INHERIT MY HEAVEN: KALAALLIT GENDER RELATIONS. By KARLA JESSEN WILLIAMSON. Nuuk, Greenland: Department of Culture, Education, Research and Church, Government of Greenland, 2011. ISBN 978-87-92554-14-7. Inussuk Arctic Journal 1. 207 p., maps, references, appendix. Softbound. No price indicated.

It seems to me this could be an important book, both methodologically and theoretically. Williamson's doctoral project, out of which this volume emerged, was to produce an ethnographic portrait of her home community of Maniitsoq, Greenland, through her profoundly collaborative relations with Maniitsoq women. The result is a well-written account that deftly uses Greenlandic concepts to draw the reader in—for instance, the title of the introduction is *iserit tamassa* ('do enter; it's all there')—and subsequently to challenge still common ideas about gender as an inevitably structuring principle of *kalaallit* (Greenlandic) sociality. On a broader scale, the conceptual frame goes against the grain of still prominent binaries such as mind vs. body, individual vs. society, and nature vs. culture. Instead, the author draws on Oscar Kawagley's (1993) work to suggest a tripartite scaffolding—mind, soul, body—for exploring the bases as well as the processes of Maniitsoq social life today. I found the overall account to be original and provocative.

It is no longer unusual to recognize the dependence of social science research on collaborative efforts. Collaboration is one way to decolonize the research process, which is particularly important in contexts such as Greenland (or rural Alaska, Mexico, or India, for that matter), where the politics of knowledge production, as well as the implications for its application, are shot through with issues that systematically privilege some voices and mute others. What makes Williamson's form of collaboration so striking is the extent to which it infuses all levels of her work. Each of the seven women participating in the research had to "pay" for her participation with a research question. The topics of their questions included an interest in how couples cooperate, the role of gender in child rearing, challenges of becoming and being an independent woman, the causes and forms of abuse, and the role of women in development. Each woman was the primary researcher for her own question, which was then discussed collectively.

These topics form the basis of core chapters in the volume, which Williamson then uses to formulate a series of her own arguments about conceptual frameworks and structuring processes. Noting that one elder explicitly drew on three Greenlandic concepts to explain her understandings of her own life—*timikkut* ('body'), *tranikkut* ('name-soul'), and *anersaakkullu* ('creative energy autonomous from mind' or roughly translated, 'spirit')—Williamson draws on Kawagley's framing of 'tetrahedron' as a key (Alaskan) Yup'ik structure, intellectual as well as physical. It is a form, Kawagley asserts, that both supports structural stability and allows flow. In Maniitsoq, Williamson suggests, these three elements serve 'to expand the intellect' and are deployed when life-altering events occur. Together they contribute to *sila*—imaginative intellect that simultaneously reflects knowledge of the world and encompasses the intelligent energy that is the world. In a later chapter she returns to the tetrahedral in thinking about work that likewise combines three elements: it is a continuation of social relations with animals, with other souls, and with *nuna* ('land'), and it expresses existential ideas that are simultaneously physical, spiritual, and cosmological—*sila* from another view. The key argument for me in the volume revolves around the recognition that gendered categories exist—they are apparent for instance in parental roles and a marital division of labour and are made more complex though colonial contacts—but that they do not inform the key tetrahedrons that structure *kalaallit* worldviews. The Maniitsoq view of the cosmos is genderless. This is an important argument, and well made.

Although I very much enjoyed the way Williamson uses the exact words of her interlocutors to explore key *kalaallit* concepts, I nonetheless feel that she offers her readers a slightly over-determined characterization of genderlessness in the language of the *kalaallit*, pointing, for instance, to the fact that personal pronouns are not gendered. *Die sonne*, *el sol*, and the sun all refer to the same object in the sky; the fact that it is gendered female in German, male in Spanish, and neutral in English tells us virtually nothing about the gendering of social worlds in the places those languages are spoken. There has been considerable—and powerful—work done in sociolinguistics to explore the ambiguities between thought and language, which were not taken into consideration in these arguments.

I was convinced by Williamson's argument that the core concepts through which Maniitsoq social life becomes meaningful are gender-free, and I think that it is an important argument to make. Nonetheless, her ethnography is shot through with gendered material—from distinct patterns of parental behavior to differential rates with which men and women attempt to take their own lives. I think the key argument would have emerged with greater impact if the author had brought these two elements together analytically—showing the ways in which the presence of core meaning that is not structured through gendered assumptions does not erase gendered aspects of social life—and equally illustrating that the presence of gendered categories does not by definition render them structuring principles.

Nevertheless, over the course of the volume, Williamson explores the linguistic concepts through which Maniitsoq residents reflect on the quality of their lives: what happens when couples *'tulluutinngitsut'*—do not complement each other with regard to the triadic elements; the relation between *kalaallit* and Christian human and non–human centered origin stories; the different Kalaallisut words through which knowledge as a complex category may be unpacked—and importantly for local politics, the power of defining words, actions, or people as *kalak* ('backwards'). Williamson's final chapter is a consideration of the tensions that occur when these particularly *kalaallit* knowledge forms are brought into question—sometimes by *kalaallit*

themselves—with a privileging of modern, Danified ways of knowing.

The story resonates with the effects of "colonization" as a form of knowledge production and of "decolonization" as a focus of education reform in many contexts across the world. It is, in this instance, a story that is powerfully told in its commitment not to shy away from complexity. As such, it should be of interest to those engaged in gender studies, the sociology of education, anthropology, Arctic studies, and development.

