Exhibition Note: Lines in the Ice at the British Library

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Résumé de l’article

Durant l’hiver de 2014-15, la British Library a organisé une exposition intitulée Lines in the Ice : Seeking the Northwest Passage. Bénéficiant de nouvelles récentes concernant l’emplacement du HMS Erebus, un des navires de l’expédition fatidique de Sir John Franklin, l’exposition cherchait à adopter une vision à long terme de l’histoire polaire, en particulier de l’exploration de l’Arctique canadien. Ce faisant, le but de l’exposition était d’explorer les circonstances qui ont maintenu l’intérêt européen et nord-américain pour l’Arctique, du commerce aux ressources naturelles, en passant par la géopolitique. L’exposition voulait montrer comment cet intérêt s’était développé et quel effet cela avait eu sur les sociétés des explorateurs et des peuples autochtones de l’Arctique. Dans ce récit historique, la science, la technologie et l’innovation jouaient un rôle important. Par conséquent, le présent article examine la manière dont cette exposition a développé notre compréhension de l’importance historique et contemporaine de la science et de sa pratique dans l’Arctique.
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Abstract: During the winter of 2014-15 the British Library ran a medium-sized exhibition in its Entrance Hall Gallery, *Lines in the Ice: Seeking the Northwest Passage*. Fortuitously benefiting from news in the summer of 2014 about the location of *HMS Erebus*, one of the ships from the fateful expedition of Sir John Franklin, the exhibition sought to take a long view of the history of polar exploration, particularly in the Canadian Arctic. In so doing, the aim of the exhibition was to explore the circumstances which have maintained European and North American interest in the Arctic, from trade to resources and geopolitics. The exhibition sought to ask how this has developed and what effect it has had on the societies of the explorers and the indigenous peoples of the Arctic. Within this historical narrative, science, innovation and technology played an important role. This note considers how the exhibition developed our understanding of the historic and contemporary significance of science and its practice in the Arctic.
Résumé : Durant l'hiver de 2014-15, la British Library a organisé une exposition intitulée Lines in the Ice : Seeking the Northwest Passage. Bénéficiant de nouvelles récentes concernant l'emplacement du HMS Erebus, un des navires de l'expédition fatidique de Sir John Franklin, l'exposition cherchait à adopter une vision à long terme de l'histoire polaire, en particulier de l'exploration de l'Arctique canadien. Ce faisant, le but de l'exposition était d'explorer les circonstances qui ont maintenu l'intérêt européen et nord-américain pour l'Arctique, du commerce aux ressources naturelles, en passant par la géopolitique. L'exposition voulait montrer comment cet intérêt s'était développé et quel effet cela avait eu sur les sociétés des explorateurs et des peuples autochtones de l'Arctique. Dans ce récit historique, la science, la technologie et l'innovation jouaient un rôle important. Par conséquent, le présent article examine la manière dont cette exposition a développé notre compréhension de l'importance historique et contemporaine de la science et de sa pratique dans l'Arctique.

Exhibition Background

Figure 1. “First Communication with the Natives of Prince Regent’s Bay” from John Ross, 1819. A Voyage of Discovery ... enquiring into the possibility of a North-West Passage.


Since beginning work as Curator for Canadian and Caribbean Collections in 2010, I had repeatedly noticed the strength and depth of the Library’s polar collections, which included such notable pieces as Captain
Scott’s journal from the Terra Nova expedition. However, other than a few well-known collection items, the tremendous strength of the Library’s collections regarding areas like Iceland, Greenland and the Canadian Arctic, have passed largely unmarked. Such a situation is regrettable as the Arctic has been a continual area of collecting throughout the British Museum and British Library’s histories, not to mention a source of fascination to many of the Library’s founder collectors.¹

Sir Joseph Banks, who sailed around the world on Captain Cook’s *Endeavour* expedition and later served as President of the Royal Society, collected a significant amount of material relating to the Arctic as part of his expedition to Iceland and in the course of his wider botanical and scientific collecting:² The library of King George III,³ as well as the previously donated ‘Old’ Royal Library,⁴ also contains a significant amount of material relating to the Arctic, reflecting European interest in the high north as well as the involvement of its peoples in European political and religious struggles.⁵ A final founder collection worthy of note is Thomas Grenville’s collection, which features a large number of materials from the high point of British Arctic exploration after the...

