

SHIPWRECK AT CAPE FLORA: THE EXPEDITIONS OF BENJAMIN LEIGH SMITH, ENGLAND'S FORGOTTEN ARCTIC EXPLORER. By P.J. CAPELOTTI. Calgary, Alberta: University of Calgary Press and the Arctic Institute of North America, 2013. ISBN 978-1-55238-705-4. Northern Lights Series No. 16. xxx + 269 p., maps, b&w illus., notes, appendices, selected bibliography, index. Softbound. Cdn\$39.95; US\$41.95. Also available at www.uofcpress.com as an open access ebook.

Benjamin Leigh Smith (1828–1913) was in many ways unique among 19th century Arctic explorers. He was a member of a Nonconformist or Dissenting family, which meant that, not being members of the Church of England, they could not hold government office or serve in the army, or take a degree from Oxford. While they could attend Cambridge University, they could not be awarded a degree from that institution. Benjamin Leigh Smith's father, also Benjamin, had inherited substantial wealth and hence could afford to flout the conventions of British upper-class society. It was a measure of his refusal to accept society's norms that he had two (and possibly three) wives and families simultaneously, maintaining each at a different socio-economic level, possibly as an unusual socio-sexual experiment. It was Benjamin Jr.'s good fortune that he was born into the family that his father maintained at a very comfortable level.

It was perhaps in part because of his Nonconformist background or this unusual family that Leigh Smith, as an Arctic explorer, assiduously shunned publicity, published nothing about his expeditions, never accepted awards or lectured on his expeditions in person, and allowed others to publish his scientific results. Summaries of his various voyages were published in the *Proceedings of the Royal Geographical Society*, usually written by its President, Sir Clements Markham, but Leigh Smith never attended the meetings at which these summaries were read out. Yet, as an Arctic explorer and oceanographer, Benjamin Leigh Smith had few equals.

To set the scene, Capelotti has summarized earlier expeditions to one of the areas where Leigh Smith would make his mark, namely Svalbard; these include the voyage of Constantine John Phipps (later Baron Mulgrave) in 1773, Sir W.E. Parry's attempt at the North Pole from Svalbard in 1827, and Lord Dufferin's cruise in *Foam* to Iceland and Svalbard, the focus of which was hunting, in 1856.

Meanwhile, on Leigh-Smith's 21st birthday in 1849, his father had fixed on him the substantial annual income of £300. He attended Jesus College, Cambridge, and, since that University had begun to permit Nonconformists to graduate in 1856, he attained his bachelor's degree in 1857. When Benjamin Sr. died three years later, Benjamin Jr., at age 32, inherited a fortune in money and extensive estates in East Sussex and the Weald of Kent.

Shortly thereafter, James Lamont was making headlines with his hunting trips to the Arctic, especially Svalbard,

initially in the chartered *Anna Louise* in 1859 and from 1869 until 1871 in his specially built vessel, *Diana*. It was undoubtedly the press coverage of Lamont's voyages, plus his books, that decided Leigh Smith to head for the Arctic himself. In the interim, he had obtained his master's ticket so that he could command his own vessels. In the spring of 1871, he bought the topsail schooner *Sampson* and headed north in her, bound for Svalbard, with a Norwegian crew. Leigh Smith's primary interests were scientific, in contrast to those of Dufferin and Lamont. As *Sampson* sailed north, Leigh Smith established several oceanographic stations, recording water temperatures at various depths and collecting seabed samples. He was among the first, if not the very first, to identify a layer of relatively warm water beneath a colder surface layer, the warmer water representing the northernmost branches of the Gulf Stream, or more properly, the North Atlantic Drift. Having called at the old Dutch whaling settlement of Smeerenburg, Leigh Smith worked his way east along the north coast of Spitsbergen despite difficult ice conditions, then south down Hinlopenstretet as far as Wilhelmøya, back north again and east along the north coast of Nordaustlandet to within sight of the cape later named Kapp Leigh Smith, the easternmost point of Nordaustlandet. Returning via the *Sjuøyane* on 11 September, he pushed north to a latitude of 81°25'00" N, which would turn out to be his personal highest latitude. By 27 September, after sounding and surveying in Wijdefjorden while the crew hunted reindeer, Leigh Smith was back at Tromsø, having mapped 22 new islands and bestowed 33 new place names, many of them after friends and family members. This was quite a remarkable achievement for his first Arctic voyage, quite apart from his oceanographic measurements.

