LIVABLE WINTER CITY ASSOCIATION
ASSOCIATION POUR L'ANIMATION DES VILLES EN HIVER

Livable Winter
NEWSLETTER

VOL. 5 NO. 2 April 1987

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LWCA ANNOUNCES NATIONAL STUDENT COMPETITION ON PLANNING, DESIGN

AIMS

Winter is our most misunderstood season. This competition wishes to solicit positive ideas and sensitive solutions which will guide more responsible decisions regarding the design, management and use of public and private spaces in urban areas.

We encourage both papers and design solutions. They may be analytic, synoptic, existing or hypothetical.

PRIZES

First Prize - $1,000.00; Second Prize - 500.00; Third Prize - 300.00; Fourth Prize - 200.00.

ELIGIBILITY

- Full and part time students enrolled in Master and Doctoral levels studies in Canadian universities and colleges.
- Fourth and fifth year students in professional undergraduate programs of architecture, landscape architecture and urban/regional planning.

Participants will be required to submit written evidence of full or part time enrollment at the appropriate institute, college or university (signed statement from the responsible authorities - dean, chairperson or director, signifying the programme in which the student is registered).

FORMAT

Submissions are encouraged in the form of papers, designs or an integration of the two.

Teams and interdisciplinary groups are encouraged to a maximum of five persons.

Maximum essay length of 15 typed pages, double-spaced on A4 (8-1/2" x 11") sized, heavy stock white paper, exclusive of maps, diagrams, charts, tables, illustrations, or sketches. Margins should be 3 cm (1-1/4") on the left side and 2.5 cm (1") margin on all other sides. A letter gothic 12 pitch typewriter ball with a sans serif face must be employed. If this is unavailable a type-face which is very close to this style must be used. Bibliography where applicable. Easily reproduced maps and diagrams are encouraged. Submissions can be made in French or in English.

Graphic submissions should be on boards 60x75 cm (24" x 30"). A maximum of two boards per team is permitted in black and white.

EVALUATION CRITERIA

Essays and designs will be judged according to the following criteria:

1. Clear statement of the problem(s)__ or issue(s).
2. Innovative ideas.
3. Identification of limitations and constraints regarding implementation of the solutions suggested.
4. Good use of language and/or graphics.

CONDITIONS

1. All decisions of the adjudicating committee are final and there can be no appeal against these.
2. Previously published material will not be accepted.
3. The Livable Winter City Association will publish the winning entries.
4. Submissions will be returned if prepaid mailing expenses are included.

DEADLINE

All entries should be received no later than April 30, 1988 and should reach:

Livable Winter City Association
c/o Programme in Landscape Architecture University of Toronto
230 College St., Toronto, Ont. M5S 1A1

Winning entries will be notified in writing by the end of May 1988.

FOR FURTHER INFORMATION;

Prof. Norman Pressman School of Urban and Regional Planning University of Waterloo Waterloo, ONT., N2L 3G1
(519) 885-1211 ex. 2149

Prof. Leo Zrudlo, Directeur Universite de Laval Ecole d'architecture, Cite Universitaire, Quebec, QC., G1K 7P4
(418) 656-2131

Prof. Ed Fife, Programme in Landscape, Architecture, Faculty of Architecture and Landscape Architecture, 230 College St., Toronto, Ont., M5S 1A1
(416) 978-6788

NEXT ISSUE - - Harold Hoyem Paper on Norwegian Housing

Last minute scheduling difficulties prevented inclusion of a paper on "Housing Adapted to the Climate" by Prof. Harold Hoyem of Trondheim University in the issue. The paper will now appear in June's issue.

FEATURES TO LOOK FOR . . .

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We Breathe New Life Into Old Towns

Many small and medium sized communities are now experiencing the demise of their downtown core. This is usually brought about as a result of the increase in suburban housing and shopping developments or a community's dependence on a single industry experiencing difficult times.

Hallmark Designed Communities specializes in developing and implementing plans for the revitalization of community cores experiencing urban decay. Our designed communities bring old towns back to life by combining municipal facilities + libraries, health centres, and offices with new shopping and cultural facilities such as theatres or auditoriums. The result is a rejuvenated downtown core with a central focus, a truly livable and vibrant community.

Our ability to design a business plan that bring together financing through joint ventures between resource companies and governments enables us to develop, implement and manage these new facilities to the betterment of the entire community.

We also plan, design and implement new communities required to service the needs of resource corporations engaged at remote locations.

Whether it's the rejuvenation of an old town or the birth of a new town, Hallmark Designed Communities has the knowledge, the experience and the ability to make it work.



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New Calgary Chapter Has Logo, Two Projects

By Myrna Grimmon

Armed with the strong conviction that Calgarians would welcome the winter cities concept, five winter enthusiasts held the founding meeting of the Calgary LWCA Chapter on February 11. (LWCA's 5th with three others soon to announce).

The Chapter dedicated itself "to encourage, promote and organize research and activities important to enhancing the quality of winter living in Calgary."

The founding members then extended personal invitations to a cross-section of the Calgary community representing a diversity of expertise and interests. The first meeting held on February 17th was attended by 21 enthusiastic members.

At this time the role of LWCA National and the Calgary Chapter were discussed at length. the value of establishing a project oriented chapter was confirmed, priorities were defined and possible projects were identified. To facilitate the administrative requirements of the Chapter, the following five committees were established under Harold Hanen as chapter chairman: Projects, Membership, Incorporation, Financial and Promotion.

The Chairperson of each of these five committees will, along with the founding members, form an interim steering committee that will serve for a six-month term and guide the Chapter through its formative period. It is proposed that an Executive will be elected and a board of Directors appointed at a full meeting of the Chapter members in September 1987.

We are pleased to report that our first two projects are already underway.

John Kopala, a member of the Calgary Chapter, has designed our chapter logo. John's rationale:

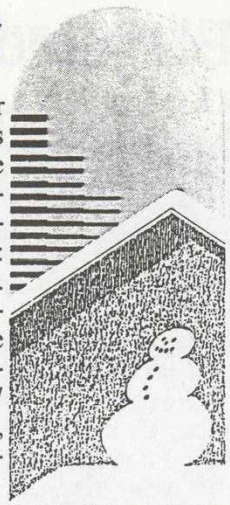
- "I wanted to incorporate a playful image. A snowman came immediately to mind as a powerful joyful winter symbol. This seasonally perishable icon, always smiles whether if is sunny or snowing. His city is livable only in winter."

Our second project is an ambitious undertaking co-ordinated by Professor Tang Lee and Professor Robert Kirby, Faculty of Environmental Design, University of Calgary.

Our goal is to produce a publication of source material on elements which enhance the quality of winter city living in Alberta. This publication will be available for distribution nationally and internationally and we hope that it will further discussion and understanding of winter city living everywhere.

This project has just received a grant form Canada Manpower. It will entail the services of 5 persons, for 8 months, researching, writing, and developing graphic and written presentations.

Calgary Chapter new logo



Until our mailing address is confirmed, we may be contacted at the following address: Mr. Harold A. Hanen, Chairman, Livable Winter City Association, 2747 Wolfe St., S.W., Calagary, Alberta T2T 3R8

LIVABLE WINTER CITY ASSOCIATION

LIVABLE WINTER NEWSLETTER
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Elevated "People mover" Proposed For Edmonton

Scheme Would Revitalize Downtown

An elevated 'people mover' system has been proposed for Edmonton's downtown, providing year-round comfort and convenience and uniting existing and future pedestrian systems in the core area.

Designed by Wolf Wilbert of Wolf Creative Designs Ltd., the "Air Transit"tubular skyway would run along Jasper Avenue, elevated to allow buses and cars to pass beneath. The system is expandable to connect to other streets and existing pedestrian walkways. Made of acrylic on steel supports, the skyway features both moving and regular sidewalks, feature lighting, and a year-round climate controlled environment.

According to Wilbert, "Edmonton would be a logical place for this because there are seven months of winter. The whole downtown beautification doesn't do anything for winter."

One of the effects of such a system would be to draw pedestrians to the downtown area and up onto a second-level system, allowing expansion of retail into currently under-utilized building areas. Year-round maximum use of Edmonton's downtown would hopefully result.

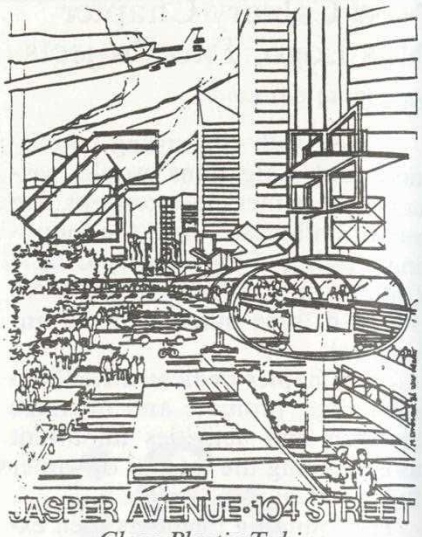
Wilbert drew inspiration from similar structures in some international airports. He feels the greatest benefit would be for the pedestrian, who would be able to avoid traffic, fumes, high wind, bitter cold, and icy sidewalks, while enjoying a secure and comfortable vantage point for observing the heart of downtown.

Wilbert admits such a scheme needs support of the city and downtown merchants. He is content now with initiating debate, while looking ahead to Edmonton's future. He sees the recent downtown revitalization as creating a texture, but feels that the kiosks, bus shelters and power poles need additional trees to enhance the streetscape.

The tubular concept is not new, but "is best suited to a cold northern climate." Wilbert has not projected costs, but feels net benefits of such and accessible linkage system "might offer a whole new apporach to downtown, particularly if more people begin to live there. Then it would make really good sense."

Eric Jokinen of Eric Jokinen Assoc. Ltd., and a director of Downtown Business Association, has studied the proposal and feels that it is worthy of consideration and favour. Concerning engineering implications, Jokinen found climate conditions of little concern, with the heated enclosure adequately sheltering all necessary machinery and controls.

