

*Aesthetics
for the Cold*

EMERGING ARCHITECTURAL IDEAS

Acknowledgments

HALLWALLS' is honored to present *Aesthetics for the Cold: Emerging Architectural Ideas*. The exhibition would not be possible without Edward Steinfeld's impetus and determination to see current aesthetic attitudes of cold weather design presented in a comprehensive show. I am indebted to Edward Steinfeld and co-curator, Dennis A. Andrejko for their organizing this exhibition. The exhibition will unquestionably bring to life the growing concerns of energy conservation in northern regions as it relates to contemporary developments in design applications of new materials and theories.

As guest curators, Mr. Andrejko and Mr. Steinfeld used the invaluable assistance of outside professionals. I therefore wish to thank the following individuals who have helped in this project; they include: Richard Cordts, Pierre Goumain, Robert Shibley, Ronni Rosenberg, Marie Schipani, and Lynn Williams. In addition, I greatly appreciate the support that the Department of Architecture, State University of New York at Buffalo has lent to the lecture series which accompanies this exhibition.

The support of the HALLWALLS' staff was essential in organizing the exhibition; they include: Curatorial advice of Claudia Gould, publicity and installation assistance of Elise Hartenstein, and fund raising from Christine Tebes. I am especially grateful to Diane Bertolo who unselfishly devoted her efforts to the design and layout of the catalogue.

I wish to acknowledge the New York State Council on the Arts, Architecture, Planning and Design Program for support of the exhibition; Erie County; Blanche Van Ginkel, Director of the Association of Collegiate Schools of Architecture, NE region, Ontario, Canada; and Moriyama and Teshima Planners, Limited, Toronto, Canada whose generous support has made this publication possible.

And finally, I am grateful to the artists, designers, architects, and architectural firms who were patient with our requests and generous in loaning their work for the exhibition.

WILLIAM J. CURRIE
Director
Hallwalls Gallery

HALLWALLS
700 Main Street
Buffalo, New York 14202

500 copies printed
Dual Printing
Buffalo, New York

Introduction

This exhibit is an exploration into the developing aesthetics of architecture in cold regions. A great deal of attention has been given to the technology of building in these climate zones. Energy conservation, materials, and methods of construction are all under investigation, but little emphasis has been given to the aesthetic qualities of buildings that are designed in response to the imperatives of cold regions. Technology, of course, does not exclusively dictate form. Neither does climate. The shape and appearance of buildings result from choices made by designers among an infinite number of possibilities. However, the climate of cold regions does present a set of unique conditions that must be accommodated to provide places suitable and enjoyable for human habitation. It also provides some opportunities for making things of beauty that would not be apparent in other climates.

This exhibit is about how architects and designers are exploring the form-giving possibilities of cold regions—both the constraints and the opportunities. It is not intended to identify a new "style" of architecture nor is it intended to champion one aesthetic direction over another. Rather, its purpose is to identify emerging ideas, trends, and concepts and thereby spark a creative, conscious, and deliberate search for meaningful aesthetic values. We hope that architects and potential clients of architects who view this exhibit will become inspired to follow those who have already begun; that they will neither ignore climate as an important generator of aesthetic experiences nor respond to climate in a superficial and ad hoc manner. Finally, in a time when the architectural community is caught up in a debate over embracing or rejecting "Post-Modernism" and its variants, we wish to divert attention to what we believe is a more meaningful discussion—the potential for a new regionalism.

Most buildings are cultural artifacts with a purpose as well as forms that express feeling. Thus, the development of aesthetics in architecture can be viewed as a dialectic of the pragmatic and the pure manipulation of form to create feeling. The dialectic can be approached from two perspectives. One can start with an aesthetic idea and express it through a building that satisfies pragmatic goals. One can also begin with a pragmatic solution to a need which can be manipulated and developed into an aesthetic experience. A regional aesthetic can evolve from either or both of these perspectives. The context of a cold climate can be used as an inspiration for, or as an element in, pure aesthetic ideas which get tested and filtered through the pragmatics of building. Or, the everyday issues of building in cold climates such as energy conservation, durability, or

comfort can become the basis for developing aesthetic ideas which transcend their pragmatic origin. The constant is climate. Thus, we sought projects that were inspired by the climate or responded to the pragmatic necessities created by it.

We uncovered several emerging aesthetic themes in the work we reviewed. These themes are:

1. Transformation of Space - forms questioning the distinction between outdoors and indoors;
2. Minimalist Synthesis - strong, simple expressions of integration and organization;
3. Expressive Ensemble - forms that express several influences through dynamic balance and juxtaposition;
4. Kinetic Response - forms that celebrate diurnal and seasonal cycles;
5. Pioneer Futurism - symbolic statements that integrate new technology with social change and frontier settlement.

In reflection, it is clear to us that these are not themes limited to cold regions. Each one could easily be explored in other climates. However, it is our belief that the prevalence of these themes in cold regions architecture is no accident. A different set of ideas are likely to emerge in other climates. Moreover, the actual forms that result from the exploration of any one of these themes in another climate would be very different because that climate would require and solicit a different set of specific responses to the same idea. Although each project in the exhibit is grouped and discussed under one theme, almost every example pursued several themes at one time and there are some common specific formal characteristics found across projects. The redundancy of the themes and forms lends credence to the regionalist hypothesis but it is by no means confirmed.

If the examples gathered here are a reliable sample, the emergence of a new regionalism will not be a doctrinaire style. Rather, it will be a reinforcing tendency to explore certain aesthetic themes and a tendency to use particular forms in response to those themes.