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¹ The British Museum Library and the British Library share a history. The British Museum Library, founded in the eighteenth century by amalgamating various private libraries, including the Royal Library and that of Sir Joseph Banks, was a major part of the formation of the British Library as established in the late twentieth century.


³ Seen from the main public gallery this is one of the most striking features of the British Library. The King’s Library consists of books from Britain, Europe and North America, dating from the fifteenth to nineteenth centuries. The collection consists of 65,000 printed books and 19,000 pamphlets.

⁴ Around 9,000 printed books from the library of the kings of England, from the restoration of Edward IV in 1471 until they were given to the British Museum by George II in 1757.

⁵ For instance, a world atlas belonging to Charles II, displayed in *Lines in the Ice*, depicts not just the Arctic and its resources but also the ‘manners and habits’ of the ‘Lapps’ (Saami). This will be discussed further later but, in short, the presence of the Saami in this volume reflects interest arising from their role in the armies of Gustavus Adolphus. Moses Pitt, *The English Atlas, Vol. 1*, 1680 (BL: Maps 1.Tab.16)
Napoleonic wars, as well as texts by the likes of William Scoresby.\textsuperscript{6} Along with later polar collecting from the 19\textsuperscript{th} and 20\textsuperscript{th} centuries, the amassed collections of the British Library are not just a unique resource for polar research, but also speak to the enduring European and American fascination with polar spaces, especially the Arctic.

A growing awareness of this fact led to the development of \textit{Lines in the Ice: Seeking the Northwest Passage}, which focused on this specific Arctic space to produce a manageable narrative in a small exhibition area. The choice also provided an opportunity to reflect on why this specific area has so recently been resurrected in the Canadian and global imaginations. Planning for the exhibition began in 2013 with awareness of the upcoming Parks Canada expedition in summer 2014 that sought to find more evidence of the fate of Sir John Franklin and his crew. We hoped a small find, say, a spoon, would provide an opportunity to discuss the continuing significance of this route as a way of displaying political ambition, scientific progress, and technical prowess on a global stage.

Despite the focus on the Northwest Passage and the opportunities provided by the locating of HMS \textit{Erebus} in summer 2014, the exhibition still broke out of this narrative framework to consider the wider interactions of polar geopolitics, exploration, and science. It should be noted that this exhibition was never intended to be overly scholarly or authoritative. The British Library Entrance Hall gallery is a relatively small space, housing roughly 80 items, and the audience includes not just scholars, but a wide public ranging from pensioners to families with young children. \textit{Lines in the Ice} set out to introduce these diverse audiences to the long history of Arctic exploration while also seeking to act as a space for discussion about Arctic geopolitics, exploration, and science.\textsuperscript{7} Lastly, since the Library’s polar collections are relatively

\textsuperscript{6} Thomas Grenville, British politician and British Museum trustee, amassed a collection of 16,000 books, covering from the 15\textsuperscript{th} to the 19\textsuperscript{th} centuries, which mostly bear a distinctive binding and embossed book plate. The collection was bequeathed to the British Museum in 1846.

unknown and underused, *Lines in the Ice* sought to act as an invitation for researchers to use these unique and historic resources.\(^8\)

**The Significance of Arctic Science**

As the above suggests, polar science played an important part in the narrative structure of *Lines in the Ice*.\(^9\) The exhibition was split into three sections, roughly describing three eras of Northwest Passage exploration. Section one, “Blank Spaces?” described the period from Martin Frobisher’s Arctic expeditions (1576-78) to that of James Cook (1776-79). Section two, “One Warm Line”\(^10\) charted the post-Napoleonic War period with which John Franklin was associated (from 1818) and ended with Roald Amundsen’s navigation of the Passage between 1903 and 1906. The reason for this end was not just to conclude the section with a successful navigation of the passage, but to highlight a significant change in the technical approach to polar exploration, with which Amundsen is closely associated. This meant section three, “The Arctic and the Modern World,” began with Amundsen, this time looking at his attempts to fly to or over the North Pole.\(^11\) Amundsen, this narrative suggests, is a bridge between two eras defined by their technical approach to polar exploration (and indeed exploration more generally).