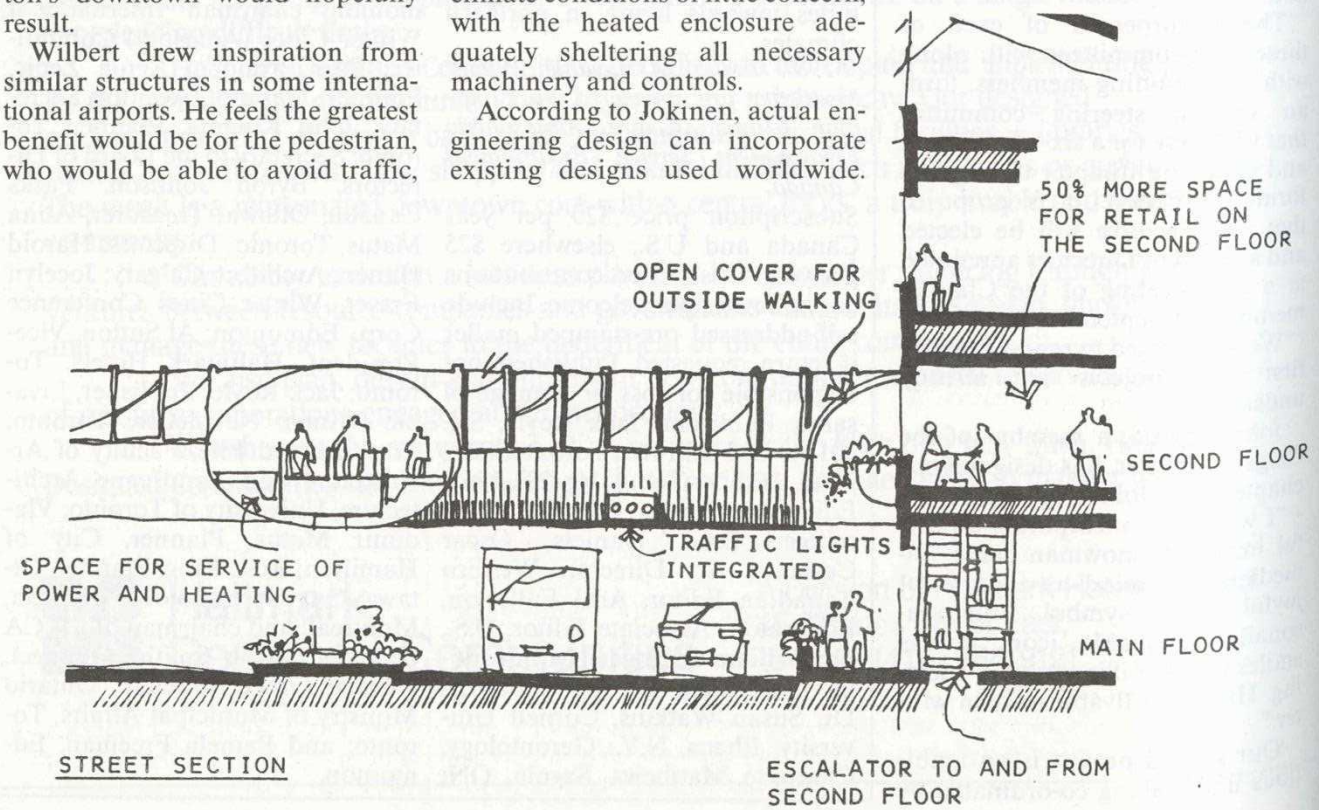
According to Jokinen, actual engineering design can incorporate existing designs used worldwide.



Clear Plastic Tubing

The people mover concept lends itself well to modular design and construction process, allowing flexibility and continual upgrading. Lightweight modular construction allows supports to be placed on street medians and curb lines, with minimal disruption to existing infrastructures.

The "Air Transit" system would connect to and complement the existing Plus-15 network, revitalizing much currently unleasable second-level building space. And, as summarized by Jokinen: "The people mover system as proposed by Wolf Creative Design is entirely feasible using existing technology and materials."



Conditions Accepted, Tromsoe Moves on to '90

The city of Tromsoe has officially accepted the conditions for hosting the Second Biannual Winter Cities Forum and Exposition in 1990, as laid out by the International Winter Cities Corporation. The conditions as expressed are:

1. That the 1990 event will endeavour to facilitate the improvement of the livability and viability of Winter Communities in the Snow Belt Region of the world. As a minimum we would expect:
   * an international level conference focussing on leadership, innovation and technique.
   * an internatioal level exhibition and trade show illustrating state of the art technique and technology.
   * special cultural events unique to Winter Cities and in particular to Tromsoe.

2. That Tromsoe will host a major reception for the participants and participate in the closing event at the 1988 Forum in Edmonton, and that Tromsoe will exhibit its location, setting and program at Winter Cities '88.

3. That Tromsoe will provide to the IWCC a summary document within 90 days of its 1990 event including a full list of names and addresses of all participants.

4. That Tromsoe will promote the 1990 event through the International LWCA Newsletter in the spirit of establishing that Newsletter as the International Communications Vehicle for Winter Cities.

5. That the city of Tromsoe appoint a permanent member from its Organizations to the IWCC in March 1990 who can assist that Committee in extending its experience to the 1992 Host City.

6. That the IWCC symbol and graphic be incorporated on all material promoting the event.

The city of Tromsoe has continued to exhibit all the enthusiasm, dedication and organization that will ensure a resounding success in 1990.

Winnipeg's Riverborne Winter Carnival



Skating rink and carnival area.

In January, Riverborne Development Assoc. Held another exciting and successful Riverborne winter Carnival. The Carnival is the main event focussed around the large maze-like skating rink created on the Assiniboine River. Hundreds participated in the numerous events, highlighted by the Great Riverborne River Race, and also including horse-drawn sleigh rides, dog team rides, spring speed skating races, Bandy, a parachute drop, tobogganning, and a moccasin dance in a large heated tent set up on the river.

For information concerning the excellent organization and development practices of Riverborne Development, contact: Dennis Fletcher, Riverborne Development Assoc, Inc., 51 Osborne St., S., Winnipeg, Manitoba, R3L 1Y2.

Community Forestry Resource Directory

People involved in community urban forestry have expressed the need for a comprehensive reference directory to assist in the administration and management of this valuable resource. In the regard, a **Community Forestry Resource Directory** is being produced by the Minnesota Department of Natural Resources, Division of Forestry in cooperation with the Minnesota Department of Agriculture, Shade Tree Program and the University of Minnesota's Department of Forest Resources and Minnesota Extension Service. This Directory will include a description of community forestry related programs, services or information found among public agencies, private organizations, local units of government, institutions of higher education and selected businesses throughout Minnesota. The information needed to develop this directory is being obtained through surveys and other contacts. It will be organized in an easy to use manner, and will include all available addresses.

Write to: Mike Scharrer, Consulting Forester, Minnesota Dept. of Natural Resources, Box 44, 500 Lafeyette Rd., St. Paul, Minnesota, U.S.A. 55146

Minnesota Chapter Formally Lauched

On March 19, Minnesota Chapter of the Livable Winter City Association was formally launched. Officers are: President, Weiming Lu; Vice-President, Roger Clemence; Secretary-Treasurer, Gail Manning. Bill Rogers, reporting the event tells us: "We also elected a good 12 - person board of directors and have lots of ideas for programs, including one for the merry month of May.

EDITORIAL

What Can a Chapter Do?

As more LWCA chapters spring up, this question is more often being asked. Newsletter editors venture to offer their views.

Perhaps the first step is to acknowledge that the chapters are unique in two respects: they bring together individuals from a variety of disciplines, backgrounds and callings who are primarily concerned with the "livability"(and inescapably therefore also the "viability") of their cities and towns but more particularly in winter which, for most, is the longest and most neglected season. Second, each chapter brings to its town or city through the LWCA network and Newsletter the ideas and experience of other northern communities around the world.

Municipal governments, chambers of commerce, downtown businessmen's associations, and service clubs have their essential roles but only LWCA chapters bring together all elements concerned with design, planning, form and function and the factors that contribute to making a town outstandingly pleasant in which to live whatever the season.

What can chapters do? What better than to carry out the mandate suggested by their very nature?

The R/UDAT report, prepared by leading Canadian and U.S. architects and published following Winter Cities Forum 86 was a landmark achievement. Numerous "Urban Design Assistance Teams" had put forward recommendations in U.S communities. And in Ontario and elsewhere similar study teams had carried out similar pinpointed studies to assist individual communities. But the Edmonton R/UDAT report was the first "generic" report - - one that would have application and usefulness to all winter cities by using Edmonton as an example.

The value of the Edmonton R/UDAT, according to Brian Eldred, past president of the Royal Architectural Institute of Canada, is tremendously increased in that there is to be a follow-up report prepared during the Winter Cities Showcase '88 event next February. This will examine the performance and achievements of Edmonton in living up to its "winter city" challenges over the two-year period since 1986.

Thus we have a marvellous example of critiquing the performance of a winter city by some of the top experts. And the second report will have the opportunity to double-check on the basic thinking and findings of the first.

If a chapter is too young, or small to tackle the wide variety of subjects involved in examining and critiquing its city or community, would it be possible to ask leading local architects, planners and others to form task forces to help carry out the exercise?

The areas range from recreation, transportation, urban sprawl, wind diversions caused by large buildings, planting of evergreens, inspiring the use of color in buildings, to such small items as whether dangerous icicles hang over sidewalks, providing protected walkways for the elderly and how snow clearing is handled. With a little thought, chapters can discover large numbers of areas that need improvement - - a think tank would quickly throw up dozens of ideas. Chapters that do not have active and challenging programs along these lines may well, we suggest, find themselves struggling to retain interest in their meetings. Often in the past it has been left to the media to critique the general performance of a town of city. Chapters can give leadership to the activity and use and work with the media.

(LWCA national has tried to place copies of the R/UDAT report "Livable Winter Cities" in the hands of all its members, free of charge. If you are a member and have not received your copy, please write to Sheila Pepper, National President, 20 Denewood Cres., Nepean, Ontario K2E 7J5, and ask for one.)

(If you are a subscriber to Newsletter but not a member, sorry but we have insufficient supplies to provide you with a copy. However, you may be able to get a copy by writing: Alberta Association of Architects, 10515 Saskatchewan Drive, Edmonton Ablerta, T6E 4S1.)

CHARLOTTE MATTHEWS HEADS NATIONAL ADVISORY COUNCIL ON AGING

Health and Welfare Minister Jake Epp has announced the appointment of Charlotte Matthews to a three year term as chairperson of the National Advisory Council on Aging.

Dr. Matthews, of Sarnia, Ontario, holds a Ph.D. from University of Michigan in Ann Arbor. Her dissertation concerned retirement housing. She also obtained the Specialist in Aging Certificate from the same university's Institute of Gerontology in 1978.

A past member of Ontario Council on Status of Women, Matthews is now on the executive of Ontario Gerontology Association and is a member of Canadian Gerontology Association, Canadian Institute of Religion and Gerontology, and Ontario Psychogeriatric Association. She is a writer, lecturer and consultant on the elderly, with special interests in adult education and preventative health. In 1984, the City of Sarnia named Matthews to the Mayor's List for her outstanding service to the community.

In making the announcement, Mr. Epp noted that her professional expertise and competence would be of great benefit to the council.

National Advisory Council on Aging reviews needs of seniors across Canada and advises the Minister on all matters related to aging.



