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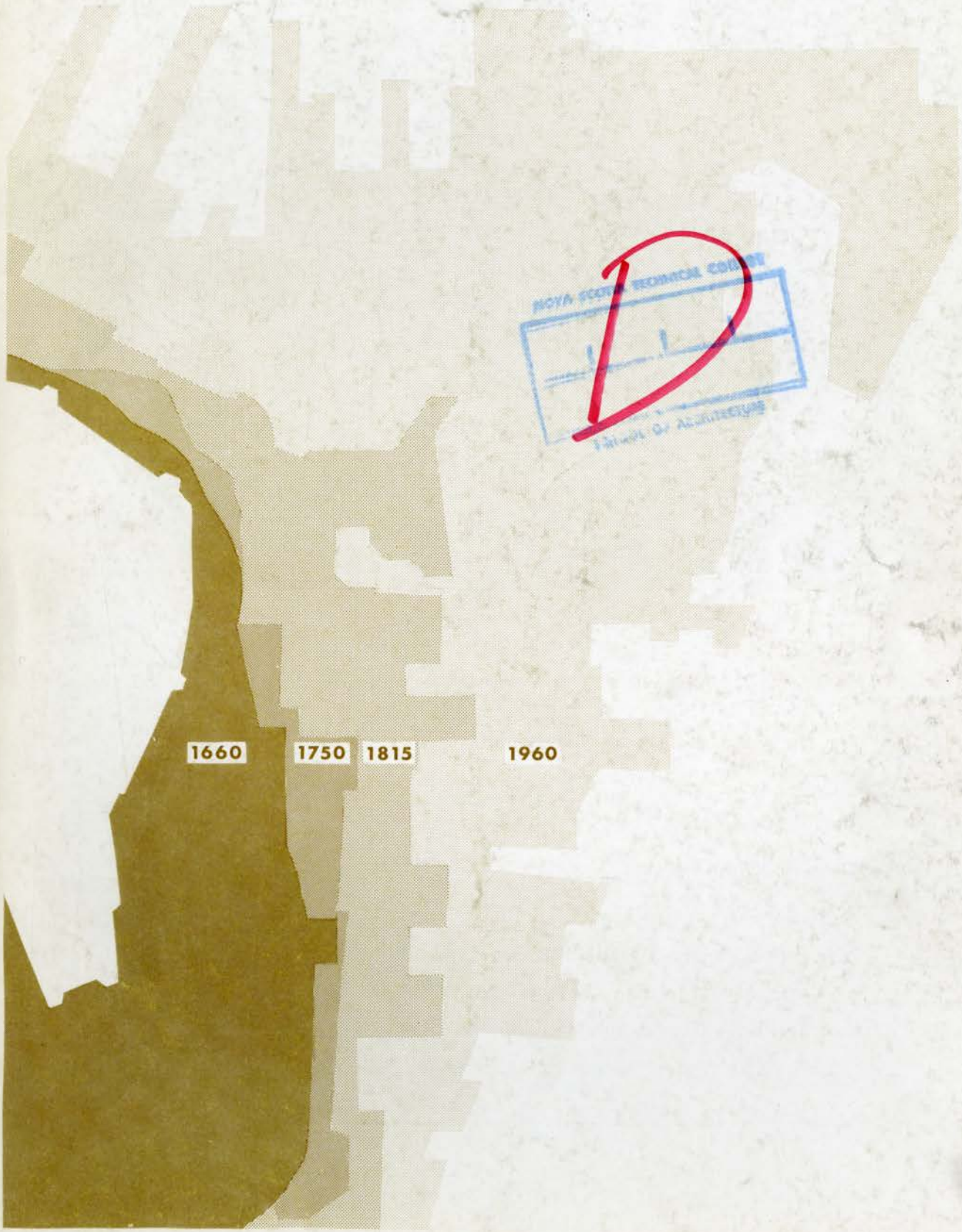
Journal RAIC/La Revue de l'IRAC: May/Mai 1967



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7-2

60th Annual Assembly/Assemblée Annuelle
Hôtel Chateau Laurier, May 24-27 mai, 1967

Wednesday, May 24

8:30 Registration and Hospitality Centre *Main Entrance Lobby*
Exhibits *Convention Hall, Peacock Alley, Cartier-Macdonald*
9 RAIC Council 1966–67 *L'Orangerie*
Architectural Education Committee *Frobisher*
1:30 Tour of Building Research Centre, NRC – *Buses leave from Mackenzie Street entrance of hotel*
2 RAIC Council 1966–67 (cont'd) *L'Orangerie*
Massey Medals Committee *Frobisher*
4 Public Information Committee *Palladian*
Committee of Presidents *L'Orangerie*
8:15 Massey Medals for Architecture, 1967 Presentation of awards and opening of the Exhibition by Hon. Paul Martin *National Gallery of Canada*
9:30 Welcoming Reception by the Ontario Association of Architects *Drawing Room*

Thursday, May 25

9 60th Annual Meeting *Banquet Room*
11:45 RAIC Foundation Annual Meeting *Banquet Room*
12:30 Theme Luncheon *Ballroom*
Speaker: Arthur J. R. Smith, "Urban Growth and Development in Canada"
Presentation: Pilkington Scholarship 1967
2:30 Theme Seminar *Banquet Room*
Chairman: Harry Mayerovitch (*F*)
Participants: Robert Adamson, Chief Economist and Executive Director, CMHC; Michel Chevalier, Planner and Social Scientist
5 Research Committee *L'Orangerie* Evening free

Friday, May 26

9 Theme Seminar *Banquet Room*
"Forms of Cities – The Physical Elements"
Chairman: James E. Searle (*F*)
Participants: James A. Murray (*F*), Arthur C. Erickson
12:30 Theme Luncheon *Ballroom*
Speaker: Sir Hugh Casson, "City Sense"
2:30 Theme Seminar *Banquet Room*
"Urban Design"
Chairman: Guy Desbarats (*F*)
Participants: Guy Legault, Douglas Shadbolt
5 College of Fellows Business Meeting *Richelieu*
6:30 Reception, Sweet's Catalogue *Drawing Room*
7:30 Dinner Dance *Ballroom*
Entertainment: Miss Jean Price, Tom Kines, Les Lye

Saturday, May 27

8:30 Breakfast Meetings
Legal Documents Committee *Palladian*
Publications Board *L'Orangerie*
9 Tours to points of architectural and scenic interest in and around Ottawa – *Buses leave from Mackenzie Street entrance*
10:30 College of Fellows Robing *French Corridor*
11 College of Fellows Convocation *Drawing Room*
12 noon Reception in honor of new Fellows *Drawing Room*
2 Tours (cont'd) RAIC Council 1967–68 *L'Orangerie*
6:30 President's Reception *Drawing Room*
7:30 60th Annual Dinner *Ballroom*
Presentations: Honorary Memberships, Allied Arts Medal, RAIC Gold Medal Speaker: Herbert W. Hignett

Le Mercredi 24 Mai

8h.30 Inscription *Couloir d'entrée*
Expositions *Salon des congrès, Peacock Alley, Cartier-Macdonald*
9h. Conseil de l'Institut 1966–67 *L'Orangerie*
Comité sur la formation des architectes *Frobisher*
1h.30 Visite du Centre de recherches du bâtiment du Conseil national de recherches – *Départ en autobus par l'entrée rue MacKenzie*
2h. Conseil de l'Institut (suite) *L'Orangerie*
Comité des Médailles Massey *Frobisher*
4h. Comité d'information publique *Frobisher*
Comité des présidents *L'Orangerie*
8h.15 Médailles Massey en architecture 1967. Remise des médailles et ouverture de l'exposition – Hon. Paul Martin *La Galerie nationale du Canada*
9h.30 Réception offerte par l'Association des Architectes de l'Ontario *Drawing Room*

Le Jeudi 25 Mai

9h. 60e assemblée annuelle *Salle des banquets*
11h.45 La Fondation IRAC réunion annuelle *Salle des banquets*
12h.30 Déjeuner – Thème *Salle de bal*
Orateur: M. Arthur J. R. Smith, "La construction des villes"
Présentation de la bourse Pilkington 1967
2h.30 Séminaire sur le thème du congrès *Salle des banquets*
Animateur: M. Harry Mayerovitch (*F*)
Panellistes: M. Robert Adamson, économiste, M. Michel Chevalier, urbaniste
5h. Comité sur la recherche *L'Orangerie* Soirée libre

Le Vendredi 26 Mai

9h. Séminaire sur le thème *Salle des banquets*
Animateur: M. James E. Searle (*F*)
Panellistes: M. James A. Murray (*F*), M. Arthur C. Erickson
12h.30 Déjeuner-thème *Salle de bal*
Orateur: Sir Hugh Casson, "Le sens de la cité"
2h.30 Séminaire sur le thème *Salle des banquets*
Animateur: M. Guy Desbarats (*F*)
Panellistes: M. Guy Legault, M. Douglas Shadbolt
5h. Collège des Fellows Séance de travail *Richelieu*
6h.30 Réception offerte par Sweet's Catalogue *Drawing Room*
7h.30 Dîner et danse *Salle de bal*
Artistes: Mlle Jean Price, M. Tom Kines, M. Les Lye

Le Samedi 27 Mai

8h.30 Petit déjeuner
Commission des publications *L'Orangerie*
Comité des documents juridiques *Palladian*
9h. 60e assemblée annuelle (suite) *Salle des banquets*
Tournées de la ville et des environs d'Ottawa – *Départ en autobus par l'entrée rue Mackenzie*
10h.30 Collège des Fellows Assemblée officielle *Drawing Room*
Midi Réception en l'honneur des nouveaux Fellows *Drawing Room*
2h. Tournées (suite) Conseil de l'Institut 1967–68 *L'Orangerie*
6h.30 Réception offerte par le Président *Drawing Room*
7h.30 60e dîner annuel *Salle de bal*
Présentations: Membres honoraires, Médaille des arts connexes, Médaille d'or de l'Institut Orateur: Herbert W. Hignett

News
Nouvelles

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The Massey Medals Centennial awards jury, left to right, Etienne J. Gaboury, MRAIC, Winnipeg; James A. Murray, FRAIC, Toronto; Sir Hugh Casson, MRAIC, FRIBA, London, England; Professor Henry Elder, MRAIC, FRIBA, Vancouver, chairman; and Gerhard Kallmann, AIA, Boston, Mass; and Ian R. Maclennan, FRAIC, Ottawa.

1967 Massey Medalists

Twenty-five silver medals with an extra one added by the Jury for the Architectural features Canada's newest subway system were awarded by the 1967 Massey Medals Centennial Awards jury on May 2. The Jury awarded one medal in the Atlantic Provinces, seven in Quebec, 11 in Ontario, one in Saskatchewan, four in British Columbia, and one to a Canadian building in Japan. There were 460 entries in the preliminary judging, and these were reduced to 100 for the final judgement, done in Ottawa May 1 and 2.

The winners will be published in the next issue of *Architecture Canada*.

Medals were awarded as follows:

Greenspoon, Freelander, Dunn, Montreal
Luigi Moretti, Rome, Italy
Place Victoria (Stock Exchange Tower), Montreal

Affleck Desbarats Dimakopoulos Lebensold Sise, Montreal
Confederation Centre, Charlottetown, PEI

Papineau, Gérin-Lajoie, Le Blanc, Montreal
Girls' Residence, University of Montreal
Peel Subway Station, Montreal

Moshe Safdie & David, Barrott, Boulva; Montreal
Habitat 67 Phase 1, Montreal

Jean-Marie Roy, Québec
Résidence des Missionnaires de la Consolata, Cap Rouge PQ

Barry Leonard Padolsky, Ottawa
Frank B. Mayrs House, South Hull PQ

Dunlop, Wardell, Matsui, Aitken; Islington
Etobicoke Public Library, Richview, Etobicoke, Ont.

C. Blakeway Millar, Islington
Stephen House, Upper Canada College, Norval, Ont.

John B. Parkin Associates, Don Mills
Automotive Service Centre, Toronto International Airport, Malton, Ont;
Ottawa Railway Station, Ottawa

Irving Grossman, Toronto
Administration & News Pavilion, Expo 67, Montreal

Banz-Brook-Carruthers-Grierson-Shaw, Toronto
Mimico Centennial Library, Mimico, Ont.

Fairfield and DuBois, Toronto,
Ceterg Office Building, Don Mills

Craig, Zeidler & Strong, Toronto
Pickering Municipal Building, Pickering, Ontario
Grant Sine Public School, Cobourg, Ont.

Klein and Sears, Toronto
Don Valley Woods Phase Two, North York, Ontario

Page & Steele and John Andrews, Toronto
Scarboro College, West Hill, Ontario

Carmen Corneil, Toronto
Wayland Drew House, Port Perry, Ont.

Clifford Wiens, Regina
St Mark's Shop, Lumsden, Sask.

Gordon L. Atkins, Calgary
Melchin Summer Homes, Windermere, BC

Erickson-Massey, Vancouver
Canadian Pavilion for the International Trade Fair, Tokyo, Japan
Smith Residence, West Vancouver, BC

Erickson-Massey, Rhone & Iredale, Zolton S. Kiss, Robert F. Harrison & Associates, McNab, Lee & Logan; Coordinating Architects/Planners, Erickson-Massey.
Simon Fraser University, Burnaby, BC

Roger Kemble, Vancouver
16" Telescope Housing Dominion Astrophysical Observatory, Victoria, BC

RAIC and PQAA Officers Meet

The Council of the Province of Quebec Association of Architects, responding to a request from the Council of the RAIC, convened a dinner meeting April 3rd in Montreal to which the officers of the RAIC Council were invited. The purpose of the meeting was to review and discuss frankly the professional climate in the Province of

Quebec with reference to the relationship between the RAIC and the Province of Quebec Association of Architects, with particular reference to the services which the Institute provides for its members and payment for these services. There was a good attendance from the Province of Quebec Association of Architects Council although the completion of Expo projects kept one or two unavoidably absent. All officers of the RAIC attended. The meeting was held at the Martinique Motor Hotel in order to permit the use of simultaneous translation equipment. Henri Labelle, Province of Quebec Association of Architects President, started proceedings with a brief review of events leading up to the meeting; this included reference to the referendum held in 1966 which asked the Province of Quebec Association of Architects membership whether they would sanction an increase of $15.00 in the per capita dues, bringing the Quebec payment to the level of all other provinces. (The answer to the referendum was negative, but not by a large majority). There followed a succession of presentations and views, which eventually included a contribution from everybody present. The Province of Quebec Association of Architects speakers dwelled mainly on the particular and special factors which limit the usefulness of the services of the Institute, including the Quebec Civil Code, the problems of language, and other matters peculiar to their own province.

The officers of the RAIC endeavoured to clarify the purposes and abjects of the Institute and to explain the outlook of the present officers in respect to their responsibilities for carrying these purposes forward. It was pointed out that if certain services now offered to all Provinces were withdrawn from Quebec to permit Quebec to continue to pay a smaller assessment, the result would be to increase the financial burden of the Institute, since the items in question either produced a small amount of revenue or were of negligible cost. The meeting was by no means conclusive but it was mutually informative and held in a spirit of co-operation. Certain positive suggestions were made as to approaches to a solution of the problem and the meeting adjourned on an optimistic note.

Recontre des officiers de L'IRAC et PQAA

Le Conseil de l'Association des Architectes de la Province de Québec, suivant une demande du Conseil de l'IRAC, a organisé un diner le 3 avril à Montréal auquel les officiers du Conseil de l'IRAC ont été invité. Le but de cette conférence était de passer sous revue et de discuter franchement le climat professionel dans la Province de Québec par rapport aux relations entre l'IRAC et l'Association des Architectes de la Province de Québec et surtout des services fournis par l'Institut à ses membres et le paiement de ses services. Bon nombre des membres de l'Association des Architectes de la Province de Québec ont assisté malgré le fait que l'achèvement de quelques projets de l'EXPO a empêché quelques uns de contribuer leur présence. Tous les officiers de l'IRAC ont assisté à la conférence, qui a été tenue au Martinique Motor Hotel afin de profiter de son équipement pour les traductions simultanées.

Le Président de l'Association des Architectes de la Province de Québec, Henri Labelle, a débuté avec une brève revue des évenements précédant la conférence, comprenant des références au référendum de 1966 demandant aux membres de l'Association de Québec leur avis sur la hausse de cotisation à $15.00 afin d'amèner le paiement de la Province de Québec au niveau des autres Provinces. (Cet avis a été négatif, par une petite majorité.) Ont suivis plusieurs présentations et points de vue éventuellement incluant une contribution de tous ceux présents. Ceux qui ont parlé pour l'Association de la Province de Québec insistaient surtout sur les facteurs particuliers et spéciaux qui limitent l'utilité des services de l'Institut, incluant le Code Civil de Québec, les problèmes de langue et autres facteurs uniques à cette Province.

Les officiers de l'IRAC ont essayé de clarifier les buts et les objectifs de l'Institut et d'expliquer le point de vue des officiers actuels par rapport à leurs responsabilités de mis en oeuvre de ces objectifs. Il a été indiqué que si certains services offerts à toutes les Provinces étaient retirés de Québec pour permettre à Québec de continuer à payer moins que les autres, le résultat serait un accroissement du fardeau financier de l'Institut puisque les services en question ne produisent qu'un maigre revenue, ou ne coûtent que très peu. On n'est pas arrivé à des conclusions définitives mais on s'est informer mutuellement et un esprit de coopération était évident. Certaines suggestions positives ont été avancées quant aux moyens de résoudre le problème et la conférence a été terminée sur une note d'optimisme.

NSAA, AANB Joint Council Meeting

Items of common interest to the Nova Scotia Association of Architects and the Architects Association of New Brunswick were discussed at a joint council meeting, March 31 in Halifax. A motion was passed that the final drafts of NSAA and AANB Architects' Acts, scheduled for presentation at the next Legislature sittings, be similar in principle and content. The decision was also made to assist Bermuda architects in the forming of an Association.

Nova Scotia Paintup

The Nova Scotia government will provide $10,000 to promote and encourage a program of urban beautification for Canada's Centennial. The program will be called *Downtown Paintup*. Its objective will be the cleaning and painting of the fronts of downtown buildings in cities, towns and villages throughout Nova Scotia.