## REFERENCES

Kawagley, A.O. 1993. A Yupiaq world view: Implications for cultural, educational, and technological adaptation in a contemporary world.. PhD thesis, Department of Social and Educational Studies, University of British Columbia, Vancouver.

*Barbara Bodenhorn*
*Department of Archaeology and Anthropology*
*Division of Social Anthropology*
*Pembroke College*
*Cambridge, United Kingdom CB2 3RF*
*bb106@cam.ac.uk*

NORTH PACIFIC TEMPERATE RAINFORESTS: ECOLOGY & CONSERVATION. Edited by GORDON ORIANS and JOHN SCHOEN. Anchorage: Audubon Alaska and the Nature Conservancy in Alaska; Seattle: University of Washington Press, 2013. ISBN 978-0-295-99261-7. xi + 383 p., maps, b&w illus., 20 contributors, literature cited, index. Hardbound. US$60.00.

Very few places on earth are as productive as the temperate rainforests along the Pacific coast of North America. Here, wild rivers connect marine, freshwater, and terrestrial environments to verdant rainforests distributed on thousands of islands and the mainland. These forests are young by geological standards (< 10 000 years) but populated by centuries-old rainforest trees. Only three other temperate rainforests share the distinction of relative intactness with those of this region: portions of the Valdivia rainforests of Chile and Argentina, cool-temperate rainforests of the Russian Far East and inland southern Siberia, and ancient Gondwana temperate rainforests of Tasmania. Thus, the region's importance is noteworthy globally.

In particular, the Tongass and Great Bear rainforests in this region are champions in storing vast quantities of carbon important in regulating global climates; they contain the most productive salmon runs in the world; and they support intact predator-prey dynamics, a rarity in temperate areas globally. These rainforests certainly deserve the kind of meticulous attention provided by editors Gordon Orians and John Schoen and the many distinguished chapter authors.

The book is well written, thoroughly researched, and balanced in its approach to conservation and responsible forest management, taking into account dependencies of aboriginal peoples on the rainforest's life-giving ecosystem services (Chapter 5); the historical and transitioning economics of the region, including changes in the forestry sector (Chapter 9); the role of island biogeography and glaciation in rainforest biodiversity (Chapter 2); riparian ecology (Chapter 3) and watershed planning (Chapter 8), and disturbance ecology (Chapter 4). I highly recommend this book for students of forest ecology and land managers concerned about the fate of these remarkable rainforests as rainforests around the globe face off against rising land-use demands and unprecedented climate change.

The book's greatest strengths are its solid scientific underpinnings. The science is interpreted through the lens of practical applications to ways of recalibrating forest management so that it can operate within rainforest limitations (Chapters 9, 10). We have the scientific knowledge to do this right now through advances in conservation biology, climate change modeling, and reserve design (Chapters 7, 8, 10), and efforts are underway to trigger a concomitant shift toward compatible and bio-regionally based economies. However, we do not yet have a policy-relevant means for achieving the book's bold and much needed vision, as the authors rightfully let others schooled in the sausage-making of conservation policy figure out how to navigate the region's stormy political waters. Most notably, the Chapter 10 synthesis cites the need to transition the timber industry into second-growth management in order to save what is left of remaining old-growth forests. Advances in second-growth management and restoration forestry can be combined with production of specialty wood items, obtained from a small number of old Sitka spruce trees harvested for community purposes, to enable a speedy transition out of large-scale old growth logging. Getting to that vision, however, will require a new business model that must overcome the economic challenges of small-diameter wood products in northern latitudes, as the authors aptly note. Also needed for this transition to take place are federal subsidies to provide the means for sawmills to retool to accept smaller logs and the emergence of value-added and job-producing wood products, such as wood pellets for home heating. These efforts are currently underway and will require new investments in infrastructure and market demand as noted by the chapter authors.

The only weaknesses in this book are minor. Some of the materials repeated in several of the chapters could have been summarily condensed as a more integrated reference. And while the authors cite new work on temperate rainforests since the 1990s, they rely on prior inventories that are outdated, for example, Ecotrust's estimate that the region's rainforests represent 50% of the global total (vs. the 35% provided by new estimates using standardized computer mapping techniques). The authors could also have added a section on emerging carbon markets as a tool for rainforest conservation on nonfederal lands given the globally significant carbon stores in this region and the need to provide an economically

level playing field for conservation on important old-growth forests otherwise destined for industrial-scale logging.

Continued old growth logging of the Tongass and Great Bear rainforests has global consequences because few such intact areas remain around the globe, and farther south, the rainforests of Clayoquot Sound and the Pacific Northwest are highly fragmented. Notably, Chapter 6 discusses the concept of a region-wide successional debt whereby intact rainforests are fragmented by industrial logging and then managed under short rotations that result in a bimodal distribution of forest age classes. For instance, logging on the Tongass began in earnest in 1954. Thus, forests are either old growth or plantations, and there are few intermediate-age forests except for the occasional blowdown that has aged over time.

Chapter 9 outlines an experimental approach to forestry largely on the Great Bear rainforest but to some degree on the Tongass, where forest management attempts to mimic natural disturbance processes (small-scale blowdowns and avalanches are the predominant disturbances; fire is rare). The tree retentions in forestry operations appear to benefit some species that use old-growth forests but not others that are dependent on intact areas with forest interior conditions. Although tree retentions in logging operations hold promise over industrial logging, the trees retained in clearcuts are generally low (15%–20%) and are influenced by edge effects, including blowdown. Moreover, it is not known whether this kind of experimental forestry can offset the successional debt noted in Chapter 6 and what sort of carbon dioxide emissions it will release compared to industrial logging and no logging.

