Chapter 11
The edge of the world: Greenland and North America

Greenland was the most isolated of the Viking colonies and had the most extreme environment. The story of its foundation has again been derived from later written sources, principally the *Íslendingabók* (1122–32). This recounts how Eirik the Red, on a three-year exile from Iceland, reconnoitred the west coast in 981–2. Three years later he persuaded 300 Icelanders to return with him in 25 ships; only 14 ships made it. The colonists split into two groups: the larger group under Eirik settled on the south-west coast in what became known as the Eastern Settlement; a second group sailed 650 kilometres north along an inhospitable coastline before making landfall and founding the Western Settlement.

From the 11th to 12th centuries written sources mention some 190 farms in the Eastern Settlement, and a further 90 in the Western. There may have been somewhere between 2,000 and 4,000 people living on Greenland at the height of the colonies; over their total lifespan it has been suggested that *c.*25,000–35,000 settlers lived there. Given the absence of later occupation, the Norse settlement pattern is well preserved; *c.*250 farms and

20 churches have been identified archaeologically. In order to maximize the available grazing the farms are dispersed, as in Iceland, usually several kilometres apart and separated by mountains and swamps. Cereal cultivation was impossible; domestic animals were kept, but much energy was expended on gathering winter fodder as the cattle had to be kept indoors all winter. By the end of winter in April the farms would have been under severe stress. To supplement their diet the Greenlanders grew to depend on seals, which make up 35–70 per cent of bones found. Each of the farms invested some of their seal meat in keeping great dogs alive. These may have been used for herding sheep, and as guard dogs, but they may represent the lord's hunting pack, split up amongst the farms to keep them fed over winter, but brought together to hunt caribou in the summer. The Greenlanders also traded skins and ivory with Iceland and Europe to obtain grain, salt, and iron.

Excavations in the 1990s at a well preserved Western Settlement farm complex at Gård Under Sandet (or GUS) have revealed what a typical Greenlandic farm might have been like. The farm had been established *c.*1000, and was occupied through a series of rebuildings until *c.*1350. It comprised some 38 rooms, of which 12 were still in use in the final phase of occupation. They were built of timber, including driftwood and fresh timber – much of which must have been imported from Vinland, Siberia, or Norway. The buildings had pitched timber roofs, their underside lined with branches for insulation, and covered with turf on the exterior. Despite the survival of wood in the permafrost no furniture was found, suggesting that the last occupants took their most useful belongings with them. Sheep were kept for wool; goats and cows supplied milk, which was kept in barrels. Hare, seal, and caribou were hunted, and fibres from bison and brown bear fur, recovered in a 14th-century weaving room, suggest that these Greenlanders travelled to North America.

Eirik the Red (*c.*950–1003)

Eirik is the archetypal Viking: a bold leader, aggressive, pioneering, a visionary democrat, good husband, proud father, and red-haired. According to *Eirik's Saga*, he was born in Norway but his family was forced to flee to Iceland when his father, Thorvald Asvaldsson, was exiled because of a murder. In 981–2 Eirik had to flee again because of another murder and he spent three years in outlawry exploring the coast of Greenland. In 984–5 he returned and built the estate Brattahlid, or 'steep slope', in the Eastern Settlement. Eirik's title was that of 'paramount chieftain'. His farm is presumed to lie under Qassiarsuk where a large farm and church were excavated in 1932. The church has been interpreted as that built by Eirik's wife, Thjodhild, who moved out once she became Christian. Eirik died in 1003, having fallen victim to an epidemic brought by a fresh group of immigrants. According to the sagas, Eirik had four children: a daughter, Freydis, as well as three sons, Thorvald, and Thorsteinn, and the explorer Leif Eiriksson.