The projects, initiated at the community level, will be based on co-ordinated schemes prepared by a design team established by the Nova Scotia Association of Architects. The purpose of the Government grant would be to share with the municipalities the cost of the architectural design service.

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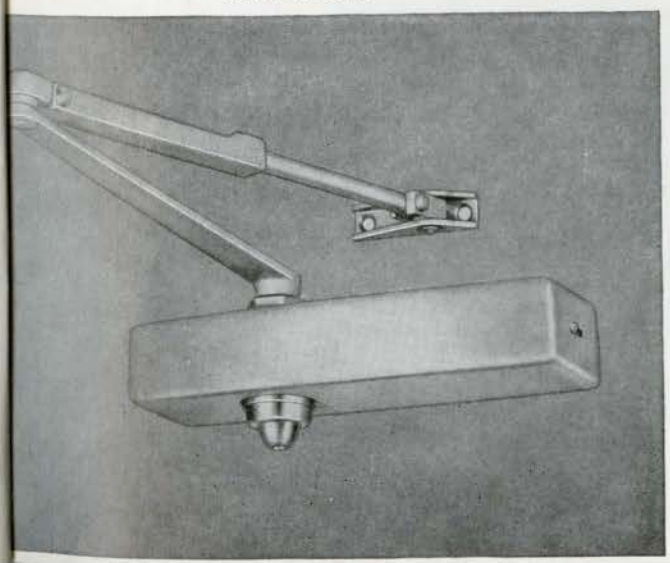

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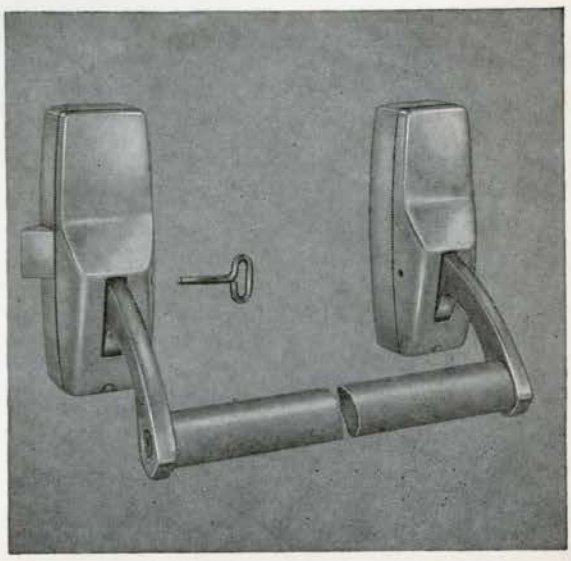

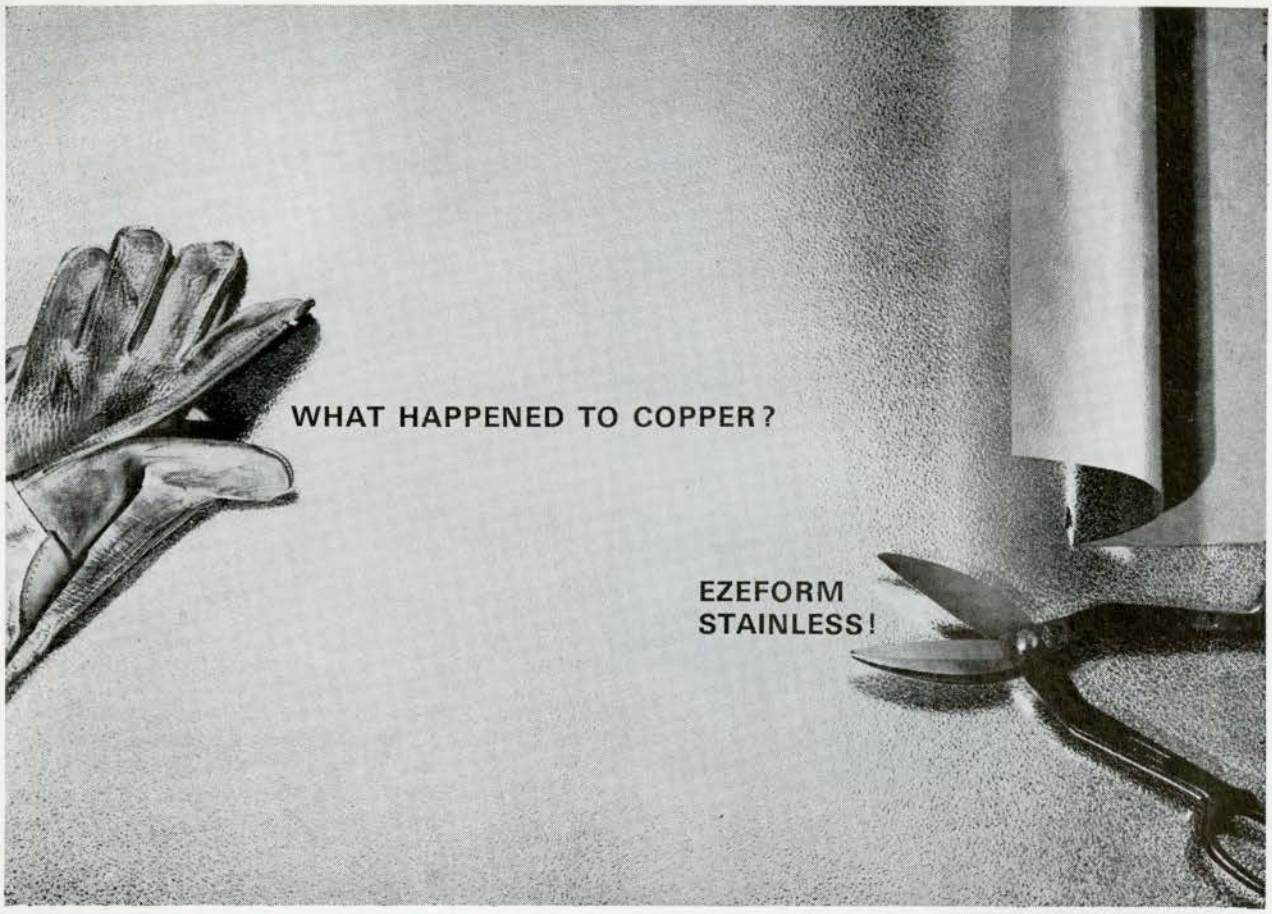

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Communiqué 2

From Institute Headquarters

Radoslav Zuk, Professor of Architecture at McGill University, is among the speakers at the International Congress on Religion, Architecture and the Visual Arts, being held in New York City from August 27 to September 1. A number of other Canadians are participating, together with distinguished architects Buckminster Fuller, Philip Johnson, Morris Ketchum, Max Urbahn, William J. Conklin; and Balkrishma Doshi and Patwant Singh, of India. On September 2, the Congress moves to Montreal, for a seminar at McGill and visits to Expo 67. For details and registration, write to 287 Park Avenue South, New York, N.Y. 10010.

The National Design Council, Department of Industry, Ottawa, has announced a program of scholarships and grants to encourage industrial design in Canada. "Excluded from this program are activities which are exclusively identified with the fields of fine art, handicraft and architecture, except when these activities relate directly to the field of industrial design – e.g. fields such as packaging, craft based industry, manufactured architectural components and structural systems."

The Canadian Centenary Council recently held a triumphant final meeting in Ottawa, prior to its dissolution. Formally established in 1960, it has been the voluntary organization which served as the precursor for the Centennial Commission and other bodies formed to plan the 1967 celebrations. Our Institute should take particular pride in the achievements of the Centenary Council, since we were a charter member and participated fully in its program.

"A great deal has been said about the ugly sprawl of our cities. But there have been very few serious attempts to show how a diversity of housing could be placed together in a really excellent manner. We must provide the answer of how a stronger and more vigorous effort can be made to construct entirely new communities, that are well thought out and well organized. We simply cannot continue with this random patchwork." – *Hon J. R. Nicholson, MP*

continued overleaf

Du siège de l'Institut

M. Radoslav Zuk, professeur d'architecture à l'Université McGill, sera l'un des orateurs au congrès international sur la religion, l'architecture et les arts visuels, qui aura lieu à New York du 27 août au 1er septembre. Quelques autres Canadiens participeront à ce congrès aux côtés d'architectes distinguées comme Buckminster Fuller, Philip Johnson, Morris Ketchum, Max Urbahn, William J. Conklin, ainsi que Balkrishma Doshi et Patwant Singh, d'Inde. Le 2 septembre, le congrès se transportera à Montréal où il y aura séminaire à l'Université McGill et visite de l'Expo 67. Pour plus de détails et inscription, s'adresser à 287 Park Avenue South, New York, N.Y., 10010.

Le Conseil national de l'esthétique industrielle, ministère de l'Industrie, à Ottawa, annonce un programme de bourses d'études et de subventions destinées à stimuler l'esthétique industrielle au Canada. "Ne fait partie de ce programme aucune des réalisations se rapportant exclusivement aux domaines des beaux arts, de l'artisanat et de l'architecture, exception faite des réalisations se rapportant directement au domaine de l'esthétique industrielle, tels que l'empaquetage, l'industrie basée sur des métiers manuels, les éléments architecturaux et les charpentes préfabriquées."

Le Conseil canadien du Centenaire a récemment tenu à Ottawa une dernière réunion triomphale, avant sa dissolution. Ce Conseil, officiellement établi en 1960, a été l'organisme bénévole précurseur de la Commission du Centenaire et des autres organismes établis pour préparer les célébrations de 1967. Notre Institut a des raisons particulières de se réjouir des réalisations du Conseil du Centenaire puisqu'il en a été membre fondateur et qu'il a toujours participé pleinement à son activité.

"On a beaucoup parlé de la laideur de nos villes. Cependant, jusqu'ici on n'a guère fait de tentatives sérieuses pour montrer comment des maisons de modèles différents peuvent être groupées de façon vraiment excellente. Il nous faut indiquer comment on peut par plus d'efforts et d'énergie en arriver à construire des collectivités complètment nouvelles, bien conçues et bien organisées. Nous ne pouvons tout simplement pas continuer ce rapiéçage au hasard." *L'hon. J. R. Nicholson, député.*

L'Association des architectes du Japon a préparé un répertoire de ses membres en mesure de remplir les fonctions d'architectes ou d'architectes associés pour la construction de pavillons à l'occasion de l'Exposition mondiale de 1970 à Osaka. S'adresser à: L'Association japonaise de l'Exposition Universelle pour 1970, Bureau principal: 4-27 Honmachi, Higashi-ku, Osaka, Bureau de Tokyo: 5-2 Guinza-nishi, Chuo-ku, Tokyo.

Nous recommandons un excellent nouveau manuel, *Fire Safety With Steel Construction*, de Don C. Beam et Roger V. Hébert. Ce manuel cherche à démontrer comment on peut employer la construction en acier pour répondre aux exigences en matière de protection contre les incendies du Code national du bâtiment du Canada, édition de 1965. On peut obtenir ce manuel du Canadian Steel Industries Construction Council, 1815 rue Yonge, Toronto 7.

La série 1966–1967 de conférences de l'Ecole d'architecture de l'Université de Montréal s'est terminée par un discours du professeur Von Moltke, du Harvard Graduate School of Design, sur "Les plans d'une nouvelle ville industrielle en Amérique du Sud". L'Ecole a aussi présenté l'exposition du Smithsonian Institution, "L'architecture paysagiste américaine contemporaine".

M. Neil Harris, compositeur bien connu de Winnipeg, abandonne la carrière de musicien et d'écrivain pour devenir architecte. Dans un an, il aura terminé à l'Université du Manitoba son cours de bachelier en architecture. "J'ai cru que je pouvais offrir à la société quelque chose de plus permanent que de simples chansons," a-t-il déclaré à un représentant du *CBC Times*. Il a ajouté:

"J'ai toujours voulu être architecte mais j'en ai été empêché durant trente-sept ans." Sa série de chants religieux de vingt-cinq minutes, en jazz presque pur, a été récemment présenté sur le réseau de Radio-Canada, sous la direction de l'auteur.

continué

The Japan Architects Association has prepared a register of members able to act as architects for associate architects for pavilions at the World Exposition of 1970, Osaka. Write to: Japan Association for the 1970 World Exposition, Main Office: 4-27 Honmachi, Higashi-ku, Osaka, Tokyo Office: 5-2 Guinza-nishi, Chuo-ku, Tokyo.

We recommend an excellent new manual, "Fire Safety with Steel Construction", by Don C. Beam and Roger V. Hebert. Its purpose is to show how steel construction may be used with respect to the fire safety requirements of the National Building Code of Canada, 1965 Edition. Available from the Canadian Steel Industries Construction Council, 1815 Yonge Street, Toronto 7.

Another publication of interest to architects is "H.C.N. Management Study", reprint of six articles published in Heavy Construction News during 1966 on management in Construction Industry. Available at $1.00 from Canadian Institute of Quantity Surveyors, 2872 Kingston Road, Scarborough, Ontario.

The National House Builders Association has formed a Residential Research Council, with the aid of CMHC grants. The NHBA experimental houses are located in Calgary, Preston, and Ottawa.

The 1966–67 conference series at the School of Architecture, Université de Montréal, ended with an address by Professor Von Moltke, of the Harvard Graduate School of Design, on "Planning of a New Industrial City in South America." The School also showed the Smithsonian Institution exhibition, "Contemporary American Landscape Architecture".

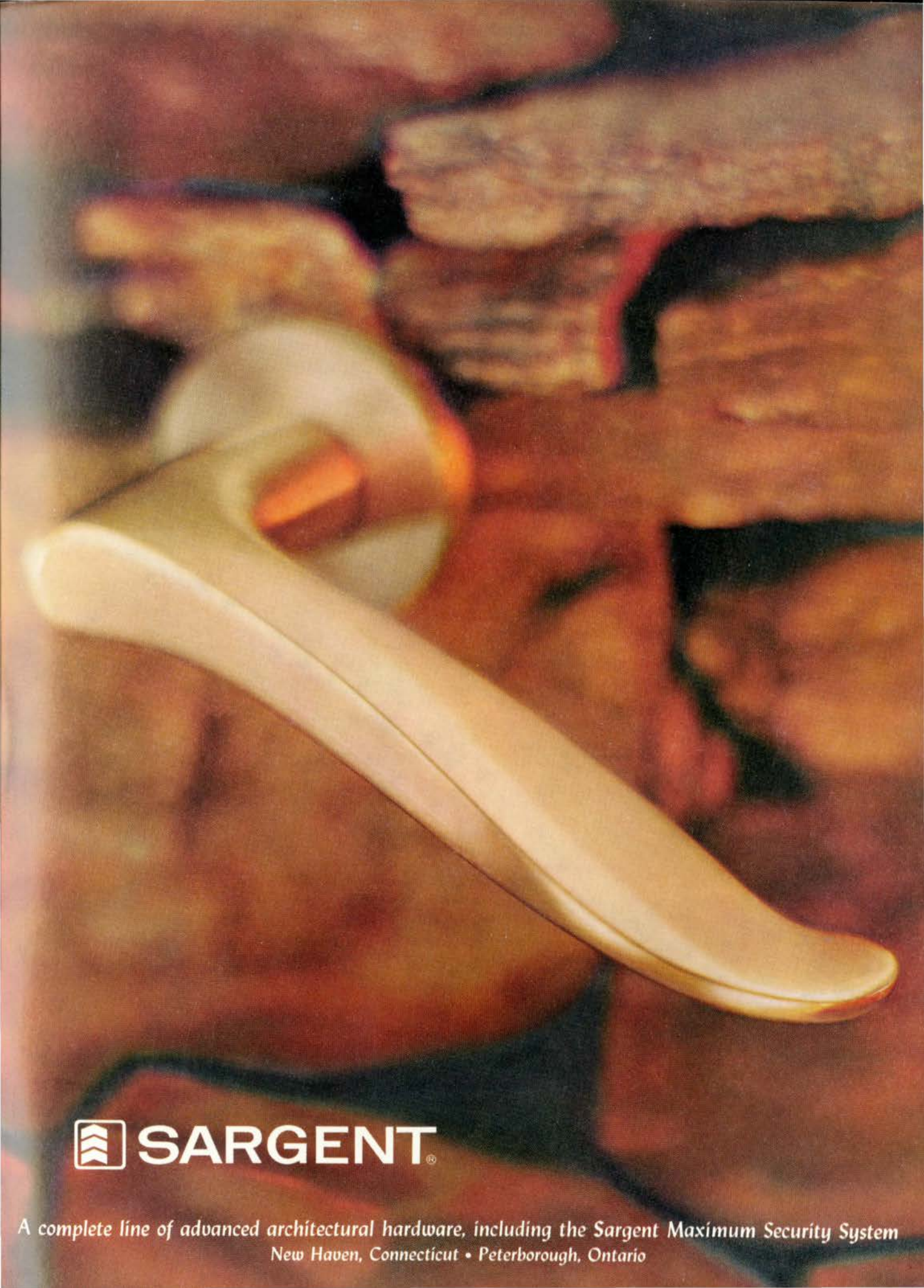
A new source of rare and out-of-print books on architecture and related fields has just published his first catalogue: Charles B. Wood, Antiquarian Bookseller, South Woodstock, Connecticut 06267, U.S.A. Entitled *Architecture and Related Subjects*, the catalogue states: "We hope, in due course, to be able to devote entire catalogues to such special subjects as American architecture, American art, American technology, English and European architecture, landscape gardening, and the decorative arts. We are interested first and foremost in the source books of art and architectural history, applied science and technology, especially the books which

influenced the development of these fields in America. Secondarily, we will deal in critical and scholarly books (mostly out-of-print) which support these respective fields. We hope to cater not only to institutional libraries but to private collectors as well; we are very conscious of condition and try to describe all items as accurately as possible. Want lists are solicited and will be given our careful attention."

