

JOURNAL *of* NORTHERN STUDIES



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The *Journal of Northern Studies* is a peer-reviewed academic publication issued twice a year. The journal has a specific focus on human activities in northern spaces, and articles concentrate on people as cultural beings, people in society and the interaction between people and the northern environment. In many cases, the contributions represent exciting interdisciplinary and multidisciplinary approaches. Apart from scholarly articles, the journal contains a review section, and a section with reports and information on issues relevant for Northern Studies.

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RAFICO RUIZ, PAULA SCHÖNACH & ROB SHIELDS

Special Issue

Beyond Melt

Indigenous Lifeways in a Fading
Cryosphere

Introduction. Going Beyond Melt and Cryodispossession

This thematic special issue stems from an international workshop convened at the University of Alberta (Edmonton) in May 2018. “After Ice” brought together committed scholars from across the globe with a shared interest and deep investments in environmental change research. The common aim of the group was to challenge and diversify current interpretations of ice-related phenomena, broadly understood.

One of the primary goals to emerge from the workshop, and which led to the collaborative work behind this special issue, came from the group’s desire to expand and extend expertise on the cryosphere from the dominant and often interpretive leveling of the natural sciences to the environmental humanities. The transdisciplinary group of contributors assembled in this special issue seeks to foreground how it is Indigenous experiences of changeable cryographic phenomena that are often fit into a binary of, on the one hand, bounded historical experience, and, on the other hand, short term and forced adaptation in the face of the ground-level effects of global warming. What these contributors offer is a bridge between the two that attempts to account for the long-held connections that Gwich’in, Tẖcẖo, Dene, Inuvialuit, and many other communities have maintained through profound and ongoing claims to cryospheric land and phenomena.

While the very term *cryosphere* might seem removed from Green-

landic experiences of *pinngortitaq* ('all that has come into existence,' Nuttall, this issue), it is in the former's unifying, global reach that the two terms merge by reminding linear and compartmentalizing Southern epistemologies of the web of relations that the earth is bound by—high Alpine glaciers that carve out and flow down into river valleys; or, to pursue this glacial time scale, and as Ruth Morgan posits in this issue, the geological accounting for an absent cryohistory that results in conditions apt for colonial, water-based violence and dispossession. To move away from “the cryosphere” as a semantic terrain grounded in the empirical natural sciences is to move into ice-dependent lifeways and cultures that build out relations from seasonal and geological presences and absences. It is in these relationalities, a complex inversion of temporal reach and mobile span that we will explore in more detail below, that the cryosphere makes itself manifest as not only a planetary, hydrological condition, but also as a *milieu* with living stakes best exemplified in Indigenous claims to environmental, political, and cultural sovereignty. *Pinngortitaq* is not a bounded territory—it is “all that is around, above, below, underneath and within, and which is still taking shape” (Nuttall, this issue). States of matter are also states of being where human and more-than-human phenomena co-constitute each other through cyclical patterns governed by the increasing liquidity of water due to warming air and ocean currents.

Despite the recent broadening of the research agenda on and about ice through the introduction of terms such as cryopolitics (Bravo & Rees 2006; Bravo 2017; Radin & Kowal [eds.] 2017) and cryohistory (Sörlin 2015), treatments of ice in the environmental humanities remain limited. Given the significance of the cryospheric world and a future “after ice” we need to deepen and diversify our understanding about the multitude of knowledges, relationships, and contexts around the frozen state of water as a natural environment. Making sense of ice is not just a material question, but involves ideas rooted across past, present, and future socio-cultural contexts and environmental experiences. This issue is a contribution to the timely, emerging field of “ice humanities” (see also Dodds 2019) and to its articulations through a politics of cold (Ruiz *et al.* [eds.] forthcoming).

“Icescape” is “a world informed by ice [...] ice that is both substance and style: ice that is both landscape and allegory” (Pyne [1988] 1998: 2; see also Shields, this issue). Pyne's term captures the variety of different environments in which frozen water is both physically and mentally immersed into human perceptions. However, these articles on the interactions of ice with humans and more-than-human elements of nature challenge the binary patterns of understanding, experiencing, and describing such cryoscapes. They move beyond Pyne's boundary-drawing scheme that overrides in situ

experiences of ice by circumpolar Indigenous communities. The articles show how the subtleties of phase changes of water actually are involved in dissolving of fluid boundaries between land and water, solid and liquid, ice and no ice. Ice is thus characterized as a “liminal substance that combines and confuses” the properties of land and water (Gerhardt *et al.* 2010: 993–994). The blurry and shifting characteristics of cryospheric phenomena impact largely Indigenous modes of being and governance, as “water, ice and land intermingle with the lives and trajectories of humans and animals, take on a multitude of shapes and forms, and give rise to a complexity of social relations” (Nuttall, this issue). This manifests in embedded mobilities and temporalities, and both Indigenous and colonial practices and discourses of living with ice.

Ice and its related phenomena are nested with simultaneous and overlapping *temporalities* ranging from geological time scales to cyclical occurrences and fleeting events. The temporalities of ice formation, movement, and melting are inherently embedded into human interactions with ice, often also complicating notions of permanence and stability of cryospheric environments (cf. Aporta 2002; Jørgensen 2013; Bravo 2017: 48; Dodds 2018; Watt-Cloutier 2018; see also Dodds 2019). The simultaneous coexistence of several temporalities becomes evident through the thermodynamic particularities of phase changes of water, constantly fluctuating weather conditions, the cyclical seasonality with the “annual making and breaking of the cryospheric fabric” (Piper, this issue) and profound anthropogenic climate change being observed in the cryosphere. Apart from the multi-temporal character of ice as a phase state of water, icy environments are also fused with the multiple and contradictory relations of human temporalities that live on it and depend on its presence and predictability; here “natural” time becomes bound with times of human actions, needs, and senses, and together they contribute to create a lively cryosphere. One important marker of multiple temporalities of human-ice interactions are the differences and regular collisions in Indigenous and *Qallunaat* (non-Indigenous people) understandings and perceptions of cryospheric temporalities. Morgan draws these collisions into deep time. For the Wangkatha of what is now the eastern goldfields of Western Australia, the *Tjukurra* (Dreaming) was and is an ongoing event that elided geologically-defined conditions of drought and equated the restrained presence of water with sites of sacred identity formation.

As Liza Piper notes in this issue, as nineteenth century colonisers along the Yukon and Mackenzie rivers adapted to the rhythms of ice and water, they made claims on this seasonality to shore up how and under what conditions they settled into place through the often violent establishment of river-

based trade routes. By attending to networks of colonial circulation, Piper folds together how issues of both time and space, of stasis and mobility, could be mobilized to create a colonial seasonality that gleaned Indigenous knowledges and practices to further projects of dispossession and political economic enclosure. Time makes and conceals claims to land tenure, settlement, and title. The phase states of water moving towards or out of their condition as ices have often been made part of the settler colonial project of land-based dispossession.

Similarly, ice is entangled in manifold *mobilities*. Ice itself is far from static, but is a solid-yet-mobile phase of matter defined by temperatures that constitute its varied modes of being and formal appearance. Melting and liquidation, freezing and crystallization, breaking up and floating, are examples where the variety of cryospheric mobilities and temporalities come together, marking closures and new beginnings (Wilson 2003: 218–219). From the human perspective ice both enables and hinders mobilities—provides a solid ground for transportation and carrying vehicles, or creates a physical barrier for mobility through an unstable and fragile formation that presents risks apart from mobilities on the ice (insufficient extent or carrying capacity). Boat and ship traffic through floating sea ice is hindered. Increasingly unpredictable and mobile patterns of ice formation, structures, and qualities challenge Indigenous and colonial knowledges that have made (often diverging) claims about how to live with ice for generations. In Upernavik, ice is a feeling of safe passage, while also being bound up as a manifestation of *sila*, a Greenlandic term that overlays weather, climate, air, breath, and consciousness (Nuttall, this issue). Going beyond the empirical markers of climatic change is a matter of giving voice to the sensorial consequence of changeable ice—how phase states of water are sensed and lived in the unfolding present. The mobility of ice also captures its movement into a phenomenological register of unknowability, unease, and future anxiety that moves along linear and non-linear understandings of time. Ice is performative and binds together its being in the world with an experiential horizon of social and cultural practices, with Yup'ik terminological understandings of ice emanating out differently from shores or deep water (Shields, this issue).

In this issue, these characteristics of ice are put front and centre. All of the contributors foreground how Indigenous experiences, encounters, and entanglements with Southern/settler colonial ways of perceiving and utilizing icy and watery environments challenge claims to settlement and authority. The differing ways Indigenous and non-Indigenous peoples perceive, observe, understand, and instrumentalize phase transitions in the cryospheric environment reveal the emergence of a broader colonial season-

ality. This could be said to have been made complicit in the dispossession of northern lands, as well as for the incorporation of Indigenous communities across the cryosphere into economic and social configurations that were based on Southern interests (Piper, this issue). Settler colonialism across the circumpolar world, and in the Global South in its echoes through and in deep time, was and is tied to the predictable succession of frozen and liquid states that are also made manifest as seasonal change. Settler colonial practices had a seasonal rhythm that leveraged what water in its solid and liquid states could enable or constrain. Conversely, Greenlandic or Yup'ik experiences of tangible and reliable ice could make claims to land-based sovereignty that included maritime, coastal zones. Read in this manner, ice opens up question not only of stasis and mobility, but of extent and legal territoriality, of access and enablement of Christian, capitalist, and governmental authority with and across climatic variation.

The geographic scope of the articles is divided into the Arctic regions of the North (Northern Canada and Northwest Greenland)—and, by way of perspective, the Australian southwest. There are several cross-regional commonalities that these areas share and contribute to. They are very sparsely populated while at the same time covering vast and challenging geographical areas and climates, in the North typically related to coldness and in Australia to dryness. They are also areas distanced from the capitals of governance and thus perceived as remote (cf. Jørgensen & Sörlin 2013: 3–4; Morgan, this issue). They are also areas of crucial environmental significance, not least as sites of intensive resource exploitation and, more recently, climate change. They are Indigenous lands living out colonial legacies of extraction, forced nationalist commitment, as well as being subject to the first-order effects of global warming.

The disciplinary approaches that the articles in this issue are based on range from anthropology to environmental history and linguistics. They also show the varied source base for the analyses, ranging from Indigenous knowledges and oral histories to diaries and anthropological field observations, allowing thus rich analyses of the legacies and contemporary realities of ice and snow—or the absence of it. The “field” of ice moves away from empirical instruments of observation and registration, and towards an embodied understanding of the phase transitions of water that is not only informed by the boundedness of “traditional ecological knowledge” (Nadasdy 1999), but also by the excess of settler colonial structural conditions that include the damaging effects of global warming that permeate the constitution of northern and southern lifeworlds.

Two of the articles take a specifically historical approach. Cryohistory aims to uncover the historically changing relations of humans and their

institutions with their cryospheric environments (Sörlin 2015). Here, the focus is on the different ways that ice, and its absence shaped “both the material and cultural cryohistories of Indigenous and non-Indigenous peoples, and the nature of their encounters” (Morgan, this issue). Liza Piper’s article deals with the cyclical, annual transitions in the cryospheric patterns producing colonial ecologies that include physical changes but also changing knowledges about ice. She focuses on the two annual special times, namely the phase change of water and ice during break-up and freeze of ice in the Canadian North in the nineteenth century moving into the early decades of the twentieth century. Piper considers the phase change of water and ice, both in the freeze-up and break-up of ice, and marking of the seasonal transitions as moments governing northern circulation, but also revealing the fundamentally different experiences of colonizers and Indigenous peoples with ice, and how this shaped the history of infectious diseases in the Canadian North. Through the investigation of the spread and circulation of pathogens in the rhythms of ice and snow, Piper reveals how phase changes are connected to mobilities of people, goods, and pathogens—the formation of colonial networks that were tied to ice seasons as a sort of colonial clock.

In her contribution Ruth Morgan explores how the Australian cryohistory in deep time is a geological history of the cold and arid desert, where the availability (and lack) of water reorganized mobilities and hydrocultures. The physical conditions of Western Australia, resting on the ice-deprived cryohistory of the region, created an “extractive frontier” around the sources of freshwater and shaped the encounters of colonial settlers and Indigenous peoples during the late nineteenth and early twentieth-century gold rush. She shows how Indigenous mobilities for *kapi* [‘water’] were directed by biocultural knowledges of the environment. These eventually collided with the motivations of non-Indigenous, settler mobilities, which were founded on practices of exploitative land and resource extraction and racist interpretations of “civilization.”

The articles by Rob Shields and Mark Nuttall explore the new realities, be they physical or linguistic, that emerge from the melting lifeways of Indigenous communities in connection with changing cryospheric conditions. Different knowledges are embedded in Indigenous ways of living through the “immersive sense of being [...] with ice” (Piper, this issue). The lived coexistence and experiential and intergenerational knowledge of ices are inseparably connected to everyday life and livelihoods.

Mark Nuttall’s article, based on anthropological field work in Greenland, foregrounds the climatically induced challenges, fragilities, and increased insecurities of everyday living in a changing cryospheric environment. He treats the Greenlandic environment as an aquapelagic assemblage of wa-

ter and land, of soluble boundaries and fused interactions between humans and more-than-human actants in complex entanglements. Moreover, seeing these environments as liquescent places turns attention to the sensory and bodily ways of experiencing change, especially in regard to the mobilities of everyday life connected to subsistence and the wider regional economy. Nuttall's article highlights sea ice not as an empty, dead place, rather as an Ingoldian taskscape emerging from human activity and dwelling in this lived environment, including both animate and inanimate creatures. The implications of changes in cryoscapes, such as the areal or temporal extent of ice and texture or consistency of ice, affect everyday livelihoods, identities, and senses of place. Apart from material and physical risks that are linked to changing cryospheric conditions, the phase transitions of ice also induce changes in the sensory perceptions of these environments, such as sonic losses and new intrusions. Consequently, embodied knowledge about the world becomes outdated and residents' identities and sense of place is disrupted.

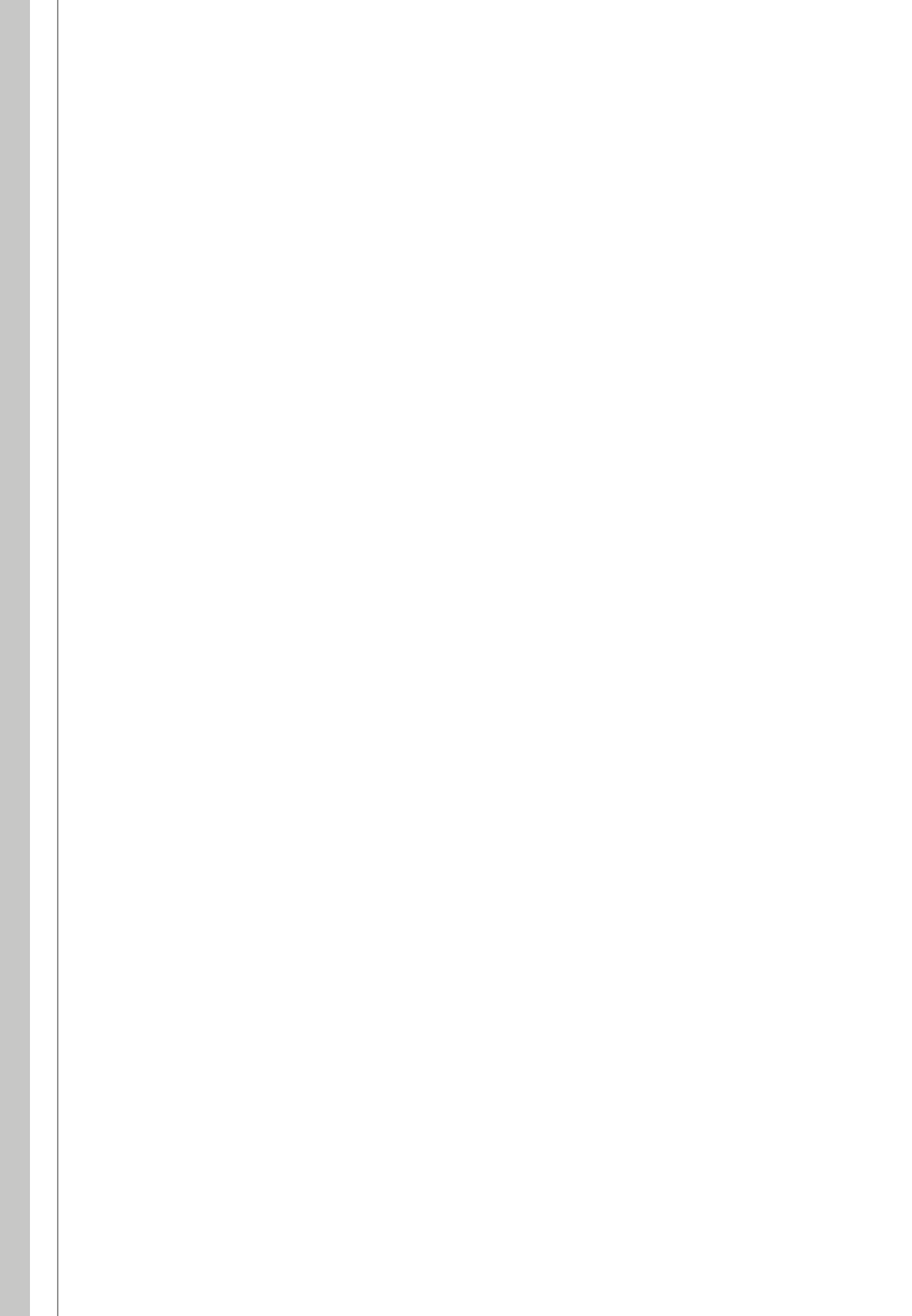
Experiential knowledge, especially of risks related to activities in icy environments, is the core of Rob Shields' article as well. He reaches out to speech-act theory to shed light on contextual and experiential knowledge of (sea) ice that is embedded in Indigenous sea-ice vocabularies. These lexica reveal illocutionary, performative, and normative aspects of ice terminology. This includes ice risks and guidance on safe and effective practices essential for everyday activities in these environments. Due to climatically conditioned changes in the cryosphere, the knowledge contained in the Inuit illocution may become invalid with regard to place-specific ice conditions. With the transformation of the various qualities of ice and its recurring phase changes, its mobilities and circularities, Shields sketches out a lexical horizon grounded in Yup'ik and other Indigenous experiences of these (now disrupted) cycles of ice formation and disintegration.

What this collection of work opens onto is the insufficiency of terms such as *cryosphere*, *icescape*, *cryohistory*, and *cryopolitics* to encompass Indigenous residents' experiences of an increasingly "liquescent" politics of everyday life tied to the phase transitions of ice, particularly as they are sped along by global warming (Nuttall, this issue). Going beyond melt as a defining narrative of ice loss is also a means of extending what the Greek element *cryo-* can include. Experiences of cold are manifold, and bringing their temporal horizons and spatial scopes into conversation with one another can begin to show how settler colonial social formations in countries now known as Canada, Australia, and Greenland, created land out of the very phase transitions of ice (Ruiz forthcoming). Ice as ground and as season

was part and parcel of sovereignty, title, and settler entitlements. If mineral prospecting has long been deemed a colonial science, Morgan demonstrates that hydrology can also double as an extension of colonial authority and governance. If, as we noted above, states of matter are also states of being, then it is worthwhile to attend to the experientially available crystals and fissures that form when water comes into contact with low temperature. Freeze-up and break-up, as Piper reminds us, were common, shared, meteorological conditions that bound together coloniser and colonized. There is an elasticity to the supposed brittleness of ice—the thinnest layer of new sea ice takes on the form of tidal waves. This is a figure to think with when it comes to engaging with cryoknowledges today. The creation of ice epistemologies that attend to settler colonial pasts and futures would do well to both undermine and supplement our present narratives of mere ice loss. Southerners in the figure above are both the ice and the wave—a thin veneer of colonial claims to territory that try to contain a resurgent force beneath. What Indigenous “cryo” claims articulate is the continuity of *sila* that can be cold, warm, or hot—a consciousness of climatic justice that can be sensed, practiced, litigated, and claimed. A fading cryosphere does not mean its dissolution and erasure; rather it signals the rightful re-emergence of knowledges that have always been present below the surface of colonial cryodispossessions. Not in a linear wake bound to zero degrees Celsius, but in the full atmospheric and embodied possibilities that occur when water begins to crystallize or crack.

REFERENCES

- Aporta, C. (2002). "Life on the ice. Understanding the codes of a changing environment," *Polar Record*, 38:207, pp. 341–354.
- Bravo, M. (2017). "A cryopolitics to reclaim our frozen material states," in *Cryopolitics. Frozen Life in a Melting World*, (eds.) J. Radin & E. Kowal, Cambridge, MA: MIT Press, pp. 27–58.
- Bravo, M. & Rees, G. (2006). "Cryo-politics. Environmental security and the future of Arctic navigation," *The Brown Journal of World Affairs*, 13:1, pp. 205–215; www.jstor.org/stable/24590654; access date 29 Jan. 2020.
- Dodds, K. (2018). *Ice. Nature and Culture*, London: Reaktion Books.
- Dodds, K. (2019). "Geopolitics and ice humanities. Elemental, metaphorical and volumetric reverberations," *Geopolitics*; DOI: 10.1080/14650045.2019.1697240.
- Gerhardt, H., Steinberg, P. E., Tasch, J., Fabiano, S.J. & Shields, R. (2010). "Contested sovereignty in a changing Arctic," *Annals of the Association of American Geographers*, 100:4, pp. 992–1,002.
- Jørgensen, D. & Sörlin, S. (2013). "Making the action visible. Making environments in northern landscapes," in *Northscapes. History, Technology, and the Making of Northern Environments*, eds. D. Jørgensen & S. Sörlin, Vancouver: UBC Press, pp. 1–14.
- Jørgensen, F.A. (2013). "The networked North. Thinking about the past, present and future of environmental histories of the North," in *Northscapes. History, Technology, and the Making of Northern Environments*, eds. D. Jørgensen & S. Sörlin, Vancouver: UBC Press, pp. 268–279.
- Nadasdy, P. (1999). "The politics of TEK. Power and the 'integration' of knowledge," *Arctic Anthropology*, 36:1–2, pp. 1–18.
- Pyne, S.J. [1988] (1998). *The Ice. A Journey to Antarctica*, Seattle: University of Washington Press.
- Radin, J. & Kowal, E. (eds.) (2017). *Cryopolitics. Frozen Life in a Melting World*, Cambridge, MA: MIT Press.
- Ruiz, R. (forthcoming). "Phase State Earth. Ice at the Ends of Climate Change" (MS).
- Ruiz, R., Schönach, P. & Shields, R. (eds.) (forthcoming). "After Ice. Cold Humanities for a Warming Planet" (MS).
- Sörlin, S. (2015). "Cryo-history. Narratives of ice and the emerging Arctic Humanities," in *The New Arctic*, eds. B. Evengård, J. Nymand Larsen & Ø. Paasche, Cham: Springer International Publishing, pp. 327–339.
- Watt-Cloutier, S. (2018). *The Right to be Cold*, Minneapolis: University of Minnesota Press.
- Wilson, E. (2003). *The Spiritual History of Ice*, New York: Palgrave MacMillan.



LIZA PIPER

Freeze-up, Break-up, and Colonial Circulation

ABSTRACT This paper examines the place of ice and snow in the process of Euro-Canadian colonisation of what are today the Yukon and Northwest Territories. Using oral histories and accounts of Indigenous life experiences from the late nineteenth and early twentieth centuries, the paper opens with an examination of the ways in which ice and snow, freeze-up and break-up, were inextricable from wider social and cultural relationships between Indigenous northerners and other-than-human nature. Intensified trade and missionary activity after the mid-nineteenth-century along the Mackenzie and Yukon rivers and their tributaries created new colonial geographies, rhythms, and knowledge. These paid close attention to the character of ice, the timing of freeze-up and break-up, and the transportation possibilities of the open water season especially. By examining the histories of a scarlet fever epidemic in 1865 and an influenza epidemic in 1928, this paper uses the role of ice and its transformations in shaping the movements of pathogens to trace emerging northern colonial ecologies between 1860 and 1930.

KEYWORDS epidemics, Indigenous history, ice, rivers, colonisation, fur trade, missionaries, influenza, scarlet fever

In high latitudes ice and snow do many things: they form and break, they fall and storm, they heave and sing, and they reflect light, especial-

ly moonlight, during long winter nights. Climate change in the twenty-first century has compelled us to better historicize ice and snow. The paths made by ice through fall, winter, and spring and the permafrost that holds up the ground are no longer certain things. The fabric of ice and snow is unraveling and with it the circumpolar world is experiencing rapid ecological, social, economic, and political change (Wright 2014). We are more alert now to moments in the past when climate changed and influenced human history. This essay asks you to turn your attention away from large climatic conjunctures, notwithstanding their crucial importance to our past and future, and to focus on the fabric and its role in historical change.

Specifically, this essay considers the role of the transition to and from ice and snow—the annual making and breaking of the cryospheric fabric—in the colonial relationships forged after 1850 in the lands that are now northwest Canada. Previous work has shown how northern Indigenous peoples had a divergent experience of ecological imperialism—the role of other-than-human nature in the European colonisation of the Americas—and specifically in their experience of post-contact infectious diseases (Piper & Sandlos 2007). My work in this area begins from the recognition that the movement of pathogens at high latitudes was not part of a seamless blanket of infection enveloping and devastating Indigenous America after 1492, but rather an uneven, disrupted, and redirected process that sometimes brought the movement of pathogens to a full stop, and at other times found pathogens in the North out of sync with their global circulation. Earlier scholars showed how the speed and devastation of infectious diseases shaped the character of colonialism (Crosby 1986; Denevan 1992; Ray 1974; Boyd 1999). So too, disruptions and unevenness shaped the character of colonialism at high latitudes and the relationships between peoples and with other-than-human nature that flowed therefrom. This essay draws on oral histories, archival and published sources to tie these two analytical threads together: to consider how freeze-up and break-up, moments which governed northern circulation but which were also differently experienced by colonizers and Indigenous northerners, in turn shaped the movement and experiences of infectious disease.

The lands and waters that became northwest Canada were formerly and remain to this day the lands of Inuvialuit, Gwich'in, Tłı̨chǫ, Dene, Tr'ondëk Hwëch'in, Tagish, Tutchone, Denesuline, and Metis. Between 1860 and 1930 and along the Mackenzie and Yukon rivers and their tributaries (in what are today Canada's Yukon and Northwest Territories), fur traders, missionaries, and the Canadian state began incorporating northern peoples and places into an emergent southern-based economy, society, and nation through a process of colonisation (Abel 1993; McCarthy 1995; Zaslow 1971). Northern

colonisation bears resemblance to the settler colonialism that transformed western Canada. Much of the Mackenzie was technically governed by numbered treaties (Treaty 8 and 11) that overlapped with the provincial west (Asch 2013; Fumoleau 2004). Northern residential schools opened as early as 1866. Yet colonialism in the North worked differently. Concern over access to resources like oil and gold shaped the treaty process less so than interest in agricultural settlement. Population pressures were at once intense and uneven in the North prior to 1930 and exemplified by the boom of the Klondike Gold Rush that brought 10,000 people to Dawson City by 1900, while only a handful of settlers moved to other trade posts and many outsiders sojourned rather than settling in the North. In this period, the still-young Canadian state exerted less power over, and expressed less interest in, its northern as compared to its western territories (Morantz 2002; Tester & Kulchyski 1994; Coates 1985).

To understand colonisation's character in the Mackenzie and Yukon between 1860 and 1930 requires close attention to the ways its logics, processes, and power remade interrelationships between humans and the rest of nature, producing colonial ecologies knit through natural and social worlds. Here, colonial ecologies refer not to colonized ecosystems but rather, drawing on Linda Nash, to "the dynamic relationship between a body and its environment," as shaped by and shaping the process of colonization, where not just physical changes, but changes in knowledge are key (Nash 2006). This is obviously a lot to parse. That is why this essay follows just one thread: the significance of freeze-up and break-up, and uses colonial experiences of these annual transitions with particular attention to their role in epidemics, to deepen our understanding of the roles water, ice, land, and snow played in the unfolding of northern history after 1860. As other scholars have established, ice and snow were essential to colonial relationships across North America (Wickham 2018; Cruikshank 2005). The lands and waters considered here flow north along the Mackenzie River and southwest down the Yukon River, rise to peaks in the Richardson, Ogilvie, and Mackenzie Mountains, and cover a huge geographical area (see Fig. 1). Across the region between 1860 and 1930, lands and waters normally froze by November, with the first new ice appearing as early as September. The land thawed in May, although waterways might not be free of ice until June or July. August was at once the height of summer and the arrival of fall. Lands and waters were frozen for more than half the year. Where others have emphasized the historical importance of winter as a season (Coates & Morrison 2001; Fingard 1974; MacFadyen 2014), the analysis here instead emphasizes the points of transition: from winter to spring and then from fall to winter.

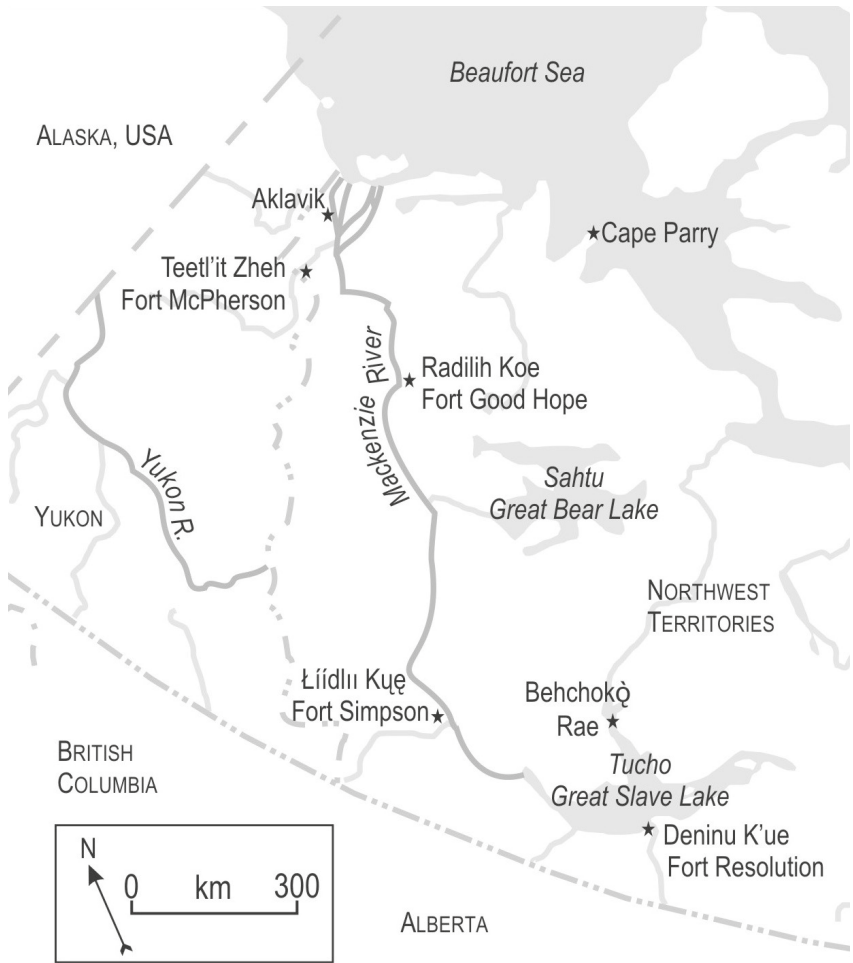


Fig. 1. Map of Mackenzie and Yukon rivers, 1860–1930. Some Indigenous place-names are official (e.g. Behchokų), others are unofficial and spellings vary.

Colonisers adapted to the cryosphere's rhythms as they settled into place. The large-scale movement of goods over long distances was essential to the extension of global economic networks (Friesen 2013) onto the Mackenzie and Yukon rivers in the form of the fur trade. Trading occurred year-round, but the most intense periods of exchange corresponded to the open water season. There was a similar coincidence in time with expansionary efforts by Christian missionaries to extend their proselytizing to new communities; efforts that ramped up and reached farther in the summer months. The fabric of ice and snow governed the movements of newcomers in ways that were independent of interrelationships between Indigenous northern-

ers and the cryosphere. Traders, missionaries, and after them agents of the Canadian state, sought knowledge of ice in particular and used the techniques of empirical observation and the authority of Western science to compensate for their recent arrival in a place otherwise unknown to them (Zilberstein 2016; Cruikshank 2005). From this, a new colonial geography and seasonality emerged—a new colonial ecology—that incorporated ice and snow and that built upon, while never entirely displacing, Indigenous lifeways and movement across the land. The latter part of this essay highlights this new ecology through attention to pathogenic co-travellers in two epidemics (scarlet fever in 1865 and influenza in 1928) that bracket a period of intense environmental, cultural, and economic change. These were the two most significant regional epidemics of the nineteenth and twentieth centuries. The analysis here traces how these pathogens took advantage of, or were curtailed by, the emergent colonial patterns of northern circulation before 1930.

The Melt/Freeze Months

For Indigenous northerners this was their land and there were rhythms, geographies, and practices that mapped to the seasonal shift from ice to water and back again. Experiences were not uniform across the region, but there are common themes from different places and different peoples that illuminate how ice and snow shaped collective experience. Many northern stories share embodied experiences of ice: how it felt, how to know it, and how to live with it. Eliza Andre (1908–1977) was Gwich'in and spent her younger years in the Anderson River area, where she learned to also speak Inuktituk. In her later years, Eliza Andre lived and travelled with her family in the Tree River area and was well-known for her skill at tanning moose and caribou hides (Heine *et al.* 2007: 247). She told a story about three brothers heading for a mountain. They had first to cross a big river. The eldest ran carefully across

from place to place to prevent from falling through. His other two brothers followed him in the same procedure. However, his youngest brother had the most trouble with his snowshoes. The ends kept catching the ice, which by now was loosened with the weight of his other brothers. Finally all three were safely across the river. (E. Andre 2010: 21)¹

Noted Dene elder and storyteller, George Blondin born in 1923, described the stories he had heard of long ago when it was so much colder than today that “you could hear trees and ice crack everywhere in the bush” (Blondin 1997: 20). There were stories about the importance of listening to elders

that were woven into the fabric of ice (Basso 1984). When elders or parents warned young people not to cross on weak ice, to be patient and wait for it to get strong, the younger people who did not listen went through the ice and died (Baptiste 2010*b*: 114).

Other accounts highlight the essential importance of the geography of ice to travel, movement, and staying still (Bonnetplume 2010*a*: 125). Inuvialuk elder Ishmael Alunik shared his life experiences as a hunter and trapper, as well as stories he was told by his elders in his 1998 book, *Call Me Ishmael*. Alunik told how in winter, without moonlight, Inuvialuit had to “watch the snowdrifts” to navigate for travelling.

Their fathers would make their sons learn if the wind is blowing from the North, West, South and East. Sometimes they would watch the drifting snow becoming snowdrifts if the wind lasted more than two days. (Alunik 1998: 91)

People anticipated a certain geography of ice: Gwich'in elder Pascal Baptiste spoke of coming to a creek called Willow Creek and finding it open—with no more ice—“we did not know how to get over” (Baptiste 2010*a*: 109).

Winters were spent with nets under the ice. The willow bark nets that the Dene used before twine nets were introduced in the fur trade had to be kept underwater all the time, they were ruined if they dried out or froze (Blondin 1997: 22). Families passed long periods at fish lakes, the most reliable source of food in winter months, while hunters would go out from these camps for caribou, moose, and other game. But life was focused on the frozen lakes. In recalling her childhood, Eliza Andre spoke about going with her father “in the evening when it was moonlight [...] to see the hooks under the ice and bring home lots of loche” (E. Andre 2010: 48). Along the coast, people set sweep nets in open water to harvest fish migrating between the rivers and the lakes. Once fall came and the inland lakes froze up, while the ice was “still thin,” Inupiat would set nets to catch whitefish (jumbos) and lake trout. “When the ice got two or more feet thick they would stop fishing with nets as their chisels were not strong enough for continual use in thick ice” (Alunik 1998: 63–65). Blondin shared the story about how a medicine man “placed permanent trout and herring bait” at a spot at the head of Sautu De, close to Sautu (Great Bear Lake) “where the water naturally stayed open” all winter. This site was thereafter a good fishing place all winter and into the present (Blondin 1997: 27).

But easily the most important presence was how the transformation of ice—going out in spring and forming in fall—shaped the rhythm of the year. This rhythm is apparent in the names given to the months in Inuvialuktun

and Gwich'in. Bob Cockney (1895–1966) in his writings later translated and published under the title *I, Nuligak* described how Naoyavak his grandfather's brother taught him the names of the moons. The April moon was Qiblalirvik, "because the sun has melted the top of the snow, and as we stare at it, it sparkles with whiteness." In October, "one of the first signs of cold is the forming of thin ice on the sandy shores of the ocean. This ice is called *tuglu*, and the moon *Tugluvik*" (Nuligak 1966: 61). In Gwich'in it was May and October that were described through reference to ice and snow. In the Gwichya Gwich'in dialect May is *gwiluu zrèe*, or 'snow crust month.' In this dialect October is *sree vananh' tadididitshii* or the 'month of freezing' (Andre & Mitchell 1999: 45, 109). Other months have names in these languages that correspond to animals, sunlight, colours, and important gatherings. That April, May, and October bear names that correspond to the changing character of the ice and snow speaks to its great importance at these times of year.

On Great Slave Lake to the south, Fort Resolution/Deninu K'ue elder Francois King, born in 1903 and skilled with Indigenous medicine, described how the run of suckers (used to make dryfish for dogs) began when the ice broke-up in spring (Fort Resolution Elders 1987: 40).² Gwich'in elder, Bella Alexie (1892–1995) described the changing seasons as when "the ice moved out" (Alexie 2010: 5). Julienne Andre, a Gwich'in woman born in 1887, spoke about one year when families were coming down from Tsiigehtchic and

just as they were unloading their things from the boat, someone yelled that the Mackenzie was starting to move. From up the Red River there came a rush of ice and water. Their boats were nearly swept away.

After this, Andre recounted, people started coming down the water on rafts (J. Andre 2010: 66). Paul Bonnetplume (1894–1974), a skilled hunter, trapper, and fisherman lived his life on the land up the Peel River and down in the Delta (CMH 2020).³ He told of how people were ready to make mooseskin boats for the long journey from the mountains, "after there was no more ice" and they could go by water (Bonnetplume 2010b: 151). It was not just the ice on the interior rivers and lakes that had to go to free up movement, Cockney described waiting for "when the sea ice finally opened" so that he could move on (Nuligak 1966: 76).

In the nineteenth century, the Hudson's Bay Company (HBC) traders overwintered at the fur trade posts that became the nuclei for many northern communities. It was in spring that the boats began to move, carrying people, furs, and goods, into, out of, and around the region along the Mackenzie and Yukon rivers and their principal tributaries. The ways that the

open waters were used changed over time but the underlying rhythm persisted. In the twentieth century, the HBC faced greater competition from independent traders like Peter Baker who “would come as soon as the ice went away in spring time,” recalled George Sanderson from Deninu K’ue (Fort Resolution Elders 1987: 37; Baker 1976). Other elders described finding work on the HBC’s steamships during the summer months (Francois King in Fort Resolution Elders 1987: 64). Victor Lafferty, born in 1914, worked as a labourer “after the snow thawed in the spring time,” cutting logs, hay, and then fishing. “After we were finished fishing,” Lafferty concludes, “we brought all the boats back here and took them out of the water” (Fort Resolution Elders 1987: 64).

The ice in fall and spring was dangerous, as it formed and broke up it was unpredictable and unstable. Cockney told about walking on the ice near Cape Parry once it had frozen in fall. “We were in the middle of the strait. It was windy and the new ice was so thin and soft that it bent under our weight.” At first Cockney and his companions enjoyed seeing the ice “sag under our feet.” Then

suddenly the thought came to me that everything was going to break around us. I recalled one of my grandfather’s stories, where the ice had collapsed under the feet of a band of Inuit.

Cockney hurries his companions off the ice to shore. “It was hare-brained of Putugor [his brother] and me to have acted that way.” Cockney concluded, “twenty minutes after we got to shore, our bridge of thin ice was completely destroyed” (Nuligak 1966: 113–114). We see not only the role of stories Cockney’s grandfather had told him in shaping his own knowledge of ice but also Cockney’s expectation that he and his brother (but not their other non-Inuit companion) must *know* the ice and whether it was safe for passage. Travellers could break through newly-formed ice, or get bound up in the ice as it broke and re-formed as happened to Victory Lafferty and his uncle at Rocher River (just east of Deninu K’ue). They were stuck for a week until the ice finally went out and they could return home (Fort Resolution Elders 1987: 88).

Ice and Colonisation

Indigenous northerners occupied a rich social world throughout the year. From the nineteenth into the twentieth century, this social world consisted of human and other-than-human nature (Heine *et al.* 2007: 7–8). Social life varied over the seasons with large winter gatherings an important part of the calendar. With the presence of fur traders and missionaries these winter gath-

erings were organized around Christmas and New Year's, but the timing of these celebrations built on pre-contact traditions. The Inuvialuktun name for "the December moon" was *kaitvitjvik* "because during this month of darkness the Inuit assemble, forget their worries, rejoice, dance, perform with puppets, and the like" (Nuligak 1966: 61). Beyond these large celebrations, families came together at fish lakes or elsewhere on the land in the winter months. Freeze-up was an important transition in the yearly cycle, marked by the changing character of snow and ice in spring and fall, the attendant hazards, and the different rhythms of movement in the winter months.

For colonisers, freeze-up and break-up took on much greater significance to their yearly cycle as markers of the imposition of, and then release from, isolation. Missionaries and traders would spend some time on the land in winter months but they travelled far more widely once the rivers opened in spring. The main traffic of people and goods was over water as it was much cheaper and easier to carry heavy loads that way. That it was easier and safer for long journeys to travel by boat in the summer months is also apparent in Indigenous accounts (even if only in contrast to the hazards of travel over ice). And so the system of navigation by which most colonizers and their goods entered this region was established in the fur trade and its rhythms mapped onto Indigenous lifeways.

Traders hired local boat men to take furs down to Portage La Loche, the height of land between the Hudson Bay and Arctic watersheds and from 1826 to 1886 the exchange point in the HBC's brigade system. It was here where the goods that arrived for each annual outfit from England and eastern Canada were exchanged with the returns in fur, castoreum, and sometimes leather and caribou tongues, from the Mackenzie River District posts. Posts were resupplied by the end of the summer. Through the nineteenth century, the HBC used twenty-eight-foot long boats that could carry up to three tons in weight and were crewed by eight to twelve voyageurs (Innis 1999: 293). After 1885, the *SS Wrigley* was the first steam-powered vessel to carry goods and people along the Mackenzie River. Its appearance brought new summer labour opportunities for Indigenous northerners as pilots, crew, and in cutting cordwood to feed the engine (Anderson *et al.* 2000: 13–15). Missionaries took advantage of the summer months to widen their field for proselytizing. Dignitaries visited and toured the posts. Roman Catholic Oblates and Anglicans stationed along the Mackenzie River travelled northward to more distant communities, including those along the Arctic coast. In the twentieth century, with growing interest in northern resource opportunities including mining, oil and gas, the spring transition was referred to as when the land "begins to show" (Finnie 1930). Geological exploration depended on the close examination of bedrock, work that could

not be done when the land was blanketed with snow.

Observing ice—its character, transitions, movements, and flows—became core to colonial experiences; it was a way that newcomers adapted to northern land and waterscapes. Ice was part of the larger process of weathering colonization as scientific meteorology came to play an essential role in defining Canada as a new northern nation (Zeller 1987). Daily if not hourly or even minute by minute measures of temperature and air pressure, duly recorded in ledgers, contributed to a meteorological network and a climate index essential to understanding Canadian environments and expanding colonial settlement (Piper 2019). Observation of ice rooted northern settlers and sojourners in specific places. Oblates of Mary Immaculate missionaries kept daily journals, with variable consistency, at each post. Émile Petitot and Jean Séguin at the place they called *Notre Dame d'Espérance* or *Fort Good Hope*, but which was called *Radilih Koe* ('home at the rapids') by the K'ahsho Got'ine, began a mission journal in 1868. Their temperature observations begin seven years later, when Petitot brought several spirit (alcohol) thermometers with him from Paris (Petitot 1889: 83). The mission temperature record was kept until 1966.

Séguin was primarily responsible for keeping these detailed records. He lived in the North for forty years and at Fort Good Hope for almost all of that time. Séguin was unequalled in the diligence and detail with which he kept meteorological observations. (Nevertheless, as is apparent in his letters, this attention to detail did not make Séguin a gentle colonizer. He viewed Indigenous northerners as primitive, inferior savages who needed his sacrifice to be saved.) The instrumental temperature series from Fort Good Hope is the oldest and most complete of all the posts along the Mackenzie and Yukon rivers. The only gaps in the record between 1876 and 1890 were in the summer months (from early July to mid-September) when missionaries travelled and left the thermometer, and the meteorological station that it constituted and represented, unobserved. From 1891 until Séguin's departure in 1901 the record is complete, with Séguin even adding Fahrenheit measurements from a second thermometer in 1897. With Séguin's departure the thermometer languished, its temperatures unrecorded for several years until July 1909 when a daily record resumed.

Break-up and freeze-up observations were kept from 1876 to 1940 with only one interruption in the spring of 1903 (OMI n.d.). The annual observation of ice shows elements of the process of colonization and the creation of colonial ecologies. The language conveys the Oblates' sense of ice coming apart (*débâcle*) in spring, then flowing full (*grosse*), then coming back together (*prise*) and the water stopping (*arrêt*).⁴ These transitions mirrored the onset and end of easy commercial and social travel over the waterways in summer. Observations were made from a stationary point looking outward,

rather than conveying an immersive sense of being on the land and water with the ice, which is apparent in how Indigenous northerners recollected ice and its transformations.

In his decades at Fort Good Hope, Séguin paid close attention to the ice in spring noting when water first appeared at the edge of the river, then when it began to break up—this is the date reported in the Oblate records as *débâcle*—and then observing the ice as it started to move. Some years, Séguin observed when the river was open to a certain point but the date of full opening, when the break up was complete, only arrived when the “big ice” moved out (OMI 1876–1879). The spring thaw was not a moment but a process. To achieve the accuracy that clearly appealed to Séguin meant having fixed points to signal the opening of the river, including using the break-up of ice at the rapids as the point in time that marked the opening of the river. Petitot explained how once the ice began to break up at the rapids, very shortly thereafter would follow “la grande débâcle” and the big ice. He went on,

Nothing can give a more striking sense of the primal chaos and confusion that arose [from the great break-up]. It is a monstrous mixture, shapeless, unique, of gigantic masses, as tall as houses, as big as rocks, which move through groaning, roaring, majestic or wrathful, breaking against others that are even more monstrous still; then fall back covering with their debris the flanks of the giants against which they have collided. They are swallowed by the flow of the river, to reappear further on, surging up in the midst of smaller bits of ice, which they move, raise, and disrupt.⁵ (Petitot 1889: 152)

Petitot writes how once the largest masses of ice moved downstream. This was not only visually arresting, but also that the noise of the big ice (“de formidables detonations,” “un fracas infernal”) made it an unmistakable moment in the seasonal calendar.

The emotional character of break-up can be further understood in reference to the experience and description of freeze-up. As in the spring, Séguin, Petitot, and other missionaries detailed the process of freezing over several weeks. In some years they commented first on the formation of ice along the banks of the river. However, it was not until ice formed in the river itself that they marked the start (*prise*) of freeze-up. In the days or weeks that followed, the missionaries might note details about the amount of ice on and flowing in the river (*la rivière charrier*). In many years, but not always, they marked when the rapids had frozen and then when the freeze-up was complete as when the ice, or the river had stopped (*arrêtée*) or frozen (*gelée*). This was often followed by comments on the beauty of the frozen river.



Fig. 2. The Great Rapids of the Mackenzie River Ramparts.
Source: Originally published in Petitot, *Quinze Ans sous le Cercle Polaire* (1889: 27).

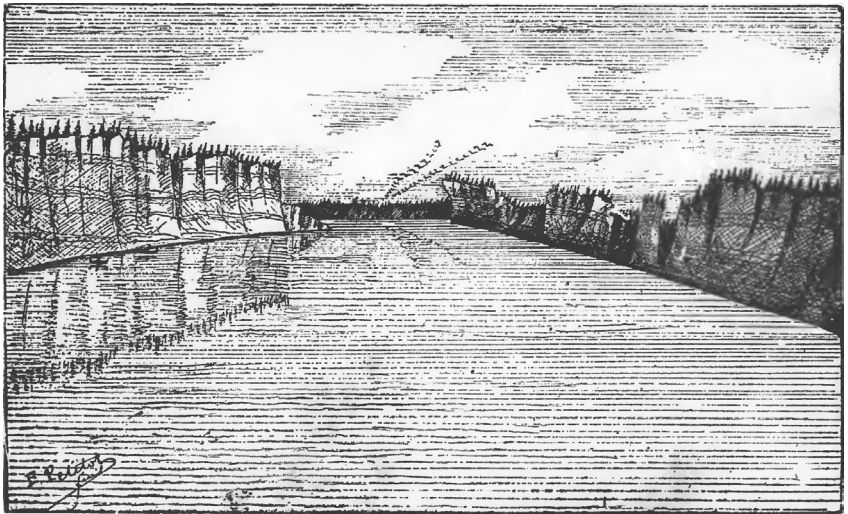


Fig. 3. The Mackenzie River Ramparts.
Source: Originally published in Petitot, *Quinze Ans sous le Cercle Polaire* (1889: 91).