Several places in the book identify gaps in rainforest ecology and management. In addition to the gaps noted by the authors, there is the need for basic inventory work on the region's rainforest canopies. The type of canopy biota found in these forests (e.g., small trees and shrubs growing on massive tree branches, arboreal lichens, mosses and liverworts, salamanders, small mammals, threatened species, and endemic invertebrates in rainforest canopies on the Olympic Peninsula and the redwoods) is unique to rainforests and serves to identify them worldwide. Many lichens, in particular, are highly sensitive to desiccation that might occur as a result of clearcuts or variable retention harvests.

In closing, *North Pacific Coastal Rainforests: Ecology & Conservation* is a reference textbook about these rainforests that builds on the seminal work of *The Rainforests of Home: Profile of a North American Bioregion* (Schoonmaker et al., 1997), *High-Latitude Rainforests and Associated Ecosystems of the West Coast of the Americas: Climate, Hydrology, Ecology, and Conservation* (Lawford et al., 1996), and *Temperate and Boreal Rainforests of the World: Ecology and Conservation* (DellaSala, 2011). Conservationists, managers, and students need to have each of these references to understand basic rainforest ecology and the demands now being placed on rainforests while there is still time to implement a grand vision of conservation and responsible stewardship. The book should also be stocked in libraries and sold as a textbook for forest ecology classes.

## REFERENCES

DellaSala, D., ed. 2011. Temperate and boreal rainforests of the world: Ecology and conservation. Washington, D.C.: Island Press.

Lawford, R.G., Alaback, P.B., and Fuentes, E., eds. 1996. High-latitude rainforests and associated ecosystems of the West Coast of the Americas: Climate, hydrology, ecology, and conservation. Ecological Studies 116. New York: Springer-Verlag.

Schoonmaker, P.K., von Hagen, B., and Wolf, E.C., eds. 1997. The rainforests of home: Profile of a North American bioregion. Washington, D.C.: Island Press.

*Dominick A. DellaSala*
*GEOS Institute*
*84 Fourth Street*
*Ashland, Oregon 97520, USA*
*dominick@geoinstitute.org*

THE CANADIAN RANGERS: A LIVING HISTORY. By P. WHITNEY LACKENBAUER. Vancouver: UBC Press, 2013. ISBN 978-0-7748-2453-8 (Pb). xv + 618 p., maps, b&w and colour illus., notes, bib., index. Hardbound, Cdn$95.00, US$99.00; Softbound, Cdn$34.95, US$37.95.

*The Canadian Rangers* offers a detailed history of this unique quasi-militia group, from its origins to the much-publicized organization we know today. Despite their somewhat tenuous beginnings, followed by periods of disorganization and neglect, the Rangers in the last decade or so have finally become sufficiently established to assure a future role in the defence of the Canadian Arctic. This handsome volume is well organized into multiple chapters and subheadings; it has more than 480 pages of text, supported by another 121 pages of endnotes and bibliography, plus an excellent index. While a weighty tome and occasionally repetitious, it is filled with a super-abundance of photographs, maps, and graphs. For this reason alone, the book will be of particular interest to those who were directly or indirectly involved in the Ranger organization—perhaps the only ones who can fully attest to its accuracy. For scholars, this important addition to the history of the Canadian Arctic provides a virtual encyclopedia of new information.

Whitney Lackenbauer's passion and enthusiasm for the subject are self-evident throughout. His personal interest in the Canadian Rangers began over 25 years ago when he was working as an undergraduate co-op student for the Director of Aboriginal Affairs, Department of National Defence. Subsequent years of intensive study and archival research were accompanied by many firsthand experiences with

individual patrol units. His purpose in writing the book was to explain "how and why the Canadian Rangers took shape, how cycles of waxing and waning support influenced the form and pace of their development during the Cold War, and how the organization has grown and gained national recognition over the last three decades" (p. 7). In doing so, he adeptly weaves a tale of how the Rangers would survive several threats of disbandment and instead grow to an entity with almost 5000 active members and 178 Patrol Units scattered throughout northern Canada (p. 449). In the remote Arctic communities, in particular, the Rangers also succeeded in creating a cross-cultural bridge of mutual respect between the Canadian Armed Forces and the Inuit—a point the author emphasizes on numerous occasions.

Following a brief but ample introduction, the author quickly moves on to the origins of the Pacific Coast Militia Rangers during the Second World War, which ultimately led to the establishment of the Canadian Ranger organization in 1947. In spite of considerable opposition to the idea, the winning argument was a somewhat reluctant admission that the cost of "a rifle, two hundred rounds of ammunition per man annually, and an armband" was by far the least expensive means to acquire intelligence (p. 74)

Although off to a tenuous start, the Rangers gained credibility at the onset of the Cold War because of the need for local surveillance in the Far North and along the Pacific and Atlantic coasts. Numbering over 2600 by the late 1950s, the organization was described by the Canadian government as "a shadowy band of volunteers who patrol Canada's remotest areas on lookout for any enemy landings" (p. 195). Yet without centralized training or direction and given the lack of communication between the local groups, the patrol units became isolated—some flourished, but others became inactive. Their importance also declined with the advent of long-range bombers, mid-air refueling, nuclear submarines and ballistic missiles. With growing emphasis on strategic deterrence, radar detection, and missile retaliation to a potential invasion over the pole, support for the Rangers dwindled, leading one officer to suggest that they were now obsolete (p. 191). By 1969, their decline into oblivion was all too apparent in a speech made by former Prime Minister John Diefenbaker, which suggested that he was unaware the Rangers even existed (p. 227).

