

The Helluland Archaeological Project

Investigating Evidence of an Early European Presence in Arctic Canada



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Executive Summary

Recent archaeological research has uncovered convincing evidence of an early European presence in Arctic Canada. During the centuries around 1000 AD the ivory and fur resources of Baffin Island and northern Labrador appear to have attracted groups who hunted, traded with the Indigenous inhabitants, and established at least one shore station. The site of this station contains evidence of European-like architecture, introduced species (rat), and of European technologies including spinning (indicating the presence of women) and metal working. The exploration and development of this and other sites hold potential benefits for local communities through the development of historical tourism.

Background

The Norse Greenlandic colonies existed for almost five centuries, between approximately AD 1000 and 1450, and supported a population of up to 2000 people. Although this small nation was separated from the islands of Arctic Canada by less than 250 miles—roughly two days sail for the accomplished mariners of the time—surprisingly little is known of ventures to North America. The archaeological site at L'Anse aux Meadows in northern Newfoundland confirms Icelandic saga accounts that the Norse established a short-lived outpost in Atlantic Canada around AD 1000. There is no further archaeological evidence relating to these southern ventures, supporting the literary sources' suggestion that fear of conflict with the Indigenous occupants of Atlantic Canada prevented the Norse from attempting further exploration or settlement of the area. In the High Arctic a number of Norse artifacts have been found in the remains of early Inuit settlements dating to the 13th or 14th centuries. These finds are concentrated on Ellesmere Island and in adjacent regions of northwestern Greenland, and suggest occasional trade or the salvage of a Norse shipwreck by Inuit who had recently arrived in the area from their Alaskan homeland.

A more significant European presence has recently been detected in the region that the Norse referred to as “Helluland”, a mountainous country to the west of Greenland that can probably be identified with Baffin Island and the adjacent treeless regions of northern Labrador. This region supported sizable populations of walrus and the fur-bearing animals that were of prime interest to Norse commercial hunters. Walrus ivory and other products of the hunt were important in maintaining Greenland's economic and political ties to Europe, and considerable effort was expended in obtaining these resources. During most or all of the time that the Norse Greenlandic colonies existed, this region was occupied by groups whom archaeologists refer to as Dorset culture, and who appear in Inuit oral history as Tuniit, an unfamiliar people who were encountered by the first Inuit immigrants to the area. The Dorset/Tuniit were successful hunters of walrus, bears and most other species in the Arctic environment, and like the Inuit of later centuries they were probably willing to trade the products of these hunts for small pieces of metal and other items of European technology.

Until the initiation of the *Helluland Archaeological Project*, evidence relating to early European contacts with the Dorset/Tuniit was limited to three small pieces of smelted metal recovered from sites in Nunavik and northwestern Greenland. The picture changed when the author of this program investigated museum collections of archaeological material excavated from Dorset sites in the Eastern Arctic and recognized a suite of artifacts including spun cordage, notched wooden tally-sticks, distinctive bar-shaped whetstones, and other items that are anomalous for known Indigenous technologies in northern North America, but which closely resemble the technologies associated with the Greenlandic Norse and other northern Europeans of the Viking and Mediaeval periods. In contrast to the finds recovered from early Inuit sites, which are consistent with sporadic trading contacts, raiding, or salvage, the artifacts recovered from the Helluland Dorset sites (tally sticks, whetstones, spun cordage etc.) suggest a more complex and enduring relationship between the Norse and the Dorset/Tuniit people. The apparent existence of such a relationship was not previously suspected, and its discovery adds a new and potentially important chapter to the history of Arctic North America.

The Helluland Archaeological Project

The research undertaken by the *Helluland Archaeological Project* includes seven seasons of archaeological survey and excavation, extensive comparative study of museum collections, and technical analysis of materials. This work has confirmed the initial identification of European technological elements in archaeological collections from sites on Baffin Island, and the number and variety of specimens in this category continues to increase through both excavation and the examination of extant museum collections. The sites known to produce such materials now extend over a distance of approximately 1500 kilometres and include Nunguvik on northern Baffin Island, Willows Island in Frobisher Bay, the Cape Tanfield area on the south coast of Baffin Island, and Avayalik Island in northern Labrador.

Significant findings that extend previous historical knowledge of the region include:

- Excavations at the Nanook site at Cape Tanfield, Baffin Island, has revealed the remains of architectural features including straight walls built from stone and turf, and a stone-lined floor drain, similar to those found in mediaeval structures in Greenland and northern Europe. Evidence in support of a European identification for this complex includes the identification by microscopic analysis of two rat pelts associated with the structure, as well as tentative identifications of goat, horse and cattle hair. The feature is associated with spun cordage, bar-shaped whetstones, a portion of a crucible, and other items of European technology including a whale bone spade of the type used by the Greenlandic Norse for the construction of such structures.

