Guest Editorial:
Caribou, Muskoxen, Lichen — Reflections on Northern Research

The June 1990 issue of *Arctic* carried a lament by Ed Struzik about the possible demise of the Boreal Institute and the lack of support for northern research in Canada. This editorial begged a number of questions about the North and research there. What is northern research about? Expanding the frontiers of knowledge? Academic publication, promotion and prestige? Aiding northern development — or conservation? Informing policy makers in Ottawa — or empowering local residents? Getting off campus for the summer and into a less claustrophobic place?

I was with the Northern Co-ordination and Research Centre of Northern Affairs when the northern research centres came into being in the sixties. The department had received an increasing demand from university faculties for grants. It took the traditional way out of this tension by suggesting that universities set up northern research centres and parcel out the available funds; these centres thus mediated between individual grant seekers and the federal government.

The plethora of research centres that sprang up, lured by the chance of securing government money, weakened the Arctic Institute of North America at a critical time. AINA members, including myself, were increasingly dismayed by the reliance of the institute on American funding, much of it tied to military needs.

In 1959 I served as weather observer and Canadian liaison officer (for $200!) on the grandly titled Canada–U.S. Ellesmere Island Ice Shelf Expedition. Its goal was to determine whether American bombers could land on the ice shelf of northern Ellesmere Island. Mounted hastily by AINA for the U.S. Air Force, the expedition had too many members, few with arctic experience, and too much technology. We achieved little of scientific or practical value. For travel on the ice we had a war surplus amphibious vehicle, which kept breaking down. We would radio Thule, and a C-130 would drop the required parts, which apparently had to be handmade in California. When our glaciologist, Paul Walker, suffered a stroke, we sent for Weldy Phipps. He landed his light plane on Ward Hunt Island — a feat believed impossible until he did it. In the sixties, the manned bomber threat faded — and the ice shelf began to break away from the land.

In the two previous summers I had gone to Ellesmere Island with Operation Hazen, part of Canada's contribution to the International Geophysical Year of 1957-58. It was rationalized as a way of asserting Canada's sovereignty in the High Arctic. But that land shows you how insignificant humans really are. Someone who flew over our glacier camp described us as looking "like fleas on a bed sheet." An interdisciplinary venture, led by Geoff Hattersley-Smith, a seasoned Polar traveler, Operation Hazen received superb support from the Canadian military, who were "on tap, not on top." Our data went to Washington and Moscow, and the expedition produced an enormous amount of information about a little known part of Canada. We documented our experiences with equipment and supplies in the hope that others would learn from our mistakes.

The expedition left a glow in the minds and hearts of all who took part in it.

Science can advance by competition. Every scientist borrows from his or her peers while hoping to outdistance them — hence the tensions that run through research and are exacerbated by excessive individualism when funds are short.

But science can also advance through cooperation, if people are left free to pursue their specific interests and encouraged to pool the information they generate. That was why Operation Hazen worked so well — our individual work enriched the knowledge of others.

A recent visitor to the Arctic, however, noted that competition, rather than cooperation, is becoming dominant there. Marion Botsford Fraser wrote in the *Globe and Mail* of 1 September 1990 of a research project involving scientists from two Canadian universities: "Such joint efforts are apparently rare; while there is an informal sharing of knowledge over pork chops in the cafeteria, there are carefully guarded precincts of research and even territory in this vast and largely unexplored territory."

In *Inside Outer Canada*, David Kilgour presents two contrasting concepts of the North: "One view claims the North as a hinterland to be exploited for the benefit of Southern Canada; another argues the wilderness must be preserved in a pristine condition."

The ethic of "cleaning up and clearing out" and that of wilderness preservation — and the conflicts between their proponents — are based on the western experience of industrialization. Westerners see themselves as "outside" the environment and their communities, not as integral parts of them. At the local level, the battles between developers and conservers have confirmed the wisdom of the African saying: "When the elephants fight, it's the grass that gets trampled."

