristján Eldjár suggested, from a Norseman’s fancy – a resemblance of its rounded rock profiles to the shaved heads of monks - the pollen and charcoal record is supplemented by insects. Ectoparasites and synanthropic beetles appear after the deposition of the Landnám tephra and disappear when the farm is abandoned in the thirteenth century (Buckland et al. 1995).

In the Faroes, in the absence of both forest and the widespread visible marker horizon of the Landnám tephra, locating landnám is more difficult. At Tjørnuvík at the north end of Streymoy, the late Jóhannes Jóhansen (1971) examined both a core and open section in deposits beneath the modern hayfield, close to a previously excavated pagan grave (Dahl and Rasmussen 1956), and obtained uncorrected radiocarbon dates of AD 650±100 and 620±100 from a horizon which showed clear pollen evidence of human impact. Unfortunately, calibration of these dates with recent calibration curves allows significant overlap into the period of presumed Norse landnám (Edwards & Borthwick, in press), but there are other problems with the site. In 1985, Jóhannes returned to Tjørnuvík with Paul Buckland and they dug an exploratory pit at the location of the pollen core to recover samples for insect analysis. The landnám horizon was marked by an increase in inorganic sediment input to the basin and the bulk samples for insects produced not only a far more diverse fauna in the post-landnám phase (Buckland & Dinnin 1998), but also a dung beetle, *Aphodius lapponum*. As has been discussed elsewhere (Buckland 1992; Buckland & Panagiotakopulu 2005), the latter could only exist on the Faroes if large herbivores, sheep or cattle, were present, and it initially seemed to support Jóhannes’ hypothesis - but then doubts, both biogeographic and stratigraphic, set in. *A. lapponum* is essentially northern and montane. If the
departure point for the colonists had been Ireland or Scotland, the *Scottia*
of Dicuil, then the probability of this dung beetle being accidentally loaded
onto the boat in dunnage or ballast is much less than several other species. It
would have been a much more likely candidate if departure had been from the
Norwegian fjords. In terms of simple climatic parameters, several other dung
beetles should be able to establish themselves on the islands, and West (1930)
records *A. ater* in numbers on Suðuroy, although it has not been recorded
subsequently. Why *A. lapponum* is the only dung beetle in the Faroes and on
Iceland and why it failed to establish itself in medieval Greenland remains
uncertain, partly perhaps a reflection of biogeographic accident in terms of in-
troduction and partly one of competitive exclusion of other species. Whatever
the reasons, it does appear as the first anthropochorous insect in the Faroes.
The stratigraphic problems are more severe and are likely to be encountered
on most sites in the Faroes (Fig. 1), where the high relief leads to unsta-
ble slopes. It is not unusual to find an inversion in radiocarbon dates across
landnám horizons as previously metastable landscapes are mobilised by forest
and scrub clearance before a new stability is achieved under a predominantly
grazed grassland regime. This in itself is only stable so long as grazing pres-
sure promotes root growth and is not sufficiently intense to break the rootmat
and lead to further erosion. In landscapes where there are few decomposers
in the invertebrate fauna, organic materials may have a long residence time in
the soil and radiocarbon dates may be significantly older than the sediment
in which the material occurs. This has been well illustrated in an archaeologi-
cal context by Guðmundur Ólafsson’s (2005) work at Viðgelmir in Iceland.
The combination of unstable slopes and old carbon therefore throws some
doubt on the value of the Tjørnunvík data, and similar doubts attend the more
recent work on the site by Hannon and others (Hannon et al. 1998; Hannon
and Bradshaw 2001), where some sort of a *terminus ante quem* is provided by
sherds of the AD 871±2 Landnám tephra in the overlying deposits.

Jóhannes’ other key sites lie on the most westerly island in the Faroes, on
Mykines. His correlation between the small subrectangular fields at Lambi
and the palynological evidence from the longer succession 500m to the east
at Uldahlíð was perhaps adventurous (Jóhansen 1979; 1982), but he did find
cereal-sized grass pollen on the latter site and this warranted a visit to ob-
tain bulk samples for insect remains. Examination of the stratigraphy in the
exposed face, however, and identification of the beetle fauna (Buckland *et al.*
1998) provided other reasons to be sceptical about the pollen data. The highly
eutrophic assemblage on a shallow slope, close to the cliff edge and imme-
diately above a steeply inclined area of ‘fields’, was suggestive of conditions
similar to those pertaining at Lambi at the present day, namely a puffin colony. Their burrows not only provide ideal habitat for much of the eutrophic insect fauna, but also lead to slope instability and Uldahlið appears to reflect this. The high nutrient input from puffins and other seabirds, present before landnám in inestimable numbers, may also explain an inability to detect human impact at settlement in the chironomid faunas from Gróthúsvatn on Sandoy, where the change from birds to domestic stock may have maintained similar levels of nutrients (Gathorne-Hardy et al. 2007), although Church et al. (2005; see also McGovern et al. this vol.) have recently argued for controlled exploitation of bird stocks, which may have left puffins and others in possession of the hillsides around the lake.

