WINTER CITIES

REFLECTIONS

FROM THE ARCTIC RIM

VOLUME 8
NUMBER 3

BRIAN RICHARDSON

WINTER CITY

Winter city
It's the cold that makes me blue.
Winter city
You freeze me through and through.
Winter city
There's no pity left in you.

Leather jacket stroller,
zipper open wide,
impressing pinball hustlers
with his cold resistant will.
Cool man of the arcade
scoffs the arctic outside;
but this hero's bone deep shiver
says this weather kills.

Winter city
beneath a sky of frozen blue.
Winter city
Even souls get frozen too.
Winter city
It's the cold that makes me blue.

By the bus stop bundles
bulky all bear faces.
Scattered shuffling feet
stamp off the stiff.
Cocoons stand wrapped within
their solitary spaces,
sharing frozen conversation
in a stream of sniffs.

Winter city
Wind cuts right through you.
Winter city
Survive you's all I do.
Winter city
It's the cold that makes me blue.

The shadows sharpen on
the endless edge of white.
A fainting sun is glaring from
below a lowering sky,
retreating from the grasp
of the long reaching night,
he sneers at the tears
of a windseared eye.

Winter city
There's no pity left in you.
Winter city
Every year you prove anew
Winter city
It's the cold that makes me blue.

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REFLECTIONS FROM THE ARCTIC RIM

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Mike Robinson is director of the Arctic Institute of North America and an adjunct professor of community planning and anthropology at the University of Calgary. For the past 12 years his research interests have centred on participatory action research in northern communities, land claims negotiations, and mediation of land-use disputes.

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Brian Richardson, who was born in 1945, grew up in Dun Laoghaire, just south of Dublin. He moved to Montreal in 1968 from Upstate New York after obtaining a bachelor of arts degree there and taught English, speech and drama in Batavia, N.Y. He started his career in professional theatre in Montreal, then went to Halifax. From there he came to Winnipeg, where he joined the theatre collective, Confidential Exchange.

PUBLISHERS MESSAGE

UNITING NORTHERN VOICES

HAROLD HANEN

OPPORTUNITIES TO SHAKE UP MIND-SETS OFTEN GO UNRECOGNIZED. All too often we allow conferences to be a passive experience. We take in the sessions that confirm our insights, deepen our resolve but for the most part leave us, and our thinking unaltered. Rarely is collective action taken.

Winter Cities Forum '91, in Sault Ste. Marie, Ontario is an opportunity demanding our best thoughts, as northerners, on not taking out more than we can put back into our northern communities.

Call it conservation. Call it saving the planet. Call it ecological planning. Call it sustainable cities. I call it vital to sustaining the circumpolar world.

The variety of speakers and the diversity of their areas is exhilarating. Rob Cormier and Tom Gillespie have wisely allotted the evenings of the four day conference to fun and winter frivolity.

When the deep thinking and northern merriment is all over, conference delegates, speakers and exhibitors will be in a unique position to make recommendations for environmental legislation so that we can speak with a united northern voice at The Global Conference [Eco '92] in Brazil.

There is strength in diversity as we sit together and reach an understanding of specific cultural, climatic and social considerations at Forum '91. However, to make our voice heard in an international gathering, [Eco '92] sponsored by the United Nations, we must recommend practices that would benefit the widest possible spectrum of the populations in the circumpolar world.

The WCA information booth will be the collection centre for the opinion forms that will be part of the delegate package. These forms will request your recommendations for new environmental practices and policies that would make the differences to us, the inhabitants of the circumpolar world.

I urge you to take back the words of wisdom from Forum '91 and make them the actions of leaders in sustainable cities.

WE HAVE NOTHING TO WASTE, INCLUDING TIME.

HAROLD RECYCLES HIS SHOES IN CHINA.

CAN NORTHERN RESIDENTS PROSPER IN HARMONY WITH THE ENVIRONMENT?

By: Robert Cormier, Executive Director Winter Cities Forum '91

This upcoming January 21-25, a large gathering of International conference delegates and speakers will converge on Sault Ste. Marie, Ontario. New business and social opportunities will be examined for Northern inhabitants wishing to embrace environmental protection as an equal partner in their economic future.

Winter Cities Forum '91 will provide a long circumpolar arena for representatives of aboriginal and northern communities, resource industries, government officials, environmentalists, academics, professionals and of course the media, to examine the issues of sustainable development in the North.

Solutions and successful examples for implementing sustainable economic development will direct delegates to new business opportunities and healthier lifestyles as we enter "The turn around decade for the planet."

The results of the conference will be condensed into a published synopsis to be circulated as a position of northern inhabitants towards implementing sustainable development. This synopsis will be presented to world leaders meeting in Brazil in 1992 to set out a global environmental/economic strategy for the next decade.

Interest in the conference has exceeded the organizers' original expectations. Arrangements are being made to increase Forum '91's staging facilities. Delegates are registering from all corners of the circumpolar world including; Alaska, Norway, Russia, Canada, Europe and Iceland. For the first time in the Winter Cities Association's history, aboriginal peoples will play a key role as speakers and delegates.

An accompanying Trade Show with 60 exhibitors from northern communities, suppliers of winter related or environmental goods and services and government agencies is now 50% occupied.

Forum '91 is truly a timely event as environmental awareness comes of age. Finally, northerners will have their united voices heard and concerns addressed on northern turf.

Telesat Canada will play a vital role in providing Forum coverage to communities in the far North.

HEAT PUMP CHILLED FOUNDATIONS

NILS LARSSON

AN INTERESTING PROJECT THAT MAY RESULT in better permafrost foundations is being completed by NRC building scientists.

Buildings can successfully be located on permafrost as long as measures are taken not to melt the permafrost. This is a difficult problem, since heat will eventually migrate out through a conventional basement no matter how well insulated it is. For small buildings, a frequent approach is to life the building clear of the group on piles, so that the cold winds can remove any transmitted heat and maintain the permafrost in its preferred chilly mode. But, as the researchers put it, ... piles are relatively expensive to place in permafrost and the approach requires a costly structural floor including large amounts of floor insulation. These problems can be circumvented by building an insulated slab-on-grade foundation, but this approach is only viable if some means is provided to remove the heat ... Either mechanical ventilation or two-phase thermosiphons are currently used for this purpose. All these systems are, however, ultimately dependent on the vagaries of natural cooling and, in spite of high costs, may not perform as intended, especially in warm or saline permafrost regions.

Mechanical refrigeration ... is an old idea which, although ideal in terms of providing complete control over ground temperatures ... has generally been discredited because of high operational costs, technical complexity and substantial maintenance requirements. At the same time, relatively simple ground source heat pump technology has become well established in temperate regions as a reliable and efficient means of heating buildings, using commercially available equipment requiring minimal maintenance. It is an almost obvious step to realize that the ground-source heat pump can be applied to permafrost foundation problems to maintain frozen ground while, at the same time, providing heat for the building itself ...

A nice statement of the problem and the possibilities. In very crude terms, we are talking about a reversed refrigerator, with a warm interior and a cold exterior; a very satisfying concept because of the inherently self-regulating mechanism — if the system is less effective at cooling the ground, it will also produce less heat within the building, which in turn reduces the rate of heat loss. Neat.

The question that immediately comes to mind, of course, is whether there is enough heat available in the permafrost to make the system work.

A test site was previously developed by Public Works Canada, in hangars at Resolute Bay and Inuvik, NWT; but monitoring of the ground temperatures was very limited.

The current development work is jointly sponsored by the Institute for Research in Construction (IRC) of NRC, and the Yukon Government, and has allowed the NRC researchers to test the concept in two multi-function municipal buildings in Ross River and Old Crow, Yukon.

Both projects because operational during 1988. It is clear, therefore, that neither project has operated long enough to provide a final assessment, but indications to date are promising. Soil temperatures have been reduced and there has been negligible movement of the slab. Preliminary cost data are promising, at least in Ross River, where the operational costs are almost entirely offset by the savings in heating oil. In Old Crow the economics don't look so good, but this is mainly because the system is electrically powered, and local electrical costs are very high.

The implications are intriguing. The researchers feel that ... mechanical refrigeration potentially makes possible a one-design approach, usable for all buildings under virtually any reasonable subsoil conditions ... They go on to compare the capital costs of their complete foundation design, compared to four other types.

We plan to keep an eye on future development of this work. Building retrofits are practicable. Two other possibilities are even more intriguing. Sewer and water lines could be buried in permafrost and the heat picked up from the soil used to heat surrounding buildings. Also, sewage lagoons on permafrost could be heated while the permafrost below is cooled, thereby assuring a better bacterial activity within the lagoon.

The work looks very promising, and we hope that NRC will continue to develop this area of study.

For further information, contact Dr. L.E. Goodrich at the National Research Council. Telephone: (613) 993-3797, Fax: (613) 954-5984.

THE NEW NICOLLET MALL

The new Nicollet Mall, built in 1967, was downtown Minneapolis' answer to the suburban shopping mall. Since its completion, it has not only provided much need open space and amenities to downtown, but also facilitates transit movement.

While some may debate architect Lawrence Halprin's design, it nevertheless gave downtown Minneapolis a new sense of place, and contributed to additional downtown revitalization.

The Nicollet Mall Implementation Board was recently organized to oversee the Mall's renovation. BRW Inc. of Minneapolis was selected in June '87 to develop the design. A number of design recommendations have been offered, including some which enhance the Mall's winter utility.

Provide a pedestrian connection with the skyways over the Nicollet Mall to the street via circular stair towers, where two stairways would be wrapped around an elevator, encouraging much movement between the two levels. At night, the towers would be lit dramatically for visibility.

Diesel shuttle busses presently used would be replaced by smaller electric-powered vehicles, with 45 second headway at peak hours.

Retain the original serpentine roadway design, while creating a series of 40' wide plazas along the mall for dining, performance, and large and small gatherings. Native trees, seasonal flowers, and public arts would add greenery, colours, beauty and excitement to the Mall.

Granite pavers would be used for sidewalks, in a variety of colours and patterns to establish a clear visual continuity for the Mall.

Improvements on those street crossing the Mall are also planned to provide strong pedestrian link to other major downtown streets parallel to Nicollet.

The design also takes "Winter City" concerns into consideration in a number of ways:

Snow melting equipment beneath the granite pavers will help keep the sidewalk clean and dry all winter.

Pine trees will be planted near street corners to reduce wind, and to provide colour and greenery in the winter.

Lighting will be specifically designed to warm the long winter nights. Decorative light displays for Christmas and other occasions will be provided.

Pocket parks will be provided at different locations along the Mall.

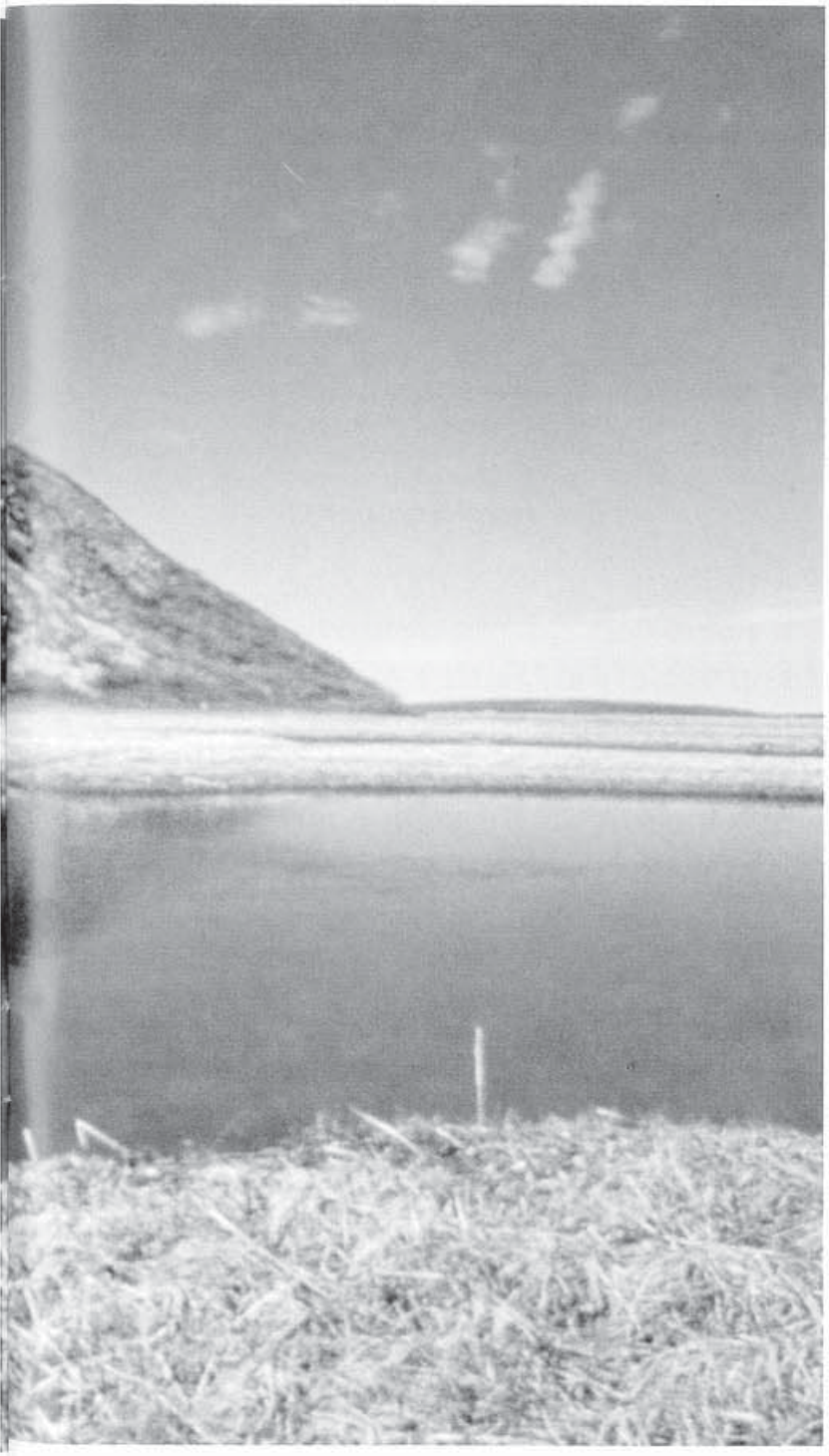
Glass structure which can be open in the summer and will be close in the winter will accommodate street vendors, and sidewalk diners. Inside the structure, escalators will connect streets with skyways in a highly visible way.

The designers hope that the new Mall will serve both the retail and civic functions equally well.

The plan was approved by the Implementation Board and the City Council with the exception of the circular glass towers because of the lack of support from store owners. Hot water pipes under the pavers were proposed for melting the snow on the sidewalks. However, since Minneapolis doesn't have hot water district heating suitable for such uses, it was determined to be more cost-effective to remove snow by plowing the mall. The pocket parks and the glass structures will be implemented incrementally via private development. Total budget for the new Mall is around $22 million.

REFLECTIONS FROM THE ARCTIC RIM

The focus for this issue "Reflections from the Arctic Rim" may mislead you to believe that what you are about to read is a gentle musing about the mythical far north. We sincerely hope that is not the case.
We chose opinions and ideas intended to give residents of the arctic a sense of recognition: recognition of who and what they are: the problems they face and the hard-won wisdom that they have to pass on to the south.



Strong images place us in the true north as we go along on the adventures of an Inuit hunter or look at polar bears with new eyes as scientists explore the phenomenon of the polar bear's heating system. A survey of the variety of settlements in the north is designed to give readers a true picture and to dispel our romantic notions. At least two authors value the wisdom of northern elders.
Pat McMahon, mayor of Yellowknife, presents an optimistic urbanite's view of the arctic.
Planners' frustrations are well documented in two articles. In one case, contactors and architects have incompatible reasons for involvement in a project and in the second case, cultural differences emerge.
Finally we can all benefit from the definition of what makes a house Nordic which comes with recommendations for all northern housing.

NEW LESSONS

FROM NORTHERN ELDERS

MIKE ROBINSON

Many southern Canadians I talk to about the North cling to stereotypic images called from old movies, the collected works of Pierre Berton, Farley Mowat and Robert Service, and a never ending morbid fascination with historic episodes such as the Franklin Expedition. It is amazing how pervasive the gold rush mythology is in the Canadian psyche and how our northern education is so often dominated by white male authors and their ethnocentric images. I am also intrigued by the persistence of the "survival theme" so well documented by Margaret Atwood in her book Survival. Our southern educational institutions, our national print and electronic media and even our tourist promotions sell a North that is far more homogenous and harsh then it is varied and friendly. For a nordic country, intimately tied to circumpolar cousins and traditions, our vision of the North is too often simplistic and imaginary.

Let us consider an alternate vision. To begin with, let us disabuse ourselves forever of our stereotypic view of the northern community. There are no trees north of the treeline and for that reason quaint little Robert Service cabins are in short supply in many Northwest Territories communities. Instead of Dawson City circa 1898 as our archetype, let us consider at least five categories of northern communities.

Our vision of the North is too often simplistic and imaginary.

At one end of the spectrum are Yellowknife and Whitehorse, with populations of 12,000 and 20,00 respectively. These communities are thriving government and business centres, and no other northern communities come close to them with respect to population size, affluence, economic activity or prevalence of non-aboriginal people and culture. In many respects these northern cities are based on southern models.

A second category of communities are mediumsized (1,000 - 3,500), ethnically integrated, regional centres. Here we find Inuvik, Hay River, Watson Lake, Dawson City, Iqualuit and Fort Smith. These communities have small, resilient business and service sectors and moderate levels of infrastructure development.

A third category of communities include the large (500 - 1,500) aboriginal centres such as Rae-Edzo, Coppermine, and Baker Lake. Here we find high population growth rates, low levels of infrastructure development, low income levels, high unemployment and poorly developed business and service sectors. These communities are caught in transition between traditional, land based economies and the wage-oriented mixed economies of the larger regional centres.

A fourth category of communities includes small (50 - 500) aboriginal settlements such as Whale Cove, Colville Lake, Old Crow and Clyde River which have economies that remain primarily land-oriented, informal and traditional. A fifth category of communities is the ephemeral, resource extraction-based mining towns like Norman Wells, Nanisivik, Faro and Mayo. These towns are largely self-sustaining and externally oriented.