By navigating the Passage by boat and then pioneering aerial exploration in the Arctic, Amundsen demonstrates the zenith of the boat and its superseding as a way of exploring and using Arctic spaces for various geopolitical and practical reasons. The exhibition articulated this through the display of the English-language edition of Amundsen’s account of the Northwest Passage expedition (showing an illustration of the *Gjoa* beating

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\(^8\) This is compared to the UK polar collections researchers use by default, such as the Scott Polar Research Institute and, due to its significant Franklin holdings, the National Maritime Museum.

\(^9\) It also is a significant element of the forthcoming British Library book which has grown out of the exhibition. This book also has the opportunity to cover a number of space-related omissions from the exhibition, allowing discussion on aspects such as the voyages of Henry Hudson and cartographic forms such as hydrographic charting. See Philip J. Hatfield, *Lines in the Ice: Exploring the Roof of the World* (London: British Library Publishing, forthcoming).

\(^10\) It would have been remiss not to have a Stan Rogers reference in the exhibition.

\(^11\) As suggested earlier, this is one of the areas where the exhibition breaks away from a sole focus on the Northwest Passage in order to take a broader view.
against Arctic weather), while next to it was a video depicting the launch of one of Amundsen’s (unsuccessful) aeroplane attempts and another showing the (reasonably) successful attempt in the airship Norge. The use of text and video in this display showed how the public’s view of the Arctic changed during the twentieth century, something also articulated through other exhibition items.

As well as providing a significant bridge between sections, the role of science and technology was an important factor within each of the exhibition’s three sections. Evolving standards of cartography, the contentious science of the freezing of seawater, public perceptions of evolving nineteenth-century science, new technologies, the use of science in political discussion, and the role of indigenous peoples in debates about the Arctic were all featured in the gallery. This note will consider, in the following order, the evolving standards (and uses) of cartography, discussions on the freezing of seawater, and how metropolitan societies in Europe and North America Arctic understood polar exploration. The aim here is to illustrate the longevity of these discussions and show the many ways in which Europeans and Americans have engaged with the Arctic through science and technology. As with the exhibition, this paper seeks to act as the beginning of a conversation, shedding light on useful sources held in the Library, as much as it seeks to make any authoritative statements.

Maps were a strong feature in the exhibition, which drew on the Library’s excellent collections. The exhibition illustrated changing cartographic standards over time, moving from rudimentary maps in Martin Frobisher’s accounts to highly detailed twentieth-century Russian geological maps. These illustrated the evolution of cartography, but also their power to not just to convey geography, but also make geopolitical statements that articulated European and North American desires in the Arctic.

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12 The item displayed was, Roald Amundsen, “The North West Passage”: being the record of a voyage of exploration of the ship “Gjöa” 1903-1907; with a supplement by First Lieutenant Hansen, London: Archibald Constable, 1908. (BL: 2352.f.4)


14 These being photographs from the expedition of George Strong Nares, of which more below. Item reference, ‘A Catalogue of Photographs Taken during the Arctic Expedition of 1875-76’ [BL: Maps 20.c.12-13].

15 The British Library’s map collections are world-renowned. Drawing from the Old Royal Library (dating up to the reign of George II), the King’s Library of George III (accumulated during his lifetime and donated by George IV) and the collections of the Library’s other founder collectors, the development of this library has continued since the eighteenth century.
Among the earliest items displayed in the exhibition, maps by Frobisher and Robert Thorne (as well as one commissioned by parliamentarian Arthur Dobbs) illustrated how the rudimentary nature of the cartography could support highly speculative claims about the Arctic. That Frobisher’s map should be incorrect is of little surprise to modern eyes as its style automatically arouses suspicions. The map commissioned by Arthur Dobbs, who had significant property and trade interests in North America, has all the look of an accurate map for the period, but the geography displayed is obviously an act of the imagination. Nonetheless, its skewing of accepted knowledge about North America, aligned with the quality the cartographic production and strength of argument, was enough to convince Britain’s Parliament to offer a £20,000 prize for the discovery of the Northwest Passage.