Fred W. Price,
Executive Director

Un nouveau fournisseur de livres rares et épuisés sur l'architecture et des sujets connexes vient de publier son premier catalogue. Il s'agit de Charles B. Wood, Antiquarian Bookseller, South Woodstock, Connecticut 06267, USA. Ce catalogue intitulé *Architecture and Related Subjects* renferme la note qui suit: "Nous espérons en arriver éventuellement à consacrer des catalogues entiers à des sujets comme l'architecture américaine, l'art américain, la technologie américaine, l'architecture anglaise et européenne, le dessin des jardins paysagers et les arts décoratifs. Nous sommes tout particulièrement intéressés aux livres anciens sur l'art et l'histoire de 'architecture, les sciences appliquées et la technologie, et en particulier aux livres qui ont influencé les progrès dans ces domaines en Amérique. En deuxième lieu, nous nous occuperons de livres de critique et de livres classiques (la plupart épuisés) traitant de ces sujets. Nous espérons servir non seulement les bibliothèques d'institutions mais aussi les collectionneurs particuliers. Nous sommes très conscients des besoins et nous nous efforcerons de décrire toutes les oeuvres aussi exactement que possible. Nous invitons les clients à nous faire parvenir des listes des volumes qu'ils désirent et nous ferons de notre mieux pour les satisfaire."

Le directeur général,
Fred W. Price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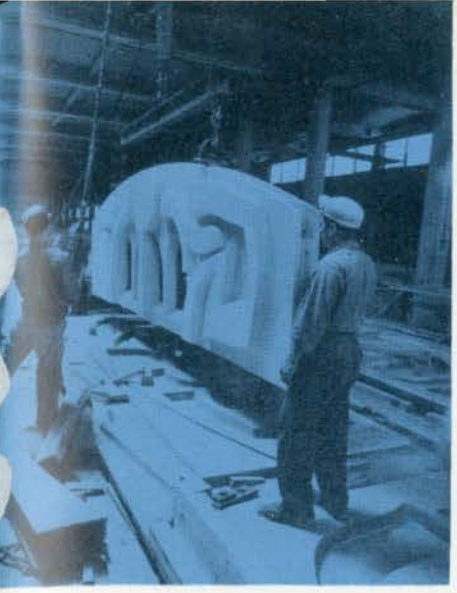

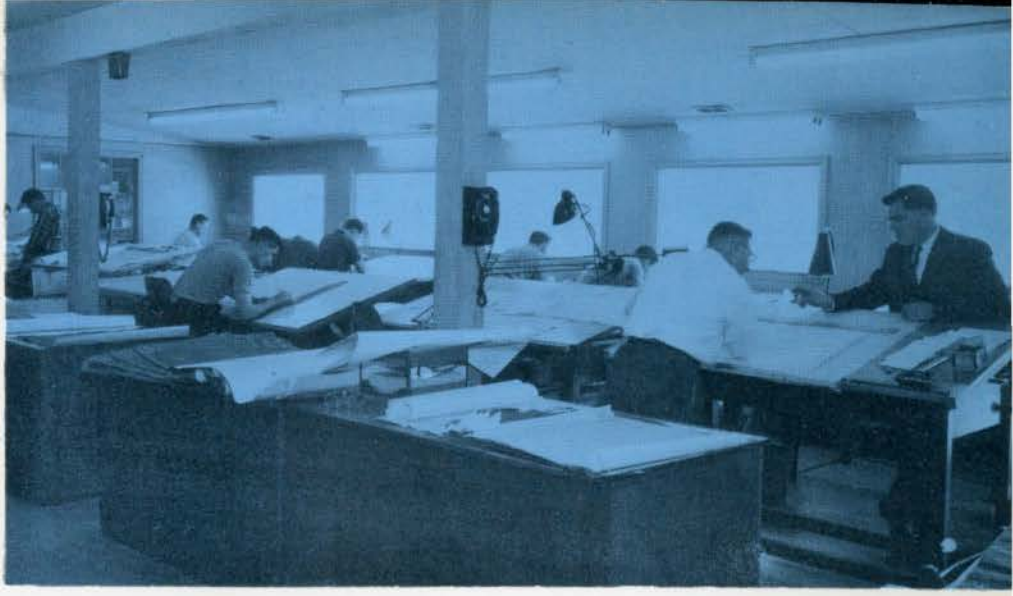

4 Think big! Size reduces joints and costs. **5** Advise Structural Consultant to co-ordinate structural framework with the requirements of economic support of the precast. **6** Cut paperwork. Leave detail engineering to qualified pre-caster. Mutual respect inspires harmony.

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One of the electric unit ventilators at Redwood Public School. Consulting Engineer: Howard Boland, P.Eng. Architect: Jean-Paul St. Jacques, M.R.A.I.C.

Why more than 210 Ontario schools keep their art collections (and their artists) in electrically heated rooms.

The public school Rembrandts who turned out the above work likely couldn't tell you the name of the consulting engineer who specified electric heating for their school. But the Fort William Board of Education could. And they could tell you a thing or two about how well electric heating has worked out in their Redwood Public School.

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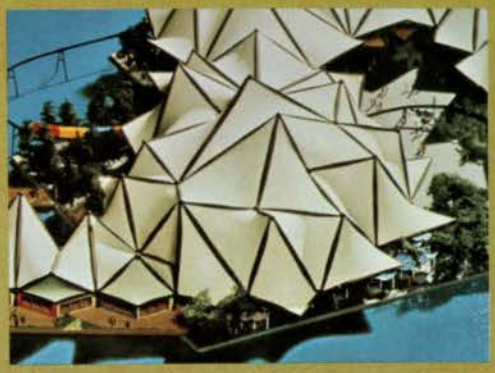

Tremco sealants at expo67.

Tremco knowledgeability in sealants has led to their use in 75 of the 102 structures at Expo '67... like the Ontario Pavilion (above) by Architects Fairfield and Dubois. To see details in print, send for your free copy of "Tremco at Expo '67".

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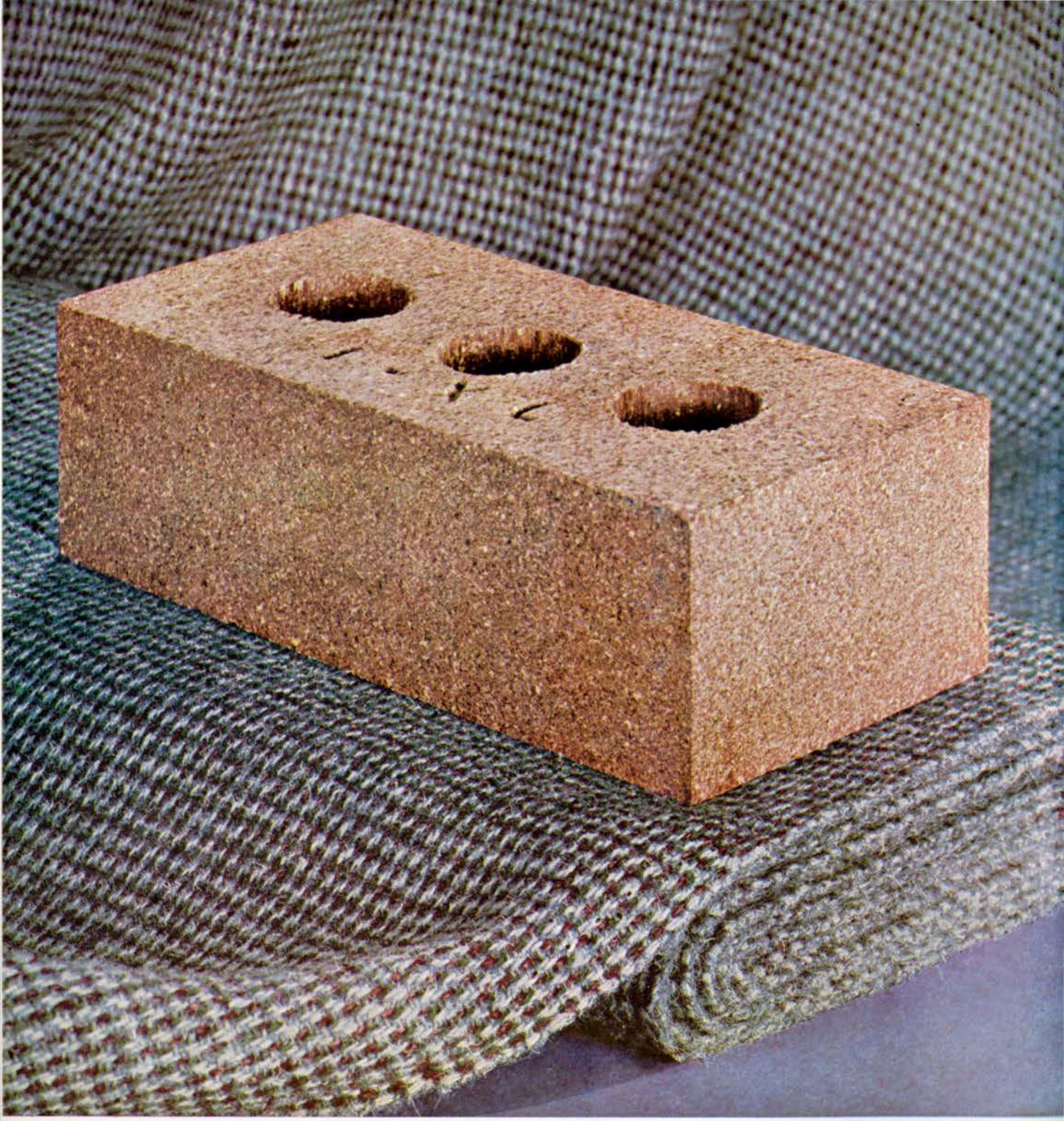

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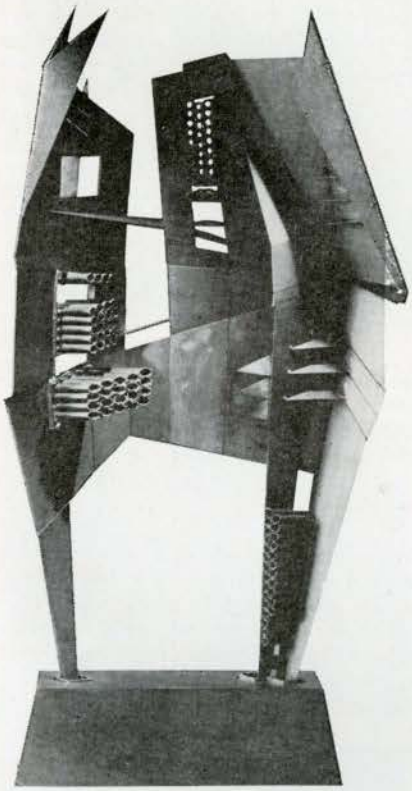
Here, There, and Everywhere

Minor Review of Material Happenings

Before our major review of Expo Art next month here is a survey with brief comment of the normal happenings and ups and downs of art and architecture which filter through the files of the Allied Arts Department.

Accepted – The Architect is the Client!

Shore and Moffat who have commissioned Ron Baird for various projects have shown a rare act of faith in their artist by commissioning him to do a piece for *their own office*! (**1**) The clients appear to be delighted with their purchase. *Next architect-client please – for publication!*



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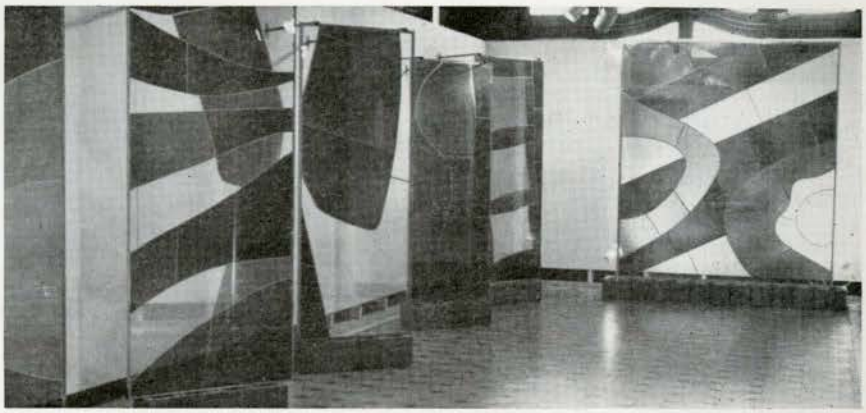

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New Stars

Marcelle Ferron, stained glass designer (Montreal), recently exhibiting in Musée d' Art Contemporain (Montreal) (**2**) and at the Toronto School of Architecture (Craft for Architecture), shows she is a major contributor to integration in her "glass" walls for both secular and ecclesiastic architecture.

Her slides reveal more than her exhibits the exciting capacity she has to modulate with subtlety large areas with external and internal colored glass "curtains" – a most important artist for architects.

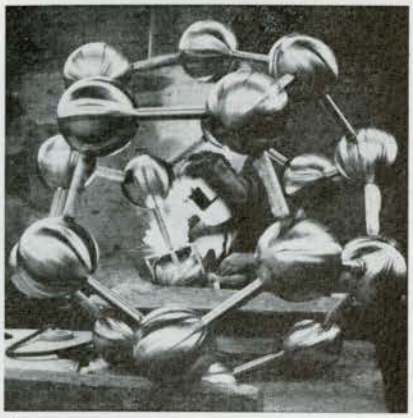
Joyce Weiland, wife of Michael Snow, up on a visit from New York just missed our architectural show but her own had me wishing I had known of her original and profound "quilting" essay for wall hangings – more of Joyce and her work later.

Stainless Steel and the Sculptor

A nice point is made in two separate "images" in stainless steel commissioned as sculptural motifs for architecture – one (**3**) is designed and carried out in a factory by a professional artist, Art Price of Ottawa. The other (**4**) is designed and carried out by Gore & Storrie, consulting engineers.

Mr Price's commission is for the Administration Building and Manufacturing – the

3



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National Research, Council, Montreal Rd, Ottawa. Quoting Mr Price who says, "The inspiration of the work came from the plaque over the door of National Research Council's Sussex Drive Building chosen during construction of the building in 1931 by The Right Honorable William Lyon Mackenzie King". It reads; "Great is truth and mighty above all kings; it endureth and is always strong; it liveth and conquereth for evermore. The more thou searchest, the more thou shall marvel." This is from the first and second books of Erdras in the "Apocrypha"!!

Gore and Storrie are more prosaic but nevertheless affirmative. We quote from their press release: *"Stainless Water Molecule in Parabolic Arch Will Be Suspended over Toronto Reservoir.* A 30-foot cantilevered parabolic arch with 20 eight-inch-diameter stainless steel balls, designed by Toronto consulting engineers, Gore and Storrie, at a 30-degree angle, in May, as part of the city's participation in Canada's centennial activities. The balls, which were spun, welded, polished, and welded to tubes in the shape of a huge water molecule, are of ⅛" Type 302 stainless steel. They were spun in halves by York Metal Spinning Co., Richmond Hill, Ontario; then joined by fabricators, Cunningham and Lea. Two triangular sections were brake-formed on a 36-foot press brake; then welded to form the parabolic arch. The Type 302 stainless used in the arch is ¼" thick. The sculpture was commissioned by the Department of Public Works of the Corporation of Metropolitan Toronto."

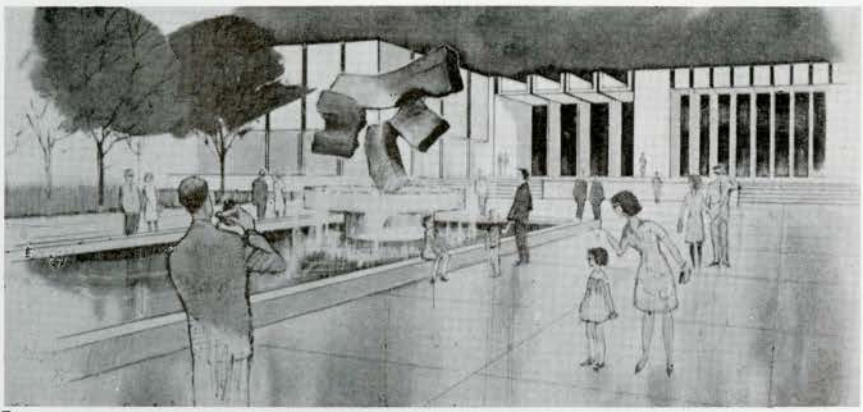
What the point is, is debatable. Over to you!!

Rejected

Niagara, with feet planted firmly in the past, gives echoes to Toronto's troubles over contemporary sculpture and Moore by rejecting Augustin Filipovic's fairly innocuous abstract form for its city square. (**5**) Ottawa fared no better when experts chose and laymen disagreed on "civic" sculpture of statues of former Honorables Meighen and Bennett.

Such an outmoded form of art as effigies of past "unheroic" humans perhaps has planted in the final arbiter, LaMarsh, a nervousness that in more exuberant hands of the future she herself may prove more monumental. Have done with it, civic leaders, and employ a genuine Madame Tussaud artisan for the job!! The nervousness of our civic leaders at their own inadequate art education is a sad commentary. Fear of ridicule doth make cowards of them all even in trusting the opinions of their chosen experts. Unfortunately they fail to see how ridiculous they will appear to posterity when Canada eventually emerges from its aesthetic dark age. They were the censors of such safe even outmoded forms as Moore and Filipovic to say nothing of the compromise jobs of Braitstein and Cox.

Napanee also failed to survive the "shock" Ted Bieler gave them in September 1966 with his mural which "did not please the public at all" as voiced by Colonel Armstrong who appeared to be the loudest voice of all.



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Religious Art

Two sculptors employ their talents in religious art – for Judaism, Bob Hedrick fashions arc doors (**6**) for Irving Grossman's Temple Emmanuel, Toronto – for Catholicism Bernard Chaudran designs a tabernacle (**7**) for Etienne Gaboury's St Claude's Church, Manitoba.

Anita Aarons

Allied Arts Medalist

Gerald Trottier

1

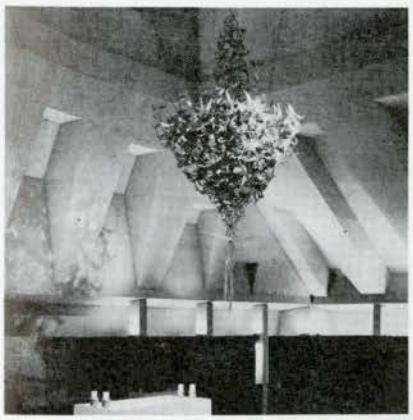
The 1967 RAIC award as Allied Arts Medalist goes to Gerald Trottier. Trottier – Canadian born in Ottawa and now living on Calumet Island – is probably the only Canadian artist to have been partially educated by a Canadian Amateur Hocket Scholarship which enabled him to travel in France and England in '52-3.