As expected, a study on the Canadian Rangers commissioned by the Department of National Defence (DND) in January 1970 reported that the active units were in disarray, disorganized, and lacking any direction from headquarters. As a consequence, it was recommended that the entire organization be disbanded. Unwilling to take that step in light of Prime Minister Trudeau's commitment to establish a military presence in the far North, a second study was commissioned. This time the recommendations suggested reorganization and improved training (p. 244). By the end of the decade, however, concerns about northern security or sovereignty had faded and because of cutbacks in the defence budget, "proposals to redefine, restructure and better equip the Rangers in the North fell on deaf ears" (p. 269). As a consequence, patrol units were eventually disbanded in northern Alberta, Saskatchewan, Ontario, and British Columbia. Only those in the Yukon, Northwest Territories, Labrador, and along the northern coast of Quebec survived.

By the 1980s, the composition of the surviving patrol units differed greatly from the original Pacific Coast Military Rangers. In 1986, for example, the northern region had a total of 647 Rangers, of which 87% were Inuit and 12% First Nations. Only 41% spoke English (p. 289). Popularity of the Rangers among the indigenous peoples arose from pride in being able to serve their country without leaving their homes—an opportunity not offered by the regular forces. Yet in the 1987 White Paper on Defence, which called for more funding to build a greater military presence in the North, the reference to expansion of the Canadian Rangers seemed almost an afterthought. Ironically, their low cost not only guaranteed their survival, but gave impetus for their growth. For example, when military budgets suffered further cuts in 1991, the Canadian Rangers managed to expand over the next two years in both the northern and Atlantic regions.

During the 1990s, the role of the Rangers took on new meaning with increasing references to their role as "an instrument of internal cohesion and capacity building" (p. 335). In this context, Canadian Ranger Patrols were revived in northern Ontario and Quebec in response to growing tension in First Nation communities "North of 50." An Enhanced Program was introduced for more successful units, and in 1996, Rangers were issued standardized red sweatshirts with hoods, T-shirts, and toques bearing a Ranger crest. Now easily recognized in their new uniforms, they soon became media favourites for photo-ops, which in turn increased public awareness throughout Canada. A Junior Ranger training program was also established and rapidly gained popularity among young people, both boys and girls. By 1999, there were 41 junior patrol groups in the Territories, northern Quebec, and Ontario (p. 371), compared to 140 Canadian Ranger patrol units (p. 380).

At the turn of the century, another formal review again affirmed the Rangers as "a valuable, inexpensive operational resource" (p. 386). As their numbers increased, so did their budgets, with promises of new boots and more equipment. Although surveillance was still considered central to their mandate, the men themselves had become role models within their respective communities, largely because of their active roles in local emergencies and in training the Junior Rangers. Inevitably, their role took on a socio-political dimension that served to reduce Native mistrust of the Canadian Armed Forces. Whereas the future of the Rangers seemed secure as the most cost-efficient means to ensure a quasi-military presence throughout the Arctic, bringing national cohesion to a well-established, decentralized organization still presented a major challenge for the Department of National Defence. In a sense, the task of unifying the Canadian Rangers mirrored the same tensions experienced by the federal government in dealing with the

diverse regional needs and cultural influences of ten provinces and three territories.

From the author's perspective, the Rangers' ultimate achievement was their success in fostering acceptance of the Canadian military among Inuit and First Nations communities. As described in the final paragraph (p. 481):

> The Canadian Rangers are not an anachronism; nor are they broken and in need of retooling. Sometimes, in unexpected places, and in unexpected ways, the most successful of relationships take shape—at their own pace and in unique forms that both reflect and shape the world in which we live.

*Shelagh D. Grant*
*Adjunct Faculty, Canadian Studies Department*
*Research Associate, Frost Centre, Trent University*
*Home address: 581 Weller Street*
*Peterborough, Ontario K9H 2N9, Canada*
*sdawng@bell.net*

THE REINDEER BOTANIST: ALF ERLING PORSILD, 1901 – 1977. By WENDY DATHAN. Calgary, Alberta: The University of Calgary Press and the Arctic Institute of North America, 2012. Northern Lights Series No. 14. ISBN 978-1-44238-586-9. xxii + 726 p., map, b&w illus., notes, selected references, index. Softbound. Cdn$44.95. Also available as a free, open access e-book from www.uofcpress.com.

There is a general tendency to distinguish between the bygone age of Arctic exploration and the more modern era of Arctic science. Yet often, quite a bit of science took place on early expeditions to the Arctic, and many scientists working in remote regions and habitats still do a fair bit of exploration to this day (think seafloor vents and sub-glacial lakes). In the first half of the 20th century, these two vocations were joined seamlessly in the person of Alf Erling Porsild, one of history's premier Arctic scientists, whose life and times are captured in colourful and gripping detail in this long overdue biography by Wendy Dathan. The book provides front-row insights into a nearly forgotten world in which researchers interacting between Europe and North America crossed the Atlantic by steamer, vast stretches of the Canadian Arctic were traversed by dog sled, by riverboat or on foot, and the flora and phytogeography of the region were still poorly understood.