After 1904, the Oblates distinguished that freeze-up was complete when the Ramparts froze over. This formalized the observations that Séguin had been recording for years as the *arrêt*. The towering limestone cliffs three kilometers downstream from Radilih Koe form a canyon where the river narrows, creating the rapids for which the community is named and which were an essential spiritual and fishing site for the K'ahsho Got'ine from ancient times (Auld & Kershaw [eds.] 2005: 19). Given the narrowing of the river at the Ramparts, when the river had frozen here this marked when the waters flowing past Fort Good Hope/Radilih Koe effectively stopped for the winter months. However, the Ramparts occupied greater significance than even that in the minds of the missionaries. The Ramparts were, in Petitot's words, the "door" to their mission post (Petitot 1889: 62) and he included two illustrations of them in his published work on the region (Figs. 2 and 3).

Petitot characterized the freezing river, as when "the Great Giant is imprisoned in its vast icy bed from which it will not leave for more than nine months" (Petitot 1889: 85). It is clear elsewhere in his writings that Petitot felt that it was not just the river that was imprisoned, but he and the others at the mission post as well. While Séguin detailed the dull isolation of the winter months after freeze-up (Séguin 1867), for Petitot, enduring the winter isolation was a test put to him by his god. He described how winter brought with it nervous melancholy and a "morbid depression" (Petitot 1889: 82–83). That Petitot suffered from mental illness, including what appears to be manic depression at times culminating in episodes of violence, is described by Oblate historian Robert Choquette (1995: 59–66). Winter isolation and imprisonment was a colonial discourse. When the door of the Ramparts closed in the fall, it slammed shut only on those who cherished their connection via the Mackenzie River to worlds outside—to the south and more distantly, to Europe and France where Petitot would travel for medical treatment, and to which Séguin returned home in 1901 to live out his final years before dying at the age of seventy in 1903.

With the arrival of the Canadian state in the north after 1890—first and foremost in the form of the North West Mounted Police (NWMP), later the Royal Canadian Mounted Police (RCMP 1921–1935)—there came a greater need for colonisers to adapt more fully to travel in wintertime. Police enforced southern Canadian laws in the northern territories by patrolling, which in many parts of the Mackenzie district and Yukon was "not only the chief, but the sole activity of the detachments" (Morrison 1985: 132). Routine patrols were carried out on a schedule to deliver mail, to make a regular visit to a community or camp, to obtain supplies, collect customs returns, and to enforce new game laws. Special patrols investigated crimes and provided aid. The Mounted Police carried out patrols by boat in summer, and by airplane

after the 1930s, but the majority of patrols were carried out by dog teams over ice. Summer was busy, particularly after treaties 8 and 11 were signed after 1898 and 1921 respectively: Dominion Day (1 July) became an annual celebration when treaty annuities, rations, and supplies were distributed while Indigenous northerners gathered, feasted, and traded at the posts. The police, as agents of the Dominion, played a central role on the government side of these proceedings. Winter was when the routine of patrolling set in.

Detailed descriptions of ice survive from the patrol reports that convey a different perspective on the land. If the Oblate missionaries were relatively stationary in the winter months, the police were much more in motion. Dog teams permitted them to move with ease across the ice and snow. For the police stationed at Fort Resolution breaking through ice that had not fully formed on Great Slave Lake was a threat in the early winter. One year the ice was so rough on the lake it cracked the boards on the police sled. Kristjan Fjeldsted Anderson, born in Iceland in 1866 and who came to Canada in 1887, was the police officer in charge of the Great Slave Lake sub-district from 1917 until 1921. He described travelling across the lake in February 1920 where “the wind had taken all the snow off the ice in large patches, leaving the jagged edges of the broken ice sticking up which was very hard on the sleighs” (Anderson 1920). Dogs also found these conditions difficult, as they did too when the weather was cold and the ice harder on their feet. Dry lake and river ice in the late spring was covered in what the trapper Helge Ingstad described as a “carpet of sharp-pointed needles which bring blood to the paws of the dogs” (Ingstad 1992: 135). The men might spend several days at the detachment caring for the dogs after a patrol over rough ice. A local Metis woman held at the Resolution detachment in the early months of 1924 for “vagrancy” (the charge used for women held for prostitution) was put to work sewing shoes for the dogs during her incarceration (RCMP 1921–1935: 6 Feb. 1924). Alongside catching fish and preparing dog food, generally caring for dogs became essential labour at RCMP posts in the early twentieth century, reflecting the centrality of the patrols (Dobrowolsky 2013: Ch. 11).

In the fall, a major source of anxiety was pulling out the boats before they got frozen in at too great a distance from the detachment, as well as ensuring a good fall fishery. The fish caught during spawning runs were dried and preserved through the winter months for dogs and men. Anderson described how in 1919 an early freeze up and bad weather (fall was a stormy time of year on Great Slave Lake) wreaked havoc among the missions, traders, and police. The Roman Catholic and Anglican mission “steamers” were frozen in at a distance from the post, as were a large steamer and a fish scow belonging to the HBC. Then,

Fairweather's gas boat [...] was [coming] in from Rocher river with fish, and got caught in the storm, and was compelled to throw all or most of the fish overboard, to save the boat from being swamped, the R.C. Mission Fort Providence lost 80 nets and 2 scows and a skiff in the ice and LHC Co. [Lamson Hubbard] of the same [place] lost 20 nets, several of the Police nets at Fort Resolution get [sic] damaged by the ice but Corpl. Walters got them all out. (Anderson 1920)

Boats frozen in had to pass the winter exposed to elements, often sustaining significant damage that needed repair after spring break-up when they could finally be freed. Once water appeared on the ice, police stayed off the thawing waterways but still patrolled over land. The RCMP described the land as it thawed and became like a quagmire. At the police detachments, built in the communities that had emerged around the fur trade and mission posts, the spring thaw saw men dig ditches to drain the barrack yard and detachment quarters. Travel over land—the routine and special patrols—persisted but became an ordeal as the trails were bad and “soft” (RCMP 1921–1935: 23 April 1924). Longer patrols during springtime might involve the RCMP carrying canoes or other boats with their sleds, so that they could take advantage of open water when it arrived (Wood 1921). Break-up was a social event and spectacle which people gathered to watch (see Fig. 4). As anthropologist June Helm observed from Jean Marie River in the 1950s, “the interest surrounding break up is intense,” followed soon thereafter by the arrival of visitors (Helm 2000: 35).

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Epidemics. Scarlet Fever 1865 and Influenza 1928

For most of the middle decades of the nineteenth century (1820–1880) a pandemic of scarlet fever led to thousands of deaths in Europe and North America (Swedlund & Donta 2003: 159). In dense urban populations the disease had highest mortality among children. Infection by the bacteria *Streptococcus pyogenes* that causes scarlet fever does produce immunity to subsequent infection in most instances and, given the degree to which these pathogens circulated in urban settings, many adults would have been previously exposed. Those who had not, though, could fall ill and die. In the mid-nineteenth-century the *S. pyogenes* bacteria was particularly virulent. “The deadliest of fevers” as reported in an 1865 article in *The Lancet*,

often pestilential in its progress, sparing neither the young nor the old, but chiefly infecting the very young, and not unfrequently sweeping off the whole of the children of a family—its irruption into a household is regarded with dismay. (N.a. 1865: 129)



Fig. 4. Ice break-up at Aklavik, Mackenzie Delta, 1922.
Source: NWT Archives/Fred Jackson fonds/N-1979-004: 0242.

S. pyogenes is a pathogen that has demonstrated considerable variation in its virulence over time and which, is like plague and cholera, an “epidemic-prone bacterial infection” meaning that it can produce significant epidemics (Wong & Yuen 2012: 1).

Scarlet fever arrived with boat crews in the Mackenzie River District in August of 1865. Dene and Gwich'in men worked for the HBC in the summer months as voyageurs, responsible for the transshipment of goods and furs into and out of the North. The boat crews, like ship crews on the coast, acted as vectors for infectious diseases in the nineteenth century (Hackett 2002: 180; Boyd 1999: 34–37). The waterways of the fur trade in the open months enabled boat crews to transport goods over long distances and with considerable speed. From the perspective of pathogens this worked like the better-known example of horses and the spread of smallpox on the Great Plains: an infected person could travel far while incubating a disease and before they even knew they were sick. Pathogens, like *S. pyogenes*, had the opportunity to reach farther into the interior by rivers and lakes than by any other means. Indeed, boats on open water were even more dangerous than horses as sick people could be carried in a boat, they did not need the energy to sit up and ride. This was what happened in 1865. Several men from Radilih Koe and elsewhere died in Portage La Loche in northwest Saskatchewan, far from their lands and families. Twenty others, according to Petitot, lay ill in the boat when it reached Fort Good Hope/Radilih Koe. The crews and other passengers, and even the goods they carried may have helped to convey the bacteria over

long distances. *S. pyogenes* main reservoir is humans, but they can survive in some foodstuffs including flour and cornmeal (Parish 2004: 35). That said the disease also disrupted normal movement. William Hardisty, the HBC Chief Trader at the district headquarters in Fort Simpson/Liidlu Kųę, was unable to “raise a crew” for Fort Halkett, near the confluence of the Smith and Liard rivers in what is today northern British Columbia (Hardisty 1865: 61a). The Fort went without its outfit, but with two exceptions (Halkett men who were at Fort aux Liards when the scarlet fever passed through that place), the forty-three families that made up “the Halkett branch of the [Tsek’ehne] tribe” escaped the epidemic (Hardisty 1866: 93b; Wright 1976: 88–89).

The scarlet fever had about a month of open water when it travelled with boats and spread to communities along the Mackenzie and Yukon rivers. With freeze-up, the movement of people and the pathogen slowed considerably, although it did not stop. In October 1865, Revered McDonald at Fort Yukon wrote of two young men who arrived “from Netsi-kutchin [sic] country. They brought news of all being well.” When McDonald travelled to them two months later, he reported that twenty-seven people had died in the interim when the bacteria reached their community (possibly from Fort Yukon itself), amounting to about a third of the band (McDonald 1865: 8 Oct.; 26 Dec.). Thirty-two of thirty-eight “Mountain Indian” (Shita Got’ine) hunters were also reported to have died from scarlet fever or suicide in the winter of 1865–1866 (Flett 1866), a devastating loss.

Indigenous northerners who caught scarlet fever in the trade and mission posts moved on to their wintering grounds where, according to Séguin, they “could breathe a little.” Out on the land their families cared for them, “so long as the one who was sick could light a fire” (Séguin 1866). Some camps were spared on their wintering grounds, such as a family Petitot described who evaded the epidemic in their camp on Colville Lake/K’ah-bamitue. However, the close social world of the north meant only that the immediate family was spared, not their friends and wider kin. Néyollé, the head of the family, on learning of the deaths of his younger brother, his two sisters, and many cousins and nephews: “[...] sat, with his head in his hands,” wrote Petitot in a letter to his superiors, “and stayed in this position for a long while saying nothing. He then sat up, shed countless tears and sobbed so hard as to rent his soul” (Petitot 1868: 285).

By the summer of 1866, when traders and missionaries reflected on the scarlet fever outbreak, they estimated over one thousand deaths from a regional population that would not have exceeded ten thousand at the time. The vast majority were Indigenous people, in part because there were still relatively few (possibly no more than a few hundred) non-Indigenous people then in the northwest interior. Many Euro-Canadians (including

William Hardisty, Jean Seguin, and others) also fell ill with the scarlet fever in this epidemic, and some died. The death toll varied significantly between communities and camps, although mortality appears to have been as high as 25 percent of the population. The scarlet fever endures in the oral history of the Northwest as one of the most prominent epidemics at a time of significant historical change (Vuntut Gwitchin First Nation & Smith 2009: 91; Sax & Linklater 1990: v–vi). Scarlet fever's appearance in late summer in 1865 slowed the progress of the epidemic and helped to ensure that some camps and families survived the winter months.

Infectious pathogens circulated throughout the Northwest in the decades that followed, with varying degrees of intensity and, at times, devastating local impacts (see for example Nagy 1994: 55). Yet it was not until 1928 that another major epidemic reached across most of the region. This time it was an influenza outbreak that killed at least 10 percent and possibly as much as 20 percent of the population. People living along the Mackenzie had not been hit by the 1918–1919 influenza pandemic, the so-called Spanish flu, although influenza had travelled through the northwest interior repeatedly in the nineteenth century. It is therefore most likely that this later virulent epidemic was the first appearance of the same, devastating H1N1 influenza in the region. In 1928, the influenza virus arrived on the Mackenzie soon after the spring breakup. The different timing of these two epidemics, in 1865 and 1928, highlights the different character of movement, sociability, and mobility in the early as compared to late summer, as well as some of the changes that had transformed the Mackenzie and Yukon rivers in this formative period. There are therefore important similarities that become apparent in the ways that colonial circulations influenced the movement of infectious pathogens and their effects upon northern peoples and communities.

In 1928 the HBC's main supply steamship, the *SS Distributor*, carried the influenza virus along the Mackenzie River from Hay River on the south shore of Great Slave Lake to Kitigaaryuit (Kittigazuit) a major Inuvialuit settlement at the mouth of the delta. The trip took eleven days, including the stops at posts to deliver goods and pick up and drop off passengers. It became clear on this first trip of the *Distributor* that it was hurrying the virus across the region. Shortly after the steamer arrived, people at each post would fall ill with almost the entire community affected. Dr. W.A.M. Truesdell, the Dominion physician stationed at Fort Simpson (where the Mackenzie and Liard rivers meet) boarded the *Distributor* on 6 July. Truesdell noted that crew and passengers were sick with the flu but he chose not to stop the vessel from continuing on its way, believing that it was more important that the communities to the north be restocked with supplies after a long hard winter than that the virus be contained (Truesdell 1928).

Truesdell failed to anticipate the severity of the outbreak.

The *Distributor* provided speed and range, but the fuller dispersion of influenza came as a result of treaty gatherings and other spring and summer activities that brought Indigenous peoples, non-Indigenous residents and visitors, trappers, and traders together at this time of the year. On 23 June, 1928 Denesuline families travelled down the Buffalo River to Hay River with furs. The Reverend A.J. Vale remarked in his journal, “thus life begins again in the Community” (St. Peter’s 1928: 23 June). We hear echoes of Petitot and Séguin decades earlier describing the isolation of the winter months from the perspective of the mission posts looking out. Just as Denesuline families came into Hay River, so too did other Dene and Gwich’in land their canoes and boats at Deninu K’ue, Behchokò, Zhahti Kùq, Líidli Kùq, Radilih Koe, and—along with Inuvialuit—they arrived at Aklavik and Kitigaaryuit up on the Beaufort coast. At Hay River, the majority of families arrived before the *Distributor* came in and thus awaited the arrival of not only that season’s goods but also the virus itself. At Providence, the *Distributor* landed and left while most families were still out on the land (Bourget 1928: 3). This did not mean those families were spared. Instead, it was a smaller boat that arrived from Resolution/Deninu K’ue a few days later, after families had reached the community, that carried the virus on. These frequent movements between communities meant that few camps or communities were spared.

Further north, in Fort McPherson/Teetl’it Zheh, as soon as the influenza arrived and many villagers fell ill a canoe with an outboard motor was sent to Aklavik for help. Such trips carried the virus to new sites as well. The greatest opportunities for spread, however, came from seasonal gatherings. Julianne Andre described the days before the flu came.

The Eskimos wanted to dance for us, and then we had to dance for them. They danced all night. That night after mass they all went down to dance. A chant was sung. We really had lots of fun. Everybody danced—some rested and then took the place of the dancer. That’s when the flu came. Everybody was sick and lots of people died. (Heine *et al.* 2007: 272)

Rae/Behchokò, a major Tłı̨chò community nestled in the rocks of the Canadian shield on the North Arm of Great Slave Lake, was the site of important treaty festivities in the twentieth century. In 1928, Dominion government officials postponed treaty payment for a few days, “to give a chance to all the stragglers to arrive:” in effect they gave the disease greater opportunity to take hold among the 800 or more Tłı̨chò people who had gathered. By “Sunday the first of July the disease started with terrific spread,” according to Dr. Clermont Bourget (Bourget 1928: 1). Not only did the Treaty party, itself infected with the virus, then travel to nearby families and camps but some

Th̄chq̄ and Dene left Rae/Behchok̄ before they had received their payment to purchase goods, or the rations that were a part of the treaty provisions, in fear for their health and in the hopes of escaping the illness (Halliday 1928).

What happened at Rae/Behchok̄ illustrates a pattern of very effective disease dispersion independent of the path of the *Distributor*, as people came together to visit and for treaty or trade and then left carrying the virus with them. This kind of mobility and movement was much more common in the summer months, particularly in the early decades of the twentieth century, and with the advent of regular steamship trips along the Mackenzie River. The 1928 influenza does not appear to have been virulent as the 1865 scarlet fever, with the average mortality closer to 12.5 percent. It was higher in communities where the *Distributor* stopped and higher still in smaller communities and bands where almost everyone fell ill and therefore could do less to care for one another in the midst of the epidemic. The wide geographic spread, compared to many previous epidemics, reflected the timing and movement of people in the summer months along the Mackenzie River.

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Not immediately apparent from the accounts provided here was the persistence and resilience of Indigenous northerners in the face of epidemic outbreaks. There are some hints. Alongside the lower mortality in larger communities noted here, there are oral and written accounts of how those who could, provided food and care to the sick during these epidemics (Thom & Blondin-Townsend [eds.] 1987: 59–61). Such care was the most effective means of healing the sick available at this time (Humphries 2013: 121–122). Even when families suffered devastating losses, survivors were not abandoned but in keeping with practices common among the different northern Indigenous peoples, adopted into other families.

The purpose here is to turn attention away from Indigenous communities as sites of vulnerability and onto the colonial ecologies, that fabric interwoven between bodies and places, connecting Indigenous people and settlers along the Mackenzie and Yukon rivers and their tributaries between 1860 and 1930. An examination of the two most significant regional epidemics in this period reveals the character and rhythm of colonial circulation that connected the northwest interior to distant disease pools and brought pathogens into the region. Once in the northwest interior, the course of these epidemics was shaped in place, by the disruptions and flow created in the annual transition to and from ice and snow. The impact of freeze-up and break-up came not only through the phase change from liquid to solid and back again, but also through the knowledge, desires, and power that decided when goods and people would move and how far and where they

would travel. The anticipation, quagmire, and hazards of spring, followed by the frequency, distance, and intensity of summer travel with a final rush of activity before the freeze up, and then the slowness of winter—connect to both the dynamics of ice and colonial prerogatives (the cheapest and easiest movement of trade goods, the desire for police patrols over ice, the settling of missionaries into place) and illuminate how this cryospheric colonial ecology shaped the northern history of disease.

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NOTES

- ¹ The interviews, like that with Eliza Andre, are drawn from the COPE collection. COPE refers to the Committee for the Original People's Entitlement and was formed in the context of the 1970s land claims. The COPE collection includes interviews conducted as part of the land claim in the 1970s, as well as stories shared between 1963 and 1979 on a CBC radio program hosted by Nellie Cournoyea called, "A Long Time Ago." (Introduction, "Gwich'in COPE Stories" 2010: x)
- ² Place-names are given with their English and Dene or Gwich'in names in the first instance, and thereafter are referred to depending on which perspective and sources are being presented—settler or Indigenous. If it's the author's perspective, the Indigenous name will also be used.
- ³ Paul Bonnetplume's biography was collected as part of the Gwich'in Social and Cultural Institute's Elders Biographies project. For more information see www.gwichin.ca/projects/elders-biographies; access date 3 February 2020.
- ⁴ All the Oblate material cited here is in French in the original and where quoted in English has been translated by the author.
- ⁵ English cannot quite capture Petitot's expressiveness. In the original he writes: "Il n'est rien qui donne une idée plus frappante du chaos primitif et de la confusion dernière. C'est un mélange monstrueux, informe, unique, de masses gigantesques, hautes comme des maisons, grosses comme des rochers, qui s'en vont mugissant, hurlant, majestueuses ou courroucées, se rompre contre d'autres plus monstrueuses encore; puis retombent en couvrant de leurs débris les flancs des colosses contre lesquels elles se sont heurtées. Elles s'engloutissent dans le flot qui marche, pour reparaître plus loin, surgissant au milieu de glaçons moindres, qu'elles déplacent, soulèvent et culbutent."

REFERENCES

Unpublished Sources

- Alexie, Bella. (2010). "Marriages," in "Gwich'in COPE stories," Fort McPherson, NT: Gwich'in Social and Cultural Institute, pp. 4–7. Transcript.
- Anderson, K.F. (1920). Inspector In Command of Great Slave Lake Sub District and Patrol to "G" Division, Edmonton, 3 February. Northwest Territories Archives, June Helm Fonds, N-2002-021, box 3.
- Andre, Eliza. (2010). "Without Fire (Kyan Et Dun) and Little Beads (Nah Ghing Tsull)," in "Gwich'in COPE stories," Fort McPherson, NT: Gwich'in Social and Cultural Institute, pp. 20–28. Transcript.
- Andre, Julienne. (2010). "Life story of Julienne Andre," in "Gwich'in COPE stories," Fort McPherson, NT: Gwich'in Social and Cultural Institute, pp. 61–92. Transcript.
- Baptiste, Pascal. (2010a). "Living with Eskimos," in "Gwich'in COPE stories," Fort McPherson, NT: Gwich'in Social and Cultural Institute, pp. 109–110. Transcript.
- Baptiste, Pascal. (2010b). "Man called Indian Headband," in "Gwich'in COPE Stories," Fort McPherson, NT: Gwich'in Social and Cultural Institute, pp. 114–15. Transcript.
- Bonnetplume, Paul. (2010a). "Arctic travels with the Hudson Bay Company," in "Gwich'in COPE stories," Fort McPherson, NT: Gwich'in Social and Cultural Institute, pp. 148–149. Transcript.
- Bonnetplume, Paul. (2010b). "Travels in the Yukon," in "Gwich'in COPE stories," Fort McPherson, NT: Gwich'in Social and Cultural Institute, pp. 150–152. Transcript.
- Bourget, C. (1928). Medical report for the Great Slave Lake Agency from June to September first, 1928, 19 September. Library and Archives Canada, RG 85 C11-a, vol. 789, file 6099, pp. 1–6.
- Finnie, O.S. (1930). Letter to V. Stefansson, 4 June. Library and Archives Canada, RG 85, C-1-a, vol. 808, File 6774, pt. 2, Reel T-13312.
- Flett, Andrew. (1866). Letter to William Hardisty, 1 February. Hudson's Bay Company Archives, B. 200 / b / 36, fo. 40–41.
- Halliday, J.L. (1928). Great Slave Lake Sub-District, Rae Detachment to Officer Commanding, RCMP, Great Slave Lake Sub-District, 6 August. Library and Archives Canada, RG 85 C-1-a, vol 789, file 6099.
- Hardisty, William. (1865). Letter to W.J. McLean, Fort Aux Liards, 29 September. Hudson's Bay Company Archives, B. 200 / b / 35, fo. 61a–b.
- Hardisty, William. (1866). Letter to Governor, Chief Factors, Northern Department, 30 July, Hudson's Bay Company Archives, B. 200 / b / 35, fo. 93a–b.
- McDonald, Robert. (1865). Diaries. Archives of the Ecclesiastical Province of Rupert's Land, Winnipeg & Yukon Archives. Robert McDonald fonds, 86/97, MSS 195.
- OMI = Oblates of Mary Immaculate (n.d.). "Fort Good Hope, NWT. Notes on crops (potatoes), extracts from Codex Historicus." Provincial Archives of Alberta, Oblates of Mary Immaculate Fonds, Acc. 97.109/Box 90 (7), item 1988.
- OMI = Oblates of Mary Immaculate (1876–1879). "Codex Historicus." Provincial Archives of Alberta, Oblates of Mary Immaculate Fonds, Acc. 97.109, Box 90(7), item 1990.
- RCMP = Royal Canadian Mounted Police (1921–1935). G-Division, Fort Resolution Journals. Library and Archives Canada, RG 18-C-6, vol. 3470.
- Séguin, Jean. (1866). Letter to mother and sister, 1 June. Provincial Archives of Alberta, Oblates of Mary Immaculate Fonds, Acc. 71.220/7343.
- Séguin, Jean. (1867). Letter to mother and sister, 1 June. Provincial Archives of Alberta,

Oblates of Mary Immaculate Fonds, Acc. 71.220/7344.

- St. Peter's. (1928). *Missionary Journals, Hay River, Great Slave Lake*. Provincial Archives of Alberta, Anglican Diocese, MacKenzie River, MR 4/5 box 1.
- Truesdell, W.A.M. (1928). Letter to O.S. Finnie, 28 September. Library and Archives Canada, RG 85 C-1-a, vol. 789, file 6099, pp. 1–4.
- Wood, S.J. (1921). Inspector Commanding Arctic Sub-District report from Herschel Island Detachment, to the Officer Commanding, RCMP, Edmonton, 1 January. Northwest Territories Archives, June Helm Fonds, N-2002-021, box 3.

Published Sources

- Abel, K. (1993). *Drum Songs. Glimpses of Dene History*, Montreal: McGill-Queen's University Press.
- Alunik, I. (1998). *Call me Ishmael. Memories of an Inuvialuk Elder*, Inuvik, NT: Kolausok Ublaaq Enterprises.
- Anderson, D.G., Wishart, R., Murray, A. & Honeyman, D. (2000). *Sustainable Forestry in the Gwich'in Settlement Area. Ethnographic and Ethnohistoric Perspectives*, Edmonton: Sustainable Forest Management Network.
- Andre, A. & Mitchell, E. (1999). *A Dictionary of the Gwichya Gwich'in and Teet'it Gwich'in Dialects*, Tsiigehtchic, NT: Gwich'in Social and Cultural Institute.
- Asch, Michael. (2013). "On the land cession provisions in treaty 11," *Ethnohistory*, 60: 3, pp. 451–467.
- Auld, J. & Kershaw, R. (eds.) (2005). *The Sahtu Atlas*, Norman Wells, NT: Sahtu GIS Project.
- Baker, P. (1976). *Memoirs of an Arctic Arab. A Free Trader in the Canadian North the Years 1907–1927*, Saskatoon: Yellowknife Publishing Company.
- Basso, K. (1984). "'Stalking with stories.' Names, places and moral narratives among the western Apache," in *Text, Play, and Story. The Construction and Re-construction of Self and Society*, ed. E.M. Brunner, Prospect Heights, IL: Waveland Press, pp. 19–55.
- Blondin, G. (1997). *Yamoria the Lawmaker. Stories of the Dene*, Edmonton: NeWest Press.
- Boyd, R. (1999). *The Coming of the Spirit of Pestilence. Introduced Infectious Diseases and Population Decline among Northwest Coast Indians, 1774–1874*, Vancouver and Toronto: University of British Columbia Press.
- Choquette, R. (1995). *The Oblate Assault on Canada's Northwest*, Ottawa: University of Ottawa Press.
- CMH = Canadian Museum of History/Musée Canadien de l'Histoire (2020). "Storyteller Paul Bonnetplume;" www.historymuseum.ca/gwichin/storytellers/paul-bonnetplume/; access date 30 January 2020.
- Coates, K. (1985). *Canada's Colonies. A History of the Yukon and Northwest Territories*, Toronto: J. Lorimer.
- Coates, K.S. & Morrison, W.R. (2001) "Winter and the shaping of northern history. Reflections from the Canadian North," in *Northern Visions. New Perspectives on the North in Canadian History*, eds. K. Abel & K.S. Coates, Toronto: University of Toronto Press, pp. 23–36.
- Crosby, A.W. (1986). *Ecological Imperialism. The Biological Expansion of Europe, 900–1900*, Cambridge: Cambridge University Press.
- Cruikshank, J. (2005). *Do Glaciers Listen? Local Knowledge, Colonial Encounters, and Social Imagination*, Vancouver: UBC Press.

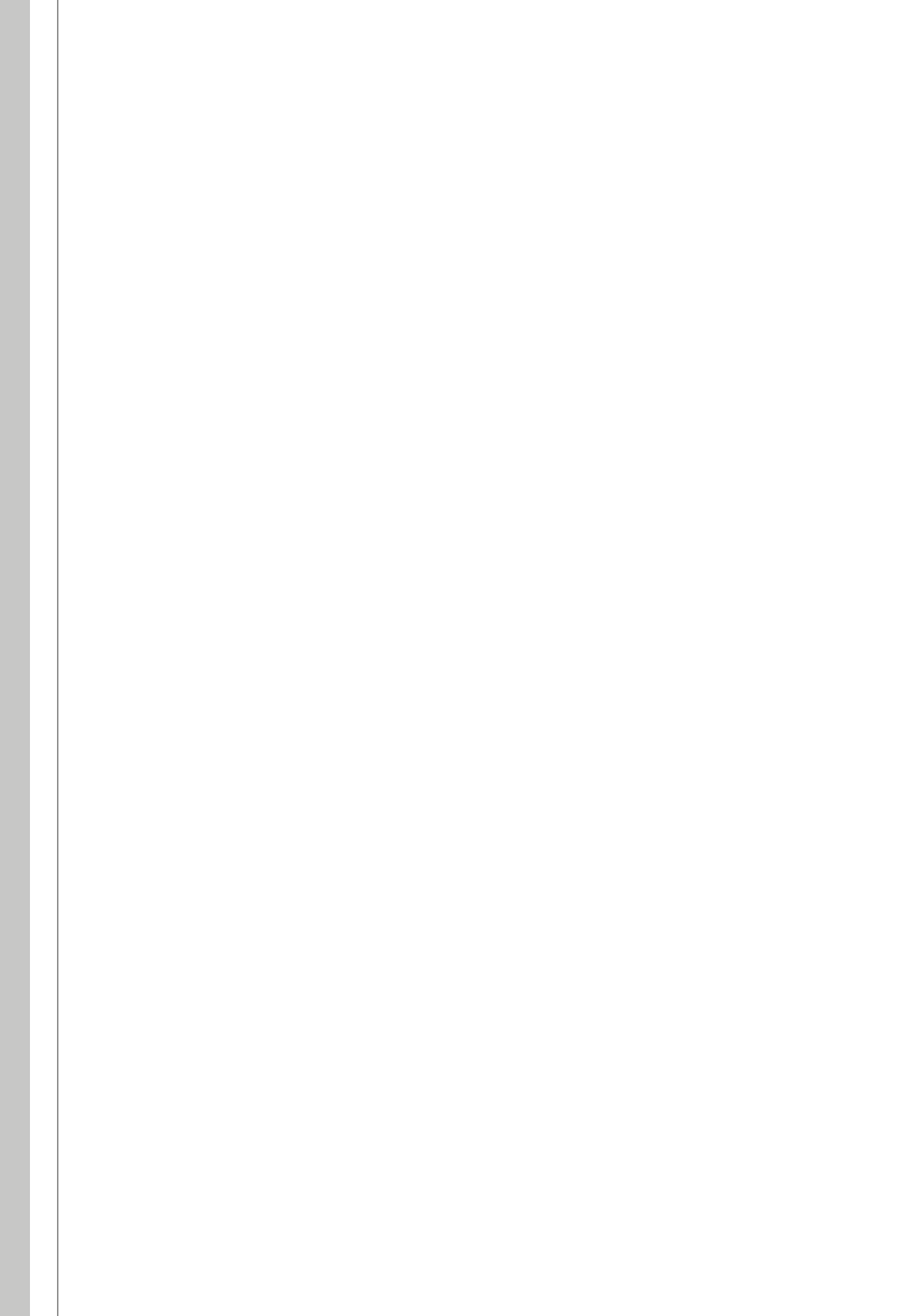
- Denevan, W.M. (1992). "The pristine myth. The landscape of the Americas in 1492," *Annals of the Association of American Geographers*, 82: 3, pp. 369–385.
- Dobrowolsky, H. (2013). *Law of the Yukon. A History of the Mounted Police in the Yukon*, rev. ed., Madeira Park, BC: Lost Moose Publishing.
- Fingard, J. (1974). "The winter's tale. The seasonal contours of pre-industrial poverty in British North America, 1815–1860," *Historical Papers*, 9: 1, pp. 65–94.
- Fort Resolution Elders (1987). *That's the Way We Lived. An Oral History of the Fort Resolution Elders*, Yellowknife, NT: Northwest Territories Culture & Communications.
- Friesen, T.M. (2013). *When Worlds Collide. Hunter-Gatherer World-System Change in the 19th Century Canadian Arctic*, Tucson: The University of Arizona Press.
- Fumoleau, R. (2004). *As Long As This Land Shall Last. A History of Treaty 8 and Treaty 11, 1870–1939*, Calgary: University of Calgary Press.
- Hackett, P. (2002). "A Very Remarkable Sickness." *Epidemics in the Petit Nord, 1670–1846*, Winnipeg: University of Manitoba Press.
- Heine, M., Andre, A., Kritsch, I., Cardinal, A. & the Elders of Tsiigehtshik (2007). *Gwichya Gwich'in Googwandak. The History and Stories of the Gwichya Gwich'in, As Told by the Elders of Tsiigehtshik*, Tsiigehtshik, NT: Gwich'in Social and Cultural Institute.
- Helm, J. (2000). *The People of Denendeh. Ethnohistory of the Indians of Canada's Northwest Territories*, with contributions by T.S. Carterette & N.O. Lurie, Iowa City: University of Iowa Press.
- Humphries, M.O. (2013). *The Last Plague. Spanish Influenza and the Politics of Public Health in Canada*, Toronto: University of Toronto Press.
- Ingstad, H. (1992). *The Land of Feast and Famine*, transl. by E. Gay-Tiffit, Montreal: McGill-Queen's University Press. Originally published New York: Knopf, 1933.
- Innis, H.A. (1999). *The Fur Trade in Canada*, reprint ed., Toronto: University of Toronto Press.
- MacFadyen, J. (2014). "Cold comfort. Firewood, ice storms, and hypothermia in Canada," *The Otter—La Loutre*; <http://niche-canada.org/2014/01/05/cold-comfort-firewood-ice-storms-and-hypothermia/>; access date 24 January 2020.
- McCarthy, M. (1995). *From the Great River to the Ends of the Earth. Oblate Missions to the Dene, 1847–1921*, Edmonton: University of Alberta Press.
- Morantz, T. (2002). *The White Man's Gonna Getcha. The Colonial Challenge to the Crees in Quebec*, Montreal: McGill-Queen's University Press.
- Morrison, W.R. (1985). *Showing the Flag. The Mounted Police and Canadian Sovereignty in the North, 1894–1925*, Vancouver: University of British Columbia.
- N.a. (1865). "The limitation of scarlet fever," *The Lancet*, 4 Feb., pp. 129–130.
- Nagy, M.I. (1994). *Yukon North Slope Inuvialuit Oral History* (Occasional Papers in Yukon History No. 1), Yukon: Heritage Branch.
- Nash, L. (2006). *Inescapable Ecologies. A History of Environment, Disease, and Knowledge*, Berkeley: University of California Press.
- Nuligak [Cockney, Bob]. (1966). *I, Nuligak*, transl. by M. Metayer, Toronto: P. Martin Associates.
- Parish, J.M. (2004). "An Analysis of the 1875–1877 Scarlet Fever Epidemic of Cape Breton Island, Nova Scotia," diss., University of Missouri-Columbia.
- Petitot, É. (1868). "Good Hope, 15 janvier 1866," *Missions de la Congrégation des Missionnaires Oblats de Marie Immaculée*, 7, Paris: Typographie Hennuyer et Fils, pp. 282–292.
- Petitot, É. (1889). *Quinze Ans sous le Cercle Polaire. Mackenzie, Anderson, Youkon*, Paris: E. Dentu.

- Piper, L. (2019). "Climates of our times," in *The Nature of Canada*, eds. C.M. Coates & G. Wynn, Vancouver: On Point Press, pp. 319–333.
- Piper, L. & Sandlos, J. (2007) "A broken frontier. Ecological imperialism in the Canadian North," *Environmental History*, 12:4, pp. 759–795.
- Ray, A.J. (1974). *Indians in the Fur Trade. Their Roles as Trappers, Hunters, and Middlemen in the Lands Southwest of Hudson Bay, 1660–1870*, Toronto: University of Toronto Press.
- Sax, L. & Linklater, E. (1990). *Gikhyi. One Who Speaks the Word of God*, Whitehorse, YT: Diocese of Yukon.
- Swedlund, A.C. and Donta, A.K. (2003). "Scarlet fever epidemics of the nineteenth century. A case of evolved pathogenic virulence?" in *Human Biologists in the Archives. Demography, Health, Nutrition and Genetics in Historical Populations*, eds. D.A. Her-ring & A.C. Swedlund, Cambridge: Cambridge University Press, pp. 159–177.
- Tester, F. & Kulchyski, P. (1994). *Tammarniit (Mistakes). Inuit Relocation in the Eastern Arctic, 1939–63*, Vancouver: UBC Press.
- Thom, M.M. & Blondin-Townsend, E. (eds.) (1987). *Nahecho keh/Our Elders*, Fort Providence, NT: Slavey Research Project.
- Vuntut Gwich'in First Nation & Smith, S. (2009). *People of the Lakes. Stories of our Van Tat Gwich'in elders/Googwandak Nakhwach'anjoo Van Tat Gwich'in*, Edmonton: University of Alberta Press.
- Wickham, T.M. (2018) *Snowshoe Country. An Environmental and Cultural History of Winter in the Early American Northeast*, Cambridge: Cambridge University Press.
- Wong, S.S.Y. & Yuen, K.-Y. (2012). "Streptococcus pyogenes and re-emergence of scarlet fever as a public health problem," *Emerging Microbes and Infections*, 1:7; doi: 10.1038/emi.2012.9.
- Wright, A.A. (1976). *Prelude to Bonanza. The Discovery and Exploration of the Yukon*, Sidney, BC: Gray's Publishing.
- Wright, S. (2014). *Our Ice is Vanishing/Sikuvut Nunguliqtuq. A History of Inuit, Newcomers, and Climate Change*, Montreal-Kingston: McGill-Queen's University Press.
- Zaslow, M. (1971). *The Opening of the Canadian North*, Toronto: McClelland & Stewart.
- Zeller, S. (1987). *Inventing Canada. Early Victorian Science and the Idea of a Transcontinental Nation*, Toronto: University of Toronto Press.
- Zilberstein, A. (2016). *A Temperate Empire. Making Climate Change in Early America*, New York: Oxford University Press.

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The Continent Without a Cryo- history?

Deep Time and Water Scarcity in Arid
Settler Australia

ABSTRACT Australia is a continent seemingly without a cryohistory. But take a closer look. Its cryohistory differs dramatically from that of the northern hemisphere—a contrast that long baffled Victorian geologists seeking evidence of glaciation in the Great South Land. Just as historians have sought to redress the image of a static Arctic through a new attention to its cryohistory, so too historians of Australia have sought to recover a continent that is anything but a “timeless land.” Its long geological history—its cryohistory—framed Aboriginal lifeways across the continent, which in turn, shaped colonial encounters in the aftermath of British invasion in 1788. Guiding this historical project have been the moral challenges of the settler nation’s legacy of Indigenous dispossession and displacement, and the unfolding planetary crisis of the Anthropocene and its implications for critically understanding deep time. This article examines the colonial hydrology of water scarcity in the goldfields of arid Western Australia in the late nineteenth century. It shows how access to freshwater became a flashpoint for relations between Indigenous and non-Indigenous peoples on an extractive frontier. At the turn of the twentieth century, water was the means by which to improve health, hygiene and cleanliness, without which the privileges of white civilisation could not be afforded. Although such

conditions also developed elsewhere in settler Australia, the limited water availability on the eastern goldfields made the circumstances that emerged there especially dire. Accordingly, the material conditions of the arid inland—the product of Australia’s Pleistocene—came to bear on the nature of the encounters between Indigenous and non-Indigenous peoples from the mid-nineteenth century. The very absence of ice in Australia’s cryohistory left its mark on the peoples of the eastern goldfields.

KEYWORDS environmental history, the Anthropocene, water history, settler colonialism, Australian history

Every two years, the Australian Academy of Science awards the Mawson Medal for outstanding contributions to earth science in Australia, which commemorates the work of the late geologist and Antarctic explorer, Sir Douglas Mawson. In 1996, the geologist and environmental scholar, George Seddon, received the honour and delivered the Mawson Lecture to the Geological Society of Australia. There, he mused on the use of geological knowledge for making sense of Australia’s human history. Among his provocations was a question he recommended posing to the globe’s continents, that is, “Did you have a good Pleistocene?” (Seddon 1996: 488). More than most, Australia had not: its soils old and bereft of nutrients for want of those “great soil makers”—glaciers and continental ice sheets. The continent and its first peoples had instead experienced an arid, cold and windy Pleistocene—a dirt age, rather than an ice age, as historian Kirsty Douglas (2010: 30) has suggested.

In short, Australia is a continent seemingly without a cryohistory. But take a closer look. Its cryohistory differs dramatically from that of the northern hemisphere—a contrast that long baffled Victorian geologists seeking evidence of glaciation in the Great South Land (Sörlin 2015; Douglas 2010). Just as historians have sought to redress the image of a static Arctic through a new attention to its cryohistory, so too historians of Australia have sought to recover a continent that is anything but a “timeless land” (Seddon 2007; Griffiths 2016: 16–41). Its long geological history—its cryohistory—framed Aboriginal lifeways across the continent, which in turn, shaped colonial encounters in the aftermath of British invasion in 1788. Guiding this historical project have been the moral challenges of the settler nation’s legacy of Indigenous dispossession and displacement, and the unfolding planetary crisis of the Anthropocene and its implications for critically understanding deep time. Attending to the racial and colonial politics of geology, deep time and the Anthropocene is to acknowledge what geographer Kathryn Yusoff (2019) calls their “subjugations,” that is, “the racialised inequalities that are

bound up in social geologies” of extractivism. Asserting an Australian cryo-history locates the lasting subjugations of mineral extraction there in a wider global history of colonial and post-colonial resource development in the cryosphere that accelerated from the mid-nineteenth century. After all, as geographer Klaus Dodds (2018: 7) notes, “making sense of ice and snow means being attentive to multiple temporalities and spaces.”

Reflecting a resolve to transcend the exclusionary implications of the settler nation’s post-1788 history, historians have found in Australia’s deep time—its own cryohistory—cultural parables for resilience and adaptation in a warming world (Griffiths 2019: 68; Nunn 2018). Among these parables are the stories of perseverance from the Australian arid zone, the largest area of desert in the southern hemisphere. Far from the continent’s “dead heart,” as nineteenth century European explorers claimed, these deserts are now known to have been peopled from at least 35,000 years ago. Such a long human history places the desert’s occupants amid the transformations of the late Pleistocene, during which conditions in the continent’s drylands became drier, windier and colder, as they expanded almost to the coast (McConnochie 2002: 27–28). Archaeological evidence indicates that these peoples developed highly mobile lifeways to survive these challenging times, which took some 10,000 years to abate. Crucial to their survival was water. As archaeologist Mike Smith explains,

[T]he human history of the desert is more a story of critical resources than transformed landscapes: a history of water with a small “w.” It is the fluctuating fortunes of wells and soakages, claypan waters and ephemeral lakes that determine access to the country for foragers. These waters are stepping stones through the country. Remove them and access to country and its sparse resources is more limited. (Smith 2005: 182)

Once European explorers undertook to discover the continent’s inland, with pastoralists and their stock—those “shock troops of empire”—following in their wake, these scarce water resources became contested ground from the mid-nineteenth century (Griffiths 2002: 228). Rather than presenting places for cooperation, the continent’s waterways became sites of competition and conflict between the colonisers and colonised (eg. Gammage 1983; Clark 1995; Connor 2017). The shortage of freshwater also became a source of settler anxiety that encouraged the exploitation of Indigenous knowledge and the extraction of freshwater resources from both near and far (Clarke 2013). The transformations that ensued were the result of what historian Rohan d’Souza calls a “colonial hydrology,” such that colonial interventions altered both the fluvial and social worlds of the arid interior and its semi-arid fringes (d’Souza 2006; see also Beattie & Morgan 2017).

This article examines the colonial hydrology of water scarcity in the goldfields of arid Western Australia in the late nineteenth century. It shows how access to freshwater became not only a flashpoint for relations between Indigenous and non-Indigenous peoples on an extractive frontier, but also the means by which to construct and uphold what historian Gyan Prakash (1999: 132) described in British India as a “discriminatory sanitary order” that demarcated certain bodies and environments as healthier and more civilised than others. At the turn of the twentieth century, water was the means by which to improve health, hygiene and cleanliness, without which the privileges of white civilisation could not be afforded. Although such conditions also developed elsewhere in settler Australia, the limited water availability on the eastern goldfields made the circumstances that emerged there especially dire (Morgan 2015). Accordingly, the material conditions of the arid inland—the product of Australia’s Pleistocene—came to bear on the nature of the encounters between Indigenous and non-Indigenous peoples from the mid-nineteenth century. The very absence of ice in Australia’s cryohistory left its mark on the peoples of the eastern goldfields.

Water, People and Gold in an Australian Cryohistory

With the discovery of gold in the eastern fringes of the colony of Western Australia in the early 1890s, thousands of treasure seekers established settlements in the area that would become known as the Eastern Goldfields. Situated on the edges of the desert, water there was in especially short supply. In this boom-bust climate, rainfall in the area is very variable, evaporation is high, and there are limited sources of potable surface and underground water. Like gold, then, water was precious on the eastern goldfields. Besides its importance to sanitation and health, it was vital for the mines where it was necessary for processing ore, and for the transportation of people, stock and goods to and from the fields, whether by foot, hoof or rail. Such is the scarcity of surface water there that the colonial government of Western Australia built a pipeline to supply water to the goldfields. Extending some 600 kilometres—about the distance between Paris and Zurich—the pipeline was completed in 1903, and remains in service today.

Whereas local Aboriginal peoples had long moved to water, the newcomers now made water move to them. Where water had once been ephemeral, water became permanent. What had been a sophisticated means of survival was now primitive. Within several decades of occupation, Anglo-Europeans worked to render a cultural landscape of deep history into one of the “last blank spaces” (Kennedy 2013). These tensions between the material geographies of Indigenous and non-Indigenous water cultures suggest the need to reconcile the colonial rejection of Indigenous mobility or no-

madism, with the forces of mobility so central to the spread of empire (see Ballantyne 2014). The settler association of water with health, hygiene, and prosperity spoke to a prevailing environmental orientalism: an historicist impulse drawing on prevailing ideas of evolutionary hierarchies that demanded improvement of wanting lands and peoples (Chakrabarty 2000; Davis 2011). As such, historian Lorenzo Verancini argues:

Civilisation is not only about fixity, but also about movement—the movement forward through different stages of history, and upward towards “development,” “progress” and “advancement.” [...] Indigenous directionless wandering could be read as static and “backward,” ultimately a changeless *lack* of movement. (Verancini 2015: 297–298)

In the eastern goldfields, material questions of water availability were necessarily cultural questions.

Situating these colonial encounters in deep time seeks to redress the views of European contemporaries, who held that Australian Indigenous peoples were primitive relics of the Stone Age—a people without history. As historian Tom Griffiths notes, “the European settlers of Australia denied Aboriginal people both modernity and antiquity, sandwiching them into a timeless, rootless nomadism that justified their dispossession” (Griffiths 2001: 20). This logic points to an enduring preoccupation with Western notions of linear time that the recent temporal turn might help to decenter through the recognition of other epistemologies and their temporalities (see Antonello & Carey 2017; Khatun 2018). This temporal project is especially potent in Australia, where the timescale of the continent’s human history has undergone a revolution during the past century, soaring from just a couple of thousand years to over seventy thousand years since the arrival of the first humans (Griffiths 2018). For Tom Griffiths, such a deep history complicates arguments that problematically associate “civilisation” with agriculture (a European conceit), and suggest 50,000 years is a possible horizon for modern humanity (Griffiths 2015: 172; see Smal 2008). These northern historical frameworks would elide the southern continent’s rich cultural history; Australia would be again rendered a timeless land.

Yet this temporal turn is not without its challenges in settler Australia. For many Aboriginal people, notions of deep history as *past* conflict with their sense of identity and belonging “deriving from a multi-generational ongoing association” with country (McGrath 2015: 4). Further still, the teleological orientation of deep history contradicts Indigenous temporalities that understand the present as “behind,” having come *after* their ancestors (Rose 2004: 152). For others, the depth of Australia’s deep history—of the “oldest continuing cultures in human history”—implies stasis and timeless-

ness (Griffiths 2018: 7). The rejection of this implication by Indigenous and non-Indigenous Australians alike has inspired renewed efforts to popularise understandings of pre-contact Aboriginal land management, whether using fire or “agriculture” (Gammage 2011; Pascoe 2014). Although the latter’s privileging of Western notions of progress (from foragers to farmers) is not unproblematic, the salience of Bunurong writer Bruce Pascoe’s argument for making “the hallmark of (cultural) success sustainability and longevity” should not be understated (Pascoe 2018: 236; Griffiths & Russell 2018: 41).