His studies with Ernest Fosbery in Ottawa extended later to the Art Students' League in New York 1948-9 under Bernard Klonis and others. In 1962 he was awarded a fellowship by the Canada Council. He is represented in public and private collections and in the National Gallery of Canada as sculptor and graphic artist. As architectural artist he is widely represented in Canada with sculpture for Notre Dame Convent, Ottawa, a mural for St Basil's Seminary, Toronto, a mosaic mural at Carleton University, Ottawa. He represented Canada at the Sao Paulo Biennial. An earthy practical man in spite of a philosophical searching in his creative work, to quote, he is one, "who is not overly concerned or precious about so-called 'fine art' but he is interested to get on with making things." He states also," I do not want anything in particular from the architect or wish his protection or patronage. What I do want is to meet him in practical dialogue as business man – this is no problem, and do things together." To meet Trottier together with his architects in open forum, is proof of his ability to satisfy and work with architects on just this basis. The baldachino at Notre Dame Chapel, Ottawa, a forum to modulate the light source in front of the altar obviously pleased the architect T. V. Murray. Gerald Trottier is one of the ever increasing number of artists who in a business-like manner are engaging in rewarding dialogue with architects and responding to the problems without self-conscious concern for the endurance of their own personal imagery.

1
Trottier with self portrait
Portrait de l'artiste par lui-même
2
Trottier's response to architects Murray & Murray's request for something mysterious but exciting to add to the architectural decor of Notre Dame Chapel, Ottawa
Bald a quin par Trottier de la Chapelle de Notre-Dame, Ottawa. Architects Murray & Murray
3
Trottier's mosaic mural at Henry Marshall Tory Science Building, Carleton University, Ottawa
Mural en mosaïque au Centre des Recherches Scientifiques Henry Marshall Tory

Médailliste des Arts Connexes

Gérald Trottier est le récipient de la Médaille des Arts Connexes de 1967, décerné par l'IRAC. Né à Ottawa, Trottier vit maintenant à l'Ile Calumet. Il est probablement le seul artiste qui a reçu une partie de son éducation grâce à une bourse de l'Association de Hockey Amateur du Canada, qui lui a permis de voyager en France et en Angleterre en 1952 et 1953. Ses études avec Ernest Fosbery à Ottawa furent continuées plus tard à la "Art Students' League" à New York de 1948 à 1949 sous l'égide de Bernard Klonis et d'autres. En 1962 le Conseil Canadian lui a décerné une bourse. Il est représenté dans des collections publiques et privées ainsi qu'à la Galerie Nationale du Canada en tant que sculpteur et graveur. Comme artiste en architecture il est fort bien connu au Canada par une sculpture au Couvent de Notre-Dame d'Ottawa, un mural au Séminaire St-Basile à Toronto, un mural en mosaïque à Université de Carleton à Ottawa. Il a également représenté le Canada à la Biennale de Sao Paulo. Au fond, c'est un homme pratique, terre à terre, malgré une certaine recherche philosophique dans ses oeuvres, c'est à dire, c'en est un "qui ne se soucie pas trop des soidisant Beaux Arts," mais il s'intéresse plus de pousser la besogne. Il a dit aussi, "je n'attends rien de spécial de l'archicte, je ne désire ni sa protection ou son patronage. Ce que je veux est d'avoir avec lui un dialogue comme homme d'affaires, et là, il n'y a pas de problème et on peut oeuvrer ensemble. Rencontrer Trottier avec ses architectes en forum libre c'est une preuve de sa capacité de satisfaire et de travailler sur cette base. Le baldaquin de la Chapelle de Notre-Dame à Ottawa est une forme qui module la source de lumière devant l'Autel et a manifestement plu à l'architecte T. V. Murray.
Gérald Trottier appartient au nombre croissant d'artistes qui de manière pratique s'engagent avec les architectes dans des dialogues fructueux et réagissent aux problèmes sans se montrer trop affectés par la durabilité de leur style personnel.



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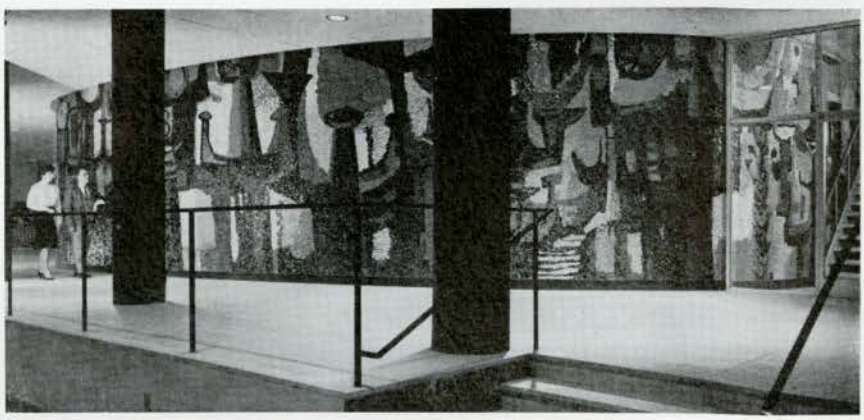

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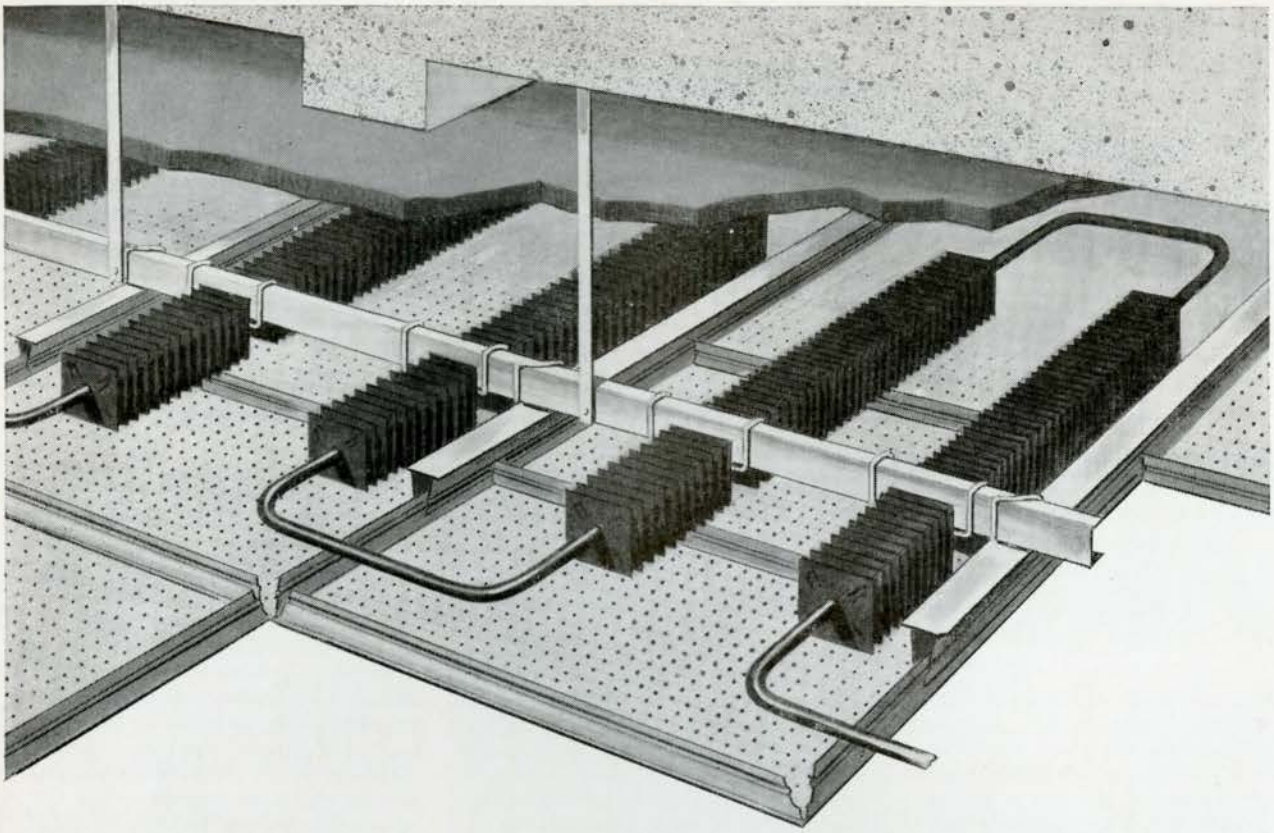

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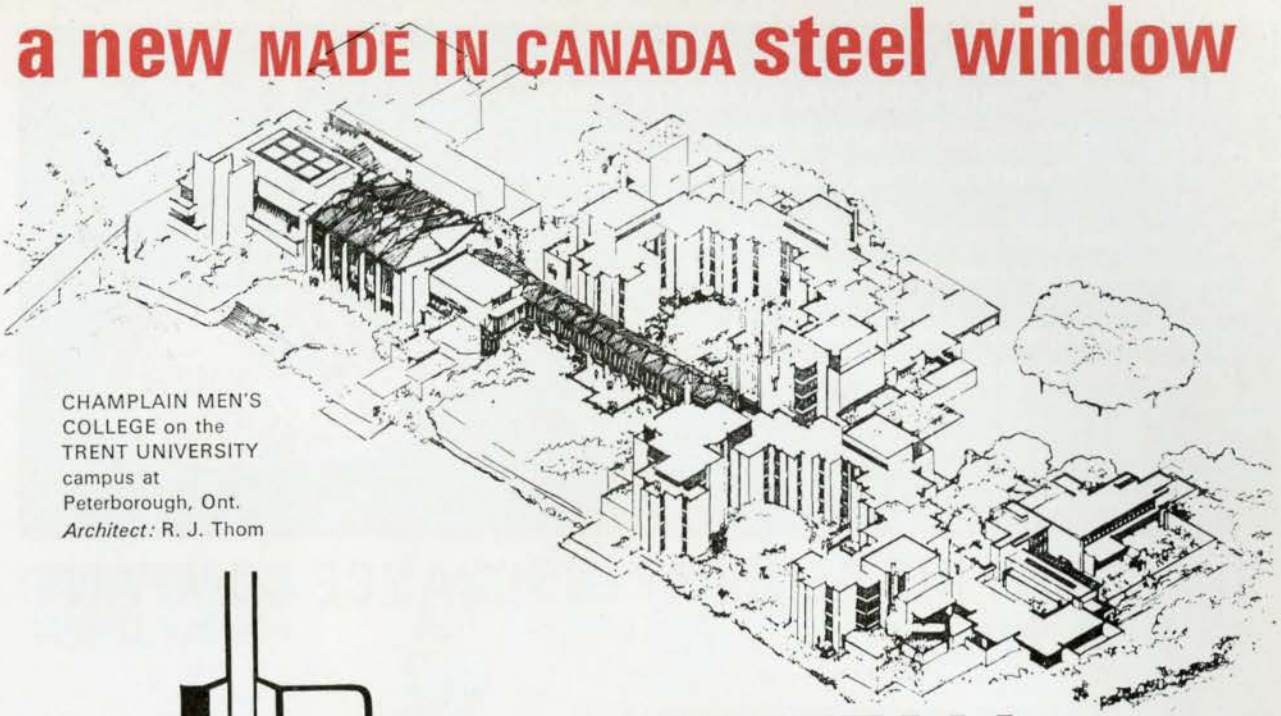

CHAMPLAIN MEN'S COLLEGE on the TRENT UNIVERSITY campus at Peterborough, Ont.
Architect: R. J. Thom

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Toronto and S.W. Ontario
Harry Price, Hilborn Insurance Limited
15 Toronto Street, Toronto, Ont.

The following is a notice, reprinted from the *Edmonton Journal, Feb. 23, 1967,*

BUILDING PROPOSAL

University of Alberta, Edmonton, Alberta

The University of Alberta plans to build a multi-storey general services building of approximately 180,000 gross square feet. This building would contain space for warehousing, work shops, offices, classrooms and lightly serviced teaching laboratories.

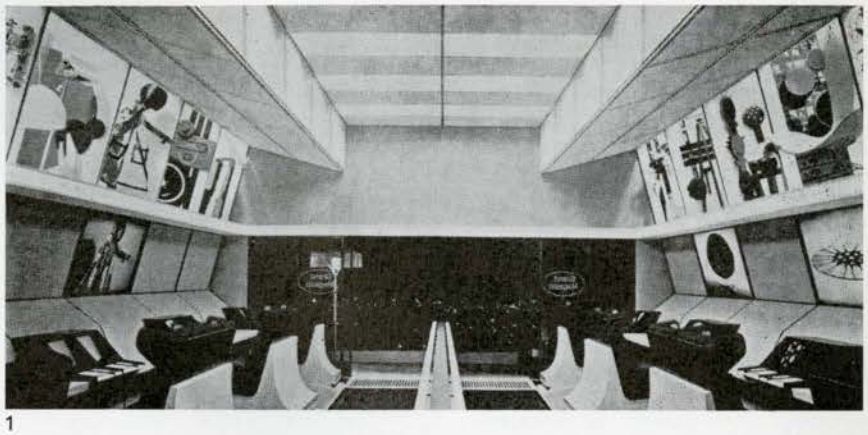
Contractors interested in putting forward proposals are asked to meet in Room 224, Administration Building, at 2 p.m., 1 March, 1967. Interested contractors will be asked to submit preliminary design plans, specifications and estimated cost based on a general specification to be made available by the University.

J. R. B. Jones,
Director of Campus Development.

and comments from the newspaper's column "City Scene". "The University of Alberta is trying a *new approach in building design.* (*our italics*) Contractors are being asked to meet Wednesday afternoon to discuss plans for a proposed multi-story general services building. J. R. B. Jones, director of campus planning and development, said. "We're trying to get a better building at less money.' The contractors will be asked to submit preliminary design plans, and cost estimates at the meeting in the U of A administration building. Usually, the university submits its requirements to an architect, and then makes the plan available to contractors who submit bids on the contract. The general services building would be eight or 10 stories high, said Mr Jones, including space for warehousing, work shops, offices, classrooms, and teaching laboratories."

It is hard to know where to begin – it is clear that public education programs are sorely needed, in order to reveal the advantages of detached professional service if nothing else, but it is difficult to accept that those associated with a university would have so self-defeating a policy.

For shame, J. R. B. Jones.



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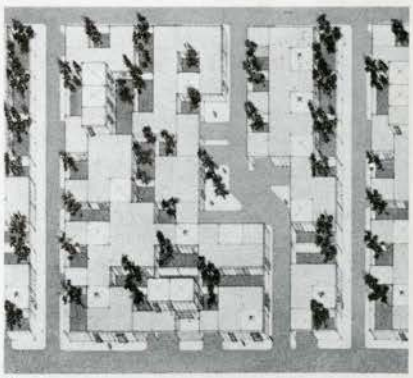
(1): "This is a stimulating proposal for quick 'long-distance' retailing in which the personal audio-visual contact between salesman and purchaser is maintained: the purchaser in the shop and the salesman in the central warehouse (even in another city).

A moving sidewalk carries the customer to her own personal console unit: different brands of merchandise are shown to her in color on closed circuit television. She can get instant information on the product she wants from the salesman over an intercom located at the console. On purchasing the product she inserts her personal charge plate into a slot in the console; this is immediately recorded. The item purchased is sent to the customer from basic inventory, while her account is billed.

This system has been proposed – and illustrated in a full-sized model – by Neal Goldman Associates, industrial designers in New York, and the Armstrong Cork Company of Lancaster, Pennsylvania (which produces the special ceiling here employed, a sound-absorbing and light-reflecting ceiling, incorporating the airconditioning plant). *Domus March '67*

Trend published by the Steel Company of America has in the twenty-fourth of the series, a project by Jerome Markson for urban court housing. **(2, 3)**

The value in the study is real – it attempts to increase densities without building monumental towers; it accepts the automobile as a part of our lives; and perhaps most important of all, it is designed with the material and techniques now available, without re-tooling the nation. The quality of the units speaks for itself – they are not aggressively "architectural," nor do they have the puritanical sterility of the modern idiom.



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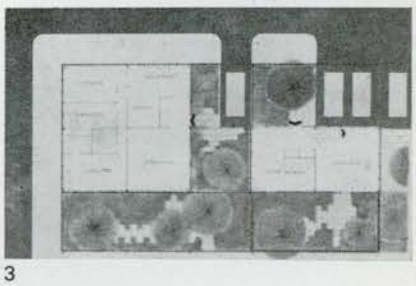
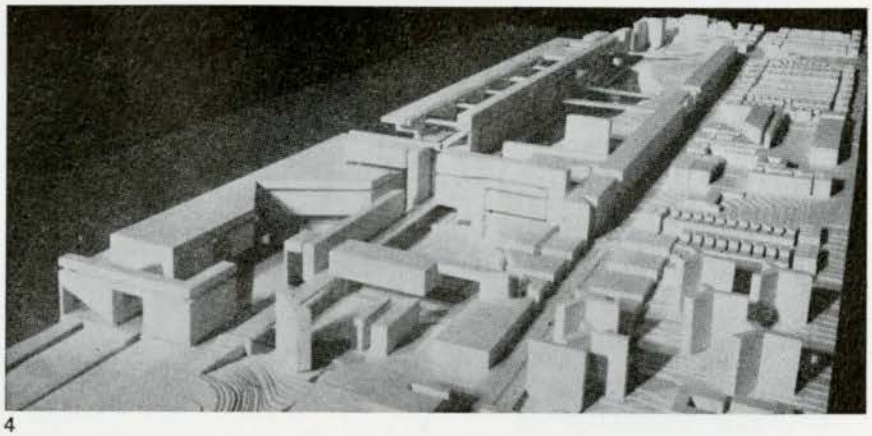


3

In its latest exhibition, "The New City: Architecture Urban Renewal" Manhattan Museum of Modern Art has tried to offer new urban visions for New York's principal ghetto. Four teams of architects, from Princeton, Cornell, Columbia and MIT designed schemes for this show. While it is encouraging that the Museum of Modern Art shows the new concerns for the problem, the designs are more appropriate for exhibition in an art gallery with the old concerns of form. While the form of the four schemes differ, their content does not – all destroy the social and physical fabric indiscriminately, all replace the subtleties of an intricate physical environment with gargantuan, impersonal architectural monumentality. *Architectural Forum March 67* has published the projects, with comments that show a valid concern. **(4)** The projects tend to treat Harlem as if it were simply an ugly place, a blemish to be repaired by cosmetic surgery. Instead it is home to 364,000 people of diverse background education, and ambition. They occupy 130,000 apartments of which half are in need of major repair or replacement—but these apartments are, for the most part, cheaper than public housing and available to nonwhites. Until the public and its Congress find the will to appropriate adequate funds for rent supplements and public housing we dare not encourage the kind of redevelopment suggested by these projects, none of which would guarantee adequate housing for the poor and all of which raise the danger of speculation, and dislocation of the poor. Harlem occupies a desirable place at the heart of the New York region – it wouldn't take much to bid up prices so that only the well-to-do could be housed there. Then where are the poor to go?
And yet *Forum*'s rebuke then suggests that the proposals should have been more utopian. The truth is that less dramatic architecture and more dramatic social and technical answers are required.