To boldly go: Vikings in North America

The idea that Vikings discovered America, some 500 years before Columbus, and there encountered strange savages, appeals to the modern quest for adventure, and has been given a contemporary resonance in the exploration of space, and its fictional counterpart in the TV series *Star Trek*. Unfortunately the archaeological evidence is limited, and some of it has been invented. The narrative of the discovery of America is based upon stories first recorded in the sagas, some 200 years after the event. These were originally read as objective historical documents; then dismissed as medieval

fantasy. The current view lies somewhere in between; the sagas probably preserve elements of fact but are likely to have embellished and conflated events. The story of the discovery of America probably represents a semi-mythological account of a sequence of exploration and contact that continued over several decades.

The two primary accounts, in *Greenlanders' Saga* (*c.*1200) and *Eirik's Saga* (*c.*1210–30), appear to have been based on the same original material but diverge substantially. In *Greenlanders' Saga*, Vinland is discovered in two stages. Bjarni Herjolfsson, on his way from Norway to Greenland, is blown off course and accidentally discovers unknown lands south-west of Greenland. Later, in *c.*1000, Eirik the Red's son, Leif, sets out with the aim of exploring the land seen by Bjarni. He visits new areas and names them Helluland, Markland, and Vinland, establishing his base in the latter location. Leif Eirikson then over-winters with his crew before returning to Greenland the following spring. His brother Thorvald returns and explores the coast, but encounters hostile natives, and in a bloody skirmish is killed by an arrow. In *Eirik's Saga*, on the other hand, no mention is made of Bjarni and it is Leif who is blown off course and first sets foot ashore. Exploration of the new lands is credited to Thorfinn Karlsefni, an Icelandic trader, but after three winters, harassed by native Indians, his party returned home.

The location of Vinland has been much debated. Interpretations range from Labrador to Florida, but the consensus is Newfoundland. Vinland is named as the most southerly of the lands encountered and Helluland may be Baffin Island, making Markland Central Labrador. The name Vinland is problematic. It is mentioned in 1075 by Adam of Bremen, specifically as derived from the presence of wild grapes, which do not grow on Newfoundland. However, it is possible that Adam made a mistake and it was the Norse word *vinland* with a short, not long 'i', meaning 'natural meadow or pasture'. Alternatively it has been argued that, as there are wild grapes in the New Brunswick or St Lawrence River area, these resources were certainly available.

Newfoundland's claim to be Vinland became stronger in the 1960s with the discovery of L'Anse aux Meadows, situated on its northernmost tip. The site provided the first clear archaeological proof that the Vikings reached North America. A small Norse settlement was located on a narrow terrace, cut by a small brook. Three types of building have been identified. Three large multi-roomed halls are distinctively Icelandic in shape and layout. They have traits which were common at the end of the 10th century, but lack details developed after the 11th century. The halls each contained one or more rooms where people ate, slept, and socialized. Each of these rooms had a hearth in the centre with wall benches along the sides; each also contained a workshop and a large storage room. It has been suggested that goods were being collected here for trans-shipment, including nuts, grapes, and fine hardwood. Butternuts found in the floor layers are not local and must have come from the area of Quebec or New Brunswick.

Three smaller pit buildings appear to be paired with the halls. As they contained fireplaces they may have been used as accommodation, possibly for slaves, but the presence of 19 net sinkers in one of the huts suggests this was used as a fishing gear store. One of the larger halls also had a smaller rectangular house, of a type used on elite farms for subordinate labour, built next to it. On the far side of the brook away from the buildings there was a bloomery, comprising a simple iron-smelting furnace, with a charcoal kiln nearby. Iron smelting was unknown to the native peoples who inhabited this area and radiocarbon dates from Norse rubbish layers give a 95 per cent probability that the site was occupied between 990–1030. There is evidence for earlier and later Indian occupation at L'Anse, but no evidence for contemporaneity or overlap.

From the size of the bench sleeping space in the living quarters it has been estimated that the halls could accommodate 77–92 people in total. The two largest halls each also had a private chamber at one end, of a type used by manor owners on Iceland. The grouping of

16. L'Anse aux Meadows reconstruction

the buildings into three complexes may suggest three ship's crews, each of around 30 individuals. However, the small size of the rubbish middens and the lack of evidence for building repair suggests occupation was short-lived, although the site must have been intended for year-round occupation as the buildings were solid structures rather than booths. There are no byres, stables, or animal pens, and no cemetery. There were no domestic food bones; the meat consumed was primarily seal and whale. Abandonment was deliberate and orderly with very little material left behind. Only a small number of personal items were recovered and the finds mainly comprised waste associated with either building construction or boat repair, including some 3 kg of iron waste, smithing slag, discarded rivets, and carpentry debris, including a patch, possibly for a small boat.