In 1872, Leigh Smith headed north again in *Sampson*. She put to sea from Hull on 13 May and by 3 June was off Jan Mayen. From there Leigh Smith headed northeast along the edge of the pack ice, establishing 14 oceanographic stations along the way and again finding a layer of warmer water at depth. Ice conditions were more severe than the previous year, but on 28 July Leigh Smith reached the unique donut-shaped Moffenøya. Then he swung south again into Wijdefjorden, where he deliberately beached his ship to repair a persistent leak; in the meantime, he and the crew shot 36 reindeer. Getting under way again, he encountered A.E. Nordenskiöld in *Polhem* off Fair Haven, on his way to try to establish a base hut on Parryøya, from which he planned an attempt to reach the North Pole across the ice. Baffled by the difficult ice conditions, Leigh Smith now headed south, calling at Kongsfjorden, Grønfjorden, and Prins Karls Forland. *Sampson* returned to Hull on 26 September.

For his 1873 cruise Leigh Smith chartered Lamont's *Diana*, but also employed *Sampson* as a support vessel. *Diana* put to sea from Dundee on 10 May and by 7 June was off Kongsfjorden. By the 13 June, she had reached Mosselbukta on the east side of the entrance to Wijdefjorden. There Leigh Smith found not only Nordenskiöld's

Polhem, but also his two support vessels, *Onkel Adam* and *Gladan*. Caught in the fast ice by freeze-up in the fall, all three vessels had endured a wintering instead of just *Polhem*, which meant that the provisions intended just for *Polhem*'s crew had had to be shared among three crews. Scurvy had become rampant among the crews of the support vessels, and there had been at least one death. *Diana*'s crew sledged an abundant supply of provisions, including lime juice, potatoes, and fresh vegetables, across the 6 km of fast ice that imprisoned the Swedish ships, and within a week all the scurvy cases had recovered.

Thereafter Leigh Smith pushed east along the north coast of Nordaustlandet, as far as the Sjuøyane, then back west to Sorgfjorden for a rendezvous with *Sampson*, from which coal and provisions were transferred. Heading next south down Hinlopenstretet and along the south coast of Nordaustlandet, *Diana* advanced to within sight of Kapp Mohn, the southeasternmost point of that island; thus, in conjunction with the 1871 voyage to Kapp Leigh Smith, Leigh Smith had almost circumnavigated Nordaustlandet. Returning via Hinlopenstretet, on his homeward voyage Leigh Smith called at Hopen and was back at Dundee by 26 September. In the spring of 1874, Leigh Smith was awarded the Order of the Polar Star by King Oscar II of Sweden and Norway for having rescued Nordenskiöld's expedition. Typically, he declined to appear in Stockholm to receive it in person.

After a hiatus of several years, Leigh Smith decided for his next Arctic endeavour to have his own ship built to his specifications. This was *Eira*, a three-masted barquentine with a 50 hp steam engine, built at Peterhead and launched in early May 1880. Significantly, in the interim the Austro-Hungarian North Pole Expedition on board *Tegetthoff*, commanded by Karl Weyprecht and Julius Payer, as it drifted with the ice to the north of Novaya Zemlya, had accidentally discovered Franz Josef Land, and Payer, travelling by sledge, had explored a substantial eastern portion of the archipelago, all the way north to Cape Fligely, its northernmost tip, in the spring of 1874. Leigh Smith had taken careful note of these discoveries.

