

The outcome was an anti-sealskin directive issued by the European Economic Community in 1983 that not only dried up the market for seal pup pelts but seriously impacted about 2000 Inuit who lived off a hunt for adult seals. Many of the Inuit and some outport Newfoundlanders were reduced to living on social welfare. Lyngé points out that the seal war "... is not an ordinary debate between alternative opinions. It is a struggle between cultures, wherein one — earnestly and with a great deal of self-righteousness — believes itself to have a natural authority to dictate how things ought to be" (p. 35).

In the whale wars, Lyngé describes international efforts to save the great whales, some of which were truly endangered, and the subsequent sometimes overprotection of all whales. He points to the absurdity of the International Whaling Commission, with wisdom and authority sufficient to stop the commercial extinction of some great whales, being unable to recognize and allow for the legitimate need of some northern cultures for smaller whales. Lyngé knows the Greenland Eskimos in particular. The whaling tradition is set firmly into the heart and soul of their myth, legend, and belief. He examines the ethical and philosophical aspects of whaling. He attempts, not always convincingly in my estimation, to debunk the idea that whales are somehow special, occupying a niche in intelligence and importance between humans and all other animals. He shows that circumpolar peoples who have traditionally taken whales for domestic use have never endangered them through overhunting, be they Eskimos, Icelanders, or Faroe Islanders. Again he shows how emotion and misinformation, manipulated by environmental activists, may devastate minority cultures. Lyngé concludes the chapter with a call for honor and respect for those who have prevented the extinction of the great whales. He goes on to call for respect and support for those who uphold man's age-old symbiosis with nature, the hunters on land and sea.

Finn Lyngé characterizes the trap war as being waged against "all use of fur, pelts, hides and leathers" and against "all use of animals for industrial or scientific purposes" (p. 66). The steel leghold trap, an effective but cruel means of catching animals, has become the movement's symbol. The campaign has featured bomb attacks, arson, and fright campaigns, notably in Britain, where the Animal Liberation Front is active. National and international political maneuvering and the confusion of fact and fiction have been ongoing. A beneficial result has been the rapid promotion of the use of various sorts of traps that kill to replace the old leghold traps, a movement that was advancing in Canada before the trap war erupted in Europe. The campaign against natural furs has been cynically funded, in part, by Gor-Tex and other manufacturers of synthetic textiles, who stand to profit directly as demand for real furs and other animal products declines. A substantial section of the chapter is devoted to describing the unfortunate and long-lasting impact of discarded synthetic textiles and plastics goods on the earth's land and oceans.

In the last chapter Lyngé further examines cultural, ethical, and philosophical aspects of the killing and use of animals. The argument wanders a bit, as it does in earlier chapters. The main thrust is a plea for tolerance among peoples, and

especially for tolerance of those cultures that depend on the use of animals by those people who do not. Lyngé says,

... We have our different backgrounds and different value judgments, and we all have a right to be here. The Hindus ... have never attempted to push a don't-eat-beef attitude on the Western societies ... and it surely would be taken ill if they tried. In the Arctic communities, it is taken just as badly when somebody from Toronto, Melbourne, or Amsterdam tries to push a don't-eat-seal-or-whale attitude onto those whose life is interwoven with precisely that eating habit. Different peoples, different climates, different diets. Different cultures, different emotions. In a shrinking world, we all have to find a way to share the planet [p. 97-98].

Data presented in *Arctic Wars, Animal Rights, Endangered Peoples* are well documented, with nine pages of chapter notes, and a substantial bibliography. Illustrations, both photographs and line drawings, are generously sprinkled throughout. I found the book essentially error free.

Arctic Wars is a must-read book for people having interests in native cultures and in the problems they face as a result of environmental and animal rights activism. It should be required reading for environmentalists, bureaucrats, and politicians who are called on to make decisions affecting northern cultures. Though not always an easy read, Finn Lyngé's sincerity and knowledge cannot be doubted.

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AURORA. By THE AURORA COLOR TELEVISION PROJECT (N. BROWN, T. HALLINAN and D. OSBORNE). Fairbanks: Geophysical Institute, University of Alaska Fairbanks, 1985. Video, 27 minutes. US\$30.00 + \$4.00 postage and handling.

Gazing at the night sky is generally thought of in terms of the multitude of stars and galaxies that exist at vast distances from Earth. For those fortunate to live in the northern regions, particularly in a country such as Canada, an equally fascinating feature of the night sky is the common display of the northern lights, or the aurora, as it is more scientifically termed. To those brave enough to face a winter's night, the aurora offers a fascinating look into the forces that affect our near-Earth environment. It has been the subject of legends for the various peoples of the North and even today is little understood by most observers.