It seems reasonable to conclude that L'Anse aux Meadows may be the site mentioned in the sagas as settled by Leif. Only a chieftain such as Leif could establish a site like this, and the scale of operations makes it unlikely that it is an unnamed settlement,

especially given the effort that must have gone into its construction. At the time it was built the total population of Greenland was only *c.*2,500. If the estimates are correct then L'Anse aux Meadows was occupied by 10–20 per cent of the population of the entire Greenland colony, presumably mostly by men of prime working age. It seems highly unlikely that the Norse had sufficient resources to construct a string of such settlements.

L'Anse aux Meadows could certainly have functioned as a gateway site. The long distance from Greenland to southern resources in America means this is a good spot for over-wintering, allowing the collection of resources before return. The journey from Brattahlid to L'Anse is over 3,000 kilometres; such a voyage would take perhaps a month, leaving only one or two months for exploration as travel would only have been possible from June to September. The site thus probably belongs to the period when the Greenland colony was exploring and assessing what resources were available. However, it had no long-term viability, because of a number of factors, including the great distances and treacherous seas, the threat of hostile natives, the lack of resources at L'Anse, and the fact that desirable resources were so far away that they were not worth the labour and time required. Lumber and wine could be had from Europe, which also had more to offer in way of luxuries, food, family ties, and the church. In comparison with Europe, the New World had little to recommend it. The Greenland settlement was itself too small to be able to afford a splinter colony and either all had to go to Vinland, or none. When the decision was taken to abandon L'Anse aux Meadows, the North American adventure was abandoned with it.

Given the distances already travelled across the North Atlantic compared with the distance involved from Newfoundland to Greenland, it is perhaps unsurprising that the Norse made landfall in North America. But apart from the effect on the modern American psyche, did their visits have any lasting effects on the

native peoples? Both *Eirik's Saga* and the *Greenlanders' Saga* describe episodes of peaceful trading between Norse and natives, and in *Eirik's Saga* Karlsefni and his men trade red cloth for pelts. While there is no North American site where direct contact can be demonstrated, the quantity and distribution of Norse finds on native sites indicates more contact than recorded in the sagas, and overall the material is consistent with wide-ranging but sporadic contact, rather than long-distance trading of Norse goods obtained by raiding in Greenland. Despite this there was very little cultural borrowing. The cultures were completely alien to each other and evidently neither felt it had anything to gain by copying the other's technology or behaviour.

Decline and abandonment

The timing of, and reasons for, the abandonment of the Greenland colonies have been much debated. These questions have taken on an importance partly because the colonies represent an unusual Viking failure, and with it, the end of Scandinavian expansion westwards. In 1497 Newfoundland was 'rediscovered' by John Cabot. Was there a real gap in European knowledge of the North Atlantic in-between?

Ivar Bardarson, a cleric from Trondheim, came to Greenland in the 1340s to administer the church from Garðar. When he returned to Norway he reported that by the mid-1350s nothing had been heard from the Western Settlement for several years. Bardarson mounted an expedition to investigate, but his ship found abandoned farms, the animals half-wild, with no trace of any inhabitants. The Western Settlement is therefore believed to have come to a close in the mid-14th century. The last documentary reference to the Eastern Settlement comes from accounts of an Icelandic ship beset by storms and fog during a 1406 voyage from Norway, driven to Greenland. The crew lived among the farmers of the Eastern Settlement for four years, and one of them was married in the stone church in Hvalsey. When they sailed for Norway in 1410 that was

the last that anyone heard of the settlement, which is thought to have died out by 1450.