More recent palynological research has been reviewed by Edwards & Borthwick (in press) and the frequency of the occurrence of large monoporate grains in deposits older than conventional Norse landnám, extending back into the sixth century, has been considered in relation to their interpretation as either cereal pollen or that of Northern Lyme Grass, *Leymus arenarius*. 

Fig. 1. Erosion as a result of overgrazing at Tjørnúvik, Streymoy, 2003. Barbed wire fences, centre right and left divide separate areas stripped of soils from a field still with remains of former terraces. Grazing in the central area has begun the process of erosion which will eventually cut the area back to bare rock and deposit the sediment into hayfields in the foreground. The site sampled by Jóhannes Jóhansen lies some 50m to the right. Photo: Eva Panagiotakopulu.
Lyme Grass (*Sævarkorn* – its Faroese name suggest that as in Iceland (Guðmundsson 1996) it was once used as a substitute or supplement to cereals) is now rare in the Faroes, and although it does grow along the upper part of the beach at Tjørnuvik, it is difficult to even guess at its former extent. For the more critical, the case remains unproven.

The problem returns to that of the ‘Celtic’ fields (Dahl 1970). Many of these lie on slopes where cultivation would have been improbable, if not impossible (Fig. 2), and their very marginality argues for a population sufficiently numerous to necessitate the use of every available area for growing crops, an unlikely scenario before the medieval period. Accepting Dicuil, it is very unlikely that even the most masochistic culdee would have ignored good land for cropping and grazing and hung on to the cliff edge. Fields of the Lambi type may reflect small scale cereal cultivation and similar systems may underlie the late medieval and post-medieval re-organisations of the Faroese landscape, but the narrow linear baulks lying on steep slopes must relate to other use, although

Fig. 2. Mykines, Uldahlið from the sea, 2004. The steep slope in the foreground shows the narrow strips, ‘fields’, stretching down to the cliff edge. Jóhannes Jóhansen’s sample site lies on the right hand side of the photograph, above the recent landslip. Photo: Kevin Edwards.
that use may have been integrated with that of the small rectangular fields. The clue perhaps lies with the birds. Although the wet climate of the Faroes would not have allowed the deep accumulations of guano, mined for use as fertiliser on the off-shore islands of Peru, at landnám and throughout the medieval period, the nutrient-enriched deposits around the puffin burrows and bird cliffs would have been considerable. The ornithologist Kenneth Williamson (1946) noted that the lush grasses of puffineries, *Lundasina*, provided important grazing areas. The strips perhaps reflect an earlier, more systematic use of the resource, the paring of guano-rich turves to supplement soils on fields in more suitable places for cereal cultivation. Paring, sometimes accompanied by burning, was widespread in northern Europe until modern fertilising techniques rendered it redundant (cf. Coleman 1844; Fenton 1986). The pared turf could be used as animal litter, soaking up manure before being spread on the fields (Davidson 2001), and there is some evidence for this practice in medieval Greenland (Buckland et al. 2008). In the Faroes, the seabirds would have replaced domestic animals as a source of nutrients until the process of paring removed all suitable slopes for nesting burrows and the strips were abandoned.

**CONCLUSION**

Although the pollen evidence has tipped the balance in favour of an earlier phase of settlement in the Faroe Islands, there remains the need for more substantive evidence. Small numbers of settlers with a few sheep, but not the innumerable animals of Dicuil, or other domestic animals can be virtually undetectable in the palaeoecological record. The eutrophic grassland maintained by breeding geese and swans may look palynologically no different from that created by the impact of other, domestic, grazers. Similar problems accompany some aspects of the insect fauna. *Catops fuliginosus* occurs in the deposits immediately beneath the landnám farm at Toftanes on Esturoy (Vickers 2007). Although largely synanthropic (Larson & Gígja 1959), it also occurs around puffin burrows in southern Iceland (Buckland 1988), and it could be part of the naturally introduced biota. What is required is a site where the anthropochorous fauna, either that associated with dung or with stored hay, is clearly stratified in deposits securely dated to before Norse landnám. Until that occurs, for these palaeoecologists at least, the date of the earliest settlement of the Faroes remains insecure, a case not proven.
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REFERENCES