Dr. Charlotte Matthews
Gerontologist and writer,
Newsletter Consulting Editor

Composities - - Proven Answer in Arctic Construction, Challenge For Large Urban Centres

by David Dempster,
Author, Technology Transfer Consultant

Composite materials of fibre-reinforced polymers offer durability, strength, adaptability and energy efficiency . . . and a challenge to construction innovators.

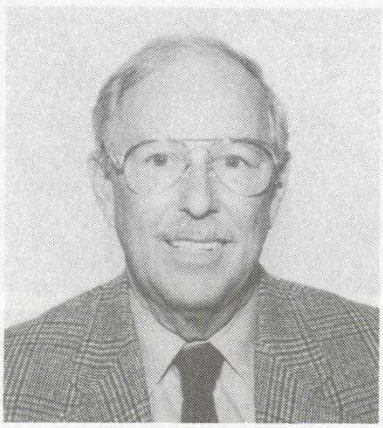
We see these materials in automobiles, air and water craft, heavy trucks and minesweepers and we know they work in the Arctic where they have performed well structurally for almost 30 years in those DEW line radar units strung across Canada's north.

Despite their early success in the far north, there was a long pause in the ongoing use of fiberglass/resin composites until that pause was eventually broken by Guy Gerin-Lajoie, Montreal architect known internationally for his Quebec pavillion at Expo '67 and his subsequent successes in the cold of the Arctic, the heat of the Middle East and Africa, and many other projects.

After Expo, when there was little doing architecturally around Montreal, Gerin-Lajoie heard of a school extension proposed for Pangnirtung, a small Arctic community. He submitted a design, received acceptance and soon found himself standing on a stark windswept barren watching completion of a conventional school extension. The only differences between this structure and a similar school extension in the "south" were its extra insulation and its triple-glazed windows. He saw plainly that the construction techniques were simply not appropriate and could be advantageously reassessed.

The conventional building approach made only minor allowances for such local realities as winds blowing at 160 or more km. per hour; snow drifting constantly through ten months of the year and temperature swings between 30 or more degrees C. below freezing to 25 or more degrees above.

As well, entrances were badly placed and the buildings were perched on pads set on permafrost and sometimes in danger of being blown away by the gales. Because



Guy Gerin-Lajoie

of poor building design and unsuitable materials, heat produced by costly fuel oil brought in by plane or ship was being wasted. Nor were the layouts particularly suitable for the life style of the residents.

Plainly Pangnirtung buildings were better suited to a less harsh climate. "I decided", Gerin-Lajoie relates, "that in future in these conditions I would use the climate as a design parameter."

What materials and construction methods would permit this to happen? During his travels, Gerin-Lajoie had observed that aircraft made of composite materials accommodated huge spreads in stresses. Sizeable temperature and air pressure changes were handled without problem; compound curves and streamlining were readily achieved. This seemed a logical direction for research into more suitable northern construction techniques.

Gerin-Lajoie let his views be known in Ottawa and was successful in obtaining a major design contract -- two large schools at Frobisher Bay -- to test out his design concepts. These structures, Gordon Robertson Educational Centre, a secondary school and Nakasuk primary school have now stood the test of harsh Arctic conditions for some 17 years. They are as sound and good looking today as when they were built, confirming that the composite material employed, fiberglass-reinforced-polyester (FRP) is the ideal material for building in the north.

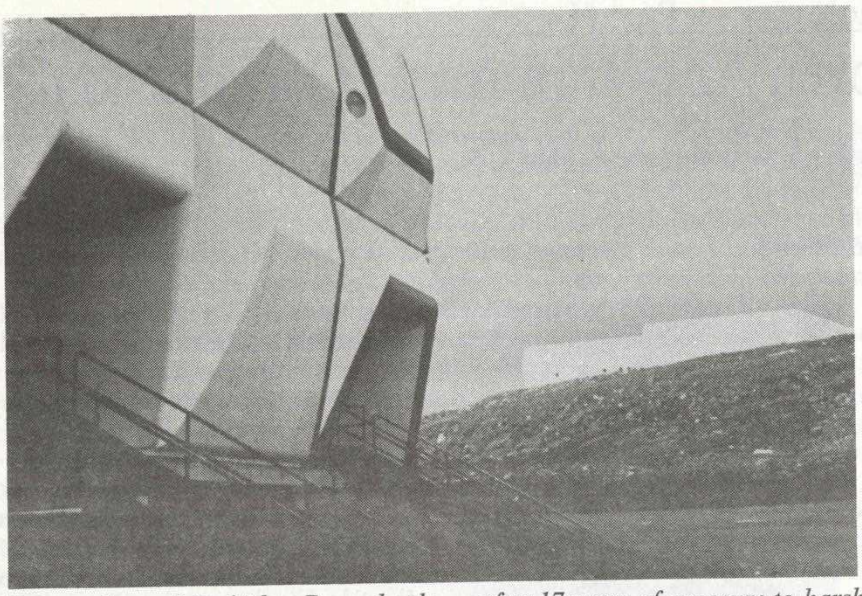
Shortly after completion of the Frobisher Bay schools, Gerin-Lajoie received a call from the author of this article suggesting he join a technology transfer mission to Europe where FRP had a more extensive history in construction than in North America. I was then a Technology Consultant and Policy Advisor to the Ontario Minister of Industry, Trade and Technology. As a Founder Member of the International Club for Plastics Use In Building (based at Liege) my job included organization of numerous missions and study tours such as the one referred to in which 20 Canadian architects and fabricators, including Gerin-Lajoie took part.

Word of the schools at Frobisher Bay had preceded us and the tour developed into a major discussion of FRP and with European designers, fabricators and builders participating. Gerin-Lajoie became more enthusiastic about FRP and began to preach its merits more vigorously than ever. Canadians are sometimes accused of lacking innovative spirit, but, largely through Gerin-Lajoie, they have led the world in discovering ways to use FRP in structures in the harshest of climates.

In 1973, Gerin-Lajoie was asked to be part of the CANADA-SOVIET mixed commission on Scientific and Technical Cooperation on Architecture, Building Materials and Techniques in Construction. His presentation on FRP work at the Institute of Planning of Leningrad and Moscow resulted in a visit by a Soviet group to the project at Frobisher Bay.

One real eye-opener is the energy-conservation story. In the schools, FRP panels are used as cladding mounted on a steel framework, Each panel consists of insulation encapsuled between two layers of FRP. Panels are bolted together and sealed with a com-

cont'd on page 8



Recent photo of Frobisher Bay schools - - after 17 years of exposure to harsh Arctic conditions.

cont'd from page 7

pressed sealant providing adequate air and water protection. Because of the tightness of its assembly, even when installed by unskilled laborers, it is extremely energy efficient. Early in the construction stage, it was found the workmen could keep working in the building 12 months of the year. The workers' bodies gave enough heat to allow work to continue. Once operation as a school "it was soon found that up to 80% of annual fuel consumption could be saved, mainly due to the quality of joint design and FRP material concept," according to Gerin-LaJoie.

On one occasion Gordon Robertson school heating system was shut down for 48 hours in winter. The school operated normally and temperatures dropped only 10°F. on the ground floor and actually rose 2°F. on the second floor.

On cost, the 86,000 sq. ft. (2,436 sq. m.) Gordon Robertson school cost $Cdn. 2,957,090 (1971 dollars) against a budget of $Cdn. 3.900,000.

Another important point is the simplicity of construction and minimal equipment required. Gordon Robertson school was clad with 252 panels in just 35 days by four workmen and one supervisor using a lightweight ladder and hand-operated tackle.

Three men needed only three days to install the 42 panels for Fort Chimo airport building. The panels were flown in to the site.

From 1969 to 1975 there was lively interest in the FRP technology. A number of architects commenced designing with the material and firms such a Polyfiber Ltd., Renfrew; Environmental Research Group, Toronto; Shokbeton Quebec Inc., and Protective Plastics Ltd. of Toronto were involved among others. Department of Public Works at Ottawa, in tests for Gordon Robertson school under direction of Gerin Lajoie, found results were satisfactory and were inpressed by the flexibility in the manufacturing process.

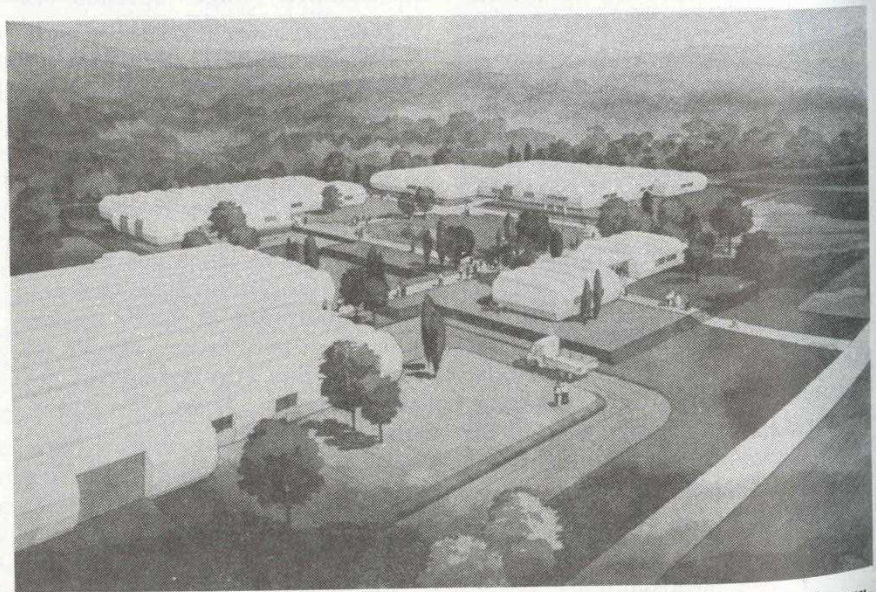
Others commissions in the Arctic awarded to Gerin-Lajoie and since built included the arena, firehall and the city hall at Frobisher Bay, the airport building at Fort Chimo, and a Scientific Research Laboratory at Igloolik shaped like a large mushroom. Another commission was to develop concepts for a cultural, social, recreational, educational and residential integrated complex for the entire community at Povungnitul, Quebec.

Word spread to other regions with extreme climates, hot and cold. From contacts made in the European study tour, Gerin-Lajoie received a commission to design 30 schools for desert communities in Saudi Arabia. These were in place one year after the contract was let, all clad in FRP and roofed with composite flexible membrane.

From Iran came a request for a design proposal for trade and technical training schools to be located at various points. Each school would have a multi-purpose core plus individual classroom units suitable for specialized instruction such as carpentry, photography or machine shop.

Gerin-Lajoie, working with a subsidiary of Bombardier as manufacturer, developed a proposal to construct all schools using only six FRP modules that would be produced by a process known as filament winding. This called for wrapping polyester-saturated fiberglass roving (endless multifilaments) on rotating moulds. Such layers would be alternated with layers of sprayed-on chopped fiberglass and resin.