In the case of the eastern goldfields in Western Australia, what the Anglo-European prospectors perceived as scarce, the Indigenous peoples had long found sufficient. Theirs was a country of rich resources, created by the ancestral beings of the Dreaming. For the Wangkatha, on whose country the mining towns of Coolgardie, Kalgoorlie, Leonora, Menzies and Laverton were erected, ancestors crafted and embodied the landscape during the *Tjukurra* (Dreaming) (Poirier 2005: 60–62; Muller 2014). Anthropologist Silvie Poirier observes of such Western Desert peoples that owing to the irregularity of water resources, “sites of great mythological significance are, more often than not, the water points” (Poirier 2005: 86). To the west are the lands of the Kaprun and then the Noongar, through which non-Indigenous peoples journeyed from the more populated temperate coastal areas to reach the goldfields.¹ Noongar understand their *Boodjar* (Country) as the creation of the Wargal (Rainbow Serpent), which carved out rivers, streams, brooks and waterholes as it moved across the land (Wooltorton, Collard & Horwitz 2017). Although there are scant written sources that reveal the particular cosmology of the Kaprun, the centrality of water to other Australian Indigenous cultures might suggest that theirs too shares a sacred geography of water (Rose 2005; Judd 2019).

Archaeological evidence also shows how water scarcity had long been a driver of human movement in these drylands, such that territories or country was much larger there than in the better-watered areas closer to the coast (Rose 2005). Archaeologists describe this “highly mobile and opportunistic” strategy as optimising access to rainfall by “rain chasing” (Smith 2013: 498; O’Connor & Veth 1996: 48). As anthropologist Laurent Dousset explains:

The unpredictability of the amount and location of rainfall is one of the reasons for the specific social and territorial organisation in the Western Desert, where rights of access to, and responsibilities towards, sites and areas in the landscape are acquired throughout life. (Dousset 2016: 136)

Locating *kapi* (water) was a vital skill for survival in the arid inland, and demanded the development and persistence of particular biocultural knowl-

edge (Judd 2019; Douglas 1988). With invasion, those patterns of movement for *kapi* collided with the impulses of settler mobility, driven by the twin urges for land and resource extraction. These colonial patterns largely elided those existing mobilities that had shaped particular geographies of these regions such that they had been perceived as neither hydrologically nor culturally wanting by local peoples. It was water that defined those geographies, and control of water became the means by which to deny them.

In Australia and elsewhere, historical studies of goldmining are increasingly turning to the wider and longer environmental footprints of this extractive industry and the violence inflicted on Indigenous peoples in its name (eg. Garden 2001; Jacobs 2003; Morse 2003; Isenberg 2005; Cahir 2012; Lawrence, Davies & Turnbull 2016). These are examples of the “edgier histories of gold” for which historian David Goodman (2001) has advocated in order to move the Australian historiography beyond its once triumphalist stance. Despite the significance of the eastern goldfields in Western Australia’s history, there have been few focussed studies of the effects of their development on the region’s first inhabitants. In many accounts, both firsthand and historical, the devastating consequences of goldmining on their traditional lands are depicted matter-of-factly as an unfortunate by-product of progress and prosperity (e.g. Marshall 1903; Whittington 1988; Webb 1993). Historian Neville Green’s (1988) contribution to this subject is an important exception, while geographer Leah Gibbs (2003) has more recently undertaken a post-colonial analysis of the region. Researchers seeking to remedy this imbalance face a significant problem, one that was identified by anthropologist Will Christensen in the early 1980s:

Few people, Aboriginal or non-Aboriginal, who experienced the early days of the goldrushes are alive today, and none that I have encountered has more than vague recollections of the early days of the mining industry. (Christensen 1981: 96–97)

Legion firsthand accounts of the eastern goldfields, published in newspapers, diaries and maps from the turn of the twentieth century, however, reveal the ways in which colonial interventions marginalised local Indigenous peoples and their water cultures.

It is to these Anglo-European sources that this article turns to make sense of the ways in which material and cultural worlds forged in deep time underwent the imposition of an extractivist colonial regime, dependent on the exploitation of scant water supplies. As historian Fred Cahir has written of the Victorian goldfields in the mid-nineteenth century, “auriferous areas did not cease to be Aboriginal cultural landscapes” (Cahir 2012: 5). Having charted the geological and cultural history of the Western Austral-

ian goldfields prior to invasion, this article turns to three phases of colonial incursion into the interior from the mid-nineteenth century. In doing so, I acknowledge the ethical predicament of Western historical knowledge and its universalising structures of linear temporality, an approach that philosopher Stephen Muecke describes as “history’s poison blanket” (Muecke 2004: 24; Porr & Matthews 2020: 3–31). The first section examines the European exploration of the lands west of the goldfields during the 1860s; the second, the rise of the eastern goldfields during the 1890s; and finally, the establishment of Christian missions on the outskirts of the goldfields in the early decades of the twentieth century. By doing so, the article adds a temporal dimension to the spatial mobilities paradigm that historian Samia Khatun has applied to the study of settler colonialism in inland Australia. As she argues, “[c]olonial settlements on Aboriginal land were conjunctures of spatial epistemologies, and archives generated at colonial encounters reveal with particular clarity that mobilities were structured by different knowledge traditions” (Khatun 2015: 83). By restricting Aboriginal access to land and water, as well as by altering, contaminating, and exhausting ephemeral water sources, the rise of goldmining in Western Australia’s eastern reaches radically affected the ways that local peoples had sustained themselves on country for thousands of years.

Water and the Inland

White explorers had first ventured inland and along the south coast of Western Australia in the 1830s seeking better pastures beyond the Avon Valley. By the mid-1860s, the likes of Henry Maxwell Lefroy and the Forrest brothers had reached the eastern districts of the Yilgarn region, just west of what would become the eastern goldfields. As the settlers’ diaries and the exploration journals of these adventurers reveal, however, these were not empty lands at all. Rather, they were the lands of the Noongar and further east, the Kaprun peoples. The further east the invaders travelled, the fewer sources of permanent water they found amongst the york gums, jam wattles, and native grasses. During an expedition with Surveyor-General John Septimus Roe in 1836, colonist George Fletcher Moore wryly observed:

I fear you will think I am only talking metaphorically when I say throughout the greater part of that vast space we did not see as much water at once as there is in your fishpond. (Moore 2006: 411)

The only sources of water there, these explorers learned, were to be found in the granite outcrops that dot the landscape. Some of these outcrops stand at over thirty metres like tors, while others sprawl flat against the ground.

These rocks had long provided water supplies for local Aboriginal peoples and served as important markers along trading routes (Stephens 2002).

To maximise the amount of water they could harvest from these granite outcrops, Aboriginal water managers had long made the most of natural processes. Weathered sections of granite could be scraped away to form rock or “gnamma” holes where water could accumulate (Bayly 1999). Moore was the first European to record and publish his impression of the Aboriginal name for these holes. In his *Descriptive Vocabulary of the Language in Common Use Amongst the Aborigines of Western Australia*, he described them as *amar* and *ngamar*, giving the meaning as “a hole or pool of water in a rock” (Moore 1842: 2, 89). Another way that Aboriginal peoples, and later colonists, formed holes or water channels was by lighting fires in cracks and using the heat to fracture the rock. Rainwater would also stream down the granite rock face and accumulate at the base of the outcrops. If a rock or clay basin lay beneath the surface, a soak would accumulate that would hold the water. In other dry areas, Aboriginal people reportedly scooped out holes in the clay to trap water. To prevent evaporation and pollution by animals and birds, they covered the holes and soaks with branches and soil (Bayly 1999).

The white explorers were heavily reliant on the knowledge of local Aboriginal peoples to find these precious reserves of water “hidden” in the landscape. As historians such as Shino Konishi (Konishi, Nugent & Shellam 2015; Konishi 2019) and Tiffany Shellam (Shellam *et al.* 2016) have shown in Western Australia and elsewhere, their dependence on Indigenous knowledge unsettles narratives of colonial domination of the environment and offers insights into the nature of the interactions between Indigenous and non-Indigenous peoples during the nineteenth century. For instance, a “native interpreter” and “three natives” accompanied explorer Augustus Gregory on his survey of the lands north of Perth in 1848 (Crawford & Crawford 2003). Later, on an expedition to the Yilgarn (Kaprun country), Barnard Clarkson, Charles Harper and Lionel Lukin took their guide Gyngich, who had previously assisted other explorers in the area. Clarkson reported on his return that,

We found the country in a very dry state, and although we had natives of the country with us, were at all times unable to find sufficient feed and water for our horses. (*Perth Gazette* 2 Sept. 1864: 2)

The establishment of watering points throughout these inland areas was important for the development of the region’s pastoral industry. Earlier in an 1854 expedition northeast of York, Assistant Surveyor Robert Austin had noted, “we depended upon the precarious supply of rain-water accumulated

in the hollows of rocks" (Austin 1856: 238). With the support of Governor John Hampton and the York Agricultural Society, surveyor Charles Cooke Hunt ventured further east in the mid-1860s. On several expeditions, Hunt relied on four Aboriginal guides—Mundal, Tommy Windich (Winditj), Jimmy and Cowitch. Hunt was amazed at the extent of their local knowledge: "they all seem to know the direction and names of these places" (Hunt 1866: 46). As his expedition continued, Hunt reported upon discovering evidence of Aboriginal people: "I am anxious to communicate with them, to ascertain their different watering places" (Hunt 1866: 60). He attached Aboriginal names to many of the watering holes he recorded, such as Youndegin, Dodolokine and Gnarlbine. Under Hunt's direction, convicts cleaned some of these waterholes out and lined them with stones to make them more permanent and accessible to (white) people and stock (WAWA 1991).

The accounts of such expeditions offer (mediated) insights into how local peoples negotiated the availability of freshwater. In his journals, for example, Hunt noted the westward movement of Aboriginal peoples, which he attributed to a growing scarcity of water as the weather grew warmer and drier in the east (*Inquirer and Commercial News* 12 Dec. 1866: 3). David Lindsey's chart of the Elder Scientific Exploring Expedition (1891–1892), which sought to explore the arid lands of western South Australia and into Western Australia, records sites where Indigenous people were observed to be "obtaining water from the mallee roots," as well as "numerous old native encampments" and "native wells" (Lindsey 1892). The practice of extracting root-water from mallee eucalypts had been recorded earlier by Eyre in 1840, and was observed by European explorers elsewhere in arid and semi-arid Australia (Noble & Kimber 1997). Botanist on the Elder Expedition, Richard Helms, reported: "The rockholes seem to be almost a special characteristic of this portion of Australia, and without them it would be impossible for the natives to exist" (Lindsey 1892: 253).

With gold discovered first at Southern Cross in 1887 and then at Coolgardie (1892) and Kalgoorlie (1893), the waterholes Hunt had mapped became the chief route for prospectors rushing to the eastern goldfields. Hunt's expeditions had cleared a track of 26 soaks, tanks and wells, based on Indigenous water sources. This trail would go on to sustain not only pastoralists, prospectors and cameleers, but the establishment of a telegraph line to the eastern goldfields, the construction of the first stage of the trans-continental railway, and the route of the Perth to Kalgoorlie water pipeline. Ensuring non-Indigenous access to water into the goldfields would facilitate the colony's modernity.

Water on the Goldfields

The discovery of gold in Coolgardie and Kalgoorlie in the early 1890s drew thousands of people seeking the latest El Dorado and precipitated an influx of wealth to the colony. Mirroring Victoria's mid-century gold fever, Western Australia's population almost trebled during the 1890s from less than 50,000 to nearly 180,000 people, as it drew many emigrants from the depressed eastern colonies across the Nullarbor (Appleyard 1981). Estimates of the colony's Aboriginal population are rough at best, but possibly numbered about 20,000, and likely excluded those "roaming to the East of the Goldfields," as the resident statistician reported in the state's 1902 Year Book (see Bolton 1981: 124; Briscoe 2003: 1–45; Fraser 1902: 210). Thousands of treasure seekers established permanent settlements in the area around Kalgoorlie and Coolgardie. By 1902, nearly 50,000 colonists could be counted in those towns alone, with another 10,000 or more scattered across the wider region (Mossenson 1955: 82).

After the discovery of gold, demands for permanent water supplies in the area waxed and waned with the seasons. Under these variable conditions, water was imported to the goldfields, first via camel trains and then, once the railway line had been extended to Coolgardie in 1896, via steam locomotives. Both modes of transportation required clean water supplies along their routes and the water trains were especially thirsty: they consumed at least half their load in the round trip (Powell 1998: 20). Another important source was the region's groundwater reserves but these were found to be extremely saline and were purified using condensers. These condensing plants consumed vast quantities of wood from the surrounding woodlands, and in many cases exhausted local bore and mine water reserves. Once the arid plains had been stripped bare to feed the condensers, dust choked the goldfields and even more water was required to keep it at bay (Gaynor 2005).

The government also constructed tanks to collect rainwater but the volatility of the seasons and high rates of evaporation diminished their effectiveness. Miners and prospectors made do with constructing small dams and exploiting the region's sparse water holes (Gaynor & Davis 2006: 18). That these waterholes were likely significant to the local Aboriginal peoples is evident in contemporary maps of the area. The explorer and prospector David Carnegie recorded numerous "Namma Holes," rockholes, soaks, "native camps," "native wells," and "traces of natives having broken mallee roots for water" in the area north of Coolgardie in 1895 (Carnegie 1895). Although references to "gnamma holes," granite rocks and soaks remain, the Aboriginal connection to them is not marked on subsequent maps issued locally and in Britain. Only the derogatory "Black Gin Rocks" and "Black Gin Soak"

remained (eg. Stanford 1896; Dept. of Mines 1898). Similarly, an 1895 map of the roads from York, Northam and Newcastle to the Yilgarn goldfields, which traced Hunt's earlier route, marked pastoral leases, but not Indigenous sites (Surveyor General's Office 1895). These maps cartographically erased traces of both Aboriginal knowledge and bodies from the landscape.

Aboriginal dispossession from watering points was not only symbolic: miners regularly denied them access to water holes, and some prospecting parties seemed to relish acts of violence towards Indigenous peoples (see Muller 2012). In one particularly bloody incident, miner Leslie Menzies laid explosives around a waterhole to deter attackers.² He later described the encounter in vivid detail:

Then the fun began. Spears began to come from all sides, then I heard the boom of buried dynamite. Dirt, shrubs and blacks went up in the air. I heard some agonised yells and mad scrambling among the rocks. I threw a few hand-grenades, but no more spears came whizzing about me. I had evidently given them a good scare. At daybreak I walked out to view the 10-minute battlefield. Fourteen dead natives. Blood trails led all over the place, but not a soul was in sight. (Menzies [1937] 2004: 91–92)

On another occasion further east, prospectors captured several young Aboriginal girls in revenge for the theft of their stores. When the local Aborigines tried to retaliate, the prospectors “arranged a counter attack and relentlessly massacred thirty warriors near a water hole” (Wilson 1973, cited in Christensen 1981: 96–97).

That the Aboriginal people of the goldfields were suffering was widely reported in newspapers both locally and in the colony's capital Perth in 1895. Although the *Coolgardie Miner* (16 Feb. 1895: 4) initially denied the “blacks are any worse off for water than they ever were before,” the editor later blamed the colonial government for its “true masterly indifference and neglect, not even securing to them a drink of water” (*Coolgardie Miner* 14 Dec. 1895: 2). The *Western Argus*, published in nearby Kalgoorlie was more sympathetic:

[W]e have pierced into the heart of this great continent, barren of almost all but the precious metal we have come to seek, we have driven the native owners of the soil further and further into the interior, we have appropriated their soaks and other natural supplies of water, we occupy the territory which by every right they should consider theirs, and yet in return for this, so far as any systematic aid is concerned, we allow them to starve or die of thirst. The last few days have afforded the pitiful sight of these poor savages wandering around the town begging for water. (*Western Argus* 24 Oct. 1895: 2)

The Catholic *WA Record* too found the cause of Indigenous plight lay with prospectors' avarice:

If it were not for the thirst for gold and the selfishness it begets, there was sufficient water to supply the natives' need until the end of time; but the digger has come by the thousand, bringing horses and camels, and they soon rendered it a thirsty land. (*WA Record* 23 Nov. 1895: 6)

Although in late 1895 wardens were instructed to ensure the "aboriginals have all the water they require," the issue had not been resolved (*Daily News* 23 Nov. 1895: 6). In December 1897, the *Kalgoorlie Miner* (16 Dec. 1897: 2) published a letter from a local man in which he detailed the conditions facing many Indigenous people on the eastern goldfields. The correspondent, Fred McGill, was a Noongar from the Esperance region, south of Kalgoorlie. Before goldmining transformed the area, McGill reported that the local people had obtained water from gnamma holes and the roots of certain trees. Food was not scarce as kangaroos and emus were caught as they drank from the watering holes. Now, he wrote, "[t]hey have a good deal of trouble in getting water." Prospectors, horses, cameleers and dray were quickly exhausting watering holes that had once sustained an Indigenous family for a week. Such constraints also disrupted their access to emu and kangaroo, which McGill explained had been hunted "when they came to drink" (*Kalgoorlie Miner* 16 Dec. 1897: 2). Prevented from accessing scarce water supplies and traditional food sources, many Aborigines were seemingly reduced to "supplicants," as one prospector later recalled (Stoddart 1930: 56).

The "native question" was not the only concern for whites on the eastern goldfields; they also sought answers to the "Afghan question." Since the 1860s, Anglo-European exploration of the arid interior of Australia had been largely facilitated not only with the guidance of Indigenous peoples, but also with the assistance of camels and their handlers. The prevailing logic was that camels were better suited to the privations of desert conditions than horses, and that South Asians (whom contemporaries described as "Afghans") were best positioned to pilot these ships of the desert. Arriving on the eastern goldfields in the early 1890s, they together transported passengers, supplies, and water to the desert's edge, sinking wells and constructing water condensers for their use (Willis 1992: 43).

But it did not take long for resentment towards their presence to grow. Anti-Asian sentiment informed an aggressive exclusionary position, which argued in favour of protecting white workers from the competition of non-white labour (e.g. *Western Mail* 27 Aug. 1892: 32; *Daily News* 2 March 1895: 6). This hostility had earlier boiled over in the anti-Chinese riots on the

goldfields in the colonies of Victoria and New South Wales, which had encouraged the campaign restrict their presence on Western Australia's goldfields (Atkinson 1995). In addition to calls for the exclusion of South Asians from the diggings, Anglo-Europeans devised other means to deter them. These methods exploited the *haram* aspects of the Muslim faith of many South Asian camel owners and drivers, whereby pork was placed near water sources to discourage their access and demarcate areas for Anglo-European use alone (e.g. *Coolgardie Miner* 29 Dec. 1894: 3).

Hostile commentators framed both Asian bodies and Asian practices as contaminants on the diggings. One observer reported of conditions in Coolgardie in 1893,

The camels and Afghans are the filthiest lot that ever went near water. [...] Around some of the wells the ground is little short of a manure heap reeking with filth. You can find the Afghans washing their dirty linen on the edge of the well and the splashes of suds falling out of their buckets go into the well. (*Western Mail* 28 Jan. 1893: 40)

Frederick Vosper, the editor of the *Coolgardie Miner* and founder of the Anti-Asiatic League, declared in his newspaper that in light of the scarcity of water on the goldfields, such behavior "amounted to constructive and collective manslaughter" (*Coolgardie Miner* 27 April 1895: 3). With calls "to severely punish those Asiatics who so wantonly and systematically pollute the wells," the tensions over water on the goldfields boiled over (*Victorian Express* 20 Jan. 1893: 2). In late 1894, for example, an argument between a trio of Europeans and eight South Asians over the latter's use of a waterhole for *wudhu* (Islamic ablution) led to the shooting of two Muslims, killing one and seriously wounding the other (Willis 1992; Kabir 2009). In the subsequent trial, the jury found the Anglo-European shooter not guilty.

In the early 1900s, the Travelling Inspector for the Western Australian Aborigines Department, George Olivey, embarked on his bicycle across the eastern goldfields to report on the living and employment conditions of the region's Aboriginal people. In Kalgoorlie, he was informed that Aborigines were often stealing water from the non-Aboriginal residents of the area. Whether such "theft" arose from desperation, opportunism, sabotage, or economic engagement, is unclear from extant accounts (Konishi 2019; Russell 2015; Cahir 2012). Olivey suggested that this situation could be remedied by the provision of a condenser on the "outskirts of the town" to provide water for the Aboriginal people. After all, he noted, "[t]he public can hardly be expected to find it for them" (Olivey 1903: 29–30). Establishing a water supply away from the ostensibly European town would serve a similar role as the control of ration distribution; a means to control the movement of

Aboriginal peoples (Christensen 1979). These intentions found another expression in subsequent calls to establish a special reserve for their removal, and in 1936, the government declared Kalgoorlie a “prohibited area” to Aboriginal peoples without “lawful employment” (Christensen 1979: 129–130).

Prior to the goldrushes of the 1890s, prospecting expeditions had relied heavily on Aboriginal guides to mind their horses, to communicate with other Aborigines, and most importantly, to identify water holes in an arid landscape. Some local Indigenous people had even directed the prospectors to the region’s gold-bearing quartz reefs (Green 1988). In 1906 Aboriginal miner William Harris travelled to Perth, where he met with the Premier to convey his concerns regarding the condition of Indigenous peoples on the goldfields. There, the *West Australian* newspaper reported, “the natives were nearly starving on the fields, and they were forced to rely for assistance upon the people in the goldfields towns” (*West Australian* 9 Feb. 1906: 5). Sitting and former mayors of Leonora and Malcolm corroborated his account, attributing the “state of hunger and deprivation” to the “arrival of the white race,” which had “denuded” the country of food and water (*Daily News* 8 Feb. 1906: 10). Over the course of just a few decades, Anglo-Europeans had reconfigured the eastern goldfields from a country of plenty to a region of want.

Water beyond the Goldfields

The region’s goldmining industry had begun to decline after 1903, and this process continued with the outbreak of the Great War (Snooks 1981: 254–255). This change in fortunes brought with it an exodus of Anglo-Europeans from the eastern goldfields, abandoning many of the townships that had sprung up during the goldrushes (e.g. Layman 2012). By this time, the state government’s “protectionist” program of removing Aboriginal peoples to “native settlements” and other state institutions was well underway. Many Indigenous children from the goldfields were sent to the Moore River Native Settlement, about 100 kilometers north of Perth, while the growing pastoral industry saw in the remaining Aboriginal population a potential source of cheap labour (Christensen 1981: 103; Morgan 1986; Lewington, Roberts & Brownley 1997). With the establishment of the Australian Aboriginal Mission (later, United Aborigines Mission) in 1921 at Mt Margaret north of Kalgoorlie, came a campaign to civilise the Aboriginal peoples that remained on the goldfields as well as those in the surrounding areas (Marks 1960). Water, as well as work, was the means by which Mt Margaret’s missionaries sought to achieve their salvation.

At the turn of the twentieth century, the town of Mt Margaret had become the centre of the Mt Margaret Goldfield. Almost as soon as the site had been declared in 1897, it was abandoned (Layman 2012). Two decades

later, missionary Rodolphe (Rod) Schenk found in the commons northeast of the old townsite land suitable to establish a mission. As his daughter later recalled, “[h]e wanted Mount Margaret to be God’s ‘Honeypot’ to attract people away from a life of begging for food and selling their women” (Morgan 1986: 37). Among the challenges Schenk faced there was the region’s scarcity of water. He later recalled in 1933,

When the missionaries first went to Mt Margaret they had only well water to drink and it was slightly brackish. It was a milestone in the history of the mission when 18 months later, the first 200-gallon tank was erected. Today there are galvanized iron tanks with a capacity of nearly 20,000 gallons of rain water and cement tanks to hold 33,000 gallons. (*Daily News* 15 Aug. 1933: 3)

The availability of water there, Schenk and his missionaries believed, helped to attract his flock from the surrounding arid areas (Morgan 1986).

In his spread of the gospel to the area’s Aboriginal people, Schenk understood himself as on the frontline of “the conflict for the Lord out here” (cited in Smith 1933: 28). This conflict pitted his faith against the “wild and ignorant native,” whose resistance was the product of Satan’s hand (Smith 1933). Putting his charges to work was central to this mission to overcome the “superstition” by which “the natives here are bound hand and foot” (cited in Smith 1933: 73). Routine labour, such as cutting sandalwood or raffia weaving, was a feature of industrial missions such as Schenk’s, whereby employment would help civilise the Aboriginal “inmates,” while providing a vital income stream to the mission (Biskup 1973). In a 1933 report to the *Daily News*, he proudly declared:

Here they [the missionaries] had to mould into civilized character what was said to be the worst and laziest tribe in the State. The natives had been living without working around the big mining and wood cutters’ camps. They could not see any virtue in work. Turn over the pages of a few more years to today and we find an industrious aboriginal population of fixed habits. (*Daily News* 15 Aug. 1933: 3)

The “fixed habits” also concerned the sanitary condition of Schenk’s inmates and their dormitories. Schenk’s daughter recalled her mother’s frustrated attempts to wash the women’s hair, “[i]t meant lots of talking and explaining that the women must be clean before they started work” (Morgan 1986: 60). In 1930 A.O. Neville, the Chief Protector of Aborigines, publicly praised the Mt Margaret mission in a letter to the *Westralian*. Less than a decade ago, “[t]hese were a people whose contact with civilisation had brought them low indeed in the social scale,” he wrote.

And yet to-day the young men and women seem to be avoiding the evil phases of their time-honoured traditions and those acquired from the whites, and are accepting and practicing the ethics of Christianity. (cited in Smith 1933: 16)

Later, a visitor to the mission observed approvingly, “everything denotes care and cleanliness” (*Kalgoorlie Miner* 15 July 1933: 6). For sociologist Pat O’Malley, the mission’s focus on the civilizing roles of Anglo-European sanitary habits and labour structures was closely aligned with their evangelism:

The body, its performances, and adornments became the obsession of the missionaries, who identified the conversion of the inner souls with adoption of Western European (and especially English) cultural trappings. Yet such work could only be performed if the people were healthy. Souls could not be permitted to depart this earth before being dedicated to God. The government of the soul was thus a government of the body as a sign of the state of the soul. (O’Malley 1994: 56)

Conditioning Aboriginal bodies through work and sanitation relied, therefore, on the availability of water.

That Schenk’s mission had delivered such civilisation on the desert’s fringe was particularly significant. As a visiting missionary asked:

“Could a successful Mission station be established in such a place of rich soil and yet arid country?” [...] It seemed as though the “desert rejoiced and blossomed as the rose” (Cross 1937: 10)

The redemption of desert wastes and their people had emerged as a guiding principle for Christians during the first millennia, which reflected Old Testament ideas of desert ascetism and the improvement of nature. With the renewed incursion of Western Europeans into desert environments from the fifteenth century, these ideas came increasingly under the influence of environmental determinism and the desire to arrest environmental decline (Davis 2016). Throughout the arid world that Western Europeans occupied by the mid-nineteenth century, governments and missionaries sought to sedentarise nomads and pastoralists, whose lifeways were deemed responsible for the condition of the land. The mission at Mt Margaret was an expression of these ideals in the Western Australian interior.

By the mid-1930s relations between Schenk’s mission and the state government had begun to sour, as calls grew to investigate the conditions of Western Australia’s Aboriginal population. One of Schenk’s missionaries, Mary Bennett (a renowned feminist advocate for the welfare of Aboriginal people), had been a vocal critic of visiting anthropologists and pastoralists’

treatment of Aboriginal workers—views shared by Schenk (Biskup 1976: 133; Holland 2015). Among the ideological differences between the state and the mission was their divergent views on the future of the Aboriginal population: Neville was committed to the “absorption” of those of mixed descent into the white population, while the “full-blooded” would be left to die out. For his part, Schenk sought to continue his evangelism among both groups (O’Malley 1994). These positions clashed over the extent to which Schenk could extend his missionary activities into the Central Aboriginal Reserve, where Neville had planned for the demise of “full-blooded” peoples to occur (McGregor 2002).

In the midst of these tensions, the mission’s sanitary state became a subject of public debate between the two parties. In his 1935 Annual Report, Neville was critical of what he had observed at the mission:

In October last year I spent several days at Mt Margaret [...] the sanitation of the place left much to be desired. I was anxious lest an epidemic should break out in consequence. My words proved to be more prophetic than I knew, as in May this year it was reported that fifteen inmates were down with typhoid fever. (Neville 1936: 16)

Schenk had reported an “unusual amount of sickness” to the Aborigines Department, with two deaths arising from eighteen cases of typhoid among the mission’s children. Influenza and pneumonia had also struck Mt Margaret that year (cited in Neville 1936: 17). He attributed the typhoid outbreak to a polluted tank, and on the Department’s advice, the mission undertook to acquire an “engine pump and tank” to ameliorate the situation (*West Australian* 4 Dec. 1935: 7; Morgan 1986: 199).

That Mt Margaret should come under such scrutiny raised the ire of at least one of Schenk’s fellow missionaries. The Western Australian Secretary of the China Inland Mission wrote to the *West Australian* in Schenk’s defence, arguing that Mt Margaret had saved lives during the recent epidemic: “Had there been no mission station when the outbreak occurred, the whole of the natives must have been wiped out. The epidemic was contained, however, and only two deaths occurred” (*West Australian* 28 Nov. 1935: 11). The Minister publicly disputed this interpretation, retorting,

Had there been no mission station there, there would have been no natives on the site, nor would there have been defective drainage or an impure water supply to cause such an outbreak. (*West Australian* 4 Dec. 1935: 7)

In addition, he noted, his government had provided the mission with medicines and medical help from Kalgoorlie, further undermining the mission-

aries' claims to providing civilisation to the local Aboriginal population.

The findings of the 1935 Moseley Royal Commission into the conditions of the state's Aboriginal population did little to resolve the antagonism between Schenk and Neville. Moseley had dismissed Bennett's claims, and to remedy "an atmosphere of irritation" among nearby pastoralists, recommended the relocation of the mission "further East" (Moseley 1935: 18). For his part, Neville's powers grew as a result of Moseley's recommendations. Emboldened, he sought to curtail Schenk's influence in the region by reducing the mission's rations; limiting medical supplies; opening a government ration depot at Laverton; and preventing efforts to establish other missions (Haebich 2000: 267). As Schenk's daughter later noted, such measures "would have effectively moved people away from Mount Margaret" (Morgan 1986: 220). In 1938 the government introduced regulations requiring the licensing of missions to the Aborigines, which the local United Aborigines' Mission Council declared a "slur cast upon the governing bodies of the Missions and their workers" (Hogg 1938: 3). Neville's "final move," as Schenk's daughter later described it, was his acquisition of the pastoral property, Cosmo Newbery, northeast of Mt Margaret (Morgan 1986: 248). Despite Schenk's efforts to purchase the property for the mission, Neville negotiated its use for the government as a ration depot in 1940. He then ordered the mission's adults and children to relocate there, leaving behind only children of mixed descent (Morgan 1986: 249). Deprived of their flock, which was forced further east, the mission was unable to re-establish its former position of influence among the local Aboriginal population (Haebich 2000: 267). Schenk retired in 1954, and two decades later in 1976, the Aboriginal Movement for Outback Survival took responsibility for the community.

Conclusion

Seven years prior to the Australian Academy of Science's acknowledgement of George Seddon's career that opened this article, the geologist Jim Bowler was awarded the Mawson Medal. Back in the mid-1960s, Bowler had stumbled upon human remains while excavating the Willandra Lakes in arid south-western New South Wales. Those remains, he soon discovered, were over 40,000 years old—the oldest evidence of *Homo sapiens* outside Africa. In that moment, as Billy Griffiths (2018) writes, "the scale of Australian history changed." Reflecting on the ancient Australia on the eve of the nation's bicentenary, Bowler observed: "The [climate] fluctuations that occurred during the last 60,000 years shaped Australia's human history, because they spanned the colonisation of the continent." In the availability of water, these fluctuations were manifested such that, he argued, a "history of Australia could well centre on water resources" (Bowler 1987: 25).

This article has explored how such a history might be undertaken, focusing on the diverse cultural geographies of water that developed in the arid interior of Western Australia during and after the Pleistocene. Tracing how the availability of water in these climes shaped Indigenous and non-Indigenous mobility, and their subsequent encounters, recovers the central role of this scarce resource in the land's Anglo-European exploration, the extraction of its resources, and the dispossession of its Aboriginal peoples. Situating this particular colonial hydrology in deep time seeks to highlight the multiple temporalities at play in the settler configuration of the goldfields: the geological forces of environmental change, the time-scale of human occupation, the chrono-cultures of Indigenous and non-Indigenous peoples, and the prospective settler impulses of improvement, redemption and civilisation, among them. Recognising this temporal complexity in the making of settler Australia, and its ongoing legacy for Indigenous peoples, might allow for a wider understanding of the ways in which "we all live in deep time," as historian Greg Dening (2005: 269) observed.

Attending to the geological history of inland Australia, its cryohistory, offers fresh ground for exploring the materiality and cultures of (settler) colonialism and resource extraction across the cryosphere. Whether in the eastern goldfields of settler Australia, the North American Arctic (eg. Stuhl 2016; Bocking 2017), Scandinavia (e.g. Oslund 2011), or the Russian North (eg. Chu 2018; Bruno 2016), outside powers have sought to conquer and exploit these places and the peoples that reside there. These processes reconfigured these spaces as extractive frontiers for imperial enrichment and as wastes for redemption. Whether ice or desert, water and its absence shaped both the material and cultural cryohistories of Indigenous and non-Indigenous peoples, and the nature of their encounters.

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NOTES

- ¹ The language of the Kaprun people is Kaalamaya, which is denoted as Kalamaia on Norman Tindale's 1974 map of Aboriginal group boundaries.
- ² The town of Menzies, over 100 kilometres north of Kalgoorlie, was named after Leslie Menzies, who found gold there in 1894 in the company of Jimmy, an Indigenous guide, and Cumbra, an Afghan camel driver (see Cameron & Jaggard 1977: 126).

REFERENCES

Newspapers

Coolgardie Miner
Daily News
Inquirer and Commercial News
Kalgoorlie Miner
Perth Gazette
Victorian Express
West Australian
Western Argus
Western Mail
WA Record

Published Sources

- Antonello, A. & Carey, M. (2017). "Ice cores and the temporalities of the global environment," *Environmental Humanities*, 9:2, pp. 181–203.
- Appleyard, R.T. (1981). "Economic and demographic growth," in *A New History of Western Australia*, ed. C.T. Stannage, Nedlands: UWA Press, pp. 211–236.
- Atkinson, A. (1995). "Placing restrictions upon them. Controlling 'free' Chinese immigrants and capital in Western Australia," *Studies in Western Australian History*, 16, pp. 69–88.
- Austin, R. (1856). "Report by Assistant Surveyor Robert Austin, of an expedition to explore the interior of Western Australia," *Journal of the Royal Geographical Society of London*, 26, pp. 235–274.
- Ballantyne, T. (2014). "Mobility, empire, colonisation," *History Australia*, 11:2, pp. 7–37.
- Bayly, I.A.E. (1999). "Review of how Indigenous people managed for water in desert regions of Australia," *Journal of the Royal Society of Western Australia*, 82, pp. 17–25.
- Beattie, J. & Morgan, R.A. (2017). "Engineering Edens on this 'Rivered Earth'? A review article on water management and hydro-resilience in the British Empire, 1860–1940s," *Environment and History*, 23:1, pp. 39–63.
- Bishop, P. (1973). *Not Slaves, not Citizens. The Aboriginal Problem in Western Australia, 1898–1954*, St Lucia: University of Queensland Press.
- Bocking, S. (2017). "Navigating northern environmental history," in *Ice Blink. Navigating Northern Environmental History*, eds. S. Bocking & B. Martin, Calgary: University of Calgary Press, pp. 3–32.

- Bolton, G.C. (1981). "Black and white after 1897," in *A New History of Western Australia*, ed. C.T. Stannage, Nedlands: UWA Press, pp. 124–180.
- Bowler, J. (1987). "Water and sand. Climate in ancient Australia," in *Australians to 1788*, eds. J. Mulvaney & P. White, Sydney: Fairfax, Syme & Weldon, pp. 24–45.
- Briscoe, G. (2003). *Counting, Health and Identity. A History of Aboriginal Health and Demography in Western Australia and Queensland, 1900–1940*, Canberra: Aboriginal Studies Press, pp. 1–45.
- Bruno, A. (2016). *The Nature of Soviet Power. An Arctic Environmental History*, New York: Cambridge University Press.
- Cahir, F. (2012). *Black Gold. Aboriginal People on the Goldfields of Victoria, 1850–1870*, Canberra: ANU Press.
- Cameron, J.M.R. & Jaggard, E.K.G. (1977). *Western Australian Readings*, Perth: Churchlands College.
- Carnegie, D.W. (1895). "Map shewing country north of Coolgardie. Including all mining centres & Lake Darlot: Compass traverse;" <https://nla.gov.au/nla.obj-232384215/view>; access date 5 July 2019.
- Chakrabarty, D. (2000). *Provincialising Europe. Postcolonial Thought and Historical Difference*, Princeton: Princeton University Press.
- Christensen, W.J.K. (1979). "Aborigines of Kalgoorlie-Boulder," in *Aborigines of the West. Their Past and Their Present*, eds. R.M. Berndt & C.H. Berndt, Perth: UWA Press, pp. 126–139.
- Christensen, W.J.K. (1981). "The Wangkayi Way. Tradition and Change in a Reserve Society," diss., University of Western Australia.
- Chu, P.-Y. (2018). "Encounters with permafrost. The rhetoric of conquest and processes of adaptation in the Soviet Union," in *Eurasian Environments. Nature and Ecology in Imperial Russia and Soviet History*, ed. N. Breyfogle, Pittsburgh: University of Pittsburgh Press, pp. 165–184.
- Clark, I.D. (1995). *Scars in the Landscape. A Register of Massacre Sites in Western Victoria, 1803–1859*, Canberra: Aboriginal Studies Press.
- Clarke, P.A. (2013). "The use and abuse of Aboriginal ecological knowledge," in *The Aboriginal Story of Burke and Wills. Forgotten Narratives*, eds. I.D. Clark & F. Cahir, Melbourne: CSIRO Publishing, pp. 61–80.
- Connor, J. (2017). "Climate, environment, and Australian frontier wars. New South Wales, 1788–1841," *Journal of Military History*, 81, pp. 985–1,006.
- Crawford, P. & Crawford, I. (2003). *Contested Country. A History of the Northcliffe Area*, Crawley: UWA Press.
- Cross, K.G. (1937). "United Aborigines' Mission, Morgans, 14 October, 1937," *United Aborigines' Messenger*, November, p. 10.
- d'Souza, R. (2006). "Water in British India. The making of a colonial hydrology," *History Compass*, 4, pp. 621–628.
- Davis, D. (2011). "Imperialism, orientalism, and the environment in the Middle East," in *Environmental Imaginaries of the Middle East and North Africa*, eds. D. Davis & E. Burke III, Athens: Ohio University Press, pp. 1–22
- Davis, D. (2016). *The Arid Lands. History, Power, Knowledge*, Cambridge: MIT Press.
- Dening, G. (2005). "Living in and with deep time," *Historical Sociology*, 18, pp. 269–281.
- Department of Mines, (1898). "Map (of part of) colony of Western Australia showing goldfields and mining centres," Perth: WA Dept of Mines; http://purl.slwa.wa.gov.au/slwa_b2239400_71; access date 5 July 2019.

- Dodds, K. (2018). *Ice. Nature and Culture*, London: Reaktion Books.
- Douglas, K. (2010). *Pictures of Time Beneath. Science, Heritage and the Uses of the Deep Past*, Melbourne: CSIRO Publishing.
- Douglas, W.H. (1988). *An Introductory Dictionary of the Western Desert Language. Three-Part Dictionary Based on Field Notes Collected Over a Period of Years at Warburton Ranges and in Other Parts of the Western Desert Language Area*, Perth: Institute of Applied Language Studies, Western Australian College of Advanced Education.
- Dousset, L. (2016). "A brief overview of the Ngaatjatjarra-speaking people," in L.M. Ellis, *Pictures from my Memory. My Story as a Ngaatjatjarra Woman*, Canberra: Aboriginal Studies Press, pp. xi–xv.
- Fraser, M.A.C. (1902). *Western Australian Year-Book for 1900–01*, vol. 1, Perth: Government Printer, 1902.
- Gammage, B. (1983). "The Wiradjutri War, 1838–40," *Push*, 16, pp. 3–17.
- Gammage, B. (2011). *The Biggest Estate on Earth. How Aborigines Made Australia*, Crows Nest: Allen & Unwin.
- Garden, D. (2001). "Catalyst or cataclysm? Gold mining and the environment," *Victorian Historical Journal*, 72:1–2, pp. 28–44.
- Gaynor, A. (2005). "'Like a good deed in a naughty world.' Gardens on the eastern goldfields of Western Australia," *Australian Humanities Review*, 36; <http://australian-humanitiesreview.org/2005/07/06/like-a-good-deed-in-a-naughty-world-gardens-on-the-eastern-goldfields-of-western-australia/>; access date 5 July 2019.
- Gaynor, A. & Davis, J. (2006). "People, place and the pipeline. Visions and impacts of the Goldfields Water Supply Scheme," in *Water. Histories, Cultures, Ecologies*, eds. M. Leybourne & A. Gaynor, Nedlands: UWA Press, pp. 15–27.
- Gibbs, L. (2003). "Decolonising, multiplicities and mining in the eastern goldfields, Western Australia," *Australian Geographical Studies*, 41:1, pp. 17–28.
- Goodman, D. (2001). "Making an edgier history of gold," in *Gold. Forgotten Histories and Lost Objects of Australia*, eds. I McCalman, A. Cook & A. Reeves, Cambridge: Cambridge University Press, pp. 23–36.
- Green, N. (1988). "Aborigines. The changing scene," in *Yilgarn. Good Country for Hardy People. The Landscape and People of the Yilgarn Shire, Western Australia*, eds. L. Hunt, Southern Cross, WA: Yilgarn Shire and WACE, pp. 125–148.
- Griffiths, B. (2018). *Deep Time Dreaming. Uncovering Ancient Australia*, Melbourne: Black Inc.
- Griffiths, B. & Russell, L. (2018). "What were we told. Responses to 65,000 years of Aboriginal history," *Aboriginal History Journal*, 42, pp. 31–53.
- Griffiths, T. (2001). "Deep time and Australian history," *History Today*, 51:11, pp. 20–25.
- Griffiths, T. (2002). "The outside country," in *Words for Country. Landscape and Language in Australia*, eds. T. Bonyhady & T. Griffiths, Sydney: UNSW Press, pp. 222–244.
- Griffiths, T. (2015). "Environmental history, Australian style," *Australian Historical Studies*, 46, pp. 157–173.
- Griffiths, T. (2016). *The Art of Time Travel. Historians and Their Craft*, Carlton, Vic: Black Inc.
- Griffiths, T. (2019). "The planet is alive. Radical histories for uncanny times," *Griffith Review*, 63, pp. 61–72.
- Haebich, A. (2000). *Broken Circles. Fragmenting Indigenous Families, 1800–2000*, Fremantle: Fremantle Arts Centre Press.
- Hogg, E. (1938). "Regulations made under the West Australian Native Administration. A

- protest," *United Aborigines' Messenger*, August, pp. 3–4.
- Holland, A. (2015). *Just Relations. The Story of Mary Bennett's Crusade for Aboriginal Rights*, Crawley: UWA Publishing.
- Hunt, C.C. (1866). *Expedition to the Eastern Interior*, Perth: Battye Library.
- Isenberg, A. (2005). *Mining California. An Ecological History*, New York: Hill & Wang.
- Jacobs, N. (2003). *Environment, Power and Injustice. A South African History*, Cambridge: Cambridge University Press.
- Judd, B. (2019). "Kapi Wiya. Water insecurity and *aqua-nullius* in remote inland Aboriginal Australia," *Thesis Eleven*, 150, pp. 102–118.
- Kabir, N.A. (2009). "The culture of mobile lifestyle. Reflection on the past, the Afghan camel drivers, 1860–1930," *Continuum*, 23, pp. 791–802.
- Kennedy, D. (2013). *The Last Blank Spaces. Exploring Africa and Australia*, Cambridge, MA: Harvard University Press.
- Khatun, S. (2015). "Beyond black spaces. Five tracks to late nineteenth-century Beltana," *Transfers*, 5:3, pp. 68–86.
- Khatun, S. (2018). *Australianama. The South Asian Odyssey in Australia*, London: Hurst.
- Konishi, S. (2019). "Intermediaries, servants and captives. Disentangling Indigenous labour in D.W. Carnegie's exploration of the Western Australia desert," in *Labour Lines and Colonial Power. Indigenous and Pacific Islander Labour Mobility in Australia*, eds. V. Stead & J. Altman, Canberra: ANU Press, pp. 27–55.
- Konishi, S., Nugent, M. & Shellam, T. (2015). "Exploration archives and Indigenous histories. An introduction," in *Indigenous Intermediaries. New Perspectives on Exploration Archives*, Canberra: ANU Press, pp. 1–10.
- Lawrence, S., Davies, P. & Turnbull, J. (2016). "The archaeology of Anthropocene rivers. Water management and landscape change in 'Gold Rush' Australia," *Antiquity*, 90, pp. 1,348–1,362.
- Layman, L. (2012). "Settlers come and go. The fleeting presence of the mining towns outside Leonora," in *110° in the Waterbag. A History of Life, Work and Leisure in Leonora, Gualia and the Northern Goldfields*, eds. L. Layman & C. Fitzgerald, Perth: WA Museum, pp. 47–82.
- Lewington, J., Roberts, S. & Brownley, Y. (1997). "Multiplicity and complexity. The Goldfields Land Council's native title experience," in *Fighting Over Country. Anthropological Perspectives*, eds. D.E. Smith & J. Finlayson, Canberra: Centre for Aboriginal Economic Policy Research, The Australian National University, pp. 203–214.
- Lindsey, D. (1892). "Map showing the explorations and discoveries in South Australia and Western Australia made by the Elder Scientific Exploring Expedition," Adelaide: Got Printer; <https://nla.gov.au/nla.obj-231430209/view>; access date 5 July 2019.
- Marks, S.R. (1960). "Mission policy in Western Australia, 1846–1959," *University Studies in Western Australian History*, 4, pp. 60–106.
- Marshall, J. (1903). *Battling for Gold*, Melbourne: E. W. Cole.
- McConnochie, K. (2002). "Desert departures. Isolation, innovation and introversion in ice-age Australia," in *Departures. How Australia Reinvents Itself*, ed. X. Pons, Melbourne: Melbourne University Press, pp. 23–36.
- McGrath, A. (2015). "Deep histories in time, or crossing the great divide," in *Long History, Deep Time*, eds. A McGrath & M. Jebb, Canberra: ANU Press, pp. 1–32.
- McGregor, R. (2002). "'Breed out the colour' or the importance of being white," *Australian*

Historical Studies, 33, pp. 286–302.

- Menzies, L.R. [1937] (2004). *A Gold Seeker's Odyssey*, Carlisle: Hesperian Press.
- Moore, G.F. (1842). *Descriptive Vocabulary of the Language in Common Use Amongst the Aborigines of Western Australia*, London: Orr & Co.
- Moore, G.F. (2006). *The Millendon Memoirs. George Fletcher Moore's Western Australian Diaries and Letters, 1830–1841*, ed. J.M.R. Cameron, Carlisle, Hesperian Press.
- Morgan, M. (1986). *A Drop in a Bucket. The Mount Margaret Story*, Box Hill, United Aborigines Mission.
- Morgan, R.A. (2015). *Running Out? Water in Western Australia*, Crawley: UWA Publishing.
- Morse, K. (2003). *The Nature of Gold. An Environmental History of the Klondike Gold Rush*, Seattle: University of Washington Press.
- Moseley, H.D. (1935). *Report of the Royal Commissioner Appointed to Investigate, Report and Advise upon Matters in Relation to the Condition and Treatment of Aborigines*, Perth: Government Printer.
- Mossenson, D. (1955). "Gold and politics. The influence of the eastern goldfields on the political development of Western Australia," in *Select Documents in Australian History, 1851–1900*, ed. M. Clark, Sydney: Angus and Robertson, p. 82.
- Muecke, S. (2004). *Ancient and Modern. Time, Culture and Indigenous Philosophy*, Sydney: UNSW Press.
- Muller, C. (2012). "Changing lives. Aboriginal people in the Leonora region," in *110° in the Waterbag. A History of Life, Work and Leisure in Leonora, Gwalia and the Northern Goldfields*, eds. L. Layman & C. Fitzgerald, Perth: WA Museum, pp. 30–46.
- Muller, C. (2014). "The 'allurements of the European presence.' Examining explanations of Wongatha behaviour in the northern goldfields of Western Australia," *Aboriginal History*, 38, pp. 59–87.
- Neville, A.O. (1936). *Annual Report of the Chief Protector of Aborigines for the Year Ended 30th June, 1935*, Perth: Government Printer.
- Noble, J.C. & Kimber, R.G. (1997). "On the ethno-ecology of mallee root-water," *Aboriginal History*, 21, pp. 170–202.
- Nunn, P. (2018). *The Edge of Memory. Ancient Stories, Oral Tradition and the Post-Glacial World*, London: Bloomsbury.
- O'Connor, S. & Veth, P. (1996). "A preliminary report on recent archaeological research in the semi-arid/arid belt of Western Australia," *Australian Aboriginal Studies*, 2, pp. 42–50.
- Olivey, G.S. (1903). *Reports on Stations Visited by Travelling Inspector of Aborigines*, Perth: W.A. Watson.
- O'Malley, P. (1994). "Gentle genocide. The government of Aboriginal peoples in Central Australia," *Social Justice*, 21, pp. 46–65.
- Oslund, K. (2011). *Iceland Imagined. Nature, Culture, and Storytelling in the North Atlantic*, Seattle: University of Washington Press.
- Pascoe, B. (2014). *Dark Emu. Black Seeds—Agriculture or Accident?* Broome: Magabala Books.
- Pascoe, B. (2018). "The imperial mind. How Europeans stole the world," *Griffith Review*, 60, pp. 234–243.
- Poirier, S. (2005). *A World of Relationships. Itineraries, Dreams and Events in the Australian Western Desert*, Toronto: University of Toronto Press.
- Porr, M. & Matthews, J.M. (2020). "Interrogating and decolonising the deep human past," in *Interrogating Human Origins. Decolonisation and the Deep Human Past*, eds. M. Porr & J.M. Matthews, New York: Routledge, pp. 3–32.