It should be noted that, with one exception, the works included here are limited to North America. On this continent, we have a pluralistic culture with little social pressure to develop a cohesive style. In other places, the response to building in cold regions may be quite different. Alternatives to these themes may be more evident or there may be a more limited and focused response.

Transformation of Space

An obvious approach to transformed space is an artificially or naturally controlled environment or climate. The most common examples are indoor shopping malls and "greenhouse" spaces but the aesthetic experiences of these ubiquitous places fall far short of those achieved by the projects presented here. There are two reasons for the differences. One is that these projects are not simply enclosed spaces. They all create an uneasy feeling, a tension caused by the ambiguity of indoors and outdoors. A second is the exposed power of climate control that is clearly expressed through their architecture.

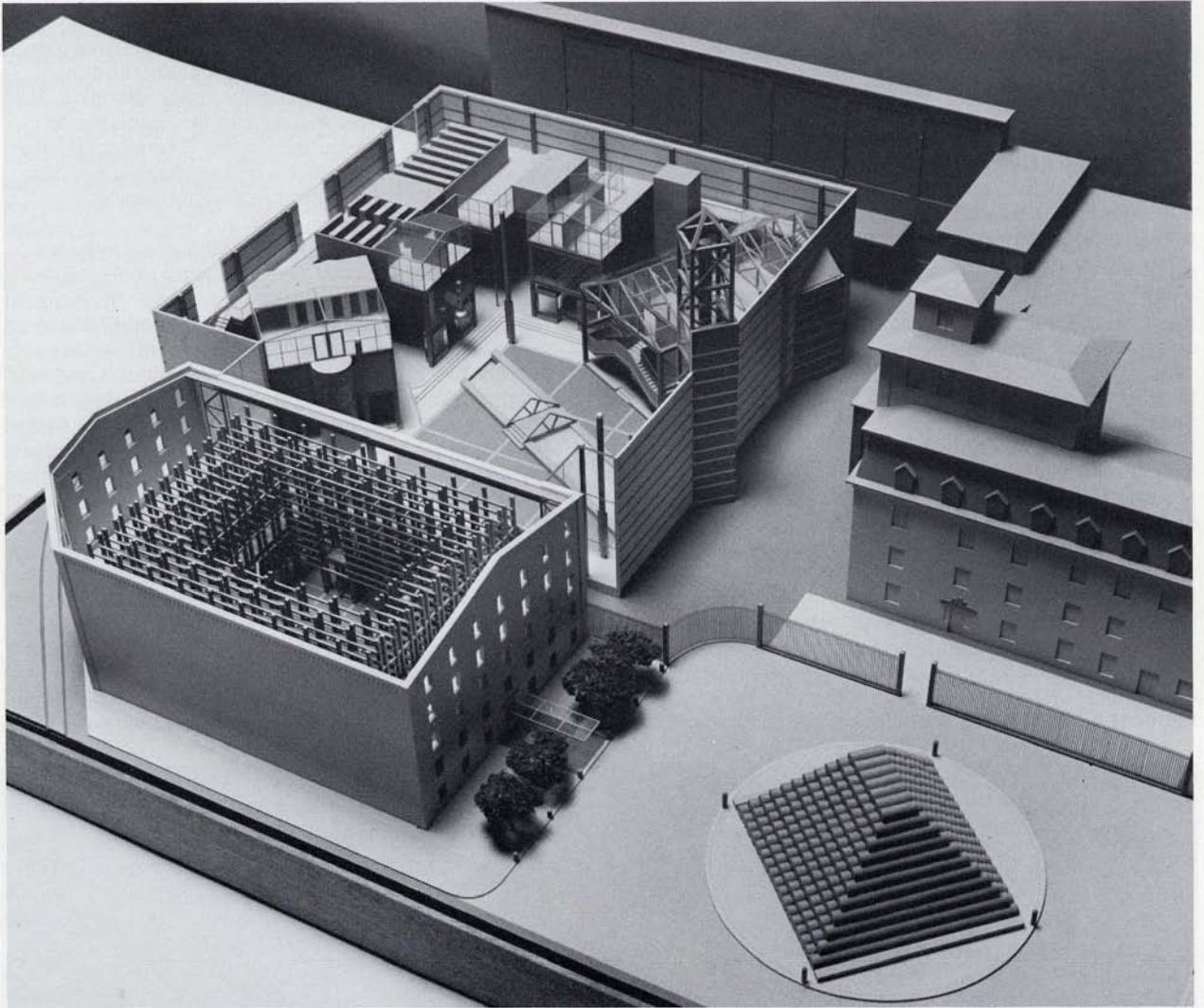
The use of increased scale and natural light to create a heightened illusion of outdoors within an interior space is an idea used successfully in several of the projects. Eaton Centre by Bregman and Hamann and the Zeidler-Roberts Partnership, for example, is an excellent adoption of the *galleria* theme developed in Europe for the North American continent. While smaller in scale, the Housing Union Building (HUB) by Diamond and Myers captures the essence of the *galleria* concept and creates a more intimate human scale appropriate for its residential nature. In the VBB Suncourt housing proposal, the traditional courtyard within a housing block is turned into a positive space that increases the social complexity of the development. Arni Fullerton's proposal for a covered "sunbowl" at a high northern latitude carries the use of great scale and much natural light to its logical conclusion—a completely covered town center where inside is really outside. These projects demonstrate the excitement and heightened awareness one obtains when seeing a magical trick. It becomes mentally unbelievable that such large and well-lighted spaces are actually climate controlled.