The configuration of the moulds was such that they were split longitudinally and attached together at midpoint. When the glass/resin combination reached desired thickness, the wrapped moulds



Model of proposed "plug-in" FRB educational complex for Iran - - one of several to be located throughout the country.

were left to cure. Cured, they were cut apart and trimmed to form panels. Using only six basic double sets of moulds, it would be possible to combine them into a wide variety of structural formats. An added plus was that the instructional units could be dismantled and moved to another site so that Iran could move its carpentry, photography or other training facilities to wherever needed.

This project was shelved at about the same time the Quebec government decided not to proceed with Povungnituk. Temporarily it meant a cooling off period for FRP in Canada.

FRP permits gracefully curved facades, streamlined against strong winds, difficult to achieve with conventional materials. Also maintenance can be minimized because the panels can be permanently colored by introducing pigment into the surface layer, or gel coat. If painting is required, ployurethane paints can be used as is now widely done in Europe.

Nor is smoke hazard the concern once thought. New insulating foams are less prone to emit heavy smoke in case of a hot fire, and, if phenolic foam is used, there is no outgassing at all. The same is true of phenolic lamination resins chosen for cars in London Underground, many buildings in France, and the people mover at Dallas/ Fort Worth airport.

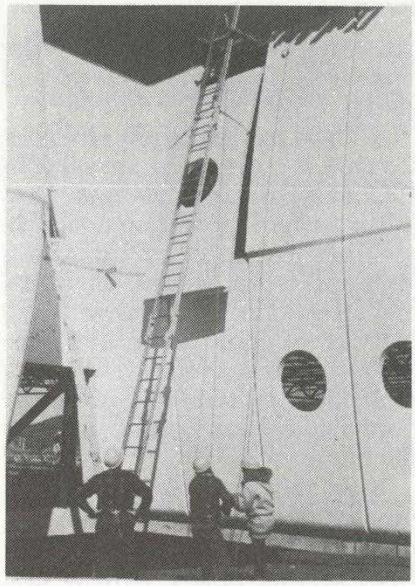
Gerin-Lajoie points out the danger of smoke emission is minimized by the nature of the panels he designs. Each panel is pinched together at its perimeter where panel is joined to panel. These edges create a firebreak. Thus, if a fire got inside an FRP panel in one of his structures, it would be delayed considerably before spreading.

Finland with a climate similar to southern Ontario and Quebec has done much experimentation with FRP. Prof. Rudolf Doernoch designed the first plastics residence, a summer place, in Netherlands in 1947. Called "The Plastics Pope", he also designed an entire temporary plastics village near Luedenscheid, West Germany.

A friend of Doernch's, Prof. Wolf Hilbertz, University of Texas School of Architecture, is experimenting with glass/resin composites in a space station. He proposes to use an articulated arm to spray a monomer over a laser-produced hologram of the shape desired. Spraying to a high-density laser beam, the monomer would convert to a rigid polymer. Hand fabricated moulds would be unnecessary. It remains a dream but has been made to work in the lab using acrylic monomer.

Sydney, Australia has FRP clad multi-story office buildings. Japan is working on light weight and transportable structures such as temporary housing and movable structures that can be collapsed and stored when not in use.

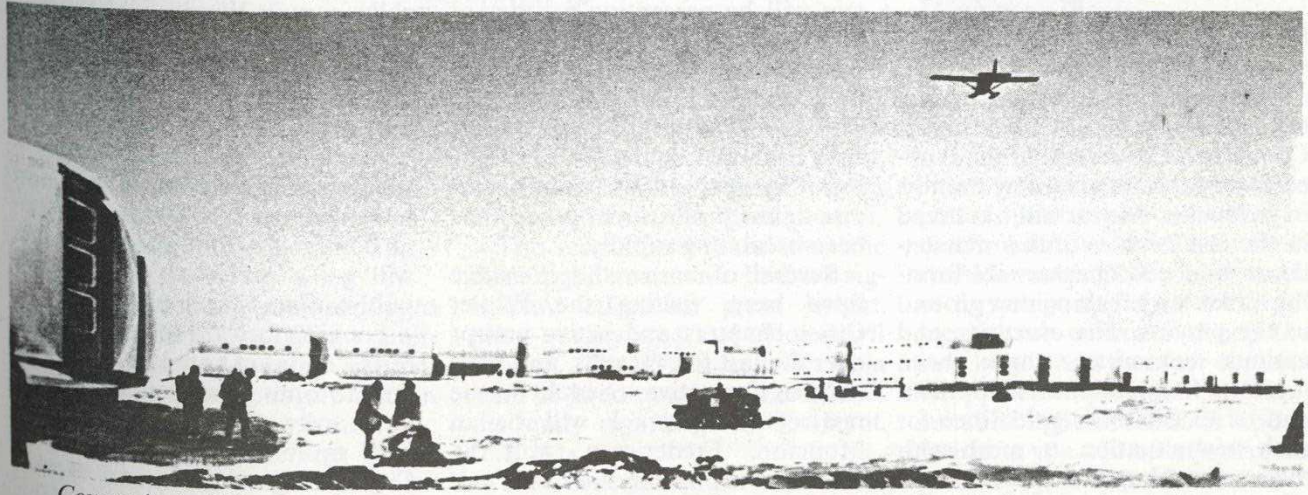
Where does Canada stand? Not as advanced as we should be. We continue to build less than satisfactory structures in the Arctic. we do not permit FRP panels to be applied above three floors in urban areas despite our concern about energy conservation. Our concern should apply to the materials and methods of construction as well as to building performance. Architecture and engineering students, even students in community colleges and high schools should be made aware of such new concepts as FRP.



Light-weight FRB panels can be hoisted and bloted in place quickly and easily without heavy machinery.

We have the ability to produce world-leading composite structures as the new Gerin-Lajoie airport building at Frobisher Bay and the NAADM North Warning System demonstrate. "There should be a strong research and developmental program across Canada involving our design and planning schools," in Gerin-Lajoie's view. "I have spoken four times to the students at Laval University School of Architecture about FRP and they are keenly interested." Our very strict Canadian building codes sometimes make innovation more difficult "but nevertheless are good in that they protect us from shoddy or inadequate concepts. They simply mean we must try harder to present a good idea." There are building codes in Germany, Netherlands, France and the U.K. and in these

cont'd on page 10



Composite buildings would make up entire Arctic town at Povungnituk, PQ if and when go-ahead given.

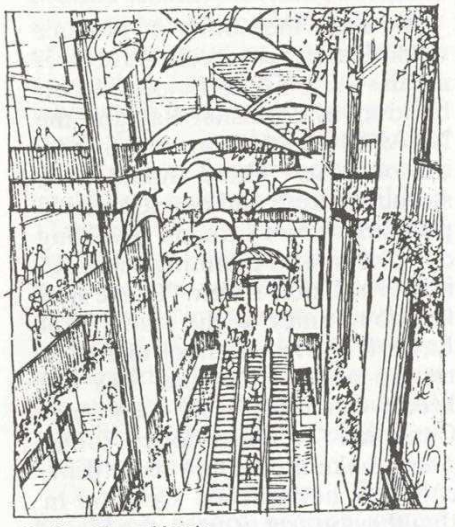
cont'd from page 9

countries FRP buildings are erected in numerous cities and towns.

At Expo in Vancouver, Fiberglas Canada Inc. displayed the value of FRP in construction and wider use of the technology will no doubt result. But the job of educating our architects, spec. writers, engineers and fabricators is a massive one.

It can be done. Composite technology is moving forward with new materials, new reinforcements and production ideas boding well for the future.

"It is the young generation, or the young-in-mind, that will pick up the new ideas, such as FRP, and show us how to use them to best advantage," says Architect Guy Gerin-Lajoie.



102nd Street Covered Arcade Interior View.

TORONTO CHAPTER HOSTS LATE-WINTER SOCIAL DAY

Toronto Chapter held a successful and festive social event on Saturday March 17 on Toronto's Harbour Islands. After meeting on Ward Island, participants enjoyed a walking tour of the islands, narrated by Sheila Gregory, recreation planner for Metro Toronto. Following this was a barbeque around a campfire, and the day was capped by a scavenger hunt. Teams were formed which were then given lists of items of local flora, man-made articles, and questions of local interest and history. Points were assigned per item, and a victorious team declared.

The day was beautiful, sunny and mild, and all participants thoroughly enjoyed themselves. The gift of such a balmy day in mid-March is certainly nothing to be taken lightly!

102nd Street Arcade Planned for Edmonton

Arni Fullerton (Community Pathfinders Ltd., also chairman of the International Winter Cities Committee and Western Canadian editor of Newsletter) in partnership with Gene Dub, Architects of Edmonton, have been selected to design a covered retail arcade on 102nd st., Edmonton running north from Jasper avenue. The first phase will be 700 feet long by 70 feet wide and will be an "all-season place" and focus for downton Edmonton. The long range plan is to extend the arcade later to a length of some 2,000 feet.

Upcoming Events

"Large Scale Applications of Heat Pumps: 3rd International Symposium" will be held March 25-27, 1987, in Oxford, U.K. Contact: Conference Organizer, 3rd Heat Pumps Symposium, BHRA, The Fluid Engineering Centre, Cranfield, Bedford, MK43 OAJ (U.K.)

"Energy Awareness through Education" will be held April 9-11, 1987, in Calgary, Alberta. Contact: RSES Calgary, c/o W.L. Britz, 612-54th Avenue S.W., Calgary, Alta. T2V 0C8.

"47th International Congress of The International Union of Public Transport" will be held May 24-29, 1987, in Lausanne, Switzerland. Contact: The Secretary General, International Union of Public Transport, Avenue de l'Uruguay 19, B-1050 Brussels, Belgium.

"A Future for our Rivers" will be held June 8-11, 1987, in Ottawa, Ontario. Contact: Mrs. D. L. Boulet, National Capital Commission, 161 Laurier Ave. W., Ottawa, Ontario K1P 6J6. (613-996-8391, 92, 93, or 613-598-4962).

"Managing Cogeneration Projects" will be held June 15-18, 1987, in Cherry Hill, N.J. Contact: Association of Energy Engineers, 4025 Pleasantdale Road, Ste. 420, Atlanta, GA 30340 U.S.A. (404-447-5083)

"Canadian Heat Pump Symposium" will be held June 18-19, 1987, in Universite de Sherbrooke, Sherbrooke, Que. J1K 2R1 (819-821-7850 or 821-7144)

President's Column
Will Be Visiting Chapters

by Sheila Pepper

We have been thrilled to hear of all the Winter City activity across Canada and in several of the United States over the last few months in particular. As you will have read in the last 2 issues of this newsletter, several new chapters are forming and often breaking new ground in the process. The executive and various committees have been meeting frequently to help them and us to establish guidelines for each new situation, to mesh with the earlier chapters; a warm late winter welcome to all of you! Our events and programmes committees will be presenting a series of proposals for the approval of the Board of Directors in May - - programmes for the fall of '87, and the winters of '88 and '89. As you've seen in these newsletters, the sharing of ideas across the country and among the professional groups has been escalating rapidly.

