ARCTIC CLIFFHANGERS. Produced and directed by STEVE SMITH and JULIA SZUCS. Canmore, Alberta: Meltwater Media, 2009. True Hi-Definition Documentary, 60 minutes.

In Arctic Cliffhangers, Steve Smith and Julia Szucs set out to document the effects of ongoing climatic changes on the functioning of Canada's Arctic marine ecosystems, and especially to describe what signals from seabirds are telling us about the likely future consequences of these changes for humans and wildlife alike. They have certainly achieved that goal, and much more. At its heart, this visually lush film is about connections between people (the Inuit people who have inhabited the Arctic for thousands of years, and the people who have inhabited the outport communities of Newfoundland for hundreds of years) and the frozen marine ecosystems on which their cultures depend. In fact, as Smith and Szucs effectively convey in their film, the viability of both cultures is now threatened, in large part because they rely on wildlife resources harvested from these startlingly fragile ecosystems.

But the film is also about the connections among three generations of wildlife scientists (four, if one includes the late Leslie Tuck, described here as "one of the pioneers of seabird biology") who study these ecosystems in the hope that the information they collect will ultimately help to preserve them. The first of the three generations includes two of the deans of Arctic seabird research in Canada, Tony Gaston of Environment Canada and Bill Montevecchi of Memorial University of Newfoundland. In fact, I strongly suspect that Smith and Szucs envisaged the film largely as a tribute to Gaston, in recognition of his unfailing dedication to Arctic conservation and the remarkable achievements of his four-decade research program on thick-billed murres and other Arctic seabirds. Hearing Gaston summarize his research so succinctly and eloquently, speaking from the field camp at Prince Leopold Island where he began, is definitely a highlight of this film.

To me, the film also works on another important level. When asked what life is like in an Arctic field camp, I often direct people to Tim Birkhead's (1993) book *Great Auk Islands: A Field Biologist in the Arctic*. Like that book, Smith and Szucs' film captures and conveys the "feel" of day-to-day life in a research camp, and I am sure many people will find it enjoyable for that reason.

I have just one criticism of the film, which is very minor: I found the title a bit flippant, and perhaps more importantly, potentially misleading: is it possible that potential viewers not familiar with the biology of the seabirds and the nature of the science will assume that it is a film about thrill-seekers, rather than scientists?

This is an excellent film, which I really enjoyed watching; it is both engaging and informative. I highly recommend it to all viewers interested in Arctic ecosystems and the human cultures they support—especially to viewers concerned about conserving both in an age of rapidly changing climate. The film will also be welcomed by

viewers interested in the work of scientists who have dedicated their lives to conserving these fragile ecosystems.

REFERENCE

Birkhead, T.R. 1993. Great Auk Islands: A field biologist in the Arctic. London: T & AD Poyser.

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POLAR IMPERATIVE: A HISTORY OF ARCTIC SOVEREIGNTY IN NORTH AMERICA. By SHELAGH D. GRANT. Vancouver: Douglas & McIntyre, 2010. ISBN 978-1-55365-418-6. xviii + 540 p., maps, b&w illus., notes, selected bib., index. Cdn\$39.95.

Shelagh Grant has written a very necessary and readable history of North American sovereignty in the Arctic. The attention to the Arctic given over the last few years by the media, commentators, and academics, and to some extent the Canadian government, begged the need for a thorough history of this vast region. This eminently readable book spans the history from the first inhabitants 5000 years ago to the present time, though it concentrates, understandably, on the last 200 years. The text is accompanied by 17 clear and useful maps and a large number of equally interesting black-and-white historical photographs. The history is meticulously researched and ably presented, with a wealth of fascinating detail and end notes to match. The section on aboriginal land claims and their progression within the context of Arctic oil development (chapter 11) is especially illuminating. The detailed treatment of Arctic history (including Alaska and Greenland and the role of Americans, Danish, British, and Norwegians), is of obvious interest to historians and should be to all Canadians. But the aspect that shouts out at the reader is the stark lack of attention that the Canadian government has given to the Arctic over these last 200 years. While the dramatic melting in the last decade has resulted in more public comment from Ottawa, Grant decries the lack of any real accomplishments. Introducing the high-sounding Canada's Northern Strategy: Our North our Heritage our Future in 2009, Foreign Minister Cannon said it showed the Arctic to be the government's "absolute priority" (26 July, 2009, quoted by Grant on p. 442). However, this assessment conflicts with the trail of broken government promises, from the three ice-capable nuclear submarines promised in 1987, to a Canadian Forces training base at Resolute, a deep-sea port for Igaluit, and three new heavy-duty icebreakers promised later, to the eight Arctic Patrol vessels promised in 2007. The more lofty priorities in the Northern Strategy document of "exercising our Arctic sovereignty; promoting social and economic development, protecting the North's environmental heritage, and improving and devolving northern governance" and the document's three dozen-odd "commitments" have also seen little or no action and precious little support from "new monies." Grant makes the point that the Northern Strategy includes many activities in the Yukon and Northwest Territories, so that it is unclear whether any meaningful economic benefits will extend to other parts of the Arctic. One has to agree with the author that Ottawa's "claims of protecting Arctic sovereignty seem little more than paper sovereignty" (p. 448), with so many projects and actions ignored, shelved, or cancelled.