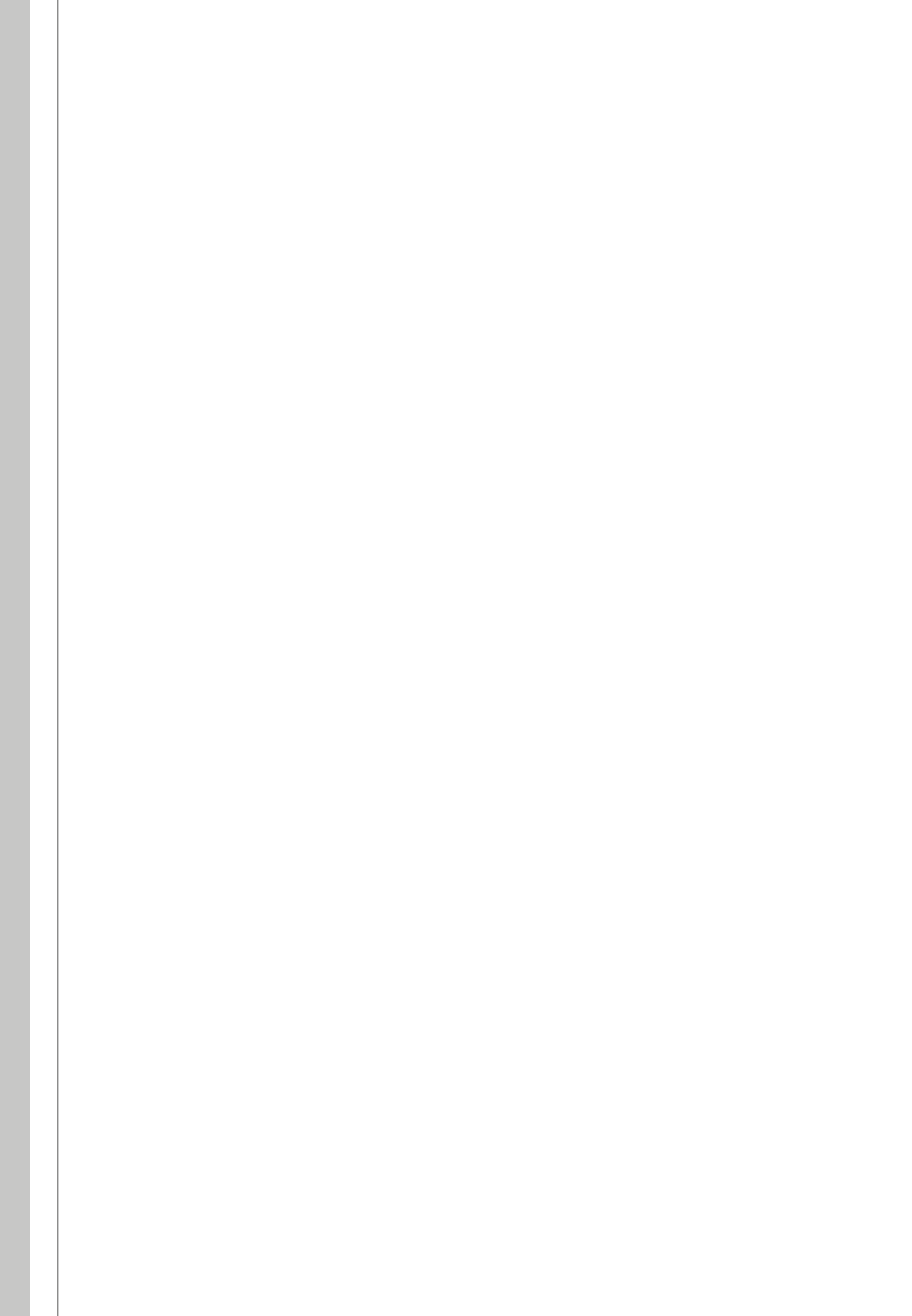
- Powell, J.M. (1998). *Watering the Western Third. Water, Land and Community in Western Australia, 1826–1998*, Perth: Water and Rivers Commission.
- Prakash, G. (1999). *Another Reason. Science and the Imagination of Modern India*, Princeton: Princeton University Press.
- Rose, D.B. (2004). *Reports from a Wild Country. Ethics for Decolonisation*, Sydney: UNSW Press.
- Rose, D.B. (2005). "Indigenous water philosophy in an uncertain land," in *From Disaster Response to Risk Management*, eds. L. Botterrill & D. Wilhite, Dordrecht: Springer, pp. 37–50.
- Russell, L. (2015). "'Tickpen', 'Boro Boro.' Aboriginal economic engagements in early Melbourne," in *Settler Colonial Governance in Nineteenth-Century Victoria*, eds. L. Boucher & L. Russell, Canberra: ANU Press, pp. 27–46.
- Seddon, G. (1996). "Thinking like a geologist. The culture of geology," *Australasian Journal of Earth Sciences*, 43:5, pp. 487–495.
- Shellam, T., Nugent, M., Konishi, S. & Cadzow, A. (2016). "Brokering in colonial exploration. Biographies, geographies and histories," in *Brokers and Boundaries. Colonial Exploration in Indigenous Territories*, eds. T. Shellam, M. Nugent, S. Konishi & A. Cadzow, Canberra: ANU Press, pp. 1–13.
- Smail, D.L. (2008). *Deep History and the Brain*, Berkeley, CA: University of California Press.
- Smith, H.P. (1933). *The First Ten Years of Mt. Margaret, W.A.*, Melbourne: Keswick Book Depot.
- Smith, M. (2005). "Palaeoclimates. An archaeology of climate change," in *A Change in the Weather. Climate and Culture in Australia*, eds. T. Sherratt, T. Griffiths & L. Robin, Canberra: NMA Press, pp. 176–186.
- Smith, M. (2013). *The Archaeology of Australia's Deserts*, Cambridge: Cambridge University Press.
- Snooks, G.D. (1981). "Development in adversity 1913 to 1946," in *A New History of Western Australia*, ed. C.T. Stannage, Nedlands: UWA Press, pp. 237–265.
- Sörlin, S. (2015). "Cryo-history. Narratives of ice and the emerging Arctic humanities," in *The New Arctic*, eds. B. Evengård, J. Nymand Larsen & Ø. Paasche, Dordrecht: Springer, pp. 327–339.
- Stanford, E. (1896). "The Western Australia goldfields," London: Edward Stanford; <https://nla.gov.au/nla.obj-231434830/view>; access date 5 July 2019.
- Stephens, J. (2002). "Karalee Rock. The formation of place and identity," *Urban Policy and Research*, 20:1, pp. 87–99.
- Stoddart, J. (1930). "The early days of Coolgardie. Being the short experience of an amateur prospector," *Journal of the Western Australian Historical Society*, 1:7, pp. 54–56.
- Stuhl, A. (2016). *Unfreezing the Arctic. Science, Colonialism, and the Transformation of Inuit Lands*, Chicago: University of Chicago Press.
- Surveyor General's Office, (1895). "Map showing roads from York, Northam & Newcastle to the Yilgarn Goldfields," Perth: Surveyor General's Office; http://purl.slwa.wa.gov.au/slwa_b2105574_2; access date 5 July 2019.
- Verancini, L. (2015). "Seeing receding hunter-gatherers and advancing commercial pastoralists. 'Nomadisation,' transfer, genocide," in *Genocide on Settler Frontiers. When Hunter-Gatherers and Commercial Stock Farmers Clash*, ed. M. Adhikari, New York: Berghahn Books, pp. 286–304.
- WAWA = Water Authority of Western Australia (1991). *The Wells of Explorer Charles Hunt. An Assessment of Their Condition and Historical Significance as a Groundwater Resource*, Leederville: Water Authority of Western Australia.

- Webb, M.J. (1993). *Golden Destiny. The Centenary History of Kalgoorlie-Boulder and the Eastern Goldfields of Western Australia*, Boulder: City of Kalgoorlie-Boulder.
- Whittington, V. (1988). *Gold and Typhoid, Two Fevers. A Social History of Western Australia, 1891–1900*, Nedlands: UWA Press.
- Willis, B. (1992). "From indispensability to redundancy. The Afghans in Western Australia, 1887–1911," *Papers in Labour History*, 9, pp. 39–61.
- Wooltorton, S., Collard, L. & Horwitz, P. (2017). "The Land still speaks. Ni, Katitj!," *PAN. Philosophy, Activism, Nature*, 13, pp. 57–67.
- Yusoff, K. (2019). *A Billion Black Anthropocenes or None*, Minneapolis: University of Minnesota Press.

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MARK NUTTALL

Icy, Watery, Liquescent

Sensing and Feeling Climate Change on Northwest Greenland's Coast

ABSTRACT In the coastal areas of Northwest Greenland, water, ice and land intermingle with the lives and trajectories of humans and animals, take on a multitude of shapes and forms, and give rise to a complexity of social relations. However, as in other parts of the Arctic, the effects of climate change are increasingly evident. Sea ice cover during winter and spring is less extensive than people living in the region today have known it to be, while icebergs calve from tidewater glaciers at a rate faster than they and scientists have previously observed. Glacial ice mass is diminishing and increased meltwater runoff from glacial fronts affects water temperature, ocean depths and circulation patterns, as well as the formation and thickness of sea ice and the movements of marine mammals and fish. These changes have profound implications for local livelihoods and mobilities, the wider regional economy, and human-animal interactions. In this article, I consider what some of the effects of climate change mean for people and their surroundings in Northwest Greenland's Upernavik area and draw attention to *liquescence* as a counter to the “ice is melting” narrative that typically understands climate change as liquification. While the scientific monitoring of sea ice, glacial ice loss, and surface melt on the inland ice in the Upernavik region—and in the wider Northwest Greenland area—is well established, and contributes to the regular updating of state of the ice reports for the Arctic, little attention has been given to what these

changes to ice and water mean for people and for human and non-human relational ontologies. Thinking of this in terms of liquescence, rather than liquification is a way of moving toward a deeper appreciation of people's experiences and sense-making of the changes happening to them and to their surroundings as affective, sensorial and embodied.

KEYWORDS Greenland, climate change, liquescence, ice, human-environment relations

Introduction

Scientists continue to issue stark warnings that the very iciness of the Arctic is under threat. They point to a precarious future in which sea ice, glaciers, ice caps, and ice sheets will be reduced to mere remnants that mark a region ravaged by the effects of human action in the Anthropocene (e.g., Wadhams 2016). A vocabulary of vulnerability, risk, rapid change, thresholds, tipping points, and disappearance also inflects the language and style characteristic of Arctic Council reports and assessments of the region's cryosphere, biodiversity, ecosystem services and economies.¹ A recent review of observational indicators of climate change spanning a period of 47 years from 1971 to 2017 provides further scientific evidence that the Arctic's biophysical system is clearly trending away from its twentieth century state and moving into an unprecedented state with implications that extend far beyond the region (Box *et al.* 2019). Ice is one of the defining features of how the Arctic is expected to look. Its disappearance prefigures the complete transformation of the region's ecosystems and gives a sense of being witness to the passing of the Arctic as it has been imagined and known, to a "slipping away," as John Wylie (2009) puts it in wonderful writing about spectral geographies.

Thinking of how the Arctic will look after the ice is gone—and when glaciers are inactive, or dead—is disconcerting, disquieting, and haunted by a sense of what will be absent. There is urgent need according to the narratives that emerge about a melting Arctic, and given the prospects of a future in which Arctic ice is absent, to monitor and protect what remains intact. The World Wide Fund for Nature's (WWF) Last Ice Area campaign, for example, draws global attention to how disappearing ice retains a powerful presence precisely because there is less of it.² The absence of ice in a future Arctic is materialized through narratives and images of the icy fragments that will remain, clinging to Greenland's northern coast, to parts of the Arctic Ocean and Canada's Arctic archipelago, or as "dead" glaciers in Iceland. As Clara Orban writes, fragments emerge from "the aftermath of the process of breaking apart" in which objects have been produced and left

behind by rupture (Orban 1997: 6) and are suspended, as Sophie Thomas puts it, “between the part and the idea of the whole” (Thomas 2003: 181).

Scientific analyses of Arctic climate change are rooted in categorisations of physical states and observations of atmospheric processes and oceanic variability. The “ice is melting” narrative, in its concern with communicating the extent of sea ice decline and describing glacial ice discharge, surface runoff and mass loss, frames one of the most apparent effects of climate change as liquification. Yet this does not capture the cultural complexity of how people living in the Arctic experience, in affective, sensorial and embodied ways, the shifting dynamics of their surroundings, how they relate to the other-than-human (including ice and water), how they experience weather and think about climate change, and how this informs ways of movement, anticipation and adaptation on a daily basis. In this article, I draw on anthropological research with the hunting and fishing communities of the Upernavik district in Northwest Greenland and argue for a much more nuanced turn to understanding lifeways in an aquapelagic, *liquescent* environment that is experiencing significant climate change.

Recent interdisciplinary and community-based research efforts have set out to understand what environmental change means for people, animals and the environment further north in the Qaanaaq area, Pikialasorsuaq (the North Water polynya), and the northwestern edges of Melville Bay (Gearheard *et al.* [eds.] 2013; Hastrup, Mosbech & Grønnow [eds.] 2018), but the Upernavik district remains largely overlooked in comparison. In this part of Greenland, where reductions in sea ice and glacial mass loss are just as apparent, climate change is not necessarily experienced locally as liquification. I argue that thinking of the experience of climate change as *liquescence* is a way to capture melt and thaw in affective, sensory and embodied ways. People—especially hunters and fishers—move through an environment anticipating encounters with icy, liquescent, and watery spaces often on the same day, whatever the season, and they sense how the weather is, and how, through the movement of clouds or a change in wind direction, for example, it is likely to alter its mood. They feel these phased transitions on their faces, in their fingertips, in their toes, and in their bones, while they need to be sharply attuned to the navigational challenges of abrupt encounters with different conditions—headland cracks can suddenly open up on an otherwise smooth and apparently stable stretch of sea ice, for instance. Keeping dry is as vital as keeping warm—a constant preoccupation in surroundings that are increasingly moist, damp, rainy, and wet. My emphasis on liquescence is intended to draw attention to life in a world of human and non-human relationality where experiences of water as frozen, slushy, or liquid are not reflected upon in terms of ecosystem approaches

to ice formation, melt, runoff, refreezing, and so on. Liquescence means that changes in weather and climate are experienced as sensation as much as they are geophysical encounters. Observing climate change from monitoring stations and sensing it remotely from space are critical to advancing our understanding of how the Arctic is being reshaped as ice recedes and shrinks (Comiso & Hall 2014), but this can not possibly tell us anything at all about how flow, melt, moisture and saturation are sensed, felt and experienced by those who live in surroundings that are increasingly liquescent.

A Cryospheric World. Upernavik District, Northwest Greenland

The Upernavik region of Northwest Greenland is a configuration of sea, headlands, islands, deep fjords, mountainous and hilly terrain, lakes, rivers and streams, glaciers, the outer edges of the inland ice (including the ablation zone, where ice mass is lost through melt, sublimation and evaporation) and, in winter and spring, sea ice. Stretching 450 km northwards along the Baffin Bay coast from the area close to the northern edges of Sigguup Nunaa (Svartenhuk) to Qimusseriarsuaq (Melville Bay), Upernavik, like many other parts of Greenland's coasts, has a 4,500-year history of Paleo-Inuit, historic and contemporary Inuit settlement. Seasonal movement around the region to take advantage of access to resources or in relation to environmental fluctuation or animal migrations, and flexibility in technology, hunting and fishing strategies and social organization have been key to how Inuit have met with and responded to social, economic and environmental change at many times in the past. Yet, in their encounters with colonialism and globalization, people in the Upernavik district have experienced a long chain of social and economic events, some of which have been profoundly disruptive.³ Inuit hunting and fishing practices and technologies, as well as settlement patterns, were influenced by the Royal Greenland Trade Company (KGH), which exercised a trade monopoly during Denmark's colonial administration, and affected by the seasonal presence and influence of other European explorers and whalers who passed through the district (the activities of the latter seriously depleted populations of great whales, such as the Greenland Right whale). From the end of the eighteenth century until the middle parts of the twentieth century, communities were established, sometimes as trading stations, and also closed in relation to the activities and economic fortunes of the KGH. In more recent decades, social and economic changes have made themselves felt with the implementation of Danish government modernization policies in the 1950s and 1960s, and with transformations in governance and economic development policy

under conditions of Greenlandic self-government, as well as from broader global processes influencing life in the district (Hendriksen & Jørgensen 2015; Nuttall 1992).

Northwest Greenland is not only undergoing environmental shift, it has come under the global gaze of extractive capitalism and conservationist intervention. This wider context is often left unspoken and unexamined in political discourses and economic narratives about sustainability and the future of Greenland's small villages (Dodds & Nuttall 2019). All this combines with changes in environment and climate to influence, determine and affect the abilities of people to travel and move around the locality and to hunt and fish. Often, rather than being the major issue people find themselves thinking about or confronted with on a daily basis, climate change is seen as something that intensifies the societal, political, economic, legal, institutional and environmental challenges and historical legacies already affecting everyday life. Of course, this is not unique to northern Greenland—as Marin (2019) discusses in relation to the impacts of climate change on pastoralism in Mongolia and Wilhite & Salinas (2019) show for forest peoples in the Global South, for example, an important cause of vulnerability is not climate change, but economic systems that magnify the vagaries climate change brings about.

Today, around 2,800 people live in several small hunting and fishing communities located on islands or on headlands that have afforded access to a range of marine resources. The largest is the town of Upernavik, which has a population of around 1,100 while some 1,700 people inhabit nine smaller villages, ranging in size from about 50 in Naajaat and 450 in Kullorsuaq, which is Greenland's largest village. The area is part of the country's northernmost municipality of Avannaata Kommunia (which has its administrative headquarters in Ilulissat, further south in Disko Bay), but Upernavik is the administrative and supply centre for the villages in the district and a number of public sector services and private businesses provide some full-time and part-time employment. Traditionally, though, people have hunted and fished and lived from the food sources and products derived from marine mammals such as seals, walrus, polar bears, narwhal, beluga, fin and minke whales, and Greenland halibut, cod, salmon, Arctic char and other fish species. Land animals such as musk-ox and reindeer are also hunted occasionally. The meat, blubber and skins of marine mammals (along with their organs, intestines and bones, or the teeth and claws of polar bears, and narwhal and walrus tusks), remain vital material substances for household economies, while a small-scale commercial inshore fishery, mainly for Greenland halibut provides an income that goes a considerable way to supporting subsistence hunting (Hendriksen & Jørgensen 2015;

Nuttall 1992; Nuttall 2017). Much of what is caught from these northern waters is used for household consumption. Sharing remains vital for gluing together networks of close social relatedness in Upernavik district, but meat and fish also circulate in and around local and wider regional and national distribution channels. Rather than exploiting natural resources, people work hard to produce and reproduce their livelihoods. However, wildlife management regulations and quotas for marine mammals and local fisheries that are implemented by government bodies in Nuuk, Greenland's capital, can frustrate local ambitions for sustainable livelihoods (e.g., Nuttall 2009; Nuttall 2017), while international environmental regulations restrict the export of such items as polar bear furs, skulls, teeth and claws, and narwhal and walrus tusks (including jewelry, carvings and works of art made from them), and affect markets for sealskins.

In some ways, Philip Hayward's (2012; 2015) idea of the aquapelago, an assemblage of marine and terrestrial spaces and their human and non-human entanglements, seems apt as a description of the Upernavik area, as it possibly is for Greenland's entire territorial extent. While commonly referred to as the world's largest island, the country should be more accurately viewed as a complex of land, ice, islands, mountains, fjords, channels, and sea. Expanding on conventional geographical descriptions and categorizations of the archipelago to draw as much (if not more) attention to water as well as land, Hayward argues that such aquapelagic assemblages

are constituted by social units in locations where the aquatic spaces between and encircling islands are fundamentally interconnected with and essential to communities' inhabitation of their locale (and substantially generate their senses of identity and belonging to that place). (Hayward 2015: 84)

The aquapelago as assemblage involves the interaction between humans and other actants, that "may be animate (living) entities, inanimate ones (such as sand, soil, etc.) or the product of energies (such as individual weather events or larger climatic patterns, such as global warming)" (Hayward 2015: 84). Hayward's notion of the aquapelago, as does other recent work on hybrid and fluid environments, social and hydrological relations, oceanic ontologies, and the geophysical, social and political ambiguity of littoral spaces (e.g., DeLoughrey 2017; Gibbs 2009; Hastrup & Hastrup [eds.] 2016; Krause & Strang 2016; Lahiri-Dutt 2014; Leyshon 2018; Thomas 2007), reminds us of the need to understand the ways aquatic and terrestrial places, and the human and non-human entities that compose them, are not only integrated and intermingle but how the boundaries between water and land dissolve

(and perhaps were never there in the first place in many cases) in their mutual entanglements and becomings.

Yet thinking of the Upernavik district as an aquapelago may still not quite capture the essence of Northwest Greenland as a fluid, shifting, lively and sometimes indeterminate cryospheric (and increasingly liquescent) world. While the concept of the aquapelago moves us away from seeing coasts, islands, headlands, estuaries, bays and so on, in terms of distinct and immutable land-sea binaries, ice (and its melting) further complicates our understanding of water worlds and how people live with and in them. For a good part of the year, sea ice covers and fills the aquatic spaces between islands, headlands and communities, but it also, in the form of glacial ice, covers land. The surfaces of lakes and rivers freeze. Icebergs get trapped in sea ice and remain motionless for several weeks in many instances. The coastal seas and inner fjords are often choked with ice in the summer but often devoid of it in winter and spring. Ice can frustrate and impede mobility; it is often experienced in several parts of the district as not thick or extensive enough to travel far on by dog sledge during winter and spring, and yet fragments of ice can block travel by small open boat, while diminishing ice allows, in turn, increasing accessibility to northern waters for cruise ships, cargo vessels, and seismic survey boats.

The aquaspheric and the cryopelagic—the ocean depths and the underside of the sea ice—and sea ice, glaciers and icebergs (and not forgetting snowscapes for much of the year), the coastal interior landscapes of mountains and deep valleys, the fluvial, the subterranean and the sea bed, and the atmospheric and aeolian are enmeshed with the lives of humans and animals. The Northwest Greenland aquapelago is just one assemblage within a lively world of emergence, movement and interspecies encounters and relations. It is tempting to expand upon Hayward's notion and think of this cryospheric world as a cryopelago as a way of drawing attention to its volumetric, icy nature, but this may still say nothing about indigenous relational ontologies, ways of knowing, and how people think of themselves as being in the world which, in Northwest Greenland, is expressed in thought, speech, and silence about *pinngortitaq*.

Pinngortitaq is often translated from Kalaallisut (Greenlandic) into English as 'nature' or 'environment,' but it refers and points to all that has come into existence—all that is around, above, below, underneath and within—and which is still being revealed and taking shape (Nuttall 2009). More than just the surface of the earth, *pinngortitaq* encompasses the human and more-than-human in dynamic, relational surroundings; people, animals, water, ice, snow, soil, rock, sky, and wind, as well as the air, atmosphere, the subterranean, mountain interiors, the world beneath the seabed,

and earth processes (creation was translated as *pinngortitaaq* by the early Christian missionaries in Greenland). Within *pinngortitaaq* all of these elements—as well as *sila*; ‘air, weather, the wider world’—and formations are entwined, intersect, interact and relate. And *pinngortitaaq* itself is always coming into being, forming, and reforming. Movement around and within the Upernavik district, then, is not merely travel between places and locations, or across aquatic and icy spaces. In the way Virtanen & Saunaluoma (2017) describe it for the indigenous peoples of the Upper Purus region of the Brazilian Amazon, movement in Northwest Greenland is a configuration of human engagement with the non-human.

In this richly textured world, water—in its liquid and frozen states—assumes form, flows, falls (as rain, sleet and snow), heaves, coalesces, coagulates, gushes, thickens and continually makes and remakes the Upernavik coastal environment. Merely describing this northern environment in terms of water, ice and land, and assuming they have distinct boundaries, however, reduces it to something far less intricate and patterned. Water, ice and land overlap, merging in different seasons and at different scales, and shimmering in different light, when their boundaries, edges and form are often difficult to identify. This is especially so in winter when sea ice confuses perceptions of terrain and surface, and when snow cover blurs land and ice. Even when sea ice appears to be thick, firm and extensive, water seeps and oozes through headland cracks and fissures, can saturate the ice and form a type of slush (*putsinneq*) that is neither water, ice, or snow. In this regard, it is interesting to note that the word for liquid (*imerpalasoq*) is similar to saying something—like the slushiness of ice—is thin (*imerpalavoq*). The current can cut up the ice (*aakarneq*), or pockmark it with holes (*aakkarnerinnaavoq*). Ice can suddenly crack, break up, go adrift, and form stretches and patches of open water (*imaviat*). The ice edge (*sinaaq*, or *qaanngoq*) is not a distinct line between floe and open sea, but a porous mosaic of ice floes and holes in the ice that are in continuous motion. It is perhaps as much a liquid edge (to borrow a nice phrasing from Suzanne Thomas [2007]) as it is an ice edge; there are areas of water surrounded by ice that never freeze during winter (*sikujuippoq*), often because of tides, currents, and upwelling; and at low tide, ice can separate from the surface of the water and rest on rocks on the shoreline (*issinnerit*), rejoining the sea and recomposing the cover of ice at high tide.

The sea is known as *imaq*, but a rich vocabulary describes its character depending, for instance, on whether it is moving up and down (*qaffiavoq*), rising and subsiding (*qaffumisaarpoq*), constantly breaking apart when it meets rocks, skerries, and shoreline (*qaraarpoq*), or when its appearance is changed by a faint light washing over its surface, perhaps from a full

moon, and when *imaq* becomes *qaammarujunneq*. Hunters and fishers say they may be out on *imaq* late one afternoon and they can experience its transformation to a state of *qaammarujunneq* during the evening. One literal meaning of *imaq* is ‘has something in it.’ In this worldview, as indeed for coastal peoples elsewhere, not just those who are dwellers in icy places, the sea is not an open expanse of wild water, a space thought about in opposition to land and set apart from human lives. It is a constituent part of a world of action, movement and engagement. As a place with something in it, the sea is not empty, but filled with more-than-human things (some of which are good for people to eat), and which move with its currents and tides, in between its different layers from the surface to the seabed, and underneath the cover of ice in winter and spring. Marine mammals and fish move within, live out their lives, appear, emerge, and are retrieved from it by hunters and fishers (the generic name for seal, *puisi*, for example, means ‘raises its head’). People talk of many other things that fill and compose the sea. These may be different varieties of seaweed, or rock, sediment, silt, and glacial flour, all of which have their own trajectories and effects (such as the ways the bottom of an iceberg can scar the seabed, for example), but also the wrecks of nineteenth-century whaling ships on the seabed, toxic substances left from the Cold War that lurk within, and the contaminants and plastics from industrial development and modern life that infect the water, marine mammals and fish today (Nuttall 2017; Nuttall 2019a).

There are many ways to refer to sea ice (*siku*) too—it is not just thought of and described as frozen sea water. When ice forms, people say the surface of the sea (*immap qaa*) has been glazed (*sikassarpaq*). As with the sea, one goes out on *siku* (*sikuliarpog*), moves about and around on it by dog sledge or on foot. It is where one is engaged and occupied (*sikusiorpog*), and on which one camps. *Siku*, just like *imaq*, constitutes surroundings that are akin to Ingold’s notion of the taskscape as a place that emerges from human activity and dwelling (Ingold 1993). And it is not only humans who are occupied and busy on sea ice. Polar bears (*nannut*; sing. *nanoq*) are active in a search for seals (*nanoq* means ‘good at finding something’), carving out their own places and trails and leaving evidence of their presence (an *unerraq*, for instance, is a trace left behind on the ice because a seal has been dragged along it by a polar bear), making their own dwellings and places to hide from seals (a polar bear den is *illuigaaq*, which is the same word to describe a snow house made by people), and infusing *siku* and its many forms with their essence. Seals also shape places on the ice in their own way—hunters look out for a seal’s breathing hole (*allu*), or a *kikkuleq*, a hole through which they have to crawl up on to the ice, or for a *nunarsaq*, a cavity or hollow in the ice where a seal lies. Being on the sea and on the ice, as on

the land, requires humans and animals alike to think and anticipate across, within, above and below.

A Liquescent World. The Effects of a Changing Climate

In the Upernavik district then, as in other parts of northern Greenland, water, ice and land intermingle with the lives and trajectories of humans and animals (e.g., Flora *et al.* 2018; Hastrup 2013; Hastrup 2016a; Nuttall 2019b), and this extensive knowledge about, and experience of, *pinngortitaq* and its ways informs anticipatory moments, action and movement in dynamic surroundings. Yet climate change is having notable effects that challenge anticipation (Hastrup 2016b; Nuttall 2009). Sea ice cover during winter and spring is less extensive than people living in the region have known it to be, while icebergs are calving from tidewater glaciers at faster rates. Glacial ice mass is diminishing, islands and headlands are being revealed as major glaciers in the area such as the Upernavik Isstrøm recede (Andresen *et al.* 2014; Box & Decker 2011; Khan *et al.* 2013), and the rubble constituting ever larger lateral and terminal moraines indicates the extent of recent retreat. Increased meltwater runoff from glacial fronts affects water temperature, ocean depths and circulation patterns, as well as the formation and thickness of sea ice and the movements of the marine mammals and fish people rely on for their livelihoods.

Studies of past ice movement and flow and projections of future sea ice cover point towards continued declining drift ice in Baffin Bay and the decline and continued thinning of land fast ice along the coasts of northern Greenland (Bi *et al.* 2019). Studies have also documented rapid ice-mass loss of Greenland's inland ice sheet resulting from oceanic and atmospheric forcing (e.g., Bevis *et al.* 2019; Mougnot *et al.* 2019), a greater summer melt of its edges and surface areas (e.g., Box & Decker 2011; Trusel *et al.* 2018), and the retreat of large outlet glaciers (e.g., Andresen *et al.* 2012; Carr, Vieli & Stokes 2013; Harig & Simons 2012). While there is increasing ice discharge from some of its thinning and retreating marine-terminating glaciers (Enderlin & Howat 2013), large amounts of ice mass are turning to meltwater and flowing away towards the coast from Greenland's interior as streams and rivers, and contributing to global sea level rise (Bevis *et al.* 2019; Khan *et al.* 2013; Haubner *et al.* 2018). Increased meltwater runoff from glacial fronts is affecting water temperature and circulation patterns as well as the formation, thickness and break-up of sea ice (Briner *et al.* 2013), and meltwater has been found to contain dissolved organic carbon, making the Greenland ice sheet an important source of organic carbon entering the Greenland and Labrador seas (Lawson *et al.* 2014). Cryoconite, which is

grainy sediment on the surface of the ablation zone of the inland ice and its glaciers, contains windblown dust particles from Asian deserts, volcanic eruptions and industrial activity (e.g., Biscaye *et al.* 1997; Hammer *et al.* 1978). This dark matter and the micro-organisms found in the water that accumulates in cryoconite holes lower ice albedo and contribute to melt. The inland ice may have long been subject to deposition from windblown dust and the black carbon particles originating from anthropogenic activity occurring far away from the Arctic, but Greenland's melting glaciers are also a source of high latitude dust emissions, as sediment is exposed, flushed out, and enters the aolian system, with impacts on terrestrial, cryospheric and aquatic environments (Bullard & Mockford 2018; Tobo *et al.* 2019; Wientjes *et al.* 2011).

While scientists and environmentalists talk of ice being endangered and conjure images of environmental ruination in a rapidly melting Arctic, the experience for people in the Upernavik district is that it is also becoming far more challenging to move around this rapidly changing region. They encounter greater difficulties in accessing hunting and fishing places (as well as travelling between communities during winter and spring). Sea ice is forming later in the winter and, in many places along the coast, is not always as firm and fast, local people say, as it should be to allow for safe and efficient travel on it. The spring sea ice break up has also been happening earlier in the season over the past twenty years or so. This trend makes hunting and fishing by dog sledge riskier when the ice is not solid and yet still covers large stretches of water, or travel between communities by open boat becomes almost impossible as the ice which lingers during the early weeks of open water hinders mobility and limits connectivity. Hunters report that the period of travel by dog sledge on good, solid sea ice is now, on average in recent years, only around three months during winter and spring, with occasionally decent, but somewhat fluctuating conditions for another month or so. Near Melville Bay communities, hunters say that sea ice is only best in March and April, reducing the amount of time for hunting and fishing by dog sledge significantly. Hunters also say they would usually expect to encounter *putsineq* on ice during the spring, but it is increasingly found in January and February. They experience travel on sea ice that they say has a different texture and consistency (ice is described as *quasappoq*—increasingly slippery, making dogs slip and slide—*sarrippoq*—and the runners of the sled zigzag—*ajalupput*), and the ice edge has become a place of greater instability, of constant shifts and movement, a more confused mass of ice and water (where ice is often described now as 'moist;' *alutsinneq*), which makes camping and hunting there more difficult and dangerous.

Iceberg grounding patterns have also had an effect on local sledge routes between communities or out to where seal nets are set under the ice near the shoreline of headlands and islands, some of which are now abandoned or rarely used. People have talked to me in recent years about their concerns now that ice rarely forms for extended periods along the outer stretches of the coast. This makes for a situation where lengthy winter journeys by dog sledge are often no longer possible, especially from the settlements to the town of Upernavik (e.g., see Nuttall 2017), limiting movement around the district for hunters and fishers who need to travel during winter from their home villages to other places to either fish or land their catch. Accessing fish processing facilities is problematic if it is risky, dangerous, or impossible to travel by dog sledge to the communities where they are located. This limits and even curtails the possibilities for fishing and earning an income.

The changing nature of sea ice means having to navigate a seascape in winter and spring that is neither always reliably covered by ice or is open and free of ice, while the changes affecting glacial fronts, and which are reshaping some areas, have significance for marine mammals and fish. All this affects hunting and fishing activities, even if retreating glaciers often reveal islands and headlands which can mean new places to explore for hunting and fishing possibilities. People express concerns that, in summer and autumn, seals have been moving further away from coastal waters with the shifting pack (and some hunters in the southern part of the district say they noticed an absence of seals for a few years following seismic activities for oil exploration in Baffin Bay; see Nuttall 2016), while changing ice conditions and warming waters also mean differences in the migration routes of other marine mammals. By way of example, in June 2015 one hunter from Naajaat, in the central part of Upernavik district, told me:

Fishing is the primary source of making a living here. The ringed seal is a primary source for livelihoods as well. There were times when the ringed seal used to come in September and October, but now the seals come in December which is a month when hunting gets hard. There aren't so many seals any more either so they don't provide a great living any more. This is a big change. We could fish for halibut with long lines because there were plenty in the water last year. We couldn't catch as many as halibut this year because there weren't enough. Also, we usually don't see seaweed under the ice. Now there is a lot of that and the long lines tend to snag it.

In response, new forms of aquatic and cryospheric knowledge are taking shape. This, along with a finely-grained vocabulary about the ways of *pinngortitaq*, needs to be carried around and drawn from if one is to be safe. There is also a greater reliance on boats during winter months, as people

are giving up their dog teams because of thin or no ice, while early summer hunting forays and journeys between some communities often need to be made via routes some distance from the coast, to get around the floating ice that lingers, into what hunters call *iluakkoq* ('the swell') and even further out to sea where the swell rolls, churns, is heavier (*iluakkoorpoq*) and far riskier and dangerous to be out in a small open boat.

Icebergs are a source of drinking water for most villages in the Upernavik region, but the retreat of some glaciers from which smaller icebergs now calve has implications for its availability, while in other parts along the coast people are living with a problem of much larger icebergs, which are seen as hazards, as they block passages between islands and access to community harbours, as well as bringing the risk of rising waves when they shift their centre of gravity. Upernavik may be an increasing liquescent place, but the unavailability of a good source of freshwater in some places has implications for local economies. For example, in the community of Kangersuatsiaq, south of Upernavik town, the fish processing and freezing plant closed in 2011 because it lacked a sufficient freshwater supply. The village is situated on a small island and water is obtained mainly from icebergs, although a desalination facility is able to draw water from the sea. Yet this is not enough to keep the fish processing facility open. Its closure has meant many people have since left the village, often moving to Upernavik, while other communities are also struggling with problems of access to water supplies (Nuttall 2017).

Changes to sea ice, glaciers, seasonal temperatures, and the movements of marine mammals and fish have affectual and sonic dimensions in the Upernavik district that are experienced beyond the visual witnessing of melt. To say "the weather is bad" (*sila ajorpoq*) is also to describe how one's own sense of being in the world is disrupted. And, when the weather is bad, I have heard people say "*silaga aalavoq*"—which means 'my head/my mind is swimming, shaking, moving.' When the weather improves, it is said not just to get better, but to return to its senses (*silattorpoq*), just as a person does who has had a momentary loss of perspective, reason or balance. In the way that Joy Parr argues that bodies are archives of sensory knowledge (Parr 2010), environmental change disrupts people's embodied knowledge of the world with profound implications for identity, community memory and sense of place. A changing climate affects not only a person's surroundings, it can be experienced as disorientation. As Tschakert, Tutu & Alcaro (2013) describe in their work on the effects of climate change in Ghana, deteriorating landscapes, apparent in parched fields, withered crops and dry water wells, for example, cause emotional distress. There is a sense of solastalgia in Northwest Greenland too in how I hear some people talk of

the transformations happening around them (e.g., Nuttall forthcoming). Sensory knowledge of how ice used to feel and sound—for instance, when one travelled over it by dog sledge, how frozen snow used to crunch and creak under one’s feet while wearing kamiks (traditional sealskin boots) with the sole made from the skin of a bearded seal, or how the wind would feel on one’s face (and people say the air is being made moist by the changing weather, and that being made uncomfortable by damp seems a far more prolonged experience)—is drawn upon as a reference for how people today experience changing ice, or warmer temperatures, or different patterns of precipitation. Descriptions of how melt appears to be different from say twenty years ago draw heavily on bodily metaphors of skin lesions and disfigurement. For instance, I have heard people liken the dripping of melting snow and ice to the running and seeping of a boil or a sore (*igivoq*), or how holes in the ice are like open wounds that are slow to heal (*mamitsuippoq*), or how the way ice is slow to form on the surface of the sea is likened to the skin of a young sick bird or seal that has only grown a few feathers or hairs (*qiviulik*) and is struggling to survive.

People also talk about what climate change, for them, sounds like. The runners of a dog sledge, for example, squeak rather than whoosh and crackle over snow and ice that are wetter and mushier. In May 2017 friends from Kangersuatsiaq told me that with less ice in winter it is now common to hear the roaring sounds of the sea (*immap ittunnera*) between December and March, something that the cover of ice usually silences through a long winter. This corresponds to how scientists are observing greater wave action and swell events in other parts of the Arctic, such as the Beaufort and Chukchi Seas, as sea ice cover declines (Overeem *et al.* 2011; Thomson & Rogers 2014). People also talk about the increased frequency of hearing glaciers calve and the rumbling sounds of rocks that fall with the ice—as well as the silence deep in some fjords now that some glaciers have receded away from the water’s edge, meaning there are places where waves no longer rise from the crashing of icebergs. When I did research in Upernavik in the winter of 2015 there was good, solid ice throughout much of the district (with especially cold weather in February), something that ran counter to the trend of increasingly poor ice that people noticed began in the late 1990s and early 2000s. Some hunters made journeys by dog sledge from the central part of the district south to Upernavik town and to Kangersuatsiaq and stories were told to young people that these trips lasting several days were like those both people and dogs were able to make “in the old days,” invoking memories of travel on sea ice in places and spaces many people are no longer able to visit and experience in winter. But when people talked that winter of “the old days” or “times in the past” (*qangarsuaq*), or “in former times” or “in times gone by” (*itsaq*), this

sense of temporality encompassed the 1980s and early 1990s as much as it did decades before (Nuttall forthcoming).

Conclusions

My concern in this article has been to point in a different direction from the “ice is melting” narrative that so often dominates much of the scientific literature as well as the broader policy-related processes concerned with Arctic climate change. Rather than just seeing climate change as it affects the Arctic in terms of liquification, as ice melts into water, I argue, for Northwest Greenland at least, that it makes for a far more liquescent place—one that is experienced as icy, but wetter, damper, slushier, mistier, foggier, and stormier. The region is increasingly well-monitored and scientific research done there, as in other parts of Greenland, contributes to wider Arctic observing networks. While scientists go out into the field, observing, measuring and monitoring reductions in sea ice and snow cover, mass loss acceleration in glacial zones, and surface melt on Greenland’s inland ice, satellite remote sensing has made important discoveries about the climate system that have not been detected by field-based observation or by climate models, such as the spatial pattern of sea-level rise and the cooling effects of increased stratospheric aerosols (Yang *et al.* 2013). Satellites allow for the production of technically-mediated images of the Arctic from space that give us a different spatial and temporal view of a region in transformation. Surface melt on the Greenland inland ice is often depicted in shades of red, for instance—an alarming impression of global warming and disappearance. The Arctic is “sensed” by sophisticated technology that can produce high resolution datasets for the atmosphere, land, ocean and ice. These scientific representations of melt are valuable and necessary, especially for the role they play in communicating the dramatic nature of climate change in the Anthropocene and for getting the message across to policy-makers, as well as informing a liquescent geopolitics, but they allow us, to paraphrase Jody Berland’s observation of weather charts and forecasts (Berland 2009: 243), to look anxiously at what climate change is doing to the Arctic without really feeling its wrath.

A satellite image, no matter how visually compelling a statement it makes about melting ice and temperature rise, cannot communicate how it feels when travelling on sea ice that is no longer thick and firm, or feels far wetter and more slippery, or when rain falls in January when one expects snow, and when the winter air feels damp when it should be dry. Nor can remote sensing provide us with images of the effects of climate change on human bodies and community memories. As Tim Ingold (2007) writes,

there is no distinction or separation between earth and sky and being out in the world is to live, engage and mingle with weather and climate. This is something at the heart of indigenous ontologies. *Sila*, the Greenlandic word for weather and climate, is the same word for the world, and for breath, air, and consciousness. To breathe in is to inhale *sila*—climate and weather are brought into the body, along with damp air, moisture, contaminants, windblown dust and black carbon particles. If cryoconite pockmarks the inland ice so extensively, what can deposition do to human lungs? As Wainwright puts it:

breathing and air (climate/weather) are intimately entangled, in that sensing the breath inside the body is sensing the air outside it. We exhale part of our body into the world and we inhale the environment into our bodies. It is therefore not only our eyes, ears, noses, and our taste buds which connect our inside bodies and minds to the outside world but also our lungs, adding breathing as an important focus for sensorial anthropology. (Wainwright 2017: 342)

And so, while the scientific monitoring of sea ice in Baffin Bay (e.g., Bi *et al.* 2019) and of glacial ice loss in the Upernavik region, including Melville Bay, is well established (e.g., Khan *et al.* 2013; Kjær *et al.* 2011; Liu *et al.* 2017; Van As 2011), I argue that attention needs to be given to what these changes to ice and water mean for local livelihoods and mobilities and human-animal interactions, but also for a person's sense of self in relation to *sila* and how they feel and inhale the warming, melting world. Thinking of this in terms of liquescence, rather than liquification is a way of moving toward a deeper appreciation of people's experiences and sense-making of the changes happening around them.

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NOTES

- ¹ Recently, for example, the Arctic Council's Arctic Resilience Assessment (ARA) and the Adaptation Actions for a Changing Arctic (AACA) initiative have set out to chart how the Arctic is unsettled and imperiled by global processes and how resilience in social-ecological systems is threatened, while the 2017 Snow, Water, Ice and Permafrost Assessment (more commonly known by its acronym SWIPA, a periodic update of the Arctic Council's 2005 Arctic Climate Impact Assessment) reiterates how evidence for the transformation of the Arctic towards a new state has grown stronger over the past decade.
- ² See www.wwf.ca/conservation/arctic/lia/ (access date 2 March 2020) for information on WWF's Last Ice Area initiative.
- ³ A colony of Denmark 1721–1953, Greenland is a constituent part of the Kingdom of Denmark and achieved Home Rule in 1979, followed by greater autonomy in the form of Self-Rule in 2009.

REFERENCES

- Andresen, C. S., Straneo, F., Hvid Ribergaard, M., Bjørk, A.A., Andersen, T.J., Kuijpers, A., Nørgaard-Pedersen, N., Kjær, K.H., Schjøth, F., Weckström, K. & Ahlström, A.P. (2012). "Rapid response of Helheim Glacier in Greenland to climate variability over the past century," *Nature Geoscience*, 5:1, pp. 37–41.
- Andresen, C.S., Kjeldsen, K.K., Harden, B., Nørgaard-Pedersen, N., & Kjær, K.H. (2014). "Outlet glacier dynamics and bathymetry at Upernavik Isstrøm and Upernavik Isfjord, North-West Greenland," *Geological Survey of Denmark and Greenland Bulletin*, 31, pp. 79–82.
- Berland, J. (2009). *North of Empire. Essays on the Cultural Technologies of Space*, Durham & London: Duke University Press.
- Bevis, M., Harig, C., Khan, S.A., Brown, A., Simons, F. J., Willis, M., Fettweis, X., van den Broeke, M.R., Madsen, F.B., Kendrick, E., Caccamis II, D.J., van Dam, T., Knudsen, P. & Nylén, T. (2019). "Accelerating changes in ice mass within Greenland, and the ice sheet's sensitivity to atmospheric forcing," *PNAS*, 116:6, pp. 1,934–1,939.
- Bi, H., Zhang, Z., Wang, Y., Xu, X., Liang, Y., Huang, J., Liu, Y. & Fu, M. (2019). "Baffin Bay sea ice inflow and outflow, 1978–1979 to 2016–2017," *The Cryosphere*, 13, pp. 1,025–1,042; doi.org/10.5194/tc-13-1025-2019.
- Biscaye, P.E., Grousset, F.E., Revel, M., Van der Gaast, S., Zielinski, G.A., Vaars, A. & Kukla, G. (1997). "Asian provenance of glacial dust (stage 2) in the Greenland Ice Sheet Project 2 ice core, Summit, Greenland," *JGR Oceans*, 102 (C12), pp. 26,765–26,781.
- Box, J.E., Colgan, W.T., Christensen, T.R., Schmidt, N.M., Lund, M., Parmentier, F.-J.W., Brown, R., Bhatt, U.S., Euskirchen, E.S., Romanovsky, V.E., Walsh, J.E., Overland, J.E., Wang, M., Corell, R.W., Meier, W.N., Wouters, B., Mernild, S., Mård, J., Pawlak, J. & Skovgård Olsen, M. (2019). "Key indicators of Arctic climate change, 1971–2017," *Environmental Research Letters*, 14:4, pp. 1–18; <https://doi.org/10.1088/1748-9326/aafc1b>.
- Box, J.E. & Decker, D.T. (2011). "Greenland marine-terminating glacier area changes, 2000–2010," *Annals of Glaciology*, 52:59, pp. 91–98.