Several of us on the executive have been visiting the Winter Cities chapters and active groups over the last few months, and have laid out a tentative schedule for the rest of the year. I will be in Moncton, Fredericton, and St. John's in the summer, in St. Paul/Minneapolis early Sept., and hopefully will meet with some interested colleagues in Windsor in April, in Regina mid-May, and possibly Scandinavia in Oct. Various events planned for this year and next will add to the value you receive for your membership contributions -- such as opportunities to take part in workshops, task forces, a national conference and of course you will get a preferred rate on new publications we are planning.

Looking forward to seeing many of you either at home, or in Ottawa and Toronto when you visit; let us know when you're coming, and we'll gather together your Winter City colleagues!

Light Intensity Not Source Important For Foliage Plants Indoors

By David Dempster

David Dempster, a resident of Etobicoke, Ontario and consulting editor for LWCA Newsletter, is a prolific writer, a Canadian plastic pioneer and an international technology transfer consultant.

Following last issue's interesting article about the Danish firm that specializes in plant care, possibly these few extra lines may be of some help to those interested in keeping away the winter blahs with greenery.

Anyone who has had the good fortune to spend time in Denmark (and other Scandinavian countries) does appreciate the value Scandinavians place on greenery in offices, hotels, stores and homes. If there is any one simple and relatively inexpensive method to help relieve the winter blahs, it is indoor greenery. But there are problems and we are not that fortunate to have Dansk Gartneri Technik close by to help resolve them.

Plants are enjoying unprecedented popularity as a means of beautifying our interior surroundings. But without proper care, their purchase and maintenance can ultimately turn into a sizeable investment for businesses and homeowners.

Many homes and other areas, such as shopping malls, provide relatively low light for plant growth, and horticultural practices for maintaining vigor vary somewhat.

A recent study by Texas Agricultural Experiment Station researchers shows that in a low light interior environment, light source and fertilizer regimen had minimal effect on long-term maintenance.

Light intensity, and not its source or its quality, seems to be the single most important consideration, according to the Texas researchers.

They undertook their study to determine the effects of light quality and fertility on long-run maintenance of selected foliage plants in a low light interior environment.

"Optimum light intensity is the most important requirement for foliage plant longevity," the study team writes. "Little is known about the combined effects of light quality and fertility on growth of plants for extended periods of time."

For an experiment on light quality, the researchers chose Ficus benjamina, Ficus stricta, Brassaia arboracola, and Diffenbachia amoena. The plants were potted and acclimatized for 8 weeks under neutral shade.

The interior light intensities studied were supplied at 100 percent photo-synthetically active radiation (PAR) from fluorescent bulb, 70 percent PAR from fluorescent plus 30 percent PAR from an incandescent bulb, and 50 percent PAR from each of two Gro-Lux fluorescent bulbs.

Prairies Prove Sunniest

The city of Estevan in southeast Saskatchewan has the honour of being the sunniests place in Canada, receiving an average of 2537 hours of bright sunshine per year. Indeed, Canada's top ten "sun spots" are all on the Prairies, and following Estevan, are: Coronation, Alta. (2490); Delta, Man. (2460); Saskatoon, Sask. (2450); Suffield, Alta. (2437); Weyburn (2437), Bad Lake (2426) and Moose Jaw (2494) Sask.; Gimli, Man. (2392); and Broadview, Sask. (2391).

Outside the Prairies, the sunniest places in each province and territory are: Yellowknife, NWT (2277); Cranbrook, B.C. (2244); Thunder Bay, Ont. (2203); Montreal, P.Q. (2054); Chatham, N.B. (2010); Shearwater, N.S. (1969); Tignish, PEI (1967); Whitehorse, Yukon (1844); and Churchill Falls, Nfld. (1572).

For the fertility experiment, potted plants were acclimated for 5 weeks under neutral shade. Fertilizer treatments were Peter's 20-20-20 in the irrigation water, Osmocote 14-14-14 with a 3-month release, and a unfertilized control.

The researchers found that the three light treatments had no significant effect on plant height, plant quality, and leaf chlorophyll content. The Ficus and Brassaia were of good quality at the end of the study regardless of treatment, scientists say.

The Diffenbachia lost lower leaves but continued to produce new leaves and some loss of variegation was noted under the Gro-Lux lights. Of the four, Ficus benjamina performed the poorest, with an average of 21 percent leaf drop.

No significant differences were noted in the study due to light source at equal PAR. Primary consideration should be given to the selection of a light source, its intensity, as well as lamp characteristics. This means energy conversion efficiency, rated life, uniformity of light distribution, economics of operation, and maintenance and colour rendition.

Although Gro-Lux lights do provide more red light than standard fluorescent bulbs, they have the disadvantage of higher cost, lower intensity, a decreased visible colour range, and they cast a pink glow to human complexions.

For those reasons, Gro-Lux lights are best utilized for display lighting, the researchers say, although that pink glow might be somewhat more desirable than the winter puce most of us wear by the time February rolls around.

The research team says that standard fluorescent lights may be the best interior light source for foliage plants. None of the tested light sources provide high intensities unless they are placed relatively close to the plants, so high intensity lamps such as high pressure sodium and halogen lamps are necessary to provide greater intensities in large indoor areas, they say.

In the fertilizer study, plants showed few consistent and significant differences after one year in low light. Of the Ficus and Brassaia all were of good quality at the end of the study. Unfortunately, no treatment yielded high quality D. amoena plants.

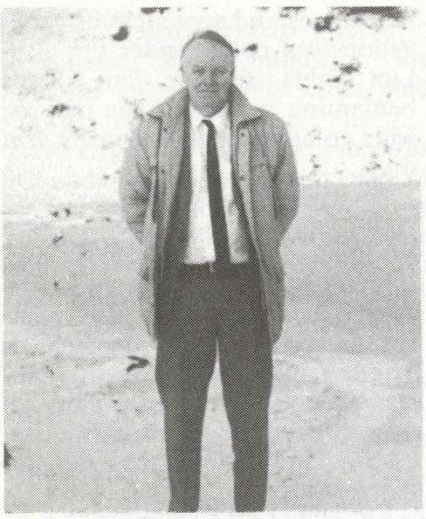
Soluble fertilizers seem to enhance growth slightly in some species, but either soluble or slow release fertilizers maintain good quality plants, they found.

But you don't have to wait for potted plants and shrubbery to reach maturity. Now is the time to consider cutting off a few branches of forsythia, apple, or some other local shrub or tree and pop them into large vases or other container. Keep their water level up and in suitable light conditions and before long you will be enjoying fresh greenery, just as the Danes do. Go ahead, try it -- you'll like it.

CHIPS, FLAKES *and* GUSTS

(Which Fall on his Minneapolis Desk From All The World's Other Cold Places)

A winter column by William C. Rogers
Associate Editor, U.S.
Ideas and Suggestions from Readers will be welcomed.



Thordur T.Thorbjarnason
City Engineer, Reykjavik,
(photo by Rogers)

NOTES ON A WINTER VISIT TO ICELAND AND GERMANY

Reykjavik may be the cleanest big city in the world. It is almost entirely heated by hot water from Iceland's many volcanoes. This water often travels in pipes for many miles without losing more than a degree or two of heat. It is such an efficient way of heating that it has been proposed to ship hot water in tankers to Sweden.

* * * * * * * *

Bus use in Iceland is down from 18 million in 1962 to 9 million in 1986. It's the same old problem we have in North America. People don't know what is good for them (according to us intellectuals and city planners) and insist on using their private cars. There are 460 of them for every 1000 people in Iceland. This is second only to the United States in number of cars per capita.

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As in many cities, Reykjavik's "old town" has colored roofs and some exterior decoration, while the new post World War II suburbs are mainly white houses with flat tops. We were there on the shortest day of the year when the sun shone for five or six hours. There were many pink clouds at dawn and dusk which were reflected by the pink snow on the mountains. This added color to the generally white scene.

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Over four million trees have been planted in recent years. A private tree growing society is hired by the City of Reykjavik to plant 350,000 trees a year. Much has been written about the reforestation of Israel but we should know more about the remarkable Iceland achievement. Both nations, incidentally, have a long history of raising sheep and goats which, unlike cattle, will eat tree seedlings. This guarantees a treeless landscape if land is not fenced in properly!

* * * * * * * *

ICELAND'S WARMEST HOST

Our host during our Christmas-time visit to Iceland was Thordur T. Thorbjarnarson, City Engineer of Reykjavik. In 1978 I invited him to the first international winter city conference in Minneapolis. His responsibility covers the whole built environment of the city (and we'd guess a whole lot more).

* * * * * * *

ON TO GERMANY

Architects of New German buildings along the Mosel River from Trier to Koblenz seem to be entranced with slippery floors for both homes and stores. Their brownish pseudo-marble surface quickly dissolves snow and collects water after the frequent storms in the area. After enough hips are broken, there will be a market for a scratching machine that can serrate these construction mistakes. Of course these floors are easy to clean.

* * * * * *

SLIPPING AROUND

Snow removal for pedestrians in the ancient Mosel Valley villages seems to be of very poor quality. For one thing, buildings are so close to the street in the old parts of towns that there is no place to put the snow from the sidewalks except into the street. There it is removed meticulously and piled on the sidewalks for the benefit of automobiles. Fortunately, the sidewalks are cobblestones which are not slippery like the entrances to grocery stores and shops.

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Peaked roofs, often colored, and pastel colored walls make the older part of Iceland and Germany attractive, but most new buildings in both countries are "topless" and colorless in accordance with the ubiquituous international style.

* * * * *

WINDOWS IN GERMANY

In the old buildings of Germany, windows are treated with loving care and pride. It took me a while to see where much of the beauty of these old structures was coming from. I was so entranced with the warm attractive colors of the walls, I didn't "see" the windows. This area gets the same amount of winter sun as Winnipeg, so winter light is valued.

Windows let the sun come inside in this cool and often cloudy climate and so they are big, and framed, and appreciated and adorned, And not just with Shutters as in our suburbs. They are arched and framed and curlecued. Architects call all this "fenestration" and it's a lost art in most U.S. cities.

* * * * *

BACK TO THE LAND OF 10,000 FROZEN (?) LAKES

Meanwhile, back in the USA the first thing I heard on the radio was advice on how to get out of the car quickly if it falls through thin ice on our lakes. Lakes have become a favorite mode of transportation in Minnesota, but this year we have had record high temperatures and thin ice. I also learned that driving on a lake while drunk cannot lead to arrest because lakes are not public highways, according to a recent court ruling.