Eira put to sea on her maiden voyage on 19 June 1880. Blocked by ice from reaching Jan Mayen or the East Greenland coast, Leigh Smith headed for Svalbard again. Finding the north coast solidly icebound, he swung back south, around Sørkapp and east towards Franz Josef Land, the western extent of which was still totally unknown. Leigh Smith's landfall was small May Island, off the south coast of Hooker Island on 14 August. Then, heading west along the south coast of the archipelago he discovered and named Northbrook Island, Cape Flora, Nightingale Strait (named after his cousin Florence Nightingale), Mabel Island, Eira Harbour, Bruce Island, De Bruyne Strait, Bell Island, Cape Neale, Alexandra Land, Gray Bay, Cape Ludlow and Cape Lofley. In total he had explored 110 nautical miles of the southern coasts of the archipelago. Running back east to Cape Tegetthoff, he left the archipelago on 1 September, and after a brief visit to Storfjorden on Svalbard, he headed

for home. He was back at Peterhead by 12 October. Soon afterwards he was awarded a medal by the French Geographical Society and also the Patron's Gold Medal of the Royal Geographical Society. Predictably, he did not appear in person to receive either award.

Clearly seeing Franz Josef Land as "unfinished business," Leigh Smith put to sea from Peterhead on board *Eira* again on 14 June 1881. By 23 July *Eira* was off Alexandra Land. Reaching the sheltered waters of Eira Harbour, between Bell and Mabel Islands, her crew landed and erected a substantial, prefabricated wooden house on Bell Island. It was named Eira Lodge. Leigh Smith saw it as a base for future explorations of the archipelago. Heading east, by 16 August *Eira* was moored to the edge of the fast ice, just east of Cape Flora on Northbrook Island. Leigh Smith and companions pursued geology and botany on the island, but on 21 August, when the tide turned, the ship was caught between the advancing pack ice and the fast ice and was irreparably holed. Fortunately she took a long time to sink, and her crew was able to salvage a remarkable amount of provisions, coal, and equipment, all of which was moved safely ashore. An attempt to reach Eira Lodge by boat was blocked by ice. Instead, a substantial stone hut, roofed with spars and sails and called Flora Cottage, was erected on shore. Leigh Smith and his men then settled down for a relatively comfortable winter, the provisions they had salvaged being augmented by the meat of 34 bears and 24 walrus, plus vast numbers of murre and dovekeys before they disappeared before the winter and after they returned in the spring. Blubber lamps provided illumination, while driftwood and the coal they had salvaged from the ship provided heat and fuel for cooking. In early May, the four boats they had salvaged from the wreck were overhauled, and in June a boatload of supplies was brought from Eira Lodge.

On 21 June they put to sea in the four boats, southward bound across a substantial polynya. Having sailed south for 20 hours, they were brought to a halt by pack ice; thereafter they struggled south, hauling the boats across the ice and rowing or sailing along any lead that presented itself. They reached open water on 1 August 1882, and the coast of Novaya Zemlya a day later. On the following day, in the western entrance to Matochkin Shar, they encountered the Dutch research vessel *Willem Barents*, as well as the Scottish whaler *Hope*, which had been chartered by Sir Allen Young specifically to search for Leigh-Smith and his men. Remarkably, Leigh Smith and his men were found to be in excellent health, with no signs of scurvy. On 20 August the rescued men on board *Hope* reached Aberdeen, to a tumultuous welcome. Leigh Smith never returned to the Arctic, devoting the rest of his life to his London townhouse and his East Sussex estates.