As one can appreciate, the spectrum of northern communities is broad, ranging from bush camp to city, and there is just as much variety in economic base, demographics, ethnicity and public amenities. You can stroll across a heated Plus 15 in Yellowknife; in Fort McPherson "honey buckets" are still common in many homes. In Rock River camp the Gwich'in caribou hunters bed down on spruce bows and toss logs in the airtight stove at night to heat their canvas wall tents; in Whitehorse you can agonize over thirty different

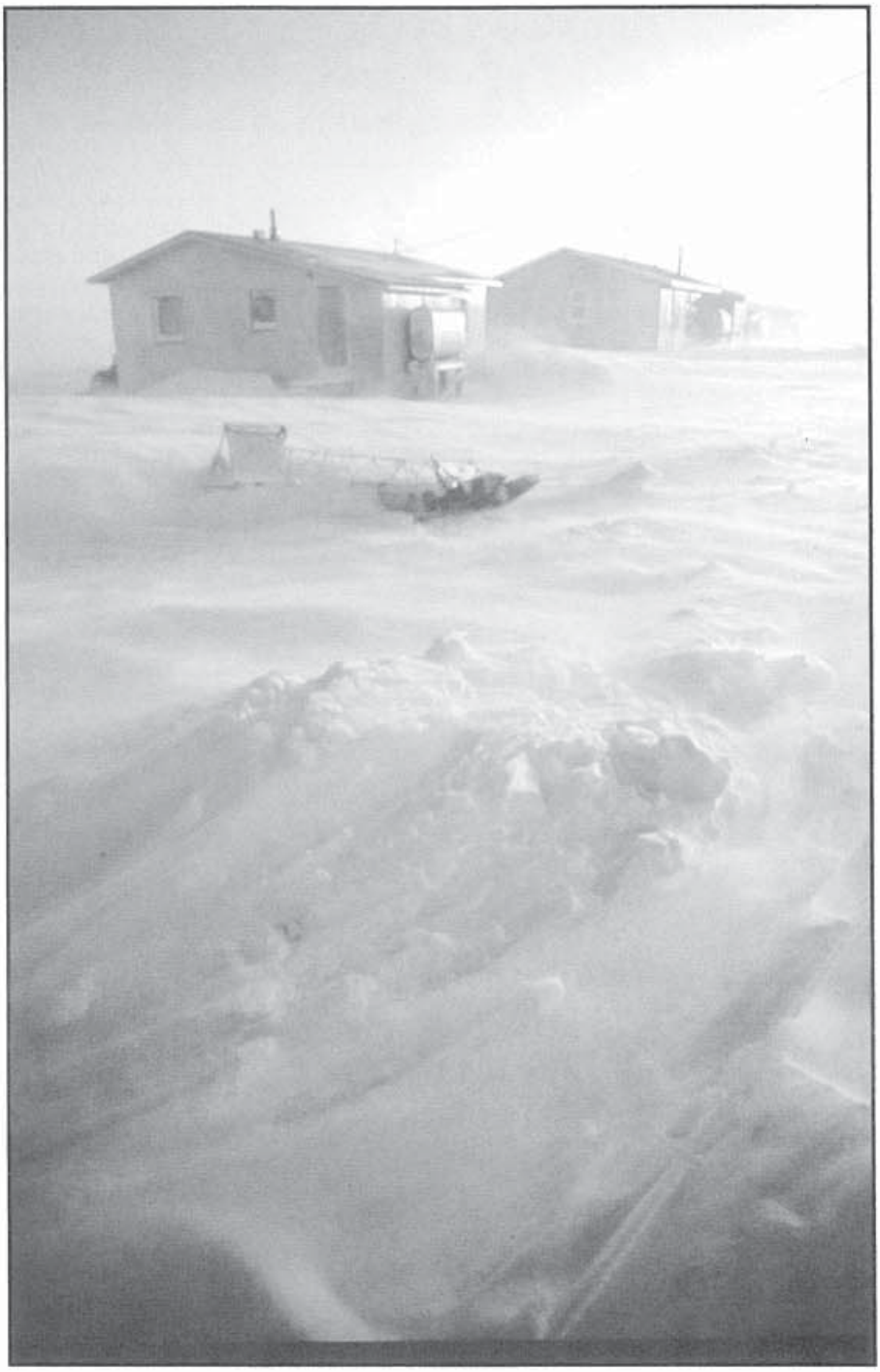
styles of jogging shoes in a modern shopping mall.

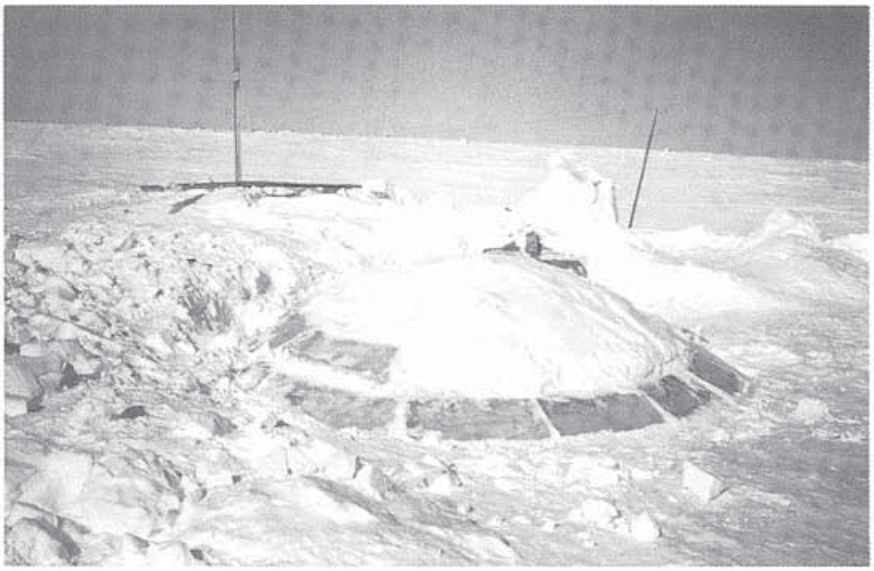
Given the variety of northern community types, economic adaptations and life styles, those who are fortunate enough to travel widely in the Canadian North today are often struck by the lessons that northern communities hold for the South. To begin with, there is no more democratic, consensus driven constituency anywhere. The legacy of the two Territories' quest for self-government and land claims settlement is the importance of broadly-based collective debate and decision before any action is taken. The current land use planning programmes underway in Yukon and the Northwest Territories further underscore the importance of settling land use conflicts before development occurs. The commitment of both Territories to the environmental round-table process further underscores a grassroots desire for sustainable development. The continued coexistence of two of the world's last great hunting cultures (the Dene and the Inuit) with growing goods producing and information and service sectors indicates that cultural and economic diversity is of value and worthy of close attention and preservation.

In the Northwest Territories the great language debate centres on whether there should be seven or eight official languages - not on the supposed supremacy of English or French [as is the case in southern Canada].

Northern vernacular architecture and community planning also offer much to the residents, developers, planners, engineers and architects of southern winter cities.

Northern vernacular architecture and community planning also offer much to the residents, developers, planners, engineers and architects of southern winter cities. In their traditional concern for fitting human settlements into the landscape, the Dene and Inuit pioneered sustainable settlements. Archaeologists and anthropologists who work in the North often comment on the importance of accessability to key resources in choosing a settlement site. Good sites were close to country food (polar bear denning areas, fish spawning streams, polynya [an area of open water in sea ice], caribou migratory tracks, and bird nesting areas), good sea beach access at all stages of the tide range (highly tidal areas were avoided), took advantage of shelter from prevailing winds, often commanded a strategically important view, and were in walking distance of cooking and heating fuel sources.





Traditional construction always featured locally available materials, and many ingenious technologies were developed to contribute to the overall quality of life. Covered and sunken entry passages provided "cold traps" and protection from marauding animals. The use of heavy blocks of stone contributed both wind resistance and solar heat sinks. There is even evidence that building shapes were modified over time to create wind and snow buffers.

Archaeologists Peter Schledermann and Karen McCullough of the Arctic Institute think that there is good evidence to suggest the presence of certain people within Palaeo Eskimo, Dorset and Thule communities who built up dwelling site location and construction expertise over their lives. As "planning and architectural elders" they contributed much to settlement quality of life, probably by leading consensus discussions on where and how to build and when to move.

While all of this may seem archaeologically abstracts to some readers, others will perceive the wisdom of the elders in site, massing, design and building decisions being taken today. They will also question the utility of San Diego housing designs in winter cities like Calgary, of suburban sprawl in Whitehorse, and Ottawa derived building solutions in Fort McPherson.

Surely it is time for winter cities and villages to unite on design discussions...and information sharing, much as those Inuit elders of old, when the onset of winter indicated it was time to prepare the extended family camp.

TIME OF SORROW, TIMES OF JOY

JOE TEDJUK

I was born at Pearce Point, out west near Cape Parry. My mom, Lucy Kelak, said I was born right after my father's death. He was an Alaskan but my mother was a Copper Eskimo woman. He died from shot gun bullets right in his belly. The gun shot into him in a canoe, she said. My dad was duck hunting or seal hunting when he saw some ducks coming towards him. He grabbed his double barrelled shot gun by the barrel point. The shot gun triggers caught on the canoe seat and both barrels went off towards his belly and he died instantly. After my father died my mom named me after my father -Tedjuk.

I don't know exactly what year I was born, but my birth card says 1923, but it could be some other time close to that.

I was sent to school in the 1930s, me and my sister Emily and two other children called John Kudlaluk and Mary Tukaloak. I was about nine or ten years of age. I don't remember the names of the other children at the school. They were all children from out west, like near Holman Island.

It makes me feel happy inside my heart that someone is teaching the children our way of life

We were put aboard a ship, a HBC supply ship called the Baychimo, that was going back to Tuktoyaktuk. Then from Tuk we were taken by a deacon, Thomas Umaok, an Eskimo who was made a deacon before he became a minister. The deacon took us to Shingle Point School which was run by the Anglican Church.

The girls and boys each had a house to sleep in. They were all log houses. There was also one house for cooking the meals for the children and they ate their meals there also. The older children helped with serving meals.

There was one time one summer when the supply ships never came because of the heavy ice. Boy, we were tired of beans and barley. We had to have them for breakfast, dinner and supper. Caribou and fish were better. We ate good when they served us meat and fish.

Yes, I stayed in school for six long years without seeing my mother. I was only in grade five when they sent me back home, but my sister Emily stayed in school till she was well learned. She went really far in school.

I learned from my mom how to trap

When they sent me home from school I learned many things about surviving on the land. I learned from my mom how to trap and hunt and how to survive on Eskimo food, not only on white man's food. I like seal meat, caribou meat and fish and even fox meat if it's nice and fat. With foxes you just cook the hind legs and the front legs and the ribs. You boil them until they're soft to eat. Mom also taught me to skin a rabbit or a ptarmigan and then freeze it a bit and eat if I happened to get lost in a blizzard.

And when you are really lost in a bad storm, make a small snow house just your size for the night. Make sure you mukluk laces are loose and leave all your clothes on and rest for the night.

When you are cold go out and run around the snow house a few times to keep warm. They're long nights you know, so you have to keep moving around when you feel cold. You know in this cold land of ours during the winter time it gets pretty cold at night. That's why you have to know what you need. Always carry a snow knife because when you have one with you, you can sleep out in the open on very bitter cold nights because you can build a snow house.

I also learned it was better to have a camp right on the sea ice. You are better off then because you can look for seals' breathing holes in all directions from your snow house and you have a better chance to find them.

It was nice to be out in my young days, but now no one cares to hunt for seals' breathing holes. They like to run around with their fast skidoos. Even the Old people are forgetting how they used to survive in the cold north land.

I'm glad the territorial school here in Cambridge Bay takes children out fishing and trapping and hunting caribou. It makes me feel happy inside my heart that someone is teaching the children our way of life. In the past when we were growing up we were always told by our elders how to survive on the land.

NOW I'M ABOUT 67 YEARS OLD and I'm still in good shape, but I can't hear any more except with a hearing aid and my legs are pretty sore sometimes. My legs seem too weak for hard work now.

I live with a woman named Anna Taptoona. We are both on welfare. Yes, my legs bother me a lot more in the winter time when it's cold, but I manage it, though in my younger days there was nothing to worry for food for ourselves because in winter time I stayed out sealing on the sea ice.

That was great fun for me. I used to keep building snow houses and had a seal oil lamp to keep me warm through the long winter days. I loved sealing when I was about 19 or 20 years of age. I never worried about flour and white men's food as long as I had tea, tobacco, matches. In those days I never felt cold at all except in the morning when first getting up to light our primus stove to make a cup of tea. My favourite food was seal liver and seal lungs along with my cup of tea and small chunks of cooked seal meat. Yes, but now coffee with toast and butter and jam for breakfast. Long time ago we never had them, mostly tea and bannock, seal lungs or liver and cooked seal meat along with brain in my old days.

And when you are really lost in a bad storm, make a small snow house just your size for the night.

I had a wife named Flora Tukluk; she was an out west woman. I had nine children with her, but she left me after we had nine children, sometime in the 1970s. But now again I found my love Anna Taptoona. She is weak, having fits all the time, but yet I love her just the same. I think I love her more than Flora, not because she is pretty, but I felt through my heart she needs a person to look after her.

Yes, it's a great life for me and Anna in the spring time. Yes, when we must stay in the house all winter long like a brown bear stays inside all winter long then spring comes up and it's nice and warm outside, 24-hour sun. It makes Anna and me feel like going fishing again. Yes, it's better for Anna because she has to have a lot of fresh air outside, but in cold weather and rain we stay inside our tent until it's good again for fishing. Anna is young and weak. She takes pills all the time. She can't work or cook, but I love her so much through my heart. Yes, it makes it hard for me because her children can't look after her. They leave her alone most of the time.

But Anna likes fishing in the springtime so much even though she is weak and even though she can't cut fish. Only me, I have to do everything - cut fish, put them to dry, get water for tea, cook for her after I fish all day long. But she is a good fisherman.

We don't sleep much while it's good fishing. Sometimes we sleep only two or three hours, then we are up again, bright and early like a bird. We take what we need and usually stay out all day on the ice fishing. I always carry a lot of dry fish with us on the boat and a lot of tea, coffee and sugar. We don't care much for bread and white people's food. But if we have no fish or any kind of meat of course we have to have something to eat like a tin of Klik or sardines or cheese.

Sometimes we are out on the ice 13 or 14 hours each day. Then we go home to our tent at late night time so I can cut up the fish for drying. I put salt on them then hang them up on the fish racks. It's a lot of work for a man, but once they dry they are good eating with a good cup of tea or coffee. It's good to have some dry fish for the fall time.

When we go out fishing I also take a little tent and blanket and a sleeping skin in case we get tired and don't want to go back to our camp. I just carry them along, even if we don't use them at all. That's how my mom taught me, always to carry anything that might come in handy. I also bring a gas stove, spare jiggle sticks with nylon line on them, our ice chisel, an axe, a knife and a file. I never leave them behind. They come in handy, these things, when you need them.

We don't use a kicker (outboard motor). I use my arms as a kicker. I don't need spare spark plugs or gas. I oar all the time. I have more fun oaring, even on windy days or calm days. I take my time. There's no rush at all. I try to look for a good spot for fishing. When we find a spot, I pull up the boat on the ice and make sure it won't slide back into the water.

It's good to be outside the settlement of Cambridge Bay instead of being in the house all spring and summer. There's nice fresh air outside the community and it's nice to have good camp tea and a good meal of fish cooked or dry and also the fish eggs and liver. We eat them raw. Sometimes when we

have enough I dry them up for a snack, like snack bars.

I don't understand why some people just like to stay in the settlement. Most of them are on welfare. they could stay near the lake to fish while it's so nice to be in camp near the fishing instead of staying at the houses gambling or drinking, only visiting from house to house. Yes it's good to be out when it's nice and warm.

Boy, I love fishing. That's one thing that I don't want to quit -fishing outdoors. Now I have a fishing rod to fish and I just love casting out and pulling in fish. That's one thing I will like until I have to crawl on my knees.

Each summer about late July, August, there's some visitors come to Cambridge Bay to fish for char. A few are from Edmonton, Alberta. I saw a few of them and made friends with them. Some look pretty strange to me. I mean, they seem to not like Eskimos or they are shy to meet an Eskimo like me. Yes, well life is life and an eye is an eye and love is love. The main thing in the world is that we should love one another. But some people don't know what love is or how to be friendly with others.

You know, there are times of sorrow, weary weeping for loved ones when they die, because we cannot replace a person that died who we love so much. When we lose something, anything like clothing or tools or anything, we can replace it from the stores, but a person can't be replaced.

When we lose something, anything like clothing or tools or anything, we can replace it from the stores, but a person can't be replaced.

MEMO FROM THE MAYOR

PAT MCMAHON

YELLOWKNIFE, THE MOST NORTHERN CAPITAL CITY IN CANADA, located on the west short of Yellowknife Bay, on the North Arm of Great Slave Lake. Capital of the Northwest Territories since 1967, Yellowknife is named after the Yellowknife Dene who moved into the area in the early 1800's.

YOU MIGHT SAY OUR GOLD IS PAVED WITH STREETS.

Yellowknife has within its boundaries, on either side and underneath, two gold mines - Giant Yellowknife Mines and Nerco Mines. Our modern town with all the conveniences, includes one of the finest museums in North America, the Prince of Wales Heritage Centre, exhibits northern culture at its best. A growing city with air traffic, boat traffic, and people traffic. Yellowknife, is the centre of government and business activity. It acts as the hub for transportation and services for a massive trading area, the Northwest Territories, covering one-third of Canada's total land mass.

Yellowknife enjoys a low unemployment rate, which is indicative of the City's strong and secure economy. It boasts a variety of thriving business enterprises growing at the rate of 8% per year. The economy is divided into several sectors: mining, oil and gas, government, small business, tourism, renewable resources and arts and crafts. Construction over the last five years has hit an all time high, averaging $80-100 million yearly. As we continue to grow as a mining, transportation, communications, administrative and service centre, we have become the "Gateway to the North". Our long range plan continues to enhance and bring together the people, the cultures, and the enthusiasm of Northerners with the capital investment, the expertise, and the drive of experienced Southerners. Together we grow. Opportunities abound for the establishment of research centres specializing in northern engineering, medical and cold weather techniques and for the private entrepreneur to realize a life long dream.

Tourism has become a major player in the economy of the North. The North features countless outdoor sport and recreational opportunities year-round. In the winter, travelling by dog-team and the witnessing of dancing northern lights are experiences not to be missed. People from around the world fly in to participate in the Midnight Golf Tournament held every June in Yellowknife. Summer Visitors have the opportunity to sightsee, canoe, hike, fish, hunt, and enjoy our midnight sun.

In 1970 when people came north to work, they stayed on the average 2 years because of the disadvantages and isolation encountered; now the average stay is 7 years because of the many advantages. Yellowknife has excellent services such as housing, education, clean water and air, recreation, access to electrical power, and land on which to develop. Yellowknife is a high income community with a well educated population. This year, Centre Square/Northern Heights opened its doors. This $40 million complex project consisting of an office tower, condominiums, parkade and shopping mall, is the first of its kind in the North: a winter cities award winning project planned and built by the private sector, co-operating with the municipal government of Yellowknife.

In the Capital of the Northwest Territories, the wisdom of the heart marries the rational mind. This creates exciting challenges that Northerners meet and overcome. People from around the world are lured to Canada's North to experience this phenomenon and stay to enjoy our unique lifestyle and northern hospitality.

ERNEST L. BALMER

MAKING THE SMALL TOWN DREAM COME TRUE "SHOULD DO" TO "CAN DO"

IN THE YEARS THAT THE WINTER CITIES ASSOCIATION HAS BEEN ACTIVE, A LOT OF PROGRESS HAS BEEN MADE IN DETERMINING WHAT SHOULD BE DONE ABOUT LIVING WITH WINTER IN CANADA. We've learned what should be done to revitalize our small Canadian towns and villages, how housing should be oriented, how it should be built; what community amenities should be added, how quality of life should be improved - the list is endless. Endless too is the list of projects that should be now, have leapt from the drawing board to reality - but haven't.

"Should"? "Aye there's the rub", Shakespeare would say. We have a roadway filled with so many idea, so much work, so much talk, but it is a road that has led almost nowhere. The fact is that only rarely does the Community's dream get translated into reality. The bad news is that unconscionable quantities of brains, time and money will have been wasted and the future of our northern communities will continue to be uncertain - unless the percentage of "no go" situations can be reversed. The good news is that it can.