The aurora presents a colorful and dynamic display of light ideally suited to the production of a video. Its splendor is largely lost in static presentations (such as in literature), and for those who do not have access to direct observations, its variability (one of its most intriguing characteristics) can only be appreciated through this format. The aurora presented in this video was photographed from the Poker Flat Research Range outside of Fairbanks, Alaska. This location is one of the best in the world for such observations, and the breadth of visual displays of aurora presented in the video clearly attest to that fact. The video presents the aurora as it was

photographed with the time variations occurring at the same speed an observer would see them. The color presentation is as close to that which one would see with the naked eye as reproduction will allow. Because of the sophistication of the instrumentation used to record the auroral displays, the video does not suffer the smeared look often obtained from methods where long exposure times are required. The inclusion of trees and features on the ground gives an excellent perspective from which the viewer can assess the scale of the phenomenon.

While the aurora generates significant scientific interest, the purpose of the video is to present to the casual observer the stunning array of visual forms and colorful displays that can be seen. Those who have never seen the aurora will be impressed by the amazing scale over which the aurora occurs and the rapidity with which it changes shape and color. Even to the seasoned observer, the quality and beauty of the displays in this video are appreciated. The range of displays shown are brought together from sets of observations. Typically the aurora lasts many hours and it would take many nights of observations to see the tremendous variety presented. The blending from one sequence of aurora to another is done very well. The viewer will, I think, be amazed at the dynamics that occur within the aurora over just a few minutes. Starting from a quiet "curtain-like" appearance over a limited portion of the sky, the aurora develops large-scale folds and distortions often associated with color changes from a predominant green to features with beautiful reds, particularly at the lower edge of the displays. These color changes are perhaps the most dramatic part of the individual displays shown and reveal the tremendous natural beauty of the aurora.

The stunning visual display is accompanied by some rather austere music from the *Symphony in Ursa Major* composed by G. Wright, of the University of Alaska. At times a bit foreboding, the music nevertheless adds to the presentation by emphasizing the grand scale and magnificence of the visual auroral forms.

At the end of the main presentation is a short verbal explanation of some facts about the aurora. Accompanied by a few static visual aids, the quality of this presentation falls below that of the major portion of the presentation. For those interested in pursuing this line further, a short booklet is enclosed with the video that touches the highlights of their explanation. By no means scientifically elaborate, it does provide the casual observer with the basic facts about the aurora.

This video offers what I believe is an excellent presentation of a phenomenon that is by and large ignored in the popular literature. It should appeal to a large cross section of educators who can use it to illustrate some of the beauty that the natural world provides us.

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THE AURORA EXPLAINED. By THE AURORA COLOR TELEVISION PROJECT (T. HALLINAN, N. BROWN and D. OSBORNE). Fairbanks: Geophysical Institute, University of Alaska Fairbanks, 1992. Video, 30 minutes. US\$30.00 + \$4.00 postage and handling.

Many people are aware of the existence of the aurora (or northern lights, for those of us in the Northern Hemisphere) but are unfamiliar with why it occurs and the effects it can have on our activities. While such knowledge is not necessary to appreciate its beauty, for those interested in understanding the cause of the aurora and the various effects it has on society, this video provides a reasonable, though simplistic, explanation. The video builds on the auroral observations presented in the previously published video *Aurora* by the same group (reviewed above) by attempting to give an overview of what causes the aurora. It begins naturally by illustrating the beauty and variety of the aurora and then posing a number of interviews with researchers from the Geophysical Institute in Fairbanks, Alaska. The central theme that comes through the explanations is still that while the aurora is scientifically interesting, even scientists do not lose sight of its beauty.

The video does a good job of avoiding the scientific jargon that accompanies most explanations of the aurora. In the various interviews are discussed aspects of the aurora that can be illustrated by everyday objects. The sequence of explanations quite reasonably takes the viewer from the auroral displays themselves, which are illustrated by nice color pictures showing the dynamics and visual characteristics, and then slowly fills in the background, ultimately discussing the (indirect) solar control. From a scientific point of view, the explanations are all technically correct, with only the inclusion of a few imprecise words.

Casual observers may be surprised to learn that the aurora occurs some 100 km above the surface of the Earth. As the video explains, the light that we see at the surface of the Earth is the result of particles (primarily electrons) colliding with oxygen and nitrogen in these upper reaches of the atmosphere. An analogy with a pinball machine is given where electrons successively collide with these atmospheric species, causing them to emit light while at the same time the electron loses its energy. The color of light that we see from the aurora depends on whether oxygen (green or red) or nitrogen (purple) are excited.

The resulting auroral forms have a bewildering variety of shapes to the casual observer, but one common characteristic is that their north/south thickness (typically around 1 km) is much smaller than their east/west extent (sometimes thousands of kilometres). Technically the result of thin magnetic field-aligned current sheets, the video provides a nice demonstration using lawn edging. The variations one sees in the aurora can be illustrated by bending the lawn edging to form, for example, S-shaped patterns. While it is difficult to simply explain the reasons for such characteristics, more than a passing reference to the significance of the Earth's magnetic field seems warranted in this regard.

The emphasis of such a presentation is quite naturally one based on what the casual observer might be able to see.