Capelotti has produced a comprehensive, well-written, and well-researched account not only of Benjamin Leigh Smith's Arctic expeditions, but also of his unusual family background and his eccentricities. Given that Leigh Smith himself never published anything about his expeditions, this is an impressive accomplishment. Capelotti

has relied heavily on manuscript materials, for example, Leigh Smith's own journal of his first voyage on board *Sampson*, held by Special Collections, Edinburgh University Library, and a range of journals and logs held in the archives of the Scott Polar Research Institute, such as the journal of Lt. Herbert Chermiside for the 1873 voyage in *Diana* or the log of the 1881 voyage kept by Captain William Lofley. Capelotti is also to be commended for having contacted Leigh Smith's great-great-grand-niece, Charlotte Moore, whom he visited on several occasions and who gave him access to family correspondence in the archives of the family home at Hancox, East Sussex. Capelotti has made a valuable contribution to Arctic historiography by so effectively bringing this brilliant, publicity-shy eccentric out of the shadows. Those interested in Arctic exploration and science, especially with regard to Svalbard and Franz Josef Land, will find this book captivating.

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CHANGING COLD ENVIRONMENTS: A CANADIAN PERSPECTIVE. Edited by HUGH FRENCH and OLAV SLAYMAKER. Oxford: Wiley-Blackwell, 2012. ISBN 978-0-470-69969-0. xviii + 321 p., 16 contributors, maps, b&w illus., 20 colour plates, index. Softbound. Cdn\$74.95.

Canada's cold environments encompass a wide diversity of geography, ecology, and culture, and the theme of climate change is now central to any serious discussion of this immense region. *Changing Cold Environments: A Canadian Perspective*, edited by Hugh French and Olav Slaymaker, is a compilation of chapters by leading scientists on a broad range of geographic topics that define Canada's changing cold regions. Readers are introduced to physical, ecological, and societal aspects of Canada's cold regions, with specific focus on the cryosphere and environmental change. Several recurrent themes, including spatial and temporal variability, the notion that contemporary conditions of the cryosphere bear the legacy of the past, and the implications of environmental change on society, help to link the diverse topics. However, these threads are not consistently woven through all chapters of the book, and although the technical content of individual chapters is strong, some sections of the book lack connectivity.

The primary strength of *Changing Cold Environments* is the high technical quality of individual chapters. The book is divided into three sections: 1) Spatial and Temporal Variation in Canada's Cold Environments, 2) The Cryosphere, and 3) The Ever-Changing Scenery. The first section

features chapters on the spatial and temporal aspects of landscape and ecosystem evolution that have given rise to the present day landscape. A bridge to the second section of the book—The Cryosphere—is provided by a good summary by Roger Barry and Mark Serreze entitled “The Changing Climate,” which places contemporary climate change into the context of climate history over the past 3.5 Ma. The remaining chapters provide concise overviews of fundamental cryospheric components, including hydrology, permafrost, lake and river ice, and sea ice. This section of the book is well written and rich in content. The final section of the book—The Ever-Changing Scenery—comprises an eclectic mix of chapters that integrate some of the themes and materials presented earlier in the text through the topics of the changing tree line, geomorphic change in the Arctic and in temperate mountains, cold-climate mountain hazards, and societal aspects of cold-regions environmental change. The application of knowledge on environmental systems and climate change to infrastructure design, adaptation planning, ecosystem management, and environmental assessment are enormous challenges that are faced in Canada's cold regions. These topics receive brief attention from some authors and more focused attention in the chapters entitled “Risk in Cold-Climate Hazards in the Cordillera,” by Jim Gardner, and “Societal Aspects of Changing Cold Environments,” by Gita Laidler.