- Briner, J.P., Håkansson, L. & Bennike, O. (2013). "The glaciation and neoglaciation of Upernavik Isstrøm, Greenland," *Quaternary Research*, 80, pp. 459–467.
- Bullard, J.E. & Mockford, T. (2018). "Seasonal and decadal variability of dust observations in the Kangerlussuaq area, west Greenland," *Arctic, Antarctic, and Alpine Research*, 50:1; doi.org/10.1080/15230430.2017.1415854.
- Carr, J.R., Vieli, A. & Stokes, C. (2013). "Influence of sea ice decline, atmospheric warming, and glacier width on marine-terminating outlet glacier behavior in northwest Greenland at seasonal to interannual timescales," *Journal of Geophysical Research. Earth Surface*, 118, pp. 1,210–1,226.
- Comiso, J.C. & Hall, D.K. (2014). "Climate trends in the Arctic as observed from space," *WIREs Climate Change*, 5:3, pp. 389–409.
- DeLoughrey, E. (2017). "The oceanic turn. Submarine futures of the Anthropocene," in *Humanities for the Environment. Integrating Knowledge, Forging New Constellations of Practice*, eds. J. Adamson & M. Davis, London & New York: Routledge.
- Dodds, K. & Nuttall, M. (2019). "Geo-assembling narratives of sustainability in Greenland," in *The Politics of Sustainability in the Arctic. Reconfiguring Identity, Space, and Time*, eds. U.P. Gad & J. Strandsberg, London & New York: Routledge, pp. 224–241.
- Enderlin, E.M. & Howat, I.M. (2013). "Submarine melt rate estimates for floating termini of Greenland outlet glaciers (2000–2010)," *Journal of Glaciology*, 59:213, pp. 67–75.
- Flora, J., Johansen, K.L., Grønnow, B., Oberborbeck Andersen, A. & Mosbech, A. (2018). "Present and past dynamics of Inughuit resource spaces," *Ambio*, 47: supplement 2, pp. 244–264.
- Gearheard, S.F., Holm, L.K., Huntington, H., Leavitt, J.M., Mahoney, A.R., Opie, M., Oshima, T. & Sanguya, J. (eds.) (2013). *The Meaning of Ice. People and Sea Ice in Three Arctic Communities*, Hanover, New Hampshire: International Polar Institute.
- Gibbs, L.M. (2009). "Water places. Cultural, social and more-than-human geographies of nature," *Scottish Geographical Journal*, 125:3–4, pp. 361–369.
- Hammer, C.U., Clausen, H.B., Dansgaard, W. & Gundestrup, N. (1978). "Dating of Greenland ice cores by flow models, isotopes, volcanic debris, and continental dust," *Journal of Glaciology*, 20:82, pp. 3–26.
- Harig, C. & Simons, F.J. (2012). "Mapping Greenland's mass loss in space and time," *PNAS*, Dec. 4, 2012, 109:49, pp. 19,934–19,937; doi.org/10.1073/pnas.1206785109.
- Hastrup, K. (2013). "Water and the configuration of social worlds. An anthropological perspective," *Journal of Water Resource and Protection*, 5:4, pp. 59–66.
- Hastrup, K. (2016a). "The North Water. Life on the ice edge in the High Arctic," in *Waterworlds. Anthropology in Fluid Environments*, eds. K. Hastrup & F. Hastrup, New York & Oxford: Berghahn, pp. 279–299.
- Hastrup, K. (2016b). "Climate knowledge. Assemblage, anticipation, action," in *Anthropology and Climate Change. From Actions to Transformations*, eds. S.A. Crate & M. Nuttall, London & New York: Routledge, pp. 35–57.
- Hastrup, K. & Hastrup, F. (eds.) (2016). *Waterworlds. Anthropology in Fluid Environments*, New York & Oxford: Berghahn.
- Hastrup, K., Mosbech, A. & Grønnow, B. (eds.) (2018). "Special Issue. The North Water. Interdisciplinary studies of a High Arctic polynya under transformation," *Ambio*, 47: Supplement 2.
- Haubner, K., Box, J.E., Schlegel, N.J., Larour, E.Y., Morlighem, M., Solgaard, A.M., Kjeldsen, K.K., Larsen, S.H., Rignot, E., Dupont, T.K. & Kjær, K.H. (2018). "Simulating ice thickness and velocity evolution of Upernavik Isstrøm 1849–2012 by forcing

- prescribed terminus positions in ISSM," *The Cryosphere*, 12, pp. 1,511–1,522; doi: org/10.5194/tc-12-1511-2018.
- Hayward, P. (2012). "Aquapelagos and aquapelagic assemblages," *Shima. The International Journal of Research into Island Cultures*, 6:1, pp. 1–10.
- Hayward, P. (2015). "The Aquapelago and the estuarine city. Reflections on Manhattan," *Urban Island Studies*, 1, 81–95.
- Hendriksen, K. & Jørgensen, U. (2015). "Hunting and fishing settlements in Upernavik district of Northern Greenland. Challenged by climate, centralization and globalization," *Polar Geography*, 38:2, pp. 123–145.
- Ingold, T. (1993). "The temporality of the landscape," *World Archaeology*, 25:2, pp. 152–174.
- Ingold, T. (2007). "Earth, sky, wind, and weather," *Journal of the Royal Anthropological Institute*, 13:1, pp. 19–39.
- Khan, S.A., Kjaer, K.H., Korsgaard, N.J., Wahr, J., Joughin, I.R., Timm, L.H., Bamber, J.L., van den Broeke, M.R., Stearns, L.A., Hamilton, G.S., Csatho, B.M., Nielsen, K., Hurkmans, R. & Babonis, G. (2013). "Recurring dynamically induced thinning during 1985 to 2010 on Upernavik Isstrøm, West Greenland," *Journal of Geophysical Research. Earth Surface*, 118:1, pp. 111–121.
- Kjær, K.H., Khan, S.A., Korsgaard, N.J., Wahr, J., Bamber, J.L., Hurkmans, R., van den Broeke, M., Timm, L.H., Kjeldsen, K.K., Bjørk, A.A., Larsen, N.K., Jørgensen, L.T., Færch-Jensen, A. & Willerslev, E. (2011). "Aerial photos reveal late 20th-century dynamic ice loss in Northwestern Greenland," *Science*, 337:6094, pp. 569–573; doi: 10.1126/science.1220614.
- Krause, F. & Strang, V. (2016). "Thinking relationships through water," *Society and Natural Resources*, 29:6, pp. 633–638.
- Lahiri-Dutt, K. (2014). "Beyond the water-land binary in geography. Water/lands of Bengal re-envisioning hybridity," *ACME. An International e-Journal for Critical Geographies*, 13:3, pp. 505–529.
- Lawson, E.C., Wadham, J.L., Tranter, M., Stibal, M., Lis, G.P., Butler, C.E.H., Laybourn-Parry, J., Nienow, P., Chandler, D. & Dewsbury, P. (2014). "Greenland Ice Sheet exports labile organic carbon to the Arctic oceans," *Biogeosciences*, 11:14, pp. 4,015–4,028.
- Leyshon, C. (2018). "Finding the coast. Environmental governance and the characterisation of land and sea," *Area*, 50:2, pp. 150–158.
- Liu, L., Khan, S.A., van Dam, T., Ho Yin Ma, J. & Bevis, M. (2017). "Annual variations in GPS-measured vertical displacements near Upernavik Isstrøm (Greenland) and contributions from surface mass loading," *Journal of Geophysical Research. Solid Earth*, 122, pp. 677–691; doi:10.1002/2016JB013494.
- Marin, A. (2019). "Volatility. Understanding global capitalism and climate change vulnerability in Mongolia," in *Capitalism, Climate and Communities. An Anthropology of Environmental Overheating*, eds. A.B. Stensrud & T.H. Eriksen, London: Pluto Press, pp. 76–95.
- Mouginot, J., Rignot, E., Bjørk, A.A., van den Broeke, M., Millan, R., Morlighem, M., Noël, B., Scheuchl, B. & Wood, M. (2019). "Forty-six years of Greenland ice sheet mass balance from 1972 to 2018," *PNAS*, May 7, 2019, 116:19, pp. 9,239–9,244; doi: org/10.1073/pnas.1904242116.
- Nuttall, M. (1992). *Arctic Homeland. Kinship, Community and Development in Northwest Greenland*, Toronto: University of Toronto Press.
- Nuttall, M. (2009). "Living in a world of movement. Human resilience to environmental instability in Greenland," in *Anthropology and Climate Change. From Encounters*

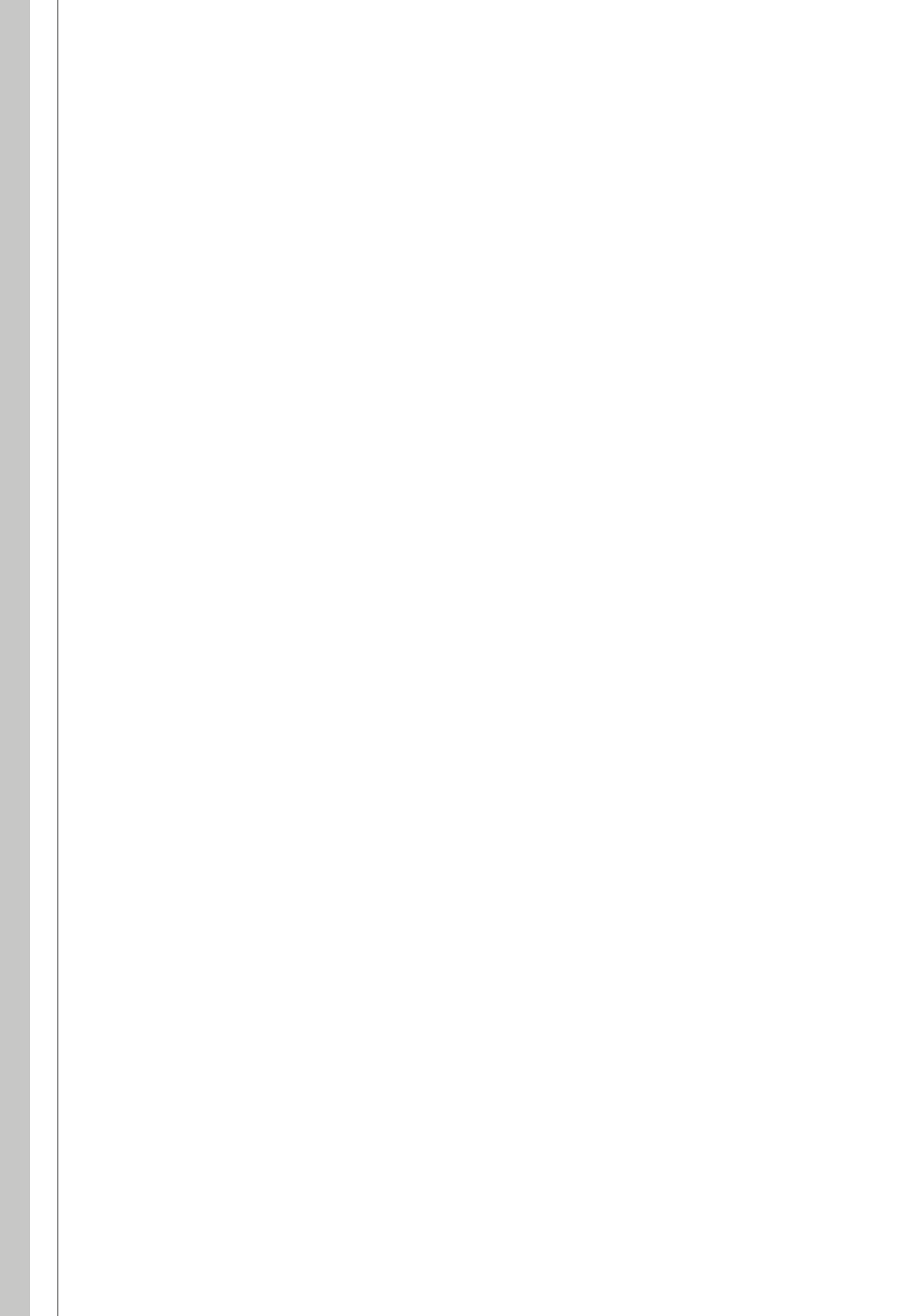
- to *Actions*, eds. S.A. Crate & M. Nuttall, Walnut Creek, CA: Left Coast Press, pp. 292–310.
- Nuttall, M. (2016). “Narwhal hunters, seismic surveys and the Middle Ice. Monitoring environmental change in Greenland’s Melville Bay,” in *Anthropology and Climate Change. From Actions to Transformations*, eds. S.A. Crate & M. Nuttall, London & New York: Routledge, pp. 354–372.
- Nuttall, M. (2017). *Climate, Society and Subsurface Politics in Greenland. Under the Great Ice*, London & New York: Routledge.
- Nuttall, M. (2019a). “Ice and the depths of the ocean. Probing Greenland’s Melville Bay during the Cold War,” in *Cold Science. Environmental Knowledge in the North American Arctic during the Cold War*, eds. S. Bocking & D. Heidt, London & New York: Routledge, pp. 23–41.
- Nuttall, M. (2019b). “Sea ice, climate and resources. The changing nature of hunting along Greenland’s northwest coast,” in *Capitalism, Climate and Communities. An Anthropology of Environmental Overheating*, eds. A.B. Stensrud & T.H. Eriksen, London: Pluto Press, pp. 57–75.
- Nuttall, M. (forthcoming). “Places of memory, anticipation and agitation in Northwest Greenland,” in *Memory and Landscape. Indigenous Responses to a Changing Climate*, eds. K.L. Pratt & S.A. Heyes, Athabasca: Athabasca University Press.
- Orban, C.E. (1997). *The Culture of Fragments. Words and Images in Futurism and Surrealism*, Amsterdam & Atlanta: Editions Rodopi.
- Overeem, I., Anderson, R.S., Wobus, C.W., Clow, G.D., Urban, F.E. & Matell, N. (2011). “Sea ice loss enhances wave action at the Arctic coast,” *Geophysical Research Letters*, 38:17, L17503:doi:10.1029/2011GL048681.
- Parr, J. (2010). *Sensing Changes. Technologies, Environments, and the Everyday 1953–2003*, Vancouver: University of British Columbia Press.
- Thomas, S. (2003). “Assembling history. Fragments and ruins,” *European Romantic Review*, 14:2, pp. 177–186.
- Thomas, S. (2007). “Littoral space(s). Liquid edges of poetic possibility,” *Journal of the Canadian Association of Curriculum Studies*, 5:1, pp. 21–29.
- Thomson, J. & Rogers, W.E. (2014). “Swell and sea in the emerging Arctic Ocean,” *Geophysical Research Letters*, 41:9, pp. 3,136–3,140.
- Tobo, Y., Adachi, K., DeMott, P.J., Hill, T.C.J., Hamilton, D.S., Mahowald, N.M., Nagatsuka, N., Ohata, S., Uetake, J., Kondo, Y. & Koike, M. (2019). “Glacially sourced dust as a potentially significant source of ice nucleating particles,” *Nature Geoscience*, 12:4, pp. 253–258.
- Trusel, L.D., Das, S.B., Osman, M.B., Evans, M.J., Smith, B.E., Fettweis, X., McConnell, J.R., Noël, B.P.Y. & van den Broeke, M.R. (2018). “Nonlinear rise in Greenland runoff in response to post-industrial Arctic warming,” *Nature*, 564:7734, pp. 104–108
- Tschakert, P., Tutu, R. & Alcaro, A. (2013). “Embodied experiences of environmental and climatic changes in landscapes of everyday life in Ghana,” *Emotion, Space and Society*, 7:1, pp. 13–25.
- Van As, D. (2011). “Warming, glacier melt and surface energy budget from weather station observations in the Melville Bay region of northwest Greenland,” *Journal of Glaciology*, 51:202, pp. 208–220.
- Virtanen, P.K. & Saunaluoma, S. (2017). “Visualization and movement as configurations of human–nonhuman engagements. Precolonial geometric earthwork landscapes of the Upper Purus, Brazil,” *American Anthropologist*, 119:4, pp. 614–630.

- Wadhams, P. (2016). *A Farewell to Ice. A Report From the Arctic*, London: Penguin.
- Wainwright, M. (2017). "Sensing the airs. The cultural context for breathing and breathlessness in Uruguay," *Medical Anthropology*, 36:4, pp. 332–347.
- Wientjes, I.G.M., van de Wal, R.S.W., Reichert, G.-J., Sluijs, A. & Oerlemans, J. (2011). "Dust from the dark region in the western ablation zone of the Greenland ice sheet," *The Cryosphere*, 5:3, pp. 589–601.
- Wilhite, H. & Salinas, C.G. (2019). "Expansive capitalism, climate change and global climate mitigation schemes. A triple burden on forest peoples in the Global South," in *Capitalism, Climate and Communities. An Anthropology of Environmental Overheating*, eds. A.B. Stensrud & T.H. Eriksen, London: Pluto Press, pp. 151–170.
- Wylie, J. (2009). "Landscape, absence and the geographies of love," *Transactions of the British Institute of Geographers*, 34:3, pp. 275–289.
- Yang, J., Gong, P., Fu, R., Zhang, M., Chen, J., Liang, S., Xu, B., Shi, J. & Dickinson, R. (2013). "The role of satellite remote sensing in climate change studies," *Nature Climate Change*, 3, pp. 875–883.

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ROB SHIELDS

The Illocutionary Force of Inuit Ice Vocabularies

ABSTRACT Lexicons of Yup'ik sea-ice terminology rely on extra-textual elements, including photographs, diagrams and sketches. Definitions are also supplemented with stories about personal experience and of the behaviour of ice phenomena. Speech act theory argues that these elements communicate an often overlooked illocutionary dimension which shows the importance of semantics in addition to the syntax of scientific definitions. The illocutionary aspects captures the performative, experiential quality of sea ice as a lived environment engaged in processes of hunting, travel and fishing. I argue that the illocutionary force of the descriptions presented in the lexicons is epistemic and ignoring this silences the Indigenous "voice." This supports Townsends argument that illocutionary silencing occurs when science treats environmental descriptions as not material but cultural and circumstantial.

KEYWORDS illocution, illocutionary silencing, sea-ice, Yup'ik, Indigenous

While there have been several sea ice lexicons published recently showing the semantics of ice, this paper considers the syntactic and performative importance of the illocutionary aspects of their Inuit sea ice terminology. Southerners' "urban myths" about the number of "Eskimo words for snow" (Martin 1986) and ice have been debunked; however,

we need to understand sea ice lexicons not only as lists of terms defined for their semantic meaning; they need to be read for their illocutionary elements that relate to context and imperatives regarding activities on and around sea ice (Gilbert 2012). It is not surprising that extra-textual elements in recent lexicons help to convey the illocutionary aspects through drawings, photographs and story-telling. This understanding comes from Speech Act Theory which positions language as an aspect of social interaction rather than more lexical approaches that highlight definitional meaning and description as the content of communication (Austin 1962; Vanderveken 2001). Differentiating the syntactic from the semantic meaning allows a focus on performative language related to ice conditions (Young 2016).

Lists of terms go as far back as Frank Boas, an early Arctic anthropologist who published a list in 1894 based on his fieldwork on Baffin Island (Boas 1894; Boas & Powel 1966; see also the review by Krupnik & Müller-Wille 2010; Cichocki & Kilarski 2010). This list is at the origins of the Southern myth of Inuktitut having many more words for snow than English (Whorf 1940). Cichocki and Kilarski approach this fascination with Inuit “words for snow as a figurative motif pervasive in modern intellectual history” (Cichocki & Kilarski 2010: 346). The fascination that this case exerts on the “Southern” imagination is evidenced not only by how it was taken up in the linguistic literature and distorted over time, but in the ongoing reviews and discussion by linguistic anthropologists (Martin 1986; Pullum 1989) and northern ethnographers.

A decade or so ago, activities around the International Polar Year (2007–2008) saw the publication of much refined lexicons and ice dictionaries (Oozeva *et al.* [eds.] 2004; Aporta 2002; Aporta 2010). Beginning in 1986, Conrad Oozeva created an illustrated Yup’ik listing focused on the ice conditions encountered by himself and an older generation of Yup’ik. These were divided into categories, for example, “Dangerous spots,” “Best to work on” and “Hard to walk on.” The expanded 2004 version adds illustrative sketches of each ice condition defined in the lexicon (Oozeva *et al.* [eds.] 2004). Krupnik’s and Aporta’s works provide photographs (e.g., Krupnik, Apangalook Sr & Apangalook 2010: 88) while Aporta annotates maps, photos and diagrams to illustrate how different ice forms are encountered in the Eastern Canadian Arctic. These descriptive elements in the texts and extra-textual illustrations point to a performative and also normative aspect that is my focus. These elements involve ice risks as well as guidance for how to hunt effectively and safely on sea ice that may be lost in the simple glossary listings of lexicons.

Indigenous language concerning the environment involves not only a set of meanings (semantics) but a *syntax* of the qualities and performance

of ice and snow—what it does, how it acts and what can be done with, on and around it. That is, ice is not a matter of descriptive nouns, or something to be contemplated. Instead Inuit languages capture natural elements in their active, performative sense of matter that supports certain activities or entails consequences when it is engaged with. If open water in the ice is a “lead” in English, its many Inuktituk terms capture the risk of crossing, warn of the danger of opening and closing ice floes, the risk of snow covered but unfrozen areas, and indicate possibilities for travel. Inuit societies can comfortably imagine ice as their history and themselves as part of its futurity in a direct, engaged sense. Hence the crisis as ice cover and weather patterns change. Arctic ice has historically been understood to have a permanence that distinguishes multi-year pack ice from the seasonal, metropolitan experience of ice. This is a strong contrast to even those metropolitan Canada cities such as Edmonton or Québec City that present themselves as “winter cities” but which are only seasonally cold and icy. Yet, this distinction is now challenged, glaciers and ice alike melting away. In some cases this risks becoming a form of absent presence, where the year-round regularity of ice that typified anywhere understood as “Arctic” is presumed but not encountered.

Indigenous Experiential Terms for Sea Ice

Unlike Southerners’ stereotype of the Arctic as a landscape of permanently frozen features, the Inuit consistently emphasize the form, age and affordances or utility of ice, *siku*. Elders remind us that language is land-based or local. For example, in interviews with residents in the Hudson Bay and Nunavik region, Furgal, Tremblay and Angiyou note that

differences can be observed between the terms used by Nunavummiut from southern and northern areas of Hudson Bay, Hudson Strait, and Ungava Bay. For example, in Inuktitut the term *allanuk* that means “mobile ice” amongst Umiujamiut is replaced by the term *aulaniq* amongst Ivujivimiut. (Furgal, Tremblay & Angiyou 2010: 453–454)

Local experience of a multitude of conditions is necessary to judge between different types of, for example ice shingles or which types of ice will bear a person’s weight.

It is a mistake to frame this as a merely empirical observation rather than a seamlessly relational knowledge that understands the dynamics of and between ice forms, wind, currents and tides (Nadasdy 2005). Laidler and others observe:

Scientists tend to focus on understanding the physical processes involved in linking sea ice to climate change, while Inuit communities are more interested in understanding how changing ice conditions may affect their travel safety along with wildlife habitat and availability. (Laidler 2006: 424)

Understood as a narrative of action and engagement rather than a lexical list, the terms illustrate the Indigenous argument that abstract representations of environmental knowledge, should not be relied upon. Hence the injunction in some cases that knowledge is not to be entrusted to the written form. Rather, like a dancer's understanding of the centre of gravity of their bodies, routines need to be acquired through practice. This experiential knowledge of the performative interaction of ice, snow, bodies and boats is more trustworthy and robust.

Commenting on their research on climate warming in the Nunavik region of Northeastern Canada, Furgal, Tremblay and Angiyou note,

Inuit knowledge of the ice, in particular the terminology of sea ice, formations, and processes, provides valuable insights into the processes of ice formation and break-up in these communities. The value of this knowledge in protecting individuals in the community from unsafe travel or hunting conditions related to ice stability cannot be underestimated. Local ice terminology constitutes a set of structured terms passed down from generation to generation describing a dynamic environment that has always been in a state of change. (Furgal, Tremblay & Angiyou 2010: 454)

Ice and snow are performative in at least three different ways: first, they have different qualities, for example heavy wet snow or light fluffy snow; second, they have a range of character such as the snow found just below the surface that has the correct density to be cut and built with; and third, they interact with water and other ice forms in different way. Far from permanently frozen, there is a continuum between snow and pure ice, between water and air. Ice is often young, newly formed and weak. Its fragility and malleability pose both risks and opportunities, attracting animals to weak spots where seals and walruses may surface. Ice is thus often described and identified visually and/or by the activities it does or doesn't support.

The performative aspects of sea-ice knowledge extends even beyond the verbal to gestures. Consider my following field experience:

We are in coastal waters in an open boat, an (Inuit) West Greenlander, my South Baffin Inuit friend and me, not intending to hunt (a Kabloona such as me is a risk). We are visitors to Greenland being shown summer

camping sites. The water is mostly open but talk is of the sea ice—and then there is sudden silence. A word or two but lots of hand signals between the Greenlander and the Canadian: a seal bobs 150 m away, attentively listening. It's a tin-can sized target I could certainly never hit from a bobbing boat. Regardless of their recent acquaintance, there is suddenly a team focused on closing up to the seal. The Inuit in the bow gestures an approach to our host in the stern.

Sea Ice Lexicons

Oozeva's Yup'ik sea ice lexicon (Oozeva *et al.* [eds.] 2004) lists 99 distinct (Alaskan) Yup'ik terms for sea ice with varied meanings depending on the place. It celebrates the nuanced vocabulary that points to the “performative” syntax of ice itself (Austin 1962). These might be drawn together into a narrative of Yup'ik terms as well as Eastern Arctic Inuktituk terminology. Consider sea ice, *sikupik*, as opposed to freshwater ice (*kuluusiqu*). *Siku* is divided between thinner, new *sikuliig* (in Inuktituk, *sigikaghat* or *sikug*) or *sikupigek* (*sikutuqag* in Inuktitut). *Siku* is also the Yup'ik name for the Bering Sea. Hunters negotiate different forms of ice, with rough dangerous sections making some kills irretrievable or leading to loss of the hunter's life if they try to enter or cross in pursuit. Allow me to condense part of Oozeva's lexicon in narrative form:

Siku begins to freeze (*sikulliig*) as small cakes (*iighwilkaa*) formed by ocean waves. These still consist of water and fissures as the oval cakes are blown together by wind (*aygughnin*) and current, alternately collecting along and being broken away from shore depending on the weather and tide conditions (e.g. *eslaaghilleq*).

Small broken ice (*gelughtaaq*, *qenughhaghaqri*) is dangerous to walk on but may be pushed aside, such as by boat. Chunks are washed up on or along the shore (*tetaan*). As ice collects more thickly, it cracks (*iitga*). Leads open and close depending on the tide. Other shorefast ice will crack.

Tides also bring water on top of shorefast ice which then gets covered by snow (*saqralqaaq*). Spray freezes (*nasaghuk*) on any object or forms icicles (*sikughnak*). Heavy snowfalls stay on top of or sink just below the water making a frozen soup of ice crystals. Snow-covered water (*qanigvik*) or packed slush ice (*qateghrapak*) is dangerous to walk on.

Ayngelin, walls of ice, form and collapse when pushed against the shore. Pressure ridges (*qivallekeltaq*) form large areas over shallow water sometimes, making it hard to work on (*qivenghak*). Ice can be stuck on the bottom, allowing for other ice to pile up and over on either side or over reefs (*eltugheq*). Large pressure ridges (*qivalluk*) make walking difficult. In dense pack ice, changes in current or wind direction mean that boats can be

trapped by ice floes locking together (*ngaayuun*). Chunks refreeze into new, wide layers of ice. Thin, smooth ice (*sikojuq*) forms in the leads (*meghhaak*) between other ice floes.

Ice darkened with walrus feces hints at favourite sunning spots or may be old, long exposed ice which has collected sand on its surface (*nunaavaaleq*). The best sea ice to work and travel on is smooth (*nutaghin*) shorefast expanses (*ngevzin*) and even slightly dimpled, bumpy (*maklukestaq*) or wavy (*qagin*, *qagitek*) expanses, allowing boats or sleds to move with little friction. Sometimes this is ice that has melted and refrozen (*qenghuk*) smooth (*sikughlluggaq*). By contrast, wet snow with a wet base on ice offers friction and means wet boots. Snow in water (*kiivnin*), like *qelughtaaq*, can be pushed through by boat.

Local experience of how sea ice constantly changes is essential. Some shorefast ice will stay put depending on both the local topography and the bottom conditions. Other thick ice (*umughak*) is solid (*saagrugaaq*). At times it will suddenly drift out to the ocean with a wind change. The edge of shorefast ice facing open water is *laaq*. At the edge (*kangin*) of ice (ice edge *luughek* or *iitga*) adjacent to open water, soft ice is pushed over harder ice into overlapping sharp shingles (small, medium and large, *kaspigpak*, *kaspik*, *kaspikengeltaq* respectively) which makes walking treacherous and falls are serious.

In open water, there may be floating blue chunks of old pack ice (*kulusik* or larger: *kulusiq*). In some cases ice floes are top heavy with anvil shapes or overhangs and will flip if stepped upon (*uulsugnaq*) and may remain that way (*uultelleq*). As snow falls on older ice, soft granular layers of frozen crystals result (*nutemtaq*). New ice that starts as snow or frost freezes from the top (*nutaqiiq*). On calm water, thin ice (*sallek*) and ice sheets (*saalqaaq*) form. In more windy conditions, slushy salt water (*qenu*) and ice crystals thicken from the surface down, creating a bright white colour but a weak structure which is unsafe. Drifting ice flows arrive at different times from different places and are given specific names, for example, spring ice (*ivga-ghutkak*). In summer, melting sea ice (*ughuun*) develops holes (*pequ*), floes begin to spread out with the ice weakening dangerously and dissolving, allowing seals to surface (*muyileq*).

This descriptive and performative listing in the form of a narrative does not exhaust Oozeva's dictionary. It illustrates how lexicons both present and imply processual and performative meanings beyond the definitional semantics of various Yup'ik and Inuktituk words. Definitions reference the ways ice and snow are structured and combine with each other, at certain times or seasons and in specific places, tides, or currents to allow certain activities and make others risky. The performative dimension a lexical universe that as a

whole speaks to the working relations between hunters, animals and environmental conditions. This captures the engagement of humans with a hostile environment where they depend on understanding risks in order to trust the capacities of ice and snow to, for example, bear the loads of hunters, snowmobiles and equipment and drift in a predictable manner.

The performative hints at the necessarily deliberate, fully present encounter with a dynamic and lively material and spiritual world, a world that is not reduced to Cartesian subject-object dualisms. To interject theoretically, the Inuit sea ice lexicon illustrates an “assemblage” in the sense Deleuze and Guattari originally intended as an “*agencement*” (Deleuze & Guattari 1987: 4); that is, not a collection of discrete, dead objects but energetic entities all having different tendencies, mobilities and qualities that add up to entities with their own different “agencies”—seals that prefer to return to breathing holes to keep them open, top-heavy ice floes that will tend to flip, or ice packs drifting on tides away from the safety of shore. This goes beyond the contingency of what environmental psychology has named the “affordances” of objects (Gibson 1992: 127), but a predictably patterned universe of active material objects.

Illocutionary Force. A Syntax of Ice

For Oozeva, the lexicon also has a memorial quality. The definitions are couched in reminiscences of past experiences and interactions with elder hunters from whom he derives his authority. This historical social component is both a textual and epistemic element by which Oozeva asserts a collective voice of accumulated Yup'ik knowledge.

These were elderly hunters of my time—like Ungalaq. [...] Ungalaq learned it all from [...] the elders of the earlier days. I was hunting often with this man, Ungalaq; and he always showed me where the ice was weak and also many types of ice accumulations. (Oozeva *et al.* [eds.] 2004: 26)

The *Dictionary* is not only a list of terms for “ice” but has a certain “voice” that conveys a set of engagements and orientations with and around sea ice in which a community is also included. This extends backward in time as much as it varies geographically. Thus, multiple voices from different villages interject within the definitions:

Ayghninin [...] Newly formed ice built against the wind; dangerous spot (CO [Conrad Oozeva]) [...] It can freeze both from top and from the bottom; should be avoided when traveling by boat (S [the interpretation from Savoonga, a different village]). (Oozeva *et al.* [eds.] 2004: 31)

This amplifies the performative quality of these terms as they relate to contingent, ever-changing conditions on the sea-to-shore margin where hunters work. What appears on the surface to be a glossary of sea ice qualities has biographical and cultural elements that are often left implicit and unexplored in the subsequent collections, expansions and revisions of his and other listings. If we focus only on the terminology, we miss what is intended to be communicated. We don't hear the "voice" that is necessary in order to get the point of the communication.

Indeed, the lexicons that gather Inuit dialectics and terminology for ice satisfy an academic demand for collecting and a practical need for translation resources. The problem presented by lexicons is that lists defining terms have an unfortunate museal effect, embalming and exhibiting a language without demonstrating its command over situations. The reader, particularly those with no experience on sea ice or of hunting, is left to imagine the significance of these terms. To fall through ice, to have an ice flow flip the moment it is stepped on means a sudden plunge into water—a situation that is a struggle for survival against shock, drowning, breathtaking cold and the loss of essential equipment. More often than not, this is beyond the experience and imaginative capabilities of the reader in a metropolitan library. Instead they must fall back on what linguistics refers to as "secondarity," and extrapolate the situation being referred to. Secondarity includes cues about the context referred to. These are found in what a hearer knows of a community's structural rules by which words are put together to correctly describe an experience, object or environment (Sionis 1997). Instead of communicating an understanding, the language risks being appropriated into the context of a new, distanced technical text, an instrument in the service of entirely different knowledge projects that have been described by some as colonial (Pfeifer 2018; Cruikshank 2005). That is, they are not merely definitional but contribute to knowledge projects used by states and dominant groups to penetrate and assimilate marginalized groups.

More specifically, lexicons risk not satisfying the illocutionary function, as the lexicon overlooks both the context of terms in the ice vocabulary. This aspect is related to the active intentionality of Inuit speakers, which is not merely to describe but, as Aporta (2010) notes, to remember, advise and caution. This involves knowledge passing between speakers—not just informational data describing ice but knowledge cues that direct behaviour. This goes beyond either raw data and information (structured data). It sets information in a framework of human practice and intention that is required for a listener to understand. These are thus normative texts.

Illocutionary speech are acts that clarify what type of communication is being offered: for example, distinguishing between a declaration, com-

mand, promise, or request. This is distinct from the actual act of speaking, being inherent and implicit to the utterance or communication. This has also been described as attitude or voice. Without the illocutionary aspect, these terms lose their *force* and purchase on both the situation or materials at hand and the agents to whom they are addressed (Austin 1962).

The illocutionary aspect of communication is performed “in saying” something, rather than “by” saying something (Austin 1962: 123). It is neither the content nor form (such as intonation, although that might indicate how the utterance is to be understood). Instead illocution is the intent, latent in the context of other aspects of a communication, such as other words or the context. As a result, illocution is known only through its effect. This ineffable aspect of speech acts is not an “abstract” meaning such as a definition but is a “virtuality”—both real but also ideal in the sense of being an intangible (Shields 2006). Definitions are the abstract content but the “real meaning,” the “real idea” of the communication is illocutionary. Illocution has also been referred to as an attitude or mood that modifies the tone or force of the speech act as either an assertion, command, promise or commitment, expression of affect or attitude, and finally declarations or pronouncements (Searle 1976; Searle & Vanderveken 1985). The effect of this virtuality is only known via the audience’s reception and response. If they don’t share the same context or are unsure of the intended force of the utterance, then the intention or force is lost (Bach & Harnish 1979). This is the problem of lexicons: they lay the trap of abstract information rather than directing attention to understanding.

Illocutionary force has not often been considered explicitly in geography nor in Northern research with the caveat that it is an essential and implicit element in textual analyses, as Young (2016: 471) notes. His Critical Discourse Analysis (CDA) of Indigenous and scientists’ English-language discussions of polar bear management notes the challenge of incorporating

Inuit Qaujimanituqangit [traditional knowledge] [...] because English is often inadequate for expressing Inuit ways of thinking (Pasch 2008). Even translations between Inuktitut and English can be problematic at best and deeply political at worst (Cameron *et al.* 2015). (Young 2016: 470)

Young finds scientific texts to be predictive, based on modelling techniques, whereas his sample of traditional knowledge rejects the relevance of outsider, non-local or indirect experience in what Castree refers to as “defensive localization” (Castree 2004; Young 2016: 473).

Southern Ice

The American poet Wallace Stevens hypothesizes that it is difficult to embrace winter and the cold as a human environment. As he puts it in his poem *The Snow Man*, “One must have a mind of winter” (Stevens 1973; see also Gilbert 2012). There is actually a plethora of terms for snow and ice even in the English of southern metropolises, especially amongst English dialects spoken in northern latitudes, such as Scots (MacDonald 2015). Amongst the *kabloona*, or southern white people, some terms persist that refer to ice and conditions that may now be less common if not rarely encountered. For example, improvements in home insulation have reduced the prevalence of icicles and double-glazed windows generally do not frost up. Icicles are much more rare and many if not most children in southern metropolises will never push their noses against frosted windows to peer out into winter weather like they do in nineteenth century storybooks.

Stevens recognizes the challenge and advises a shift in orientation. Southern terminology for ice is descriptive rather than performative. Thus, icicles are understood as a (often diminutive) form of ice rather than a risk, at which point people would be advised in a different and more explicit warning, “Beware of *falling ice*.” Like an icicle, ice is perceived and presented in North American media as transiently seasonal, forming but melting, solid but fragile, resistant but traversable and breakable. With climatic warming, an increased number of freeze-thaw cycles are experienced in cities that still imagine themselves to be “winter cities.” Wet snow or *slush* becomes more common. Increasingly, *black ice* glazes asphalt roads with a slippery sheen that may be invisible and unnoticed until a car slides when its driver attempts to brake on it.

With this example, we can appreciate the Inuit illocution around *siku*. In utterances such as *black ice* and descriptions such as those of *icy* sidewalks, Southerners come much closer to the illocutionary force of Inuit terms for *sikiu*. These terms are not merely descriptive of perceptual physical qualities but are innately descriptions of risk and performativity. As Austen and Searle would note, *black ice* is not an accurate description of the colour of a frozen road surface, but a judgment and proclamation of a hazard that is dangerous precisely because it is hard to perceive. *Icy* sidewalks are slippery—and often in unanticipated ways and at unexpected moments. That virtually latent, surprise, quality amplifies any statement that is actually about both the material status of the sidewalks and the actual probabilities of slipping and falling. As is also true of scientific and meteorological studies.

What gets explained depends on a speaker's and audience's interests, and the success of an explaining act in generating understanding depends, in part, on the cognitive resources of the audience. As such, to evaluate any given act of explaining requires attending to the interests and cognitive resources of speakers and audiences and the context in which explanations are offered. (Franco 2019; see also Potochnik 2016)

The authoritative English language lexicon of ice and snow terminology is the American Meteorological Society's peer-reviewed *Glossary of Meteorology* (AMS 2013). The *AMS Glossary* informs its readers that the term *black ice* is

a popular alternative for *glaze*. A thin sheet of *ice*, relatively dark in appearance, may form when light *rain* or *drizzle* falls on a road surface that is at a *temperature* below 0°C. It may also be formed when *supercooled fog* droplets are intercepted by buildings, fences, and vegetation. (AMS 2013, italics added to indicate hyperlinks to definitions in the original)

The scientific focus is on the field science entity described in terms of its formation, a perception and location. The definitions avoid both interaction and the sort of agency and *agencement* seen in the Inuit terminology. As a result of this strategy, these meteorological science definitions have an ontological and categorical focus but not as much of a performative focus. Despite having Arctic territory and uniquely Arctic forms of meteorology, the AMS does not include Inuit terms for weather, nor for forms of ice and snow. That is, the specific forms and qualia identified in the above lexicons are relegated to the accidental and circumstantial rather than the Inuit historical certainty in the real actuality and specific disposition of different sea ice forms and weather patterns that can be predicted as actually probable occurrences.

Frozen Lists, Lost Ice

The contextual elements in the form of local knowledge that elders argue are necessary to understand sea ice is most strikingly at odds with scientific lexicons such as the *Glossary of Meteorology* that aims, in its almost 80 terms for ice phenomena at value-free definitions. Elders are making a significant claim, however. This is often interpreted as a demand for participation and a claim to traditional authority. However what is at stake is a more fundamental assertion of the *epistemic necessity* of contextual judgments. Working with the Innuit in the western Canadian arctic, Collignon claims that there is not generic term corresponding to European languages words for "ice" (Collignon 1996). Performative and normative judgments are central

to the content of descriptors. They pertain to performativity in a broader environment such as depicted by adding photos and diagrams that show how different sea ice features co-occur and how they are juxtaposed and related. The illocutionary force of sea ice descriptions is necessary to produce actionable knowledge. It is implicitly guaranteed by the authority of the speaker who takes responsibility for asserting something such as the level of risk associated with different forms of sea ice (Chankova 2012: 258). By asserting an epistemic claim, the philosophical and logical implications of which have not yet been taken up by non-Indigenous specialists, the question of voice and illocution is pushed beyond simply a practical or ethical matter that could be captured with more “voices” or with greater “stakeholder input,” for example.

Townsend argues that a form of “illocutionary silencing” (Hornsby & Langton 1998) occurs when scientific knowledge ignores or treats environmental descriptions as not material but as cultural and circumstantial. The rights words are not sufficient without a recognition of “what the speakers is up to” (Townsend 2020: 33), the illocutionary intention.

Illocutionary force is argued to be the vehicle by which contextual specificity may be included or amplified. In the case of sea ice, a normative dimension is introduced based on the person-animal-ice-wind-tide-current relationships and seasonal processes that are described. This performative aspect is important to substantiate the epistemic claim often made by Indigenous elders that their knowledge has greater felicity to actual conditions. Couched in highly specific terminology, the cautionary rather than categorizing quality of these terms and Inuit environmental discourse should not be ignored.

However, as the climate warms, local weather and sea conditions shift. Climate heating entails not only shorter periods of “winter” but more cycles of freezing and thawing temperatures throughout the year, especially in the spring break-up and fall freeze-up. This changes the patterns of ice conditions for every part of the Arctic. The result is that this performative language may lose its purchase on local conditions and environmental processes. This renders some terms in the lexicons obsolete or obscure even to locals whose elders may have been familiar with the conditions the words were describing. For example, in his preface, Oozeva notes:

I discovered that in our language there were many more types of ice than I knew of. Most of them have already passed away since I prepared those notes about sea ice terms. These were elderly hunters of my time—like Ungalaq, Wallace Ungwilluk (Qavalghaq, born 1913). (Oozeva *et al.* 2004: 26)

Writing about translation, Kablutsiak emphasizes the contrast in orientation between “Southerners and Inuit whose survival dictated their daily activities and decisions. But these new visitors were concerned not with survival, but industrialization, colonization and conquering vast lands” (Kablutsiak 2013: 4).

The illocutionary aspects may be implicit but are also often made explicit in the lexicons through experiential story-telling as part of the definitions of terms or through extra-textual elements such as drawings and photographs. Questions of illocution highlight the importance of contextual accounts available in ethnographies and suggests further avenues of speech act research on environmental terminology and Indigenous environmental discourses in particular.

REFERENCES

- AMS = American Meteorological Society (2013). *Glossary of Meteorology*; www.ametsoc.org/ams/index.cfm/publications/glossary-of-meteorology; access date 1 July 2019.
- Aporta, C. (2002). “Life on the ice. Understanding the codes of a changing environment,” *Polar Record*, 38:207, pp. 341–354.
- Aporta, C. (2010). “The sea, the land, the coast, and the winds. Understanding Inuit sea ice use in context,” in *SIKU. Knowing Our Ice. Documenting Inuit Sea Ice Knowledge and Use*, eds. I. Krupnik, C. Aporta, S. Gearheard, G. J. Laidler, & L. Kielsen Holm, Dordrecht: Springer, pp. 163–180.
- Austin, J.L. (1962). *How to Do Things with Words*, Oxford: Oxford University Press.
- Bach, K. & Harnish, R.M. (1979). *Linguistic Communication and Speech Acts*, Boston: MIT Press.
- Boas, F. (1894). “Der Eskimo-Dialekt des Cumberland-Sundes,” *Mitteilungen der Anthropologischen Gesellschaft in Wien*, Band 24 (Neue Folge, Vol. 14), Wien: Alfred Hölder, pp. 97–114.
- Boas, F. & Powel, J.W. (1966). *Introduction to Handbook of North American Indian Languages and Indian Linguistic Families of American North of Mexico*, Lincoln, Neb.: University of Nebraska Press, pp. 1–80.
- Cameron, E., Mearns, R. & McGrath, J. (2015). “Translating climate change,” *Annals of the Association of American Geographers*, 105:2, pp. 274–283.
- Castree, N. (2004). “Differential geographies. Place, indigenous rights and ‘local’ resources,” *Political Geography*, 23:2, pp. 133–167.
- Chankova, M. (2012). “Illocutionary Acts. A Case for Assertion,” diss., Philosophischen Fakultät, Rheinisch-Westfälischen Technischen Hochschule, Aachen.
- Cichocki, P. & Kilarski, M. (2010). “On ‘Eskimo words for snow.’ The life cycle of a linguistic misconception,” *Historiographia Linguistica*, 37:3, pp. 341–377.
- Collignon, B. (1996). *Les Inuits. Ce qu'ils savent du territoire*, Paris: L'Harmattan.
- Cruikshank, J. (2005). *Do Glaciers Listen? Local Knowledge, Colonial Encounters, and Social Imagination*, Vancouver: University of British Columbia Press.

- Deleuze, G. & Guattari, F. (1987). *Mille Plateaux. A Thousand Plateaus*, Minneapolis: University of Minnesota Press.
- Franco, P. (2019). "Speech act theory and the multiple aims of science," *Philosophy of Science*, 86:5, pp. 1,005–1,015.
- Furgal, C., Tremblay, M. & Angiyou, E. (2010). "Nunavimmiut sea ice terminology," in *SIKU. Knowing Our Ice. Documenting Inuit Sea Ice Knowledge and Use*, eds. I. Krupnik, C. Aporta, S. Gearheard, G. J. Laidler & L. Kielsen Holm, Dordrecht: Springer, pp. 453–470.
- Gibson, J.J. (1992). *The Ecological Approach to Visual Perception*, New York: Houghton Mifflin.
- Gilbert, S.W. (2012). "An experiment in methods. Speech act theory in the poems of Wallace Stevens," *Sincronía*, 62:July–Dec., pp. 1–7; www.redalyc.org/articulo.oa?id=513851806007; access date 1 July 2019.
- Hornsby, J. & Langton, R. (1998). "Free speech and illocution," *Legal Theory*, 4, pp. 21–37.
- Kablutsiak, K. (2013). "Almost lost in translation," in *Nilliajut. Inuit Perspectives on Security, Patriotism and Sovereignty*, eds. S. Nickels, K. Kelley, C. Gabel, M. Lougheed & J. Kuptana, Ottawa: Inuit Tapiriit Kanatami, pp. 4–5.
- Krupnik, I., Apangalook Sr, L. & Apangalook, P. (2010). "'It's cold, but not cold enough,' Observing ice and climate change in Gambell, Alaska, in IPY 2007–2008 and beyond," in *SIKU. Knowing Our Ice. Documenting Inuit Sea Ice Knowledge and Use*, eds. I. Krupnik, C. Aporta, S. Gearheard, G. J. Laidler & L. Kielsen Holm, Dordrecht: Springer, pp. 81–114. Dordrecht: Springer Netherlands.
- Krupnik, I., Aporta, C., & Laidler, G. J. (2010). "SIKU. International Polar Year Project #166 (an overview)," in *SIKU. Knowing Our Ice. Documenting Inuit Sea Ice Knowledge and Use*, eds. I. Krupnik, C. Aporta, S. Gearheard, G. J. Laidler & L. Kielsen Holm, Dordrecht: Springer, pp. 1–28.
- Krupnik, I., & Müller-Wille, L. (2010). "Franz Boas and Inuktitut terminology for ice and snow. From the emergence of the field to the 'great Eskimo vocabulary hoax,'" in *SIKU. Knowing Our Ice. Documenting Inuit Sea Ice Knowledge and Use*, eds. I. Krupnik, C. Aporta, S. Gearheard, G. J. Laidler, & L. Kielsen Holm, Dordrecht: Springer, pp. 377–400.
- Laidler, G.J. (2006). "Inuit and scientific perspectives on the relationship between sea ice and climate change. The ideal complement?" *Climatic Change*, 78, pp. 407–444.
- MacDonald, H. (2015). "Mieux que les Inuits, les Écossais ont 421 mots pour dire 'neige,'" *Europe 1*, 23 Sept.; www.europe1.fr/insolite/mieux-que-les-inuits-les-ecossais-ont-421-mots-pour-dire-neige-2519261.amp; access date 1 July 2019.
- Martin, L. (1986). "'Eskimo words for snow.' A case study in the genesis and decay of an anthropological example," *American Anthropologist*, 88:2, pp. 418–423.
- Nadasdy, P. (2005). "The anti-politics of TEK," *Anthropologica*, 47:2, pp. 215–232.
- Oozeva, C., Noongwook, C., Noongwook, G., Alowa, C. & Krupnik, I. (eds.) (2004). *Watching Ice and Weather Our Way*, Washington: Arctic Studies Center, Smithsonian Institution.
- Pasch, T. (2008). "Inuktitut Online in Nunavik. Mixed-Methods Web Based Strategies for Preserving Aboriginal and Minority Languages," diss., Dept. of Communication, University of Washington.
- Pfeifer, P. (2018). "From the credibility gap to capacity building. An Inuit critique of Canadian Arctic research," *Northern Public Affairs*, July, pp. 29–34; www.northernpublicaffairs.ca/index/?s=inuit+critique; access date 1 July 2019.

- Potochnik, A. (2016). "Scientific explanation. Putting communication first," *Philosophy of Science*, 83, pp. 721–732.
- Pullum, G.K. (1989). "The great Eskimo vocabulary hoax," *Natural Language & Linguistic Theory*, 7:2, pp. 275–281.
- Searle, J.R. (1976). "A classification of illocutionary acts," *Language and Society*, 5:1, pp. 1–23.
- Searle, J.R. & Vanderveken, D. (1985). *Foundations of Illocutionary Logic*, Cambridge: Cambridge University Press.
- Shields, R. (2006). "Virtualities," *Theory Culture & Society*, 23:2–3, pp. 284–286.
- Sionis, C. (1997). "Written scientific discourse beyond words," *ASP. La revue du GERAS*, 15–18:Dec., pp. 357–371.
- Stevens, W. (1973). *The Collected Poems of Wallace Stevens*, New York: Alfred A. Knopf.
- Townsend, L. (2020). "Group assertion and group silencing," *Language & Communication*, 70, pp. 28–37.
- Vanderveken, D. (2001). "Illocutionary logic and discourse typology," *Revue internationale de philosophie*, 216:2, pp. 243–255.
- Whorf, B.L. (1940). "Science and linguistics," *Technology Review*, 42, pp. 229–231, 247–248.
- Young, J.C. (2016). "Polar bear management in a digital Arctic. Inuit perspectives across the web," *The Canadian Geographer/Le Géographe canadien*, 60:4, pp. 466–478.