Britain’s stop-start interest in exploring the Northwest Passage was always underpinned by the production of maps and the language that helped establish British claims in the Arctic. The renaming of the Arctic landscape with the names of parties interested in Arctic exploration is a well-known feature of colonial politics; this, and its role in the wider use of surveying and cartography, were an important feature of the exhibition. So too were modern attempts to re-inscribe the Arctic with the names and meanings attributed to it by indigenous cultures. The Library holds a number of twentieth-century Nunavik and Nunavut maps that illustrate this process and a sheet from a 1990 Nunavik atlas was displayed in the gallery. It is important to note here that, in spite of their colonial heritage, collections such as those of the British Library are an important repository of historical indigenous knowledge. Furthermore, the collections are still growing with the addition of twentieth and twenty-first-century publications in indigenous Arctic languages, especially from Nunavik and Nunavut.

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16 The Library’s most striking example being the prints of Aron Kangek of the Kalaallit (West Greenland Inuit) in the publication, *Kaladlit Okalluktualliait* (Greenland Legends). This was produced between 1859 and 1863 [BL: RB.23.a.35373]

17 Many of these are official publications, such as the Nunavik atlas discussed in this paragraph. Other publications include indigenous language works on conservation (another way of re-inscribing landscape with indigenous meaning), literature, folk-tales and art produced in print form. Examples showing the gallery included, the Germaine Arnaktauyo illustrated, *Stories from Pangnirtung* [BL: X.808/33335] and the 1990, *Nunavik: Inuit Place name map series* [BL: Maps X.1559].
The status of maps as authoritative statements, their versatility in style and content, and their ability to make both claim and counter-claim was a key part of the exhibition’s conclusion. In the third section, two maps, one Canadian and the other Russian, were placed next to each other. The Canadian piece, a sector-theory map illustrates the delineation of Canada’s claim, and shows its underpinning logic derived from the material remains of various British and Canadian expeditions; this provided a contrast to the Russian map which displayed a geological perspective. The Russian geological map shows the developing outline of a number of claims regarding continental shelf extension, especially the Lomonosov Ridge, which support Russia’s current argument about the extension of its boundaries and waters in the Arctic region. Both these maps illustrate how cartographic techniques have shaped arguments for geographical claims and the continued relevance of cartography to delineating Arctic influence, especially as Arctic geopolitics have waxed and waned over time. *Lines in the Ice* aimed to illustrate how this debate has been historically shaped, especially highlighting the marginalization of indigenous voices, in the hope of raising visitors’ awareness that the

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18 Department of Mines and Resources, *Northwest Territories and Yukon, Scale 80 miles to 1 inch*, 1948 [BL: Maps 70420.(38)]
Arctic is not a blank space open to the geopolitical games of those from Europe and North America.

One major factor influencing the waxing and waning of this geopolitical interest has been the extent of Arctic ice and the difficulty in predicting its maxima and minima over time. Before the first European explorers left port for the Northwest Passage, there were already developed, and largely accepted, theories as to the freezing of open seas. At the time of Frobisher’s expeditions it was still widely held that there would be open water at the pole. It was believed that the depth, motion and salinity of sea water made it impossible for the Arctic Ocean to freeze. This is evident in a map not displayed in the exhibition, but which accompanied the published account of Frobisher’s voyage, showing channels to open water and a large obelisk at the North Pole. Prominent natural philosophers were dedicated proponents of this theory, not least Joseph Moxon who was hydrographer to Charles II of England.

Charles II’s Arctic interests were displayed in *Lines in the Ice* through an atlas produced by Moses Pitt, which contained a number of plates about the Arctic, its peoples, and geography. Members of Charles II’s family were involved in the foundation of the Hudson’s Bay Company and Moxon’s theories must have held out hope that continued exploration of the Arctic, and the possible discovery of a Northwest Passage, would lead to future profits. Lest we allow ourselves to think that such theories were pre-Enlightenment holdovers, soon to be snuffed out by the critical minds of the Age of Reason, it is important to note that, even as late as the expedition of Sir John Franklin, voyages were still being sent out to locate open seas and passages because people in key positions believed this theory to be true. Sir John Barrow, Second Secretary to the Admiralty and driving force between Britain’s post-Napoleonic expeditions up until his death in the 1840s, was an ardent believer in the theory that open sea water could not freeze, in spite of the evidenced arguing of more enlightened minds, such as scientist and whaler William Scoresby.