The text is appropriate for senior undergraduate students and graduate students interested in cold climate science and Canada's North. Each chapter is accompanied by ample references that allow the reader to pursue further research if desired. There are numerous informative figures and maps, and the majority of illustrations serve well to support the authors' points. The broad-scale hydro-climate or sea ice maps vary in the quality of their reproduction and sometimes lack adequate reference points, which can make their interpretation challenging. The introductory chapter by French and Slaymaker provides an overview of Canada's cold regions. The authors begin this chapter by outlining publications with contrasting positions on contemporary climate change. I was surprised by French and Slaymaker's reluctance to comment on these conflicting views and found this a curious tone to set in the introduction of a book on changing cold environments. The introduction also contained a section that emphasized the ambiguity of available data on climate change impacts. While a cautionary approach can be viewed as commendable, and the need to continue long-term data collection is critical, the message here did not seem consistent with the detailed evidence of climate warming impacts on cold regions found in other chapters. The objective may be to stimulate discussion, but the materials as presented could be confusing to the uninitiated reader. For example, the authors correctly state that the temperature of cold permafrost in the northern Mackenzie Valley has risen over the past few decades, and the lack of significant increases in the temperatures of warm permafrost in the southern Mackenzie Valley is used as an example of ambiguity. However, the authors neglect to explain

that the absence of a trend or reduced increase in temperature of warm permafrost is likely due to the absorption of latent heat required for phase change (Riseborough, 1990) and is therefore an expected characteristic of warming permafrost as ground temperatures approach 0°C. The explanation for this phenomenon is only provided much later (p. 139) in a chapter by Chris Burn on “Permafrost Distribution and Stability.”

A particular theme in the book which I enjoyed was the emphasis on spatial and temporal variation of physical processes and the role of past processes, specifically glaciation, on shaping the current landscape and its vulnerability to change. This context is set early in the text by French and Slaymaker, who remind readers that Canada’s cold regions are characterized by diversity and that many landscapes, be they geomorphic or ecologic, may be thought of as transitional, as most of Canada’s cold environments bear the legacy of glaciation. David Evans’ chapter on “The Late Quaternary Glaciation of Northern Canada” and Konrad Gajewski’s “The Evolution of Polar Desert and Tundra Ecosystems” both follow these themes nicely. The longer-term perspective of environmental change recurs in some chapters, notably in those on geomorphic change by French and Slaymaker. The concept that landscapes are in transition and that glacial and post-glacial histories influence their potential for change is an idea that should prove to be increasingly useful in anticipating which cold environments are most vulnerable to future modification.

The book also provides a chapter authored by Laidler that discusses the societal and governance systems that characterize the Canadian North. This is an important component of the text, as Aboriginal perspectives of environmental change and evolving northern governance set critical context that cannot be ignored when considering resource development, community adaptation, and the implications of climate change in Canada’s cold regions.

The strong technical content and the diversity of materials and perspectives presented make this text a valuable resource not only for senior undergraduate and graduate students, but also for professionals working in related environmental fields. The book will complement courses on the geography and ecology of cold regions and can help to set context for courses on northern resource management.

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TO RUSSIA WITH LOVE: AN ALASKAN’S JOURNEY.

By VICTOR FISCHER with CHARLES WOHLFORTH. Fairbanks: University of Alaska Press, 2012. ISBN 978-1-60223-139-9. xv + 405 p., b&w and colour illus., chapter notes, index. Hardbound. US\$27.95.

Firsthand encounters with momentous challenges mark the author’s life, from the early 20th into the 21st century. Son of two authors, American Louis Fischer and Latvian-born Markoosha, Victor (“Vic” to his friends and colleagues) reached adolescence as “Vitya” in Moscow, USSR. Vic’s fascination with the North and Alaska began there, at the Fridtjof Nansen School, where élite students learned to admire pioneering feats, exemplified by the Norwegian polar pioneer for whom the school was named. Thus Vic, his older brother George, and two close chums, Lothar Wloch and Koni Wolf, celebrated Soviet polar achievements of the 1930s. Those included icebreaker developments, the airplane rescue of SS *Chelyuskin’s* crew from Chukchi Sea ice, and “firsts” by aeronauts and pagonauts of 1937–38 (Papanin, 1939). Stalin’s purges, begun in 1936, intensified for several years, draining school faculty and claiming relatives of schoolmates. Markoosha’s desperate perseverance, and ultimately intervention by Eleanor Roosevelt, won permission for Markoosha and her boys to leave the Soviet Union and rejoin Louis in 1939.