All the follies and foibles of a segmented, individualized, secularized and acquisitive society have been imposed on the North. Although vast, this harsh land presents a microcosm of all the conflicts generated by the meeting of different cultures and rapid social change. Library shelves groan under the weight of studies of northern problems, especially those of the indigenous peoples of the North. Little has been written about the values,

assumptions and aspirations of those who make decisions about the development and management of the North. They have created "Ottawa on the tundra," an extension of southern urban civilization.

The North serves as a window on another world — and a mirror to ourselves. The North is not a place apart. It lies at the very core of the country and at the root of our beings as Canadians. Here the inner self interacts with external realities — the subjective and objective worlds come together, for there is no escape from the overwhelming presence of the Great Outdoors, and the demands of the Cramped Indoors.

The proponents of more government spending on northern research seem to believe that bigger research is better. But I have yet to see any studies that relate the cost of a research project to its results, either theoretical or practical. And, indeed, much scientific research involves a great deal of time struggling up blind alleys. We should be less concerned about what we are doing to the North — and more with what the North is doing to us. And we may then be able to answer the question that T.S. Eliot posed in a chorus from "The Rock":

> Where is the wisdom we have lost in knowledge?
> Where is the knowledge we have lost in information?

A new North is emerging, hidden from view by the media obsession with conflict — and the vast mass of information being collected about problems. Young natives go into the bush with their elders to learn the old ways that enabled their people to survive in a harsh and demanding land. They also take part in archaeological digs, working at the hard, tedious tasks that lie at the basis of all scientific research. These initiatives help everyone to understand the authenticity and integrity of the traditional way of life, and to appreciate ancient and modern science. Native development corporations are bringing together traditional skills and modern business methods. These are small beginnings. But they point the way to developing the North for, by and with northerners and all Canadians.

From time in isolation in the Arctic and wilderness travel in the Subarctic, I came south with a feeling of awe and reverence, a sense of humility and of achievement. In learning from northerners, indigenous and expatriate, I was impressed by their skills and abilities in surviving and building new northern cultures that avoided the excesses of southern middle-class ways.

With these feelings came a sense of optimism, a joyful response to the world, a belief in some transcendental power that made our petty earthly problems seem trivial. And yet what has been done in the North has great personal meaning. Always I sought to contribute my small grains of sand to the rising mountain of northern knowledge. In this way I sought to repay that wondrous land, and its people, for what they had taught and given me.

And from the North I carried away first-hand knowledge of three living forms and their fate that point the way to possible futures for the North — and Canada. Caribou that fight tangle their antlers and die when they cannot free themselves. Muskoxen, when attacked by wolves, form a circle, horns pointing outwards. This ancient strategy provided no defence against Peary and his people, who shot down these great beasts for food: we found their heaped, bullet-shattered skulls in northern Ellesmere Island.

We also found many forms of lichen, flourishing where nothing else grew, drawing sustenance from air and rock. Lichens are symbioses of algae and fungi, two completely different forms of life. Through mutual aid, each serving the need of the other for nutrition, they produce a myriad of colourful forms that cannot be created by separate organisms.

Lichen are not theories, concepts, hypotheses or even paradigms. They are living presences and witnesses to the necessity of cooperation for survival in a vast and hostile land at the very end of the earth. They indicate how traditional ways and modern science, northern peoples and southern in-comers, theory and practice, rational and intuitive ways, the North and the nation can be developed. They point the middle way to a North that can be more than a place to loot and leave — or where only man is vile.

And from our northern experiences, in science and in the daily struggle to solve practical problems, Canadians can carry messages about cooperation and symbiosis to a world weary of conflict and confrontation.

Jim Lotz
Halifax, Nova Scotia, Canada

Individuals wishing to express an opinion on a northern issue of current relevance are invited to submit a draft for consideration as a guest editorial in *Arctic*. Submissions should be approximately 1200–1700 words long and typed double-spaced. We also look forward to letters to the editor providing your input and feedback on any of the articles, reviews, profiles or editorials appearing in *Arctic*.