

AN INTIMATE WILDERNESS: ARCTIC VOICES IN A LAND OF VAST HORIZONS. By NORMAN HALLENDY. Foreword by WILLIAM FITZHUGH. Vancouver, British Columbia: Greystone Books, 2016. ISBN 978-1-77164-230-9. 328 p., 1 map, colour illus., index. Hardbound. Cdn\$39.95; US\$34.95.

Norman Hallendy's *An Intimate Wilderness* can be read as a sequel to *Inuksuit*, his earlier book on the significance of Inuit rock structures called *inuksuit*. Unlike *Inuksuit*, however, it isn't a wide format coffee table book driven primarily by photographs. Rather, Mr. Hallendy's account of his 50 years or so in association with Inuit elders in the Cape Dorset region of Baffin Island is more like a memoir, albeit a non-chronological one. With the aforementioned elders, the author visits sacred sites, abandoned hunting camps, and (of course!) *inuksuit*. I find it hard not to see the book as a requiem for the traditional Inuit way of life—a way of life that Mr. Hallendy is among the last individuals to document.

But the word “document” suggests an academic treatise, which *An Intimate Wilderness* definitely is not. In lieu of a bibliography or citations, it has photographs of the author's Inuit friends and companions. A chapter will begin, “On a beautiful day, two young ornithologists were preparing to set out to look for gyrfalcons,” but we never learn the names of the ornithologists. The only map is the same upside-down one, with the North Pole at the bottom, that appeared in *Inuksuit*. This map does not indicate any of the locations where Mr. Hallendy traveled in southeastern Baffin Island. Neither are there coordinates given for those locations, so if future researchers want to visit them, well, good luck. It's as if Mr. Hallendy were telling us that actual cartography plays second, third, or fourth fiddle to pre-cartographic concepts of the land.

Likewise, the chapters are not arranged in any particular order. One chapter might discuss how Inuit hunters sometimes implore a raven to tell them the whereabouts of caribou, and the next chapter might describe how, when an Inuk ventures out onto the land, there's invariably an *inigiquminaqtuq*, a place where that person feels very much alive, or an *aglirnaqtuq*, a place where strict customs must be observed. I, for one, would like to know exactly where I should comply with such strict customs, lest I be assaulted by a site's vengeful spirits, but the author does not oblige me. Instead, his book gives voice to the paradox that one of his informants, Simeonie Quppapik, calls *sulinngikkaluaqtuq ukpirijaujut*, the reality of myth. Thus the phantom dog teams that sometimes can be seen racing over the Arctic ice are (in the words of another informant) “real, a real *puikkatuq*, a real mirage” (p. 128).

Personal admission: I've hung out extensively with Inuit elders myself, and like Mr. Hallendy, I've been painfully aware that the man or woman speaking to me may be the last person in his culture to know a particular myth or have any knowledge about a particular heap of stones. I find myself thinking that when this person departs the earthly

premises, there'll be a very obvious gap in those premises. A similar sense of loss is present throughout much of *An Intimate Wilderness* and at times makes the book quite moving.

To be moved is not necessarily to be uncritical, though. Consider Cape Dorset. Even before Mr. Hallendy's initial visit in 1958, it was among the most “contacted” of Inuit communities, since it was among the targets for the Canadian government's efforts to develop an art and handicraft industry in its northern latitudes. In Cape Dorset, that industry has been a remarkable success, but the effects on the local culture have not always been positive. With money have come alcohol, drugs, and increased sexual abuse. The only mention of this sort of thing in *An Intimate Wilderness* is in a chapter entitled “Dark Shadows,” where a woman named Akula rebukes Mr. Hallendy for never having written about the dark side of her people's lives. His response is as follows: “I'm a qallunaq [white person]... Who the hell am I to write such things, and why should I?” (p. 261). To this reader, that response begs the issue.

Unfortunately, too, the book's text is riddled with errors. On page 182, you'll find this sentence in a statement made by an elder: “First, you should know that an inuksuk is not the same as.” The same as what? The stacked stones erected by Zen aficionados? On page 240, you'll read about “a small heard of caribou.” A biologist states on page 155 that Steller's sea cow went extinct “at the turn of the century,” but it actually had gone extinct by 1768. And on p. 234, Mr. Hallendy confuses Kangiqsualujjuaq on the Labrador Peninsula with Kangiqsujuaq in Hudson Strait, as he also did in *Inuksuit*, and then compounds the error by calling the latter “Wakem” rather than “Wakeham Bay.” All of which makes me wonder if copy editors have become as extinct as Steller's sea cows or if perhaps Mr. Hallendy himself decided to forego proofreading his text so he could work overtime at getting the subtleties of Arctic light correct in his photographs...