(5, 6)
An example of real public relations – not mere lip service but public service on the part of industry. Canadian Industries Limited


4

(who incidentally produce a graphically handsome pamphlet) have purchased the old stone house on the northwest corner of Place Jacques Cartier and St Paul Street, Montreal. The Company is to restore the house to its original state, contributing thereby to the continuity of Montreal's city heritage. Other valuable and needed centennial projects on behalf of industry could well be the formation of endowments for studies in architecture – Canadian schools, in comparison to many US schools, have inadequate scholarship portfolios.


5

P/A April '67 is devoted to the Earth – how we move, mould, dig and build on it.
"One fundamental lesson is to be learned from this issue of *P/A*: The most critical architectural area today is earth. It urgently requires ingenious exploration. It urgently requires intelligent conversation. Architects cannot continue their traditional practice of dotting the landscape with single buildings – no matter how perfect those buildings. That is the one point agreed on by all sides. With land shrinking as population grows, with the fantastic megalopolitan sprawl restricting the availability of sites in urban areas, and now even in rural areas, all architects must turn their attention beyond mere buildings to the broadest aspect of architecture – the earth."

AJD


6

Résumé

L'Architecture de William Thomas par T. Ritchie du Conseil National des Recherches, Ottawa. Page 41

Un architecte anglais, William Thomas, est venu au Canada en 1840 à une époque où le pays se développait rapidement et, heureusement, les conditions encouragaient le plein emploi de ses grands talents en architecture. De 1840 jusqu'à 1860, l'année de sa mort, Thomas a créé quelques uns des plus importants édifices construits au Canada, dont beaucoup existant toujours nous montrent son habilité en architecture. Sa renommée devrait occuper une place importante dans l'Histoire de l'architecture canadienne et on devra reconnaître aussi la contribution indirecte qu'il a fait en formant les talents de ses étudiants-apprentis qui, en conséquence de leurs études faites avec lui ont contribués eux-mêmes à l'histoire de la profession au Canada.

On ne sait pas grande chose de la vie de William Thomas avant son arrivée au Canada. Il est né en 1800 à Stroud en Gloucestershire, Angleterre, avait 40 ans au début de sa carrière canadienne, dont probablement 15 ans d'expérience professionelle. Il a exercé à Birmingham où il fait l'Eglise St-Mathieu à Duddeston en 1839, selon le Dictionnaire Biographique des Architectes Anglais de Colvin qui mentionne aussi que son frère, John Thomas, sculpteur et architecte, l'a assisté. Plus tard, ce dictionnaire fait mention d'un William Thomas de Leamington Spa qui a dessiné le Cirque et Crescent de Landsdowne, plusieurs maisons et villas et qui a publié un livre en 1843 intitulé "Dessins pour Monuments et Cheminéés". La preuve que ce William Thomas est celui qui a émigré au Canada se trouve dans le "Canadian Gazetteer" de 1846 qui parle de l'architecte William Thomas "récemment de Leamington Spa". A la mort de son fils, W. T. Thomas à Montréal en 1892, les journaux font reférence à son père, William Thomas, venu d'Angleterre, le frère duquel s'était distingué comme sculpteur et architecte ayant été choisi par Sir Charles Barry l'architecte du Parlement pour l'exécution des statues de cet édifice.

Ses raisons, d'avoir quittér l'Angleterre pour commencer une nouvelle vie au Canada, ne sont pas connues. Peut-être ses services n'étaient pas assez demandés et l'occasion de développer ses capacités était insuffisante comme pour bien d'autres architectes-émigrés de l'époque.

Thomas s'est établi à Toronto; la plupart de ses oeuvres se trouvent à Toronto et à Hamilton, bien qu'il ait réçu d'autres commandes à Cobourg, à Guelph et à Londres en Ontario. A l'époque, toutes ces villes étaient relativement petites et au début de leur développement. Dix ans avant l'arrivée de Thomas à Toronto, la population nombrait moins que 3000; Hsmilton comptait probablement 1000 âmes, Londres venait d'être établi et consistait de quelques maisons et des cabanes en bois. Mais en 1840, Toronto avait été incorporé comme ville et comptait prés de 15,000 résidents, Hamilton 5000 et Londres 3000. Le Haut-Canada grandissait même plus rapidement durant les deux décades suivantes et les conditions étaient telles qu'un programme de construction considérable était nécessaire. En conséquence, le rôle de l'architecte dans l'exploitation de ce nouveau pays devenait d'une importance majeure.

Les Oeuvres de William Thomas

Le premier édifice que Thomas a conçu au Canada est probablement l'Edifice de la Banque Commerciale (Commercial Bank Building) à 15 rue Wellington ouest, construit en 1842 et qui existe toujours à l'usage des bureaux (voir Fig. 1). En 1845, la construction de la Cathédrale et du Palais de St-Michel, également conçu par Thomas, était en cours aux rues Bond et Church. La flèche fut ajoutée après sa mort d'après les dessins de Messrs. Gundrey et Langley. Vers la même époque, Thomas a entrepris la construction d'une nouvelle église à Londres, remplacant l'église anglicaine de St-Paul, détruite par un incendie en 1844. Dans son "Canadian Gazetteer" de 1846, William Smith cite Thomas comme l'architecte de la nouvelle église à Londres (Fig. 2), ainsi que des "nouveaux magasins en cours de construction sur la rue King". Il semblerait donc que peu après son arrivée à Toronto, Thomas avait établi une bonne clientèle et avait réçu d'importantes commandes.

Un annuaire de 1843 de Toronto a énumeré deux autres architectes, J. G. Howard et Kivas Tully ainsi que Thomas. Howard et Thomas venaient d'Angleterre et Tully d'Irelande. Smith cite quatres architectes dans son "Gazetteer" de 1846 sans donner leurs noms, deux arpenteurs, cinq artistes et portraitistes, quatres graveurs, deux maîtres de dessin, un fabricant de clous, seize consrtucteurs et vingt-cinq ébénistes, ce qui montre bien le train du développement de Toronto.

Un livre ultérieur de Smith sur le Canada, publié en 1851, liste les noms de neuf architectes à Toronto, dont William Thomas de "Oakham House, Church St.", ainsi que G. F. Thomas, également un arpenteur de King St. qui pourrait être soit un frère, soit un fils ou autre parent de William Thomas. Son succès exigait deux bureaux en 1851. Deux de ses fils. W. T. et C.P. qui ont réçu leur formation dans ses bureaux, probablement pratiquaient avec lui, ainsi qu'un étudiant-apprenti, William G. Storm, fils d'un constructeur torontois.

Des trois édifices conçus par Thomas et construit à Toronto en 1848, il en reste un, sa propre maison et son bureau, "Oakham House" aux rues Church et Gould (Fig. 3). Des deux autres, l'Eglise Presbytérienne aux rues Bay et Richmond a été démolie en 1906 (Fig. 4, Archives Publiques du Canada). Les détails gothiques, surtout de la tour, sont remarquablement fins. O Thompson, dans son livre de 1868, "Vues Photographiques des Edifices Principaux de Toronto", décrit l'église faite en pierre de Kingston et briques blanches avec revêtements et sculptures en pierre d'Ohio.

Un des plus importantes oeuvres de Thomas est le St-Lawrence Hall. Achevé en 1850, il a servi pendant bien des années comme la salle principale de concerts et de conférences

de Toronto. Des artistes de renomée internationale telle que Jenny Lind, y ont donnés des concerts. Cet édifice existe toujours. Il est l'objet de rénovations considérables comme projet centenaire et redeviendra éventuellement une salle de concerts, comme dans le passé. (Fig. 5) Un autre édifice semblable toujours existant et conçu par William Thomas pour la ville de Cobourg (Fig. 6) est l'Hôtel de Ville, quelquefois appelé Victoria Hall. Il comprend "une salle d'Opéra complète, dédicacé par le Prince de Galles le 6 sept. 1860". Le dessin de l'édifice Victoria a été attribué à Kivas Tully aussi bien qu'à Thomas, mais il n'y a pas de doute que Thomas a été associé à l'édifice puisque le journal régional de 1858 a noté que "les sculptures de tympan de l'entrée principale sont extrèmement belles. Elles comprennent la rose, le chardon et le trèfle disposés à chaque côté d'un lyre ancien. Ces sculptures, avec un beau visage barbu formant la clef de la voûte, sont les oeuvres de M. Thomas, l'entrepreneur de la maçonnerie, et certainement lui rendent honneur." (J. A. S. Evans, Hamilton Spectator, le 25 mars, 1961).

En 1852 une école de la rue Louisa à Toronto a été construite d'après un dessin de Thomas. L'année suivante, il a été nommé ingénieur de la ville de Toronto, une nomination illustrant que l'architecture et le génie étaient considérés comme la même profession. L'année suivante le monument au Général Brock dessiné par Thomas a été érigé à Queenston Heights près des Chutes de Niagara. L'Hôtel de Ville de Guelph, (Fig. 7), dessiné par Thomas, a été achèvé en 1856 et peu après, les Halles de Guelph également.

Deux églises par Thomas ont été achevées la même année: l'Eglise St-Paul à Hamilton et Zion à Toronto (Fig. 8). Zion a été démolie mais elle paraissait dans la photo de Thompson de 1868 (Fig. 9) où il l'a décrite comme example du style "Lombard". Egalement en 1856, Thomas a dessiné des bureaux aux rues Yonge et Colborne, maintenant disparus. Une autre église du style "Lombard", dessinée par "William Thomas and Sons, Architects" (Thompson) a été construite en 1857 au coin des rues Queen et Mutual. Appelée "Cooke's Church", elle s'est distinguée par ses flèches jumelles. (Fig. 10).

Sans doute il existe d'autres maisons et édifices à Toronto, Hamilton et ailleurs conçus par Thomas mais pas encore identifiés comme faits par lui. Le dernier de ses édifices connu est la prison de la rue Gerrard à Toronto. Thomas l'a conçu en 1858 mais il n'a pas vécu pour voir son achèvement.

Evalution de Son Oeuvre

Certainement William Thomas doit être considéré comme un des plus grands architectes du milieu du dix-neuvième siècle, non seulement à cause du nombre d'édifices qu'il a dessiné mais aussi pour la bonne qualité de leurs dessins. Il vivait à une époque où le style était un des plus importants aspects d'un édifice, ce style étant soit Classique, soit Gothique. Thomas était maître des deux, "de grandes distinctions et capacités. . . un pionnier de l'architecture Gothique au Canada et même de tout le Continent".

Ses oeuvres attiraient un intérêt favorable au Canada. En 1846, même avant l'achèvement des magasins de la rue King, on a dit que "lorsque finis, ces édifices seraient les plus beaux au Canada, égaux à tous ceux qu'on peut voir en Angleterre". Et de l'église à Londres: "Londres peut se vanter maintenant qu'elle possède la plus belle église gothique de tout l'ouest du Canada". St-Lawrence Hall était désigné "un magnifique amas d'édifices".

A sa mort, un des hommages rendus à William Thomas dit que "nous lui devons quelques uns des plus beaux édifices dont notre ville peut se vanter. Il était un des premiers à découvrir les possibilités de l'usage de la brique blanche unique à Toronto."

Plus récemment, les évaluations de ses oeuvres ont été également favorables. Les édifices de Toronto et de Cobourg ont été décrites comme "imposants mais réservés et pleins de dignité", pendant qu'en général, son oeuvre était "uniformément bonne, de belles proportions et raffinée."

Son Influence sur l'Architecture Canadienne

Son succès comme architecte a attiré de jeunes étudiants à son bureau et l'un d'eux, W. G. Storm, a continué pour devenir un des architectes les plus connus de Toronto. Les partenaires Storm et Cumberland ont créés plusieurs édifices importants qui montrent l'influence du style de Thomas. Deux de ses fils, William (?) T. et Cyprus (?) P. Thomas, peut-être même un troisième, qui ont étudiés et travaillés avec lui, ont probablement dessinés quelques édifices attribués à Thomas. Ils se sont établis plus tard à Montréal, et puis C. P. Thomas est allé à Chicago. Un concours ouvert à Montréal pour l'Eglise St-George, et un autre pour l'Eglise de la Trinité à St-Jean ont été gagnés par W. T. Thomas et refléchissent l'habilité de son père. Plusieurs maisons importantes, telle que la résidence de Lord Mount Stephen, des bureaux aux rues Ste-Hélène et Notre-Dame, l'Eglise St-Martin, le bloc Caverhill sur la rue St-Pierre, et l'Hôtel de Ville de Prescott ont été dessinés par ce fils de William Thomas.

En conclusion, on peut constater que l'architecture de William Thomas occupe une place importante dans l'histoire de l'architecture canadienne. Son époque voyait l'agrandissement du pays à un moment où les niveaux de bon goût et de compétence étaient très élèvés, où le style comptait pour beaucoup, le Classique et le Gothique prédominant. Beaucoup de ses édifices qui existent toujours sont d'un grand intérêt parce qu'ils refléchissent si bien les meilleures qualités de cet époque d'architecture et illustrent non seulement le bon goût mais aussi l'habilité de son oeuvre.

Heureusement, lorsqu'il est venu au Canada, Thomas a trouvé des conditions encourageant l'emploi de ses capacités architecturales et qui rendaient sa vie au Canada fructueuse. Son influence sur les générations futures fut importante. Donc, on peut bien désigner William Thomas un des fondateurs de la profession d'architecture au Canada.

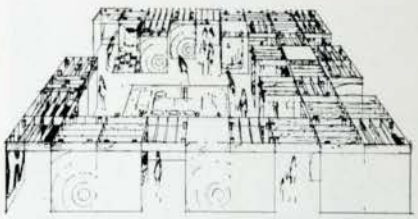
Voir le texte anglais pour la bibliographie.

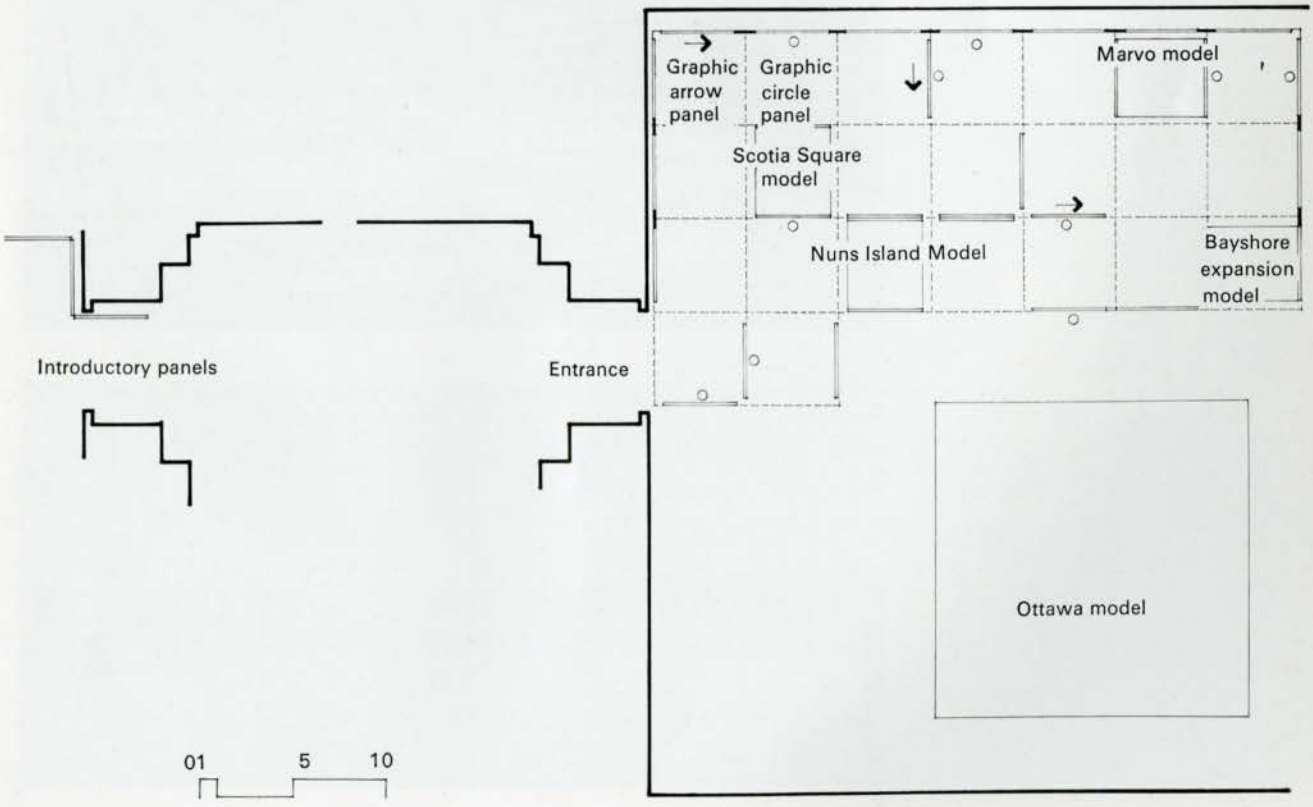
Waterfront Exhibition

1967 RAIC Convention
Chateau Laurier, Ottawa
May 24–27

"The waterways of Canada were the chief means by which the land came to be known and settled. Across the land are numerous villages, towns and cities that grew from early settlements on the shores of the sea or the banks of rivers and lakes. They have one element in common, the waterfront, that enduring urban strip where water meets with the land. Growth and the advent of new modes of transportation often broke the close ties of the town with the water, and too frequently the waterfront suffered neglect and decay. This exhibition shows how the Canadian people have developed their waterfronts from early times to the present day and how some of these waterfronts are being re-integrated within our cities."