* * * * *

Some Thoughts on the Winnipeg Conference "Livable Winter Cities - Manitoba Perspective"

IMPORTANCE OF HISTORY, TRADITION, COLOR AND "THE SMALL THINGS" STRESSED

by Xenia Zepic

(Zepic is a planner and urban designer for Metro Toronto Planning Dept., and ardent winter enthusiast, and past-president of LWCA.)

Winnipeg, Saturday, February 14, 1987.

Arriving from Toronto, where the night before the temperture dropped to -25°C, I found Winnipeg warm and balmy with a temperature of -7°C. So much for the warnings that I should take extra warm underwear and a balaklava! Even, with such unusually warm weather, the Winnipeggers are constantly aware of their cold winter and problems it brings every year. Who has not heard of the Portage and Main intersection where bravery of Westerners is tested on a daily basis; where howling winds and snow present the ultimate challenge to human endurance. It was, therefore, only fitting to have a conference on winter livability in Winnipeg, and in February!

The co-sponsors of the conference - the Institute of Urban Studies, University of Winnipeg: the Department of City Planning, Faculty of Architecture, University of Manitoba - and the Manitoba Association of the Canadian Institute of Planners organized a program with emphasis on design and planning practices directed toward improvements of Manitoba's built environment.

To put us into the appropriate frame of mind, the first half of Saturday morning was devoted to the general topics of winter living. Prof. Norman Pressman presented a paper dealing with the cultural dimensions of winter. His extensive research uncovered some interesting and revealing statements about winter; how it was perceived by native people, by the first settlers and us today.

My own presentation focused on the visual environment of our urban areas in winter. Colour is one of the elements which is very sparcely used in our predominantly gray environments. As a contrast, the Russian churches, the Finnish old villages, and the Swedish new residential suburbs are testiments of how colour can contribute to the beauty of monotonous winter landscape.

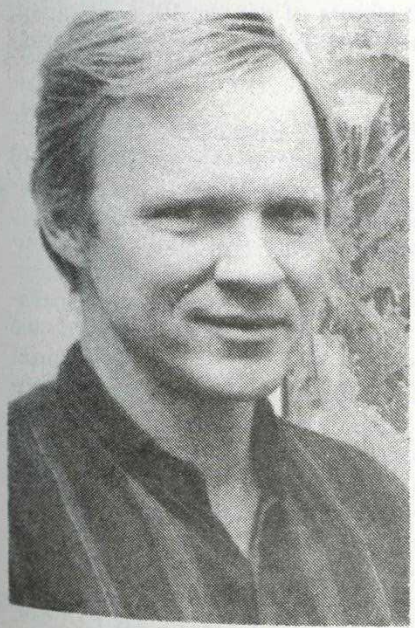
The rest of the day was devoted to the problems, issues, and achievements relevant to Winnipeg and the Province of Manitoba. The topics range from urban design interventions and guidelines developed at the city level to planning concept implemented in the resource sector.

Etienne Gaboury, a well-known architect, whose magnificent cathedral graces the St. Boniface College and serves as a backtround to Louis Riel's memorial, presented his idea for the redevelopment of the CN East Yards. The proposed concept incorporated many microclimatic principles and had drawn heavily upon historic and local building tradition.

Servicing, management and landscaping for cold climate was demonstrated through local projects. The discussion demonstrated the awareness of various government bodies of climate-related problems and their willingness to find economically viable solutions.

The closing remark and the summary of the conference were delivered by Prof. William Rogers from Minneapolis, who, in his amusing and entertaining style, reminded us that winter is a season to be enjoyed; that small things such as an evergreen and a bird house in the backyard could brighten any dull winter day.

The conference took place at St. Boniface College, a beautiful setting for the celebration of winter. To end, a special note of praise to our hosts Alan Artibise and Wendy Fraser, who, as usual. made the conference a worthwhile event.



Jeff Nash

Cities Lack Winter Focus

Nash Urges More Attention to Wind, Less to Domes

According to Jeff Nash, Chairman of Macalester College's Sociology Department in St. Paul, and LWCA member, local architects generally lack a winter focus. "A lot of cities are trying more wind breaks," says Nash. "I don't see that we've done anything like that in the Twin Cities. The Scandinavians have a big focus on wind control. They've developed wind models; they use flour and fans to show how wind swirls off buildings." Both Nash and Bill Rogers agree that local architects have avoided the issue of testing new buildings for wind effects on pedestrians.

Nash and Rogers also agree that over-emphasis on enclosure is not the answer. "I think it's a mistake to build more skyways," says Nash, who studies winter's behavioral effects. "Depression is less a consequence of winter and more a consequence of doming and malling and staying inside."

A proposal has been put forth to enclose Minneapolis' well-known shopping street, Nicollet Mall. Thanks to the efforts of Nash, Rogers and Norman Pressman (Past President of LWCA) the Committee on Urban Environment sent a report to the City Council on mall revitalization to preserve the historic openness of Nicollet Mall.

THE WORKING NETWORK

(Complete and return form on opposite page to let other LWCA activists know of your background, interests and projects. Our intention is to assemble the information annually in a "networking directory" to be distributed to LWCA members and Newsletter subscribers.)

JOHN T. DROVER, Department of Mines and Energy, Govt. of Nfld., Box 4750, St. John's Nf, A1C 5T7, (709) 576-2411, Bus. (709) 745-2597, Home; **Training, Background,** Energy Conservation; **Areas of Interest,** Climate/ weather Information, Energy, Engineering, **Current Projects:** "Involved in promoting energy conservation and alternate fuels in all applications; Also administering implementation of a program to encourage, by means of grants, technology transfers use of wood, peat fuel, solar, wind, etc."

BRIAN E. ELDRED, Architect, 210 10190 104 St., Edmonton, AB, T5J 1A7, (403) 423-6606, Bus. (403) 468-7028 Home; **Training Background:** Architecture, Management; **Areas of Interest:** Futurism, Perception/Cognition, Research; **Current Projects:** "A period of re-examination of the role of the design professions and study of trends."

DR. BARBARA HAHN, Professor of Human Geography, Geographisches Institute, University at Mannheim, Schloss, 6800 Mannheim, West Germany 0627 1292-5559; **Training, Background,** Anthropology, Architecture, Geography; **Areas of Interest,** Climate and Weather Information, Communication, Planning.

BYRON M. JOHNSON, Environment Canada, Parks, home address, 412 Besserer St., Apt. 2, Ottawa, ON, K1C 6C1, (613) 997-4985 Bus. 233-9245 Home; **Training, Background,** Architecture, Energy Conservation, Human Factors, Urban Design; **Areas of Interest,** Fire Safety, Human Factors, Post Occupancy Evaluation, Social Impact Assessment.

CHRISTOPHER B. MAKEPEACE, Alberta Public Works, Building Sciences Branch, 9733-89 Ave., Edmonton, AB, T6E 2S1, (403) 427-7667, Bus. 432-9210 Home; **Training, Background,** Architecture, Energy Conservation, Building Science, Glass and Glazing; **Areas of Interest,** Design Methods, Building Science, Technology Transfer; **Projects,** "Provide standard guidance and consultation in the development of new capital facilities as well as providing a technical resource for the maintenance and operation of the Department's 2,200 facilities. Our group has energy controls, acoustic and building envelope specialists working as an inhouse consulting group. My area of expertise is in glass and glazing, skylights and walls, with others dealing with roofing, waterproofing, insulations, thermography etc."

SCOTT M. MEIS, Environment Canada, Parks Service, Chief SocioEconomic Information, 10 Wellington St., Hull, PQ, K1A 1G2, (819) 997-6605 Bus. 824-5194 Home; **Training, Background,** sociology; **Areas of Interest,** post occupancy evaluation, recreation, social impact assessment; **Projects,** "Analysing current 1, structure of markets for Canadian, national and historic park experiences; 2, evaluation techniques and systems for systems in national and historic parks; 3, development of visitor market systems for park destinations; 4, development of management and planning structures that effectively integrate social research and information with development and operational decision-making; 5, developing organizational standards and associated quality control systems for the conduct of applied social research in the parks service."

NORMAN PRESSMAN (PROF.) University of Waterloo, Home Address, 178 Lincoln Rd., Waterloo, ON, N2J 2P1, (519) 885-1211 ext. 2149 Bus., 886-2429, Home; **Training, Background,** Architecture, Urban Design, Urban and Regional Planning; **Areas of Interest,** Aesthetics, Design Methods, Housing, Human Factors, Perception/Cognition, Planning, Urbanism; **Projects:** "1, Comparative International studies on cold climate living -- transportation, housing, open space (built environment) at policy level and urban design concerns; 2, Innovation (process and product) to facilitate winter living; 3, Post-Secondary education (planning and urban design) vis-a-vis Winter City Planning and Design; 4, Develop and expand international network of individuals and groups willing to exchange information on cold-climate research policy and urban development, including behaviour."

WILLIAM CECIL ROGERS (DR.) Home Address, 3510 McKinley St., NE, Minneapolis, MN, U.S.A., 55418; (612) 625-0842 Bus., 781-3881, Home; **Training, Background:** Public Administration; **Areas of Interest:** Aesthetics, Human Factors, Participation, Social and Behaviour/Personal Space, Urbanism, Trees and Plant Materials; **Projects:** "I am working on 1, a collection of paintings of cities in winter; 2, the role of arts in winter; 3, women in winter; 4, comparison of Canadian and U.S. city climates; 5, The Asian winter; 6, how to make microclimatic city studies; 7, downtown infill; 8, the business of winter; 10, paratransit; 11, what we can learn from harsh hot climate adaptations."

DIANE M. VORALEK, B-A Consulting Group Ltd., 111 Avenue Rd., Ste. 604, Toronto, ON, M5R 3J8; (416) 961-7110; **Training, Background:** Engineering (transportation); **Areas of Interest:** Engineering, Planning, Transportation; **Projects:** "Our company, B-A Consulting Group Ltd., specializes in transportation planning, traffic engineering, transit planning operations, and parking planning operations. Currently we are doing numerous conceptual and functional planning projects for mixed-use development proposals involving road, transit and pedestrian system design. In the Toronto area we are particularly active in the central area (including The Dome and Harbourfront). We are also working with C.B.C. in connection with the Broadcast Centre and with numerous private developers (e.g. Cadillac Fairview, Markborough, Trizec, etc.) We also have a Calgary office at 112 28th St., S.E. Ste. 102, Calgary, AB T2A 6J9.

LWCA NETWORKING — SURVEY FOR MEMBERSHIP DIRECTORY

Complete and return to:
Livable Winter City Assn.,
P.O. Box 5130, Stn. "A",
Toronto, ON., M5W 1N4

(For publication in future directories appearing in LIVABLE WINTER NEWSLETTER).