In the end, *An Intimate Wilderness* is itself a paradox: a book that is quite flawed, as well as quite moving.

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A FAREWELL TO ICE: A REPORT FROM THE ARCTIC. By PETER WADHAMS. London: Penguin Random House UK, 2016. ISBN 978-0-241-00941-3. xv + 240 p., maps, illus., ref., index. Hardbound. Cdn\$36.00.

The shrinking Arctic summer sea ice cover is one of the most visible, and potentially most serious, consequences of global warming. The consensus of scientists is that summer sea ice will disappear completely by about 2050, although some estimates put it as late as 2100. The central thesis of Peter Wadhams' new book is that it will happen much

earlier, within two to four years. The objective of his book is to present his case for why he believes this to be so, to explain why he believes the generally accepted estimates are flawed, and to highlight a potential new threat that it will trigger—the release of a “pulse” of methane currently held frozen in sub-sea permafrost off the Siberian coast, which he believes will lead to an additional 0.6°C of global warming well before the middle of the century.

This may sound alarmist and indeed Wadhams, one of the world’s leading authorities on sea ice, has been criticized several times in the past for crying wolf. In 2007 he predicted that the Arctic summer sea ice would be gone completely by 2013, and then in 2012 he forecast that it would be gone by 2016—yet 4.14 million km<sup>2</sup> of sea ice remained in the Arctic at the annual minimum in September 2016. So the reader needs to bear in mind that there is some inherent uncertainty in such forecasts, yet this book is an informative and useful discussion of the issues and summarizes a lot of the latest research findings, as it must when describing such a rapidly changing topic. These data largely speak for themselves; the charts Wadhams presents of Arctic ice volume and extent up to mid 2016, for example, clearly show a marked acceleration in reduction of sea ice extent in the last 10 years.

For those who are inclined to think that the melting of the Arctic summer sea ice is a mere curiosity in a remote part of the world (unlike the Antarctic or Greenland, it won’t have any impact on global sea level since the ice is floating anyway), Wadhams explains the implications for global weather systems. The big difference between having 8 million km<sup>2</sup> of reflective ice at the top of the world replaced by much less reflective water (sea ice has an albedo of 0.6 and ocean water is 0.1) is that the Arctic will absorb twice as much radiant heat and therefore warm up faster once its reflective blanket of ice has gone. Wadhams details meteorologists’ suggestions of ways in which such change may destabilize and weaken the polar jet stream, which in turn will cause more extreme weather events in the Northern Hemisphere.

A second and potentially more catastrophic effect of a warmer Arctic is the release of large quantities of methane currently held in permafrost beneath the ocean. Much of the Arctic Ocean on the Russian side is shallow and easily warmed, and Wadhams describes recent U.S.-Russian observations of vast plumes of methane bubbles already being released from beneath the East Siberian Shelf in water of 70 m depth. Once the summer sea ice completely disappears, the consequent warming of the Arctic may result in a pulse of about 50 gigatonnes of methane being released within a period of a few years, according to studies that Wadhams quotes. The reason this result is so significant is that methane is a much more powerful greenhouse gas than carbon dioxide, between 23 and 100 times more effective in its warming potential, depending how you calculate it. To put this in context, the book reports recent modeling work Wadhams has published with others suggesting that this methane release will result

in an additional global warming of 0.6°C by 2040. Such a methane pulse could therefore bring forward the date by which the global mean temperature exceeds 2°C above pre-industrial levels by 15 to 35 years.

The book ends with a discussion of ongoing efforts to combat global warming, including a useful summary of the key provisions of the Paris Agreement. Since Wadhams argues that existing CO<sub>2</sub> levels are already high enough to cause unacceptable future warming, he maintains that the only way to avoid such warming is to not merely reduce future CO<sub>2</sub> emissions to zero, but actively remove what is already in the atmosphere using yet-to-be-developed technologies. How realistic this is obviously remains debatable.

Overall, this is a valuable book for anyone who wants up-to-date information on what is happening in the Arctic and how it may impact our climate in the coming decade or two. It has its shortcomings (notably reminiscences about fieldwork in the Arctic and lengthy criticisms of the IPCC and various funding bodies are a digression from the central message), but overall it is a well-written summary of the physics of sea ice, the greenhouse effect, and its importance to our climate. However, it is more suited to the scientifically literate than to the general public, since it assumes some familiarity with the physics of climate change, oceanography, and glaciology.

As well as being well illustrated throughout with clear charts and diagrams and 16 pages of colour photos, the book is exceptionally well documented, with every claim meticulously referenced. It will be useful ammunition for those arguing for more urgent action on climate change.

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