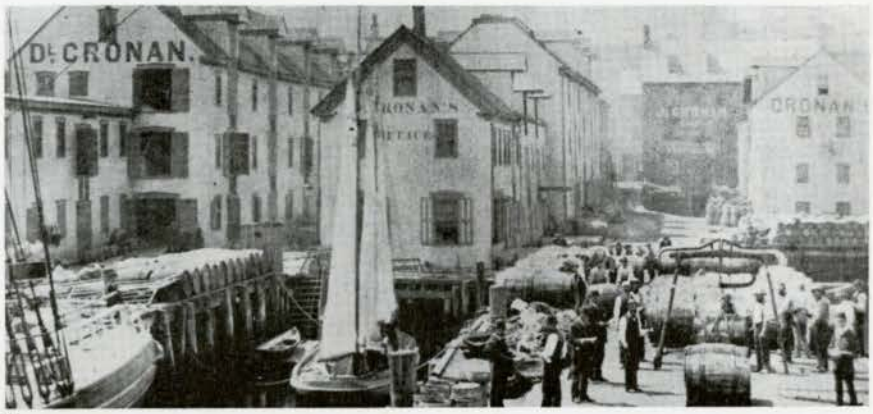
"Les voies navigables du Canada étaient les moyens principaux par lesquels le pays fut exploré et colonisé. A travers le pays on trouve des villages, villes et cités qui ont été fondés sur les plages de la mer, les berges des rivières et des lacs. Ils ont tous une chose en commun, les abords de l'eau, car c'est là où l'eau rencontre la terre. L'accroissement et l'arrivée des moyens de transports modernes ont souvent interrompu les relations étroites qui existaient entre la ville et l'eau et trop souvent les ports ont souffert par négligence et sont tombés en ruine. Cette exposition montre comment la population canadienne a contribué au développement de leurs abords riverains du début jusqu'à nos jours et comment quelques uns sont en cours de réintégration dans nos villes."





1
Halifax, NS about 1880
Halifax, NE vers 1880
2
Bonsecours Market Building, Montreal
about 1880
Le Marché Bonsecours, Montréal, vers 1880
3
Quebec City about 1873
La ville de Québec vers 1873

WATER FRONT



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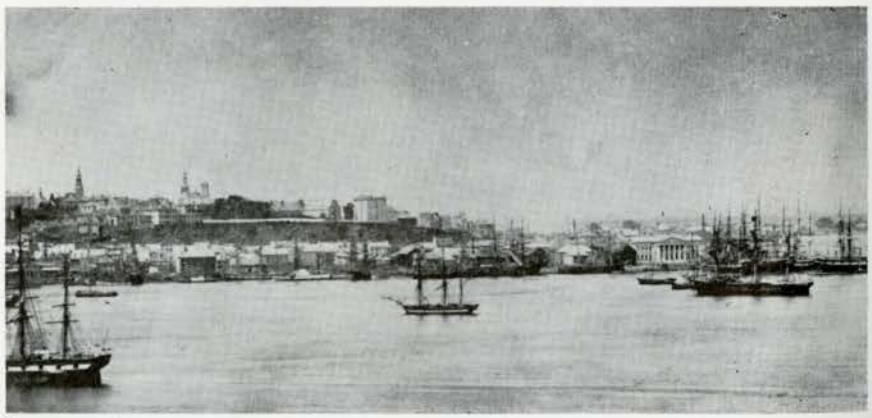

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4
Dufferin Terrace, Québec City, about 1875
Terrasse Dufferin, ville de Québec, vers 1875

5
Fish Market near Front and Wellington Streets, Toronto, 1845
Le Marché aux poissons près des rues Front et Wellington à Toronto, 1845

6
Rideau Canal, Ottawa, about 1905
Le Canal Rideau, Ottawa, vers 1905

7
Front and Wellington Streets, Toronto, 1888
Les rues Front et Wellington, Toronto, 1888

4

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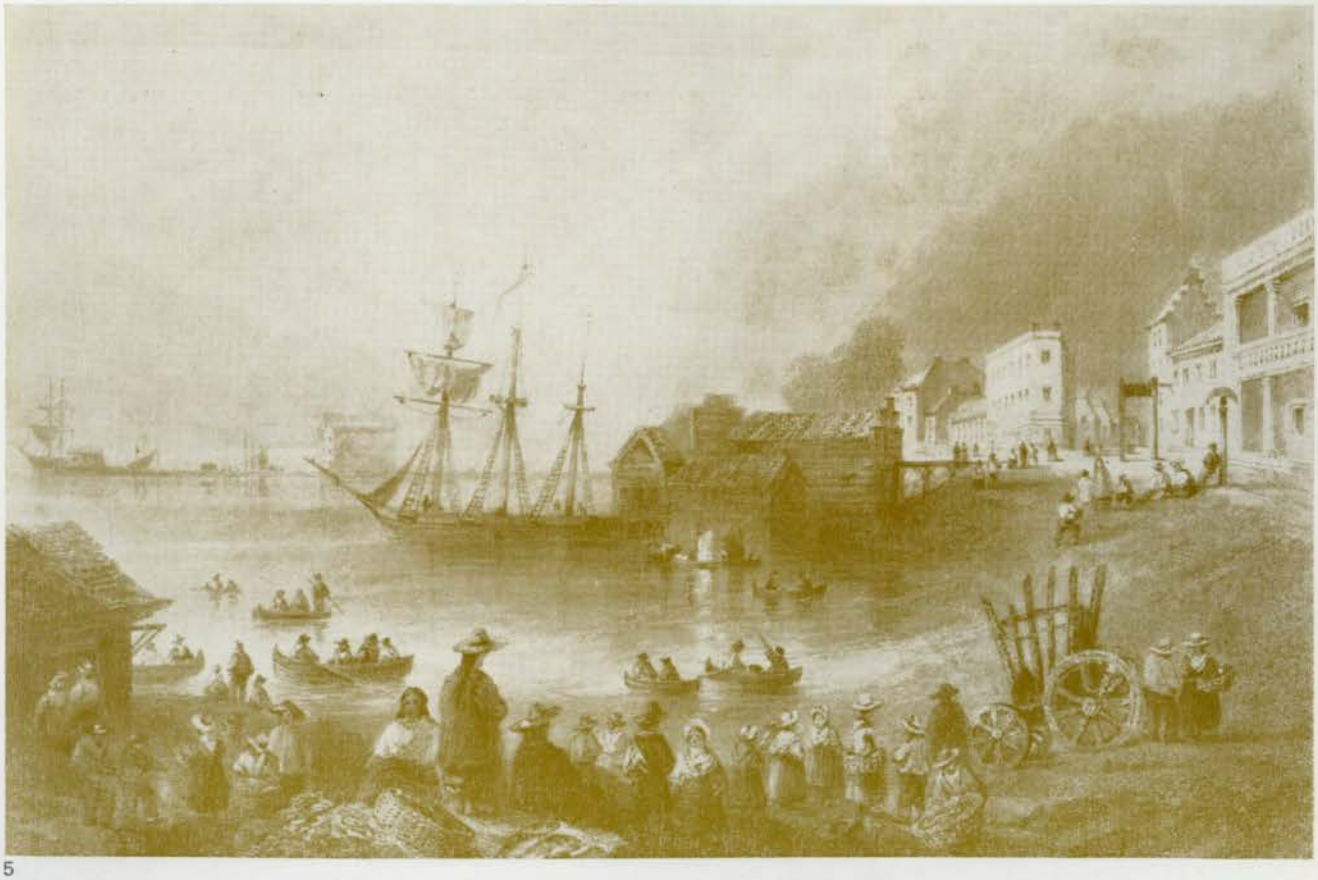

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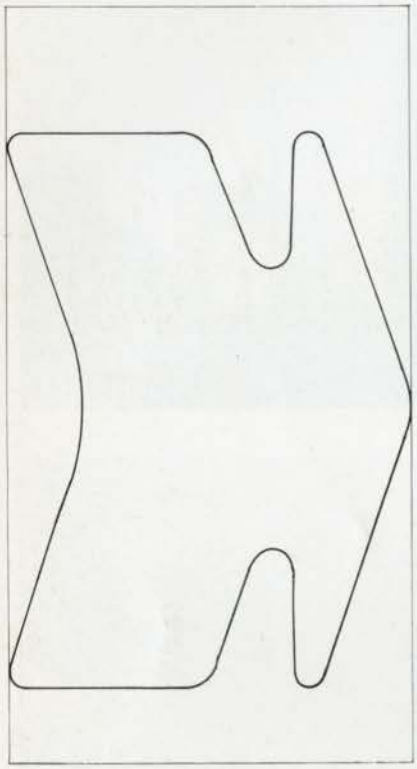
8
Mahoney Bay, NS
La Baie de Mahoney, NE
9
Peggy's Cove NS
L'Anse Peggy, NE



Graphic arrow panel

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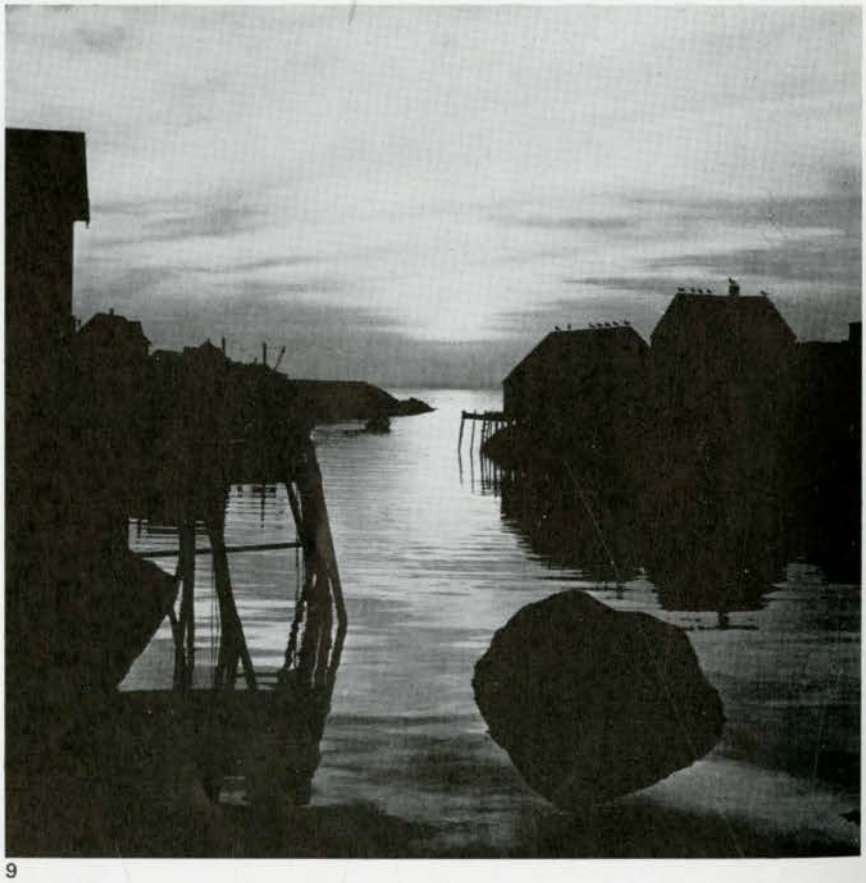

9

10
Burrard Bridge Civic Marina, Vancouver
Le pont Burrard, Port de Plaisance Civic, Vancouver
11
Lily Pond, The Driveway, Ottawa, National Capital Commission, E.I. Wood, Landscape Architect
L'Etang aux nénuphars, le Driveway, Ottawa Commission Nationale pour la Capitale, E.I. Wood, Architecte-paysagiste

12
Havre des Iles, Laval, PQ. Developer, Ain and Zakuta Ltd; Architects, Warshaw, Swartzman and Bobrow
Havre des Îles, Laval PQ. Développeur, Ain et Zakuta Ltée; Architectes, Warshaw, Swartzman et Bobrow


10


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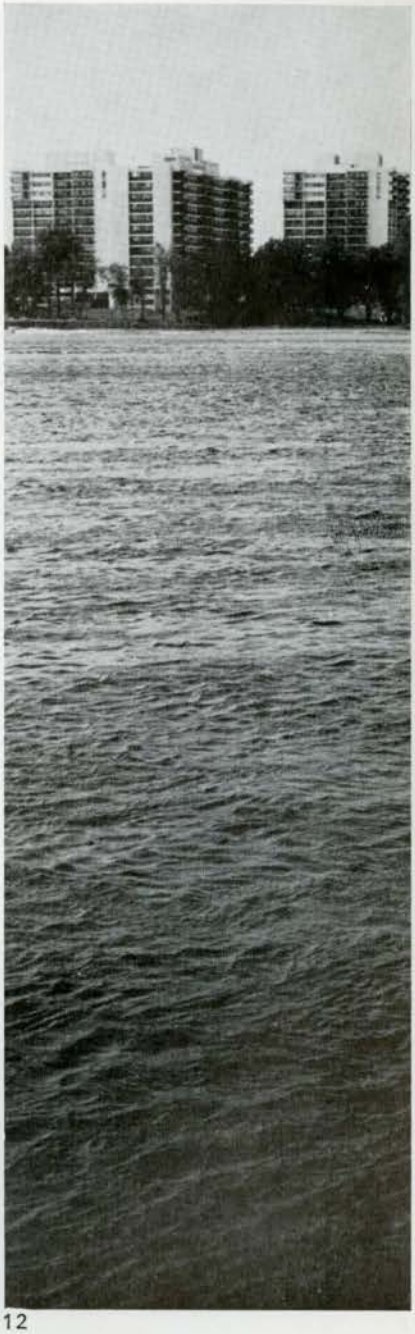
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13
Harbour, Toronto, 1966
Le Port de Toronto, 1966
14
Houseboat, Coal Harbour, Vancouver
Architects, Rob Way and Dino Rapanos
Péniche, Coal Harbour, Vancouver
Architectes Rob Way et Dino Rapanos

15
Park, La Tuque, PQ
Parc, La Tuque, PQ

16
Montréal

13

15

16

14

17
Blue Rocks, NS
Rochers bleus, NE
18
Saint John, NB, Client, National Harbours Board; Color design, Brancham-Henderson Co Ltd
Saint-Jean, NB, Client, National Harbours Board; Dessein en couleur, Brancham-Henderson Cie Ltée

19
Third Beach Stanley Park, Vancouver, Vancouver Parks Board
La Troisième plage, Parc Stanley, Commission des Parcs de Vancouver

20
Pump House, Wascana Center, Regina, Sask. Client Wascana Authority, Architects Kerr Cullingworth Riches Associates
Bâtiment des pompes, Centre Wascana, Regina, Sask., Client Administration Wascana; Architectes Kerr Cullingworth Riches Associés
21
Montréal 1966