The illusion of being outdoors can be heightened through the contrast of a highly articulated interior space with a relatively unarticulated exterior. Such a design approach is pragmatically appropriate because it reduces energy consumption by minimizing exterior surface area. Aesthetically, it is stimulating because it reverses our perceptual expectations. The best examples in this exhibit of this idea are the Seagram Museum by Barton Myers Associates and the HUB Mall. The Seagram Museum has an articulated interior carried to the extreme—separate structures with implied exterior facades. The use of non-orthogonal plan elements overlaid on an orthogonal organization and the "piercing" of the exterior skin by one of the smaller structures helps to free the "interior" buildings from their enclosing shell.

Materials and activity play an important role in the indoor/outdoor illusion. Without the use of exterior materials and details, the HUB Mall and Eaton Centre would be less convincing. Moreover, the space planning concepts used in all these projects encourage visible "street life." The use of increased scale and large amounts of natural light make it possible to allocate the usual pattern of human activity in a non-traditional way by utilizing the open areas as both circulation and living space. The excitement of the outdoor illusion is complemented by the increase in exposed activity within the building, giving the spaces a kinetic and dynamic quality.

Another approach to creating ambiguity is through extreme contrast. Several of the projects juxtapose warm, sunny spaces directly against cold exteriors. See, for example, Sunspace by Andrejko and Wright, the Crystal Pavilion by Tim Johnson and Brian Hubbel, and Fullerton's New Town Centre. In Sunspace, the presence of an interior summer atmosphere complete with residents relaxing in a hot tub is an ideal end to a cold energetic day on the ski slopes. In Fullerton's scheme, only the thinnest of barriers separates the town village and makes it an oasis within the near-arctic landscape. The Crystal Pavilion experiments with the use of total glass enclosure as an energy conserving structure. The glass curtain wall forms the entire envelope for the structure which, if handled conventionally, would look quite different and be far from energy conserving. The goal of optimizing energy conservation demonstrates the impact of climate on an aesthetic idea. Wood structural members and an improved double glazing system are used to minimize unwanted heat loss by conduction. The structural members are thicker than those used in standard metal greenhouse construction. Thus, the ratio of glazed area to structure is quite different than in a typical greenhouse. The complex joinery necessary for natural ventilation focuses attention to the constructivist quality of the building.

A third aesthetic idea being explored within the realm of transformed space is the integration of interior and exterior landscape. In the Mississauga Town Hall project by J. Michael Kirkland, the interior circulation system has the spatial characteristics of an urban pedestrian street system. In contrast to others in this group, this building creates interest through unexpected continuity between inside and outside—the individual expression of forms on the exterior is continued on the inside to break down our perception of where the "indoors" begins and the "outdoors" ends. Fullerton's village center project creates a world within a world, complete with symbolic references to compass orientation. Such symbolic orientation is similar to the planning of villages in primitive communities where settlement pattern is viewed as a model of the universe. Streets



Seagram Museum

Barton Myers Associates

and buildings are aligned as an iconic model of the culture's beliefs about the world at large. Fullerton reinforces these ideas with an architecture that is reminiscent of Nordic mythology. Both the covered Town Centre and Mississauga Town Hall reach out to control the exterior landscape. Both view natural elements as part of the overall physical form of the structures. And, both recognize and provide for differential use during the warm as well as cold seasons of the year.

Minimalist Synthesis

Every architectural project, no matter how small, is a complex problem. This complexity is often subtle and sometimes difficult to understand. Thus, there is great finesse expressed in buildings that accomplish a great deal with a minimum of means. The distribution of space, envelope design, and overall shape of a building are the keys to elegant minimal form.

All of the projects included here had energy conservation as a major design goal. This goal inspired and rewarded a search for a minimal building envelope and volume. Use of passive solar gain is the simplest and one of the most effective approaches to solar design in cold climates. To obtain optimum heat gain through solar radiation, a large, glazed, southern exposure is necessary. To minimize heat loss, a minimal northern exposure is ideal. The optimization of these criteria results in a triangular, building profile. In three dimensions, this becomes a wedge shape. Several buildings in the exhibit explore the properties and opportunities of this interesting form. The Airport Maintenance Vehicle Garage by Amsler, Hagenah and McLean Architects, the Hadley Residence by Tom Ellison, the Chukchi Community College building by GDM Associates, and the Anthos rowhouses in Waitsfield, Vermont by the Anthos Association are all examples

of wedge-shaped buildings.

The constraints of minimal envelope and minimal overall volume can be counterbalanced and exploited by sophisticated interior space planning. Properly designed, free-flowing interior space is conducive to heat distribution. In the Thompson House by Massdesign, we see such open flowing spaces around the interior perimeter of the building.

On the other hand, energy conscious design also leads to a careful relationship of void and solid or open and closed areas within a minimal envelope. In the Chukchi College building, the small end of the triangular section is used for equipment, service spaces and storage, providing an unheated and insulated buffer on the north; leaving the large, more commodious area for human activities. In the Airport Maintenance Vehicle Garage, the lower part of the building is used primarily for the human uses, which, in this building program, occupy the smaller portion of total space. The large vehicle spaces are exploited as a collector of solar radiation. The Horticultural Education Building by Watson and Buchanan had a space program that was divided equally between the greenhouse area and the office and classroom space. The architect used an elegant parti that accommodated both program spaces within a singular form and maximized the southern glazing while minimizing the northern exposure.



Airport Maintenance Vehicle Garage

Amsler Hagenah McLean Architects, Inc.