The history Grant so ably describes will be of primary interest to historians and general readers, but the latter may find her accounts of the more recent and current situations even more interesting. The first chapter, "Defining the Parameters," introduces issues such as the nature of sovereignty and its position in international law, the importance of legal acquisition of title to territory and its different manifestations, all mentioned briefly within a basic discussion of the nature of international law. The contentious issues of sovereignty in the Arctic as a whole, disputed international transit rights in the Northwest Passage, the offshore boundary dispute in the Beaufort Sea, and the sought-after rights to the seabed beyond national limits in the Arctic Ocean are also mentioned, providing the reader with a brief but important entree and background to the extensive history that makes up the bulk of the book. These topics, especially the United Nations Conference on the Law of the Sea (UNC-LOS) and the five areas of offshore national jurisdiction, are also briefly described in chapter 11, within the discussion entitled "Arctic Oil and Aboriginal Rights, 1960-2004." The sovereignty issue and the Northwest Passage are revisited in relation to the recent catalysts of new technology and global warming in the introduction to Part IV (chapters 12 and 13). In this regard, the final chapter, "Conflicts and Challenges," is likely of greatest interest to the average reader, as these are the highly contentious issues that are appearing more and more frequently in the media, in articles or op-ed pieces by academicians, commentators, and current and former politicians, and which will determine the future of the Arctic.

While this book is in content and purpose a history, Grant logically needed to delve into the critical areas of current policy and dispute in the Arctic, and she does so in the sub-section of chapter 13 called "Ongoing and Potential Conflicts." Some difficulty arises, however, because these issues are as complex as the international laws that govern them, and as mentioned in the first chapter, "legal interpretations as they apply to the Arctic are still evolving" (p. 17). The author cautions (p. 449) that she intends only to summarize the material. Nonetheless, having entered into this current and complex legal area, she needed more than the 20 pages she devoted to the topic to achieve greater clarity and understanding of the issues at stake. The short discussion on the debate over the international use of the

Northwest Passage rightly brings in mention of the relevant 1982 UNCLOS sections, the seminal Corfu Channel case, and some expert opinion. But it would have benefited, for example, from looking at the long-standing precedents afforded by the 100-odd other international straits in the world, as well as considering whether or not the special article in UNCLOS (234) on passage through ice-covered areas might provide Canada some extra wiggle room (beyond pollution control) in achieving more extensive regulatory rights in the Northwest Passage and other Arctic waters. Grant has thankfully avoided the tendency of many current commentators to speak of the contentious issues of passage through the NWP, claims to continental shelf areas in the Arctic Ocean, sovereignty over the Arctic itself, pollution regulation, Arctic shipping, and other issues as one overall "sovereignty" issue, when in fact each is subject to separate and distinct legal regimes.

Some additional clarity on the issue of sovereignty over the Arctic itself would also have been useful, as this is the raison d'être of the book. Admittedly, it is not an easy area to wade into, and Prime Minister Harper's oft-quoted "use it or lose it" remarks to this effect are not off the mark. In July 2007, in his visit to Esquimalt, he said:

Canada has a choice when it comes to defending our sovereignty in the Arctic. We either use it or lose it. And make no mistake: this Government intends to use it. Because Canada's Arctic is central to our identity as a northern nation. It is part of our history. And it represents the tremendous potential of our future.

As the Corfu case is relevant to the Northwest Passage, the Island of Palmas case, heard by the Permanent Court of Arbitration in 1928, is a seminal one for dealing with title to territory. (Other relevant cases include the Eastern Greenland case of 1931 – 33, which Grant discusses in chapter 8.) In the Arctic today, the criterion of actual and effective display of sovereignty for awarding title is amply supported by doctrine and state practice. Can Canada in fact demonstrate sovereignty convincingly? In the Eastern Greenland case, the Permanent Court of International Justice determined that Denmark had "displayed and exercised her sovereign rights [over Greenland] to an extent sufficient to constitute a valid title to sovereignty." Can Canada do the same? The recent dispute with Denmark over Hans Island demonstrates that the critical issue of true title depends on proof of permanent settlement, as well as continuous and effective display of sovereignty (or lack of these). Discovery, historic title, and appearance on maps are not considered as sufficient bases for title. Hence the Prime Minister's warning of "use it or lose it."