NAME: ..... (FIRST) (MIDDLE) (FAMILY)

MAILING ADDRESS: ..... (NO.) (STREET) (CITY)

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BUSINESS FIRM: .....

TELEPHONE: ..... (BUS) (RES)

- CIRCLE TO INDICATE YOUR MAJOR FIELD OF TRAINING AND EXPERIENCE:

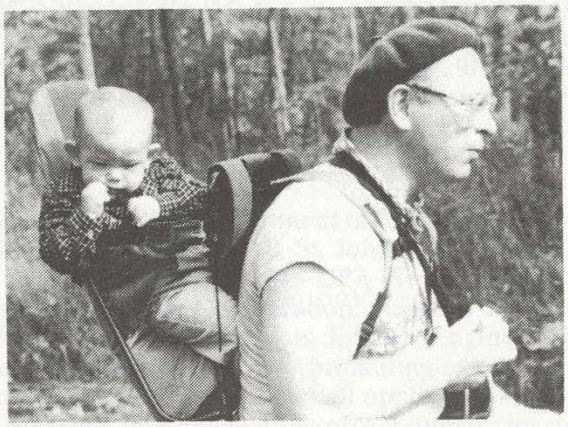
☐ ANTHROPOLOGY
☐ ARCHITECTURE
☐ ARTIST
☐ CLIMATOLOGY/METEOROLOGY
☐ ECONOMICS
☐ EDUCATION
☐ ENERGY CONSERVATION
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☐ PSYCHIATRY
☐ PUBLIC ADMINISTRATION
☐ SOCIOLOGY
☐ URBAN AFFAIRS
☐ URBAN DESIGN
☐ URBAN & REGIONAL PLANNING
☐ OTHER .....

- CIRCLE UP TO THREE TO INDICATE YOUR AREA(S) OF INTEREST:

☐ ARTIST
☐ AESTHETICS
☐ AGING
☐ CHILDREN
☐ CLIMATE/WEATHER INFORMATION
☐ COMMUNICATION
☐ DESIGN METHODS
☐ ENERGY
☐ ENGINEERING
☐ ENVIRONMENTAL PROCESS
☐ ENVIRONMENTAL STRESS
☐ FIRE SAFETY
☐ FUTURISM
☐ GRAPHICS
☐ HANDICAPS
☐ HOSPITALS
☐ HOUSING
☐ HUMAN FACTORS
☐ OFFICE PLANNING
☐ PARTICIPATION
☐ PERCEPTION/COGNITION
☐ PLANNING
☐ POST OCCUPANCY EVALUATION
☐ PRISONS
☐ PROGRAMMING
☐ RECREATION
☐ SCHOOLS
☐ SOCIAL IMPACT ASSESSMENT
☐ SOCIAL BEHAVIOUR/PERSONAL SPACE
☐ TRANSPORTATION
☐ URBANISM
☐ INDUSTRIES
☐ OTHER .....

- PLEASE WRITE A 100 WORD STATEMENT ON YOUR CURRENT PROJECTS OR RESEARCH.

Keeping The Kiddies Comfortable



Summer's no problem for Boris Swidersky and Boris junior, but as Dave Turrell points out, winter can be a trying time for parents of young children who want to keep hiking.

Winter is a particularly frustrating time for hiking parents of young children who want and need some fresh air and exercise. The problem is keeping your child warm and comfortable, but this problem can be overcome with a little ingenuity. It is difficult to find warm clothing to fit children under one year old so you will have to buy the smallest size available; however it is an advantage to have oversize clothing if you want to keep the really young child warm. Remember that the inactive child sitting in a carrier has to be overdressed compared to the person walking, particularly the hands and feet. The advice I give has been gained from hiking and cross-country skiing in cold weather with our sons, Eric, Born in September 1982 and out on the trail from two weeks old and Dirk born this February.

Diapers: Even disposable diapers should have plastic pants pulled over them to prevent leakage. (AAARGH!)

Underwear: Use several layers under a one-piece suit with built-in feet to avoid drafts. It's most important to use several layers of thick socks and mitts, the outer layers oversize. Avoid tight clothing, buy oversize for children under one year; they will grow into it. The thicker the layer, the warmer the child.

Clothing: Over the underwear use either a wool or synthetic fleece suit that will retain heat even when damp.

Snowsuit: A two piece snowsuit with bib front and high back pants is warmer because of the double layer overlap around the torso. It's also easier to get on and off and can be adjusted to fit a growing child. To protect a child under one year old, buy a snowsuit large enough to allow the leg and armholes to be pinned closed using safety pins. Keeping their hands and feet inside the suit is the only method that I have found that will keep them warm.

Boots: Only boots with a thick felt lining will keep an inactive child's feet from freezing. These boots should be pinned to the snopant leg to prevent the boot falling off when the child is being carried; it's happened to us!

Stroller Bunting Bag: It's an insulated-bunting bag with legs that a fully dressed child can be carried in for extra warmth; very handy for all winter outings.

Food: Even if you breastfeed (Bronwen did--on milder days) it's best to use a bottle unless you are really brave! There are insulated bottles available but we found that a regular bottle heated really hot and wrapped in a towel worked well and if it did cool off you could stuff it in your (OOH-AHH!)long johns to take the chill off; I did!

Carriers: Children have to be carried in a front carrier for about the first six months until they can support their own head. After that they go into a back carrier; buy one with a head rest if you can. I carried Eric on long hikes up to the age of three but children can start hiking short distances and even learn to cross-country ski from about two.

General Advice: To avoid overheating and frustration when dressing the child, undress yourself, dress the child, park the child in a cool place then dress yourself. In the car, keep the heat down to prevent the child from becoming damp with sweat. Try to take the child out on sunny still days and stay in sheltered areas when the temperature is low; a bad experience at this stage could create negative feelings to being outdoors. It may seem like a lot of work but believe me, it's well worth the effort. Children love to see new sights and enjoy being on the move as much as adults do.

If you can any questions, call Bronwen or me after 7:00 p.m. at (416) 745- 4817, .when they're a bit older, ask Eric or Dirk!

(Ed. Note: The preceding article first appeared in the Winter 1987 issue of "Bruce Trail News", Canada's magazine for hikers. This issue dealt with the theme of making Winter livable, and included articles on winter camping, winter Outward Bound courses, and cross-country skiing. Normally available only to members of the Bruce Trail Association, this issue is also available to LWCA members.

Mention you are a member of LWCA and make out cheque or money order for $3.00 to Trail News Inc., P.O. Box 5356, Station A, Toronto, Ont. M5W 1N6)

U. of Alberta's Boreal Institute In Joint Study With NRC

The first workshop of the joint study undertaken by the Boreal Institute of the University of Alberta and the Japanese Northern Regions Center was held from October 20 - 25 last year in Sapporo, Japan.

Studies were based on a 1985 memorandum; to promote mutual exchange among researchers and cooperation in northern regions of research and study on subjects of common interest.

Studies will continue until 1988, with researchers analyzing how urban pedestrians can move comfortably and safely in winter, including effective mobility aids.

Seven Canadian researchers visited Hokkaido Island, with workers from both countries analyzing present situation and suggesting uniform themes in the various disciplines represented. The joint study will continue, with results being reported at the second workshop to be held in Edmonton.

Greenhouse Effect -- Doom or Bloom ? Some Of Both Says Stewart Cohen

Dr. Stewart J. Cohen
Canadian Climate Centre
Environment Canada



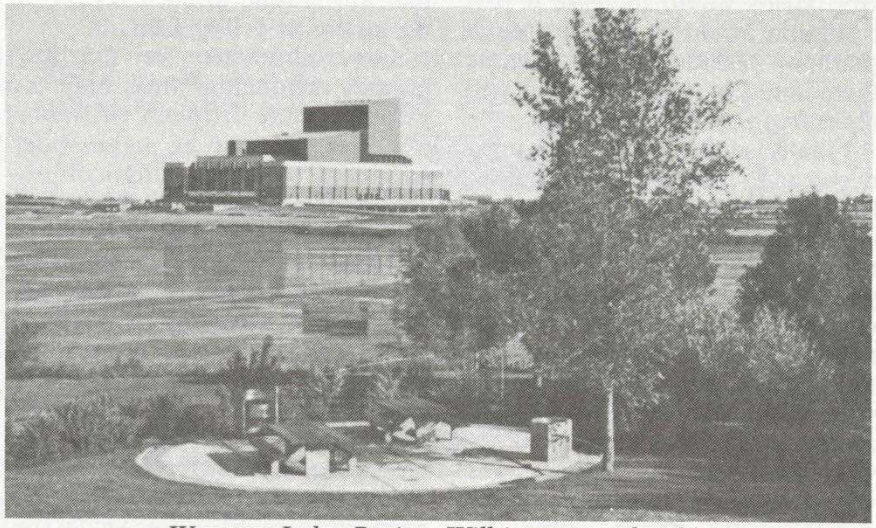
In the August 1986 issue of the Newsletter, Bruce Findlay of Canadian Climate Centre wrote about Greenhouse Effect, and how it may lead to global rise in mean annual temperature of 1.5 - 4.5 degrees C by the middle of the 21st century.

There is considerable uncertainty about magnitude and timing of the projected climate change. There are also uncertainties about temperature changes at particular locations during individual months, as well as projections of precipitation changes. However, an international consensus appears to exist regarding general direction of temperature change--warmer. Indeed, it was suggested at an international meeting on Greenhouse Effect, held at Village Austria in 1985, that warming may have already begun.

This does not mean that Canadians should immediately retire their parkas and plant orange trees in backyards. In this scenario of the future, there would still be a winter in Canada, but it would probably be shorter, with more rain, less snow in some areas, and less ice in rivers and lakes. What would be impacts of this warmer climate?

Climate Impacts Research

The Canadian Climate Program, established by Environment Canada in 1981, has sponsored a number of climate impacts studies. Results of these studies are still only preliminary first estimates of possible outcomes. However, these studies have demonstrated that assessment of social and economic consequences of climate change is a very complex endeavour, requiring a broad inter-disciplinary research effort.



Wascana Lake, Regina, Will it grow or shrink?

Great Lakes Studies

Several preliminary studies of the Great Lakes area have been undertaken. Results of all these studies provide a mixed picture of *"winners" and "losers". Amount of water in lakes is projected to decline significantly. Magnitude of decline varies* depending on modelling assumptions and uncertaintaies about lake evaporation, but the majority of estimates point to a loss equivalent to 15-25% of basin outflow (measured at Cornwall, Ontario). This decline means that future lake levels could be as much as 9.8 metres lower than long term average.

This reduction in lake levels would affect the commercial shipping industry, as well as operations of ports, marinas and canals. Although warmer temperatures would provide a longer shipping season because of reductions in ice cover, lower levels would force commercial shippers to reduce amount of cargo per trip through connecting channels, canals and locks.