17


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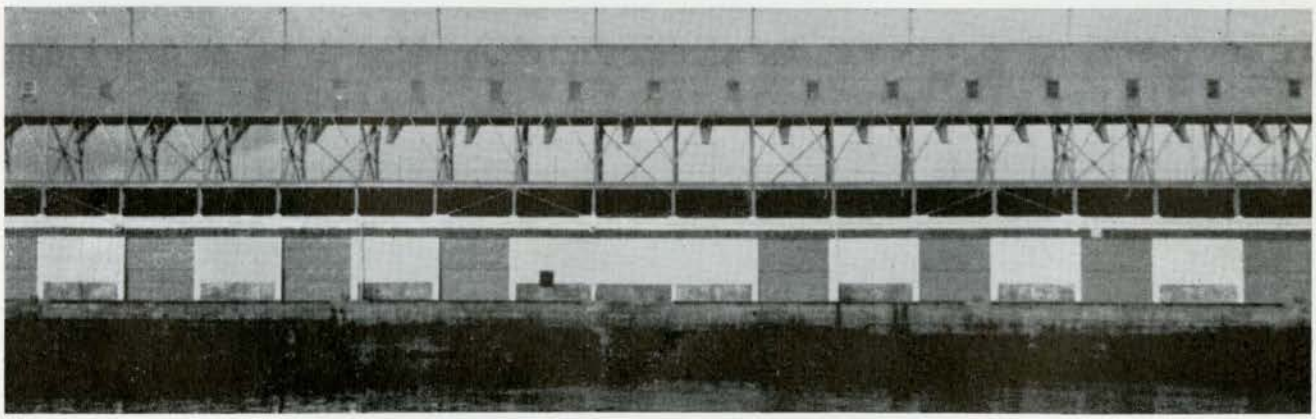
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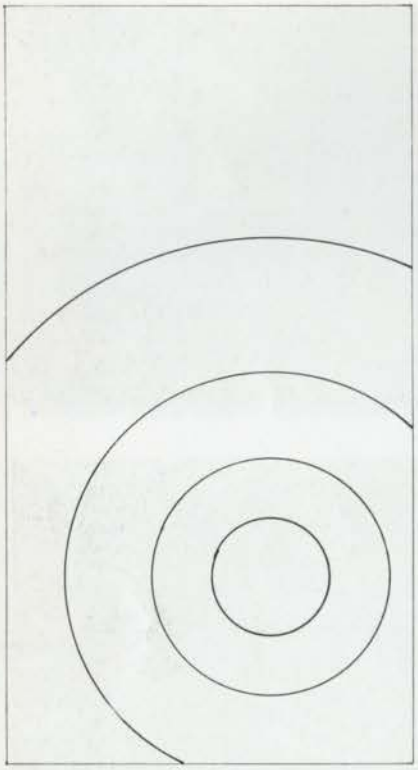
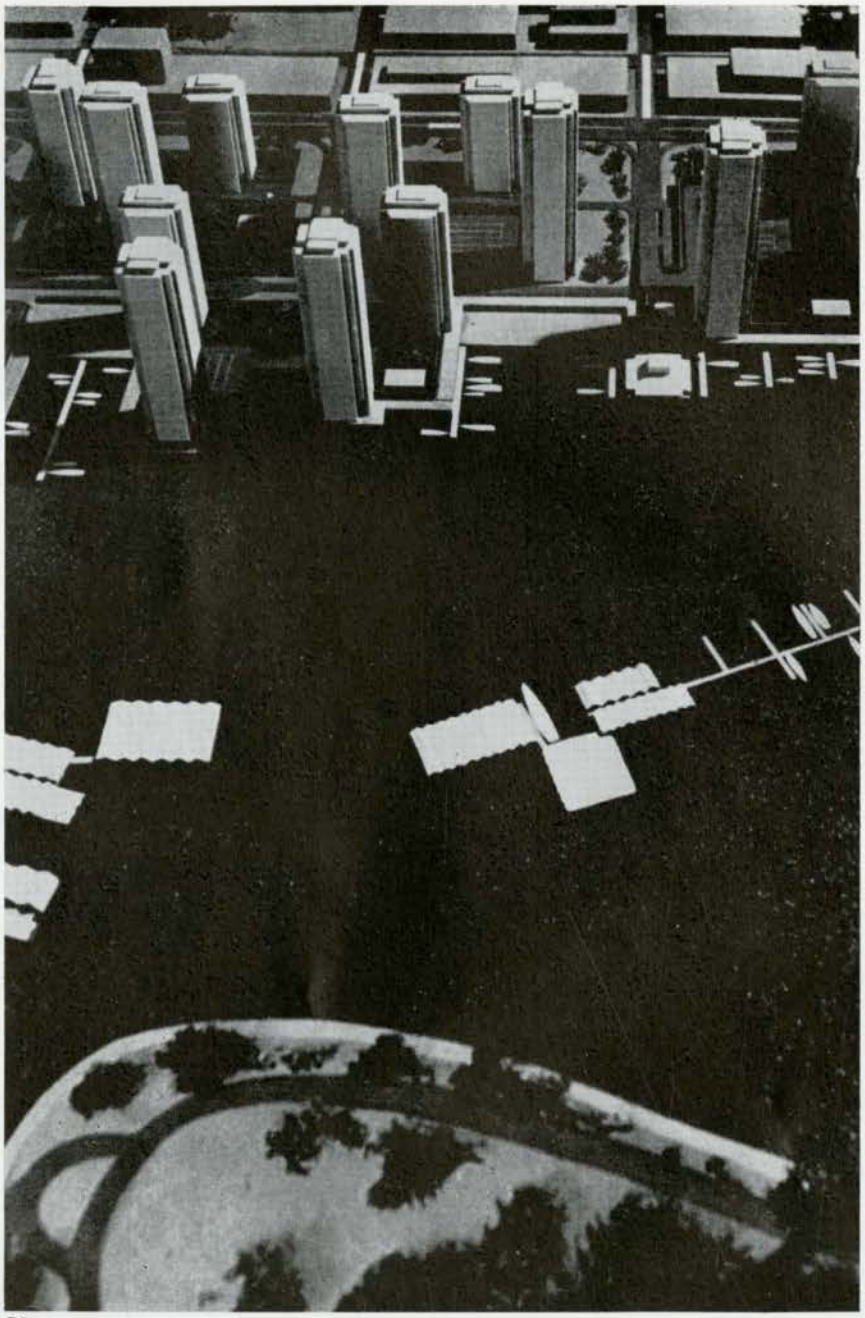
21
Proposed Coal Harbour, Housing, Vancouver, Developer, Harbour Park Developments Ltd; Architects Thompson, Berwick, Pratt and Partners
Project pour la cité à Coal Harbour à Vancouver, Développeur Harbour Park Developments Ltd; Architectes Thompson, Berwick, Pratt et associés



Graphic circle panel



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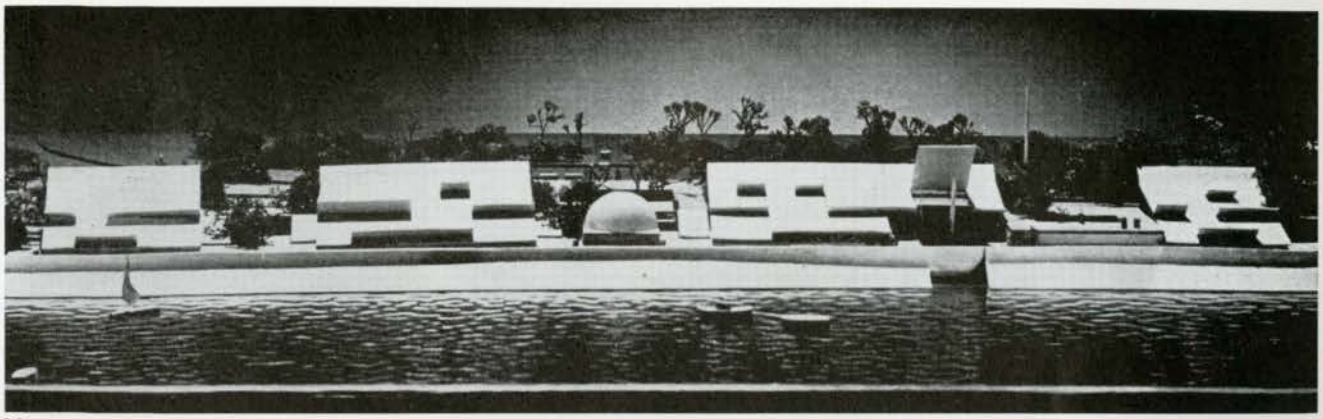
22
Proposed Museum, Kitsilano Park, Vancouver
Architects, Erickson / Massey; Client, University Arts Council of Vancouver
Musée proposé, Parc Kitsilano à Vancouver
Architectes, Erickson / Massey, Client l'Université de Vancouver, "Conseil des Beaux Arts".

23
Scotia Square Redevelopment, Halifax
Developer, Halifax Developments Ltd; Design Architects, Carl Koch & Associates; Architects first stage, Allward & Gouinlock
Redéveloppement, Place Scotia, Halifax
Développeur Halifax Developments Ltée, Projeteurs-Architestes Carl Koch et Associés; Architectes Première phase, Allward & Gouinlock



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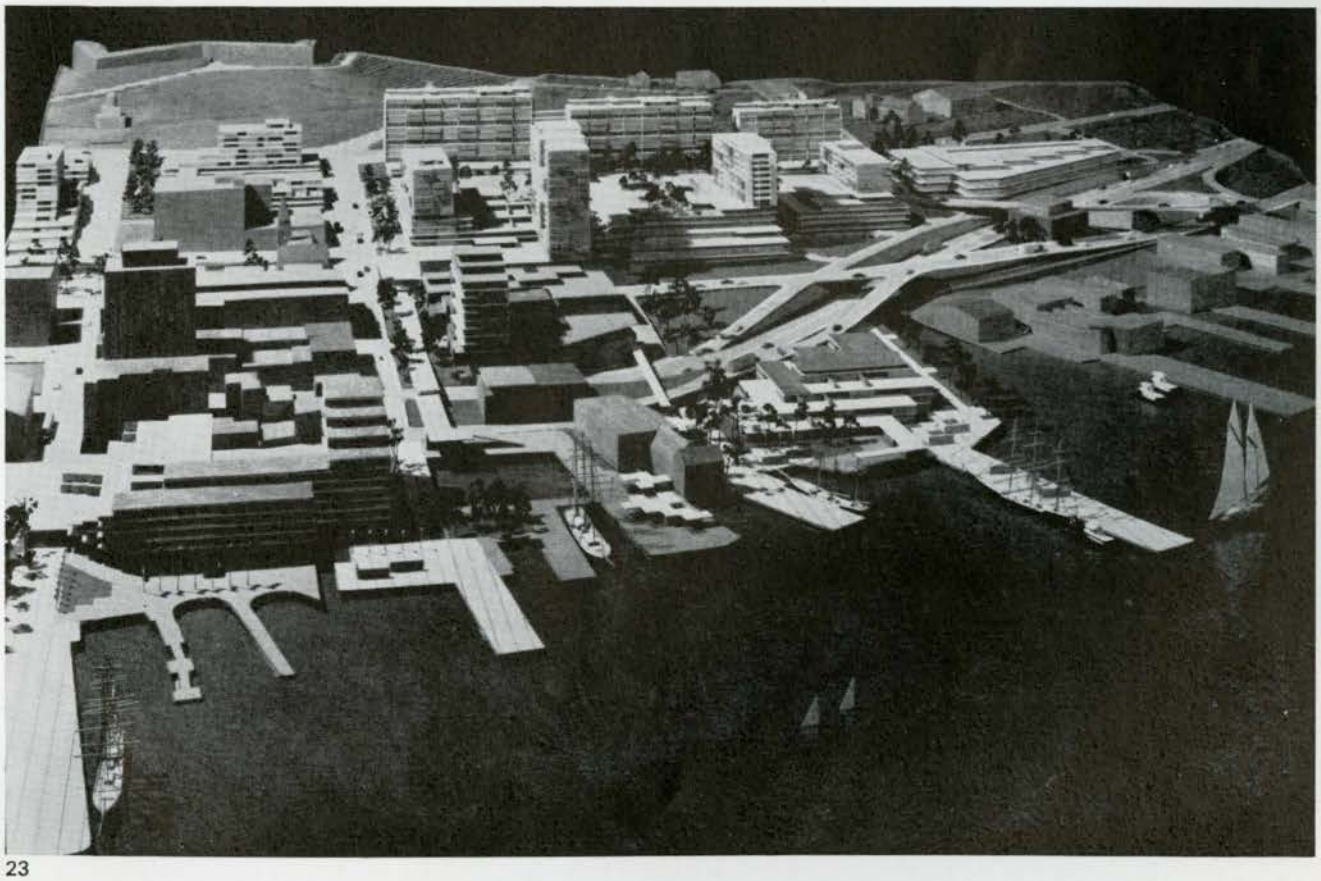

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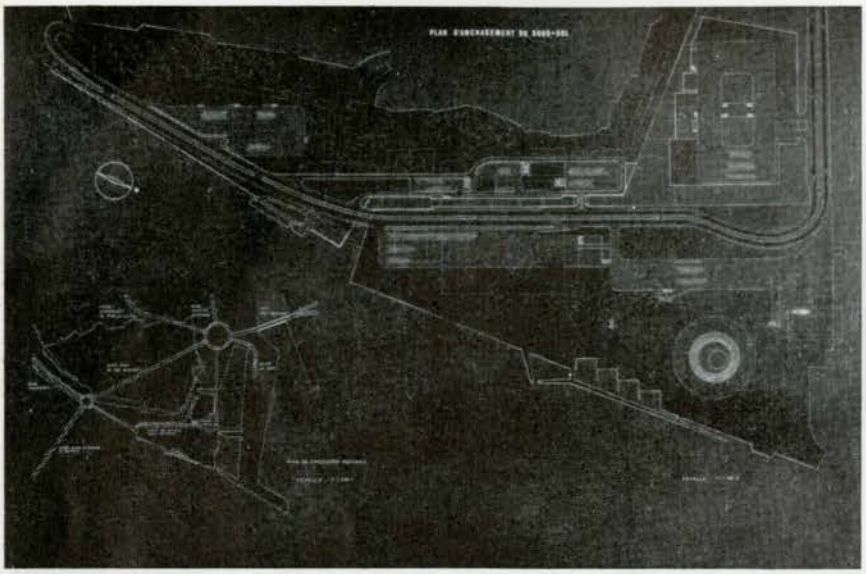
24
Underground Traffic plan, Proposed Lower Town Redevelopment, Quebec City, Architect Raymond Levesque
Plan de circulation souterraine, redéveloppement proposé de la ville basse, Ville de Québec, Architecte Raymond Levesque
25
Section, Proposed Lower Town Redevelopment, Quebec City
Coupe redéveloppement proposé de la ville basse, Ville de Québec.

26
Dufferin Terrace and Governor's Walk, Quebec City today; Client for Walk, Department of Northern Affairs and Natural Resources; Architect for Walk, Paul Rousseau
Terrasse Dufferin et la Promenade du Gouverneur, Ville de Québec, aujourd'hui
Clients, section des Promenade, Ministère du Nord Canadien et des Resources Naturelles; Architecte, section des promenade, Paul Rousseau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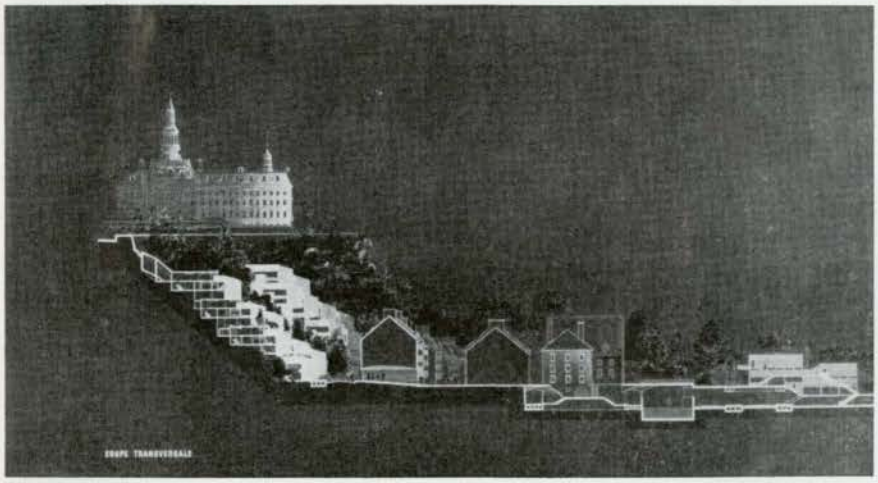
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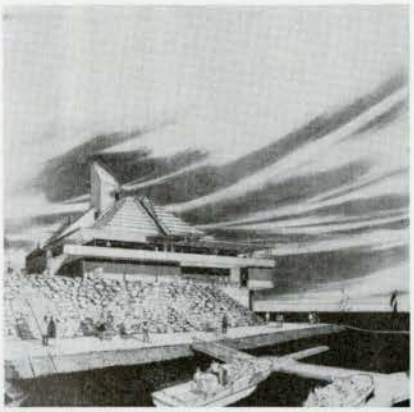
Marina Restaurant, La Ronde, Montreal
Client, Canadian Corporation for the 1967 World Exhibition; Architects Rosen, Caruso Vecsei, Martin
Restaurant du Port de Plaisance, La Ronde à Montréal, Client, La Corporation Canadienne de l'Exposition Universelle de 1967, Architectes Rosen, Caruso, Vecsei, Martin

28
Proposed Rideau Canal Redevelopment, Ottawa National Capital Commission; Planners, John B. Parkin Associates
Redéloppement proposé du Canal Rideau, Ottawa Commission Nationale pour la Capitale; Projeteurs, John B. Parkin et Associés

29
Proposed Center Town, Redevelopment, Ottawa National Capital Commission, Planners John B. Parkin Associates
Redéveloppement proposé de Centre-Ville Ottawa Commission Nationale pour la Capitale; Projeteurs, John B. Parkin et Associés



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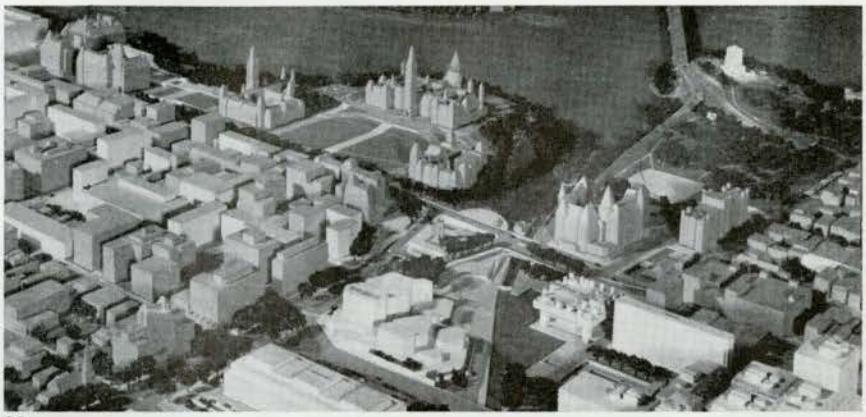

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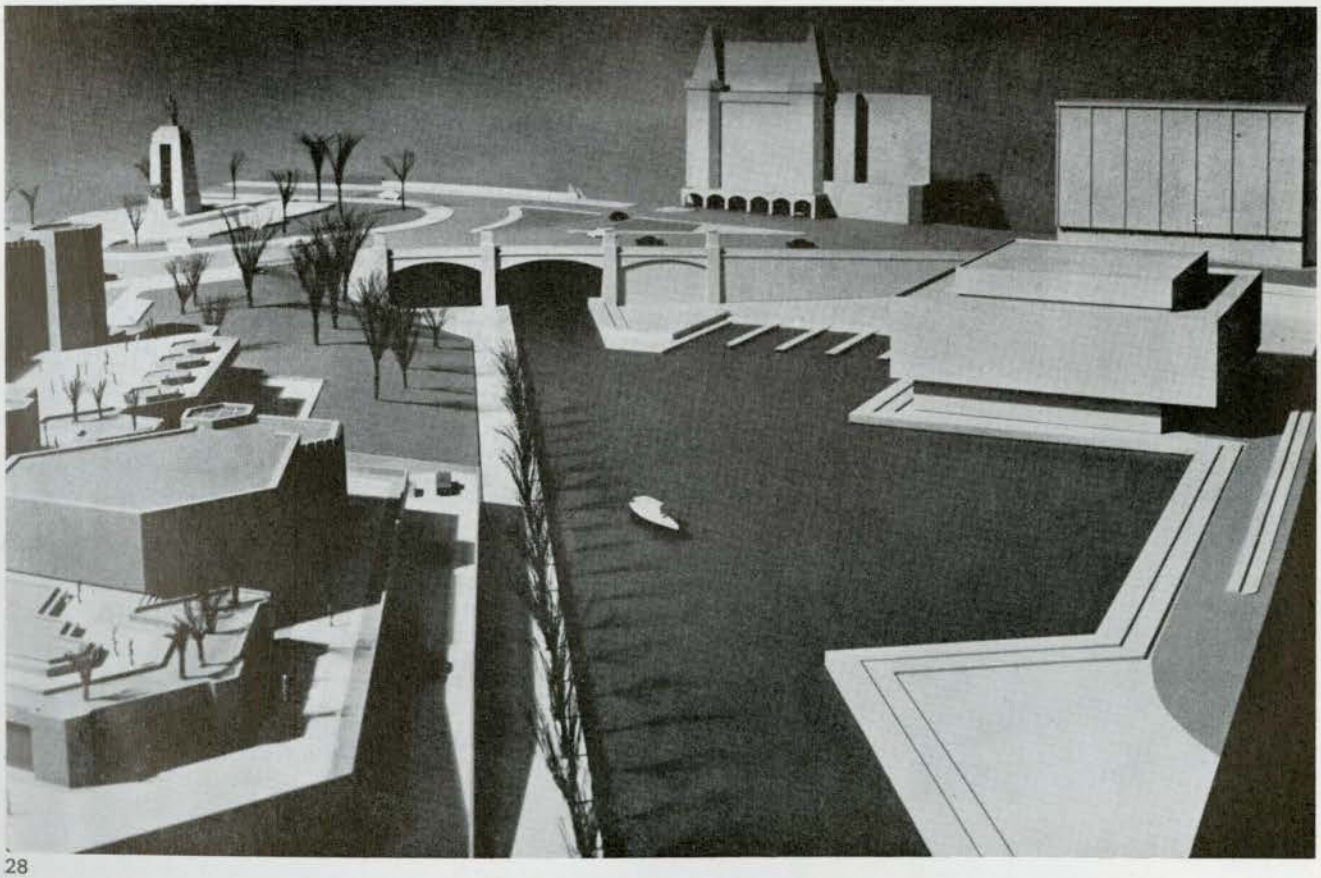