Although for easier discussion I will talk about small northern or remote communities normally dependant on one or two industries, most of the principles also apply to other winter city projects. First let's get some basic facts:

1. Most meaningful winter city projects involve doing something with real estate.

2. Real estate is a long term proposition involving large capital outlays which must be repaid to investors over a long term together with a return on the capital, and the investor(s) must have assurance that the economy of the community can sustain the repayment.

3. Small one or two industry communities cannot easily attract knowledgeable developers or investors or lenders of capital.

4. The normal investor's or developer's focus is often incompatible with a community's needs. The former are profit motivated, and want to develop profit generators. The latter are constituency motivated and want to improve the stability and economy of their community.

5. In most instances smaller community retailers, as well as commercial and other users look to pay less occupancy costs than they would in larger centres, primarily because of the smaller markets they serve. Yet development and redevelopment expense are much higher in our subject communities because of lack of local trades, higher material costs, higher interest rates and higher transportation costs. The incompatible equation is higher costs and lower returns.

6. The entrepreneurial developer goes through a difficult process to obtain necessary approvals and consensus. But the process pales by comparison when it becomes mandatory to meet both community and development requirements. The list of the number of parties involved in the decision making process starts to look like an alphabet soup. As the saying goes " too many cooks spoil the broth". Here's a partial list:

•The people that perceive the need

•Townspeople and taxpayers

•The landowners in the Town and especially those that are in some way affected by the proposal

•Not just municipal, provincial and federal governments, but their various departments, agencies and/or ministries each of which is coming to the table with its own agenda.

•The local resource industry

•Commercial and other users to occupy and pay for new or rejuvenated spaces

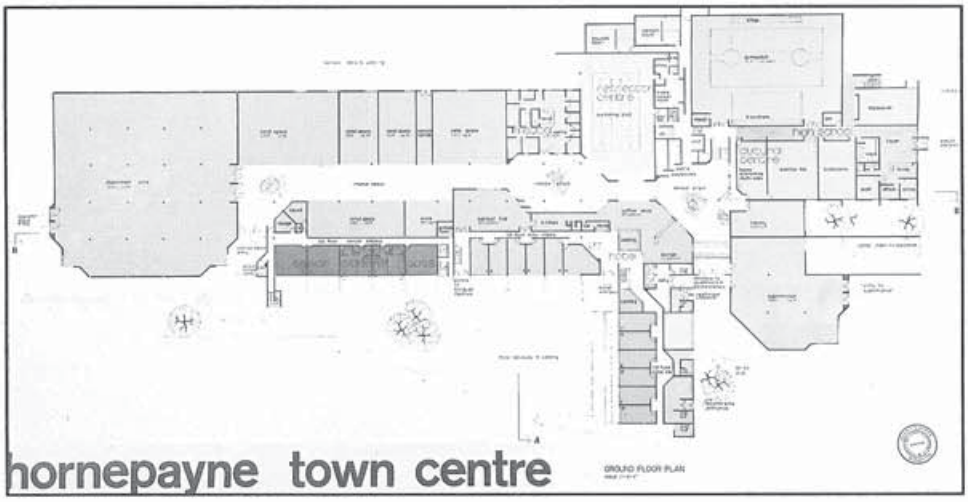
•Lenders and investors

•Consultants such as architects, lawyers, engineers, market research, financial, infrastructure, fire, traffic, marketing - should we go on?

7. The bottom line is that many of the parties are seconded to tasks, or to make decisions for which they are not experienced or equipped. Without sophisticated, specialized and authorative input the project cannot and will not succeed.

8. I have seen wonderful ideas for community redevelopments. For some reason however little consideration has been given to translating those ideas into a project that would work for the community, and that would be economically feasible. Our Winter Cities ideas can only be realized if there is a plan for their implementation, and if a lot of down to earth questions can be answered. For instance, how will the project be implemented and is there a business plan? How are the community's needs being met? Are there actual design plans? How are the town's taxes affected? Who is committed and who will participate? Who will pay for an initial study? What about market research? Sewer, water and energy availability? Fire protection? Traffic patterns? Think of it this way: It's one thing to decide what to have for dinner. It's quite another to get all the ingredients together and cook them.

9. The next fact is that getting consensus among a diverse decision making group is not easy, and getting enthusiastic unanimity is difficult indeed. Without the



latter, however, a community project is doomed to the "dream bin".

By way of example, Hallmark Designed Communities was asked about the redevelopment of a 4 block central downtown area of a northwestern City, population over 50,000. It had deteriorated badly over the past few years, particularly because of the new shopping centres built on the outskirts. The City lacked downtown vitality and identification and the downtown merchants suffered both from a lack of sales, and the continually falling value of their real estate. Through preliminary discussions, it became apparent to those involved and to Hallmark that an exciting solution to the problems was available and economically viable. Of course considerable study along the lines outlined above was required before we could proceed.

The City Council and owners of the land were excited and supportive. In fact, there was almost unanimous approval both by the local affected landowners, and by the regional headquarters of the out-of-town landowners. It was agreed that the property owners in the four block area would pay for the required study. The cost to each owner of the total expense was very small, especially when measured against the potential benefits. Nevertheless, three remotely located head offices of four major landowners representing about 25% of the affected land said that they would not participate in the costs. This effectively cancelled the project. I make the point to illustrate the importance and difficulty of obtaining unanimous or almost unanimous consent. A lack of resolve on the part of a few, can negatively affect the whole future of a community.

In Hallmark's experience at least some of these factors are forgotten or ignored, sometimes so much that there seems to be a wall between the dream and the reality. However, by planning from the foregoing "givens", the chances of success are very much increased.

Take the case of Hornepayne, Ontario, a town located on th CN mainline halfway between Toronto and Winnipeg. With a population of less than 2,000 people in 1977, it lies about 96 kilometres north of White River and 240 kilometres southwest of Kapuskasing. Its largest employer was and is a railway, and the second largest a lumber company situated outside the community's borders. At that time, Hornepayne was fairly isolated, being only accesible by car or train. The so called "main street" had a few good buildings, but most of the stores and apartments were substandard, with some of them being in a dilapidated state. There was no dentist, and a second doctor could not be attracted to the community. The high school was nearing the end of its economic life, and there was little cultural stimulation. This all tended to create problems in finding suitable teachers, nurses or other support personnel. In the case of teachers for instance, the lack caused those parents who could afford it to send their children to schools in larger communities, thus aggravating the economic and social problems of the town. These factors made it extremely difficult for the railway to maintain its work force strength - never mind increasing it to meet the demand created by its maintenance yard expansion. The provincial government was prepared to spend some money on some recreational facilities for the community, and the Ministry of Education was being pressed to consider a replacement for the existing public high school. At the same time, the railway was housing some of its personnel in an old YMCA building considered by the railway to be beyond salvation, resulting in the need for replacement accommodation.

When Hallmark Designed Communities was asked to provide a solution, we came up with a dream - combine all the facilities that the community and the resource industry required under one roof, combining them with other private sector facilities all in an urban style structure to create a symbol of Hornepayne and an anchor for a revitalized centre. It was a solution that I felt would solve a lot if not all of the Town's related problems. The dream became a reality, and in November, 1990, the Hallmark Hornepayne Centre celebrates its 10th Anniversary. The economic and social benefits to the Town have been enormous. It has been visited, studied and written about by people not only from across Canada, but from other parts of the world. Although describing it full is not within the scope of the article, it contains a retail mall, a high school, a large library, a 35 room hotel with dining room, coffee shop, bar and entertainment lounge, rental apartments, senior citizens accommodation, 119 units to house railway employees, dentists' offices, Social Services Centre, Ontario Provincial Police Detachment and a town square. With the Post Office, the Bay, the Liquor Store and the Bank all located in the retail space, the Hallmark Hornepayne Centre has certainly become an indoor "downtown" for the community - a people place where space is shared by users, and a place where people do their daily tasks in a warm, friendly environment.

Now, how did all this come to pass in a town with such a small population? The brief answer is that the factors described earlier were all dealt with successfully.

The main Resource Industry, the Town and several Ministries of the Provincial Government each on its own had the need and the resolve to do something. When we first put forward the plan, which certainly seemed like a dream, all

three parties were very supportive. They were sufficiently interested to see if it could be done. Inherently, it called for unprecedented cooperation between the parties in both the sharing of responsibilities and space as well as dramatic changes in attitude.

Our next step was to create a basic organizational and business structure to the transaction. To overcome the problems discussed above, Hallmark proposed that it design, finance, build, own, manage and operate the Hallmark Hornepayne Centre; but only within very strict guidelines set by the Community, the Resource Industry and the Government.

All four parties were required to make a number of commitments, but when all the commitments were put together, they met the objectives of each party to the transaction. For instance, the Government was prepared to fund a relatively large and accessible library that could be used by both the school and for public purposes.

The Ministry of Education and the Ministry of Culture and Recreation also combined their resources to provide a full size gymnasium and a full size indoor swimming pool, and we agreed to contribute to the annual operating costs of these facilities because we did not have to build separate recreation facilities for the benefit of the Centre's residents. Hallmark agreed to finance and build the Centre in consideration of a number of lease commitments that would ensure the safety of the capital requirements contributed by the lenders and Hallmark. The land was contributed to the project for $1.00 in exchange for a reduction in the rents that otherwise would have had to be charged to the commercial and other tenants.

These are examples of a large number of transactions that were put on the table and negotiated after Hallmark had, at the beginning of the project, put together the plan that would make the project economically feasible and its execution viable. A thorough understanding of, and agreement to the plan by the four main participants, laid the groundwork for the transactions that were at the root of the success of the project.

The other three parties agreed that Hallmark should carry the project out in a manner that left Hallmark free to make recommendations about policy and implementation to be approved by the Coordinating Committee which consisted of members drawn from the Town, the Government, the Railway and Hallmark.

What we really had then was a development organized, built, financed and operated by a private sector company, with considerable and vital support by three levels of Governments, the Resource Industry and other players who joined the project further down the line. Controls were instituted so that all costs were based on the tendered price of the construction.

In the final analysis there were no surprises for the Committee regarding the capital costs or the income and expenses of the project.

In this way, this community project had the benefit of the entrepreneurial and organizational skill of a private sector company on the one hand, while on the other the Resource Industry and the Governments were able to meet their objective both as to cost and result. The potential of risk to them was minimal, and they did not have to get involved in a complex field of expertise foreign to their normal mandate.

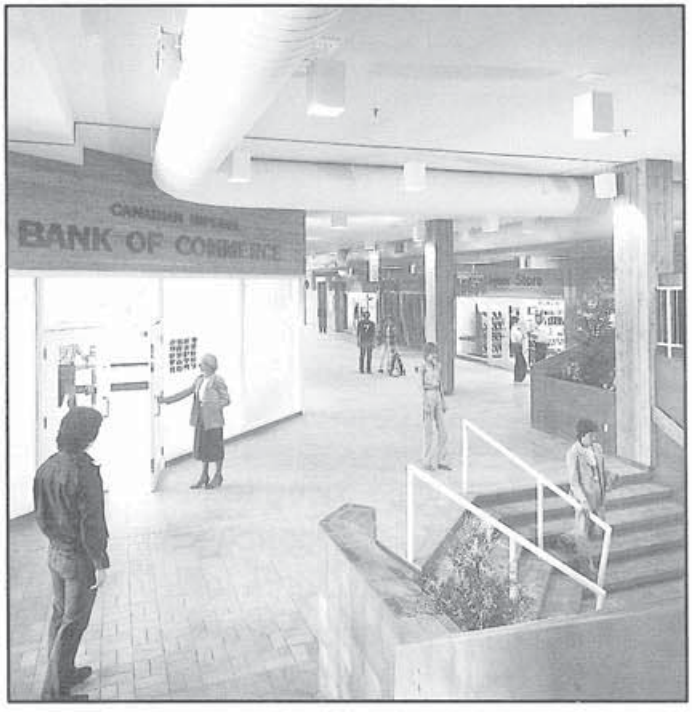
To detail step by step how that particular transaction was put together would take a book rather than an article. Suffice it to say that there were many considerations that had to be factored into the equation such as communication within the group, communication with the community, examining the sociological implications of such a major development in a small town, the impact on real estate taxes both on a short and long term basis, short and long term financing, and so forth.

"The proof of the pudding is in the eating" and the fact is that the project has been successful in both its execution and in its operation. The Hallmark Hornepayne Centre has brought stability to the Community, and has become its heart. It has resulted in immense economic benefits to the people of Hornepayne by attracting more outsiders to stay longer and by enabling locals to do more of their business in town. Surprisingly, the Centre itself has become the town's fourth largest employer after the resource industries and the hospital. It has positively affected the attitudes of the citizens - from school children to senior citizens.

Many of our remote and northern communities have been developed in haphazard ways that often reflect ideas of people that live in more urban and temperate centres. Our small towns deserve better for both economic and sociological reasons.

The Winter Cities Association is addressing these problems with ideas that recognize our climate and our geography, but it is time that more was done to translate these ideas into actual being.

To every community in Canada, the skills are available. With determination, cooperation and tenacity, so are the results



POLAR ENERGY

BARE FACTS

BEAR OF THE NORTH MAY HOLD KEY TO CATCHING MORE OF SUN'S POWER

VICKI CROKE
(BOSTON GLOBE)

Scientists trying to develop better ways to tap the sun's energy are seeking guidance from what may be an expert in the field - the polar bear. Although polar bears look white to the eye, they actually have transparent, pigmentless hair and black skin. And that, two scientists at Northeastern University now believe, makes the bears remarkably efficient solar energy collectors.

The bears have pulled off a "fantastic engineering feat," says Richard E. Grojean, a physicist and professor emeritus at Northeastern University who got the whole ball of fur rolling about 10 years ago.

His interest was piqued by the odd results of a wildlife census in Canada.

When the Canadian government tried to take a census of baby harp seals in the mid '70s, traditional aerial photography didn't work, because the white seals blended in with their snowy environment. They next tried infrared film, which can usually detect warm-blooded animals. This failed also; the seals' insulation was just too good. Finally, they tried ultraviolet photography.

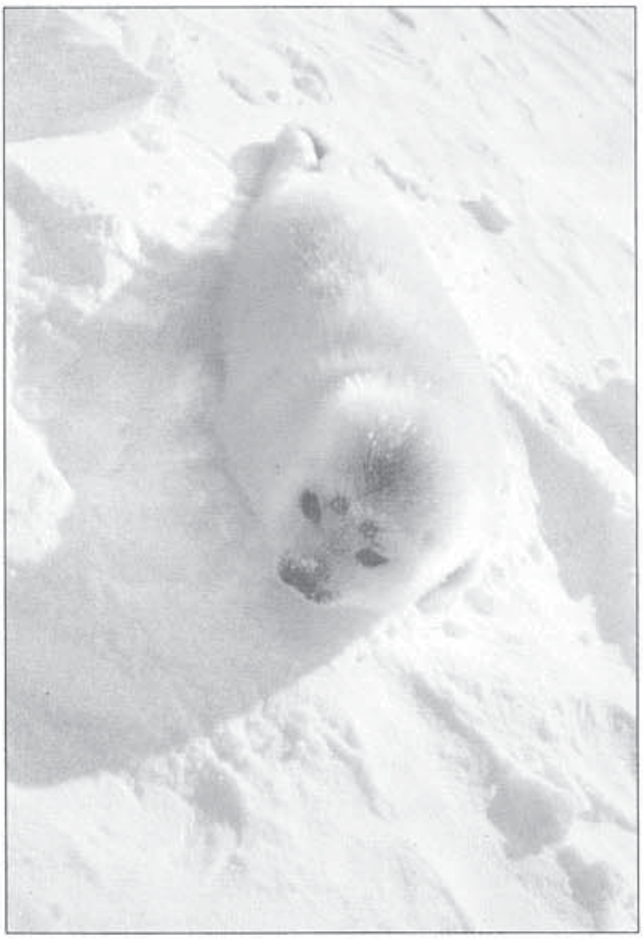
The harp seals, as well as polar bears and almost all other warm-blooded arctic animals, showed up completely black on the ultraviolet rays, the animals absorbed them.

At the time, Grojean was working as a consultant to the U.S. Army Research and Development Command. Applying the solar polar bear phenomenon to the design of cold weather shelters and uniforms seemed a natural idea to him, and to colleagues.

The polar bear has two important needs - whiteness and warmth. it must appear white so it can stalk prey in the gleaming snow of the Arctic, and it has to be able to stay warm in a climate where the temperature often reaches 20 below. The secret to the bear's success seems to be that its pigmentless hair traps and transmits to the skin 90 per cent of sunlight in the invisible ultraviolet portion of the spectrum, but only 10 per cent of the light in the visible spectrum.

It is this mechanism that enables the bear to stay warm and look white, they say. The bear collects abundant energy for warmth from the invisible ultraviolet light while reflecting the visible light, making it appear white to us and to its prey.

What is true for a bear hair is not true for all hair. A white hair from Grojean's head and hair from a polar bear were exposed to light beam a helium neon laser.



Along the entire length of the polar bear hair, the red light flowed "like a fluorescent tube." On the human hair, there was only one bright spot, at the point where laser hit. The experiment showed, that the light was being passed down the length of the polar bear hair, but not so in the human hair.

The bears' apparent ability to selectively absorb ultraviolet is crucial, Grojean says. If the bear absorbed all light and reflected none, it would appear black to the observer. Black is the absence of any light.

There's evidence, Grojean says, that the bears know they must appear white. Canadian researchers have seen polar bears, while stalking prey, stop and cover their black noses - the only part that stands out in its snowy environment - with a white paw.

And polar bears know how to stay warm.

Their hair is better at trapping the sun's rays than the common man made, flat-plate solar collectors used on rooftops to heat water, whose efficiency rating averages about 35 per cent.

Polar bears, according to Grojean, have a 90 per cent efficiency in trapping ultraviolet light.

Through thermal balance equations, Grojean calculated that the bears trap 90 per cent of ultraviolet light and 17 per cent from the entire solar spectrum. The figures were confirmed by an Irish Arctic research team in the early '80s.

So how do the bears do it? He doesn't know exactly, but believes the smooth-surfaced hollow hairs, with their labyrinthine, rough-surfaced cores, work like optical fibres.

In an optical fibre, light enters at one end and bounces along the inside. The outer wall acts like a mirror, so that once the light bounces in, it can't get back out until it reaches the other end. The polar bear's hair acts in much the same way, but the light enters from the sides of the hair, as if the hair's outer layer were a one-way mirror.

The energy of the light travels to the skin, is absorbed and converted to heat. Because the hair is also a great insulator, the heat doesn't escape, making the energy transfer a one-way process.

Ultimately, Grojean believes, solving the mystery of polar bear fur could have direct application to designing better solar panels for homes and industry. Calculations suggest that applying the principles of polar bear fur might make it possible to increase the efficiency of solar panels by 50 per cent.

"We're not recommending that you cover your house with polar bears," Grojean says.

But he is suggesting that the industry has something to learn from the bears.

"THE LAND OWNS US"

IAN D. ROBERTSON AND DAVE JONES

"It's the same but it's different", illustrates the conflict faced when planning north of sixty. The north is deceptive; it is both simple and complex. For the transplanted southerner, which most planners in the Northwest Territories are, the north's chameleon nature is difficult to understand.