- Analysis of cordage samples from Helluland sites indicates that the yarn is technically identical to that recovered from Greenlandic Norse farms, but that it was spun from the hair of wild animals, primarily Arctic hare and fox but occasionally the hair of forest animals including mink, otter and muskrat. On the other hand, microscopic examination of textile samples from Norse Greenland confirm that most are made from the wool of sheep and goats, with wild animal fur only rarely

incorporated. This evidence strongly suggests that the Helluland cordage was spun in Baffin Island and Labrador, rather than being imported from Greenland or elsewhere in the Norse world. Spinning of animal hair, especially the short and slippery fibres of wild animal fur, is a complex technology requiring a great deal of practice and the accumulation of considerable skill and knowledge. Given the availability of superior materials for clothing and cordage in the form of animal skins and furs, and the absence of a known tradition of spinning among Indigenous peoples of Arctic America, it seems unlikely that this technology was developed locally by Dorset/Tuniit artisans. Since spinning was exclusively women's work in mediaeval Europe, the ubiquitous presence of this material strongly suggests a significant female component in the early European presence in Helluland.

- Examination of whetstones of a specific rectanguloid form similar to that of Norse whetstones has identified traces of a range of smelted metals and alloys, suggesting that metal use in the Eastern Arctic was considerably more significant than has been previously suspected. Petrographic analysis of the whetstones suggests that most or all are made from local Baffin Island or Labrador rock, so were not imported from Greenland or Europe but were manufactured locally and acquired traces of metal through local use.

- Scanning electron microscopy and electron dispersion spectrometry have identified a small stone vessel from the Nanook site as a crucible used for melting bronze. The interior of the vessel contains abundant traces of copper-tin alloy (bronze) as well as glass spherules similar to those associated with high-temperature processes. The crucible appears to have been broken while in use, suggesting that it was likely used at the locality where it was found; analysis of soil matrix from the Nanook site also produced evidence of smelted metal particles.

- Survey results indicate an inordinate concentration of Dorset longhouse structures, large rectangular enclosures built from boulders, along the southern coast of Baffin Island. These comprise over half of the examples of these curious buildings currently known from Arctic Canada. The location of the longhouses, which are usually considered to be associated with short-term seasonal gatherings in order to exploit a local resource, suggests that they may have been related to European trading activity.

Taken together, these results are beginning to assemble a coherent picture indicating a significant European presence along the Atlantic-facing coasts of Baffin Island and northern Labrador, and involving relatively extensive contacts with the Dorset/Tuniit inhabitants of the region. The timing and duration of this episode is still not clearly understood. An extensive series of radiocarbon dates has now been run on Helluland sites associated with European technology. Although three sites have produced one or more dates in the temporal period of the Viking and Mediaeval Norse settlement of Greenland, the majority of measurements relate to an earlier period than that of the Norse occupation of Greenland. It is currently postulated that most or all of these early dates may be explained as resulting from problems involved in radiocarbon dating Arctic materials. However, we must also consider the possibility of a European presence occurring earlier than the traditional

tenth-century date for the Norse discovery of Greenland. Such a possibility is suggested by recent evidence that the Faeroe Islands were occupied as early as the fourth to sixth centuries AD by people of either Scandinavian or Celtic (Gaelic-speaking) origin, some three to five centuries earlier than the traditional date for Norse discovery and settlement. Norse historians and archaeologists have recently begun to question the historical value of mediaeval Icelandic literary sources relating to the early settlement of the country. Interpreting this saga literature as inextricably associated with the politics of agricultural settlement in Iceland, they consider that it ignores the importance of commercial hunting as a motive for the Norse occupation of Iceland, and particularly of Greenland. In this context, they posit early hunting voyages that may have made use of both Iceland and Greenland for some time before the settlement by farmers that is reported in the sagas. The Helluland sites may hold the potential for testing this hypothesis. The remains of early hunting ventures would be very difficult to recognize among the archaeological remains resulting from centuries of Norse agricultural settlement in Iceland and southwestern Greenland. However sites representing pre-Viking commercial hunting ventures by groups of either Scandinavian or Celtic origin should be identifiable in Baffin Island or Labrador, where they might closely resemble those investigated by the *Helluland Archaeological Project*.