As a Master's student botanizing in interior Alaska in the mid-1980s, I began coming across the name of A.E. Porsild, who was known among his contemporaries as Erling. I was lugging around the massive tome *Flora of Alaska and Neighboring Territories*, by Erling's erstwhile Nordic colleague and occasional sparring partner Eric Hultén (Hultén, 1968). Within its 1008 pages, Porsild's key works on the botany of the Canadian Arctic were cited liberally. The next year, when I was an incoming doctoral student in biogeography planning fieldwork in the High Arctic, my mentor at McGill University recommended the *Illustrated Flora of the Canadian Arctic Archipelago* (Porsild, 1964), which had already been out of print for many years. I easily picked up a crisp, virtually new copy in a Montreal used bookstore. Spending the next few summers huddled in a tent and filling plant presses while consulting this Porsild classic and his posthumously published masterwork *Vascular Plants of Continental Northwest Territories* (Porsild and Cody, 1980), I became familiar with the breadth and depth of Porsild's contribution to Arctic botany. Yet I had no idea about the strong personality of the man who braved considerable hardship and privation over many years to bring this knowledge to the wider public. I got a hint that his background went beyond mere "hay gathering" when I came across a reference to his work on reindeer grazing in northwestern Canada (Porsild, 1929). The latter report was cited in the masterwork of yet another botanical colleague and occasional competitor, Nicholas Polunin, who gave the first detailed description of the flora and vegetation of Clyde River (Kanngiqtugaapik), Baffin Island (Polunin, 1948), my main study site. Intriguingly, many of the vascular floras and atlases treating the North American Arctic were written by Europeans such as Hultén (Swedish), Porsild (Danish), and Polunin (British) (Forbes, 2013). All of these people and many more from Alaska to Ottawa, Boston, and Fennoscandia come vividly alive in this volume, which tracks closely some of the most challenging decades of Arctic research in the Western Hemisphere through the keen and discerning eyes of one of its central participants.

Erling was raised in and around Qeqertarsuaq (formerly Godhavn, 69° N) on Disko Island, Greenland, where his father, Morten—an eminent and internationally known Danish botanist himself—ran the first permanent Arctic research station. Erling and his older brother Bob were both well schooled in the fundamentals of plant taxonomy, field collecting, and herbarium protocols, even if Erling (in his father's assessment) was apparently the keener of the two from an early age. Equally important was his total immersion in all aspects of life on the land and sea: hunting, fishing, dog-mushing, capricious weather, and long, dark winters. In the process he became fluent in the Greenlandic language and intimately familiar with the indigenous Inuit and their culture. One could presume, given this pedigree and background, that he was destined to make a big splash in the relatively small pond of Arctic botany as it was practiced in the early to mid 1900s. Yet such an assessment would be unfair. By the time he turned 21, Erling yearned for an education and life beyond what Greenland could offer, but he saw few options on the horizon and began to despair. While he certainly gained a toehold a few years later because of his father's friendship with Chief Botanist Oscar Malte at the National Herbarium of Canada, his navigation of a somewhat tortured career pathway and his ultimate success at the herbarium were in fact due to his personal skill, charm, dedication, grit, and patience. Despite his obvious scientific talent and administrative and

technical prowess, Porsild was seriously hampered in gaining a permanent position by the fact that he did not "have a university degree of any kind" (p. 21). We see evidence of Erling's selflessness after Malte's death. He confided to Rudolf Anderson, chief biologist of Ottawa's Victoria Memorial Museum, that he did not feel qualified to fill Malte's place, but instead suggested Dr. Hugh Raup as the best man he knew for the position. Erling had good measure of his own abilities and was, as history proves, able to replace Malte. The incident reveals that he had the judgment to know when and where to press his considerable, albeit non-academic, experience. Later in life, when "public recognition and honours were heaped upon him" (Raup, 1978:68), this same level of humility was readily apparent to those who knew him best. Yet at times we see him critical of others who in his opinion push their academic credentials too far.

Given the title, this book will surely find a home on the shelves of botanists, geographers, zoologists, earth scientists, rangeland managers and historians and laypersons interested in Arctic exploration. However, it might not be obvious that there is also a wealth of material to whet the interest of social anthropologists. Encounters with coastal Iñupiat and inland Athabaskan tribes could be fleeting and were relatively infrequent given the huge amount of territory covered at a time when indigenous peoples of the region were still largely living on the land and sea and dependent on hunting, trapping, fishing, and gathering with few fixed settlements. In the background, whaling on the coast had been winding down since the turn of the 20th century, at the same time that foxes had been overhunted inland and people were looking for other sources of revenue in the newly mixed economy. Observations and interpretations of events are detailed and intriguing and in some cases encompass luminaries of early 20th century ethnography of the North American and Greenlandic Arctic. Diamond Jenness, Vilhjalmur Stefansson and "old friend" Peter Freuchen all make appearances. Key moments in time are also captured in the socio-cultural narrative, such as the breakthrough in relations between Eskimos and Satudene of the Great Bear Lake region. An interesting example (p. 201–204) concerns an insightful deconstruction of the term "chief" as applied to ostensible indigenous leaders. Equally entertaining are the contrasting accounts of this historic meeting, with Stefansson's version being clearly at odds with that of Satudene "Chief" Jimmy Soldat. Porsild has his own biases and prejudices, which are on display in his many ethnographic asides. These extend to greedy white hunters and trappers who consistently overcharge them (p. 62), uncharitable missionaries (p. 59), despondent and lazy Eskimos (p. 42 and 223), and evasive and indecisive Norwegian Lapps (Sámi) (p. 42–43 and 262), all of which are illuminating for what they reveal about human behaviour in these particular times and circumstances. Yet not all of his stereotypes are negative. For example he opines that, "any one who has to deal with reindeer must, like the Lapp, possess an infinite amount of patience. Whether this is natural to the Lapp or whether the trait has been developed through countless generations of reindeer herders I am not prepared to say. The fact however remains that the Lapp possesses an amazing capacity for waiting, and in this quality even surpasses the stoical Eskimo" (p. 297–298).