Settlements are small, few and far between, but the land is fully occupied. George Barnaby, a resident of Fort good Hope and Vice-Chairman of the Northwest Territories Land Use Planning Commission, tried to explain:

"We have no word in our language that means wilderness, as anywhere we go is our home".

In the developed portion of Canada we have become an urban people, divorced from our roots on the land. This is not the case in the north. It is the desire to ensure the protection of this land base, and the renewable resources derived from it, that draws native northerners into the planning process and towards support for conservation strategies.

In brief, the Northwest Territories is a sparsely populated and culturally complex land. In size alone, the Territories comprise about one third the total area of Canada. Today, out of a total population of 52,000, 23% are Dene, 35% Inuit and 42% non-native. Inuit form the majority in the settlements of the eastern Arctic and above the treeline, while the Dene and non-native population live primarily in the west, along the MacKenzie River and around Great Slave Lake. The majority of the population in the west is now non-native.

The Baker Lake court case, which saw caribou protection measures introduced as a result of uranium and gold exploration in the Keewatin region of the Northwest Territories, and the Consolidated Magnorth Oakwood Lancaster South offshore deepwater drilling proposal, all pointed to the need for a more responsible planning and management regime in the Territories. The federal government responded with a "top-down" solution, to the chagrin of all northerners. Real decision-making power would be retained in Ottawa.

Following the ensuing public outcry and two years of negotiation, a more equitable partnership was arrived at. The 1983 Basis of Agreement provided for the full participation of the main aboriginal organizations. Management responsibility for the newly created Northern Land Use Planning Program would rest jointly with the federal Minister of Indian and Northern Affairs and the territorial Minister of Renewable Resources. Both governments, the Dene Nation, the Metis Association and the Tungavik Federation of the Nunavit (TFN) supported the Agreement. The Inuvialuit of the western Arctic were not included in this Agreement, although subsequently they have become a full partner in the process. The reason for this is that land use planning was incorporated directly into the provisions of their land claims settlement, which was just being finalized.

"(We) have a right to participate in land use planning, but in order to participate (we) need to understand it before it's too late to take part", said Louis Taparjuk.

Over the past several years both the Dene/Metis and TFN have negotiated sub-agreements in their claim proposals to incorporate land use planning. Settlement of these claims will result in further changes to the program.

The key change in the program between 1981 and 1983 was the adoption of a community-based approach. Commission members are nominated by all parties, but cannot be either bureaucrats or politicians. The Ministers, in turn, receive technical and policy advice from the bureaucracy through the Policy Advisory Committee. Responsibility for plan preparation rests with the regional commissions.

Setting up the planning program has taken much longer than expected. Financial and staffing arrangements were not in place until the fall of 1985.

Each regional plan is expected to take between two and three years to complete.

By southern standards the regional planning areas are huge.

Each region is roughly equivalent in size to any one of the western provinces, so the implications for planning on this scale are substantial. First, it is expensive, and second, resource information may be suspect.

The data base is sketchy and often inconsistent, reflecting changing methodologies. Planners are torn between "going back to basics" and the tantalizing draw of "high tech" solutions, such as computer mapping with remote sensing technology. Difficult decisions need to be made.

The challenge is in adding the communities to the knowledge partnership. Determining what scientific and community knowledge is really needed and how best to integrate it is the real issue.

Aboriginal knowledge can complement scientific research and help define priorities. In the past this knowledge and advice has so often been ignored. Today it is an essential and major component of the information base for regional planning.

"(We) have a right to participate in land use planning, but in order to participate (we) need to understand it

before it's too late to take part", said Louis Taparjuk.

The concept of planning for future change is relatively new and not well understood. Planning is traditionally an individual or family activity in the sense of preparing for a specific activity.

The objective is to interest people enough in the community and regional perspective to become involved further.

Planners themselves need to learn about different cultural values in order to see their own weaknesses. It is hard to plan Yellowknife from Calgary. It is even harder to relate to Fort Franklin or Grise Fiord. The needs and priorities of these communities are different from those of urban centres in the south.

Finally, a considerable amount of information has been collected by native organizations for their land claims negotiations. The communities have a proprietary interest, and are concerned how this information is used.

One gap must be filled - planners must learn to make use of local knowledge. The native people of the Northwest Territories understand the land and wildlife resources well. they are concerned with the impact of development, native organizations and government conflict. This "politically charge" environment does not make regional planning any easier.

Plans are important because they provide a common understanding of the basis for change, which is really the only constant. The evolution of political structures in the Northwest Territories has had an effect on the stability of the planning process. "It's different up here", or "there has not been enough time" are typical complaints.

The planners have often tended to shy away from providing solid advice and direction to the Commissioners about the choices available.

Due to the underlying politics and high expectations, everyone involved in the planning process is treading carefully. The process must be seen as open and fair or the commitment to it by the disparate parties involved will quickly evaporate.

It is our belief that there is a need to focus on the basics, building a planning process from a generic model. Northerners have special needs, but these can be built into the process. first and foremost, they need time to come to grips with what planning is, and what it can do. The native people in the smaller communities need time to adjust; the professional planners require time to learn different cultural values. Decisions need to be made, but this direction and leadership must come from the Regional Commissions. they will need help and patience. This will necessitate a greater emphasis on training and communication than initially anticipated. Above all, there needs to be greater cooperation among the partners, with respect for each other's competing interests, if successful regional plans are to be developed.

SPECIAL PULL-OUT SECTION !

WCA UPDATE

WINTER CITIES ASSOCIATION NEWSLETTER ISSUE NUMBER 2 • DECEMBER 1990

FORUM '91 DISCOUNT FOR WCA MEMBERS

Winter Cities Association members are being offered a substantial discount on registration fees for the Winter Cities Forum '91 Conference in Sault Ste. Marie. We are pleased to announce the regular fee of **$450.00 will be reduced to $390.00 for WCA members only.**

New members will be eligible for this discount provided your application for membership is received on or **before January 20, 1991.** A membership application form is contained in this issue for your convenience.

That **$60.00 saving** can guarantee future discounts plus a subscription to Winter Cities magazine if you apply now for your WCA membership.

WCA DIRECTORS

at their September meeting, approved revised organizational structure based on the following four standing committees: executive, finance, program and publications. You are invited to serve on any of these committees or their sub-committees. For example, the program committee has as a sub-committee, the conference committee which has the responsiblity to devise the guidelines for WCA involvement in conferences.

Contact head office at (403) 229-0696 to add your name to the growing list.

I hope to see you all at our very timely and important Winter Cities Forum '91 in Sault Ste. Marie, Ontario. We are looking for your participation and opinions to form the recommendations to be taken to the United Nations sponsored Eco 92 in Brazil.

Members save $60.00 on their registration. We are always looking for folks to join our circumpolar family. Invite an associate, colleague or friend to become a member and take in the conference plus all WCA has to offer.

At this time of year our activities are often focused on our more immediate family. So let me wish you and your family seasons greetings and happy holidays whether you are lighting candles for Chanukah or St. Lucia or waiting for Santa Claus or Black Peter.

Harold Hanen, President WCA

WINTER CITY ASSOCIATION

MINNESOTA CHAPTER

The Minnesota Chapter strives to be multi-disciplinary and international in scope and educational and non-profit in purpose.

The Beginning:

Dr. William Rogers (Bill Rogers, nicknamed "William the Conifer" because of his idea to plant evergreens in winter cities) was a member of the Minneapolis Committee on Urban Environment (CUE) when the idea came to him to do something about the winter months. (CUE is a city-organized but citizen-run organization that studies the built and natural environment of the city, and makes recommendations and gives awards). His idea was to make winter cities more livable in the winter. CUE issued a document entitled The Beautiful Winter City: Guidelines for Urban Aesthetics during the Famous Minneapolis Winter, in 1977. In October of 1977, the Minneapolis Star and Tribune published an article describing some of Bill's theories, including the idea that winter cities need fewer tall drinks over lots of ice and more martinis. (Besides being a political scientist specializing in international relations and the author of several distinguished books and articles, Bill is a published, and had published a pamphlet called How to Make a Good Martini). Bill ended up organizing two international conferences, the first one in March of 1978 entitled The Livable Winter City, the second one a year later in January of 1979. Both were held in Minnesota and were attended by about 100 people from several parts of the northern world. Jack Royle was the keynote speaker for the 1979 conference; he had read about the 78 conference in the New York Times and he had been in contact with Bill because of his research and writing on the implications of northern living. Bill co-authored the book The Winter City Book, with Jeanne Hanson, in 1980.

In January of 1986, Norman Pressman and Zenia Xepic spoke on the Winter Cities movement to a luncheon group in Minneapolis. At that time, several people made plans to attend the Winter Cities Conference in Edmonton in February. It was after that conference that several people returned to the Twin Cities (Minneapolis and Saint Paul) inspired to form a Minnesota Chapter. The Articles of Incorporation and Bylaws were drawn up, the officers and Board of Directors were nominated, and in March of 1987 we were official. Our group has always been small 10 to 15 members but devoted to the study and discussion of winter city issues. Each winter season we have sponsored a lecture series, free and open to the public.

THE PEOPLE WHO ARE INVOLVED :

Bill Rogers currently Associate U.S. Editor of the Winter Cities Newsletter, cofounder of the Minnesota Chapter.

Weiming Lu, urban planner, Executive Director of the Lowertown Redevelopment Corporation and Vice-President of the Winter Cities Association, cofounder of the Minnesota Chapter.

Gail Manning cofounder of the Minnesota Chapter, architect with Hammel, Green and Abrahamson, Inc.; on Board of Directors of the WCA.

Jeff Nash sociologist and Chair of the Sociology Department of Macalester College, on Board of Director of the WCA, researcher on public behaviour in winter.

Jamie Milne Rojek past president of the Minnesota Chapter, architect with Hammel, Green and Abrahamson, Inc. Originally from Saskatoon, Saskatchewan, Master's thesis on winter city issues, currently working on the Mall of America (Megamall)

Roger Peterson current president of the Minnesota Chapter, director, Minnesota Energy Council, sponsor of the Northern Light conference and exposition in Saint Paul in November 91. Roger has travelled and studied extensively in the Scandinavian countries.

Jim Nestingen architect with Setter, Leach and Lindstrom, Inc. Worked with enthusiasm with the cities of Minneapolis and Saint Paul to bid for hosting the 1994 Winter Cities Conference. Jim attended Winter Cities '90 in Tromso. He is writing his impressions of the conference for the upcoming special winter issue of Architecture Minnesota Magazine.

Doug Foster architect with the City of Saint Paul, early proponent of the winter cities movement in Minnesota, and director for the skyway development in St. Paul.

Pegg Sand landscape architect and professor at the University of Minnesota. Involved with restoration efforts.

Brian Larson architect and currently studying winter city issues in the Scandinavian countries on a fellowship.

Jeanne Hanson editor and literary agent and co-author of The Winter City Book.

Roger Clemence architect and landscape architect and professor at the University of Minnesota, an early proponent of the winter cities movement in Minnesota.

MINNEAPOLIS: NORTHERN LIGHT

The Canadian Connection: Northern Light

The International Winter Cities Association will be co-sponsor with the Minnesota Energy Council of a conference on "Northern Light" in November, 1991. Light in public and private spaces, indoor and outdoor, will be included in the agenda.

Great variation of sun position through the year and the low light of winter presents a challenge to designers in northern regions. The importance of light in human well-being is increasingly recognized. Efficient lighting is needed to conserve energy while enhancing living in the north.

Subjects will include use of natural day-light with stategically oriented windows, skylights, clerestories, courtyard and atria in buildings, thermally insulated glazing, and efficient electric lighting for outdoor places such as streets, sidewalks, transportation facilities and parks as well as indoor lighting. Manufacturers of glazing, support structures, skylights, windows, and electric lighting are invited to display in a product exhibition which will be held in connection with the conference.

Further information will be published as it becomes available.

MINNE-SNOW-TIANS

DELIGHT IN SNOW EMBANKMENT OPPORTUNITIES

Jim Nestingen, his wife, two sons and neighbors take delight in the many opportunities provided by snow embankments. Jim reports they are great for skiing, sledding, carving igloos and playing "King of the Mountain". Oh, by the way stores are now selling Minne-Snow-Ta T-shirts. This play on words is used quite often in marketing.

MEMBERS NEWS:

WCA WELCOMES CITY OF JINLIN

We welcome the City of Jinlin, People's Republic of China who have requested municipal membership in the WCA. A city well known for its beautiful winter scenery, its unique and incomparative Jinlin Rime is praised as one of the four Natural Wonders in China. We look forward to discussing Jinlin's contribution to the internaitonal winter cities movement during meetings with their delegation at Montreal '92.

CALGARY: CHINESE VISIT CALGARY TO EXCHANGE COLD WEATHER TECHNOLOGIES

Representatives of the City of Daqing, People's Republic of China are currently visiting Calgary for an exchange of Cold weather technologies relating to water and wastewater treatment systems and infrastructure. Tang Lee and Harold Hanen are both providing their expertise in this exchange.

WINNIPEG: TO HOST THE WORLD?

The City of Winnipeg have announced they will be making a presentation during the '92 Montreal conference to host the 1996 Winter Cities Showcase.

President Rudy Friesen and members of the Winnipeg Affiliate will lend their unique expertise to the development of this presentation.

ANCHORAGE: WCA HEARTILY ENDORSES FIRST HOST FROM U.S.A.

Congratulations are extended to Mayor Tom Fink, citizens of Anchorage, President Bryce Klug and members of our Anchorage affiliate in being selected host city for the 6th Northern Intercity Conference and the '94 Winter Cities Showcase.

As the first host city from the United States, Anchorage was highly regarded for its fine management system and extraordinary enthusiasm.

The conference scheduled for March, 1994 will last eight days and is expected to draw delegates from 31 cities in 15 countries. We look forward to WCA participation in another significant event in the development of the circumpolar consciousness.

OTTAWA: PLANS SET FOR THREE AMBITIOUS PROJECTS

President Sheila Pepper reports members of the Ottawa Affiliate will produce a "Winter Cities Directory" featuring winter products, services and equipment. Targeted for local consumers, all aspects of winter living will be covered and special attention paid to the needs of designated interest groups i.e. seniors and families. Advertising revenue will cover production costs and the directory will be distributed free of charge. If you are interested in developing a comparable directory for your community, Sheila welcomes your queries.

The affiliate will also develop and circulate a senior's check list entitled "How to prepare for Winter". Topics such as Homes, Clothing, Vehicles, Walkways will be addressed.

How about a skate on the Rideau Canal! Members of the Ottawa Affiliate are inviting you to participate in a pre or post '92 Montreal conference tour of their city. Please call Sheila and express your interest (613-226-5863).

TROMSØ AFFILIATE: TAKES FIRST FORMATIVE STEP

At a recent meeting attended by Mayor Rian, a preliminary Board was elected to prepare for the first official meeting of the newly formed Tromso affiliate.

Elected to serve were:

SIGURD HAMRAN, President of the local union of architects.

EDMUND KRISTOFFERSEN, Bank Manager and Tromso '90 Director

HANS CHR METH, President of "The Northern Lights Festival"

RIGMOR KEARNEX, former Secretary of Winter Cities Tromso '90

SVEIN KRISTIANSEN, former Marketing Manager of Tromso '90 and WCA Director.

Our good wishes are extended to this group as they plan for the establishment of our first Scandinavian affiliate.

NOVA SCOTIA:

Robbins Elliott, president of our Wolfwile, Nova Scotia affiliate and member of the WCA Board of Directors is prominently quoted in an article on Page 15 of the August, 1990 Readers Digest. This article describes Robbin's involvement in an Old Boys network established to "pick one another's brains"on current national and international issues.

Perhaps we could persuade this group of wise men to hash over an issue relevant to the winter cities movement.

We would be pleased to share their collective insights with our readers in a forthcoming issue of W.C.

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BORIS CULJAT

RESOLUTIONS *FOR RESOLUTE BAY*

In winter, Resolute Bay N.W.T. is subjected to severe winds and snow drafts with little snow fall and a very low absolute humidity content. During the months of January and February the temperature drops to an average of 30F below zero with an all time minimum record of 61F below.

In summer, the loose gravel on the ground surface hides the permafrost below. June, July and August temperatures remain in the vicinity of 35F above.

The population was divided in to two separate communities: the Eskimo village at the shore and the air base at the airport.

The air base population varies seasonally with the peak summer population at about 550.

The Eskimo settlement was located approximately four miles, by road, south of the airport. Since the first 17 people arrived in Resolute in 1953, the population has grown to approximately 200 comprising, over 20 families.

In addition there are two resident community teachers, a school principal, and an Area Administrator in the employ of the Government of the Northwest Territories.

Resolute is an excellent hunting area which was the reason for the people being settled here in 1953. The most common game for hunting is the polar bear, white fox, caribou, seal, walrus and white whale. There are also musk-oxen and abundant bird life.

...the aim was to create a human environment with highest physical and social qualities.

The economic base for most of the native population is a combination of hunting and fishing, and employment at the air base.

Resolute Bay is an active transshipment base. Regular jet flights are maintained several times per week, while smaller crafts provide the local service. The once-a-year sealift takes place from mid-August to mid-September.

With the increase in exploration and administration activities, the population of Resolute Bay was expected to increase in the near future to at least 1,200 people. New housing, as well as new communal facilities, were therefore required.

Together with the present residents, a decision was made to integrate the two settlements on a new site.

Cultural, psychological and climatic problems are identified.

Cultural differences exist between the major ethnic groups, the Eskimos and the southern immigrants. Also to be recognized is the influence of one culture on the other, especially of the white man's culture on the Eskimo culture.

In both cultures, social differences based on different occupations, sex, social status [families, single men, etc.] must be considered.