Agriculture might benefit from the longer growing season that a warmer climate would bring, especially in northern areas. The problem here is that there are few sites in northern Ontario with good soils. In southern Ontario, additional heat during summer could lead to increased moisture stress on crops, and unless irrigation becomes available, there could be reductions in yield, depending on amount of rainfall prevailing in the warmer climate.

Energy supply and demand patterns would be different in a warmer climate. Hydro-electric power production would be reduced because of projected decline in water supply. Meanwhile, the warmer temperatures would lead to substantially reduced per capita demand for heating, and moderately increased demand for air conditioning, resulting in a net decline in per capita annual demand in Ontario.

Outdoor recreation is certainly climate sensitive. A warmer winter would have profound negative effects on the ski industry in southern Ontario and other southern margins of semi-continuous snow cover. As the snow margin would be dislocated poleward, ski areas along the margin would have difficulty maintaining reliable snow cover by artificial means. However, northern Ontario might actually benefit from milder conditions since snow cover would porbably be intact and there would be fewer days with severe cold weather, and competition (from the south) for area skiers would be reduced. Summer recreation would also benefit from longer summers, with increased use projected for parks, beaches, marinas, and summer resorts.

Prairies and Coastlines

A number of studies on agriculture in the Prairies have also been completed. Again, potential im-

Cont'd on page 26

Cont'd from page 25

pacts of projected warming are mixed, depending on amount of rainfall available. Studies in Manitoba and Saskatchewan indicate crop yields would increase if precipitation would be higher than at present. Without higher rainfall, there could be losses in yield and more frequent droughts.

Finally, global climate warming may lead to a rise in sea level, since large polar glaciers might experience increased rates of summer melt, and ocean water would expand in volume as its temperature would increase. A preliminary study of Charlottetown PEI (P. Lane and Associates, Halifax) revealed that a hypothetical one-metre rise in mean sea level combined with high tides and storm surges, would threaten many waterfront developments, streets, sewer systems, and parks.

Will We Still Need A "Winter City?"

At the beginning of this article, I suggested that we would still need our parkas in this warmer climate of the future. For example, if we were to add 3 degrees C to the average January temperature of several Canadian cities, much of western and northern Canada would still be colder than present day winter cities in Japan and Europe.

Conclusion

How would a scenario of climatic warming during the 21st century affect Canada? Is the Greenhouse Effect a scenario of gloom or bloom? In a word -- both. Preliminary indications are that future climatic warming will have effects that are unique to each region of the globe, as well as Canada.

Some researchers feel that low latitude continental areas may experience more frequent droughts, and that there will be major shifts in global patterns of agriculture. Perhaps Canadian agriculture will benefit overall from warmer temperatures. However, uncertainties about precipitation, water resources and potential negative effects on hydro-electric power production in some areas should be a cause for concern. There are other unknowns as well, including potential impacts on forest and fishing industries, as well as specific regional impacts in the Arctic, the east and west coasts, and Quebec. A number of studies, sponsored by Canadian Climate Program, are now underway in many of these areas, as we attempt to open a small window into a future with a climate that may be substantially different from the present. It is a future that includes our grandchildren, perhaps our children, and maybe even some of us.

Human beings have a long history of adaptibility. Society will need all of its collective talents to meet the challenge of a changing global climate.

EDMONTON CHAPTER NEWS

by Jocelyn Fraser

In Edmonton, the L.W.C.A. Chapter's projects are keeping both existing and potential members busy. A committee chaired by Michael Sandford and Jocelyn Fraser is working to develop a marketing plan for the chapter's Northern Lights project and Pam Freeman continues to liaise with the city's Board of Health to promote the Healthy Winter Cities program.

The Northern Lights Committee has set its goals and objectives and will undertake an aggressive marketing campaign to launch the project. Implementation will begin by contacting building owners who currently participate in the Christmas lighting scheme. Once commitment has been secured from these individuals the next step will be to publicize the project to attract other buildings in the downtown core. The marketing plan includes a number of steps and will capitalize on the success of each stage to expand the project. Ultimately the project could include a large portion of the downtown, a city bridge, and the apartments along the banks of the North Saskatchewan River. Citizen participation will be encouraged and the Chapter hopes the project will "highlight" the activities of the L.W.C.A.

ENVIRONMENTAL OBSERVATIONS

A Sundial Puzzle

(First column of a Series)

By Dr. John Evans, Biologist
Memorial University, St. John's NF

The flavour of this column is partially determined by my area of academic interest, and partially by my location in St. John's, NFLD. The city which, according to a study by Canadian Atmospheric Environmental Service (1), enjoys the worst climate in Canada.

Animals and people that live in difficult climates, survive by one of four strategies: tolerate, hibernate, migrate or moderate. Most people put up with, moan about or run away from our northern winter. It is my aim, and I believe the aim of LWCA, to improve lifestyle in Winter Cities by learning how to moderate and make pleasant the environment that we live in.

I have a puzzle for you, reader, to think about.

Consider the Equatorial sundial. Four or five hundred years ago it was one of the simplest and most easily constructed solar clocks. Typically it consisted of a round disk, called the dial, whose plane is parallel to the equator. Perpendicularly through the middle of the dial passes a narrow rod, called the style. It emerges from both top and bottom of the disk, and is parallel to North and South Pole. For example, if an equatorial sundial was set up in St. John's NFLD. (47.5 degrees north latitude), the style would be aimed at the pole star and inclined at 47.5 degrees above the horizontal, and the dial would be inclined at 42.5 degrees (90 - 47.5 = 42.5) and oriented due North.

Inscribed on both sides of the dial around the periphery are a series of lines radiating from the center. These are evenly distributed at 15° intervals and represent hour marks. The style casts a shadow on top surface of disk in summer and on bottom surface in winter. Position of the shadow tells the time.

What mostly interests me is that on any given date, length of shadow cast by the style is exactly the same all day long. For me this has fascinating implications for northern greenhouse horticulture and for northern architecture. I would ask you to consider these possibilities and compare them with my ideas, which I will continue next issue.

(1) D. W. Phillips and R. B. Crowe, 1984, Climate Severity Index for Canadians. Env. Canada CLI-1-84.

Randy Genereux Studies Winter Effect on Fort McMurray Folk

In 1982, Randy Genereux obtained an M.A. degree in Environmental Psychology, which is study of interrelationships between people and aspects of their physical environment such as noise, architecture, and weather. Since then he has been teaching psychology at Keyano College in Fort McMurray, a northern Albertan community that certainly qualifies as a "winter city". He has developed a strong interest in conducting research on the experience of living in winter cities. When he discovered that residents of Fort McMurray (including himself) spend more time discussing weather than do farmers on the prairie where he grew up, he knew he had to study the winter experience! He briefly describes his research.....(ed)

What do people actually think of winter? Based on preliminary results, one of the most important findings is that individuals differ widely in terms of their attitudes toward winter. The same is true of attitudes toward living in a winter city; some people really love living in Fort McMurray, while others really hate it. This, of course, leads to the following question: why are there such differences in response to winter? A key factor may be what kind of climate a person is used to. On the basis of Adaptation Level Theory (a theory in psychology that refers to psychological adaptation) we would expect Alaskans to be much more favorably predisposed to the climate of northern Alberta than Jamaicans. Another key variable may be the extent to which a winter city facilitates a person's life goals. For example, some may love winter because it supports their desired lifestyle which centers around exhilerating outdoor sports, while others may hate winter because it interferes with their desired lifestyle which centers around leisurely sunbathing. I currently am testing these and other explanations for individual differences in response to winter.

I am also encouraging students in my environmental psychology course to address winter issues in their required research projects.

Winter Cities Break Dance - - a la Finland



Kari, copyright © 1987 by arrangement with Helsingin Sanomat

This cartoon recently appeared in Helsinki Sanomat: Comments of motorists, translated: "The Break-Dance seems to have spread even to Finland." "No, no! It's just that the streets are badly sanded."

For example, student Colleen Coleman found that shopping patterns were little affected by cold temperatures down to -20° C. Another student, Carolyn Houg, found that Fort McMurrayites tend to identify winter (December - February) as the season during which they eat the most, gain the most weight, exercise the least, feel the worst physically and emotionally, and feel the most isolated. Job satisfaction and social relationship, on the other hand, were found to be unrelated to seasons.

I am aware of the interesting research on Seasonal Affective Disorder and some of Dr. Persinger's informative work, but what else has been or is being done to carefully determine how people view and react to winter? Has there been a major survey of attitudes toward winter? Do we know which aspects of winter people find most troublesome and most positive? Has there been an investigation of the impact of winter on different groups of people (e.g. different age or socio-economic or personality groups)?

In a current environmental psychology text, the total coverage given to winter-related topics amounts to the following: cold weather can impair the dexterity of the hands, but this can be avoided by wearing gloves. If this is even slightly representative of current scientific knowledge of the winter experience, then obviously the need and potential for research on the topic is tremendous. If our goal is to make winter cities as livable as possible, certainly we must gather as much background information as possible about how people actually experience and respond to winter. The existence of the LWCA and events such as last year's excellent Livable Winter Cities Forum have stimulated some to begin to do that. Hopefully, other researchers too will catch winter fever and soon we will know much more about the experience of living in winter cities.

If you have any information on winter research, please contact Randy Genereux, #6, 701 Beaconhill Dr., Fort McMurray, AB, T9H 3R4.

Japanese Innovation in Personal Snow Removal

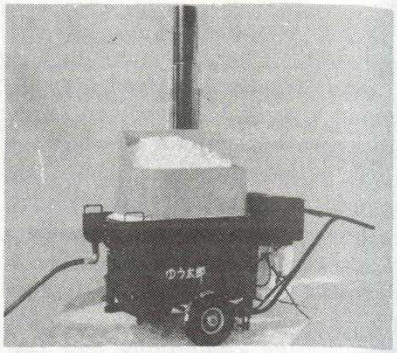
The Hokkaido Electric Engineering Co. Ltd. has developed a compact snow melting machine. "Yutaro," which solves problems of snow removal and storage in tight urban spaces.

Yutaro uses a kerosene heater to boil water, which is used to melt snow. It's weight is 120kg., and it measures 180 by 75 by 117 cm. high. It's compact size and wheeled design enable it to be easily transported wherever needed.

Yutora melts 1.5m¾ of snow per litre of kerosene; water drainage capacity is 456 litres/h and kerosene consumption is only 8 litres/h.

Households, shops, and any place without adequate snow dumping space are all potential users of Yutaro. For more information, contact:

Hakkaido Electric Engineering Co. Ltd.
15 - 23 Nampopo-cho,
Sorachi-gun Hokkaido
069-02 Japan



"Yutaro" Snow Melting Machine"

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