Scoresby had spent many years capturing vessels in the Arctic whale fisheries and turned his keen scientific mind to many of the questions he encountered. Scoresby’s most significant book, *An Account of the Arctic Regions, with a history and description of the Northern Whale-Fishery*, considered subjects as diverse as the form and function of whaling instruments, the description and classification of marine animals, and the structure of snow flakes and ice crystals, all depicted in beautiful

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20 George Best, *A True Discourse of the Late Voyages of Discovery, for finding a Passage to Cathaya, by the Northwest, under the conduct of Martin Frobisher*, 1584 [BL: G.6527]
21 Moses Pitt, *The English Atlas, Vol. 1*, 1680 (BL: Maps 1.Tab.16). The volume held by the Library is lavish and suggests how Pitt bankrupted himself during his attempts to publish the work.
illustrations at the back of each volume of the book.\textsuperscript{22} Scoresby’s extensive experience of the Arctic, knowledge of its seas, and informed opinions about the properties of snow and ice allowed him to authoritatively contradict the opinion of men like Barrow and posit that open ocean could, in fact, freeze. That Scoresby, a working merchant of no notable birth, could be ignored by those sending out expeditions says much about the social hierarchies of the time and the context in which the practice of science operated. In this regard, \textit{Lines in the Ice} sought to show how long a dogmatic stance backed by pseudo-scientific knowledge could endure. It also suggested this is not a luxury we can indulge today: a sea-ice-observation visualisation in the exhibition’s final section starkly showed the continued shrinking of Arctic ice coverage.\textsuperscript{23}

The sea-ice visualisation, as with the film of Amundsen’s aerial voyages, suggested how views of the Arctic from European and North American urban perspectives have changed over time. Even today few people who live outside the polar regions visit either the Arctic or Antarctic Circle. Instead, most people experience the poles through exhibitions such as \textit{Lines in the Ice} and, in much larger numbers, through film and photography. Our enthusiasm today for viewing and learning about the polar regions, as borne out by visitor numbers of \textit{Lines in the Ice} (by far the Library’s most attended Entrance Hall Gallery exhibition\textsuperscript{24}), has a long history. Published accounts were a popular means of learning about explorers’ journeys, even as far back as Frobisher’s travels, but by the nineteenth century public enthusiasm for polar exploration was reaching fever-pitch. Books, pamphlets, maps and even giant panoramas set up in London’s Leicester Square were all popular methods of perceiving the Arctic, with panoramas being the closet people came to experience, by visual proxy, these parts of the world.\textsuperscript{25}

\textsuperscript{22} Preserved at the Library as part of the Thomas Grenville collection [BL: G.2602 and G.2603].

\textsuperscript{23} NASA sea ice reduction visualization: http://svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=3991, accessed November 30, 2015. The visualisation displays the waxing and waning of sea ice coverage in the Arctic over an extended period, illustrating a general annual decline over the period.

\textsuperscript{24} The Library’s official footfall for the exhibition was 101,000 visitors (around 20% more than the previous highest figure).

\textsuperscript{25} For more on panoramas and other visual spectacles of the Arctic see: Russell Potter, \textit{Arctic Spectacles: the Frozen North in Visual Culture, 1818 - 1875} (Seattle: University of Washington Press, 2007).
The exhibition also displayed nineteenth-century photographs produced during the 1875-76 British Arctic expedition (led by Sir George Strong Nares) taken by George White and Thomas Mitchell, two crew trained in photography prior to the expedition’s departure. These photographs, along with the Library’s copy of William Bradford’s *The Arctic Regions*, are some of the earliest photographic documents produced in the Arctic.\(^{26}\) They also begin a complex relationship between the Arctic and photography. As with the books and maps which preceded these new media, photography and film have been used to enthrall viewers, define knowledge, and, perhaps most importantly, express control over the polar regions.\(^{27}\) The power of photography and film to communicate with large

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\(^{26}\) Unfortunately not displayed due to its size but it has been digitised as part of associated work supported by the Delmas Foundation.