Implications:

In contrast to the archaeological evidence of a single short-term Viking venture at L'Anse aux Meadows, and the scattered objects suggesting sporadic contact or hostilities between Inuit and later Mediaeval Norse, the evidence from Helluland suggests a relatively extensive European presence in the eastern Arctic and one that may have had considerable duration. These findings suggest a re-evaluation of early European knowledge and use of Canada's northern and eastern coasts, as well as of the assumed isolation of the Indigenous peoples of the region from events in the broader world. The archaeological resources related to this historical episode hold significant economic benefits for local communities. The community of Kimmirut, which is located close to the Nanook site on southern Baffin Island, is particularly interested in the potential of developing historical tourism.

Helluland Archaeological Project Publications by Patricia Sutherland:

2015 Evidence of early metalworking in Arctic Canada (with Peter H. Thompson and Patricia A. Hunt). *Geoarchaeology* 30 (1): 74-78.

2013 Using paleolimnology to track the impacts of early Arctic peoples on freshwater ecosystems from southern Baffin Island, Nunavut. (with Neal Michelutti, Kathryn M. McCleary, Dermot Antoniades, Jules M. Blais, Marianne S. V. Douglas, and John P. Smol). *Quaternary Science Reviews* 76: 82-95.

2009 The Question of Contact between Dorset Palaeo-Eskimos and Early Europeans in the Eastern Arctic. In *The Northern World AD 900-1400: the Dynamics of Climate, Economy, and Politics in Hemispheric Perspective*, pp. 279-299, edited by Herbert Maschner, Owen Mason and Robert McGhee. University of Utah Press, Salt Lake City.

2008 Norse and Natives in the Eastern Arctic. In *The Viking World*, edited by Stefan Brink and Neil Price. Routledge, London.

2002 Nunguvik and Saatut Revisited. In *Nunguvik et Saatut: Sites paléoeskimaux de Navy Board Inlet, île de Baffin*, by G. Mary-Rousselière, pp. 115-120. Archaeological Survey of Canada, Mercury Paper 162, Gatineau.

2000 The Norse and Native North Americans. In *Vikings: The North Atlantic Saga* edited by William W. Fitzhugh and Elizabeth Ward, pp. 238-247. Smithsonian Institution Press, Washington D.C.

2000 Strands of Culture Contact: Dorset-European Interactions in the Canadian Eastern Arctic. In *Identities and Cultural Contacts in the Arctic*, edited by Martin Appelt, Joel Berglund and H. C. Gulløvy, pp.159-169. National Museum of Denmark and Danish Polar Centre, Copenhagen. [www.civilization.ca/academ/articles/suth_01e.htm]

Conference Papers:

2012 "Paleolimnology Meets Archaeology: Assessing the Impacts on Local Freshwater Ecosystems of Early Arctic Peoples." (with M.S.V. Douglas, K.R. Hadley, K.M. McCleary, D. Antoniades, J.M. Blais, N. Michelutti, and J.P. Smol). From Knowledge to Action: IPY 2012 Conference, Montréal.

2010 "A Changing Perspective on the History of Arctic Canada during the Past Millennium." IPY Canada Early Results Workshop, Ottawa.

2008 "Norse/Native Contact in Arctic Canada." The Hvalsey Conference, Qaqortoq, Greenland.

2007 "Dorset Longhouses: New Evidence from the South Coast of Baffin Island." Annual Meeting of the Canadian Archaeological Association, St. John's, Nfld.

2006 "The Helluland Archaeology Project in Labrador." The Many Faces of Labrador: Community and Archaeology in the Big Land Conference. Battle Harbour, Labrador.

2006 “Norse Interactions with Inuit and Palaeo-Eskimos in Arctic Canada.” The Thule Culture- New Perspectives in Inuit Prehistory, conference in honour of Hans Christian Gulløv. National Museum of Denmark, Copenhagen.

2004 “Radiocarbon Dating Helluland.” Annual Meeting of the Canadian Archaeological Association, Toronto

2003 “Defining the Nature of Cultural Contact and Exchange in the Eastern Arctic, AD 1000-1400.” Dynamics of Northern Societies conference, National Museum of Denmark, Copenhagen.

2004 “A New Perspective on Native-Norse Relations in Arctic Canada.” Annual Meeting of the Society for American Archaeology, Montréal.

2000 “Strangers, Partners, Neighbours? Dorset and Europeans in Arctic Canada.” Annual Meeting of the Canadian Archaeological Association, Ottawa.