The biography is broken into three parts. The first two, comprising nearly half of the book, are thematically similar. Part I encompasses the Porsild brothers' epic survey of reindeer rangeland in Alaska and northwest Canada while Part II chronicles their overseeing the relocation of nearly 3500 animals from Kotzebue to the east channel of the Mackenzie River delta. The detailed account of daily routine during the two-year expedition can become repetitive at times. On the other hand, it serves to remind readers how very long the Porsild brothers were toiling away at alternatively pioneering scientific achievements and mundane personal tasks associated with survival, while constantly on the move over long distances in an utterly unforgiving environment. The amount of time and effort they spent simply to procure enough food for themselves, and especially for their dog team, far from any human presence and under all manner of conditions in all seasons, is staggering. The moment when Erling finally trades his beloved dog team and sneaks off, thus free of their daily commitment, is bittersweet. The official rationale for this grand experiment in what amounted to social-ecological engineering stemmed from a 1922 Royal Commission report recommending that "small experimental reindeer herds should be established in Canadian locations that had been carefully chosen for greatest need for native food supply" (p. 136). The commission resulted from reports reaching Ottawa of starving indigenous peoples in parts of the Keewatin and the Mackenzie District. In 1930, Erling himself eventually encountered starving Eskimos in the Barrenlands between Yathkyed Lake and Chesterfield Inlet (p. 246), an incident that came back to haunt him more than two decades later. Part III, which covers his career at the herbarium and his service as Canadian vice consul to Greenland during World War II, is notable for the large amount of verbatim personal correspondence between the principals. The many maps needed to track such a broad geographic palette are clear, the bibliography is thorough, and the numerous black-and-white photos are well reproduced and complement the text nicely. The printing quality is high, and the text is remarkably free of typos.

Given the level of detail that suffuses virtually all aspects of his professional career within these pages, relatively little is revealed about Erling's private life with his three wives and two daughters, one adopted. First wife Asta is a somewhat spectral presence in the book; she appears with no warning on p. 260, and after only a few brief mentions, we learn of their "failed marriage" (p. 320), after which she returned to her native Denmark "for the rest of her life." Their daughter Edith features more prominently, and her experiences shed a bit more light on Erling at home. For example, during Hultén's second visit to them in Ottawa in 1938, Edith "dreaded the silent mealtimes and the evenings

when the men retired to her father's study for long and angry arguments" (p. 336). The incident is revealing because the rivalry between the two men was real and clearly affected Erling and those closest to him, including lifelong friend and author of his obituary Hugh Raup (Raup, 1978), in whom he confided his fears about his most potent competitor. In his later years, the misunderstandings at the base of their rancor were eventually resolved and Erling was able to admit to both Hultén and Raup that he had let his young ego get in the way of what could have been timely and mutually shared scientific advancement. Like Asta, second wife Elizabeth similarly pops up out of nowhere when Erling describes their wedding. She and her daughter Nette from a previous marriage merit more coverage than Asta, but Elizabeth's illness and eventual death, without Erling by her side, leave another question mark. True to form, Erling took his colleagues by surprise with his final marriage to third wife Margit. His herbarium assistant, Miss Harkness, noted that "Mr. Porsild went to Europe with no wife and no car, and he came back to Canada with a new Mercedez Benz and a new wife!" (p. 631). On the same page, the author points to the dearth of information on this topic in Erling's journal entries, which, coupled with the level of mystery surrounding his two previous marriages, means some key aspects of his character will remain unknown.

The one true bombshell and most cringe-inducing incident of the book is Erling's very public spat in 1952 with Farley Mowat over that author's self-serving and demonstrably fictional account concerning the extent and circumstances of the "starving" Eskimos in Keewatin, *People of the Deer* (Mowat, 1952). Erling had agreed to review the book for the *The Beaver*, published by the Hudson's Bay Company. The description of the ensuing struggle between the protagonists is utterly engrossing and, in the end, there were no real winners. But what a saga! The pithiest quote encapsulating the entire episode is by the late Edmund Carpenter, then at the University of Toronto, who wrote to Erling that "Mowat suffers from an inability to tell the truth" (p. 592).