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Review Essay

Thinking about “Arcticness”

An essay inspired by the reading of Ilan Kelman (ed.), *Arcticness. Power and Voice from the North*, London: UCL Press 2017, ISBN 9781787350144, 204 pp.

Much has been written on the role of labelling or characterisation in thinking. In their classical 1980 study, Lakoff and Johnson express the understanding of the metaphorical nature of language very clearly, noting that “most of our normal conceptual system is metaphorically structured; that is, most concepts are partially understood in terms of other concepts.” As they note:

We can see what both metaphors hide by examining what they focus on. In viewing labor as a kind of activity, the metaphor assumes that labor can be clearly identified and distinguished from things that are not labor. [...] [However,] by contextualizing our experiences in this manner [...] we pick out the “important” aspects of an experience. And by picking out what is ‘important’ in the experience, we can categorize the experience [...] highlighting certain properties, downplaying others, and hiding still others. (Lakoff & Johnson 1980)

What metaphors do is thus not to act only in language (if there were such a thing), but to act so as to divide the world into categories that are then assumed to be different. This means that language can be expected to create categories that seem generalisable, but that in fact highlight only specific experiences and make them seem general by developing a concept for them.

Nation-building and region-building literature has highlighted that the conceptualisation of a territory—such as that covered by such a conception—always requires the legitimisation of this conception. The question of “why this area” is often answered with for instance a flag, an organisation, or organisational and even scientific reports on the area and the nature of it, and other classificatory means that create an understanding of the area as an entity. This means, of course, also separating it from other areas, and for instance highlighting a number of characteristics that are perceived as being more common to the area than other characteristics (e.g. Paasi 1996; Neumann 1994; Neumann 1999).

That these would serve to capture salient characteristics as they are perceived by the population in the area, however, is not a given. Nation-

and region-building vary depending on who is undertaking it—however, it is seldom those who stand apart from the descriptive means by which the territory can be legitimised in this way who have the most say in the matter.

Thus, the ways in which specific conceptualisations are formed for territories are always part of the legitimising of a broader social structure, one that is specific to a certain time and place. Nation- and region-building, thus, is always bound up with power and history: who are those who, at a specific time, benefit from engaging with a specific concept? For such reasons, Lakoff and Johnson point out that studies need to contest, investigate, and lay bare such metaphorical systems and their implications: “Like all other metaphors, political and economic metaphors can hide aspects of reality. But in the area of politics and economics, metaphors matter more, because they constrain our lives” (Lakoff & Johnson 1980).

The concept of the “Arctic” and its development to cover territory is a case in point. At its development, Canada saw its frontier—as a popular concept of its day—as lying to the north rather than to the west, as was the case in the US. As popular thought at the time discussed, for instance, the “Americas from the North to the South,” the idea was that the border of the “Arctic” should correspond with that of the Antarctic: 60 degrees north as compared with 60 degrees south. Canada adopted this notion, devising its northernmost areas above 60 degrees north as territories (with lower decision-making rights) and those below as provinces (with higher decision-making rights). Canada thereby encased the idea that its domestic areas are Arctic, and reach relatively far south (Stockholm latitudes, seen in a Swedish context), but also encased a number of ideas about areas as a *frontier*, between indigenous and nature areas, on the one hand, and the “civilisation” and later also “modernity” of the (southern) centre, on the other (Keskitalo 2004).

This idea of the frontier was applied not only to “Arctic” areas but also around the globe. It meant that indigenous people, in both northern Canada and other frontiers around the globe (New Zealand, Australia) were expected to stick to their “indigenoussness” and “subsistence” close-to-nature lifestyle. On the other hand, no such requirements were placed on the invading (largely British) Europeans, who were in no way expected to stick to historical uses, patterns or archetypes but were rather free to change as they wished: they were seen as naturalised rather than as defined by their difference, and were not seen as connected to nature or tradition per se. Not to understate the issue, this development had to do with resources: an invader can only claim resources in a “legit-

imate” fashion if they are not already seen as legitimately claimed, and “indigenous” people who were not seen to practise agriculture or to be part of “civilisation” were not seen as legitimate claimants. And the only way to keep “indigenous” people outside of being able to claim rights related to “civilisation” was perhaps to retain them within a fiction of being non-modern, unitary, and opposed to, rather than a part of, “civilisation.”

The frontier idea was thereby a highly damaging thought figure, and also meant a number of not great things for the separation of “nature” from “culture” (the providence of “civilisation”), for instance, as it implied ideas regarding civilising nature rather than being part of nature that we still struggle with—globally, and not least in the face of trying to make “development” sustainable (Keskitalo, manuscript).

Fast forward to the present, these conceptualisations remain ingrained and the subject of a great domestic, not least scholarly, criticism. The imagined character of Arctic areas as being outside “civilisation” and as pre-modern has supported many in coming to regard the Arctic as a place of storybook fantasy—a remote haven for polar bears and ice floes, and situating one or another story (historically based or not) of civilisational explorers. In fiction, the “Arctic” has become a place where both Frankenstein went and fiction author Philip Pullman recently let Oxfordian civilisational characters trick stupid polar bears and seek support from Finnish witches, in a somewhat replaying of the frontier myth.

However, whilst all this imagining remains today, relatively recent political changes and opportunism by long waiting actors also made the “Arctic” not only a frontier fiction, with absolutely major implications in the countries settled in this wave of modern European colonialism. Instead, through political changes and new interest formations, the concept of the “Arctic,” with all its baggage, was also adopted as one with international political implications. This is as the “Arctic” as a *political region*—in relatively recent time but without leaving behind all these ideas—was created through geopolitical events and actions by national-level actors.

It took place roughly as follows (Keskitalo 2004). As the Cold War ended, anyone might have joined anything that had no mandatory requirements and included the two former antagonists (Russia and the US), just to keep track of them and be able to act within the now changing frameworks. Canada, long ingrained in its Arctic thought, took exactly this chance. Annoyed by US transgressions in what the US saw as international waters and Canada saw as domestic, Canada now had

the chance to grab what it had advocated since the 1970s: the chance to develop an Arctic Council in which it and other security-political “small states” could speak against the US. Finland got to the Arctic post first—eager to act internationally without fear of Soviet/Russian repercussions, they promoted an *Arctic Environmental Protection Strategy* as a development that Gorbachev had already called for. However, observers noted, almost all the examples it contained were Canadian.

Then, soon after, Canada launched their suggestion for the *Arctic Council*: not the five-state council that had been imagined in the 1970s, since, hey, times had changed, and one could hardly split up the Nordic Council countries, who had struggled to describe themselves as a unity throughout the Cold War. Consequently, through political cooperation at this relatively recent point in time, the “Arctic Eight” of the Arctic Council was created. These “Arctic Eight” were Canada, the US, Russia, and the Nordic states—including not only Norway and Denmark-Greenland but also Sweden, Finland, and Iceland. As a result, creating the Arctic political region also meant the inclusion of countries that had not considered the “Arctic” much, who did not see their own mainland areas as “Arctic,” and who were part of “Old Europe”—an area of the world that was settled far before modern European colonialism created frontier imaginings around the world; now Sweden, Finland and Iceland, who had not previously been seen as Arctic Rim states, meaning that they do not border the Arctic Ocean, and who also (along with Norway) did not have this heritage, became “Arctic” (Keskitalo 2004).

Different actors treated and made use of these events differently. Sweden became “Arctic” without bothering much about it (except for rejecting that the boundary should go as far south as Stockholm, potentially as this interfered with the established thinking that Arctic areas had to be peripheries). Canada, marked by its long internally criticised history but unable to free itself from it, drove a focus on indigenous and natural areas, notably environmental protection, in the early Arctic Council. So although times had changed, however, little in the concept of the “Arctic” had: in the early Arctic Council it still revolved around the idea of nature (now translated as environmental protection) and indigenoussness (now translated largely as subsistence in indigenous communities). And Norway, involved in all northern areas and perhaps not put off by the Arctic connotation, given its Svalbard islands and Arctic Ocean fisheries interests, or attracted by the focus on this part of the world, launched its own initiative, the *Barents Euro-Arctic Council*.

And perhaps nothing changed locally, except that there was now more room for “northern,” “sparsely populated” areas to perhaps gain a

political role—at the cost of defining themselves through discourses that emphasised historical conceptions of peripherality, mainly developed by and for the British Empire in its heyday.

Then, as climate change progressed, ice melted, and possibilities for a transport passage above Russia seemed to materialise—as did possibilities for increasing access to gas, mineral, and other resources in the Arctic Ocean and Greenland, for instance, as they were becoming economically possible to mine (although simultaneously then also contributing to climate change emissions)—the development towards placing historically outdated ideas of areas at centre political stage continued.

This was not least the case as the European Union grew interested, and raised the already high political stakes. But while the EU is not an Arctic Council member, its member states Finland and Sweden are (Greenland has declined EU membership). Resultantly and ironically, Finland and Sweden—previously non-Arctic states—became very interesting for Arctic policy in the EU. The EU developed a first Arctic strategy, regarding which Sweden commented along the lines that forest and other industries that are important in northern Sweden should perhaps be mentioned. And Sweden developed an Arctic strategy of its own, realising perhaps that it had to tell the EU and others about the actual situation here—or perhaps more likely, that it was being left out of a potentially resource-related or political clout-giving movement (Keskitalo 2014).

And here we are. The University of Tromsø has rebranded itself as Norway's Arctic University, Umeå University has established an Arctic centre (perhaps largely with hopes for national financing) and rebranded researchers who have worked on domestic or international northern areas or topics as “Arctic” researchers, and Swedish funding agency Mistra has launched a (perhaps first of its kind in Sweden) social sciences and humanities research programme on the Arctic (in which we, amongst other things, highlight the long developmental lines in northern Europe, which imply that one has to understand the areas mainly through their characteristics rather than as more abstractly “Arctic”). And the EU is looking further into Arctic policy development.

So, this was intended to be a review of Ian Kelman's edited volume *Arcticness. Power and Voice from the North*. However, I found it impossible to say anything about anything “Arctic” without also saying all of this—which is to say that “Arcticness” cannot be a given or universal, cannot be assumed to be the same in all areas currently covered by a very specific high-political development, and must be seen as constructed. This will not mean that different persons cannot conceive of something

as related to “Arcticness,” but it does mean that both the term and its content will be so widely varying as to make impossible any actual understanding of the term per se, perhaps beyond the person who writes on it, and what their assumptions are.

In the edited Kelman volume, the subtitle “Power and Voice from the North” seems to refer to the fact that a widely varying selection of authors or artists have been asked to contribute. The edited book consists of 13 chapters, joined by a preface and an afterword. The chapters are widely ranging, encompassing everything from studies of radar observation and reindeer husbandry to personal observations, reflections, and varying descriptive or analytical forms (such as a poem and a graphic essay).

From my own understanding of the impossibility of at all trying to capture “Arcticness” as something with any substance aside from its history, many of the presentations can simply be observed, as the reflection or study of a group that in some way connects this presentation or study to the topic of the book.

And so be it. If an Inuit author conceives of Arcticness as something to maintain, indeed. Or if other authors conceive of issues around Arcticness (seen as undefined but interrogated in the book) as related to experiences in relation to Canada’s Truth and Reconciliation Commission, best expressed in a graphic essay, or other authors best express their relation to this concept in a poem on animal footprints in ice and snow, so be it. Yet other authors write on, for instance, radar observations of Arctic ice, reindeer herding in a comparative perspective, energy justice, studies of resource frontier narratives, and legal regimes on marine mammals (the last providing fascinating insight into the legal definitional consequences of the Arctic developments partly alluded to above)—chapters that could perhaps have worked in any volume with any bearing on their themes.

So, not surprisingly, the mix and also the extent to which the conceptualisations are reflexive or reflective of a field—and what field—vary greatly.

But some of the presentations are also sticking points for this reader, particularly as or when they seem to assume a larger unity or content of “Arcticness” than that which they themselves can observe or conclude, or have studied. In some cases, this seems to be the result not of any deep-seated conviction of the authors themselves, but rather appears to be an artefact of their collection particularly into and written for this edited book, or an artefact of the use of the concept itself. To this reader, it seems odd that the book’s contributors seem to basically have been

asked to write about “Arcticness” or the “Arctic,” when the rule for both scientific writing and interviews with laypeople (that is, covering some of the varying perspectives that emerge in the book) is to focus on the person’s specialisation—that is, what they or you know and can speak about from their/your own professional (or, for laypeople, otherwise gained) knowledge, in their specific situation and specific experience. The idea in interviews, for instance, is not to brand experience but to, in an unbiased way, record people’s descriptions of their everyday, and then take every precaution *not* to brand them in a way that does not reflect the experience (or be very clear as to the limitations in theory that the evidence of their varied experiences may reveal).

So while I have no problems with someone describing their own life or work or experiences (as some discussed above do), the extent to which any of the descriptions can be seen as “Arctic” in any broader sense or informing an understanding of the “Arctic” may be an open question, even beyond and worthy of deeper reflection and criticism than appears in this book. While the descriptions may be reflective of self, they may in the worst case also be reflective of what a person has been asked to reflect on: perhaps, I muse, there is a parallel to descriptions resulting from a biased interview question, whereby we actually still do not know whether people themselves, unasked, would have applied a specific mentioned label to their experiences.

So while I do not necessarily have a problem with accounts themselves, in their basic form, I do have a problem with the notion that these would explicitly or implicitly support extending or attempting to extend specific experiences to unknown and unidentified groups of people and places, in the way a concept such as “Arcticness” implies. “Arcticness” is a metaphor with unclear content, just like Lakoff and Johnson have observed regarding metaphors. As a result, while it can be viewed poetically, through graphic illustration or storytelling, the stories that are told in this way will not be what tells us the most about the highly varying reality of the areas that are today included in the concept of “Arctic.”

Instead, what stories told in relation to the label of “Arctic” do is tell us what people think about when they hear the label.

In this way, a relation to the concept of “Arcticness” may indeed be akin to that biased interview question, whereby people reflect on something you said because you said it, not because it necessarily captures their experience. And you cannot know whether or to what extent it captures their experience, because you have already mentioned the label and thereby biased the rest of the interview. And, even worse than this,

the greater risk is that we in some way will come to assume that the label or metaphor captures any content that would make it different from any other content concerning the same areas or personal experiences, by way of the use of this seemingly universalising label.

Thus, in the volume, I also note concerns with observations that—perhaps not even related to any deep-seated conviction, but in seemingly having been asked to write on the “Arctic”—assume a unity with or similarity to experiences across widely varying areas. One person writes—perhaps unaware that posing environmental features as influencing human characteristics was outdated even when Canadian Louis-Edmond Hamelin wrote about it in an influential book in 1979—as follows: “I believe that the Arctic environments shape the lives of its peoples, the traditions, views and livelihoods.” And yes, of course one can *believe* this, if asked about one’s beliefs; but there are very well acknowledged risks involved with such a perspective. At its very extremely most general, we are of course influenced by where we live. But—and here comes the risk—we seldom wax lyrical about urban life and assume that all urban dwellers share specific common traits, “values and interests.” We do not base policies on this, or define the urban dwellers by difference, latitude, or an assumed similarity—hopefully, even if this has been the way rural and “Arctic” areas, perhaps most markedly in frontier states, have been treated (e.g. Morrison, Lane & Hibbard 2015). And whilst I similarly cannot claim I do not enjoy “the sounds of quiet” or “the greatness of nature” (which are also claims made in the chapter for “Arcticness”), I do not think this makes me any different from anyone else. Rather, in fact, focusing on this particular distinction can hardly be separated from the notion that a broader distinction between “civilisation” and “nature” has placed nature in an almost deified place, seen either as harsh and unaccommodating or as great and awe-inspiring—that is, as at the least different and something to focus definitions on (whereas experiences of the greatness of architecture, for instance, are more seldom seen as a characteristic defining city-dwellers). Neither can “isolation” and “togetherness,” then, be seen as “Arctic” themes only; rather, they must be seen as similar to partial experiences in any smaller locality almost anywhere, or perhaps many other cases (as one can also be isolated, in other ways, in a city, or find togetherness in a city block or area identity). What is more, these kinds of descriptions are hard to conceive of without harking back to the disenchanting and later strongly criticised front figure of sociology, Tönnies (1955), who contradicted modern and alienated lives with the supposedly social unity of traditional communities. Tönnies, of course, has been disproven in much

literature describing the similar prevalence of conflict and group lines as that of togetherness in smaller communities—and one need only to look to one’s own experience to know that togetherness is only ever one side of the coin, in smaller as well as larger circles. So, again, if we focus on the “Arctic” as related to nature and togetherness, for instance, what does it really say? If we had been asked to focus on something else that also related to our everyday and thus supposedly the same types of experiences, would we have chosen something else?

Again, the question becomes, with the use of a label as infused with meaning as “Arctic:” how much is experienced, and how much is *taught as categorisations of experience* that cannot but hark back to established metaphors and language—if there is no other way to express our experiences, and no other assumed recipient of the descriptions than one who is “assumedly” “modern”?

So, I do not disagree at all that “we” “northerners” live where we or “they” do, “not because they have to, but because they want to” (or that northern areas may be desirable locations—again, compared to an implicit assumption that they would not be). However, I can also not separate these types of waxing romantic, Tönnies style, about any assumed common features, from my experiences in researching cases in northern Europe. In one example, the discussion was that the municipal cases in northern Sweden that I wanted to review could not be seen as “communities” relevant to “community studies” because they were too big, and were therefore not comparable with cases in other “Arctic” countries. This meant, at its extreme, that the *actual reality* in the case, and the type of organisational scale that I—as someone from these areas as well as a researcher—expressed interest in, was assumed to be unqualified by not adhering to primarily theoretical, historical and specific area studies assumptions about what should be there. In other cases, I have had to explain the market integration of reindeer husbandry and the fact that it is highly technologically dependent, in relation to an assumption otherwise that a “traditional practice” should be separated from the market, non-integrated, and practised utilising only traditional technologies, in a “subsistence” context.

A selection of specific features is thus, in my experience, made in assumptions regarding “Arctic” or “northern” cases, which as a researcher one then has to spend a lot of time distinguishing one’s own results and context from, and arguing against. What is worse: if we allow the focus to be placed on areas that are assumed to have the most “community” as well as features that are thought to be “similar” across northern areas—a larger focus on the environment and direct use of the environ-

ment, rather than supposedly “modern” occupations—we in fact create and enforce an image of areas rather than reflecting what is really there.

So my conclusion is that if we expect smallness, isolation, a focus on the environment, or the like, this will be all we see—even in research. We rather have to avoid this: avoid letting any assumptions or preconceptions about the area create what we study in it, without really studying it. We should only write about what we have actually studied, from the parameters within which we study it. Imagining things may be poetry, but it is not research, and these imagined things are not a given reflection of reality.

This, in fact, is the lie that any assumption regarding “Arcticness” creates: that things should be similar; and if they are not, then we select cases that make them seem similar.

For “Arctic” studies, the risk is then that we select small and preferably indigenous communities and focus on closeness to nature or even subsistence—even though we have noted above that this is perhaps a result of seeing these areas as frontiers (which is both a problematic conception and one that has been discussed as incorrect regarding northern Europe). And if one cannot find the assumed indigenous-only communities (as, for instance, people live blended across localities in northern Sweden), one might then focus on something that is mainly indigenous, such as reindeer husbandry, but without reflecting the specific situations relevant to it in the specific case (whereby, for instance, the “reindeer husbandry communities” or “Sami villages” much discussed in research are actually reindeer husbandry organisational units, even if their names are sometimes directly translated from the historically based Swedish term; today, they do not denote any one geographic location or community where only one ethnic group lives).

It might then mean assuming that the realities we expect, based on literature, become what we select for, leaving out the more multifaceted actual realities in the areas.

So, I wonder, who would believe they have the right to say that certain cases are too big to study, that the focus should be on traditional land use as this is what is relevant to the “Arctic,” or that the issues or localities I might want to choose are atypical and therefore not interesting, based on their experience of very different cases that, fundamentally, may have nothing to do with my case? If they are “atypical,” should that then not be of special relevance for a study with an international scope focused on the “Arctic”? And who is to say that the focus should be on factors that are highlighted in relation to frontier assumptions, particularly when they themselves might not even know they have based their

selection of “Arctic” characteristics on frontier assumptions that may not be correct?

Despite this, it is an ongoing struggle with funders, in comparisons, and in dealing with labels, to show what is *actually* there, as opposed to what is *assumed to be* there. If you do research on “northern” areas, you may be assumed to work on traditional land uses, for instance, or at least on primary resources (and that is what funders and reviewers, as well as politicians, may expect). But that is not all that is there. While potentially highlighting features that may in different ways be important in various areas, we risk mis-describing the areas and features by simplifying information about them to what is expected, and leaving out that which does not fit the picture.

And with this, I am not sure the edited volume on “Arcticness: Power and Voice from the North”—taken as a whole and as in any way treating “Arcticness” through its collection of contributions—actually helps. If we are at all asked to write on “Arcticness” or the “Arctic,” we are asked to write on or relate to things that *must be made invalid on this scale if they are not specifically researched on it*. So, “Arcticness” cannot be simply an imagination, personal experience, or anything that is not rigorously researched, with a specificity to what factor is studied, if it is to be applied to eight states with enormous variations.

Thus, it is not necessarily the individual chapters that are lacking—even if some, seemingly asked to deal with “Arcticness,” express problems like those discussed above. Instead, it is the idea that anything beyond metaphor, fiction, or historical baggage can be offered by explicitly setting out to discuss a concept with such metaphorical, imagined, historically laden content. And this is a question that goes deeper than the treatment it is given in this collection, and that is relevant to any attempts at what is, essentially, region-building.

Thus, I would argue, for all these descriptions of the “Arctic,” in any literature, one should perhaps consider what came first with regard to the label. Was it the difference perceived by the outside observer, who noted only that which varied from their own normalised more urban experience (or, historically, an assumed “civilisation”)—or was it the actual reality perceived by those in the varying places themselves, without reference to labels?

And for any use of the term “Arctic,” the question must crucially then be whether any concept so laden with historical meanings can ever be usable without in any way referring to these meanings? Is there any way—or even any purpose to doing so—to engage with a concept that may have no historical meaning for you at the location you are to try

and make it fit, and then be able to do this without involving yourself with British-Canadian frontier-based, or Tönnies-romanticised, images?

The risk is that, attempting to do this, you would fundamentally not be understood by those who expect a label. Patrizia Isabelle Duda notes, in a chapter in the edited volume that highlights issues similar to those taken up here, that “even among societal elites and non-elites who have perhaps never experienced the Arctic first-hand, there seems to be an almost intuitive feeling of what Arcticness may be.” She continues: “the Arctic, the north, and the apparent Arctic-north construct in the outsider’s collective image resemble a near-binary dichotomy of simplistic generalisations and stereotypes of nature and cultures(s).”

In such a way, speaking truth to power (if this is the spin you would want to put on it)—that your experience is not what they expect—works about as well as you would expect in any reading of Foucault: you cannot make yourself understood.

As Duda further states, “Arcticness is *becoming* what states and actors make of it. At heart, it is an issue of identity, power and interest-formation.” That is, it is not a given, and researchers should not treat it as a given.

To involve with what is essentially an imagined content of a category, and imagine it further rather than speaking only on specific researched factors, can of course be done; but it cannot be assumed to reflect any reality regarding the larger concept or area. It can say something about what people think about when they think about the label in relation to their experience, but it says nothing more. However, treating it in any way that is not reflective of what one can actually know and the boundary of experience does something more: it enforces a conceptualisation that in turn enforces assumptions—amongst researchers, funders, and politicians who encounter it and may even enforce it through policy decisions.

REFERENCES

- Hamelin, L.E. (1979). *Canadian Nordicity. It's Your North Too*, Montreal: Harvest House.
- Keskitalo, E.C.H. (2004). *Negotiating the Arctic. The Construction of an International Region*, New York & London: Routledge.
- Keskitalo, E.C.H. (2014). "Sweden and Arctic policy. Possibilities for new wine in old bottles?" in *International Relations and the Arctic. Understanding Policy and Governance*, eds. R.W. Murray & A.D. Nuttall, Amherst: Cambria Press, pp. 291–319.
- Keskitalo, E.C.H. (manuscript). "Frontier Thinking and its Discontents. Understanding Its Legacy in State, Society, Community and Nature Conceptions."
- Lakoff, G. & Johnson, M. (1980). *Metaphors We Live By*, Chicago: University of Chicago Press.
- Morrison, T. H., Lane, M. B. & Hibbard, M. (2015). "Planning, governance and rural futures in Australia and the USA. Revisiting the case for rural regional planning," *Journal of Environmental Planning and Management*, 58:9, pp. 1,601–1,616.
- Neumann, I.B. (1994). "A region-building approach to Northern Europe," *Review of International Studies*, 20:1, pp. 53–74.
- Neumann, I.B. (1999). *Uses of the Other. "The East" in European Identity Formation*, Minneapolis: University of Minnesota Press.
- Paasi, A. (1996). *Territories, Boundaries, and Consciousness. The Changing Geographies of the Finnish-Russian Boundary*, Chichester: Wiley Press.
- Tönnies, F. (1955). *Community and Association*, transl. and suppl. by C.-P. Loomis, London: Routledge & Kegan Paul.

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Reviews

Christopher Abram, *Evergreen Ash. Ecology and Catastrophe in Old Norse Myth and Literature*, Charlottesville & London: University of Virginia Press 2019, ISBN 9780813942261, 240 pp.

This book appeared in the series *Under the Sign of Nature. Exploration in Ecocriticism*, edited by Serenella Iovino, Kate Rigby, and John Tallmadge; it is the 22nd volume in this series. Despite its title, *Evergreen Ash* has nothing to do with Old Norse mythology and literature, but everything with ecology. Whatever Christopher Abram could say about Scandinavian myths, he said in his unpretentious, semipopular book *Myths of the Pagan North. The Gods of the Norsemen* (2011). Between 2011 and 2019, he became a convert to the field of environmental humanities and chose Ragnarøk as an analog of the modern ecological catastrophe (global warming, etc.): the eddic world broke down, and so has ours, and, allegedly, for the same reasons.

Abram states at the beginning of his exposition that students of Old Norse were slow to embrace structuralist and poststructuralist critique. We are not told whether this reproach is also directed at his early book and whether structuralism and poststructuralism enriched the field. The latter conclusion is probably taken for granted. He states: “Parts of the attraction that an ecocritical approach to Old Norse-Icelandic literature has for me [. . .] lies precisely in its novelty” (p. 23). Yet a scholarly trend, unlike a commercial product, cannot lay claim to fame only on account of its freshness. Even university courses flagged in our catalogs as new are not necessarily good by definition.

We are given to understand that now the once conservative field is catching up with the rest of the progressive humanities. Like many proselytes, Abram attacks his subject with unbridled zeal and passion. He is not only out to save (on paper) what little is left of the environment. He mentions global warming, deforestation, overpopulation, racism, colonialism, and (with special emphasis) the miserable state of women. The last point could be expected, because ecofeminism is now an area in its own right. Some statements verge on self-parody. In connection with Snorri’s characterization of Baldr he writes: “Exceptional whiteness is associated with moral purity in Old Norse sources—with all the troubling resonances that this idea produces for twenty-first-century sensibilities [. . .]” (p. 146). He is so sensible and so progressive that he is

even afraid to associate the color white with being pure or clean. Has he never enjoyed the sight of white snow and white linen? Should one be a greater royalist than the king?

Hardly anyone has noticed so many cases of misogyny in Old Norse myths as Abram. Jǫrð ‘Earth’ is of course feminine and, according to a rather obscure tradition, Óðinn’s wife (their son is Þórr). And what was the result?

[T]he earth is subordinated, marginalized, disregarded, oppressed, taken possession of, exploited, and violated in the same ways that women are in patriarchies. Her function is reduced to that of wife and mother, and though she is celebrated for her maternal qualities (and demure, wifely compliance), this celebration does nothing to reconfigure the fundamental disparity in power between the embodied feminized world and the disembodied rational authority of man. To put it bluntly: personifying the physical world as female only ensures that the earth gets fucked. (p. 79)

That’s strong. The powerful conclusion has been borrowed from Tzeporah Berman’s 2001 essay “The rape of Mother Nature? Women in the language of environmental discourse.” Quite impressive is the string of synonyms: *subordinated, marginalized, disregarded, oppressed, taken possession of, and violated* (he missed *objectified* and *exploited*); yet I am afraid that with such friends ecofeminism does not need enemies. On a more somber note, Abram of course knows that in Old Scandinavian literature (and life!), women were not treated the way he described the situation but kept this information to himself.

A similar piece of demagoguery is aimed at Gullveig. We know nothing about her, and it would have been better to reserve judgment on her fate, but Abram is not one to forgive males their maleness, the cause of all evil in the world. He knows how the final catastrophe could have been averted if the gods had listened to his advice:

Ragnarøk might be prevented if the gods’ society were reconfigured on more gender-equitable lines. Without giving any credence to the essentializing idea that women are somehow closer to or more in touch with nature than men are, the absence of the goddesses from positions of responsibility or influence, their consistent lack of agency, is an important component of the Æsir’s failure to prevent the end of the world. Patriarchy and its attendant modes of existence—monotheistic religions, monarchy, capitalism, communism, and so on—have proved over millennia to be incapable of providing the conditions in which humanity can flourish on equitable footing with its nonhuman cohabitants. The (male) gods’ problems with

gender—manifest in their strange, freaked-out reaction to the arrival of three giant women near the beginning of *Vǫluspá*, among other episodes—are yet another effect of their paralyzing dependence on the binary structures of their constructed, and jealously protected, world view. (p. 169)

These rantings are disturbing. The world, we are told, would have been a wonderful place if evolution had not produced humans, with their “binary, gendered” system. Without them, especially without males, there would have been no Ragnarøk. The entire history of the world has been a fateful mistake. (Why did Abram mention only the monotheistic religion? The religion of the ancient Scandinavians was polytheistic; in his torrent of eloquence, he missed this detail.) Elsewhere, he reserved his special disdain and ire for the Old Testament God, who gave Adam and Eve and their offspring control of “the earth and everything that’s in it.” Other religions are not safe to vituperate (whatever we do, we remain tolerant, don’t we?) and are therefore never attacked. Abram’s rantings are also dishonest, because, as with Gullveig, nothing is known about the three giant women, and no one freaked out. (Let me add for the benefit of those who are not familiar with the text: nothing is said about the three mysterious giantesses, but something has been suggested in the rich literature on this place. The giantesses disappear without a trace, and I challenge Abram to respond: who “freaked out”?)

However, humans did emerge and had to survive. They needed clothes (fur, leather, skins), food, and dwellings, just as we still do. People felled trees, killed animals (those, it should be mentioned, also kill one another for food), and used large territories for cattle breeding and agriculture. They had no other choice (except for committing collective suicide; I notice that even Abram’s allies grieve for the consequences of the ecological catastrophe, but write articles and books in the safe environment of their university offices, instead of killing themselves and thus fighting overpopulation). Our distant ancestors could not anticipate the results of their activity. They fought what looked to them like chaos, sometimes anthropomorphized (giants, titans, and all kinds of monsters). Some people, the Scandinavians among them, believed that the victory over chaos was temporary, but apocalyptic visions are known not only from the tales of the northerners. Abram writes: “The Old Norse Ragnarøk mythos [. . .] bespeaks *familiar anxiety about the social consequences of ecological disaster*, whether or not they arise out of a real-world situation of climatic catastrophe” (p. 151, emphasis added). This thesis can never be proved, even though eclipses, tidal waves, erup-

tions, and earthquakes were looked upon (and speedily forgotten) as portents predicting the end of the world (just as by the year 1000 the end was expected, and we remember similar millennial fears twenty years ago). Projecting our ecological views to ancient and medieval people is not only anachronistic: it is ridiculous (see the author's musings on the virtues of being anachronistic on pp. 39–40).

According to Abram, the main fault of our civilization is that it has always been “anthropocentric.” I wonder: What else could it have been? Predictably, Abram loves everybody except human beings. His heart goes out to the Other. He is sorry for Ymir (that creature was indeed given a raw deal) and for the giants who are denied the right to marry goddesses (and take away the sun and the moon). He even seems to be on the side of the frost giants. He missed only the berserks' wives whom the male chauvinist Þórr kills. Naturally, he is shocked that Karlsefni and his companions defend themselves against the Skrælingar: the Vínland explorers are equated with the ruthless colonizers of modern history. In some way, he even seems to regret the settlement of Iceland: if the Norwegians had not moved overseas, the forests would still have graced the huge territory between the coast of Iceland and the mountains. Again and again we are told that human history was a catastrophic mistake. The end of *Völuspá* is about the regeneration of the world after the catastrophe, but Abram comforts his readers: the Golden Age is short, and there will be another Ragnarök.

Evergreen Ash, like Abram's earlier book, has been written for those who have never read Old Icelandic literature; hence pages and pages of retelling the myths. But *Myths of the Pagan North* was a textbook and laid no claim to originality, while *Evergreen Ash* is a visa to the world of ecocritics. It contains dozens of admiring references to their “brilliant exposés,” to those who “famously said” something, and to theories in whose light old stories can be read in a new way.

At the beginning of this review, I said that *Evergreen Ash* has nothing to do with Old Norse mythology and literature, and indeed, it is an ecocritical “reading” of Scandinavian myths. A reading is in principle different from an interpretation. For example, nature mythologists of the past explained that Grendel was the personification of the flood, while some Freudians believed that Beowulf's going underwater was a disguised image of self-castration. All of them thought that (to use one of the favorite German turns of speech) they had uncovered the higher sense and the deeper meaning of the phenomena they explored. By contrast, a reading is a mere reformulation. For instance, a Marxist reading of *Völuspá* would be a retelling of the events in terms of class strug-

gle. Abram offered an ecocritical and feminist reading of Ragnarøk. His like-minded colleagues, the producers of brilliant exposés, will applaud, but I doubt that anyone else will.

REFERENCES

- Abram, C. (2011). *Myths of the Pagan North. The Gods of the Norsemen*, London: Continuum.
- Berman, T. (2001). "The rape of Mother Nature? Women in the language of environmental discourse," in *The Ecolinguistics Reader. Language, Ecology and Environment*, eds. A. Fill & P. Mühlhäusler, London: Continuum, pp. 258–269.

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Jonathan Adams & Massimiliano Bampi (eds.),
*Beyond the Piraeus Lion. East Norse Studies from
 Venice*, København: Universitets-Jubilæets danske
 Samfund 2017 (Selskab for Østnordisk Filologi 2;
 Universitets-Jubilæets danske Samfund 594), ISBN
 9788740831092, 261 pp.

Selskab for Østnordisk Filologi/Sällskap för östnordisk filologi [‘The Society for East Norse Philology’] was established in 2013 for the purpose of promoting linguistic and literary studies of Old Danish, Old Swedish and Old Gutnish. In addition to conferences and publications in connection with scholarly meetings, a website highlights this research area. The present book, which is a comprehensive volume, is the result of a scientific meeting at Università Ca’ Foscari in Venice in 2015. The first section contains three articles dealing with palaeography, codicology and publication. In a co-authored article, Lasse Mårtensson, Anders Brun and Fredrik Wahlberg present three categories of palaeographic properties that can be extracted by means of digital technology. This article shows that there is great potential in this area, even though there are of course also problems. The article whets one’s appetite to know more about this field of study and points clearly forwards to new avenues of research. Ruling (in Sw. *linjering*) in medieval manuscripts in Swedish is the subject of Patrik

Åström's contribution. Fundamental aspects of the issue of normalising Old Swedish texts are elucidated by Henrik Williams in his contribution. One can see that while researchers have successfully been able to normalise Old West Norse texts, the normalisation of Old East Norse texts has met with resistance. One may ask why. The next section consists of two manuscript studies. Dario Bullitta's article deals with the Old Swedish translation of the Gospel of Nicodemus and its continental origins. In an article entitled "The Bishop Murderer," Jonathan Adams presents and discusses a parchment fragment at the Royal Danish Library in Copenhagen which contains a miracle narration of the murder of a bishop; the narration itself is also found in *Sjælens trøst*. However, the fragment, which is rendered in facsimile and then transcribed together with parallel texts, seems to belong to a different edition or a different tradition than that of *Sjælens trøst*. The third section deals with issues regarding vocabulary and style. This section starts with a contribution by Simon Skovgaard Boeck, which deals with different features of texts, syntax and vocabulary in Harpestreng's medical works. The differences observed are due to the texts having different foci, and in addition there are differences between variants of Harpestreng. Marita Akhøj Nielsen writes insightfully about the chivalrous vocabulary in Old Danish, and studies more closely three verse novels that are translated from Swedish (the Eufemia songs) and three specifically Danish ones whose origins are not known. It is obvious that the translations based on the Eufemia songs are characterised by the chivalrous culture more than the Danish ones. The following four chapters in this omnibus volume are gathered under a fourth theme, "Literature and Writing." Inger Lindell's contribution is about women's participation in the Swedish writing community in the Middle Ages, and a comparative study of the Kung Snio episode in *Annales Ryenses (Rydårbogen)* is presented by Anja U. Blode. The point of departure is taken in a narration from a mythical prehistoric age, when a dog called *Rakki*, and later on a shepherd called *Snio*, ruled over the Danes. Stephen Mitchell writes about the Old Swedish poem "Trollmöte eller Mik mötte en gamul kerling" ['Meeting a troll or I met an old woman']. Metrical forms are described as well as the Nordic troll figure. Kim Bergqvist's article treats of the chivalrous novels *Herr Ivan* and *Flores and Blanzefflor*. The Swedish aristocracy in the fourteenth century needed literature promoting chivalrous behaviour codes appropriate for those who wanted to rule the country. In the fifth and last section, "Bibles and Translations," Karl G. Johansson starts by presenting observations concerning the use of St Hieronymus as an authority in the Nordic medieval period, with a focus on the East Norse area. Lars Wollin concludes the volume with an essay

dealing with Cod. Holm A 1, written in Vadstena in 1526, which contains thirteen Bible books in Swedish. The hypothesis is tested that the translation was made on the Linköping bishop Hans Brask's initiative as an embryo of a complete Swedish Bible translation and as an alternative to the Reformers' Bible translations. These are interesting ideas. The book is concluded with indexes on persons, places and manuscripts mentioned in the book. A number of exciting perspectives on the East Norse philology area are presented in the volume. Most of the texts are written in English, but some are in Swedish. There are summaries of all articles, which is commendable, but, to point out a small detail, the language in some of these summaries might have been checked more carefully. It is really stimulating to see that, thanks to various initiatives by the Society for East Norse Philology, such as this book, East Norse philology is likely to have a bright future.

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Elin Andersson, Gråbrödernas diarium. Ett vittnesbörd från senmedeltidens Stockholm. Utgåva, översättning och faksimil av handskriften A 21 i Kungliga biblioteket, Stockholm: Sällskapet Runica et Mediævalia 2017 (Sällskapet Runica et Mediævalia. Facsimilia 2), ISBN 9789188568700, 184 pp.

The medieval diary of the Stockholm Franciscan Conventis ['the Grey Friars' diary'] is one of only a few manuscripts remaining from this Swedish medieval religious and cultural centre. However, it is not really a diary but a *necrologium*, i.e. a list of death dates, which over time evolved into a general notebook in which deaths, local and national events etc. were recorded. Among many other things, the manuscript contains Knut Jönsson's complimentary poem to Jakob Ulfsson Örnfof. The diary has been published earlier, namely as early as 1818 by Eric Michael Fant in *Scriptores Rerum Svecicarum mediæ aevi*, and has been the subject of scholarly treatment by several researchers. However, there is now a need for a new edition. By way of introduction, a description is presented of the manuscript's history and structure, followed by an account of the codicological

and paleographic conditions. The editorial principles are then described, as are the principles for the translation and the rendering of names. For example, for *Johannes*, which name could be rendered as *Johan*, *Hans* or *Jöns*, *Johan* is normally chosen by the editor but when a *Johannes* is called *Hans* in other sources, this name is used instead. The edition with brief comments in the notes follows on pp. 16–65, where the text is transcribed on the double-spread's left-hand side and translated on the right-hand side. On pp. 68–178, there is a facsimile showing the beautiful manuscript pages. A bibliography and an index on persons and places conclude the book. According to the historian Jerker Rosén, the Grey Friars' so-called diary, precisely because it contains different types of notes and thus displays the various functions of the manuscript, “more than any other medieval Swedish document reflects the monastery dwellers' historical interest, their interest in their own order's, their own monastery's and the country's history” (quoted from an article by Rosén in 1940). It is with great interest one reads this volume, which provides much more information about medieval history than the title of the work may indicate.

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Eleanor Rosamund Barraclough, Danielle Marie Cudmore & Stefan Donecker (ed.), *Imagining the Supernatural North*, Edmonton: The University of Alberta Press 2016, ISBN 9781772122671, 352 pp.

The North has always been subject to different ideas among scholars and “ordinary people.” In the anthology *Imagining the Supernatural North* (2016), edited by Eleanor Rosamund Barraclough, Danielle Marie Cudmore and Stefan Donecker, scholars from various disciplines present their views on the theme of the “supernatural” North. The North, in this case, is primarily understood as the areas comprising the present-day Nordic countries: Denmark, Iceland, Sweden, Norway, Finland, Greenland, and the Faroe Islands, although some contributors present themes from other cultures. For example, the direction “north” could be seen from the perspective of Jewish Lore, which is the subject of an article by Ya'kov Sarig. Angela Byrne points out the similarities between the scholarly perspective on Celtic peoples and that on the Finns and the Sami. Most of the contributors, however, seem to focus on the Arctic regions, Iceland and Greenland.

The first part of the volume addresses the theme “The Menace and the Divine.” In this part, the contributors focus on how the North was perceived within Greek lore, as well as how it was constructed by Jewish scholars, which is exemplified with the myth of Hyperborea (Athanasios Votsis) and “The Realm of the North in Ancient Greek Proverbs” (Maria Kasyanova). Kasyanova shows that the popular concepts of the North are found in the proverbs (*paroemiae*). In the North, the deity called *Boreas*, the cold North Wind, is described in Greek lore while the Hyperboreans are a mixture of deities and humans, as discerned by Votsis. The themes of the cold wind of the North and deities—later monsters and witches—are recurrent themes in the literature of the Middle Ages and the Early Modern Age.

The second part, “From the Middle Ages to the Early Modern Period,” explores the supernatural. Rudolf Simek outlines how medieval mapmakers and writers understood the North, which they derived to literary phenomena such as exotic races, monsters and “apes.” However, the description of the North was not always vague. Eleanor Rosamund Barraclough shows that the notion of Greenland was fairly realistic during the Middle Ages as long as there were settlers in Greenland, but after the decline of the colonies, the descriptions became more fabulous and unrealistic.

Otherwise, the Renaissance seems to have been full of learned imaginations and misconceptions about the North. Brenda S. Gardenour Walter describes a phenomenon which was associated with the wind, especially the ice cold north wind, called *Septentrio*. The flesh of the witch (the Winter’s Flesh) was thought to be ice cold and she controlled the *Septentrio* which was feared by none other than King James VI of Scotland in the late sixteenth century.

There must be a certain period in the history of ideas when the North ceased to be regarded as only an idea of the maleficent or something geographically vague. Stefan Donecker’s contribution has the title “The Supernatural Image of Iceland in Johannes Kepler’s *Somnium* (1634).” When writing *Somnium*—a science fiction-like story about the son of an Icelandic witch who is travelling to the Moon—Kepler was inspired, according to Donecker, by Olaus Magnus’s *A Description of the Northern Peoples*. Thus, Kepler represents a bridge between the supernatural imaginations of the Middle Ages (the witch in an ice cold land) and the scientific positions of the Renaissance. It seems likely that Kepler had access to Olaus Magnus’s work, but this has not been proven.

The third part, “The Nineteenth Century. The Scientific and the Spiritual,” deals with the romanticisation of the northern cultures and the actual explorations of the Arctic. Angela Byrne argues in “Science and

Romanticism on the Fringes of Britain” that the scientific travelogues of authors and thinkers of the eighteenth and nineteenth centuries described the Gaels as different from other Britons in the same way as the Finns and the Sami were perceived as different from the Scandinavians. For example, Byrne explains how the author Samuel Laing claimed that the Sami were a branch of “the great Celtic Family” which—according to Byrne—served to place England and Sweden “as Northern imperial powers, despite English protests against the annexing of Norway to Sweden from Denmark in 1814” (p. 136). This is something that needs to be clarified: Even if some British politicians were uneasy about the establishment of the personal union between Sweden and Norway, the British parliament supported the treaty of Kiel. On 26 June, 1814, British, Russian, Prussian, and Austrian emissaries were sent to the town of Vänersborg to convince the Danish king Christian Fredrik to accept the treaty of Kiel before the Swedish invasion of Norway. (Laing, who visited Scandinavia in the 1830s, was actually critical towards the union between Sweden and Norway).

At the same time, there were more sober, realistic descriptions of the northern areas like those of Austrian travel writer Ida Pfeiffer, who journeyed to Iceland in 1845 (presented by Jennifer E. Michaels). During Pfeiffer’s visit to Iceland, her romantic ideas of the remote island were shattered.

Shane McCorristine’s “Mesmerism and Victorian Arctic Exploration” focuses on another aspect of the nineteenth century explorations than the physical and biological ones, namely paranormal phenomena such as mesmerism. The American seeress Emma was tasked in the mid-nineteenth century to find Sir John Franklin’s lost expedition in the Arctic. According to McCorristine, the Arctic was perceived as a realm of masculine efforts in the Victorian time. Spiritism reached the Scandinavian countries in the second half of the nineteenth century and it would have been interesting to know how the Scandinavians perceived the North as compared to Victorian England and America.

Silvije Habulinec compares the European medieval perception of the northern fringes to how the indigenous Greenlandic society was described in the nineteenth and early twentieth centuries. Collectors like Knud Rasmussen might have structured the material in accordance with their own learned, preconceived knowledge, similar to the use of *topoi* by medieval scholars.

The fourth part brings up the theme of “contemporary perspectives.” It focuses mostly on nineteenth-century literature. There was an increasing need for supernatural imaginations of the North during the

nineteenth and twentieth centuries, which can be seen among authors like Vladimir Nabokov with his *Pale Fire* (1962) and the fictive country of *Zembla*, analysed by Brian Walter, as well as the northernness of C.S. Lewis and Bill Pullman, analysed by Danielle Marie Cudmore. In Lewis's and Pullman's writings, the cold witch of the north once again enters the stories.

From the 1980s onwards, Old Norse themes became immensely popular in movies, books and games, as well as in music genres such as Black Metal. This is reported by Jan Leichsenring in his contribution "A Blaze in the Northern Sky." Within the Black Metal community, the songs could be seen as a means of communication between different groups who "explore connections to the divine through the use of runes and meditative, trance-inducing techniques; they also describe pagan cosmology and praise the gods" (p. 264). In this context, the cold witch of the winter is embraced rather than rejected.

This could be compared to the contribution by Jay Johnston, "The Elf in the Self." In this article, Johnston points out the contemporary practices among the so-called *Otherkin*, a subculture whose members refer to themselves as reincarnations, primarily of animals but also of other creatures like dragons, trolls etc. Otherkin also embrace the mythological traditions about "animism, shamanic and shape-shifting" (p. 247). Here, it would have been desirable if a definition of these concepts, which have been much debated within the history of religions, had been provided. At the same time, it could be argued that the concepts may be attributed to the contemporary beliefs, since the practitioners refer to them.

Some definitions of the concept of shaman can be seen in the article by Erica Hill, "Men, Women, and Shamans" where she explores the daily ritual practices among the Eskimos in the Arctic regions, and concludes that the individuals, besides being directed by the shaman, approached the supernatural with the use of amulets. The role of the individual was as important as that of the ritual specialists. This is an approach that relies on historical, rather than contemporary, empirics.

Imagining the Supernatural North is a very interesting book with a wide variety of topics. I do have some thoughts on the theme, which should not be seen as criticism towards the editors but merely as suggestions.

The editors claim that previous research has been limited to aspects of the supernatural North. However, the whole period from antiquity to the present day has not yet been covered in a single volume. This anthology would have benefited if the research history of the supernatural

North had been presented instead of just being noted.

The focus of this volume is on the European view of the North (p. xvi), which might have been made clearer if it had been pointed out in the title.

As pointed out by the authors in the foreword (p. xvii), in the transition from the Middle Ages to the Early modern period, Scandinavian writers became interested in the North as a place for the supernatural. As a consequence, these writers adapted to the European scholarly traditions about the North, and thus they became a part of the European intellectual tradition. An article on this subject would have deepened the theme of the anthology, too.

On one level, there were the ideas about the North held by scholars and the upper class, and on another, the parallel imaginations of people in the countryside, i.e. there were different levels of imaginations. For example, an article treating of the Enlightenment in Scandinavia, and the emergence of the freemasons, could provide knowledge of how a tradition of ideas functioned on different societal levels.

On the whole, this is a fascinating piece of work with contributions from scholars within different disciplines focused on the North and spanning over centuries and vast land areas. It will inspire both further research and, not least, make people want to read the literature on the North presented by the contributors.

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Stephen Bocking & Brad Martin, *Ice Blink. Navigating Northern Environmental History*, Calgary: University of Calgary Press 2017, ISBN 9781552388549 (paperback), 526 pp.