Canada's title to the Arctic itself is not at present formally contested, but there are dramatic, encroaching catalysts: energy demand, available mineral and freshwater resources, new ice ship—building technology, enormous oil and gas deposits in the Arctic, the rapid ice melt, and the convenience of a shorter passage (vis-a-vis the Panama

Canal) from Asia to Europe. Add to this the inability of Canada's military (50th to 60th in size in the world) to monitor, protect, and defend the area adequately—especially given its sheer size (we have the world's longest coastline), extremely small population, and lack of infrastructure, as well as President Bush's draconian Presidential Directive on the Arctic of January 2009. All or some of these could combine to change the paradigm drastically. It remains to be seen whether a "soft-law" approach with compromise among the Arctic Council states will achieve a modus vivendi of sorts, or whether new treaty law will be necessary to regulate shipping, oil and gas development, and the like, or whether urgency for resources will cause some states to take matters into their own hands. But, at the end of the day, the question of whether Canada has effective control of the area and the ability to protect it remains the key issue. Some additional reference to this troubling issue would have strengthened the final section of Shelagh Grant's book. In addition, current demographic data for the Arctic, including the volunteer Inuit Canadian Rangers and other military personnel stationed there as well as local residents, would have helped readers to place the challenges in greater context. But *Polar Imperative* is primarily a work of history, and Grant has done a mighty fine and interesting job of it.

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DEEP FREEZE! A PHOTOGRAPHER'S ANTARCTIC ODYSSEY IN THE YEAR 1959. By ROBERT A. McCABE. New York: International Photography Publishers, 2010. ISBN 978-0-9843364-0-1. 147 p., map, b&w illus., photographer's note. Hardbound. US\$45.00.

My first thoughts on reading the title and skimming through the book related to why the author/photographer waited so long (50 years) to assemble photos he had taken while on assignment as a photo journalist in Antarctica in the year following the International Geophysical Year (IGY), 1957– 58. However, the reason for publishing them soon became apparent: they are a valuable historical and pictorial record of the U.S. Navy presence in the early years of the establishment of U.S. stations. The book contains 86 black-andwhite photos, along with text based on what the author dictated to his portable recorder at the time, amplified since with anecdotes and a few other informational items. Many books have been written about the IGY, when the United States and other countries constructed bases in Antarctica to conduct research. The need to continue and expand on those IGY research programs was soon realized, an international treaty was formed in 1959 and ratified in 1961, and the story continues in that regard to this day—Antarctica remains a continent for science, with a large contingent of scientists from many countries engaged in a variety of research programs.

The photos and brief accompanying text are presented in chronological order, from the start of the author's journey at Andrews Air Force Base (AFB), Washington, D.C., on 30 October 1959. He traveled westward on a fourengine DC-6B (Military Air Transport Service, operated by the United States Navy) to Travis AFB, California, on to Hawaii, then Canton Island, and eventually to Christchurch, New Zealand, for a brief stopover before proceeding to the U.S. Antarctic station McMurdo. This part of the narrative and photos brought back many memories of when I traveled the same route to Christchurch, on the same type of aircraft, in 1960 and later years. Much has changed since then with the advent of jet aircraft, and commercial airlines now provide the itineraries and schedules.

The emphasis on photo subjects and text is Navyoriented, with bits of research and wildlife mixed in. The author was ferried around much as journalists and photographers and DVs (Distinguished Visitors) or VIPs (Very Important Persons) are hosted today. Visits to the neighboring Scott Base (New Zealand), the South Pole, the historic huts of Scott and Shackleton on Ross Island, and the McMurdo environs are topics for photos and narrative. The Navy's presence as a support unit for science ended in 1997; it was replaced by an all-civilian contractor company to provide the facilities and support required for the research funded by the U.S. National Science Foundation. The value of the book is in the historical aspects of seeing McMurdo in its infancy, shortly after initial construction was completed to make it livable, using mainly Quonsetstyle Jamesways (an example is shown on p. 46) and other structures known as T-5 buildings. Today there are more than 100 buildings at McMurdo, and the current South Pole station is the third structure to have been erected since the original IGY buildings were placed there. The photo on p. 40 of the "Main Street" at McMurdo, with the Chapel of the Snows at the end of the street and Observation Hill towering above it, tells a great deal about what the station looked like in 1959: a sort of frontier town, as some called it. The ledge halfway up Observation Hill is strangely bare, but a few years later two large buildings were placed there: a nuclear power plant to provide station power and a seawater distillation plant. The former had about a 10-year existence at McMurdo and was removed in 1972. The seawater plant continues to provide fresh water for the station. Other items in the book show landmarks that existed in 1959, but are no longer there. The two Navy ships (YOG class) on pages 67, 69, and 71 were iced in next to the shore to provide fuel storage for the station until tanks could be constructed ashore. One was parked on one side of Hut Point Peninsula, and one on the other, a short distance from Scott's 1901 Discovery expedition hut (p. 73). They were there in 1960, when I first saw them, but were gone the following year. One of them apparently was freed in a storm that broke it loose from the ice; it drifted away to sea and was never seen again.