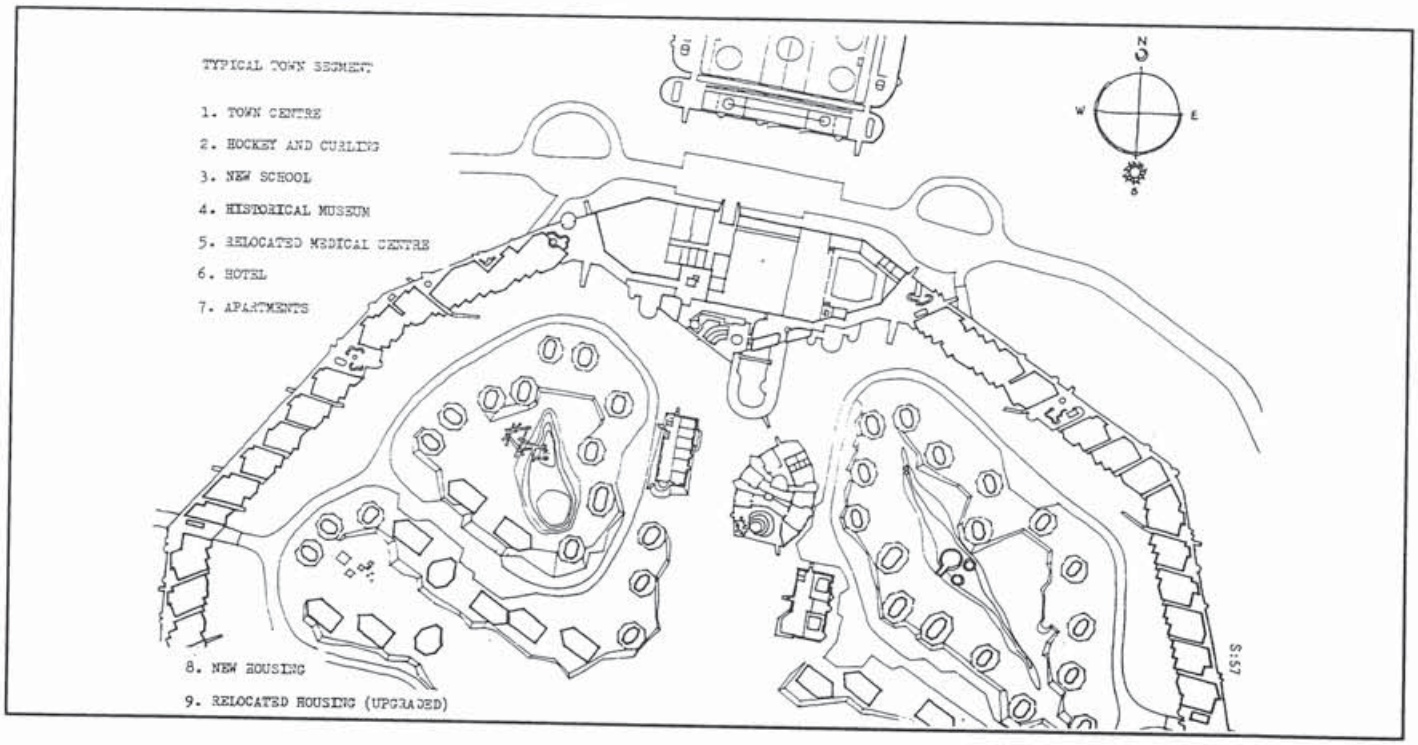
A third cultural or social difference exists between long-term or permanent or short-term or occasional residents.

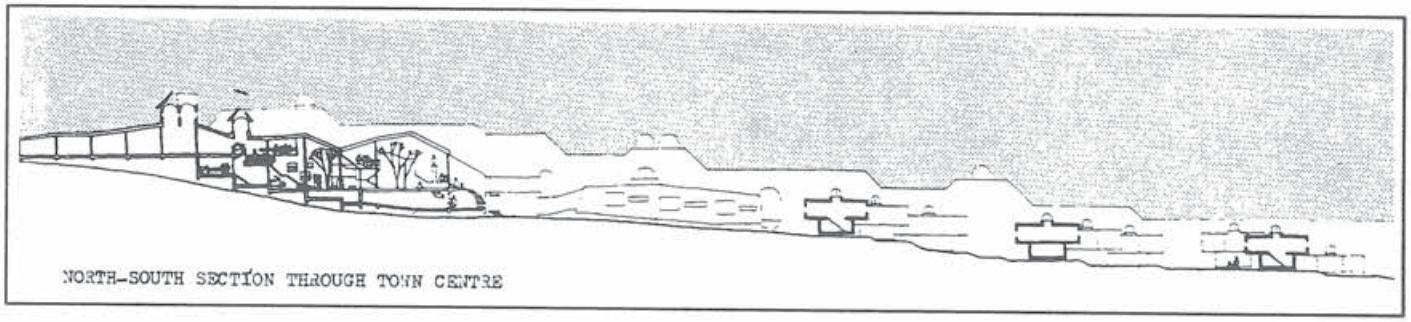
The Psychological Problem of isolation is typically caused by the geographical location, i.e. distance to other populated areas. It is a problem generally associated with the immigrant groups, but is probably also a part of the rapidly changing cultural situation of the Eskimo. The melancholy caused by the feeling of isolation has lead throughout the arctic and the subarctic to alcoholism, insanity and suicide.

Unfamiliarity occurs when immigrant populations move to a complete different environmental context than that to which they are accustomed. The newcomer who does not find a sufficient number of similarities with which he can identify and feel comfortable, is unable to establish a sense of identity in the new environment. Unfamiliarity also causes feelings of fear and insecurity because new response "patterns" must be formed to permit the same possibilities of interaction with the new milieu as were possible in the previous environment.

"Poverty of stimulus is the lack of sufficient stimulation from the environment. There is a primary inherent drive in man to explore the environment for relevant information and also a need for more or less constant stimulation. Therefore a lack of sufficient stimulation can lead to boredom with the environment and eventually to depression and melancholy."

Poverty of sensorial stimulation can be related to two aspects of arctic living: firstly to the fact that due to climatic conditions (wind, snow, etc.) even





the limited environmental variation of the arctic landscape is minimized, and secondly to the fact that the majority of time is spent in the artificial environment.

To be examined as well was influence of climatic elements (solar radiation, precipitation, wind) on man's relation to the natural, the built, and the social environment.

Furthermore, the problem of construction in the permafrost, and the extremely short building season with the consequent logistics of material transport and the building process, was also to be examined.

The design philosophy applied can be perceived from the outline of the general aims that were set up in the early stages of the planning process, and revised during the course of work.

THE AIMS IN REGARD TO CLIMATIC PROTECTION WERE:

•improved outdoor micro-climate (wind, sun, snow, drifting):
•movement in and contact with the outdoor environment:
•outdoor recreation:
•rich and stimulating indoor environment.

FOR A HEALTHY SOCIAL ENVIRONMENT:

•possibility for relevant and stimulating occupation:
•possibility for privacy (non-overcrowding, view):
•possibility for contact under suitable social control:
•provision of suitable protected public space:
•integration of common facilities (school, administration, library, communal and commercial functions, recreation):
•provision of same dwelling standard for all ethnic groups:
•integration of different dwelling types to avoid ethnic and occupational segregation.

TO PROVIDE A GOOD PHYSICAL ENVIRONMENT THROUGH A "COMPACT" TOWN for a sense of warmth and protection, a sense of identity and community, economy of services, improved micro-climate, a "human place" in a desert situation:

•ground modelling and rocks for summer landscape:
•snow draft and ice formations for winter landscaping:

•protection of existing vegetation and bodies of water:
•introduction of new vegetation in protected indoor and outdoor public areas: and
•provision of most advantageous view over the hills, the bay and any human activity:
•good durable and pleasant materials and finishes:
•colour as an important element in white winter landscape and a yellow summer one, and experimental village for
•testing of most advanced available ideas in building techniques and "arctic living": e.g. all-plastic Finnish house, American "dome house", Erskine's "arctic house": composting sewage disposal systems wind energy systems arctic cultivation, water recirculation, etc. and the development of new "arctic building" prototypes.

Generally, the aim was to create a human environment with highest physical and social qualities, a model for future community development in the North.

USER PARTICIPATION

A user reference group was formed consisting of Eskimo and immigrant members of the community and this group was involved in the decision process from the outset of the operation. The decision to integrate the two presently separated ethnic groups in one community was made by the users themselves.

Regular presentations were made to the users at open site meetings as well as in the meetings of the coordinating committee at Yellowknife.

Placement of the town, as well as its form and the location of different community elements were the result of discussions with the users and the Administrators.

The permanent residents, and primarily the Eskimo families, have themselves chosen the sites for their dwellings and decided on the social groupings within the housing clusters, i.e. the physical relationship to the dwellings of their relatives and friends.

ENVIRONMENTAL SURVEY

Firstly, the usual type of geotechnical study, i.e. soil and ground testing, was carried out, that established the nature of the soil and the exact characteristics of the permafrost conditions necessary for foundation design.

Secondly, a geomorphological "Terrain Sensitivity" study was carried out by Dr. Charles L. Rosenfeld of Brock University, St. Catharines, Ontario, and is the first time such a study is applied to an "urban" situation in the arctic. Most similar types of studies, even in other areas, are usually carried out after the impact of the urban development on the landscape, i.e. they are assessments of existing problems.

LABORATORY AND SITE TESTING

Wind and snow conditions were tested in the snow simulator water flume at the laboratories of Morrison, Hershfield, Theakston and Rowan, consulting engineers, at Guelph, Ontario, under Prof. F.B. Theakstone.

Following aspects of the problem were studied:

a) Location of the town site:

b) General plan form of the community and relationships of different types and sizes of buildings to each other.

c) Building details.

Because of the extremely critical conditions and the lack of precedent, full-scale site testing can be extremely valuable. The project's time schedule allowed in this case a "careful start" with a number of typical building units in a typical grouping, where different physical solutions could be studied under real conditions before the principles are applied to the remainder of the development.

THE SOLUTION

LOCATION

The slope directly south of Signal Hill was finally chosen as the location of the new town site. The decision was made based on the following reasons:

- favourable climatic conditions
- advantageous view of the surrounding landscape features: the bay and the islands, the shoreline, the hills, the river delta, and the "Town Lake" with its vegetation of grasses, flowers and mosses.
- view of the activities in the harbour during the summer sealift;
- the feeling of "PLACE" which this site has because of the named topographical features.
- location away from the main path of the landing aircraft and the most intense noise, but still providing the important visual and audio contact with the air traffic, which is Resolute's main contact with the outside world.
- location away from the scientific compound of the South Camp, which is sensitive to disturbances caused by machinery, power, vibrations, etc.

FORM AND ORGANIZATION

- Compact town form:

Advantages for a compact plan are several and of both socio-psychological and techno-economic nature.

The feeling of togetherness and nearness to other people is an important psychological factor in a desert situation where the nonhuman environment is so overpowering. Visual awareness of other people and their activities can be an important aspect in the development of the community spirit and the feeling of belonging, beside providing the first step to possible direct social interaction.

The walking distances are shorter, both between the built up areas and the surrounding landscape and within the buildup areas.

There is a reduction of capital costs resulting from short access routes. Capital costs include such items as paved roadways, curbs, sidewalks, sewers, storm sewers, water mains street lighting, hydrants, and power distribution.

There is a reduction in maintenance costs resulting from servicing a shorter linear footage of access routes. Maintenance costs include such items as road maintenance, snow clearance and policing.

DISPERSED TOWN FORM

Many of the permanent residents are housed in single-family detached dwellings in order to avoid friction that might be caused by the different life styles of the two major ethnic groups - the Eskimos and the immigrants.

The great amount of equipment and vehicles, dogs, etc. that the hunt-

ing and fishing Eskimos require and are accustomed to, are also well served by a free-standing building.

Other types of dwelling units such as town houses, apartments for families, and singles' quarters are mixed as much as possible to avoid segregation of different vocational groups, and segregation of singles from families. All concerned groups showed great interest in this sort of integration approach.

COMMON FACILITIES

Because of the limited size of the community, and the consequent limited social activity, most of the community functions have been concentrated in the town centre complex.

It is hoped that the integration of facilities catering to different groups of the community will also foster easier social integration, and that exposure to different activities of adults, as well as providing an exposure of the adults to the often foreign educational environment.

ROADS AND SERVICE

The gradient of the road surface is kept at a maximum of 6% as greater slopes create slippery conditions during the winter due to snow cover, and during the summer due to gravel rolling on top of the permafrost. The services are located in a utilidor system.

MATERIALS AND METHODS OF CONSTRUCTION

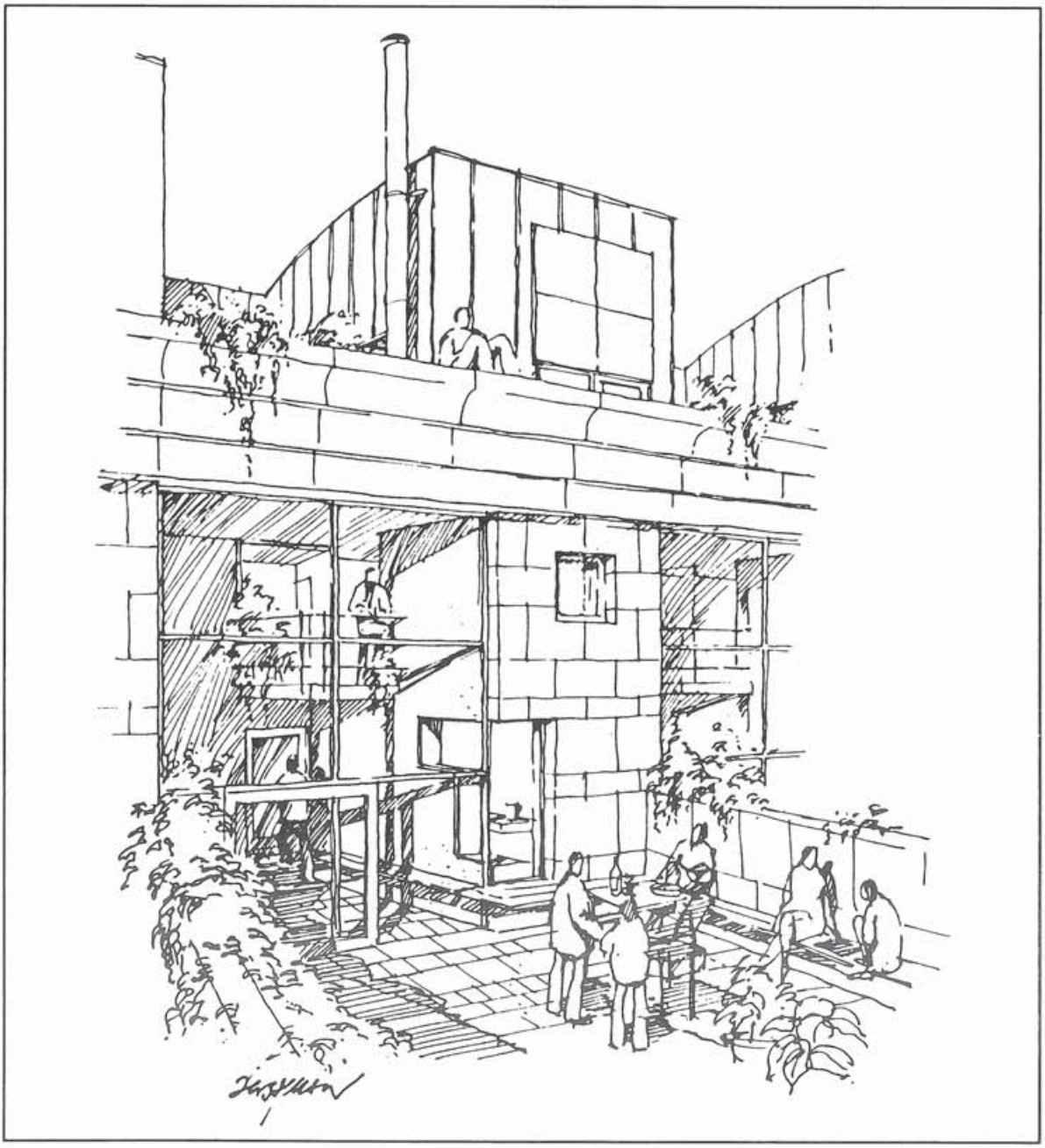
Gravel of different sizes (excellent for concrete) is the only material available on the site or at any reasonable distance from the site. All other materials have to be sent from the south, most economically by sea, which means that the materials have to be as light as possible and take up as little space as possible. In case of pre-fabricated units this would imply that panel type of units would be more suitable than volume units.

Because of the short building season, and the high quality necessary to withstand the climatic pressures, as much as possible has to be prefabricated in the controlled factory environment.

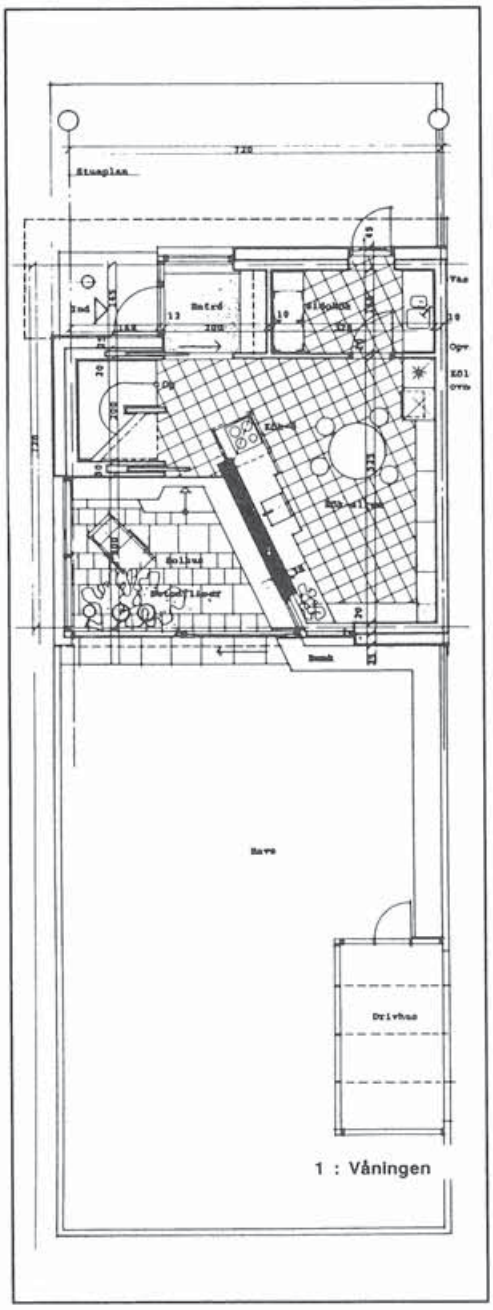
The pilot buildings, i.e. the first stage of the project, was to be constructed by conventional methods, while partial is to be prefabrication for the remaining stages. The resulting structure is a combination of poured-in-place concrete foundations and supporting frame for the larger buildings and light-weight wood and metal panel systems.

NORMAN PRESSMAN

NORDFORM '90



COULD IT BE SAID THAT THERE IS SUCH A THING AS A NORTHERN OR NORDIC HOUSE?



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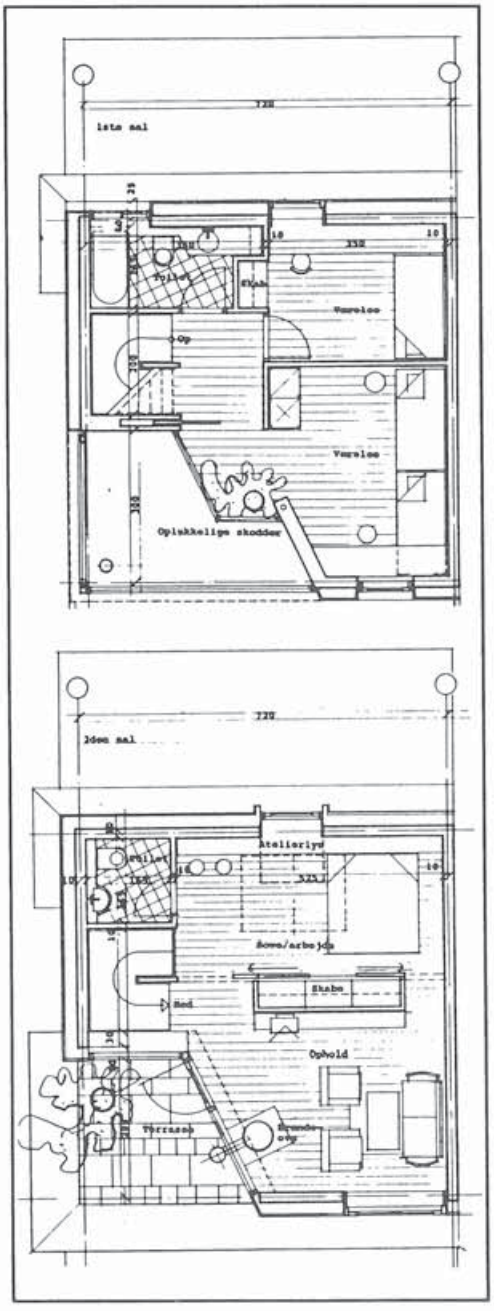


ACCORDING TO ARCHITECTURAL CRITIC GUINILLA LUNDAHL, FROM STOCKHOLM,

"Perhaps its most Nordic aspect is the feeling for light. A constantly recurring theme: harsh, blinding winter, soft autumn darkness and all the marvellous nuances in between. Often there is an oblique, falling light rich in shadows, in which all the tints of the spectrum has an opportunity to paint a mood."