Ice blink is a term that refers to the way light in polar regions reflects off pack-ice to illuminate the underside of thick clouds. Inuit and explorers used their observations of ice blinks to predict the presence of ice beyond the horizon when navigating in sea waters in the far north, as for example around the Northwest Passage. The title of the book uses the term as a kind of metaphor for case studies when exploring the history of the far northern environment. Case studies dealing with episodes in Canadian history alert us to facets in the interplay of humans, animals,

technology, nature and place in processes wherein natural environments are transformed. The studies are carried out by a new generation of northern scholars who themselves are mainly based outside the territory itself—“they, like northern travellers perceiving an ice blink, are seeking an understanding of conditions at a distance” (p. 4).

The first chapter is an introduction and the last provides a summing up that brings together the diverse themes and threads in the stories presented. These two chapters are written by one of the editors, Stephen Bocking who is also the author of a chapter entitled “Toxic surprises. Contaminants and knowledge in the northern environment” (Ch. 12). The book consists of fourteen chapters, the first of which is the introduction that connects the study of environmental changes with social and political history, geography and anthropology, and the history of science and technology. Apart from Stephen Bocking, chapter contributions come from (in alphabetical order), Tina Adcock, Emilie Cameron, Hans M. Carlson, Marionne Cronin, Matthew Farish, Arn Keeling, P. Whitney Lackenbauer, Tina Loo, Paul Nadasdy, Jonathan Peyton, Liza Piper, John Sandlos, and Andrew Stuhl. Brad Martin has acted as co-editor.

Overall, the chapters between the introduction and the conclusion are organized into three sections covering three different time periods. The first (with four chapters) provides examples of novel aspects involved in the shaping of Canada’s northern colonial environment. The second part (with three chapters) considers significant elements in transformations in and of the “northern environment,” and the third part (with five chapters) is simply entitled “Environmental history and the contemporary north.” It is impossible to do full justice to such a rich and important volume of over 500 pages, including more than 1,150 footnotes. In what follows below I shall go through the various chapters and briefly pick out some highlights.

In Chapter 1 Stephen Bocking introduces a number of central concepts that serve as signposts to draw the reader’s attention in several chapters to come to “questions that relate to themes of interest to environmental historians, but also raise issues distinctive to this region” (p.13):

- how *environmental change* in the north contributes to global environmental change;
- changing relations between *Indigenous ways of life and the northern environment*, contrasting traditional colonial views and newer understandings emerging in resistance to and critique of colonialism;

- the changing role of the Canadian *state* through its policies fostering economic development but also increasingly addressing issues of environmental protection and regulation;
- the transformative character of *technology* in the shaping and reshaping relations between humans and the northern environment in both constructive and destructive ways, but also the influence in the other direction, of severe environments on redesigning technologies;
- of *northern experience* as lived, felt and reported by individuals and different peoples over time and place, giving rise to diverse perceptions of the north ranging from harsh to sublime, bountiful to fragile, oppressive to revitalizing;
- the multiple roles of *knowledge*, especially of the kind accumulated across a range of scientific disciplines, sometimes at odds with Indigenous knowledge and values as aboriginal northern homelands with the help of science were reframed as territories for exploitation;
- *mobility*—changes in notions distance and nearness as snowmobiles and airplanes replaced dog teams or canoes, and associated flows of people, species, materials, capital, machines, knowledge and influence through growing networks of various kinds ultimately reaching out from southern metropolises;
- finally, *making northern places*, i.e., how what is defined as “the north” is relative, depending on the frame of reference that is assumed—administrative convenience/convention of 60°N marking southern boundary of Canada’s northern “territories,” or physical features like boreal forest, permafrost, tundra, etc., the character of seasonal cycles, etc. or again cultural factors like people claiming a “northern identity.”

It is immediately evident how many diverse, complex and intermeshed factors and their changes over time must be captured in the history of the northern environment. In his concluding chapter (Ch. 14), entitled “Encounters in northern environmental history,” Stephen Bocking returns to the different concepts listed above in order to synthesize and summarize many of the findings that make up the substance of the twelve case-study chapters. I would recommend the reader to begin with that chapter as a primer before going into the many intricate details in the case-study chapters. Otherwise, it is easy to lose one’s bearings in the encounter with a cumulation of fascinating stories and novel points regarding the doing of environmental history as exemplified in those chapters.

Chapter 2 (Peyton) reviews the history of a failed railway and overland “highway” project related to the heady days of the gold rush in the

Klondike. It is the largely forgotten story of government support and capitalist fervor as well as the power of advertisement in the building of an all-Canadian railway route to important gold-digging sites. Apart from the role of railway technology and construction under extreme northern conditions, the focus is also on ordeals as lived experience of turmoil and toil told by travelers seeking their way to the gold fields. "In spite of political will, economic rationale, and geological incentives only ten kilometers of track and thirty kilometers of wagon road were built before party politics scuppered the Stikine route" (p. 42). The failure of constructing a railway route nevertheless generated important knowledge that proved useful for the future. Surveys and practical experience gained in the process of transforming nature served as useful lessons. In this chapter, relationships between capitalists, gold-diggers, fluctuating financial conditions and a fledgling Canadian state or government in the face of severe challenges imposed by the natural environment are carefully dissected.

Chapter 3 (Stuhl) is another case-study of a largely forgotten failed project. This time it concerns the Canadian Reindeer Project. The idea was to introduce reindeer herding on a large scale in the Mackenzie Delta region in the early 1930s. The scheme finally fell apart after about twenty years. Financed by government, the experiment was from the outset cheered on by scientifically trained experts. Inuit population was to be provided with a new kind of livelihood comparable to that of the Sami in Scandinavia. One of the points raised in the chapter is how the project simultaneously had inscribed in it an ambition to control and transform Indigenous people and their natural environments. Experts and bureaucratic administrators failed to properly distinguish between wildlife and tame-life in their efforts to pattern protected areas on management rules decided top-down quite different from those traditionally negotiated through treaties and applicable in the conservation of wildlife. Inuit culture and values had no place in the project. The science-base moreover was one-sided, dominated as it was by knowledge of botany but insufficient when it came to understanding methods of animal husbandry in the case at hand, but it did include some attention to climatic conditions and the habitats of mosquitoes that plagued reindeer. The careers of a couple of the experts (coming from Denmark) involved and their ideals of science are nicely traced in the chapter.

Chapter 4 (Cronin) considers the entry of the airplane in the Canadian north, making travel and transportation of people, industrial equipment, goods for government and postal services, etc. to places far away from roads much easier and less time-consuming. Flying routes

followed rivers and lakes, many of them earlier travelled by fur traders. Mining communities were also stopping-off points. More generally, aerial photography also helped speed up surveying, mapping and making inventories of natural resources. The author explains development of the bush-plane as influenced by many factors, particularly interplay with the environment. Therefore, it is seen as an instance of “enviro-technical” history. The bush-plane was produced in factories in the south based on knowledge there, but had to be successively modified, and reconfigured to meet special navigational and harsh environmental demands in the north. In this process, different types of knowledge and authority met and collided, that of bush-pilots and their experiences and that of engineers in factory laboratories. Pilots had tacit knowledge of weather conditions, various kinds of terrain for take-off and landing, like ice, hardened snow with drifts or rough water in lakes and how landing gear initially failed and had to be made more robust. It took time for the pilots’ knowledge and suggestions to trickle through to the manufacturers since it had to filter through two layers of management in the airline company’s bureaucratic hierarchy that was much more interested in tabulations of daily flight reports recording figures about miles covered, flying times, gas and oil consumed, loads and cargoes carried, amount of fuel added, engine running times, and a host of other details of interest to the company’s profit margins. The more general theme of a symbiosis of technology and culture, not least in relationship to environmental history is not new as anyone familiar with the field of science and technology studies (STS) will know. The author might have found a fruitful anchoring point in that literature.

Chapter 5 (Adcock) explores how during the interwar era changes in the north hailed by many for the new economic opportunities and faster travel also had another side to it expressed in a kind of back-to-nature movement on the part of some who lamented the loss of a past when one had to bodily struggle with Nature in remote places far away from the modern world. The anti-modern sensibilities are described on the basis of field notes, letters and published articles and books left by two men, Guy Blanchet and George Douglas. Both had participated in the development of mining as surveyors and engineers and believed in the northern regions’ economic potential. They felt alienated in “civilized” urban society, preferring arduous “masculine” engagement with the rough northern landscape, travelling simply overground or on the water, carrying one’s own limited supplies. It fulfilled “a deeply-seated need for manly testing that the modern world seemed no longer to offer” (p. 145). Here they sought reinvention of body and spirit in what one of them

expressed as finding the joys of living the “Indian life.” In the longing for life in the bush they echoed a nostalgic identification with a past that they saw disappearing in the north, a certain “primitivity” associated with Indigenous peoples of the “old days” whose traces in the form of arrowheads, spearheads, old tent poles, scraped caribou bones and the like might still be found, resonating with a lifestyle existing before a certain physical and moral decay had begun to seep in with the advent of “modernization.” In the chapter “certain of Douglas’ and Blanchet’s thoughts and practices [are taken] as symptomatic of larger currents swirling beneath the surface of early twentieth-century American society” (p. 169).

Chapter 6 (Piper) deals with transformations of northern environments during the Second World War and the postwar era. In some respects, hunting wildlife for meat and furs remained, but new rules imposed by government agents criminalized certain forms of food gathering. Consumer products imported from the south effected changes in diets among Indigenous people. The author describes in considerable detail a gradual shift from traditional living reliant on natural foods obtained by hunting, trapping, fishing and berry picking, etc. to a diet based on processed foods. Several driving factors behind these changes are identified. With newcomers moving into the north pressure on and depletion of northern food resources led to government implementation of new wildlife regulations. Periodic outbreaks of infectious diseases, relative food scarcity and hunger in some regions also prompted relocation of indigenous populations to areas where subsistence was not assured, causing further grief. The residential school system that separated school age children from their parents and families also contributed to a shift from country-food diets to reliance on southern, imported foods. The author also uses the concept of a “trading post” diet (p. 201), consisting of flour, lard, salt, baking soda and canned products. After the Second World War, food relief programs based on nutrition surveys and informed by scientific research brought “rational” interventions with extensive lists of rations. Experts’ decided what counted as a “balanced diet” with “good and healthy food.” Thus again we see a sector in which science and the state played a role in shaping a new food culture linking northerners to environments, and perpetuated dependency and a new form of colonialism.

Chapter 7 (Loo) picks up on the issue famine, starvation, and relocation. It recounts the fate of an Inuit community in the 1950s inland from the western shore of Hudson Bay. Change in caribou migration patterns had led to recurrent famine and even death by starvation. The trend came to a head when thirty-three Inuit died on the Keewatin bar-

rens in the severe winter of 1957–1958. The question was no longer just about how to feed the inland Inuit or conserve the barren ground caribou on which they depended. The situation sparked widespread public debate that pushed the Canadian government into action in an effort to build a more sustainable economy in the country's neglected frontier. The "Northern Vision" did not only include a plan to boost mining and develop new infrastructures but also relocation of Indigenous people, as well as providing them with housing and social programs to bring them into the safety net of the welfare state. In the Hudson Bay area attempts were made to facilitate recruitment of Inuit as wage workers in mines on the one hand and on the other hand their participation in local char fishery, catching, processing and canning locally for food at home as well as supplying commercial markets. It was also found important to foster a sense of local community cohesion. The government's Northern Affairs officers in the field acted as community workers helping people identify their collective wants and means to achieve them. A goal was to achieve self-reliance and self-determination. Cooperatives and peoples' active engagement in civil society were important ingredients in the new approach to northern development in such experimental schemes. Ironically, however, we learn how community development initiated a new kind of dependency, one might call it "welfare colonialism." "For better or worse, government had become the main source of revenue and motor of growth for the region" (p. 250). Sustainable development was too narrowly defined by well-meaning planners and government agents that saw it as only a technical problem. However, it was not only and primarily an issue of "capacity building" under the guidance of experts. What was missing was the ability to meet the challenge of engaging capitalism and confronting the liberal assumptions in it.

Chapter 8 (Farish & Lackenbauer) focuses on a well-known facet of postwar militarization of northern Arctic Canada, viz. the construction of the Distant Early Warning (DEW) network of radar stations. The chapter begins by illustrating the heady ideology of technocratic optimism that permeated industrial corporations like Western Electric and military institutions like the US Air Force and Pentagon in the early years of the Cold War. The DEW line of radar and communications stations stretching from Alaska across Canada and Greenland to Iceland was in its time the largest megaproject in the Arctic. The authors refer to it as a paradigmatic example of a "high modernist" megaproject. A major portion covered the Canadian far north as electronic eyes and ears of a military machine to warn of enemy bombers approaching from the Soviet Union. The chapter describes the vast effort that went into constructing, testing

and maintaining this system as a melding of human and machine. The term “technopolitics” is aptly used to depict how it meant a “displacement of military and corporate power onto radar devices and the equally technical work of erecting and maintaining them” (p. 280).

Many of the actors involved, as well as institutions and cadres of experts from many branches of science and engineering pass in review. Outlined is how single stations might be relatively isolated and the terrain on which they stood and reached up into the skies was featured in Western Electric’s promotional films as wilderness or wasteland. Nevertheless, the network as a whole had consequences for cold climate infrastructural initiatives, buildings and construction techniques that were profound, as was the impact on Indigenous northerners. A significant northward extension of the state is also noted. The DEW line episode on the whole concerns a rather brief period of time. Although officially kept in operation until 1993, by the mid-1960s when speedy intercontinental ballistic missiles took over from slower bomber aircraft, half of Canada’s 42 radar sites were abandoned and left to rust. The megaproject’s legacy in terms of waste and environmental degradation still continues and the imprint it left on the lives of some of the Inuit are both positive and negative. On the positive side, local people were recruited for various jobs in on-site construction, road building and maintenance, and gained new skills but the transformation that tied them to a wage economy also in the longer term for some brought a sedentary lifestyle, intergenerational trauma and deep social scars. The main thrust of the text consists in its fascinating insights into the militarization of the Arctic and its conquest by a cybernetic entity.

Chapter 9 (Carlson) warns against simplifications found in early accounts of environmental history when the discipline still was quite new. The author brings a fresh and novel perspective to environmental history, nuanced and sensitive regarding the dynamic interplay of local and global dimensions viewed in context over time. In a term he borrows from the philosopher of science Alfred North Whitehead, there is a fallacy of “misplaced concreteness” in the sense that processes of change have often been depicted as an unrolling of a frontier driven by European settlers on North American territory. The chapter takes up a telling example that illustrates how this was very far from what happened in the James Bay region in Canada, which is the traditional home of the northern Cree First Nation people. Although there is a record of these people’s interaction with fur traders, missionaries, miners and lumbermen over a long time in the past, they did not succumb to the fictional ideal-typical onslaught from the outside. They were able to meet the

challenge of major change that began some forty years ago prompted by the construction of hydro-electric power plants and they were able to draw benefits from that development without losing their cultural integrity. This is evident from the James Bay and Northern Quebec Agreement (JBNQA) marking a new era in aboriginal land claims. True, lands historically occupied and used for hunting and fishing were flooded by the creation of massive dams, clear-cutting of forests, diverting rivers, but through tough negotiations with the governments of both the province of Québec and the federal government—playing out tensions between the two—the Cree nation’s inalienable rights of ownership and management of certain lands, as well as exclusive hunting, fishing, and trapping rights on part of the territory were inscribed in the agreement. Substantial compensation for environmental degradation was allotted together with community self-governance and exclusive control in many realms of endeavor. Why and how this was possible is explained, as is the role of the politics of memory, Indigenous cosmologies and the power of meaning-giving stories in binding place and an ever present relationship to the land in which the present even when constantly changing continues to resonate with the past. A cyclical concept of time replaces or exists in parallel with a “Western” diachronic one.

A lesson is that traditional culture is not erased but remains vital through adaptation, participation and even politicization.

Chapter 10 (Nadasdy) discusses the even more complicated mosaic of land claims and self-government agreements in the Yukon in north-western Canada where dramatic changes have been effected in both the society and the natural environments in which people live. The chapter is a tour de force in outlining the unique architecture of these agreements, the many intricacies, the basic principles undergirding the system and the transformative influence on how Indigenous people relate to each other, to the land, animals and natural resources, and therewith to some extent even how they conceive their own identities. As elsewhere, here too, the aboriginal population did not have the modern notions of land ownership as an organizing principle in their lives. Yukon Indians traditionally ordered their interrelations with each other by principles of kinship and reciprocity. Colonial government as one of its means to rule and control the Indigenous people introduced a system that divided people distinctive administrative “bands,” each with its own chief and council. The bands had little real self-government authority but for the sake of convenience of colonial rule they were recognized as the intermediaries with the federal government and later also that of the Yukon territory. There was no legal entitlement to land other than that which

the government had explicitly provided them, and that was very little. It was not until 1993 that, after many years of negotiations, First Nation peoples throughout Yukon arrived at an accord called the Yukon Umbrella Final Agreement (UFA). It is an umbrella framework that delineates boundaries between and internal divisions within each of fourteen individual First Nations. This was in part a victory for the Indigenous people because the Canadian government initially wanted a single Yukon-wide agreement whereas the Yukon First Nations preferred multiple agreements that would be more sensitive to local needs.

The bearing principle in the arrangements arrived at in each individual case is that of territoriality—each Nation is mapped into a “territory.” Some of the fourteen territories overlap, and in some cases there is an area between some territories in which no First Nation jurisdiction applies, something the author calls “black holes.” Further, there is a distinction between the territories and “settlement lands” within the designated traditional territories. “Settlement lands” are the only areas exclusively owned and managed by First Nations in all respects, including wild-life management. The final outcome of all this is a crisscrossing of different types of boundaries allowing or denying particular kinds of land-use to specific groups of Natives. It also means that within each First Nation bureaucracies have grown up to receive funding from the Yukon government for the self-management of social welfare programs that are in place as well as regulating hunting rights, fishing, trapping, management of wildlife and therewith involvement in environmental protection. Further, there are bureaucracies for conflict resolution, for example in cases where “traditional territories” overlap. Ultimately, the author says, arbitrary as they are, the internal territories created, together with maps for different purposes and attendant rules officially established, have come to structure people’s actual experience on the land. The system is so complex that even officials in the Yukon Department of Environment often get confused. As for the Indigenous population itself the idea of wildlife management as imposed via coercive bureaucratic channels many a time sits uneasily with their traditional values and the idea of hunting as participation in “a complex web of reciprocal social relations among humans and other-than-human-persons” (p. 362).

Chapter 11 (Keeling & Sandlos) has an eye-catching title: “Ghost towns and zombie mines.” It presents an intersection between mining history and history of the environment in the Canadian North. A ghost town is one where a mine falls into disuse and is abandoned. Sometimes new life comes in the form of a tourist industry that spruces up abandoned buildings and celebrates “the good old days.” Another scenario

is one where either an old mining site is cleaned up and the landscape around it once more made live-able, or else an old mine is brought into operation once more when commodity prices rise and new technology has become much more efficient. A “zombie mine” is one that gets re-animated in one or another way.

The focus is on two mining sites in Canada’s North West Territories that are included in a billion dollar federal government project to remedy the damage to regional and local environments caused by large mines. The one site is the Great Mine near Yellowknife, a gold mine that ceased operation 2004. Under it in the old exhausted underground mine chambers dwell 237,000 tons of toxic arsenic trioxide dust that has been collected and stored there. The remediation plan is to freeze the material permanently. Such underground development however poses short-term risks while in the long term leakage might occur into groundwater and eventual seismic events might trigger hazardous “fallout.” For the local Indigenous population it is not only the immediate risks attending remediation that are a concern and subject to heated debate. Memories of the past also come to life once more, memories of how their traditional land was first rudely appropriated and then how the gold mining process brought toxic pollution from stack emissions causing illness and tragedy in their communities.

The other site is Pine Point on the south shore of Great Slave Lake where a lead-zinc mine was in operation essentially from 1964 to 1989 taking ore from 47 open pits and a couple of underground chambers. After that the town that had grown up there was abandoned and totally dismantled, leaving a huge tailings area covered with loose gravel and closure of an extensive network of roads plus blocking of access to open pits by berms. The area has been described as a large, pock-dotted moon-like landscape where almost no vegetation grows. No wonder that now, when there is a proposal to reopen the site for bulk sampling and potential full scale mining, many local people are glad of the prospects of jobs and economic benefits. But there is also skepticism, particularly amongst Native people who bitterly recall how the first time round when the mine was suddenly closed down very little was done to remediate the site and neither has compensation been forthcoming for the environmental damage done, nor for the vast resources extracted from their traditional land. In the chapter, the two authors discuss the conditions attending rise and fall of mines generally and in particular these two important zombie mines and current activities there of either remediation or reanimation in the form of a new go at mining. More generally, the two cases are also used to illustrate the invalidity of an

older view of mining history in which it is assumed that closure of a mine is the end of its story. Further, it is emphasized how remediation and redevelopment is not a question simply of a “technological fix;” on the contrary, such projects may well re-open former sources of conflict over physical and cultural legacies of mining, such as exploitation of aboriginal land and histories of economic and environmental inequalities and injustice.

Chapter 12 (Bocking) is an informative review of research behind the detection of and knowledge about pollution found in the Canadian Arctic and the subsequent translation of shifting bodies of expertise into policy and action to secure the health and well-being of northerners, particularly aboriginal people. Pollution of air, waterways, land and snow affect food chains of fish and wildlife. Like contaminants in processed foods that have replaced traditional indigenous diets many of the problems ultimately stem from human activities in the south. The chapter also takes up how research and policy have been developed to detect, monitor and tackle the situation. The presentation demonstrates how the history of contaminants in the Arctic is one of surprises. It falsifies the old idea of the region as a pristine part of our planet. On the contrary, it turns out, it is a region where pollutants of all sorts have accumulated. Many persistent organic pollutants (POPs) come from far distant places in the south, from agriculture and industry, to find their final destination in the high north where ecosystems have adapted to harsh climatic conditions in ways that make them unique and more sensitive. POPs resist degradation in the environment and accumulate in greater concentrations than in other parts of the world. Consequently, the Arctic is actually an indicator, a baseline reference, for the health of our planet. The author tells how the first focus of research was on radioactive fallout and Arctic haze, particles carried long distances through the atmosphere. Thereafter pesticides and other POPs came under the lens. At first, the knowledge motivating interest was one of teasing out puzzles of how such anthropogenic substances released in the south could reach the Arctic; the mechanisms behind the process were unraveled. Then attention shifted to why and how toxic contaminants accumulated in large quantities and got into ecosystems and food-chains there, causing harm to life both of vegetation, animals and humans.

In the course of the various phases in research and shifts of focus from atmospheric studies to ecology and toxicology, new scientific perspectives came to the fore. By the 1990s, research on contaminants had shifted from their presence in various arctic species to a focus on how people encountered them, particularly through food. The meaning of

northern contaminants was shifting from being a chemical and ecological to a human health and culture issue. A centerpiece in this development was the Canadian federal government's Northern Contaminants Program (NCP) that ran a series of detailed monitoring studies throughout the 1990s. The chapter rightly devotes considerable space to the shaping of the NCP, its background and results. As scientific evidence and risk analysis of contaminants passing into Indigenous peoples' traditional country food became more robust the message of the experts came in part into conflict with longstanding indigenous experience, knowledge, perspectives and values. The old common wisdom was that preparing and eating meat taken from animals in the wild is healthy country food. Some interpreted the experts' warnings of risks as yet another colonial strategy to restrict hunting. Policy-makers as well as scientists learned how important it was to respectfully gain an understanding of indigenous experience and perspectives and to engage aboriginal people in consultative processes and partnerships for a co-production of new knowledge that was not only credible in modern scientific terms but also socially and culturally anchored and robust. In explaining the social and cognitive conditions under which what was previously "invisible" or ignored is rendered visible with new scientific perspectives, models, methods, hypotheses and data the author makes use of Michelle Murphy's fruitful concept of "regimes of perceptibility," i.e., the ways in which different forms of knowledge become visible or invisible in the scientific community and broader society.

Chapter 13 (Cameron) takes up the issue of climate change and its implications for people living in Arctic Canada. The title is "Climate anti-politics. Scale, locality, and Arctic climate change." Much of the chapter is devoted to critical conceptual analysis of some basic categories that are often taken for granted. Research examining the human dimensions of climate change has expanded significantly after the turn of the millennium, particularly in connection with the Fourth International Polar Year when social sciences and humanities were also officially included in major international scientific programs. However, the social sciences and humanities have frequently been treated as add-ons to the natural sciences that for their part have dominated with a focus on predicting future changes and a call for human beings to adapt. The "local" situation has a privileged position as a site for understanding and responding to climate change in the region. Cameron challenges the way "the local" is framed in scientific discourses as a taken-for-granted category that limits studies to include individual and community practices that appear as "local" from the vantage point of mainstream academic science,

for example hunting and land travel. But these are not necessarily the only “local” concerns in the minds of the Inuit people themselves. For them climate-related transformations in resource extraction, shipping and sovereignty issues are dimensions that are immensely important.

There is something inherently patronizing in much of the emphasis on what outsiders deem to be the “local” since such a perspective tends to obscure the wider transformative structures that influence the livelihood and well-being of northern communities. Other categories that are critically examined by introducing much needed reflexivity in the climate change discourse are: “local knowledge,” “traditional knowledge” and “Indigenous knowledge.” This is because these too are frequently used as taken-for-granted notions prescribed from outside. Moreover the three of them tend to get conflated as referring to one and the same thing.

[The] point is not that Indigenous peoples’ knowledge are somehow not local, but that attributions of locality can be used to undermine that knowledge, even (and perhaps especially) when aiming to document, integrate and represent ‘local’ understanding on an issue. (p. 478)

In her discussion the author contrasts academic approaches with those of Indigenous people’s themselves, pointing for example to the approach of the Inuit Circumpolar Conference (ICC) where knowledge is connected to a global political movement to coordinate and internationalize Inuit concerns. The climate change *problematique* is encapsulated in a matrix of trans-local challenges that extend far beyond “the local.”

To come to terms with these dimensions of climate change is to come to terms with colonial and capitalist histories and presents. Yet in the vast majority of climate change research neither colonialism nor capitalism is within the frame of reference. (p. 485)

Still, this broader frame of reference is also part of the history of climate change itself. Altogether, in its critical review the chapter provides an important corrective of exclusions and orientations that rest on deep-lying assumptions in a broad literature.

As already noted at the outset above, the last chapter (14) written by Stephen Bocking comes back to a number of central concepts that he introduced in the book’s introductory chapter. This is helpful for maintaining an overview over the diversity of themes and arguments as discussed in the anthology and pertinent to *the place of environmental history within*

northern studies. The volume underlines the interdisciplinary character of environmental history, and therewith the need of appropriately recognizing and integrating different perspectives and analytical methods. It is shown how the Arctic far from being an isolated and pristine world it is very much connected to what happens in the world at large. This theme of impact of the south on the far North appears in various guises in all the chapters. With its many case studies and their rich details as well as challenging analytical approaches the volume is well suited as a reference text in several academic fields, among them social and political history, geography and anthropology, and the history of science and technology.

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Susan C. Brantly, *The Historical Novel, Transnationalism, and the Postmodern Era. Representing the Past*, New York & London: Routledge 2017, ISBN 9781138230255, 189 Seiten.

Der recht lange Titel von Susan C. Brantlys Monographie über den historischen Roman lässt eine zeitliche und inhaltliche Perspektive erkennen, macht nicht aber deutlich, dass das Buch vorwiegend auf schwedische Literatur konzentriert ist. In der ausführlichen Einleitung wird dieser Fokus – vor allem wohl für das nicht-schwedische Lesepublikum – mit der Bedeutung Schwedens auf dem Literaturmarkt und der großen Popularität des historischen Romans in Schweden begründet. Die rasante Entwicklung des Landes aus größter Armut hin zu einem reichen Wohlfahrtsstaat in einer Zeitspanne von nur einhundert Jahren hat, so argumentiert Brantly, zu einem ausgeprägten historischen Bewusstsein geführt, das die Literatur seit August Strindbergs Schriften kritisch begleitet hat. Nun fragt die Autorin, ob sich in der Zeit nach 1960, die sie in der in den USA üblichen Weise als postmodern bezeichnet, sowohl transnationale Tendenzen als auch durch die postmoderne Philosophie informierte Verfahrensweisen der Metanarration, der Hinterfragung von Wahrheit oder der dekonstruktivistischen Geschichtsauffassung im historischen Roman niedergeschlagen haben.

Diese Fragen werden in acht sehr unterschiedlichen Kapiteln verfolgt; manche stellen die Analyse eines Textes in den Mittelpunkt (2, 3, 5, 7), andere sind thematisch angelegt und z.T. eher cursorisch ausgerichtet (1, 4, 6, 8). Über weite Strecken geht es um schwedische Romane und Gegebenheiten, doch tauchen immer wieder vergleichende Verweise auf die anglo-amerikanische Literatur sowie punktuelle Hinweise auf andere Gattungen auf. Immer ist Brantlys Vorgehensweise gründlich, gut informiert und wird durch Rekurs auf vorhandene internationale Forschungsliteratur gestützt. Auch der Leitbegriff des historischen Romans wird durchgehend diskutiert, an den bekannten vorhandenen Gattungskonzepten gemessen und immer wieder zur Konturierung des Untersuchungsmaterials herangezogen. Der Begriff wird nie naiv oder unvorsichtig benutzt, das Buch kommt aber auch zu keinem neuen oder interessanten eigenen Gattungsentwurf. Die einzelnen Kapitel haben sowohl informativen und präsentierenden Charakter, sind aber nicht thesenhaft angelegt und münden auch nicht in einer grundlegend neuen Sicht auf den historischen Roman Schwedens. Dafür sind die Kapitel und die untersuchten Texte wohl auch zu unterschiedlich.

Das Buch beginnt mit einer interessanten Übersicht über Metaphern zur Bezeichnung der Historie und des historischen Verlaufs, wobei eine Untersuchung von Alexander Demandt aus dem Jahr 1978 zugrunde gelegt wird, von der sich die postmoderne Metaphorik unterscheidet. In der Postmoderne sind Metaphern wie das Spiel, das Labyrinth, die Collage oder die »frayed time« vorherrschend und drücken Zweifel an der Wahrheit, der teleologischen Verfasstheit und der Sinnhaftigkeit des Geschichtsverlaufs aus. Gelegentlich wird in den folgenden Romankapiteln auf diese einführende Begriffsanalyse zurückgegriffen. Den Auftakt der Analysekapitel bilden dann Anders Fogelströms Stockholm-Romane (1960-68), die die Geschichte der Stadt von 1860 bis 1968 zum Gegenstand haben, aber traditionell erzählt sind und nicht als postmodern bezeichnet werden können – was Brantly auch nicht tut. Sie bewertet diese Romane mit ihrer didaktischen Botschaft als traditionalistisch im Sinne von Lukács' Romankonzept und benutzt sie als Grundlage einer Diskussion um Faktizität und Fiktionalität. Am Ende des Kapitels kontrastiert sie Fogelströms Ansatz mit dem anekdotischen und kritischen Ansatz Sara Lidmans in ihren Norrland-Romanen.

Das folgende Kapitel widmet sich dem außergewöhnlichen Roman *Geniernes återkomst* (1987) von P.C. Jersild, einem der wenigen wirklich transnational ausgerichteten Texte, der – in der Form einer Chronik in 133 Kapiteln – die Geschichte der Menschheit von den Hominiden bis in die Zukunft hinein erzählt. Kapitel vier ist ein Übersichts-kapitel über

historische Romane von weiblichen Autoren, in dem auch mehrfach auf englischsprachige Literatur (wie z.B. Antonia Byatt und Toni Morrison) verwiesen wird. Brantly gliedert die weiblichen Beiträge zur Gattung in sechs Gruppen (z.B. Gegengeschichten oder weibliche Utopien) und stellt eine ganze Reihe von Romanen vor – allerdings recht knapp und eher präsentierend als analysierend. Kapitel fünf beschäftigt sich mit dem meiner Ansicht nach in diesem Kontext bedeutendsten Roman, der sowohl der Frage nach einer transnationalen Perspektive als auch nach neuen postmodernen Darstellungsformen gerecht wird. Ola Larsson *Maronberget* (1996) beschreibt auf zwei Zeitebenen (18. Jahrhundert und Gegenwart) die Geschichte von zwei dunkelhäutigen Menschen in Schweden und hinterfragt damit den Mythos der Homogenität der schwedischen Kultur.

Das folgende Kapitel hat wie das Gender-Kapitel einen vergleichenden Zuschnitt und diskutiert drei thematisch ähnliche Romane der französischen, schwedischen und englischen Literatur (Michel Tourniers *Vendredi ou les limbes du Pacifique* [1967], Sven Delblancs *Speranza* [1980] und Barry Unsworths *Sacred Hunger* [1992]) vor dem Hintergrund von Horkheimer und Adornos *Dialektik der Aufklärung* (1944). Der vergleichende Ansatz ist sinnvoll und erhellend, allen drei Romanen ist gemeinsam, dass sie die Aufklärung für ihre unterdrückenden und ausbeuterischen Aspekte verurteilen. Im Gegensatz dazu steht im darauffolgenden Kapitel mit P.O. Enquist ein Verteidiger der Aufklärung im Zentrum. Seine beiden Romane *Magnetisörens femte vinter* (1964) und *Livläkarens besök* (1999) bewertet Brantly als skeptisch gegenüber der Postmoderne, auch wenn der frühere Roman schon durch seine dokumentarische Methode Geschichte als Konstruktion hervortreten lässt. Das letzte Kapitel bietet einen historischen Längsschnitt der literarischen Auseinandersetzung mit Schwedens berühmtesten König, Karl XII. In der Romantik als Held verehrt, um 1900 von Heidenstam als tragische Figur entworfen und von Strindberg als Unterdrücker angeklagt, wird er im 20. Jahrhundert meist einhellig negativ als Despot bewertet. Andererseits haben schwedische Neo-Nazis ihn vor kurzem erneut zum Helden erkoren, was man bis in die Populärmusik (vgl. das Album *Carolus Rex* der Metal-Gruppe Sabaton) hätte verfolgen könnte, doch das bleibt in dieser dem historischen Roman gewidmeten Studie ausgeblendet. Eine Zusammenfassung bietet dieses vielfältige Buch nicht, aber eine ausführliche Bibliographie und ein nützlicher Namensindex schließen die Untersuchung ab.

Susan Brantly hat eine umfassende und materialreiche Studie zum historischen Roman in Schweden vorgelegt, die viele relevante Fra-

gen zur Identitätskonstruktion Schwedens, zur Entwicklung der Gattung in der Zeit nach 1960, zu Gegenentwürfen zu traditionellen Form des Historienromans, zum Verhältnis von Faktizität und Fiktionalität und zur Bewertung der Vergangenheit allgemein aufwirft. Viele dieser Fragen werden diskutiert und durch Heranziehung von relevanter Forschungsliteratur kenntnisreich untermauert. Susan Brantly argumentiert – wie auch in ihren anderen Veröffentlichungen – sehr solide und stets gut informiert. Allerdings fehlt es dem Buch durch die vielen unterschiedlichen Kapitel etwas an einem Fokus und die titelgebende transnationale Perspektive spielt nicht die zu erwartende Rolle. In einigen der Kapitel (über Fogelström, Enquist und Karl XII) gerät sie weitgehend aus dem Blick, im gesamten Buch gewinnt sie nicht den Stellenwert eines untersuchungsleitenden Begriffs und einer stringent angewandten Leitfrage, die zu einer Neubewertung der Gattung oder gar einem neuen Geschichtsverständnis jenseits des Nationalen hätte führen können. Insbesondere Ola Larsmos Roman hätte Anlass zu einer solchen grundlegenden Revision geben können, deren Spuren man hätte weiterverfolgen und deutlicher markieren können.

Trotzdem stellt die materialreiche und reflektierte Studie einen wichtigen Beitrag zur Gattung des historischen Romans in Schweden dar; sie behandelt die wichtigsten innovativen Romane (Kap. 2, 5, 7) und präsentiert eine Fülle weniger bekannter Beispiele (v.a. in Kap. 4). Insgesamt hat Susan C. Brantly einen wichtigen Forschungsbeitrag vorgelegt.

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Birgit Falck-Kjällquist, *Sveriges ortnamn. Ortnamnen i Värmlands län. Del 17. Register 2. Huvudleder*, Uppsala: Institutet för språk och folkminnen, 2018 (Skrifter utg. av Institutet för språk och folkminnen. Namnarkivet i Uppsala. Serie A. Sveriges ortnamn), ISBN 978-91-86959-50-0, 75 pp.

The first volume of *Sveriges ortnamn. Ortnamnen i Värmlands län* (the series 'Swedish place-names. The place-names in the County of Värmland'), which treats of names in the Gillberg region, was published as early as 1922. Some 60 years later, in 1984, an introduction to the series was published, which provides an outline of the county's physical character, vegetation, settlement history, communications etc., as well as an overview of dialectal traits and Finnish names in the area, and, above all, an account of names of various kinds such as names of districts, parishes, villages, homesteads and natural geographical features, and an overview of the final elements of these names and certain name elements occurring in the settlement and natural names in the area. This introduction (volume 1) was compiled by Birgit Falck-Kjällquist, who now also concludes the series with the current index volume. Volume 17 presents the final elements of the lemmas selected by the authors (volume 16 (1962) contained an index of all settlement and natural names in the series). However, the register in volume 17 also includes some name forms that are not lemmas, such as variant forms and name forms found in older sources. The principles for the choice of these forms are not accounted for. However, names of iron-mill communities, hammer works and smelting works in the Bergslagen areas are included even when they are not lemmas, as well as names of cottages and some minor settlements. Sometimes, one finds in the index final elements which, as a result of language change, have altered past recognition, for example the names ending in *-hem*, which are to be found in the index under *-eem*, *-em*, *-m*, *-om*, *-um* and *-öm*, but also brought together under *-hem*. On the whole, the index appears to be functional and carefully compiled. Nevertheless, I would like to point out a few things I noted down while reading it. As is well known, there is a significant number of Finnish names in parts of the Värmland area. However, these elements are often adapted to the Swedish dialect in the index. Some examples of this are *bårro* (*porra*, *porro*, *porrå*) (< Finn. *puro* 'brook'; the final element *puro* is also listed as a lemma), *jaro* (< Finn. *järvi* 'lake') och *lann* (< Finn. *lantto* 'valley'). It would have been useful if the author in these and similar cases had

provided the original Finnish word and preferably also its meaning, in the same way as is done in connection with *-a* (i *Blom(m)a*), which is assumed to derive from OSwed. *ā* 'stream.' Sometimes, references between some of the final elements would also have been advantageous, e.g. between *dolpan* and *dulpa* (*dulpan*, *dulporna*). However, these are only minor points which do not detract from the overall quality of this publication, which concludes the suite of volumes in the series *Ortnamnen i Värmlands län*, the production of which started nearly a century ago. We are grateful for this contribution to the study of toponyms.

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Kåre Hoel, *Bustadnavn i Østfold 15. Skjeberg. Utgitt av Institutt for lingvistiske og nordiske studier, Universitetet i Oslo ved Tom Schmidt*, Oslo: Novus Forlag 2016, ISBN 9788270998562, 532 pp. + map at the end.

Work on the publication of *Bustadnavn i Østfold* is steadily progressing and no fewer than three entire volumes, published from 2016 to 2018, can thus be presented here. The articles in these volumes are structured in the usual manner with a lemma, a homestead number, information on pronunciation, when available, and an account of older writing forms. This is followed by a presentation of what is said about the name in *Norske Gaardnavne* (NG), the cautiously edited text written by Kåre Hoel in his time, and the editor's, Tom Schmidt's, comments and additions. Schmidt's comments (delimited by a vertical bar), sometimes precede Hoel's text, thus having a kind of introductory function, but may also follow directly upon his text or be interspersed in it. The current volume is focused on the Skjeberg district, i.e. settlement names in the parishes of Skjeberg, Ullerøy and Ingedal. It is suggested in NG that the first element of the name *Skjeberg* might be connected to *skjalg* 'warped' (p. 20 ff.), but a far more plausible explanation is given here, namely an underlying *skjølff* 'shelf, ledge.' The formation of the name is motivated by topographic conditions. *Ullerøy* (p. 331 f.) is first discussed as a sacral name, but later, based on a study by Birgit Falck-Kjällquist (1983), as a formation deriving from the watercourse name **Ull*, **Ullā*, related to the verb *välla* 'flow.' However, as it is not easy to find factual evidence for the latter interpretation of Skjeberg, it is seen as unlikely. The manner in

which both these alternatives are thoroughly presented is a good example of the rational and well-structured discussions in this book. When reading the article on *Ingedal* (p. 273 ff.), one needs to be attentive to distinguish between Hoel's and Schmidt's texts. In Hoel's text, there are references to the opinions of other etymologists, but he does not comment very extensively on the linguistic and factual grounds underpinning the interpretations of the name, while Schmidt assumes that the historical watercourse name **Ingr*, which he sees as the first element of the name, "may derive from a formation to ONo **angr* with an analogical *i* which is common in fjord names" (p. 274); thus, the name is interpreted as "the winding, curving (fjord)," an interpretation that should have been discussed further, not least from a linguistic point of view. Needless to say, this comprehensive volume contains many other interesting discussions. Different alternatives in the interpretation of names are commendably presented in the articles, for example in those on *Stabbertorp* (p. 50 ff.), *Lossland* (p. 71 ff.), *Klavestad* (p. 102 ff.) and *Hafslund* (p. 124 f.). The discussions about names such as *Søle* (p. 251 ff.), *Bessberg* (s. 301 f.) and *Erterøya* (s. 335 f.) are interesting, and the book also pays laudable attention to younger names such as *Huken* (p. 46 f.), probably derived from *huk* 'a small, low, primitive house,' *Fredly* (p. 69 f.), from *fred* 'peace' and the house-name element *ly* 'shelter (against the weather)' and *Tørkopp* (p. 170). For the most part, the publisher demonstrates a good knowledge of the relevant literature, even though one may feel that relevant investigations are sometimes missing, for example in the case of *Rønneld* (p. 230 f.), interpreted as being derived from **runeldi*, a derivation from *-eldi* till *rune* 'bush,' where Bror Lindén's investigation in the journal *Arkiv för nordisk filologi* 70, 1955, p. 196 ff. on *-ald*, *-eldi*-formations might well have been considered since that article also deals with the West Nordic material. However, the great majority of the interpretations in this volume are to be commended for being well substantiated, linguistically and, not least, factually. A section on topographic words at the end of the volume precedes source and literature references and the comprehensive indexes. The book also contains a separate fold-out map of the district in a back cover pocket.

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Kåre Hoel, *Bustadnavn i Østfold 16. Berg. Utgitt av Institutt for lingvistiske og nordiske studier, Universitetet i Oslo ved Tom Schmidt*, Oslo: Novus Forlag 2017, ISBN 9788270998720, 472 pp. + map at the end.

This volume of *Bustadnavn i Østfold* treats of names in the Berg district. The structure is the same as that in *Bustadnavn i Østfold 15* (see above). The volume contains several interesting interpretations of settlement names in the area, for example in the investigation concerning *Boberg* (older *Baugaberg*, p. 20 ff.), where the publisher suggests that the four circular stone formations, i.e. the prehistoric graves at the site, have given rise to the name. According to this interpretation, *Boberg* thus means 'the Berg homestead with (the many) stone rings,' and the interpretation of the name as deriving from the personal name *Baugi* is rejected. The name *Asak* (p. 180 ff.), considered to be a sacral place-name, is the subject of a thorough discussion, in which the different opinions put forward about the final element are presented. The interpretation of *Tutturen* (p. 312 f.) as deriving from *tøturr* 'cloth,' previously presented by Hoel in a separate study (1985), is also interesting. The factual reference of the first element *rå* in *Råskogen* is discussed and the conclusion drawn is that *rå* meaning 'border' is the most plausible one. The discussion of *Låby* (p. 143 ff.) results in the assumption that the name derives from *løgbyr*, with the element *løg* n. pl. 'law' and that the name should thus be understood as 'the homestead where district court sessions are held,' which seems very likely. *Fugleputt* (p. 201 f.) can be interpreted in several different ways, but there is much to indicate that the first element is the adjective *ful* 'stinking, rotten.' The important matter of principle whether two names which are topographically related and have similar linguistic properties can still be analysed from two different points of departure is highlighted in connection with *Fismedal* (p. 218 ff.) from the postulated river name **Fism(a)* and the lake name *Fem(sjøen)*. One may feel that this discussion is not quite conclusive, but in all fairness, it involves extremely intricate etymological problems. There are a few more cases where one would have liked to have seen deeper investigation and maybe also more precise standpoints, for example in the cases of *Svinesund* (p. 57 f.), *Tobru* (p. 106) and the postulated river name **Tófa*, and *Brøden* (p. 110 f.) and *Remmen* (p. 134 f.), assumed to be *-vin* names. The reader is also acquainted with quite a few younger names, such as the names *Søkopp* (p. 79), *Stuput* (p. 157 f.) and *Snørøpp* (p. 97 f.) which are based on imperative verb forms. The latter name might denote a place

where travellers on foot used to take a break. Another interesting name is the fairly unique *Misunnelse* (p. 48). The name *Quincy* (*Kvinsi*; s. 173) is exceptional, as it appears to be derived from a British or American family name or settlement name. It would be interesting to know how a transfer name like *Uranienborg* (p. 163), which comes from the name of Tycho Brahe's observatory on the island of Ven, has spread. It seems unclear how the name *Oppsal* (p. 50) can be concretely related to *Uppsala*. At the end of the volume, there are sections on obsolete names, older names of rural areas and hamlets, a comprehensive section on topographical words (pp. 355–399) and several indexes, one on the place-names in the district, one on place-names outside Berg, one on the appellatives found in the text and one on personal names and family names. The volume contains many interesting investigations of both very old and more recently formed names, and it also takes up certain much debated issues in Nordic onomastics.

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Kåre Hoel, *Bustadnavn i Østfold 17. Råde. Utgitt av Institutt for lingvistiske og nordiske studier, Universitetet i Oslo ved Tom Schmidt*, Oslo: Novus Forlag 2018, ISBN 9788270999118, 360 pp. + map at the end.

This volume of the series *Bustadnavn i Østfold* was published in 2018. Like the other volumes in this series, it is based on Kåre Hoel's extensive manuscript, which was begun in the 1950s and then worked on for several decades. The work done on the text in connection with its inclusion in *Norske Gaardnavne* (NG) was thorough. When Hoel passed away in 1989, he left behind a manuscript comprising 7,789 handwritten A5 pages. However, it was felt that the manuscript needed major revision, not least in view of the long period of time during which it was compiled. Margit Hansson and Tom Schmidt have been in charge of the successful publication of the series from the start in 1994, and, so far, 17 volumes have been published, many of which are very large. The current volume deals with the Råde district. Thanks to Harald Bjorvand's investigation (2013) of *Råde* (p. 19 ff.), which is accounted for in this volume, it has been possible to present a linguistically plausible derivation for this name based on an analogically developed form, Old Norse *ráða* (nom.),

ráðu (obl.), ‘pole, log’ referring to the elevated piece of land where the homestead is located. The volume contains many interesting investigations of settlement names, for example *Tomn* (p. 63 ff.), previously interpreted as ‘tussocked land.’ Bjorvand (in an article 2013), however, provided a new interpretation based on a Germ. **Đubnō*, from older **Đufnō*, an s-less form of Germ. **stufnā* ‘tree stump’ with a topographic reference, meaning ‘pole, log’ or with a reference to land reclamation. In the first instance, Bjorvand sees the name as referring to a small hill, or possibly a watercourse. This is an interesting suggestion. The name *Norum* (p. 95 ff.) presents interpretation problems and different alternatives are adequately accounted for. So far, however, it would seem that no entirely convincing explanation for this name has been achieved. *Rød* (p. 135) is explained as deriving from Old Norse *hreyrr* ‘mound of stones,’ which seems reasonable. Regarding *Skinnerøy* (p. 162 ff.), Hoel assumes, on good grounds, that the first element derives from an old lake name, **Skirn* ‘the shiny, bright,’ referring to a smooth-water, widened stretch of river. A rich dialect material is presented in the investigation of *Snata* (p. 170) which results in the conclusion that this name probably means ‘something protruding,’ as the homestead is located on a narrowing ridge. The explanation provided for *Sulerød* (p. 184 f.), which is not given an interpretation in NG, viz. an older **Svǫluruð*, from the bird name *svala* ‘swallow,’ also seems plausible, as does the interpretation of *Musangen* (p. 220 ff.) as deriving from the animal name *mús* and *vangr* ‘open area, grassy plain’ etc. Gösta Holm (1991) favours an explanation based on the final element *angr*. This seems unlikely on chronological grounds, however, as the name would then be unreasonably old. The name *Åven* (p. 57 ff.) is interpreted as deriving from **afhorn*, meaning ‘secluded corner, remote spot,’ which interpretation can be adequately motivated on factual grounds. According to Hoel, a name like *Kåpegot* (p. 128 f.) may be derived from a **Kápukot*, denoting a house (a “kot”) with a so-called *kåpekledning* (an outwardly sloping panelling on an exterior house wall), a name that thus has its roots in a building culture of bygone days. In a few places in the volume, I find the discussion difficult to follow at times, for instance in the article on *Sogn* (p. 38 f.), but for the most part, the presentation is easy to comprehend. I look forward with great expectation to the day when the complete series on settlement names in all twenty-two districts in Østfold is available. However, *Bustadnavn i Østfold* is already a monumental work on Nordic onomastics.