After reuniting, the Fischers were invited to the White House for dinner. To accommodate his awe of polar explorers, no doubt, 15-year old Vic was seated between Mrs. Roosevelt and Admiral Richard Byrd. He struggled to follow conversations in unfamiliar English while imitating the sequence of silverware that guests chose for successive dinner courses.

World War II lured the separated friends from the Nansen School into the military services of different nations, Lothar to serve as a Luftwaffe officer, Koni as a conscript in the Red Army, and George and Vic in the U.S. Army. America’s postwar boom and his graduate degree in planning from MIT allowed Vic to choose among job offers in 1950. He and his wife Gloria chose a federal post in the Territory of Alaska over settling into “the cluttered prettiness of New England” (p. 104).

The 1952 national elections roused Vic’s indignation over Alaska residents’ ineligibility to vote. Crisscrossing Alaska for his job while honing his sense of effective democracy led Vic ardently to support Alaska Statehood. Campaigning for statehood strengthened Vic’s skills at forging friendships and agreements across political lines. Vic was elected delegate to Alaska’s Constitutional Convention of 1955–56 in Fairbanks. Colourful depictions of delegates’ arguments and agreements on provisions of the Constitution occupy 50 pages (p. 133–182) and update Vic’s book on the Convention (Fischer, 1975). Policy development sensitized him to enthusiasm emanating from the Kennedy administration in Washington.

After 11 heady years in Alaska, Vic and Gloria followed Alaska Senator Bob Bartlett’s advice and returned to

Boston for graduate study at what is now Harvard's Kennedy School of Government. Subsequent federal appointments elevated Vic to near-cabinet rank. The family's absence from Alaska stretched beyond three years. He comments, "optimism of those days may be difficult to imagine in these more cynical times" (p. 192). Four months after JFK's assassination, the Good Friday Earthquake of 1964 struck Alaska. Within hours, Air Force One was carrying a federal team, including Vic, to Alaska to make firsthand inspections and brief the White House on damage the following Monday.

While still overseeing federal post-earthquake reconstruction in August 1964, Vic returned to the Soviet Union after a 25-year absence for a conference on community planning. He also stopped in West Berlin to renew his friendship with former schoolmate Lothar Wloch. The next stretch in Vic's several careers took shape after Paul Ylvisaker at the Ford Foundation warned that support for U.S. civilian programs would shrivel as the Vietnam war exhausted discretionary federal resources. Returning to Alaska, Vic founded the Institute of Social and Economic Research (ISER) at the University of Alaska, which he directed from 1965 to 1980. Early in his tenure, Vic wondered why the young state's funding for the Institute's research had stopped. He mentioned his concern to Republican Governor Wally Hickel, who summoned his chief of staff to join him and Vic. In their presence, Hickel articulated his policy of contracting evenhandedly for research. It turned out that his chief of staff had imagined a Democratic Party conspiracy to use Vic to wrest Alaska back from Republican Party control. ISER research helped Alaska to navigate various benchmarks: the discovery of petroleum at Prudhoe Bay in 1968, the National Environmental Policy Act (1969), the Alaska Native Claims Settlement Act (1971), oil pipeline construction in 1975–77, and oil flow through that pipeline starting in 1977.

Vic grew restless in academia, and by the mid-1970s he was seeking more tangible objectives. He and his brother George reconnected Vic's Moscow boyhood "Troika" by hosting both Koni Wolf from East Germany and Lothar Wloch from West Germany in New York and Alaska. Some of Vic's most thoughtful passages explore deep friendships and human empathy, trumping the political brutalities of the 20th century. A new wife, Jane (1981), election to the Alaska Senate representing Anchorage (1981–86), a new baby daughter (1983), and symbolically significant trips to China (1984) and Alaska's Little Diomedede Island (1985) highlighted the decade.