Undisputably, the Nordic nations have a tradition of unsurpassed design excellence. They were amongst the leaders in accepting the early tenets of modernity for all 'designed' objects combining a sensitivity for materials (usually found in the natural environment), user requirements (emphasizing ergonomic factors), and

"there is an oblique, falling light rich in shadows, in which all the tints of the spectrum has an opportunity to paint a mood."

an artistic flare, resulting in products of genuine beauty - "objets d'art." Elegance, clear and simple lines, exemplary finish in treatment of the materials, correct proportion and clever application of colour impart "character" despite the object's functional purpose normally being the major source of inspiration. These principles hold true for tableware, surgical instruments, and T.V. remote control units (e.g. the Bang and Olufsen line) as they do for furniture, boats, buildings and the spaces between them. The ultimate principles cry out — ageless quality, outstanding craftsmanship and seductive visual attractiveness. Design is a way of life and an integral part of Nordic culture. So much so, that governments spend huge sums of money to promote good design and its appreciation on a very large scale. One of the ways this is accomplished is through for instance, the Danish Design Center (supported by Denmark's Ministry of Industry). It publishes journals, provides good advertising for well designed products, organizes competitions and conferences, and awards the annual ID (Innovation via Design) prizes for design excellent thereby raising the status of design to a high level. Svensk Form is the Swedish counterpart, and it publishes the outstanding magazine Form and organizes exhibits across Sweden and abroad. It operates the Design Center-Stockholm (and one in Malmo) which presents the finest in arts and crafts, industrial and architectural design. Norway, Iceland and Finland possess similar institutions, and some of Europe's oldest Museums of Architecture can be found in Helsinki and Stockholm. Design is now being taught in Danish secondary schools with the intent of interesting more young people, with talent, in form and function.

DESIGN CRITERIA

KAI BERTHEUSSEN

MY CONTRIBUTION IS BASED ON THE EXPERIENCES MADE DURING THE PLANNING OF THE ARCTIC HOUSING EXPOSITION (BO/NORD) IN TROMSØ.

Those who participated will confirm that it was a traumatic process.

The planning of the exhibition started in 1987. The principal objective of the exhibition is to demonstrate optimal climatic living conditions and climate adapted houses.

An area covering 35 acres on Tromsoya with relatively favourable climate, near the city centre, was chosen as building site.

Expertise and know-how from all the Nordic countries were called upon in order to establish the development plan for the area on the basis of the climatic studies and the energy consumption framework. Eight teams of planners/architects were chosen on the basis of relevant know-how and project experience to submit development plans:

- 2 teams from North Norway
- 2 teams from other parts of Norway
- 1 team from each of the other Nordic countries.

The teams were supposed to both compete and cooperate in the process in order to reach the best possible results.

An assessment committee of Swedish and Norwegian experts on climatic adaption was appointed to evaluate the planning proposals.

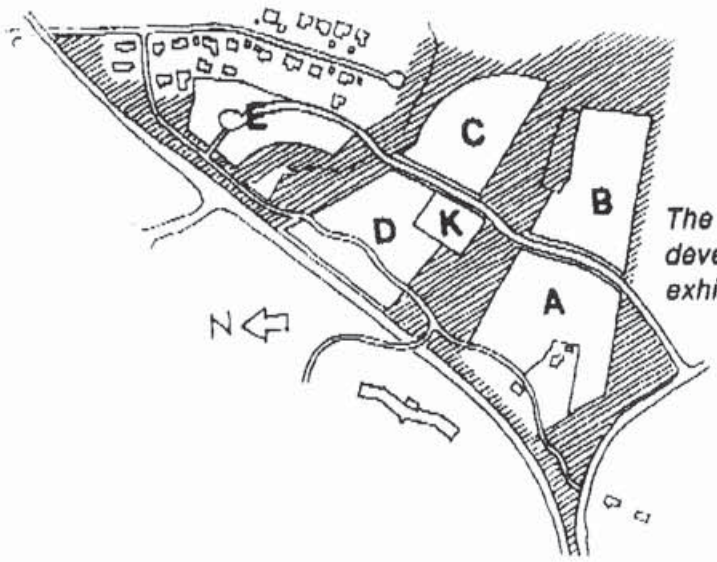
During the autumn of 1988 and the spring of 1989, 3 joint meetings were held in Tromso, in which representatives from the teams. "BO/NORD", the municipality of Tromso and the assessment committee participated.

Cooperation was difficult. Those who participated will confirm that it was a traumatic process. The meetings revealed that the appreciation of and knowledge about climate adaption was often diverse and incomplete amongst the participants. Everybody still learned a lot from this process, however, and I think that both the participants and the project have benefitted from these meetings. The process contributed towards a better understanding of what climate adaption at a latitude of 70 north is, and how to achieve this.

The work of the planning teams resulted in quite a simple plan for the area which, in our opinion, take into consideration the basic conditions for climatically adapted houses in the area. The area is divided into 5 smaller development units which cover approximately half of the total area. The rest of the area in between and around these units is used for recreational purposes and shelter belts, including existing and planted vegetation.

The contractors have primarily been concerned with building houses which are easy to sell,

As the detailed design process proceeded, we discovered that the building contractors should also have been part of the initial feasibility study. The contractors have primarily been concerned with building houses which are easy to sell, and they have strongly emphasised the importance of the financial and marketing aspects of the development. It has therefore been very hard for "BO/NORD" to secure the good, initial ideas and intentions regarding climate adaption throughout the development stage.



The planner teams development for the exhibition area.

We gradually realised that we had to put our "good intentions" down on paper to serve as a tool and checklist both for the architects, the builders and the local authorities. We created a document which was called:

"Guidelines for the design of dwellings in the exhibition area "BO/NORD".

Requirements and recommendations for climate adaption are of course the main contents of these guidelines, which include the following:

- EXISTING ACCESS TO SUNSHINE SHOULD BE FULLY UTILISED.

- Common outdoor recreation areas must have access to at least 4 hours of sunshine per day between 9 a.m. and 5 p.m. during the equinoxes.

- Private outdoor areas should be placed in and faced towards the direction which offers the most afternoon and evening sunshine during the summer season.

- The kitchen and the living rooms must be located so that they together have access to at least 4 hours of sunshine per day during the equinoxes.

- THE PROJECTS SHOULD PAY ATTENTION TO THE FACT THAT THE MIDNIGHT SUN MAY BE AN ASSET TO THE AREA.

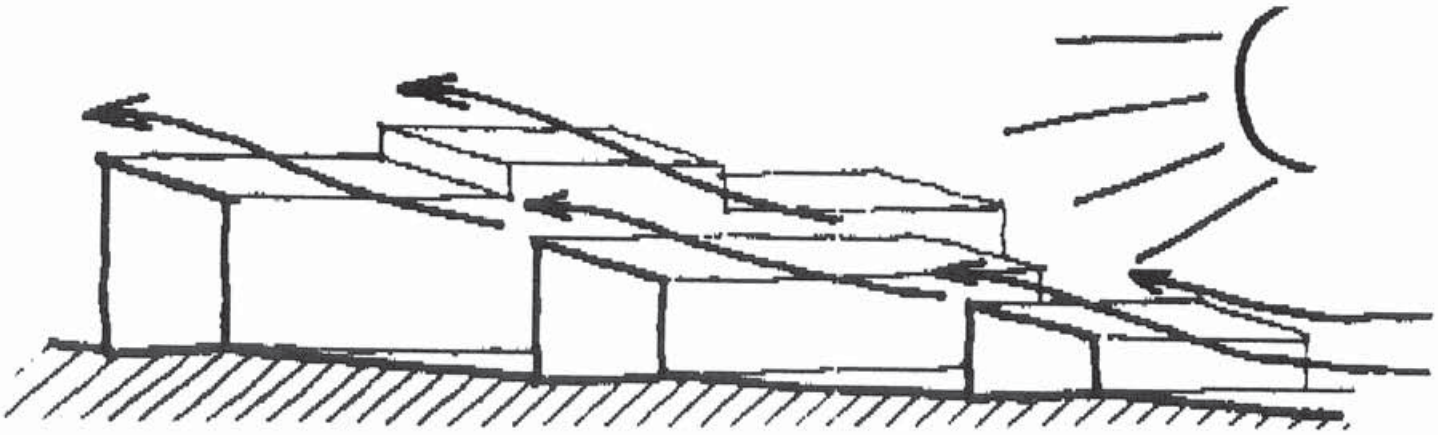
- Existing vegetation should be retained and protected, as much as possible, to reduce the effect of winds in the area.

- VEGETATION SHOULD BE RELATIVELY DENSE IN ORDER TO FUNCTION AS A MAXIMUM WINDBREAK.

- Buildings should not project much above the vegetation and other formations of the terrain.

- Houses and recreation areas should be constructed on a small scale to reduce wind tunnel effects and wind speed. The height of the buildings should be gradually increased in the same direction as the predominant wind direction.

- THE EFFECT OF COLD SUMMER WINDS FROM THE NORTH SHOULD BE REDUCED BY DEVELOPING MORE OR LESS INTERCONNECTED BUILDINGS AS WIND-



BREAKS TOWARDS THE NORTH.

- CREATE BENDS IN THE ROAD NETWORK TO REDUCE THE EFFECT OF WIND CHANNELLING.

- Open spaces between houses should not exceed 30 x 30 metres.

- Avoid creating open areas in or close to the dwellings, as this may create snowdrift.

- CREATE TERRACED AND STAGGERED BUILDINGS WHICH WILL LIMIT AND EVEN OUT WIND SPEED. Snow will pile up where the wind speed is reduced.

- Avoid buildings which create long, continuous high ridges to the north and east because this will result in large leeward snowdrifts towards the north as well as cold, shadowy areas behind the buildings.

- Use relatively flat roofs, as the wind will clear the snow off easier.

- Use the wind to get rid of the snow in areas where you do not want it piled up.

- The snow clearing executed by the municipality must be kept to a minimum. The maximum distance between snow deposits should not exceed 150 metres.

- SNOW DEPOSITS MUST BE PLACED IN THE SUN SO THAT MELTING IN THE SPRING IS ACCELERATED.

- There must be room for small private snow deposits.

- The access to the individual dwellings should be short in order to reduce snow clearing in front of garages, dustbins, mailboxes and entrances.

- The houses at the exhibition area must meet with the energy consumption requirement which have been set by the Ministry of Petroleum and Energy, the Energy Division (Saving 25% energy)

- HEATED BUILDINGS SHOULD BE MORE OR LESS CUBIC TO REDUCE HEAT EMISSION FROM EXTERIOR WALLS.

- Windows should be placed in positions that reduce heat emission. Avoid large glass areas in roofs.

- Utilise, if possible, solar heat panels as an additional source of heating during the summer season.

We also had to consider how the contractors were to illustrate that the guidelines were fulfilled.

In March 1989 Professor Anne Brit Borve was engaged by "BO/NORD" to produce a short note in collaboration with the Norwegian State Housing Bank

regarding demands for documentation.

According to these requirements each project should include:

a) Sun and shadow analysis for several important periods of the year and the day.

b) Illustrate how outdoor recreation areas are protected against cold summer wind and how heat from the sun is utilised. The effect of the shelter can be documented by applying wind experiments on terrain models.

C) ILLUSTRATE HOW THE DWELLINGS FUNCTIONS IN RELATION TO WIND AND SNOWDRIFT. THIS MAY BE DOCUMENTED BY SNOWDRIFT ON TERRAIN MODELS

d) Calculations on energy consumption in houses according to the regulations of the Ministry of Petroleum and Energy.

The guidelines for the climate adaption have to varying degrees been satisfied by the contractors and their architects.

There are many reasons for the varied response to climate adaption. I have already mentioned that the comprehension of and priority given to climate adaption have not been homogeneous amongst the participants in the process, and that the contractors have primarily ben preoccupied with building houses which will be possible to sell. Specific considerations involving climate had to give way to economic considerations. It is also unfortunate that the contractors have not participated in the initial planning stages.

People are looking for reasonably priced homes, financed by the Norwegian State Housing Bank. The bank's cot limits imply certain restrictions regarding climatically adapted design, which reduces the possibilities of choosing new and experimental solutions.

Some of the architects have also, quite justifiably, claimed that we should not exaggerate the importance of climate adaption within the area in question.

In addition, we had very little time for designing the recreational area, because it has been a definite prerequisite that the houses should be completed by the time the exhibition opens. This fact has reduced the number of model experiments and other forms of testing out climate adaption. The contractors have probably also been reluctant to produce evidence which would increase the use of time and the planning costs.

Generally, executive officers within the municipal engineering services have inadequate knowledge of climate adaption. They have not had the possibility to participate actively in the initial planning process and the creation of the basic conditions for climate adaption. This has resulted in projects receiving building permission without presenting satisfactory evidence concerning climate adaption.

The exhibition area will still emerge as a considerably better climate adapted residential area than would have been the case without the immense amount of work which has ben done to reach the objective of creating climatically adapted residential areas. We have experienced that it is possible to create better living conditions by utilising and further developing the available knowledge of local climate and climate adaption.

On the basis of my experiences with "BO/NORD", I have prepared the following, simple guidelines for better climate adaption of future residential areas:

1. Planning of climate adapted residential areas should, at the local plan level, start with a general climate analysis of the whole city area in order to examine which areas are best suited for the construction of houses with regard to climate.

2. SUBSEQUENTLY, A SEPARATE, DETAILED CLIMATIC DESCRIPTION OF THE BUILDING SITE IN QUESTION, MUST BE WORKED OUT.

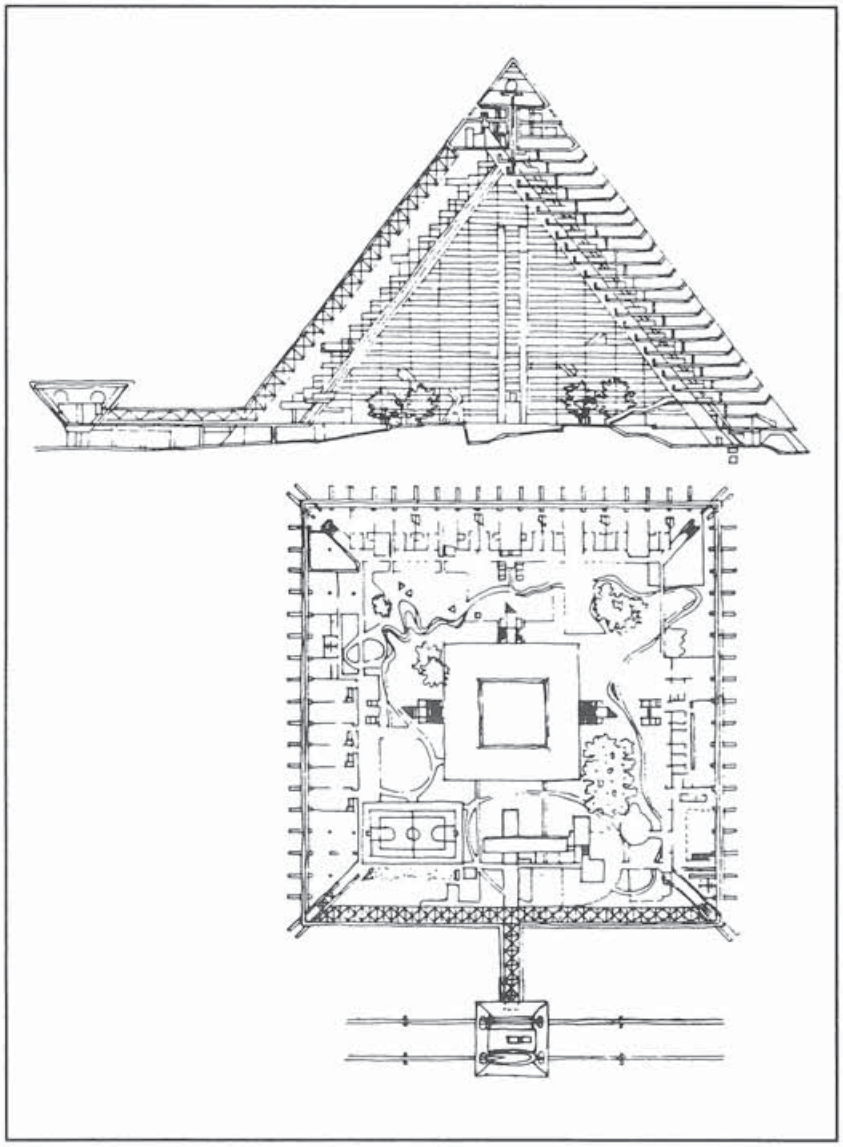
3. We should establish a programming and planning process which can create better knowledge of climate adaption among as many as possible of the parties involved in the building process.This applies to architects, contractors, municipal authorities.Together they should produce a main project plan of the area where the framework for satisfactory climate adaption should be laid down.

4. We must work out a set of basic guidelines which include requirements and recommendations in relation to climate adaption. These conditions should, if possible, be included in the plans and regulations which have been passed by Planning Commissions according to the rules of the Planning and Building Act.

5. We must establish specific rules for illustrating that the basic conditions requirements and recommendations have been satisfactorily met. Specific experiments with models, which illustrate wind conditions and snowdrift in the residential area, ought to be a minimum requirements for our climatic conditions.

CONTEMPORARY PERMANENT ARCTIC SETTLEMENTS

LEO ZRUDLO



PERMANENT INUIT SETTLEMENTS BEGAN WHEN CONTACT WITH EUROPEANS BECAME MORE FREQUENT. The arrival of the Hudson's Bay Company in the Arctic in the late 1800's and early 1900's, had the effect of gathering the Inuit around the trading post. The periods of time spent near the post reached a maximum at the end of the summer with the arrival of the supply boat, and at holiday periods such as Christmas. The Anglican and Catholic missions were usually built shortly after the establishment of the Hudson's Bay Company trading post, and along with the post's store, the manager's residence and warehouses were the first permanent buildings in a settlement.

By the 1930's the Inuit were beginning to spend the majority of their time at the trading posts, and by the 1940's permanent residents were formed by the families who waited for the return of family members from tuberculosis sanatoria in the south. The Inuit who returned from extended convalescence periods in the south tended to be unwilling to return to the hardships of their nomadic way of life, and thus in the early and mid 1950's the sedentarization process was well underway.

The plans of most villages evolved haphazardly by a process of accretion and when they were eventually controlled and organized by planners it would seem that the major planning considerations in Arctic villages were related to the need for vehicular access (delivery of heating oil, water, and the collection of rubbish and human waste), and to minimum distances for electricity and telephone lines. The activity poles grew out of the original location of the Hudson Bay Company stores and were not concerned with minimizing pedestrian distances.