Although the roof of a building in a northern climate must be designed for heavy snow loads, it can also be a symbol of shelter and security. The two best examples of such symbolism in this group are the Thompson Residence and the Anthos rowhouses. The former has a very narrow and long plan to take full advantage of the southern exposure. With its exaggerated steeply pitched roof, the building creates the illusion of a much larger structure. The Anthos rowhouses project a powerful form. The massive roof with three large openings carved into it exudes a feeling of strength and protection.

Earth sheltering presents several opportunities and ideas for aesthetic expression. In the Hadley Residence, we see an example of a dynamic form that appears to pierce through the ground from below. This impression is created through careful proportioning of the roof and the ground topography, and their opposite angles of slope. In the Anthos rowhouses, the containment of the earth within the boundary of the extended side walls makes the roof appear to become part of the ground, altering our perception of where the building ends and the ground begins.

With a minimal building, the envelope of weatherskin is critical to the aesthetic impact. In the Airport Maintenance Vehicle Garage, the openings have been carefully articulated to reflect interior uses on the exterior. The use of different materials and colors for the windows and doors separates these elements from the weatherskin and embeds them within the overall form of the building. Through careful proportioning and grouping a figure-ground tension is created between the small, highly articulated elements and the overall simple form of the building itself. The Hadley Residence has a smooth uninterrupted skin on all sides except for the south. On this side, where there is a need for shading in the summer months, hood shapes are created by extending the roof and the sides. In contrast to the side elevations, the front appears to be a shell rather than a solid wedge. We see another approach to the building skin in the Anthos rowhouses. All sides except for the south are relatively austere and uninterrupted, with the skin clearly in predominance over the openings. The south side, in contrast, is highly modelled and exuberant.

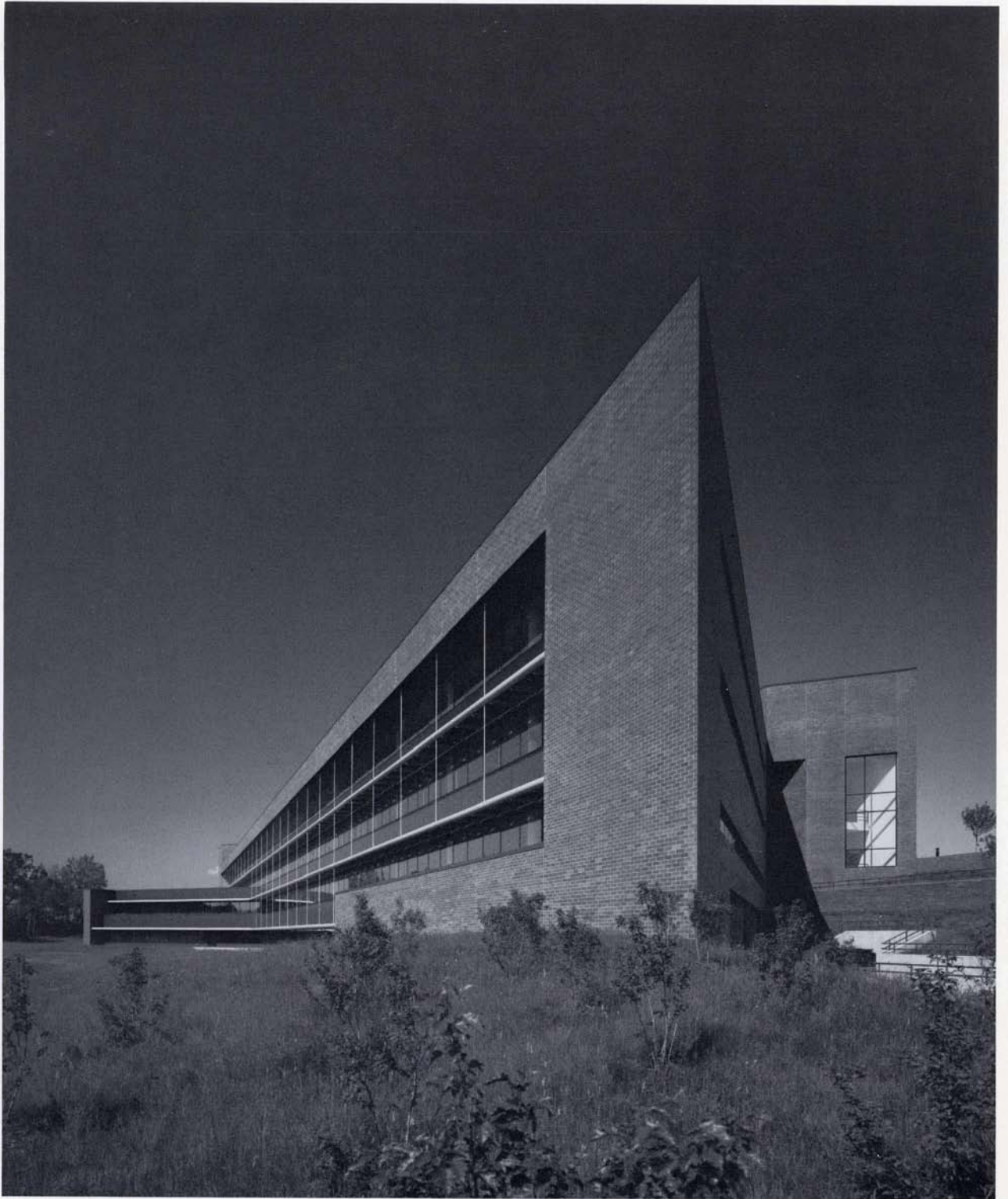
Expressive Ensemble

The many pragmatic problems of architectural projects can provide inspirations for expressive forms that celebrate and expose complexity and sophistication. In energy conserving design, optimization strategies often lead to developing a variety of different forms for different parts of a building corresponding to their energy loads and requirements. Similarly, adapting a building to the inherent characteristics of a site leads to a form that has highly specific and varied orientations. There are many examples of ad hoc and purely functionalist approaches to design. More meaningful forms derive from the exercise of control. The projects presented in this group unify different forms and building elements into ensembles that work as a whole within a hierarchical structure of ideas.