\(^{27}\) For example, through the use of photography to record the Canadian sovereignty expeditions led by the likes of J. D. Moodie and A. P. Low. See Jim Burant, “Using
audiences and present events within the frame as irrefutable “ocular truth” means that these media had, and continue to have, a wide impact on how people perceive the Arctic.²⁸

Despite the perceived differences between photography, film, and printed materials, *Lines in the Ice* also demonstrated that there is a strong stylistic dialogue among them. Not least, the ongoing use of the sublime and the gothic, two ways of understanding landscapes that bleed into each other and that framed perceptions of the Arctic. The exhibition explored these tropes—evident in books, pamphlets, maps, photography, and film—and how the wafer-thin line between sublime beauty and gothic danger influenced perceptions of Arctic exploration. *Lines in the Ice*, for example, displayed an illustrated copy of Mary Shelley’s *Frankenstein* next to Sir John Ross’s account of his Northwest Passage expedition to make this particular point.²⁹ The Arctic plays a pivotal role in Shelley’s book (published just as British enthusiasm for Arctic exploration gathered new strength) as a zealous young captain pursues a dream of bringing, “inestimable benefit to all mankind, by discovering a passage near the pole.” During this quest, the captain encounters Dr. Frankenstein as he pursues the ‘monster’ which has led him to the frozen wastes of the north. As the captain listens to Frankenstein’s broken story, his own pride and hubris leads him and his crew into danger with the Arctic ice closing around them. Shelley’s narrative cautions against the horrors that may result when scientific and exploring minds assume they can understand and control environments without considering the dangers that may result from misapprehension. Today’s narratives and visual depictions of climate change work in the same vein, with sublime beauty too easily revealing the gothic horror of uncontrolled climate change at work in polar regions.

Climate change was an inevitable end-point for *Lines in the Ice*, but the research for the exhibition, as outlined in this paper, also showed that today’s peril is not disassociated from the history of polar exploration. While the logs and charts of explorers provide rudimentary benchmarks for contemporary environmental measurements, historical narrative styles and framing devices can also influence how we communicate today’s

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urgent issues. It also, sadly, shows that the centuries-long dream of an open polar sea—one that long drawn explorers—may ultimately represent our undoing on a grand scale.

**Work to Do and Final Thoughts**

*Lines in the Ice* set out to explore the history of contemporary debates about polar regions in global trade, global politics, and their often forgotten effects on the people and biospheres of the polar regions. The key driver of the narrative was the impact of European and North American scientific and technical development and how it drove evolving contact with, and use of, the Northwest Passage, and polar regions at large. As noted at the beginning, the exhibition hoped to be a means of public education, but also the opening of discussion with researchers from different disciplines.

The events arranged around the exhibition, including a lecture from Parks Canada’s lead archaeologist Ryan Harris on the initial findings from HMS *Erebus*, were a major forum for discussion. Researchers from Europe and North America, politicians from various interested nations, and representatives of various advocacy groups took part in the debates around the exhibition and engaged with the issues highlighted by the collection items on display. A notable example was the conference, “Alaska, the Arctic and the US Imagination,” which brought together scholars from Canada, Europe and the United States. It was followed in the evening by a panel, “The Future of the Arctic.” This brought together representatives from the Canadian High Commission and US embassy (respectively chair and future chair of the Arctic Council) to discuss Arctic policy with an audience of researchers, NGO stakeholders, and interested members of the public. The conference and evening discussion were both lively and insightful. Importantly for the Library, they resulted in new engagement by researchers with the Library’s polar collections.

A small digitization project was also begun while *Lines in the Ice* was in development. Comprising polar maps, historic photographs, topographical views, and books, the material should be available online soon. The exhibition, digitization projects and events are all small steps in engaging researchers with the under-used depths of the Library’s polar collections. Covering not just British interest in the polar regions, but also American, Canadian, French, Norwegian, Russian, and much more, the collection provides researchers with unique insights into the history of engagement with the Arctic and the history of contemporary polar issues. Much remains to be done, especially in terms of connecting these collections with international audiences and collaborating with other international institutions with extensive polar collections. The exhibition, however, has
been a productive start in highlighting a deep and important resource for researching the Northwest Passage and polar history.