More recently when future expansion to villages were planned, design criteria were developed and the more important design considerations included: compact layout so that water and sewer lines could be economically installed; locating the community activity core centrally, surrounded by the residents it seeks to serve; quick access to "the land" for the carrying out of the traditional hunting and trapping economy; when the site has serious snow-drifting problems planning streets of sufficient width to provide for snow-plowing and orienting the streets so that they will be blown clear of snow by the dominant winds providing freedom of movement between buildings.

PROPOSED VILLAGE AT RICHMOND GULF, ARCTIC QUEBEC - LAT. 56^N

This village plan is one of the most recently-planned villages and one of the few which has employed consultation and user-participation techniques in the elaboration of the plan. The village, planned for a population of 718 to 803 residents is located on the east coast of Hudson's Bay at approximately latitude 56^30N. As can be seen from the plan, the house are laid out partially parallel to Hudson's Bay and the land contours, and at an angle of 50^ to the contours and the water's edge. The institutional, educational and commercial buildings are grouped together on the inland side of the houses and are distributed in 5 buildings, 3 of which are joined by corridors. A road runs directly from the dock warehouse and oil tank area to the Institutional-educational-commercial complex, from where it turns 90^ and leads to the airport.

With regard to pedestrian distances, the furthest house (not including the group of 10 houses on the road to the airport) is 1100' (335m) from all main services, which is a reasonable distance when compared to those of existing arctic villages. However, the Co-operative store should share a central position with the school rather than being placed off-centre in the service complex, as the store has a social function in addition to its obvious importance to all the community. The recreation centre which is the hub of arctic social life for people of all ages, should be given a more prominent position in order to fulfil its role of animating community life.

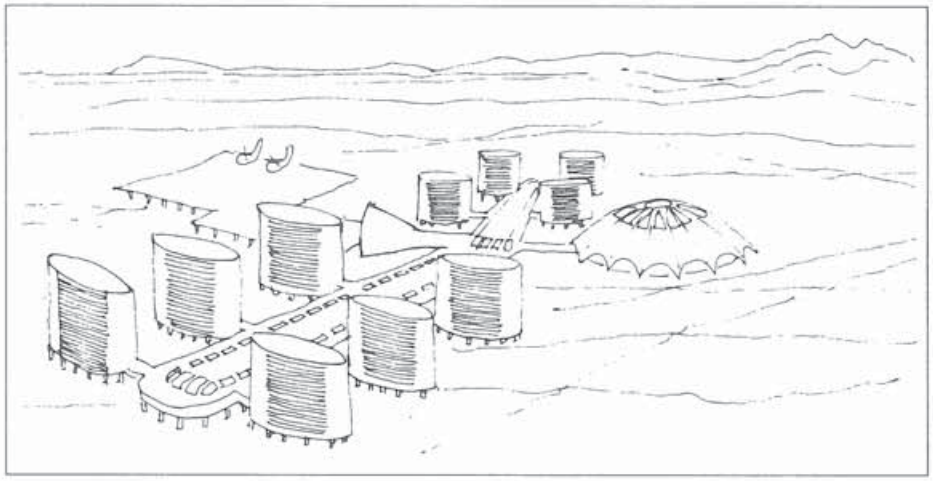
Wind conditions, as analyzed by the Pluram group, led them to believe that the village needed to be protected from "...the impact of the winds from the east" and they therefore located the service complex "...to shelter the village from the winds from the east". Wind conditions at the site were based on climatic data from Inukjuak, approximately 250 km north of the site, and Kuujjuaraapik, approximately 160 km to the south; on personal observations from Inuit hunters who had hunted at the site; and from site observations based on "...geomorphology and erosion." The prevailing wind from this analysis was determined to be on an east-west axis.

The Pluram report mentions that a hollow has been formed at the site at the service complex which was created by aeolian erosion and also mentions that the site is windswept in winter and that snow is generally scarce or non-existent "...from the majority of the site, excepting the edges of rocky hillocks". This leads the author to believe that there are strong winds from the west, north, and south, with only occasional winds from the east, because easterly winds would leave more snow on the lee-side, that is, the west side of the hills and therefore the description of wind conditions on the site would seem to be in contradiction to the site selection criteria elaborated by the planning group which states, "preference should go to a site sheltered from winter winds ..."

Snow accumulation has not been considered very seriously in the report except to state, as does practically every planner designing for the north, that the roads should be oriented in the direction of the dominant winds in order to blow the streets clear of snow. The report states that in a large measure the plan was based on the physical conditions of the site and that topography and the road network determined the zones for the detached and semi-detached housing. As can be seen from the plan all the detached houses are oriented approximately north-south, while most of the semi-detached house are oriented north-northwest to south-southeast, following the land contours. This would mean that for east winds, the snow would collect on the Bay side of the houses where they would not obstruct the majority of the streets.

In general, this plan because of its user-participation input, seems to have satisfied the cultural needs, although the houses in the northeast sector seem to be influenced by the position of the service complex, rather than the distance to the water. The warehouse and reservoir occupy prime waterfront land when they could be situated further inland without any great penalty to their functioning. The village could have developed in rows parallel to the shoreline and land contours with the service complex placed more centrally with houses on either side.

This plan is one of the most culturally sensitive plan analyzed by the author, although it seems quite doubtful that it has resolved the climatic constraints of wind and snow. The south orientation of the detached houses is good as is the location of the service complex behind the houses, because no large shadows would be case on the houses. The semi-detached houses, however, should be re-oriented to take advantage of the sun. The plan



of the proposed village at Richmond Gulf is an interesting example of traditional planning techniques modified by user participation, and is strong encouragement for a more elaborate and systematic use of this technique.

Numerous changes have been made in the Inuit way of life as is reflected in the settlements they now inhabit. The sedentarization of the Inuit had a great effect on housing form, materials and the use of space.

Contemporary Inuit settlements have imposed a change in living patterns as demonstrated by the importance given to such services as the store, school, infirmary, etc. In the traditional culture all these services were integral to their life style and no separate buildings were needed to carry out these activities (an exception being the dance house for village celebrations). As the white culture interacted with the Inuit these services were gradually provided for by the white man and were housed in buildings. Because these buildings were permanent and relatively large in scale, their situation had a great influence on the development of the village.

With the advent of other services such as the provisions of water, heating fuel, rubbish removal, electricity and telephone, even more of the tasks normally performed by each family were given over to other people. This process of abdicating control over one's daily life and environment was begun when the first wood houses were built for the Inuit. This abdication of control in some contemporary settlements, resulted in institutions and services taking up preferred positions relegating housing to inferior sites.

However, there are a few cases in which the Inuit have been able to regain some control over their environment. A few villages were planned so that the essential relationships between the houses and the water were maintained, and the distances between the houses and the institutions were as short as possible. These villages that were planned with the Inuit provide a good indication of the priorities given to the location of houses and services.

Resolute is an example of a village that has given the Inuit a limited amount of control over the environment through a form of user participation in the planning process. As illustrated by the original multiple-family housing concept (windbreak wall), it seems evident that the plan was first elaborated to resolve climatic problems, and then the Inuit were solicited for their reaction. User participation as defined by this author requires the user to be formally involved in the conception of the plan, and not consulted after the fact. Erskine's plan was less successful with respect to cultural aspects

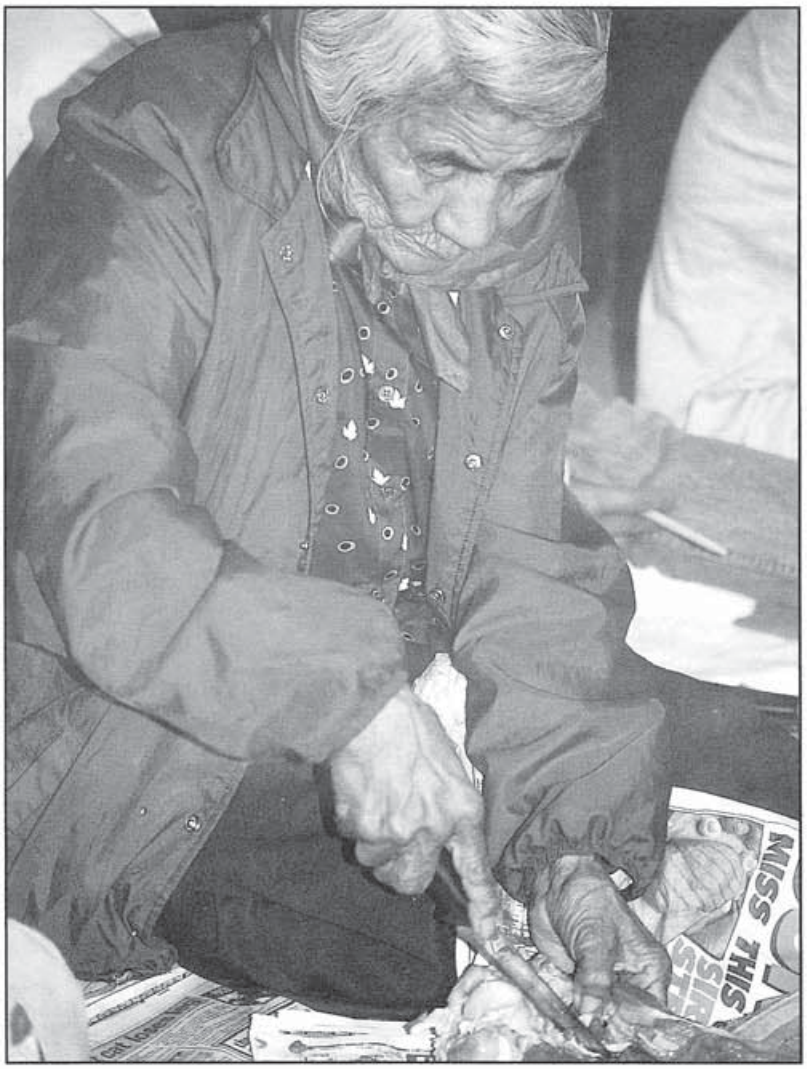
The activity poles grew out of the original location of the Hudson Bay Company stores

because the only means he had of integrating the user's needs into the plan (without destroying the original concept) was through making minor modifications to a concept that had its beginnings in another culture. Notwithstanding these drawbacks, the plan is interesting as an example of an attempt to resolve climatic problems in the design of settlements.

The proposed plan for Richmond Gulf is an example where the Inuit have had the possibility to determine completely the design of their village. They hired planners who instituted a small measure of user participation in the design process. However, although the techniques were valid, a large sector of the population was not reached, so that the results could not be truly representative of the community. The Inuit in this instance had administrative control, but did not exploit planning control which would have influenced the plan to a greater degree. The climatic conditions were dealt with in the planner's typical cursory fashion, without any simulation studies or major concessions to the climatic constraints.

SCHOLAR BEWARE

LYNDA LANGE



NATIVE NORTHERNERS FEEL EXPLOITED BY RESEARCH PROFESSIONALS AS A GROUP AND EXCLUDED FROM THE RESEARCH PROCESS. This feeling is especially strong concerning student researchers, who probably constitute the majority of field researchers in the North. The two comprehensive native claims bodies see government and industry as largely "in cahoots" with each other when it comes to the funding, of research. Lack of respect for traditional ways of understanding goes well beyond ethnography. This concern appears in connection with practical socio-economic and political issues.

In the case of government or pseudo-government research, lack of native input and other communication between researchers and the native community creates distrust of the findings. This is especially strong among some Inuit concerning wildlife research. Also, much more substantial and innovative effort is needed to communicate the findings of research to the native communities. Coordination of information about current work and work in progress is badly needed. Native groups feel cut off from information.

All native groups feel that researchers should contact relevant representative organizations. However, due to limited resources, they must deal with researchers on a case-by-case, ad hoc basis. There is no staff time designated for dealing with researchers. Researchers, and especially students, seeking cooperation, feedback or endorsement from native groups continue to be a problem for the major native groups.

Recommendations include initiation of cooperation at the design or proposal stage. Groups are willing to cooperate with applied researchers related to their information needs. They want more businesslike arrangements and are tired of being "used" to aid researchers irrelevant or peripheral to native concerns, especially in connection with student community, such as employment and payment, but especially skill development through opportunity for training and experience. Joint venture, cooperative and partnership researchers are strongly recommended.

Many groups were reluctant to specify areas of potential research, fearing it might facilitate independent researchers performing the work without native involvement. Naturally they want studies that assist the purposes of their organizations. Some groups want effective input to institutes and funding agencies in the setting of research priorities, since native concerns are remote from them at present. There is a call for support of native libraries and archives and the fair sharing of control or archaeological artifacts.

Nevertheless, broad areas of work are frequently mentioned as being important. Development of curriculum and other resource materials for grade school

education is an area most frequently mentioned. There is also education research in cognitive development and learning style particular to native cultures. Culture-specific understanding is needed for social problems, such as family violence and alcoholism on the one hand and models for local management and self-government on the other. There are environmental concerns of all sorts, and in some regions there is a need for good baseline data about renewable resources. Work is needed to counteract the destructive effects of the anti-fur harvesting lobby and to encourage sustainable (non-boom/bust) forms of economic development and circumpolar arctic policy in all areas.

Social and cultural research of all kinds from the native perspective is very much wanted.

It was often noted that the last generation of native elders with complete traditional knowledge is living now. The knowledge of these elders should be documented before it is lost. Social and cultural research of all kinds from the native perspective is very much wanted.

It appears that the relation of a group of people to the institutions of knowledge in the mainstream of a society is an important indicator of their position in that society. The present desire for some control over and meaningful involvement in northern research is part of the larger movement toward self-government. The method adopted for this project was therefore based on acceptance of and respect for the goal of self-government.

The experiences gained in attempting to do such widespread and systematic consultation with native organizations have given an acute awareness of how deepseated the problem really is - primarily and most importantly for native groups, but also for those researchers who would like to work on a basis of equality of native groups. In Canada, the structure is simply not there to support such activity. On the one hand, the major native organizations are beset and beleaguered by graduate students and other researchers seeking feedback and cooperation or endorsement for projects, many of which are from the native point of view uninteresting, irrelevant, incomprehensible, or even offensive.

...the native community seldom benefits in any way, and native organizations are constantly pressured to donate staff time and resources to the education or careers of non-native researchers.

On the other hand, the students and researchers, regardless of how well-intentioned they may be, seldom achieve the sort of input from the native community they could use to significantly shape their work, and no doubt enrich and improve it.

Native groups want and need control of sufficient research resources to develop native researchers and conduct studies on their own.

While students and researchers benefit, if only because they are pursuing their chosen careers, the native community seldom benefits in any way, and native organizations are constantly pressured to donate staff time and resources to the education or careers of non-native researchers.

In other countries where there has been a settlement of land claims, or where there is significant local government, the situation is beginning to improve.

All of the problems connected with research seem to come back to one fundamental: the need for far greater self-determination by native groups. Native groups want and need control of sufficient research resources to develop native researchers and conduct studies on their own. A relationship of equal partnership is needed between native groups and others wanting to conduct research that concerns native groups. This partnership is based on the recognition that non-northern, non-native researchers cannot adequately understand the North and native peoples in the absence of direct involvement with them on whatever question is at hand. For example, it is the aboriginal peoples of the North who have the deepest understanding of land use and wildlife, but this understanding is not easily translated into terms that conventional biologists understand. To put it simply, the native community is becoming more and more unwilling to "be studied" without the opportunity of active participation in studies themselves.

Support for the documentation of native knowledge and history and the creation of native archives would greatly enhance the sense of quality.

All of this suggests that the greatest contribution the Canadian researcher community can make to improve the situation is in the area of the recognition and development of indigenous scholarship and expertise. Support for the documentation of native knowledge and history and the creation of native archives would greatly enhance the sense of quality. A clearing house for information about current research and research in progress, as well as communication and arbitration between native and non-native parties concerned with research, is badly needed.

ROBERT B. BECHTEL AND C. BURGESS LEDBETTER

THE DOME AT HOME IN

THIS REPORT DESCRIBED A POST-OCCUPANCY EVALUATION OF A SMALL MINING COMMUNITY IN THE HIGH ARCTIC. Providing superior housing, having wives work and integrating singles, Inuits (the indigenous people) and families successfully established a viable community. Fewer problems were encountered than is usual in other isolated cold regions communities. The central focal point of the town, a large dome, was diluted by later construction of buildings housing separate recreational and social facilities. Since the buildings are too costly to remove, the only method of restoring the focal point is to build connecting links at upper levels of the recreational buildings.

At the time of the survey there were 320 adults employed by the mining company (Nanisivik Mines, Ltd.), 36 adults employed by various government and civil agencies and 99 children. Of the adults, 214 were male and 141 were female. About 23.4% were Inuit. Total population for the year was estimated at 455, not counting visitors.

The chief reason for selecting Nanisivik as a place for study was its use of a dome housing what appeared to be a behavioral focal point. Apparently, from comments made by residents of Nanisivik, the dome functioned much better as a focal point in earlier days, but has been somewhat diluted by the construction of the recreation center and other buildings. Residents made remarks such as, "there isn't the same feeling as when we were all together in the dome."

It is clear that although the dome is still the richest environment, the recreation building and other events serve as minor focal points separate from the dome building.

It was not possible to systematically study all the housing types at Nanisivik in the time available. A random sample was taken of all persons living in the housing section, whether part of a family or single. Of 65 families, 30 were sampled. Of 70 single accommodations, 16 were sampled.

One outstanding circumstance of Nanisivik must be considered to influence any conclusions about housing. All residents interviewed or talked with were very favourably disposed toward their housing and nearly half mentioned that it was the best housing in which they had lived.

Three types of houses are used at Nanisivik. The Desourdy, Domar, and Kafus houses. For example, every family felt it was necessary to have a freezer because of the necessity of storing large quantities of food ordered from far south. Yet no housing plan clearly provided for a space for a freezer. Some found room in the furnace and utility room, others would use a spare bedroom. Still others would crowd the freezer into the kitchen.

Windows were a common complaint throughout most housing types. The thermal panes "leaked" air and frosted over. Sometimes this would produce icicles inside. This was remedied by either taping over the panes or simply letting them frost over entirely.

..."there isn't the same feeling as when we were all together in the dome."

Furnaces, hot water heaters, and other utilities that stood open instead of being enclosed were a concern of families with children.

Humidity control was a problem mentioned in a majority of houses. Some never had a humidifier hooked up. Others felt the humidifier was adequate; some connected humidity with their children's health and brought in commercial humidifiers.

The common problem of doorway use in the Arctic was noted at Nanisivik. This problem occurs when there are two doorways but one is more accessible by car. The more accessible door gets used and the less accessible becomes almost permanently closed, regardless of whether an arctic entrance is attached to either.

Much has already been written about the inadequacy in housing design for the Inuit, however, the houses at Nanisivik are far better than any mentioned in the literature to date. Nevertheless, it is worth mentioning factors common to Inuit families for future design considerations.

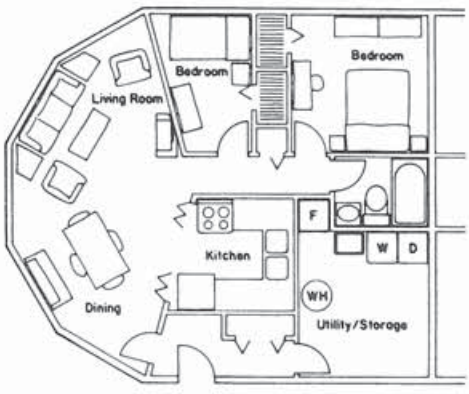
Inuit generally have larger families than the average Canadian or American. It is common for one family to have six to eight children. Houses with three or four bedrooms seem crowded, and the average dining area is too small to permit the whole family to eat together.