A major form that serves as a "background" and unifies a group of disparate elements is one approach to the expression of complexity. The Milford Nature Center by Kelbaugh and Lee is unified by its long, sloping roof and cladding material, but each part of the building has been optimized for energy conservation and site fit. Different building elements animate the building in both rhythm and a sense of spontaneity.

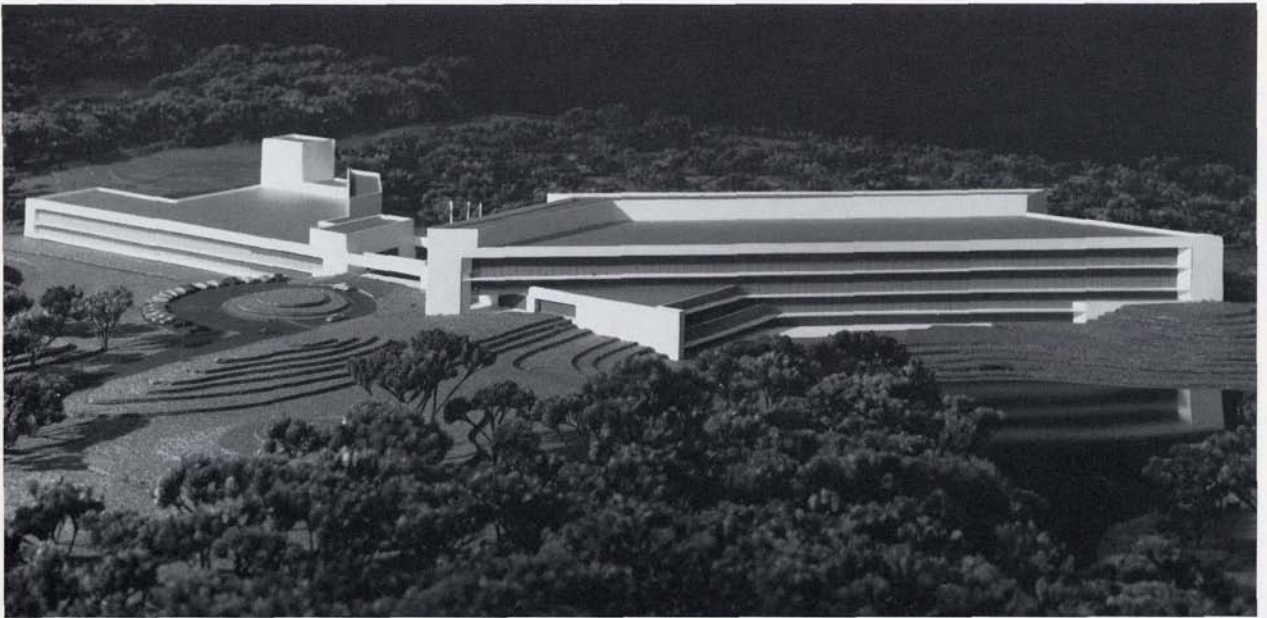
Integration of individual elements is another approach. The Flat Rock Brook Nature Center by Equinox has radically different elements but they work together because they have been unified by a gabled roof form tying together the assemblage of different shapes.

The avoidance of a northern exposure and the desirability of windows on the southern side of buildings in northern climates often results in a two-sided orientation. Both the Milford and Flat Rock Brook Nature Centers exhibit this characteristic, and it is also expressed in the Mink Residence by Peter Dubrovlny, the RPI Visitors' Information Center by Kroner and Winslow, and the Land O'Lakes Corporate offices by the Architectural Alliance. In the Flat Rock Brook Nature Center, the gallery from the entry to the primary view of the surroundings makes a strong connection between the two natural landscapes on the site. The RPI Information Center was intended to be a demonstration of energy conservation technology and at the same time be a gateway or front door to the campus. It is a carefully ordered composition with a hierarchy of forms that makes the building much more than just a collection of tools. The contrast of the front side, with its formal appearance dominated by the traditional-looking monitor, and the industrial backside, dominated by the high-tech reflectors, neatly captures the building's dual purpose. The northern elevation of



Land O'Lakes Corporate Offices

Architectural Alliance



Model of Land O'Lakes Corporate Offices

Architectural Alliance

Land O'Lakes Corporate headquarters has few openings and a string of buffer spaces shields the building's main spaces on that side. On the southern orientations, the masonry walls are peeled away from the exposures where solar gain and natural light are desirable, expressing a light-weight metal and glass curtain wall. The contrast of skins is emphasized by the set back of the curtain wall and the horizontal shading devices.

A relatively simple form can be manipulated into a complex shape with internal dynamism. The Mink Residence is an example. The numerous site-specific and programmatic goals of view and solar orientation were used as influences to create a cubist collage of angles, windows, overhangs, and protrusions.