Louis Fischer predicted in 1926 that oil imperialism would dominate world politics for a generation or two. Six decades later, political headhunting by petroleum industry operatives and lobbyists derailed his son's reelection bid to the Alaska Senate. Economic doldrums afflicted Alaska until the *Exxon Valdez* oil spill (1989) brought a surge of spending for cleanup efforts.

After 1988, events at both ends of the Soviet Union combined to tap Vic's cosmopolitan skills. At an age when he

might have welcomed easing into anonymity and the aura of eccentricity that surrounds Alaskans who reside there for love of the Arctic (it's hard to reside in a less populous region, or any farther west, east, and north of urban Euro-American centers-of-gravity for global consciousness), Vic continued to travel and raise his profile. Thawing Cold War barriers breached the Russia-Alaska "Ice Curtain" for a few years. As a facilitator for scientific and academic cooperation between the University of Alaska and Russian counterpart institutions, Vic traveled so extensively through Russia that he gladly accepted Russian passports for himself and family. Developments at the European and Beringian ends of Russia remained worlds apart. Anchorage's nickname, "air crossroads of the world" vanished, for example. Refueling there to skirt Russia's periphery stopped when Russia's air space opened to international air carriers. Alaska's nearest neighbours in Chukotka, 12 time zones from London, suffered more, rather than less, privation once the Ice Curtain melted. A corrupt, despotic governor (A. Nazarov) plundered resources in the autonomous region. Chukotka's crisis became so severe that one of Russia's wealthiest post-Soviet entrepreneurs, Roman Abramovich, stepped in to help Chukotkans financially. A delegation of influential Russians and Americans wanted Vic to seek Chukotka's governorship in the next election. Abramovich himself ran and won, however, and ended up making improvements in Chukotka's infrastructure.

Vic's characterizations of key friends and colleagues could strike some readers as "name-dropping." The author's expressed admiration for nearly every associate, however, reflects the sincere civility that permeates his life; not the pale shadow of civility found in public life today. Moreover, depictions of so many people allow readers to calibrate their own experiences with people the author describes. A few syntax and proofing problems escaped the book's editors. Overall, though, this wide-ranging account succeeds as a unique, thoughtful perspective on circumpolar affairs.

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BREAKING ICE FOR ARCTIC OIL: THE EPIC VOYAGE OF THE SS *MANHATTAN* THROUGH THE NORTHWEST PASSAGE. By ROSS COEN. Fairbanks: University of Alaska Press, 2012. xvi + 215 p., maps, colour plates, notes, bib., index. Softbound. US\$24.95. Also available as an e-book.

Alaska had not even a decade of statehood behind it when the discovery of oil beneath the North Slope pointed its future in a promising direction. After commercially viable quantities of crude were located late in 1967, questions of Alaska supplying energy to the lower 48 states went from “if” to “how” as oil executives and engineers scrambled to transport northern energy to southern markets. Pipelines have since answered that question, but before the Trans-Alaska Pipeline System was built, there was the experimental voyage of the SS *Manhattan*, an ice-strengthened supertanker that, for a brief moment in 1969, cut a narrow swath through Arctic history. Ross Coen’s book, *Breaking Ice for Arctic Oil*, is the most comprehensive account of *Manhattan*’s historic but largely forgotten voyage through the Northwest Passage.

Manhattan’s journey in the late summer of 1969, planned to test the viability of using the Northwest Passage as an alternative to pipelines, was the first successful voyage of a commercial vessel through the passage. However, implementing the plan was hardly a smooth operation: the hull and navigation system of the enormous ship had to be reconstructed in an astonishingly short time to make *Manhattan* ready for the round-trip voyage from the eastern seaboard to Prudhoe Bay. Arriving at its destination that September, *Manhattan* retrieved a single gold-painted drum of North Slope oil before heading back east. The ship returned triumphant but bruised by encounters with thick multiyear ice, which eventually led *Manhattan*’s operators to abandon ideas of a trans-Arctic shipping lane altogether and pushed the voyage to the margins of history.