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Ann-Marie Ivars, *Svenskan i Finland – i dag och i går*, vol. 1:1. *Dialekter och småstadsspråk*, Helsingfors: Svenska litteratursällskapet i Finland 2015 (Skrifter utg. av Svenska litteratursällskapet i Finland 798), ISBN 9789515833365, ISSN 0039-6842, 464 pp.

Svenskan i Finland – i dag och i går ['Swedish in Finland—today and yesterday'] is a language project which has received funding from both Finnish and Swedish stakeholders. The project was run from 2010 to 2017, and the volumes resulting from the project were brought out by the publishing house of the Swedish Literary Society in Finland. In the first volume, Ann-Marie Ivars describes the dialects in the Fenno-Swedish area and four of Finland's urban varieties of Swedish. The book is based on the comprehensive research that exists in this area, which for decades has been conducted by a large number of scholars. This research is clearly visible throughout the book, not least in the introductory chapter, where the Fenno-Swedish language landscape, which differs from the Standard Swedish one, is also described. In various places in the book, there are fact boxes that describe details in greater depth. One such box in the introductory chapter deals with the dialects' status in the Nordic countries more generally and points out differences between the countries. The growth of the Fenno-Swedish dialects is described in Chapter 2. Initially, the Fenno-Swedish dialects are described in relation to the settlement history, and a couple of illustrative maps accompany the description of the distribution of dialectal words for 'wild strawberries' (Sw. *smultron*), old diphthongs in the dialects, velar *l*, supradentals, infinitive endings and word accents—as for the latter, the distribution might need some correction in certain details. It is commendable that the Pan-Nordic perspectives are presented here. Distribution routes are also described. In the following four chapters, the Fenno-Swedish dialects are dealt with province by province. Ostrobothnia's traditional dialects (including the adjacent dialects in Sastmola and Vittisbofjärd in Satakunta) and the Åland, Åboland and Nyland dialects are described, as well as tendencies of language change that may be observed. For each province, there is a historical overview, some sample texts from different parts of the province—the provincial dialects are of course far from homogeneous—with accounts of archaisms and innovations, descriptions of phonology and morphology, and sections on vocabulary, word formation, phraseology and syntax for the province as a whole. In addition, there is a concluding discussion about the future status of the dialects.

A few comments might be made here. As regards the chapter on Ostrobothnia's dialects, I would like to emphasise what is said about the early mobility along the Gulf of Bothnia, where, among other things, Stellan Waldenström's studies of toponyms is mentioned, the dialects' degree of genuineness, and, regarding the provincial dialects' future, what is said about global identities alongside local ones, which may be regarded as an *additive* identity. A map of the double past participle in the section on Åland dialects shows that this feature unites Åland with Southern Ostrobothnia and Western Åboland. In the chapter dealing with the dialects in Åboland, it is also interesting to read about what is said about the innovation triangle that comprises Southern Ostrobothnia, Åland and Western Åboland, which in Ivars' opinion was formed as a result of local peasants' sailing voyages to Stockholm (Sw. *bondeseglation*), but which may also "be thought to have a connection with colonisation and mobility along the eastern coast of the Gulf of Bothnia in older times" (p. 224). It is also pointed out that the clear east–west boundary between Iniö and Houtskär on the one hand, and the other parts of Åboland on the other, is also maintained in the contemporarily altered dialects. In the chapter on Nyland dialects, there is an interesting fact box about the Finnish impact on the dialect in Pyttis and about the province's interesting word accents. In chapter 7, there follows a description of the urban varieties selected, viz. Jakobstad, Kristinestad, Ekenäs and Lovisa. It is demonstrated here how geographically determined variation interacts with social variation. Here, too, features in phonology, morphology, vocabulary and phraseology and syntax are described. Many observations are made, for example about the development of an urban variety in Jakobstad known as *jeppiska*. In several places in the chapter, there are sections dealing with different types of young people's language. In Chapter 8, finally, there is an account of the background to the language forms "dialect," "urban variety" and "regional standard language" (Fenno-Swedish) and the origin of sociolects and regional colloquial varieties. The development tendencies that can be observed today in the Fenno-Swedish area are also placed in a larger European context. One reads this book with great satisfaction. It is commendable that not only phonology and morphology are included, but also vocabulary, phraseological and syntactic features. The fact boxes also increase the book's value. In some cases regarding the vocabulary, the Swedish (Nordic) distribution might well have been accounted for, as one sometimes gets the impression that the words only have a Fenno-Swedish distribution. Also, in the detailed sections on individual dialects, it may also sometimes be difficult to distinguish the main features, since large and small features

are presented side by side. But in all essentials, this is a comprehensive volume that one reads with deep appreciation.

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Annette Lassen (ed.), *Islændingesagaerne. Et udvalg i ny oversættelse*. Bind 1. Njals saga, København: Gyldendal 2017, ISBN 9788702214796, 344 pp.; Bind 2. Lakdølernes saga. Totten om Bolle. Viglunds saga, København: Gyldendal 2017, ISBN 9788702227253, 287 pp.; Bind 3. Egils saga. Fostbrødrenes saga. Erik den Rødes saga, København: Gyldendal 2017, ISBN 9788702228724, 381 pp.

In 2014, the extensive Danish translation *Islændingesagaerne. Samtlige sagaer og niogfyrre totter* was published by Saga Forlag, Reykjavík, in parallel with a Swedish and a Norwegian translation; the Swedish translation was reviewed in *Journal of Northern Studies* 2, 2016, pp. 177–180. Gyldendal has now published a selection of these translations in six volumes; the first three are presented here in one context, the following three will be published later. Furthermore “the package” contains an introductory volume, Annette Lassen’s *Islændingesagaernes verden* [‘The world of the Sagas of Icelanders’], which is presented below. Several translators have been engaged in this work. *Njal’s Saga* was translated by Kim Lembek, *Laxdæla saga* by Helle Degnbol and Annette Lassen, *Bolla þáttur Bollasonar* [‘Bolli Bollason’s Tale’] by Lassen and *Viglundar saga* by Karen Bek-Pedersen. In the third volume, *Egil’s Saga* was translated by Rolf Stavnem, *Fóstbræðra saga* [‘The Saga of the Sworn Brothers’] by Peter Springborg and the *Saga of Erik the Red* by the above-mentioned Degnbol. In the reading, one notices differences between some of the editorial choices made in the Danish and the Swedish translation, respectively. Among other things, Danish forms of toponyms such as *Øfjord*, *Sejlenæs* and *Rønnesnæs* are used, while in the Swedish translation *Eyjafjörð*, *Siglunes* and *Reynisnes* were chosen instead. Personal names such as *Jorun Mandvidsbrink*, *Torun Horn* and *Stentor på Ør* are found in the Danish translation, whereas the Swedish one has *Jórunn Manvitsbrekka*, *Þórunn Hyrna* and *Steinþór på Eyri*. As regards the choice of place-names and personal names, the Swedish translation is thus closer to the Icelandic

original. One reads with great appreciation the well-known texts in the Danish translation, where one finds the stories about strong men and women and a society where honour is upheld at any cost. In *Laxdæla saga*, we meet a large number of women: Un den Dybsindige, the Irish king's daughter Melkorka and Torgerd, Turid and Gudrun Usviversdatter, the main character of this saga (I use here, of course, the names found in the Danish translation). *Bolla þáttur Bollasonar* gives us a fairly matter-of-fact picture of power alliances based on friendship relations, and *Viglundar saga*—a Late Medieval Saga—is a courteous love story with the main characters Viglund and Ketilrid, whose love is impossible due to hostility between their families. *Fóstbræðra saga* ['The Saga of the Sworn Brothers'] is about two "desperadoes," Tormod and Torgejr, and their plunder-and-pillage raids which are regulated by a code of honour where revenge and cruelty are basic motives. *The Saga of Erik the Red* is about the discovery of land areas previously unknown to the Vikings, such as Greenland and Vinland, where they meet *skrælingar* (the name used by the Norse people for peoples they encountered in North America and Greenland), but also about their encounters with Heathen and Christian concepts. The volume also contains *Njal's Saga* and *Egil's Saga*, which are outstanding among the Icelandic Sagas. These translations are accompanied by a small number of notes where some words and expressions are elucidated, and in a couple of places it is also pointed out that a particular translation is questionable. At the end of the volumes, there are family trees clarifying relations between those mentioned in the sagas, as well as illustrative maps. In addition, there are lists where words and concepts (and some names) in the sagas are explained. It is praiseworthy that a selection of the sagas from the larger translation is now available in a somewhat different format, and the value is considerably strengthened by the fairly simple but functional framing with introductions, family trees and maps as well as short explanations of words and facts.

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Annette Lassen, *Islændingesagaernes verden*, København: Gyldendal 2017, ISBN 9788702234084, 165 pp.

The three volumes (out of a planned six) of the Danish translation of the Icelandic sagas published by Gyldendal are reviewed above. These volumes are based on the translations found in the magnum opus *Islændingesagaerne. Samtlige sagaer og niogfyrre totter* (1–5), published in 2014 by Saga Forlag, Reykjavík. It is commendable that Gyldendal, through this publication, makes the translations available in this format, too. It is also excellent that, in addition, the publishing house has brought out this small introductory volume. Annette Lassen is a competent guide, who, on her own, was responsible for the publication of this five-volume work and also for the publication of *Oldtidssagaerna* (1–8; Gyldendal 2016–2019). What “sagas” and “tåtar” (*þættir*) are is initially accounted for in the introductory volume. This is followed by an important chapter about Icelandic literature seen in a larger context, where the European dimensions also emerge and are exemplified. There is also a section on the passing down of the sagas via oral tradition. A section dealing with what characterises sagas from different time periods is very interesting, as is the account of those who wrote down the sagas and their sources. The Icelanders as “the Nordic countries’ history tellers and bookworms” is the subject of another section. This is followed by a discussion of the Icelandic sagas’ historicity, for example the burning down of Njal’s house in Njal’s Saga. However, archaeological investigations have not shown that his house was burnt down as described in the saga. Instead, Einar Kárason has argued that the large fire mentioned in the saga probably reflects an event that is contemporary with the time of the writing down of the saga, namely the fire in Flugumýri in 1253, where 25 people burnt to death in a house. In this context, the sagas’ description of the voyages towards North America is also dealt with, and the archaeologists Helge Ingstad and Anne Stine Ingstad’s investigations of Viking dwellings in L’Anse aux Meadows, Newfoundland, are also mentioned. The style and literary techniques in the sagas are then described. For example, retorts are discussed, and in one section the author deals with the tricky scald poems. A multifaceted section deals with the Icelandic society of the sagas with accounts of medieval religious conditions, the importance of the family, legal conditions, women and men and the relation between them, love, honour, economic conditions, the farm and the work on it and the boats and the building of them. This is an extensive chapter comprising some 35 pages. The book is concluded with a short chapter about saga translations in Denmark, and a long section on the individual

sagas with detailed content summaries. These summaries of the individual sagas are, of course, useful, but the summaries could alternatively have been focused on different themes. Manuscripts, translations and some specialist literature are listed at the end of the book. Despite being a relatively short volume, Annette Lassen's book is comprehensive and pedagogically organised, which makes it easy to follow the presentation, and it seems to be solidly based on a scholarly discussion. Together with the six volumes with a selection of sagas and *þættir* brought out by the publishing house at the same time, of which three have been published so far, this book provides a platform that makes it possible to disseminate to the public at large a knowledge of the early literary magnum opuses that the Icelandic sagas constitute and thereby also creating an interest in them.

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Maria Löfdahl, *Ortnamnen i Sotenäs härad. 1. Bebyggelsenamn*, Göteborg: Institutet för språk och folkminnen. Dialekt-, ortnamns- och folkminnesarkivet i Göteborg 2018 (*Ortnamnen i Göteborgs och Bohus län. XIV*), ISSN 0284-1908; ISBN 9789186959449, XXXV + 164 pp. + map in back cover pocket.

Ever since 1923, when *Ortnamnen i Sävedals härad jämte gårds- och kulturhistoriska anteckningar* ['Place-names in the Sävedal district with notes on homesteads and cultural history'] was published, new parts of the series *Ortnamnen i Göteborgs och Bohus län* have been published decade after decade. No fewer than nine parts have seen the light of day since the year 2000, including the present one, which is authored by Maria Löfdahl and treats of settlement names in the Sotenäs district. By way of introduction (p. XIX ff.), it is stated that the first element in *Sotenäs* contains the name of a fjord formed from **suht-*, related to the verb *suga* ['suck'] and referring to the local body of water which is characterised by strong breakers; the meaning would probably be something like 'the fjord with sucking, rough seas.' The brief but comprehensive introduction also presents local administrative, natural and industrial conditions and the dialect of the area. Moreover, an overview

is given of the local place-names in which more recent name patterns are characterised and older place-name types exemplified, viz. *bod/bo*, *by/bø*, *hem*, *hult/holt*, *land(a)*, *röd*, *sta(d)*, *toft (tuft)/tyft*, *torp* and *vin*. A few additional local name elements are also mentioned: *gel/gilja* ‘mountain pass’ etc., *hed*, which refers to open (unwooded) terrain, *hog* ‘hill,’ *klev/kläv(a)* ‘cleft’ etc., *kärr*, which has several different meanings, and *myr*, which refers to a waterlogged/marshy area. Many of the local settlement names derive from words denoting terrain formations. For example, the village name *Vägga* (p. 54) is formed from *vägg* ‘wall’ in its topographic sense; the long stretches of steeply sloping cliff faces can be clearly seen in Picture 3. Formally, it might be derived from an older island name, **Väggja*. It seems reasonable that the first element of *Bjällane* (older *Biellandom*), with the final element *land* (p. 92), may be related to a word corresponding to Icel. *bjalli* ‘elevation.’ This interpretation is also corroborated by a photo of the terrain in that place (Picture 6). An alternative interpretation is also given (loc. sit.) suggesting that *Bjällane* might stem from an older name of a watercourse, **Bjalla*, meaning ‘the rattling (stream).’ This seems less plausible, however. The first element in *Risdal* (p. 39) and *Rished* (p. 40) might be dialectal *riss* ‘mountain ridge, earth ridge,’ a possibility that is considered alongside the common word *ris* ‘shrubs,’ and *Koderöd* (p. 113 f.) is discussed against the background of dialectal *kota* ‘lump, clod,’ ‘protuberance.’ *Trummen* might be formed from a terrain-descriptive *trum*, *trumme* ‘cattle mouth’ and *Knutsvik* may stem from a place-name **Knut* containing a terrain term *knut* [‘bare hillock’]. The first element of the *-vin* name *Ellene* (p.99) contains a term for a ridge, either an equivalent of Old Norse *ál* ‘leather strap’ or Norw./Swed. *ål* (Old Norse *áll*) ‘dark stripe along the back of an animal.’ A dialectal *gluff*, *gluffa* ‘gorge’ is behind the name *Gluwik* (p.17) and *Dokka* (p.18) may be derived from an equivalent of Old Norse *ðokk* ‘depression, hollow.’ An alternative interpretation presented of the final element in *Kärrshåla* (p. 29 ff.) is a terrain-descriptive *valv*, a theory well worth considering. It is possible that *kore* ‘edge’ is behind *Kornmyren* (p. 27), even though this word, as pointed out by the author, is only weakly attested. Another line of reasoning worthy of attention concerns *Lönnekärr* (p. 119 f.), whose first element, the author argues, comes from Old Norse *loðinn* ‘rich in grass’ or from a now obsolete lake name, **Loðne* [‘the shaggy lake,’ i.e. a lake rich in vegetation]. The suggestion that *Bergskär* (p. 64 f.) might stem from *bágr* is worthy of consideration, but it could have been further substantiated. Similarly, there are a number of other cases where the discussion could have been carried further. The basis of the parish name *Bärfendal* (p. 63) is obviously **Berufjörðr*, probably

with a watercourse name, **Bera*, derived from *bera* 'she-bear,' in the first element. However, the factual background of this name is not easy to determine and could have been discussed more energetically. *Finntorp* is discussed (p. 101) in connection with a terrain-descriptive *finn(e)*, but in my opinion, this element requires far more extensive investigations than those referred to in loc.sit. In connection with *Runden* (p. 122 f.), several different alternatives are discussed which the author could have weighed against each other more clearly. The photo appendix at the end of the book contains photos of terrain formations referred to in the name interpretations, which significantly enriches the reading experience (see above). It is a pity, however, that the photos were not presented in direct connection with the respective name articles. It should be added that the cover photo shows the steep cliff faces that are behind the name *Bratteby* in the parish of Askum. A place-name index, a personal name index, a word index and a brief, but interesting, cultural history index conclude the book. There is also a fold-out map of the area in a back-cover pocket. Interpretations are excellently substantiated, linguistically as well as factually. In other words, the author has produced a solid piece of onomastic research. The presentation is also easy to follow, which will no doubt result in the book reaching a wide range of readers.

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Harry Lönnroth (ed.), *Philology matters! Essays on the Art of Reading Slowly*, Leiden: Brill 2017 (Medieval and Renaissance Authors and Texts 19), ISSN 0925-7683, ISBN 9789004315112, ISBN 9789004349566, XXV + 223 pp.

In Harry Lönnroth's interesting and ambitious introduction to this volume, it is emphasised that the philological field is wide and interdisciplinary, which at the same time provides many challenges. The title *Philology matters!* alludes to the fact that philology "can function as a common denominator for many areas of research having common roots within the humanities" (p. XV). The book contains ten chapters, one of which is co-authored. Among the contributors, we find chiefly authors working in the field of Scandinavian studies, but also some representatives of Romanistics, Anglistics and the history of culture. In the introductory

chapter by Helge Jordheim, entitled “Philology and the Problem of Culture,” the reader is given concrete insights into a number of important philological works and important lines of future development, where the author tries “to understand what the future of philology might look like” (p. 2). The author also deals with what he calls “the problem of culture.” In her contribution, Maja Bäckvall focuses on the dichotomy between traditional philology and neophilology, a dichotomy that she sees as imprecise and which may therefore be called into question. Other more precise categorisations may instead be ones between reconstructive and descriptive philology and between production and reception. The following two chapters shed light on the challenges of philology. Karl G. Johansson, who has worked with different types of Nordic material, emphasises that one must be aware of both oral and written traditions in the analysis of the medieval manuscript tradition—one must, as he puts it, expect cases where Latin traditions and Nordic traditions “interrelate in an on-going exchange between oral and written modes” (p. 56 f.). This motivates the philologist to take into account a large number of different scholarly perspectives. Marita Akhøj Nielsen shows in her chapter, entitled “Philological Virtues in a Virtual World,” the rich possibilities provided today by online editions etc. and how these might be used to educate new generations of philologists. In the following chapter, Jonas Carlquist discusses the relation between philology and historical context, and shows with examples how manuscripts may be placed in different contexts: one manuscript may gather together important texts intended for an individual parish clergyman, another texts for the Vadstena sisters’ daily teaching etc. Finally, he points out that philology can provide clues in the study of distant times and make it possible for us to approach the goal of getting “to know the scribes and their readers” (p. 96). In his contribution, the Romanist Lino Leonardi describes Jean Frappier’s stemma for *La Mort Artu* (1936), emphasising the importance of stemma as a starting-point for reconstruction philology. Odd Einar Haugen shows, among other things, that manuscripts can be edited on different levels of detail and that they can also be normalised. A purely *diplomatic edition* provides information for linguists, while a *normalised edition* can attract, for example, literary scholars. The choice of presentation level is essentially a practical question of what type of reader one wants to reach. With a *multi-level edition*, a resource is created for researchers on all levels. Harry Lönnroth and Nestori Siponkoski’s co-authored contribution, “The Philology of Translation,” constitutes an informed survey of the areas of philology and translation, which the authors describe as “essentially intertwined but relatively

rarely in dialogue with one another” (p. XXIV), even though these areas resemble each other more than they differ. Massimiliano Bampi’s contribution “Translating and Rewriting in the Middle Ages” gives us an insight into medieval translations and the importance of using philology in the analysis of such translations. With the aid of Outi Merisalo, we are acquainted in the last chapter with the prominent philologist Ludwig Traube (1861–1907). Traube’s philological work is analysed and its relevance for present-day philology is stressed. Since the authors of this volume are experts, the volume is no doubt chiefly written for specialists, but students at an advanced level and the postgraduate level can also find inspiration here, whether it be more specifically within the philological area or within adjacent areas such as hermeneutics, literature and communication.

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Christian Lovén, *Vårfruberga kloster. 1200-talsjordeboken och godspolitiken*, Stockholm: Riksarkivet 2017 (Skrifter utg. av Riksarkivet 40; Studier till Det medeltida Sverige 7), ISSN 1402-4705, ISBN 9789187491269, 180 pp.

This book, which is a by-product of *Det medeltida Sverige* [‘Medieval Sweden’], is preparatory to the forthcoming booklet on the Åker district, where the monastery was located. It should first be pointed out that *Vårfruberga kloster* is not quite a natural choice of name for the monastery. The monastery was not created until 1289 and its name was originally *Sätuna kloster* but by the time of the creation of the main part of the land register, it was known as *Fogdö kloster*. However, as *Vårfruberga kloster* has since become the established name, it is used in this work. The land register starts in the middle of the twelfth century and ends soon after the mid-thirteenth century. A copy of the land register was produced in the sixteenth century, and in the work with the current edition, the principles applied were those established by *Svenskt Diplomatarium* in the rendering of medieval texts that are only known in post-medieval copies. The new edition was produced by Sara Risberg and Ingela Hedström. A brief description is given of the editorial principles and there is also a facsimile. Risberg’s new edi-

tions and translations of two letters in Latin, which are important in this context, are also included. In the volume, there is an analysis of the land register's structure and origin. Some reinterpretations have been made of important points presented by previous scholars, and it is evident that a more reliable dating of the different parts of the land register is presented here. Place-names are listed and shown on maps. Sections then follow on the monastery's estate policy, where one can read about the estate's development during its first century. One map (p. 109) shows the locations of the monastery's farms and crofts at the time of the Reformation, and another (p. 121) places close to the monastery where it owned land during a period in the Middle Ages, which land was later disposed of as a result of the Reformation. The conclusion may be drawn that during its period of existence, the monastery conducted an active estate policy, as evidenced by the transition from small units in the thirteenth century to whole farms in the sixteenth century. The organisation of the volume is not quite optimal; the edition in its entirety could have been placed at the beginning of the work, followed by a discussion of its different parts. On the whole, however, it is a readable and useful volume, where, in particular, the historical interpretations are of great interest.

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Marika Mägi, *In Austrvegr. The Role of the Eastern Baltic in Viking Age Communication across the Baltic Sea* (The Northern World 84), Leiden. Brill 2018, ISBN 9789004216655, 491 pp.

This new large volume in Brill's Northern World series is an ambitious work by Estonian archaeologist Marika Mägi aimed at filling a still very real and huge gap in the coverage of the Eastern Baltic region of Finnish and Baltic peoples to the south of the Gulf of Finland in an Early Medieval Baltic totality. This is a very big and difficult undertaking, which Marika Mägi has coped with well. The following remarks and comments can in no way diminish this judgment. The author cannot be blamed for the often low quality of the many black and white photos, in which it is very difficult to make out the details. The publishers should have chosen line drawings where such illustrations could have been included. Plans

and maps are often very small, which, of course, is a consequence of the publisher's choice of the octavo instead of quarto format.

In general, we may conclude that the author sometimes has an Estonian approach, which in itself is natural and not a major problem. We can, however, see that the author is less interested in some parts of the relevant territory than in others. The land of the Prussians and the Jatvings, and, in fact, also south-eastern Estonia might have been given a few additional pages. In some of her synchronic surveys, the author widens the scope, but not always fully consistently. Places and regions further to the west, east and north are treated very differently. While sometimes this is of less consequence, there are cases where I find it important. I will just give two examples. The center and the settled region of Grobina in western Latvia are difficult to understand without specific references to Gotland and its archaeology. The other example is the lands to the east of the contemporary Russian border, and this I find somewhat more serious. During the period of interest, this territory was inhabited by Baltic Finnish groups in the north and by Balt groups further south in Byelorussia. Eastern Slavs only turned up in small numbers towards the end of the tenth century. The Pskov region is mentioned in some instances but only very briefly. The settlement of the, probably already from the beginning, fortified kernel of Pskov, the Krom, begins as early as the eighth century, as shown, for example, by finds of early Scandinavian combs and beads. There is also in my opinion not enough information about V.V. Sedov's extensive excavations at Izborsk (which in fact was part of Estonia in the 1920s and 1930s), and the important early fortified settlement of Kamno (excavated by K.M. Plotkin and others) is not mentioned. This is somewhat surprising since we can see that the author is well familiar with Russian archaeological literature.

Let us, however, start from the beginning. The introduction presents the history of archaeological research in the Baltic States. This is a lively and accomplished presentation of the developments during the last 30 years. The very strong impact of the German archaeological research tradition is not fully appreciated. This is relevant both on the institutional and the personal level. The German influence somehow lingered on during the whole Soviet era. The author rightly stresses the rather different character of research traditions in Estonia on one hand and Latvia and Lithuania on the other. From the beginning, the Estonians were closer to Finnish archaeology, not least due to the fact that A. Tallgren held the first chair in archaeology at Dorpat University. Latvian and Lithuanian archaeologists were focused on the identification of various Balt tribes known from the earliest historical sources. The

author does not comment on the archaeological research in East Prussia. The archaeologists at Königsberg University and the Prussia museum in that city were in many ways a model for archaeological research both in Latvia and Lithuania. We must also remember that the number of active archaeologists was very small and that personal relations were tight. In my opinion the Soviet Russian impact was twofold. On one hand, we have the twisted Soviet Marxist view of the social and economic development, on the other, we find the originally Stalinist version of the Kossinna school in the form of ethnic history (*etnicheskaya istoriya*).

In Chapter 2, the author characterises the structure of the society of the different populations in the Eastern Baltic lands. She understands the Baltic Finns, i.e. Estonians and Livs, as social communities with very limited, if any, hierarchies. She calls this type of society a “clan society” with corporate power structures. What this really means is not quite clear to me. A major problem is the material or the lack of archaeological sources during the eighth and ninth centuries (and indeed up to the end of the tenth century). The striking dearth of archaeological sources, especially of graves, makes the reconstruction of society very tricky. We must also remember that there are several fortified settlements which, after all, could indicate more hierarchy. The presumably rather egalitarian Finnish Early Medieval society model is brought into the discussion to bolster the Estonian society model. It is, in fact, difficult to accept the rather contradictory conclusions in contemporary Finnish archaeology concerning Early Medieval society as a weighty argument and there are other and different judgments. This important topic calls for further studies and perhaps also new sources. I find the author’s critique of some discussions in Latvian and Lithuanian archaeology concerning high level hierarchies and political organisation in local early medieval society much more convincing. The author rightly stresses the considerable difficulties in social reconstruction as being a consequence of the total dominance of graves as archaeological source material among the Balt tribes. No doubt, we need both settlement sites and graves with an informative grave language in order to reach a plausible understanding of the social structure of these populations.

Cultural landscapes and communication routes are the themes of Chapter 3. As far as I can see, it is not easy to present an altogether comprehensive picture of the various cultural landscapes in the lands of the East Baltic. In order to be able to speak about the cultural landscape, we must know a lot about the natural landscape and we must have knowledge about settlement patterns, land use, economy, demography and much more. This is an immense task which would have required

another volume. The author is much more effective and successful in her presentation of various communication routes in the territory under discussion. We are mainly informed about waterways used in the warm seasons, but winter travel is also considered in some detail. The most important route was, of course, that along the northern coast of Estonia into the innermost part of the Gulf of Finland and further east. Several important relevant sites are discussed. They are seldom situated on the coast, but a little back from it, on a small river. The presentation of these sites in the text is often very good but again the photos are dark and maps and plans small or lacking. A number of general plans of the key localities would have made a very big difference. Of the communication routes discussed, I find the arguments for a trans-Estonian water way less convincing. The reconstruction of transport techniques is not easy, but we might have expected a more concrete treatment of possible water craft and sledges. There is also a rich material of relevant comparable finds from Finnish bogs and from the well-preserved earliest layers in Staraya Ladoga and in Novgorod. The author maintains that there is a difference in communication between the north and in the south. For me, the difference is not so easy to see. Is it not so that the traders active on these trading routes were often the same both in the north and in the south?

The fourth chapter deals with historical sources. Rather surprisingly, the author calls these sources "historical reality." I am not an historian but an archaeologist, but I am still hesitant to accept a number of these written sources as reality. They are difficult to analyse and evaluate and the Icelandic saga-literature, in particular, is extremely difficult to use. In fact, this chapter should not be reviewed by me but by a skilled historian. However, I take the liberty to suggest that the citations are far too long. After all, these texts are available in fairly modern translations. It is somewhat surprising that the author spends sixteen pages discussing the question of what the term *rus'* meant, especially in view of the author's limited interest in what happened east of the contemporary Russian border. A much more creative idea launched by the author is the question of languages used in communication. The interesting remarks by the author should perhaps have been followed up with a survey of relevant analogies. A special article focused on this would be much appreciated.

In Chapter 5, the author deals with communicative, political and economic networks. Many central places and regions are dealt with here in more detail. Grobina for example, is treated in more detail but the author somehow fails to fully include in the discussion the fact that Grobina is not an isolated phenomenon, but the center of an entire, quite

large, settled region with several similar, but smaller, settlements. This places the whole question in a different category than that of trading sites like Truso and Wiskiauten (Visnevo). In the end, the author concludes that there were two main communication axes: the Gulf of Finland (Austrvegr) and the Amber route way south (?) from the amber centre in Samland. In my opinion there is, throughout the period and even earlier, an important south-north axis along the Baltic coast, along which cultural impulses (and copper alloys!) from Prussia and Lithuania were brought north to Latvia, Estonia and ultimately also to Finland.

The central theme in Chapter 6 is, inevitably, the main flow of dirhams, which, in the opinion of the author, occurs in the period ca. AD 850–1000. This is the most important period of long distance trade in Early Medieval Northern Europe, according to the author. This is of course, chiefly correct but we have to be a little more precise. The main factor is the strong inflow of predominantly Central Asian Samanid dirhams. This inflow does not begin until after AD 900 and consequently, the major shift ca. AD 850 and the beginning of this phase is perhaps not to the point. There are numerous finds of dirham hoards from the middle of the ninth century. This is a climax in hoarding built up successively from ca. AD 830 (cf. Yanin 2009: 116–136). After the 860s, the dirham flow decreases abruptly. For more than 30 years (a generation!) the flow was running more and more dry. The inflow of dirhams to the Baltic did not end in AD 1000. In Scandinavia, the end came much earlier, while in Finland and the Baltic States, as well as Northern Russia, it came considerably later. There are many interesting discussions in this chapter of a number of important sites in the region, but exactly what happened at these chronological dates is, in my opinion, not very clear. The problem is perhaps linked to the rather vague ideas about what the long-distance trade was all about. What was the motor? A stronger emphasis on the economic factors, both the more global and the more local ones, would have been welcome. And back to Pskov ... In this chapter, too, one would have liked to have seen more interest on the part of the author in what happened immediately to the east of the Russian border. Pskov develops in the tenth century into an even more important political and economic center than before. The question of the existence of trading places is important during this phase. Ever since the works of G.S. Lebedev, efforts have been made to identify trading places of the same type as Birka and Hedeby (and also like Truso, for that matter) to the east of the Baltic. In my opinion, all the eastern candidates except Staraya Ladoga are flawed. They all represent something different, both with respect to their size and their qualities. Further research efforts are

necessary to make progress in this area.

The author has devoted a great deal of space to historical sources, and these tend to dominate the last few parts of the book. I would have wished for a somewhat stronger emphasis on the archaeology and perhaps a link to the thirteenth century when the situation had changed in all respects in the lands of the Eastern Baltic. However, I must praise the author's vivid presentation of the fascinating ethnic mosaic on the lower Daugava in the eleventh century. The final summary is a very elegant and succinct presentation of the six main chapters of the book.

This is unarguably a very important, rich and often well-conceived work with many profound analyses of the source material. For the first time, an experienced archaeologist has brought together the whole archaeological material from the Eastern Baltic region, from Eastern Prussia to Estonia. This is a formidable presentation. I am convinced that this book will for a long time be a standard work of reference for those interested in the Baltic region and the period in question. While I have put forward some deviating ideas and approaches above concerning certain problems and questions, this is, in my opinion, quite normal in a field of research where there is still so much to be done and where some of the necessary sources are elusive and very difficult to interpret.

REFERENCE

Yanin, V.L. (2009). *Denezhno-vesovye sistemy domongol'skoy Rusi i ocherki istorii denezhnoy sistemy srednevekovogo Novgoroda* ['The monetary and measurement system of pre-Mongolian Rus and studies of the history of the monetary system of medieval Novgorod'], Moskva: Yazyki slavyanskikh kul'tur.

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Jan-Ola Östman, Caroline Sandström, Pamela Gustavsson & Lisa Södergård (eds.), *Ideologi, identitet, intervention. Nordisk dialektologi 10*, Helsinki: University of Helsinki 2017 (Nordica Helsingiensia 48; Dialektforskning 5), ISBN 9789515129963, 9789515129970, ISSN 1795-4428, 454 pp.

Even though the theme of the 10th Nordic Dialectology Conference, arranged in Mariehamn on Åland in August 2014, was *Ideologi, identitet, intervention* [‘Ideology, identity, intervention’], all sorts of perspectives on dialects and language varieties are represented in the lectures included in this volume. Traditionally, this has always been the case, ever since the first conference in Gothenburg in 1978. A novelty at the tenth meeting was the workshops, to which I will return shortly. The plenary speakers selected for the conference demonstrate the width of the research area. The point of departure of Ann-Marie Ivars’ contribution on the Fenno-Swedish dialects is the novation triangle that can be observed in the southern part of Ostrobothnia, Åland and Western and Southern Åboland, which areas are linked to local peasants’ sailing voyages to Stockholm (*bondeseglätion*) in older times (cf. Ivars in *Svenskan i Finland – i dag och i går*, vol. 1:1, above). Tomas Riad’s article presents the frameworks of North Germanic accent typology and a study of the intonation in two varieties, the Scanian dialect and Standard Swedish. One sub-study deals with originally Scanian speakers’ intonation when they try to adapt to Standard Swedish patterns. The heading of Karen Margrethe Pedersen’s contribution is “Syntaktiske oplysninger i dialektordbøger og store nationale ord-bøger” [‘Syntactic information in dialect dictionaries and large national dictionaries’]. It emphasises the need for syntactic information in dictionaries, but also the importance of dialectologists actually using information provided in the larger dictionaries. A number of language phenomena are then discussed by the author. Using conversational analysis, Hanna Lappalainen, in her plenary lecture, deals with variation and change in personal pronouns in Helsinki Finnish. The conference theme is in focus in the two plenary lectures by Unn Røyneland and Pia Quist, which deal with the treatment of the places’ importance for conceptions of dialectal identities and for dialect speakers’ identity construction in our age. Røyneland’s lecture is about ideas relating to dialectal identities in late modern Norway, and Quist emphasises, among other things, the need to investigate “language users’ connection to places as social actions that have to do with social orientation [...] and identity” (p. 69). The volumes

also contain no fewer than 22 sectional lectures. There were many interesting issues on the conference agenda concerning different parts of the Nordic language area. Ivar Berg focuses on the age of the Norwegian dialects and finds that important Norwegian dialect areas were established in the late Middle Ages. Mathias Strandberg's subject is tonal accent and stress in compounds in Nordic dialects, a large and important subject, which, despite the limited space available to the author, he manages to present in an interesting way. Staffan Fridell deals with the dating of supradentals. In his essay, Kurt Braunmüller sheds light on West and South Jutland dialects, and mentions, among other things, that relict forms have a key function in judging the nature of language contacts. Negation harmony (or double negation), which exists in some Nordic dialects, e.g. the Älvdalian and Nyland dialects, is discussed in a comprehensive manner by Henrik Rosenkvist. The so-called *langdistansebinding* ['long-distance binding'] in Norwegian is the topic of Marit Julien's presentation. "Demografi och finska dialekter" ['Demography and Finnish dialects'] is the title of Pirkko Nuolijärvi's contribution where, among other things, it is stated that a large proportion of the population in Finnish-speaking Finland speak a levelled Tavastland dialect. The need for demographic information in order to understand a language community is emphasised in the article. Various change processes where the temporal and spatial perspectives differ are reflected in greater or lesser detail in a number of the volume's studies. Asgerd Gudiksen writes about variations and language changes in nineteenth-century Danish island dialects. Margrét Jónsdóttir writes about an experiential verb and the change patterns that can be observed regarding this verb in Icelandic. Some change tendencies in the dialect in Søre Sunnmøre and how changes can take different directions are illustrated in an interesting way in Dagfinn Worren's contribution. Fenno-Swedish dialects are in the foreground in several of the studies. In a joint article, Caroline Sandström and Maria Rönnbacka write about changes in verbal phonology and morphology in the dialects of Pedersöre and Sibbo in the areas of Ostrobothnia and Nyland. Viveca Rabb presents a study of Swedish in the city of Vasa, where the material collection is within the folk dialectological field, while the analysis method rather consists of a discussion based on the socio-linguistic and cognition linguistic concept of *salience*. Folk dialectology perspectives on South Ostrobothnia's dialects are presented in Väinö Syrjälä's article, which is of methodological interest. Eva Sundberg and Ida Toivonen write about lateral sounds on Åland, and Toivonen describes, in an article of her own, apocope of final vowels in Åland infinitives. Lisa Södergård and Therese Leinonen's contribution provides information on the important Fenno-Swedish

spoken language corpus Talko. The dialects in Dalarna (Dalecarlia) are the subject of several of the studies. Emil Paulsrud's contribution treats of the dialect in Mora and its variation and changes of today, and Gjert Kristoffersen writes about tonal accents in the Våmhus dialect and discusses the important diachronic dimension. Some of the lectures deal with present-day dialect use. Björn Bihl and Camilla Grönvall's co-authored contribution focuses on the number of people in Värmland who use dialect on Facebook. Eva Sundgren writes about accommodation in conversation in an article that also problematises this concept. Finally, dictionaries are elucidated by a couple of contributors, e.g. by Torben Arboe who illustrates designations such as *skotsk harve* and *svenskharve*, and expressions such as *leve på polsk* ['living together unmarried'] in Jutland vocabulary and Jutland phraseology. Finnish loanwords in Norwegian and the representation of these in *Norsk Ordbok* are described by Knut E. Karlsen and Dagfinn Rødningen. As mentioned above, the conference also included a number of workshops, one of which focused on contacts between Scandinavian and Baltic Sea Finnish languages in the Baltics, with contributions by Riho Grünthal and a long article by Sofia Björklöf on Swedish loanwords in Estonian coastal dialects. In the latter contribution, Björklöf shows how studies of loanwords may contribute to identifying possible loanword routes, even though one must be aware of the problems involved in establishing a words' distribution and meaning in different lending varieties. There were also workshops on Estonian Swedish with contributions by Henrik Rosenkvist, Alexander Mankov and a co-authored contribution by Susanne Schötz, Francis Nolan and Eva Liina Asu. In another workshop entitled "Dialekt og turisme" ['Dialect and tourism'], there were contributions by Marie Maegaard and Malene Monka and by Jan-Ola Östman. This survey shows that numerous important contributions were presented at the tenth Nordic dialectology conference. The dialectological studies are of different kinds and handled within the frameworks of different theories and a variety of methods are used in the analyses of the dialects. It might perhaps have been advantageous if the publishers had concentrated in greater detail on, and explained, the theme of the conference, which is now only briefly touched on in the introduction. Not least the not quite unambiguous concept of *intervention*—certainly new to many dialectologists—could have been discussed more thoroughly, as well as its relation to *ideology* and *identity*. These remarks should not, however, be seen as criticism, but as a wish for even more in an already very comprehensive conference volume.

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Marika Tandefelt (ed.), *Svenskan i Finland – i dag och i går*, vol. 1:2. *Gruppspråk, samspråk, två språk*, Helsingfors: Svenska litteratursällskapet i Finland 2015 (Skrifter utg. av Svenska litteratursällskapet i Finland 799), ISBN 9789515833372, ISSN 0039-6842, 252 pp.

The publishing house of the Swedish Literature Society in Finland has, for a few years now, issued a series of volumes describing the Swedish language in Finland. The first volume, by Ann-Marie Ivars on dialects and urban varieties, is reviewed above. This review is focused on the volume edited by Marika Tandefelt, *Gruppspråk, samspråk, två språk* [‘Group language, conversation, two languages’]. Just as in Ivars’s volume, the emphasis is on the spoken language, “complemented with talk about language” (p. 12). Even if the book deals with a number of different themes, it is obvious that the language in the different articles is studied within the framework of the social context, where the language user’s own language, as well as their view of language, influences, and is influenced by, what happens in the surrounding community. The editor’s instructive introductory chapter is followed by eleven chapters written by several different authors. In Chapter 2, we find Mikael Reuter’s investigation of Fenno-Swedish pronunciation, which is focused on supraregional pronunciation. Differences from Standard Swedish are also discussed. The next chapter contains Therese Leinonen’s article on variation and change in the Swedish spoken in Vasa, Mariehamn, Åbo and Helsingfors. Here, a picture is given of the language development in these urban varieties. Helsinki slang and its history and development are focused on in two different chapters containing Mona Forsskåhl’s contribution on Fenno-Swedish slang and Heikki Paunonen’s on Swedish in Finnish *Stadislång*. For example, it is shown that slang expressions in Helsinki have spread to both languages as well as to other places, and also that they have come to be used in more general everyday contexts. The following three chapters contain studies based on conversation analyses. Jan Lindström and Camilla Wide’s co-authored contribution accounts for Fenno-Swedish conversational language in comparison with that of Standard Swedish. It is shown that signal words such as *jå, nå, aj* and *hej* are used in spoken Fenno-Swedish and that the adverbs *nog* and *nu* are used somewhat differently in Fenno-Swedish conversations as compared to Standard Swedish ones. All of this is thoroughly discussed, and the authors provide satisfactory explanations for the differences. How

Finnish and Swedish meet in conversations between young people in the so-called *language islands* is described in Chapter 7 by Sofie Henricson; the term *language islands* refers to small Swedish-language communities within larger Finnish communities such as Björneborg, Kotka, Tammerfors and Uleåborg. Conversations with features from both languages are a natural part of bilingual people's conversational style. Chapter 8 contains Leila Mattfolk's study on the Fenno-Swedish population and English loanwords. It may be noted that Fenno-Swedish people have a somewhat ambivalent view of the English loans. In Chapter 9, Marika Tandefelt deals with Fenno-Swedish and Standard Swedish speakers' views of what characterises the spoken Swedish language in Finland. The results of the inquiry on which the chapter is based differ to some extent, but it is clear that Fenno-Swedish is *not* conceived of as a separate language but as a variety of Standard Swedish. Bilingual individuals' spoken language is at the centre of the last three chapters of this omnibus volume. Karmela Liebkind and Anna Henning-Lindblom's co-authored contribution takes a sociopsychological perspective on language–identity relation and ethnicity. How the identity is formed in a bilingual community is discussed here in an interesting way. The following chapter, written by Fjalar Finnäs, takes as its empirical point of departure language statistics, and bilingualism is dealt with here from a demographic perspective. The transmission of language in bilingual families is also elucidated. In the last chapter, Marika Tandefelt examines bilingual individuals' competence in Swedish and Finnish, and describes when a balanced bilingualism is achieved and when this does *not* happen. This is a rich volume, where a number of linguists and a couple of sociopsychologists give “an easily comprehensible and nuanced picture of what it implies to speak Swedish as a mother tongue in Finland of today,” to borrow a formulation on the back of the book. I find those texts that have conversation analysis as their point of departure especially informative, but the texts dealing with the bilingual individual from different perspectives are also highly interesting. These latter contributions make it clear that the bilingualism acquired by a previous generation is not always transmitted to the following generation, which is ultimately a loss to society.

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Marika Tandefelt (ed.), *Svenskan i Finland – i dag och i går*, vol. 2:1. *Språk i prosa och press*, Helsingfors: Svenska litteratursällskapet i Finland 2017 (Skrifter utg. av Svenska litteratursällskapet i Finland 809), ISBN 9789515833624, ISSN 0039-6842, 242 pp.

This volume is the third in a series published by the Swedish Literature Society in Finland. In the volume reviewed here, the focus is on Swedish as a mother tongue in writing. Two writing domains are brought to the fore, fiction and media language. These domains have traditionally contributed to giving us a picture of Fenno-Swedish in writing, and it is thus natural that they are also focused on in this context. After Marika Tandefelt's short introductory chapter, which presents the content of the book, there follow nine chapters. In Chapter 2, which was compiled by the author trio Mikael Reuter, Charlotta af Hällström-Reijonen and Marika Tandefelt, finlandisms found in written Finno-Swedish are described. Certain definition issues are focused on by the authors, who then go on to discuss the finlandisms' origin, distribution on different language levels and degree of acceptance. In the following two chapters, Marika Tandefelt describes on the basis studies of individual writings how Fenno-Swedish writers can use features of slang, dialects and Finnish in their texts and how authors and publishers cooperate when it comes to the choice of linguistic means of expression. In the next chapter, László Vincze, a research doctor in communication studies at Helsinki University, provides a full picture of the Fenno-Swedish media landscape. Based on a questionnaire study, Chapters 6 and 7 provide a picture of the Fenno-Swedish journalist as a professional language user as well as of the working environment in which the journalists operate. The author of these chapters is Anna Maria Gustafsson. The impression one gets is that the linguistic reality of the journalists is actually quite close to that experienced by many other Fenno-Swedish people. It is interesting to be informed here about the guidance on language offered by the Fenno-Swedish media. The variation in Fenno-Swedish journalese, more precisely the occurrence of finlandisms in editorial texts, is brought to the fore in Chapter 8, where one learns that such texts actually contain quite few Fenno-Swedish features. This study was compiled by Charlotta af Hällström-Reijonen. In the last chapter but one, Marika Tandefelt writes about letters about language use sent to the editor of the newspaper *Hufvudstadsbladet* in the early twenty-first century. In the last chapter, Tandefelt presents a survey of papers on Fenno-

Swedish journalese written by linguists from Hugo Bergroth (1866–1937) and onwards. She describes characteristic features of Swedish in newspapers, English loanwords and the adaptation of such words, and in another section the results in Birger Liljestrands book *Juttu och sammetsfarmare* (1985) are presented. This volume deals with Fenno-Swedish in fiction and media in an exemplary way. In my opinion, however, the presentation could have been a bit more comprehensive, as the sections dealing with fiction makes the reader want to learn much more about this area.

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Marika Tandefelt (ed.), *Svenskan i Finland – i dag och i går*, vol. 2:2. *Språk i skola och samhälle*, Helsingfors: Svenska litteratursällskapet i Finland 2017 (Skrifter utg. av Svenska litteratursällskapet i Finland 810), ISBN 9789515833631, ISSN 0039-6842, 207 pp.

The fourth volume of the ambitious project *Svenskan i Finland* ['Swedish in Finland'] has gathered together ten authors who write about different aspects of Swedish as a mother tongue in Finland of today. The volume elucidates Swedish texts produced by government authorities, by the business community and in schools. The editor's introduction constitutes the book's first chapter. Anna Slotte and Liselott Forsman, who work within the subjects of pedagogy and didactics, respectively, focus on students' writing in Years 8 and 9, and conclude, among other things, that dialogues about writing widen students' perspectives on language. Language adviser Monica Äikäs' article is about the editing of Finno-Swedish textbooks and teaching aids. In his chapter, the jurist Sten Palmgren deals with the language in laws and ordinances. He provides a picture of the changes that have taken place since the early twentieth century and describes how the modernisation of the language relates to developments in Standard Swedish. Jannika Lassus, who works as a university teacher of Swedish at the Hanken School of Economics in Helsinki, writes about the Swedish used by government authorities in Finland, where the texts are often translations from Finnish. In the following chapter, Lassus points out that many other types of Fenno-Swedish texts are also translations from Finnish which, of course, creates

quite special preconditions. The authorised translator Rune Skogberg then deals with the nature of the work performed by language experts at Fenno-Swedish companies. Company directors' choice of language is focused on in Chapters 8 and 9. The former chapter was co-authored by the professor of international business legislation Wilhelm Barner-Rasmussen and the economist May Lönnholm, and the latter chapter was written by Barner-Rasmussen. In these chapters, one can read about the effects of speaking Swedish in business contexts, but also about the situations that may arise when the choice is between Swedish and English. According to the author, Swedish is used in "communication situations where an informal, even familiar, address is experienced as possible or even suitable" (p. 188). In addition, Swedish is usable in contacts with other Nordic countries (p. 192). In the last chapter, associate professor of marketing Jonas Holmqvist writes about the choice of language in contacts between companies and customers. The conditions in other multilingual countries constitute the basis of the study. It seems to be the case that Fenno-Swedish customers do not signal as clearly as customers in other countries that they want service in Swedish. Finally, Holmqvist argues that the future of Swedish in companies is not determined by legislation or the companies' goodwill but by "the extent to which Fenno-Swedish consumers choose to speak Swedish" (p. 206). There is a lot of truth in this. Many aspects concerning education and society are also elucidated in this omnibus volume, many of whose contributors represent languages other than Swedish/Nordic languages. This is a fresh approach, since in this way issues are dealt with from more unexpected perspectives.

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