Dividing a structure into separate elements and emphasizing the joints is another approach to developing an expressive ensemble. In the Land O'Lakes Corporate headquarters, the office block and laboratories are practically separate buildings contained in different geometries. They are joined through a smoothly elegant intersection which is the location of the building's ceremonial spaces and entry. A different kind of marriage of forms is found in the University of Minnesota Civil/Mineral Engineering Building by BRW Architects. Here the ensemble is created by vertical circulation systems and sunlight. Light is reflected down through the depths and connects the mined space below with the lobby above. A similar connection is made by the circular interior entry staircase and the exterior terraced plaza link-

ing the street level and the lobby. The dramatic transition makes entry into this "underground" building a worthwhile experience, quite unlike entering a traditional subway station. Expressive roof forms that capture, control, and direct sunlight provide several different qualities of natural light underground.



Kinetic Response

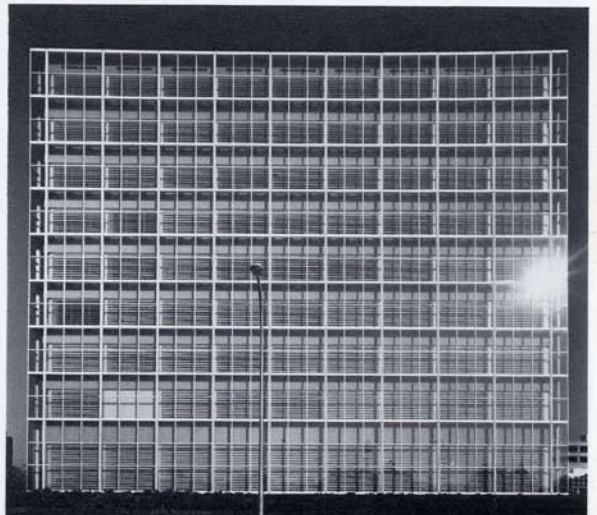
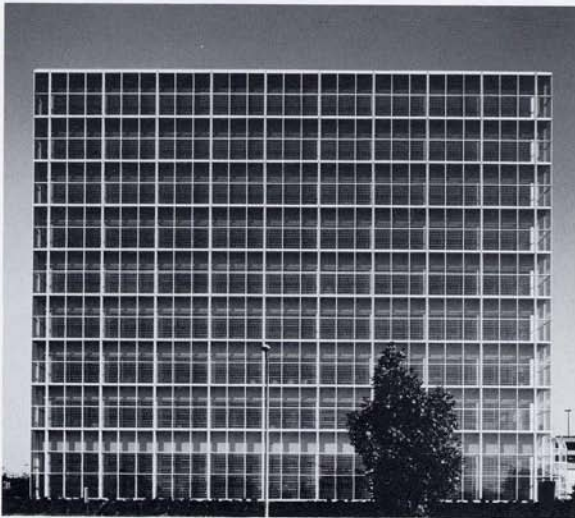
Every building must confront cyclical changes in weather. In northern climates, change can be extreme, even within the course of one day. Change in the weather not only means variation in temperature, but also precipitation, light availability and quality during daytime periods and the quixotic fluxuations of light intensity caused by fast moving clouds. A few buildings consciously exploit these cycles of changes for aesthetic effect.

One approach being explored is a dynamic manipulation of the building's skin. The Hooker Chemical Building by Cannon Design utilizes large, movable louvers within a double-glazed curtain wall to conserve energy by dynamic control of solar radiation. The louvers adjust automatically to varying temperatures, allowing light and heat to enter when desirable and exclude them when not. Even the north side is glazed to capture reflected light from the sky and especially the snow-covered ground. The result is a kinetic building that can change its appearance like a chameleon in sympathy with its climatic context. The layering of louvers with the crisply detailed curtain wall of the building gives the impression of a cage within a cage when the louvers are open. When they are closed, the strong shadow pattern of the curtain wall on the louvers adds a new dimension to the building's appearance. The University of Minnesota Vocational Technical Education Building by the Architectural Alliance has a similar dynamic response using a different method. In this project, there are three different skin modes—the rolling curtains may either be retracted completely, cover only the thermal mass wall behind

the glass, or cover the mass wall and openings in it entirely. The irridescent color and organic stress pattern of the hanging material provides an interesting contrast to the two technical grids of the building structure and curtain wall.

Buildings can undergo metamorphosis in response to changing seasons and weather. The Study #1 by Richard Cordts explores how a movable panel system can alter a building's entire form completely. As the panels are adjusted to meet varying weather conditions, the building appears to turn upside down. David Seller's Telescoping House concept is another example. Like an unfolding articulated machine, pieces of a house can expand and contract, serving a dual function as both insulator and a place for activity. The high cost of airplane hanger doors led to Seller's Tilt-up Hanger Concept, in which the whole building becomes a door, opening and closing as the need arises. The playfulness and humor of these ideas is enhanced and made even more meaningful by the very pragmatic value they have.

Color and quality of light and precipitation are a context that can be exploited as part of the overall aesthetic impact of buildings. The two studies by Richard Cordts are experiments in creating a harmony between architecture and its atmospheric context. In Study #1, atmospheric conditions create changes in our perception of the building. In winter, the voids become prominent, whereas in the summer, set against a different sky, the solid forms become dominant. The second study demonstrates how the position of the sun can transform a building into shadow or make shadow and solid forms appear as one.



Two Views of the Hooker Chemical Building

Cannon Design

Pioneer Futurism



Yukon-Kushokwin Delta Regional Hospital

CRS/Caudill Rowlett Scott

Building in cold regions has social significance, particularly in the arctic and near arctic. Many architects working in cold regions are making their buildings into icons—visions of future societies and statements about alternative values. These projects share an aesthetic goal: the use of architecture to express a bold pioneering spirit.