Readers of *Arctic* will be interested to learn that Erling was a founding member of the Arctic Institute of North America. The like-minded group present at the first brainstorming meetings in Ottawa and New York in 1943 included, among others, Jenness, Stefansson, geographer Trevor Lloyd, and permafrost scientist Lincoln Washburn. Throughout the book there is a wealth of information concerning reindeer rangeland dynamics and prescient comments on Arctic climate change. Erling's concise notes on grazing and trampling impacts on vegetation and soils in all seasons read like the findings of contemporary peer-reviewed literature on this topic. Similarly, the author notes that Erling, while personally observing the effects of warming during the 1940s on both vegetation and marine ecosystems, "felt that the present amelioration of the climate might not continue." She adds that "Greenland in postglacial time had had alternating periods of warmer and colder climate. In historic time, there had been two such periods, known in the previous century, when the Atlantic cod had been as abundant in Greenland waters as it was at present and later it disappeared again. Since most Greenlanders obtained their living from the sea, changes in marine life were of fundamental importance to the country and its economy" (p. 479–480). More than half a century later, his off-the-cuff comments have been borne out by recent research into this very topic (Hamilton et al., 2003).

It should not be forgotten that Erling expended considerable effort on making science palatable to the general public. He lectured far and wide and on different aspects of life and science in the Arctic. He provided one of the first and best scholarly overviews of the tundra biome available to a lay audience (Porsild, 1951), which is still useful for the entry-level student more than 60 years later (Forbes, 2013). He also did applied research on edible tundra plants during World War II and later published those findings as well (Porsild, 1953). Erling Porsild was a complex man, utterly dedicated to the Arctic, who was clearly ahead of his times on several issues. Author Wendy Dathan and the publishers can be proud of this fine book: it was well worth the wait.

## REFERENCES

Forbes, B.C. 2013. Biome, tundra. In: Gibson, D., ed. Oxford bibliographies in ecology. New York: Oxford University Press. http://www.oxfordbibliographies.com.

Hamilton, L.C., Brown, B.C., and Rasmussen R.O. 2003. West Greenland's cod-to-shrimp transition: Local dimensions of climatic change. Arctic 56(3):271–282.

Hultén, E. 1968. Flora of Alaska and neighboring territories: A manual of the vascular plants. Stanford, California: Stanford University Press.

Polunin, N. 1948. Botany of the Canadian Eastern Arctic. Part III: Vegetation and ecology. National Museum of Canada Bulletin 104, Biological Series 32. Ottawa: Canada Department of Mines and Resources, Mines and Geology Branch.

Porsild, A.E. 1929. Reindeer grazing in northwest Canada: Report of an investigation of pastoral possibilities in the area from the Alaska-Yukon boundary to Coppermine River. Ottawa: Department of the Interior.

———. 1951. Plant life in the Arctic. Canadian Geographical Journal 42:120–145.

———. 1953. Edible plants of the Arctic. Arctic 6(1):15–34.

———. 1964. Illustrated flora of the Canadian Arctic Archipelago. Bulletin 146. Ottawa: National Museum of Canada.

Porsild, A.E., and Cody, W.J. 1980. Vascular plants of continental Northwest Territories, Canada. Ottawa: National Museum of Canada.

Raup, H.M. 1978. Alf Erling Porsild (1901–1977). Arctic 31(1): 67–68.

*Bruce C. Forbes*
*Arctic Centre*
*University of Lapland*
*Box 122*
*FI-96101 Rovaniemi, Finland*
*bforbes@ulapland.fi*

## PAPERS TO APPEAR IN *ARCTIC*

Jacobs, J.D., Chan, S., and Sutton, E. Climatology of the Forest-Tundra Ecotone at a Maritime Subarctic-Alpine Site, Mealy Mountains, Labrador.

Schwörer, T., Federer, R.N., and Ferren, H.J., II. Invasive Species Management Programs in Alaska: A Survey of Statewide Expenditures, 2007–2011.

Wilce, R.T., and Dunton, K.H. The Boulder Patch (North Alaska, Beaufort Sea) and Its Benthic Algal Arctic Flora.

Whitecloud, S.S., and Grenoble, L.A. An Interdisciplinary Approach to Documenting Knowledge: Plants and Their Uses in South Greenland.

Vavrek, M.J., Hills, L.V., and Currie, P.J. A Hadrosaurid (Dinosauria: Ornithischia) from the Late Cretaceous (Campanian) Kanguk Formation of Axel Heiberg Island, Nunavut, Canada and Its Ecological and Geographical Implications.

Goldhar, C., Bell, T., and Wolf, J. Vulnerability to Freshwater Changes in the Inuit Settlement Region of Nunatsiavut, Labrador: A Case Study from Rigolet.

Pomerleau, C., Lesage, V., Winkler, G., Rosenberg, B., and Ferguson, S.H. Contemporary Diet of Bowhead Whales (*Balaena mysticetus*) from the Eastern Canadian Arctic Inferred from Fatty Acid Biomarkers.

Hong, E., Perkins, R., and Trainor, S. Thaw Settlement Hazard of Permafrost Related to Climate Warming in Alaska.

Shulski, M.D., You, J., Krieger, J.R., Baule, W., Zhang, J., Zhang, X., and Horowitz, W. Quality Assessment of Meteorological Data for the Beaufort and Chukchi Sea Coastal Region using Automated Routines.

Gaston, A.J. Birds and Mammals of Prince Leopold Island, Nunavut, 1975–2012.

Tyler, N.J.C., Jeffery, G., Hogg, C.R., and Stokkan, K.-A. Ultraviolet Vision May Enhance the Ability of Reindeer to Discriminate Plants in Snow.

Savelle, J.M., and Dyke, A.S. Prehistoric Neoeskimo Komatiks, Victoria Island, Arctic Canada.