In addition to the large numbers of children, the Inuits have far more visitors than do the South Canadians and others living at Nanisivik. Some of this contrast is due to the large distance to major cities (5,000 km to Montreal), which makes visits to the South Canadian members of families living in Nanisivik difficult. The Inuit often have many relatives in nearby Arctic Bay, and visits are common. Some Inuit families had to turn away visitors because they did not have room. This is a social embarrassment in their culture. While it would be exorbitantly expensive to create bedroom space for these visits, it would be possible to help accommodate some by providing fold-out beds, trundles, etc. among the furniture for the Inuits. Some families are able to accommodate visitors with folding cots.

Utilities are another problem. Since many families come from much more primitive conditions, they would have appreciated appliance instructions written in Inuktitut. Verbal instructions to Inuit women on the use of appliances would have been even more helpful. Use of the stove, i.e. roasting, broiling, and barbecuing, still needs to be demonstrated. Most families interviewed did not understand the principle of the grease trap or charcoal air filter over the stove.

a. Desourdy.

b. Domar.



c. Kafus.

A few Inuit mothers complained that the electrical outlets throughout the house were low enough that curious children could be injured by them.

Generally, the storage needs of Inuit seem to be at least equal to if not greater than those of Canadian families that have travelled a lot. The Inuit families with good jobs have acquired a large number of new objects and have no place to store them. They also complain of having no outside storage.

It must also be mentioned that the Inuit families, like the South Canadian families, felt the housing was among the best they had every had.

SINGLE HOUSING

Of the few single men and one single woman interviewed, those housed in the larger homes, such as apartments or five-man single residences, seemed well satisfied. A particular complaint was that the small rooms prevented them from keeping any possessions. One resident had taken shelves from other quarters for his books.

The residents of the hotel also felt more isolated from the rest of the community.

LIFE STYLES OF FAMILIES

Fifteen families were measured in the family sample. The policy at Nanisivik was to have as many wives work as possible, so that every wife interviewed had a job, as contrasted to the military base in Alaska where only one-third of the wives worked. The result of this decision was to drastically reduce the amount of time spent in the home and in recreational pursuits in the home. However, the data show that in public settings the recreational level is above the average for a small town in the American Midwest which is considered a high standard for community participation. The increase in time spent at work agrees with previous experiences in military bases in Alaska, where it was found that increasing work loads resulted in fewer domestic problems.

Nanisivik is an important lesson for designing future cold regions communities. It provides a successful example of housing, organization of living groups, and integration of working and living environments, and a classic example of a missed focal point design.

WANTED!

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Do you have strong opinions on the circumpolar world? Is some aspect of your northern world being ignored in these pages?

Have you written or read an article you'd like to recommend to the editorial board? Would you like to review books in your area of expertise?

If the answer to even one of these questions is YES, we'd like to here from you. Write to: Editor, Winter City, 1933 - 5th Street, S.W., Calgary, Alberta T2S 2B2; Fax(403) 245-9701

We want to hear from you, even if it is only a letter to the editor. But we also welcome guest editorials from someone who feels passionately about something in life in these northern climes.

In this issue, we have the first of our contributors' page with biographies and photos of the authors. For that purpose, a 30 - 50 word biography is required and send a black and white photo so we can feature you on the contributors page. We prefer that it be an action shot of you involved in activities appropriate to the article but even a passport or a colour portrait will do.

LET'S HEAR FROM YOU!

To accelerate the process of putting the magazine together, we ask that if all possible you put your article on a computer disc and send it along with one hard copy to the attention of Editor, WCA at the address above.

If you do not have your work on disc, your manuscript should be typed doublespaced on one side only of 8.5" x 11" paper. Allow one inch margins on both sides as well as top and bottom. Manuscripts should be no longer than 4 of these pages or 1,000 words. Each page should be numbered.

Camera-ready artwork, black and white slides or photos, or line drawings should be included with your manuscript. Please label these and provide suggested captions and credits to be given.

If you can fax your text ahead and send the illustrations (and disk) by mail, it gives us more flexibility to fit editing into our schedules.

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If at all possible, we would appreciate a brief summary of the contents of the article for easy discussion with members of the publications committee.

RESEARCH

CALGARY SYMPOSIUM SEES SCIENTISTS TACKLE HOT TOPIC OF CHANGES TO OUR EARTH'S CLIMATE

MARK LOWEY

ARE WE TURNING UP THE WORLD'S THERMOSTAT AND CHANGING THE EARTH'S CLIMATE?

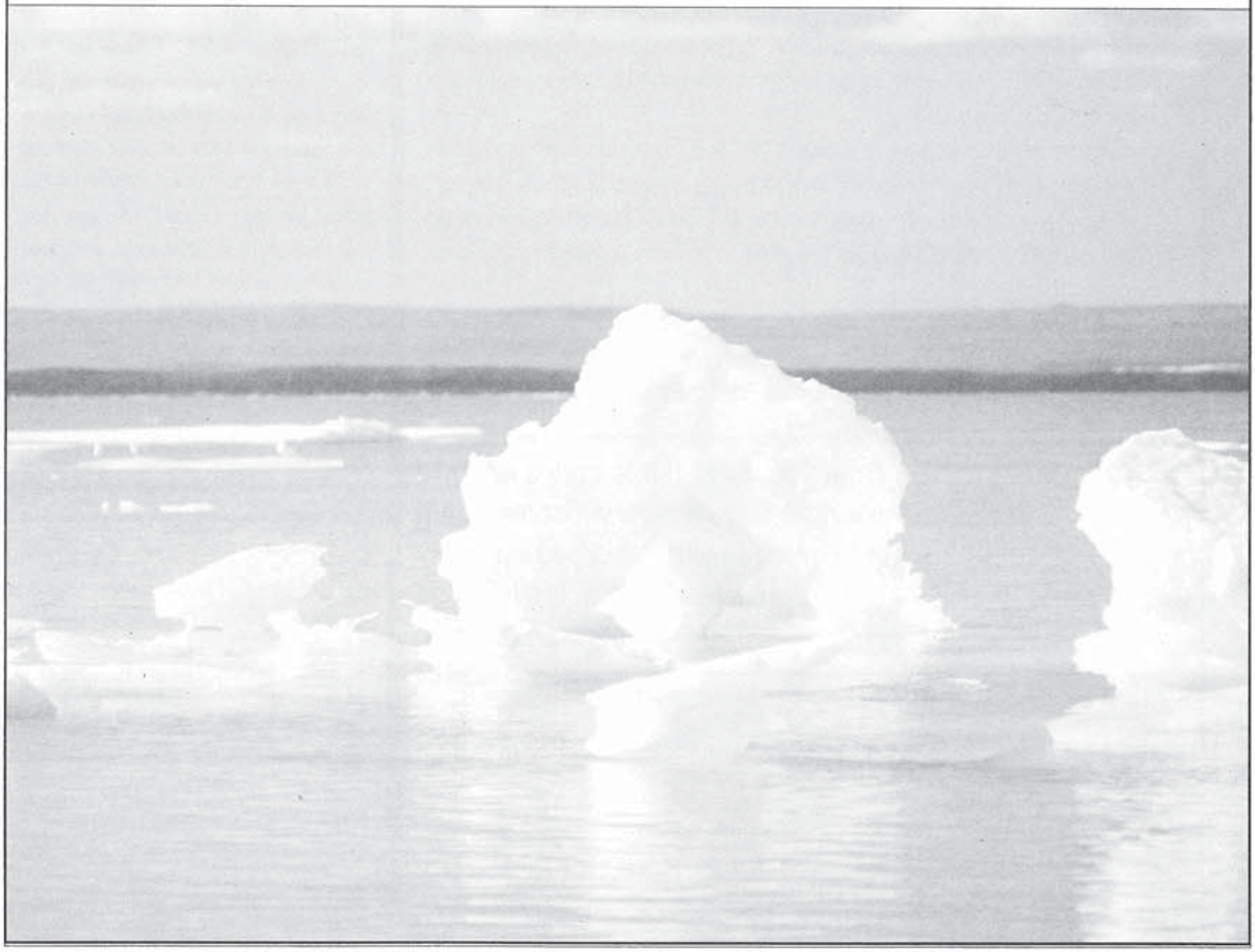
The best answer ranges from "probably" to "maybe", say Canadian and U.S. scientists who gathered in Calgary recently.

More than 100 scientists attended the three-day symposium, on the impacts of climate change and variability on the Great Plains. "The threat is really upon us," and the consequences could be second only to global nuclear war, said Ian Burton, director of Environment Canada's atmospheric environment service.

"The answers are grey," and it will be another 15 to 20 years before some of them become clearer, said Thomas Karl, of the U.S. National Climatic Data Center in North Carolina.

Many people on the Great Plains, which includes Canada's three Prairie provinces and several mid-western states in the U.S., are concerned about global warming and climate change.

Farmers wonder if they'll be able to



continue to grow wheat; urban residents in some areas already face water shortages.

"We don't, in general, understand the impacts," said Merrit Sprague, director of program analysis for the U.S. Department of the Interior.

"The threat is really upon us," and the consequences could be second only to global nuclear war,

Sprague said that because of the many uncertainties, the U.S. administration has adopted a "no regrets" policy on climate change.

The American government favours more research, to clarify the science and determine the risks of taking, or not taking, far-reaching control measures.

"We believe that we should take those actions now that we will not regret later, whether or not climate is changing," Sprague said.

The U.S. administration has requested about $1 billion this fiscal year for a global change research program.

The government also supports reducing the use of manmade substances, such as chlorofluorocarbons, that destroy the Earth's protective ozone layer, Sprague said.

But the ozone layer - which protects us from the sun's harmful radiation - doesn't play a significant role in global warming, compared with the buildup of carbon dioxide in the atmosphere.

Carbon dioxide (CO2), produced by the burning of fossil fuels such as oil, natural gas and coal, traps the sun's heat like a greenhouse window pane. This is known as the greenhouse effect.

Scientists with the Intergovernmental Panel on Climate Change, sponsored by the United Nations, predict the greenhouse effect will boost the world's temperature 1.8C by the year 2030. Yet there's no plan, in either Canada or the U.S., to cut CO2 emissions.

Earlier this year, Canadian energy ministers abandoned a target to cut CO2 emissions by 20 per cent (of 1988 levels) by the year 2005, because this "would cause significant economic dislocation and would require significant changes in lifestyle."

But Canada is still taking action, argued Elizabeth Dowdeswell, assistant deputy minister of Environment Canada's atmospheric environment service.

The country is committed to stabilizing CO2 emissions at present levels - about 530 million tonnes a year - by the year 2000, she said in an interview.

The federal government is also contemplating economic measures, such as tax breaks for "clean" companies, or a so-called carbon tax on fossil fuels. "There certainly will be discussion of economic instruments this fall," Downdeswell said.

But several scientists question whether policy makers are acting swiftly enough on research that has already been done.

Measurements of air entrapped within the Antarctica ice sheet show CO2 emissions have climbed about 19 per cent during the past 100 years, said Michael Schlesinger, professor of atmospheric sciences at the University of Illinois at Urbana-Champaign.

...tax breaks for "clean" companies, or a so-called carbon tax on fossil fuels.

There has been an 11 per-cent jump during the past 28 years, he added.

Scientists in various countries have developed five separate mathematical models, run on supercomputers, to simulate the world's future climate.

All five models predict a warmer Earth if CO2 emissions double by the middle of the next century as expected, Schlesinger noted.

Three of these models predict about a 4C increase in global temperature, while the other two predict an increase ranging from 1.9 to 5.2C, he said.

Karl, from North Carolina, says the natural variability of climate, year-to-year and decade-to-decade, may mask global warming.

A study of the U.S. Great Plains region shows no significant correlation between actual temperature and precipitation records and the climate trends predicted by the UN's scientific panel, he said.

Because climate varies natural so much, it may take another two decades to detect long term temperature changes, and even longer to determine precipitation trends, Karl said.

Planners and policy makers will have to make some tough decisions without knowing for certain that climate predictions are correct, he added.

"We can't tell them that it (global warming) has already occurred," agreed Rich Lawford, associate director of the National Hydrology Research Centre in Saskatoon.

"We can't tell them that there are some signs that it is occurring,", although these signals are conflicting, he said.

Even if climate change doesn't prove to be as intense as predicted, it still makes sense to conserve fossil fuels and use them more efficiently, Lawford said.

Regional governments can take action now, without waiting for cumbersome national and international efforts, agreed Environment Canada's Burton.

Local measures could start with something as simple as charging drivers more to park downtown if they don't car-pool, Burton suggested.

The scientists major recommendation was to develop a proposal for a joint Canada-U.S. study on the links between climate and the region's resources and economic wealth.

This recommendation is not binding on the government.

BOOK REVIEW(S)

TWO REVIEWS OF ONE BOOK? WHY NOT WHEN IT'S A VERY CONTROVERSIAL BUT EXCELLENT BOOK. THE EDITORS RECOMMEND "PLAY DEAD" ENTHUSIASTICALLY.

PLAYING DEAD: A CONTEMPLATION CONCERNING THE ARCTIC

BY RUDY WIEBE, EDMONTON: NEWEST, 1989. SOFTBOUND CDN $12.95.

RUDY WIEBE IS A WELL-KNOWN FICTION WRITER IN CANADA. AS POETIC SHAMAN AND SELF-STYLED PROPHET OF BOTH SETTLER AND NATIVE CULTURE ON THE PRAIRIES AND IN THE NORTH, WIEBE HAS MAKE HIS MARK ON CANADIAN LITERATURE BY WRITING ABOUT THE WEST AND THE NORTH.

Playing Dead: A Contemplation Concerning the Arctic is a short collection of three essays originally presented in "somewhat different form and under the title The Arctic: The Landscape of the Spirit" as a series of lectures at the University of Toronto.

What is most interesting about this book is not only the author's attempt to release the shape of the Arctic but his definition of the "all encumbering" material it issues from. For Wiebe, the arctic land and its geography is the true mystery, one he tries to unravel or "map" through the Inuit comprehension of the "necessary arctic distinctions between linear and aureal space," a lack of understanding that Wiebe suggests doomed European explorers who came to the Arctic. Although the author's speculations about these visual and space perceptions are fascinating, he does not entirely make the linear/aureal distinction clear to this reader. In his attempt to capture the spirit of this landscape, however, what Wiebe does convey clearly is THE "RESTLESS LINE BETWEEN LAND AND SEA" AND THE OVERWHELMING DIFFERENCE OF A LANDSCAPE THAT IS ESSENTIALLY WATER: a world that is one of relentless motion, or frozen as ice, renders one motionless. In the arctic there is no sure ground - only "green icy land bordered everywhere by water." Wiebe poetically captures this terrain and indeed validates it, not as a passage to another place as it existed in the imagination of the European explorer, but as a landscape or nordicity, and desirable as such, as "true North not Passage to anywhere." In this sense, the essays are inspiring and an invitation for the reader who has not yet done so to visit the Arctic.

On one level, this book is good bedside reading for the intelligent layperson who is willing to be captured by the spirit of the Arctic and who has some knowledge of the history or exploration there, a knowledge that Wiebe to some extent assumes, and who is also prepared to entertain A STYLE THAT SHIFTS BETWEEN IDEAS AND SOURCES IN AN IMPRESSIONISTIC - EVEN FRACTURED - WAY. On quite another level, it is a must for the senior student of Canadian literature who is intrigued by the contemporary blurring of literary genres in a postmodern culture and who is interested in the issues of historiographic metafiction, which are sure to be found, even peripherally, embedded in this text. PLAYING DEAD, HOWEVER, WILL PROBABLY NOT SATISFY A DETERMINEDLY FACTS-MINDED READER. This collection of essays is very much a speculative, poetic and loosely woven literary contemplation of one man's academic knowledge, historical interests and personal experiences of the North.

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ARCTIC ESSAYS TEACH US TO SEE WORLD "AS WE MUST"

DOUG BEARDSLEY

RUDY WIEBE HAS LONG BEEN THE MR. TOUGH GUY OF CANADIAN LITERATURE. I make no reference to his personal appearance; rather it is to the public perception of Wiebe as a dense, all-too-serious writer whose briar-bush syntax and diction rub readers the wrong way, and make him the darling of the university set, if little else.

Yet the faithful few who have struggled through The Temptations of Big Bear or The Scorched-Wood People (and, to a lesser degree, My Lovely Enemy, have been amply rewarded: though his "line of motion" is often difficult to follow,

the first two works at least are certain to turn up on posterity's shortlist of major Canadian novels.

Playing Dead, a collection of three essays intriguingly subtitled A Contemplation Concerning the Arctic, is neither less dense nor less rewarding than Wiebe's best work. THE WORK WAS ORIGINALLY PRESENTED AS A SERIES OF LECTURES UNDER THE TITLE THE ARCTIC: LANDSCAPE OF THE SPIRIT AT THE UNIVERSITY OF TORONTO IN 1987. Wiebe's central concern is that the Arctic "makes us the unique people we are and gives us a unique perception of the world." In sum, our northern terrain is fundamental to our Canadianism.

Exercising Reflection is an early exploration of the territory by air and sea. We join Frobisher, Hearne, Mackenzie, the French-Canadian voyageurs, Franklin, the Royal Navy, Stefansson, and the Inuit in charting this vast region.

It is here Wiebe traces the Inuit linguistic concept of their two-dimensional understanding of space that enables them to live well and safety in the Arctic. IT'S A FASCINATING CONCEPT INVOLVING THE TRANSFORMATION OF THE HUMAN BEING FROM "AREAL" TO A "LINEAR" DIMENSION.

The penultimate essay, On Being Motionless, offers the author's further reflections on the life and death of Albert Johnson, the so-called Mad Trapper.

In Your Own Head, WIEBE ASKS WHY WE "HAVE SO LITTLE COMPREHENSION OF OUR OWN NORDICITY," of the fact that the North "is both the true nature of our world and also our graspable destiny." Until this devoutly to be wished transformation occurs, we will - in Wiebe's words - continue to go "WHORING AFTER THE MOCKING PALM TREES AND BEACHES OF THE CARIBBEAN AND FLORIDA AND HAWAII, WILL ALWAYS BE WISHING OURSELVES SOMETHING WE AREN'T, (WILL) ALWAYS STAND STARING SOUTH ACROSS THAT MOCKINGLY INVISIBLE BORDER LONGING FOR THE LEEKS AND ONIONS OF OUR ANCIENT EGYPTIAN NEMESIS ...".

In keeping with the historical sense of this country established by the voyageurs, coureurs de bois, Harold Innis, Marshall McLuhan and, more recently Glenn Gould and Peter C. Newman, Rudy Wiebe sees Arctic Canada "more as water than as land", more than "a convenient passage to another place." He employs history in order to see our world "as we must".

PLAYING DEAD TRANSFORMS ITSELF INTO A SOCRATIC JOURNEY IN SEARCH OF UNDERSTANDING. AND, IN ITS BEST "STILL MOMENTS", WIEBE'S PROSE MOVES INTO "ANOTHER DIMENSION ALTOGETHER."