In some cases, building technology itself can become the embodiment of an aesthetic idea. One experiment in innovative building methods led to a form that, like a nautilus shell, leaves evidence of its means of creation by its ultimate shape. The Polaris Mine Housing by Colin Bent was based on a system of phased construction that resulted in a linear, train-shaped building that stands out sharply on the arctic plain. The clue to its origin lies in the large mass of the gymnasium at the end of the "train," which served as a movable construction shed for the rest of the building. The assembly-line idea is emphasized by the alternating color scheme and the articulation of the complex into a string of connecting units.

When a building becomes clearly set apart from nature and it contrasts with its natural surroundings, it can easily approximate LeCourbusier's concept of "a machine for living." The aesthetic of such a building is one of self-containment—of little connection to the surrounding context. While the Polaris

Mine Housing project has this characteristic, the Yukon-Kushokwin Delta Regional Hospital by CRS and the BP Alaska Inc. Central Facilities by Wallace-Floyd Associates take one step further. The Hospital combines contemporary building technology with forms borrowed from the Eskimos. It has an igloo-type entry that keeps cold air close to the ground while the warm building air is up above. There are slit windows and rounded, streamlined forms to reduce glare, heat loss, and snow drifting. But these ecologically-oriented ideas are dominated by the slick material, bold colors and extruded forms which express the power of technology. The BP Alaska complex has a no-nonsense industrial aesthetic. The buildings are modern-day arks—pre-fabricated in large, self-contained units and transported by barge and tractor to the site. The complex has the look of an efficient and well-ordered productive system. It is high technology at the cutting edge. The interior atrium spaces are not extra—they provide spaces for activities that improve the staff's ability to work efficiently. Everything about the buildings highlights the intense, purposeful quality of the place.

When building technology is emphasized to the extreme, the form of buildings often transcends conventional understanding because of its unfamiliar appearance. The effect is "other-worldly." The buildings by PGL Associates in the arctic were con-



Crowther Research Residence

Richard Crowther FAIA

structed using a prefabrication technology of molded lightweight panels which could easily be shipped by plane. Assembled together in non-rectangular geometries with minimal site modifications, and practically no remnant of traditional building forms (e.g. windows, doors, etc.), the structures appear like alien spaceships. However, they are complementary to the landscape, expressing the crystalline structure of ice or the light, curving shape of snowdrifts.

The Cold Regions Product Testing Laboratory by Thomas Mistretta is an elegant vision of a brave new world in Antarctica. The juxtaposition of utilitarian laboratory blocks with the informal meandering office spaces results in a dynamic interior. The exposed activity of the office workspaces, the natural landscape and the interweaving of solid and void are intended to create a space that is understandable and "friendly" as well as indeterminate and complex.

In milder climates, where the use of advanced building technology is not as imperative, the same themes can be explored with other means. The WKBW Building by Stieglitz, Stieglitz, and Tries, for example, uses a very compact plan and heat from the building's electronic equipment to conserve energy. The minimal form is wrapped in a slick, reflective skin. Horizontal banks of glass and a dark base give the building a hovering and ethereal quality. The proposed, but not yet constructed, wind turbine would heighten the futuristic, high-tech image still further. The Crowther Research Residence by Richard Crowther is an experimental structure incor-

porating several innovative energy conservation systems. The "form follows function" aesthetic has been carefully controlled through minimalist detailing and the use of stucco as a unifying material. The experimental systems with their unusual forms are primary elements in the building's appearance, but do not completely dominate it. The result is a powerful juxtaposition of the strange and familiar in a monolithic form.

Dimetrodon research station by Travers, McClay and Sanford had a similar program as the Crowther building, with the added goal of creating an adaptable, growing form. This project is more modest in the use of technology than others in this group. It doesn't seem like a "perfect" solution. Open-ended buildings can easily look like ad hoc squatter settlements, but the bold forms of the roof, basic space-frame elements, and the independent tower counter-balance the disorganizing effect of the adaptable, changing smaller scale pieces. The overall image is one of a frontier structure—rough-hewn, strong, and forceful.

A similar feeling is evident in the Airplane House by Jersey Devil. Although there there is a more controlled quality due to the absence of the open-ended objective, the building has an organic and animated character which is created by the curved forms, unique purposeful pieces, and a careful joining of elements. The dark colors, used for energy conserving reasons, give it a dangerous impression which heightens its power and balances the playful qualities of its shape.

Reflections and Directions

This exhibit has been organized to bring the ideas of architects and designers working in cold regions to public consciousness. The aesthetic tendencies that we have identified can serve, we hope, to crystallize and focus the thinking of other architects and even those who participated in this exhibit. There may be new themes that emerge in future reviews of architectural work in the cold. At this point in time, it is clear that even these themes have not been fully developed. To highlight some of the additional possibilities, we have included a few sources of imagery from outside of the architectural discipline.

In discussing the theme of kinetic response we emphasized a reflection of cycles and changes. The long, dark days that are common to northern regions and the currently depressed economic conditions of many northern cities suggest another approach to this theme, one that reminds us of the return of light and warmth and of the good times sure to come in the future. The proposal for a network of public monuments called "The Fire that Lights up the World" by Paul Zelevansky is an idea that could be explored with success by architects. The lighted campfire is a symbol of hope reaching back to prehistory. The eternal flame transcends time. It endures and creates a beacon in the bleak parts of an aging northern industrial city, a beacon

that serves as a reminder during even the darkest of days. Works of architecture can be public monuments to provide a network of such symbols in the community.