Brown, R.J., Loewen, M.B., and Tanner, T.L. Overwintering Locations, Migrations, and Fidelity of Radio-Tagged Dolly Varden in the Hulahula River, Arctic National Wildlife Refuge, 2007–09.

Stevenson, K.T., Alessa, L., Kliskey, A.D., Rader, H.B., Pantoja, A., and Clark, M. Sustainable Agriculture for Alaska and the Circumpolar North, Part I: Food Security and Resilience: Past, Present, and Future.

Stevenson, K.T., Rader, H.B., Alessa, L., Kliskey, A.D., Pantoja, A., Clark, M., and Smeenk, J. Sustainable Agriculture for Alaska and the Circumpolar North, Part II: Environmental, Geophysical, Biological and Socioeconomic Challenges.

Stevenson, K.T., Rader, H.B., Alessa, L., Kliskey, A.D., Pantoja, A., Clark, M., and Smeenk, J. Sustainable Agriculture for Alaska and the Circumpolar North, Part III: Solutions to Challenges in High-Latitude Farming.

Norstedt, G., Axelsson, A.-L., and Östlund, L. Exploring Pre-Colonial Resource Control of Individual Sami Households.

## LETTER TO THE EDITOR

Dear Editor,

Re: The Lakehead Manifesto

*Arctic* recently published a manifesto on research and development in the North (Morris et al., 2013). This manifesto was co-authored by nine southern university-based academics, including six from Lakehead University, during a recent symposium on rapid change and the future of Canada's North, and was "designed to serve the collective interest of all peoples" with the hope of gaining "wide acceptance and use by governments, agencies, industry, researchers, and others working and living in the North" (p. iii).

In our role as science advisors to the Government of Yukon and Government of Nunavut, we are compelled to agree with the importance of improving access and use of science and knowledge, in all its forms, as a basis for decision making. However, we would like to take this opportunity to suggest a few areas for further consideration.

1. Process matters! Northerners have long advocated for the right to be not subjects or passive observers of research, but actively involved. The outcome of not including Northerners in the authorship of these principles is to reduce the likelihood of adoption by those to whom this manifesto is directed. Participatory methods, while requiring time and effort, lead not only to better outcomes, but to better products as well.

2. Who is a "qualified advisor"? Principle 3 states that "proposed actions and decisions about the North must be informed by independent councils of qualified advisors…." (p. iii). This statement begs the question of who is a qualified advisor. Recently, the Council of Canadian Academies (2013) convened an Expert Panel to assess the State of Knowledge on Food Security in northern Canada. Like the manifesto author team, this Expert Panel did not include northern residents. Without local and Aboriginal representation, can this panel fully reflect the state of knowledge? Without this expertise, can the panel accurately inform the development of public policy? Those living and working in the North have learned many lessons over the years about the importance of developing a mutual understanding among local, Aboriginal, and scientific knowledge and expertise to fully reflect the state of knowledge on a particular topic. Therefore, a definition of northern expertise must reflect the many ways in which an individual acquires expertise, including, for example, expert knowledge gained from a life lived on the land and a career worked as a science practitioner in the North.

3. The policy-making process. Principle 3 also states that "proposed actions and decisions about the North… must be based on science and knowledge rather than socio-political ideology, economic expediency, or national self-interest, and with respect for diverse worldviews" (p. iii). Those who work at the interface of science and policy are well aware that science is only one factor considered by decision makers. Sometimes, and for good reasons, social and economic interests as well as national and international interests do influence policy options, and ultimately, policy choices. It is important to remember that Northerners have long sought the right to make decisions on their own behalf. This right is of such importance that the Arctic Social Indicators Project, endorsed by the Arctic Council, has recognized fate control as a metric of well-being.

4. Sensitive data. Principle 7 argues that "data collected in the public domain, in the context of public good, through common resources, on public land, or with public funds must…be made freely available…" (p. iii). A few important exceptions to this principle are not noted, including the responsibility of public and Aboriginal governments to protect sensitive data (such as personal health information, precise locations of sensitive cultural sites, and proprietary data) and the rights of Aboriginal governments and peoples to set guidelines regarding ownership of, access to, and use of their traditional knowledge.

5. What knowledge is needed? What gets funded and who decides what research will take place strongly influences what scientific information is available. The vast majority of funding for science in northern Canada comes from agencies south of 60°. The upside is that Northerners benefit from a level of investment in knowledge acquisition that is beyond the investment potential of northern agencies. However, the downside is that Northerners often have limited opportunity to influence policy and investment decisions regarding science. We would like to suggest an additional principle: Northerners need to be given the opportunity to influence science-funding priorities.

## REFERENCES

Council of Canadian Academies. 2013. The state of knowledge of food security in northern Canada. http://www.scienceadvice.ca/en/assessments/in-progress/food-security.aspx.

Morris, D.W., Beaulieu, M.S., Hamilton, S., Hik, D.S., Lemelin, R.H., Moses, M.M., Müller, D.K., Smith, M.A., and Smol, J.P. 2013. The Lakehead Manifesto: Principles for research and development in the North. Arctic 66(2):iii–iv.

*Aynslie Ogden*
*Senior Science Advisor*
*Government of Yukon*
*aeogden@gov.yk.ca*

*Mary-Ellen Thomas*
*Senior Science Advisor*
*Nunavut Research Institute*
*Government of Nunavut*
*MaryEllen.Thomas@arcticcollege.ca*