Several reasons have been suggested for the failure of the colonies. One suggestion is that climatic deterioration changed the migratory routes of the caribou, while the settlers were tied to one place by their domestic animals. Grazing deteriorated and the west coast was sealed off from Europe. However, the evidence is inconclusive and for modern scholars such environmental determinism is seen as too simplistic. The Little Ice Age is unlikely to have destroyed the Norse colonists – the intensive chill did not take place before 1600 – by which time they had already disappeared. On the other hand, the observed decline in vegetation may have been caused by the Norse by over-grazing.

Second, it has been argued that the Greenlanders suffered from disease and malnutrition, and may even have been wiped out by the Black Death. However, apart from revealing an increased reliance on marine species, all the skeletons that have been analysed are healthy.

The breakdown of trade with Europe certainly was important. By the 14th century elephant ivory from India and furs from Russia were readily available and the economic basis of the colony was thus undermined.

Fourth, the failure has been blamed on increased competition with the Inuit. The late 13th-/early 14th-century *Historia Norvegiae* recorded violent contact between Norse hunters and *skraelings* who 'used walrus teeth for missiles and sharpened stones for knives', although few now believe that Inuit attacks can have been the sole reason for Norse depopulation, and their arrival in the Western Settlement may well have been after it was already deserted. It is, however, significant that Inuit artefacts and technology are conspicuously absent from Norse sites. The Norse did not adopt Inuit skin-covered umiaks and kayaks, or their

clothing styles; nor did they acquire harpoon-hunting technology to widen their subsistence base.

Lack of adaptation certainly seems to have been an important factor in the Norse decline. Norse farmers were tied to isolated pockets of pasture capable of supporting domestic animals. They took little advantage of the sea; even seals were only clubbed when they came on land, whereas the Inuit hunted them by boat. Farmers lived in a stratified society controlled by powerful chieftains and church officials. The social and economic structure rested upon payment of tithes to landowners, the church, and the Norwegian crown.

The church was an important influence: over 20 local churches were constructed, replete with stained glass, bells, and vestments. Its main power centre was at Garðar where a bishopric was established on the rim of the known world and a small stone cathedral was dedicated to St Nicholas. The bishop's palace complex included a tithe barn where the skulls of 25 walrus and five narwhal skulls indicate the level of tithes. Two huge cow byres with space for 150 cattle show the concentration of economic power. Analysis of the bishop's skeleton (identified by his crosier) revealed that he – unlike his parishioners – was able to live off a diet of land animals, rather than seal meat. In 2000 Thomas McGovern attributed the failure of the Greenland colony to a single-minded concentration on European-style stock-raising strategies:

> When faced with multiple challenges to the basic environmental and social framework of their economy and society, the Norse Greenlanders chose to avoid innovation, to emphasize and elaborate their own traditions, and ultimately to die rather than abandon what they must have seen as core values.

Several sites provide evocative archaeological evidence for the end of the Norse colonies. At the bishop's palace at Garðar nine partial skeletons of hunting dogs lay on floors of stables and dwelling houses, buried beneath collapsing roof timbers in the

mid-14th century. At GUS, the farm was abandoned at around the same time. A solitary goat later returned, and with no one left to care for him, starved to death outside. Later still, after the roof had partially collapsed, a group of Inuit came and camped in the abandoned farmstead, but their fire set the ruins alight and they fled, leaving behind some of their belongings. At Site W54, adjacent to GUS, bio-archaeology has revealed the death of the farmstead, as warmth-loving insects in the lower farm levels were replaced by carrion-loving insects in the upper layers. All that was left in the larder were cattle hooves, mixed with the feet of ptarmigan and arctic hare. In the hallway outside the larder was the partial skeleton of one of the great hunting dogs. Cut marks to the bones revealed that this faithful hound had provided the last supper of the occupants.

This poignant tale of starving 14th-century settlers, clinging to a maladaptive lifestyle, is a far cry from warrior-kings of the 9th-century, and emphasizes the wide range of cultural behaviour to which the term Viking has been applied. In the last chapter it is time to return to the issue of how these different roles have been taken up by subsequent commentators and been used to create their own Vikings.