All of the projects in the exhibit either counter the effects of the cold winter by providing shelter and sustenance in a climate-modified interior or merge with the winter climate. While some of the projects give consideration to the use of the outdoors in the warmer parts of the year, not one project really celebrates the cold and the winter season. The new sled design by David Sellers is presented to remind us of the joys of winter. Buildings can be designed to use snow and ice as aesthetic elements, to shelter outdoor spaces for winter activities and to make winter an exhilarating experience.

Being a pioneer is a state of mind. The expression of a pioneering spirit may soon become less important than expressing an enduring spirit of harmony with climate. A true regional architecture may emerge when "pioneers" are ready to draw sustenance from their landscape and embrace it, not just use it. Thus, the final non-architectural piece in the exhibit is a section of the film *Nanook of the North* showing Nanook building an igloo, the prototypical cold region building form that fully expresses the aesthetic-pragmatic dialectic. It has a unity of purpose, feeling, and context that could only have resulted from a long lasting dialectical process.

EDWARD STEINFELD
DENNIS A. ANDREJKO
1983

List of Exhibits

Transformation of Space

Covered Road
David Sellers
Warren, VT

Eaton Centre
Toronto, Ontario
Bregman and Hamann
Zeidler Roberts Partnership Architects
Toronto, Ontario

Housing Union Building (HUB)
University of Alberta
Edmonton, Alberta
A.J. Diamond and Barton Myers in association with R.W.
Witkin
Toronto, Ontario

New Town Centre
Northwestern Canada
Arni Fullerton
Creston, British Columbia

Mississauga Town Hall
Mississauga, Ontario
J. Michael Kirkland, Architect
Toronto, Ontario

MIT Crystal Pavilion
Cambridge, MA
Tim Johnson and Brian Hubbell
Cambridge, MA

Seagram Museum
Waterloo, Ontario
Barton Myers Associates
Toronto, Ontario

Suncourt Project
Stockholm, Sweden
VBB
Stockholm, Sweden

Sunspace Condominiums
Crested Butte, CO
Dennis A. Andrejko AIA and David Wright AIA
Williamsville, NY

Minimalist Synthesis

Airport Maintenance Vehicle Garage
Manchester Airport
Manchester, NH
Amsler Hagenah MacLean Architects, Inc.
Boston, MA

Anthos Rowhouses
Waitsfield, VT
Anthos Association; Amsler, Gallup, Hagenough,
Hausner, Hosford, Tompkins
Waitsfield, VT

Chukchi Community College
Kotzebue, AK
Architects GDM Associates, Inc.
Anchorage, AK

Hadley Residence
Minneapolis, MN
Tim Ellison Architect
Minneapolis, MN

Horticultural Education Building
New Canaan Nature Center
New Canaan, CT
Buchanan Watson Architects
Guilford, CT

Thompson Residence
Westford, MA
Massdesign
Cambridge, MA

Expressive Ensemble

Civil/Mineral Engineering Building
University of Minnesota
Minneapolis, MN
BRW Architects
Minneapolis, MN

Flat Rock Brook Nature Center
Equinox, Inc.
Petersborough, NH

Land O'Lakes Corporate Offices
Arden Hills, MN
Architectural Alliance
Minneapolis, MN

Milford Nature Center
Milford, PA
Kelbaugh and Lee Architects
Princeton, NJ

Mink Residence
Aspen, CO
Peter Dobrovoly AIA
Sunup Ltd.
SnowMass, CO

RPI Visitors Information Center
Troy, NY
Walter M. Kroner and William F. Winslow
Troy, NY

Kinetic Response

Architectural Studies
Richard Cordts
Buffalo, NY

Hooker Chemical Building
Niagara Falls, NY
Cannon Design, Inc.
Grand Island, NY

Telescoping House Concept
Tilt-Up Hanger Concept
David Sellers
Warren, VT

Vocational Technical Education Building
University of Minnesota
St. Paul, MN
Architectural Alliance
Minneapolis, MN

Pioneer Futurism

BP Alaska Inc. Central Facilities
Prudhoe Bay, AK
Wallace-Floyd Associates, Inc.
San Francisco, CA

Cold Regions Product Testing Laboratory
Antartica
Thomas Mistretta
Boston, MA

Crowther Research Residence
Denver, CO
Richard Crowther, FAIA
Denver, CO

Dimetrodon
East Warren, VT
Richard Travers, Bill Maclay, & Jim Sanford
Warren, VT

NG2FL Airplane House
Southeast CO
Jersey Devil
Stockholm, NJ

Polaris Mine Housing
Little Cornwallis Island, NWT
Colin Bent, Architect
Toronto, Ontario

Scientific Laboratory at Igloolik
Gordon Robertson Secondary School
Elementary School at Nakasuk
PGL Architects
Montreal, Quebec

Snowhouse
Dickinson Residence
Kopit Residence
Rosen Residence
David Sellers
Warren, VT

WKBW Building
Buffalo, NY
Steiglitz, Steiglitz & Tries
Buffalo, NY

Yukon-Kushokwin Delta Regional Hospital
Bethel, AK
CRS/Caudill Rowlett Scott
Paul Kennon FAIA and Jay Bauer AIA
Houston, TX

Reflections and Directions

The Fire that Lights Up the World
Paul Zelevansky
New York, NY

Nanook of the North
Film excerpt

New Sled Design
David Sellers

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