Resurrected through themes of industrial development, environmental protection, and Alaska’s burgeoning statehood, the story of *Manhattan*, its crew, and the many people invested in Alaskan oil offers a glimpse into the harried and innovative processes of securing the future prosperity and autonomy of the 49th state. For Coen, *Manhattan* serves as a lens through which three historical strands, in particular, are brought into focus. Questions concerning the effects of science and technology on human-environment relationships, environmental protection and sovereignty in the Northwest Passage, and *Manhattan*’s strategic relevance within the intensely competitive oil industry are at the forefront of the story. Throughout, Coen guides the ship across sites of interaction and exchange that connect these historical strands with the very people affected by *Manhattan*’s voyages. Both on deck and below, as well as in the front offices and back rooms of the various companies and agencies involved, textured profiles of those who brought the *Manhattan* experiment to fruition bring the wildcatting and roughneck culture of northern oil exploration to life. As

the ship battles through the ice-packed archipelago, Coen routinely looks in on the corporate boardrooms and government offices where decisions concerning the future of oil development are made. Chapters devoted to the auctioning of Prudhoe Bay plots and the standoff between Canada and the United States over the legal status of the Northwest Passage offer thrilling details of the suspicious and highly secretive conditions in which these decisions were made.

Coen’s well-crafted and whimsical narrative is appropriate for engaging a broad readership. Detailed descriptions of Arctic ice, of life aboard the giant vessel, and of the proverbial chess games played by oil executives add nuance to the technological, environmental, and political history of the late 1960s. Coen does well to limit the story to the persons and events central to the voyage itself and to make this history widely accessible. The book is divided into nine chapters, each roughly 20 pages in length, and includes 16 pages of photographs (both colour and black and white), as well as a full bibliography and index. Concise details are both a function of and a tribute to Coen’s extensive research: he cites a strong array of archival and secondary literature, including newspapers, journals, scientific reports, and personal papers of several who took part in the voyage.

Alaska’s emergence as an oil state is easily mythologized to assume an aura of inevitability, Coen writes, but the realities of this development depended on the actions and personalities of the characters involved far more than is generally recognized. Through the paradigm of social constructivism, he aims to elucidate the numerous and often fractious phases of oil development and thus highlight the role of the individuals—almost exclusively men—and the technical, logistical, and temporal challenges overcome along the way. Topics of oil exploration, discovery, production, and transportation, Coen states, “always occur within a particular set of political, social, economic, and historical circumstances whose cumulative influence equals if not exceeds the mere physical nature of the operation” (p. 6). His focus never strays too far from the people involved, and the character profiles and compelling narration are among the book’s strengths.

Coen successfully situates *Manhattan* at the intersections of science and technology, sovereignty in the Northwest Passage, and oil politics and strategy. The book, however, does not come full-circle to explain why it is necessary to revisit *Manhattan*’s voyage within contemporary discussions concerning northern development more generally. After an insightful and convincing exposition of *Manhattan*’s importance in Arctic and Alaskan history, Coen appears to retreat from the broader implications for current scholarship: by concluding that the voyage was merely a “single foot in the threshold” (p. 164) of modern Arctic history, he leaves a sense of ambiguity surrounding *Manhattan*’s legacy for historians. While the book offers an informative account of *Manhattan*’s significance within Alaskan history, questions remain concerning the uses of this history within contemporary discussions of northern

politics and development. Coen's reference to the value of such history for environmental historians, for instance, merits further critical engagement of recent studies in their field, but his discussions are limited to introductory and concluding remarks.

Nevertheless, *Breaking Ice for Arctic Oil* is an informative, accessible, and enjoyable read. Those interested in Arctic and Alaskan histories will undoubtedly find much to enjoy in Coen's detailed and personable narrative, while scholars of northern and transportation histories will recognize important linkages to contemporary northern affairs.

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