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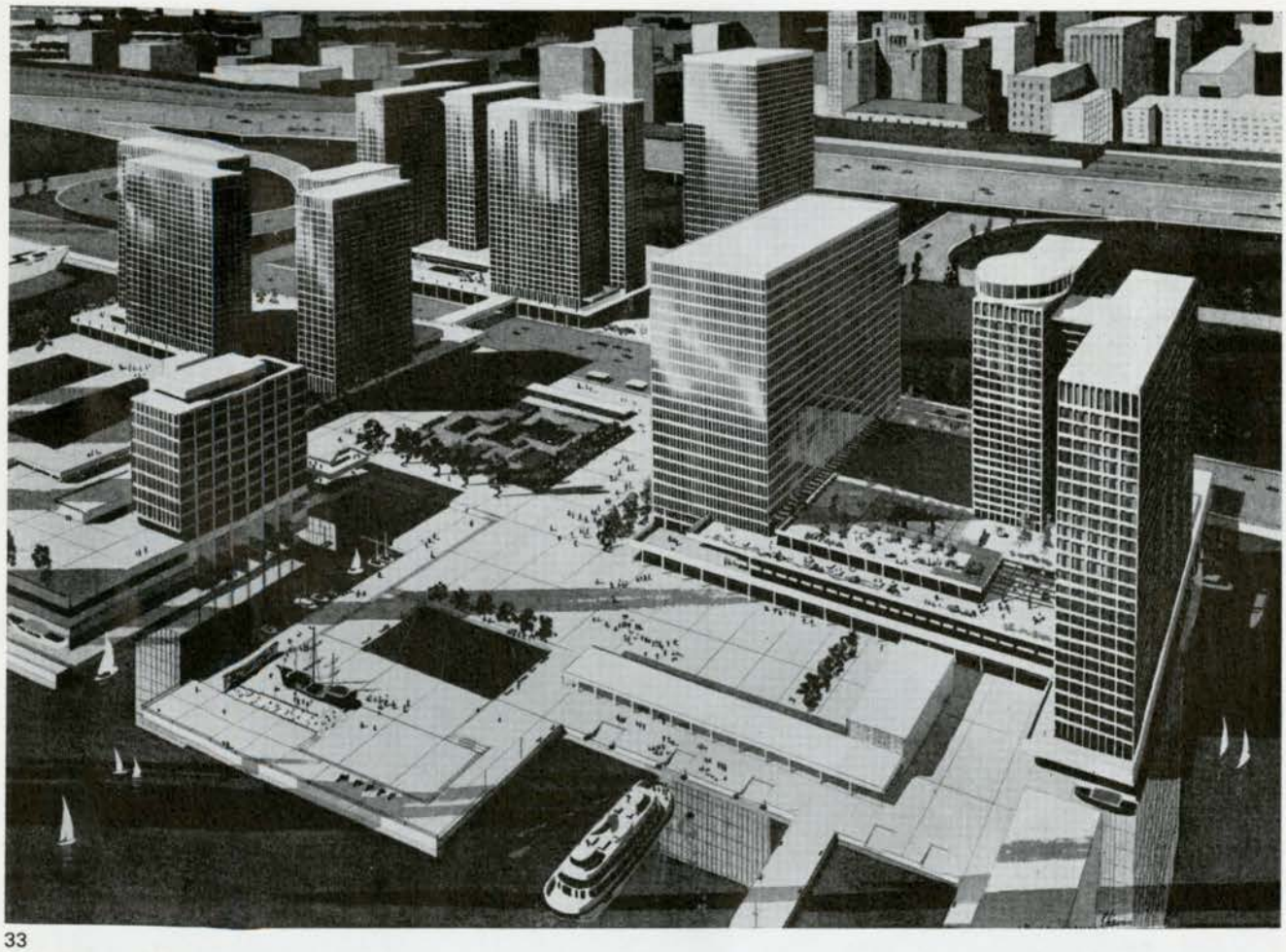
Proposed Harbor Redevelopment, Toronto
Developer, Marco Construction Ltd
Architects, Crang and Boake
Redéveloppement proposé du Port de Toronto, Développeur Marco Construction Ltd Architects Crang and Boake



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This exhibition was prepared for the Royal Architectural Institute of Canada convention of May, 1967, by the Ottawa Chapter of Architects and by the Canadian Government Exhibition Commission, designer – Arthur W. Herriot. It is sponsored by the Institute, Central Mortgage and Housing Corporation and the National Capital Commission. Co-ordinator – John Leaning, material gathered by Stig Harvor.

The Architecture of William Thomas

T. Ritchie

Mr Ritchie is a Research Officer with the Inorganic Materials Section of the Division of Building Research, of the National Research Council

William Thomas

William Thomas, an English architect, came to this country in 1840, when Canada was a small, rapidly-developing country, but one in which, fortunately, prevailing conditions encouraged the full employment of his great talents as an architect. The period from 1840 until 1860, the year of his death, made up the last third of his lifetime. During it William Thomas designed some of the most important buildings erected in Canada. Many still stand today and provide evidence of his considerable skill in the art of building design. For this valuable legacy his name should occupy an important place in the history of architecture in Canada. In addition, however, recognition should be given to his development of the architectural talents of his students, who, as a result of his training, came themselves to occupy important places in the early history of the architectural profession of Canada.

His Life Before Coming to Canada

Little detailed information appears to have been published on the life and work of William Thomas. Of his career in Canada a reasonably detailed account can be prepared from scattered information which appears in general accounts of building in Canada in the middle decades of the 19th century, and many of the buildings he designed are known. Of his life before coming to Canada and of his personality, little appears to have been recorded.

The place of his birth has been given as Stroud, in Gloucestershire, England, and the date was 1800. When he came to Canada about 1840 he was then therefore forty years of age, and probably had already about fifteen years of experience in the architectural profession. Colvin's "Biographical Dictionary of English Architects" refers to William Thomas as having practiced in Birmingham, where he designed the church of St Matthew, Lister Street, Duddeston, built in 1839; and refers to his brother John Thomas (1813–62) who assisted William for a time. Later John became well known as a sculptor and practiced also as an architect. The dictionary makes reference to William Thomas of Leamington Spa, who designed Lansdowne Crescent and Circus and other houses and villas there, and who published in 1843 a book "Designs for Monuments and Chimney-Pieces." These references to William Thomas identify him as the architect who came to Canada, since the "Canadian Gazetteer", published by William Smith in Toronto in 1846, mentions the architect William Thomas as having been "late of Leamington Spa", and the obituary of his son (W. T. Thomas, who died in Montreal in 1892) refers to William Thomas as the architect who came to Toronto from England, and whose brother John had "won wide distinction as a sculptor and architect, having been chosen by Sir Charles Barry, the architect of the Houses of Parliament . . . to execute the statuary about that building".

The reason why Thomas gave up his practice in England for a new life in Canada is not known. Perhaps insufficient demand for his services in England, and therefore insufficient scope for the development of his abilities, prompted him, like many other architects of that period of time, to come to North America.

Thomas settled in Toronto and most of his work was carried out there and in Hamilton, although he also received commissions to design buildings in other communities including Cobourg, Guelph and London. All of these towns were relatively small in those days and in the early stages of their development. Ten years before Thomas came to Toronto its population was less than 3,000 persons; that of Hamilton was probably about a thousand; and only a few years had passed since London had been laid out as a town, so it consisted of only a few houses and log cabins. At the end of the next decade, however, when Thomas arrived on the scene, Toronto had been incorporated as a city and had a population of close to 15,000 persons, Hamilton had about 5,000, and London about 3,000. This rapid growth of Upper Canada continued in the next two decades at an even greater rate than before. Conditions were such as to require a considerable program of building construction and accordingly provided architects with an important role in the development of the new country.

The Work of William Thomas

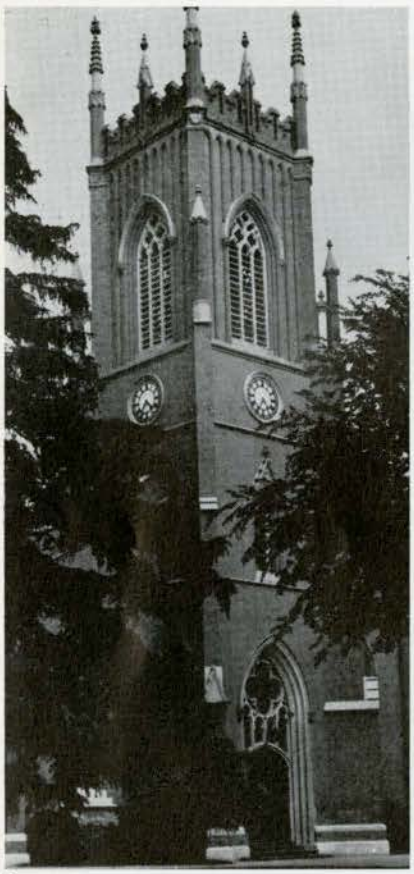
The earliest building that Thomas designed in Canada may have been the Commercial Bank Building at 15 Wellington Street West in Toronto, which was constructed in 1842 and still stands. Originally built for the Commercial Bank, it was taken over by another banking company, and later still by firms who have used it as an office building (*Figure 1*).

In 1845 construction was started on another

1
Commercial Bank Building, 15 Wellington Street West, Toronto
Edifice de la Banque Commerciale, 15 rue Wellington ouest, Toronto

2
St Paul's Church, London
Eglise St Paul, Londres
3
Oakham House, Toronto
Maison Oakham, Toronto

4
Bay Street Presbyterian Church, Toronto photographed by O. Thompson in 1868 (Public Archives of Canada)
L'Eglise Presbytérienne de la rue Bay, Toronto, photographiée par O. Thompson en 1868 (Archives Publiques d'Ottawa)
5
St Lawrence Hall, Toronto (Toronto Public Libraries)
St Lawrence Hall, Toronto (Bibliothèque Publique de Toronto)



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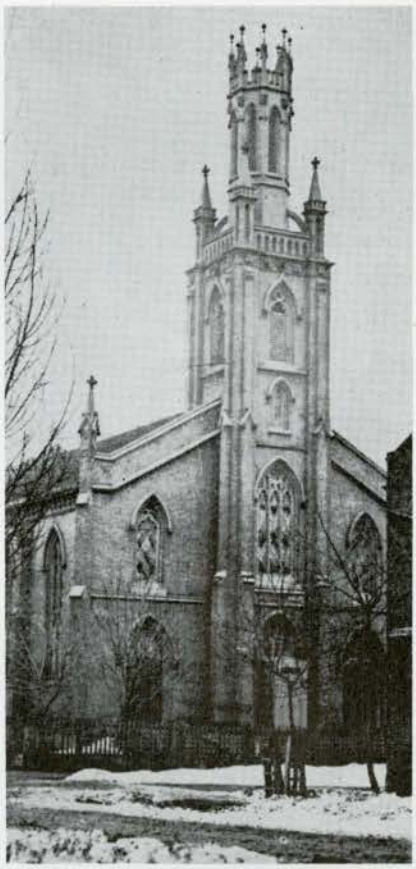

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of his Toronto projects St Michael's Cathedral and Palace at Bond and Church Streets. These buildings were opened in 1848. The spire, however, was not built until after his death, and it was built to the design of Messrs Gundry and Langley.

About the time of the start of construction of St Michael's Cathedral the building of a new church was undertaken in London to replace the Episcopal Church (St Paul's) which had burned down in 1844. William Smith, in his "Canadian Gazetteer" of 1846, mentioned Thomas as the architect of the new church in London (*Figure 2*). Smith also mentioned Thomas in connection with the construction in Toronto of "new stores at present erecting in King Street". It would seem, therefore, that not long after his arrival in Toronto, Thomas had established a successful practice in architectural design and had received commissions for the design of important buildings.

A directory of Toronto for 1843 listed two architects, J. G. Howard and Kivas Tully, in addition to Thomas. Howard and Thomas had come from England, Tully from Ireland. Smith in his "Gazetteer" of 1846 gave the number of architects in Toronto as four (without their names). He also mentioned that there were among the trades and professions in Toronto two surveyors, five artists and portrait painters, four engravers, two drawing masters, one nail maker, sixteen builders and twenty-five cabinet makers, which indicates the development taking place in Toronto.

In Smith's later book on Canada, published in 1851, the business directory for Toronto listed the names of nine architects, the partners Cumberland and Ridout, W. W. Fraser, J. G. Howard, Joseph Shenod, John Tully, Kivas Tully, Thomas Young, and William Thomas, whose address is given as "Oakham House, Church St". In the same book the business directory for Hamilton listed William Thomas, "architect and surveyor, King St", and it also listed G. F. Thomas, a surveyor also on King Street, who may have been a brother, son or other relative of William Thomas. By the year

6
Victoria Hall, Cobourg
7
City Hall, Guelph
Hôtel de Ville, Guelph

8
St Paul's Presbyterian Church, Hamilton
(Toronto Public Libraries)
Eglise Presbytérienne St Paul, Hamilton
(Bibliothèque Publique de Toronto)

6

8

7

1851, therefore, the practice of Thomas required the maintenance of two offices. Two of his sons, W. T. and C. P. Thomas, trained with him and probably practiced with him. An articled student William G. Storm, son of a Toronto builder, had joined the office in 1844, when eighteen years of age.

Of three buildings designed by Thomas and constructed in 1848, one remains, his own house and office which he called "Oakham House", at Church and Gould Streets in Toronto (*Figure 3*). Of the two others, the Presbyterian Church at Bay and Richmond Streets was demolished in 1886, and Knox's Church on Queen at James Street was taken down in 1906. The former is shown in the "photographic views of the principal buildings in the city of Toronto", published in 1868 by O. Thompson, "Photographic Publisher" (*Figure 4*, from the Public Archives of Canada). It shows fine Gothic detail, especially in the tower. Thompson described the church as being of Kingston stone and white brick, with Ohio stone for facings and carved work.

One of the most important works of Thomas was St Lawrence Hall, which was completed in 1850. For many years thereafter it served as Toronto's principal concert and lecture hall. World-famed artists of the time, including Jenny Lind, "the Swedish Nightingale", performed in St Lawrence Hall, which still stands, and is at present being renovated for continuing use as a concert hall. It is shown in *Figure 5*, an early photograph.

A somewhat similar building, which also remains in use, was designed by Thomas for the town of Cobourg (*Figure 6*). This building is the Town Hall, also called Victoria Hall, and it contains "a complete opera house which was opened by a grand ball with the Prince of Wales, later King Edward, in attendance on September 6, 1860". The design of Victoria Hall has been variously attributed to William Thomas and to Kivas Tully. There is no doubt that Thomas was associated with the building, since the local paper in 1858 noted that "the carvings

9
Zion Church, corner Adelaide and Bay Streets, Toronto, photographed by O. Thompson in 1868
(Public Archives of Canada)
Eglise Zion, carrefour des rues Adelaide et Bay à Toronto, photographiée par O. Thompson en 1868
10
Cooke's Church, Toronto photographed by O. Thompson in 1868
(Public Archives of Canada)
Eglise Cooke, Toronto, photographiée par O. Thompson en 1868

on the spandrels of the chief entrance are exceedingly fine. They comprise . . . the rose, the thistle and the shamrock disposed on either side of an ancient lyre. These carvings, together with a fine bearded face which forms the keystone of the arch, are the work of Mr Thomas, contractor for the stone-cutting and certainly do him great credit" (J. A. S. Evans, Hamilton Spectator, March 25, 1961).

In 1852 a school on Louisa Street in Toronto was built to Thomas' design. In the next year he was appointed engineer of the city of Toronto, an appointment illustrating that engineering and architecture were then considered to be the same profession. In the following year a monument to General Brock, designed by Thomas, was erected at Queenston Heights near Niagara Falls. The lofty tower of the monument, surmounted by Brock's statue, overlooks the spot where Brock was fatally wounded when leading an attack on American forces in a battle of the War of 1812.

In 1856 another of the works of Thomas was brought to completion, the Guelph City Hall (*Figure 7*), which continues in use today. He had earlier designed a small Anglican church for Guelph which was never completed, and torn down 20 years after the start of its construction. Thomas also designed the Market Building, in Guelph after completion of the City Hall.

In 1856, St Paul's Presbyterian Church in Hamilton (originally St Andrew's) and still in use (*Figure 8*) and Zion church in Toronto were completed to his design. The latter church was demolished. It appeared in Thompson's photograph of 1868 (*Figure 9*), and he described it as being in the Lombard style of architecture. Also erected in 1856 was an office building at Yonge and Colborne Streets in Toronto which Thomas originally designed as a dry goods store. It later became a bank building and finally an office building before it was demolished.

Another church described by Thompson as being "in the Lombardian style of architecture" and from the designs of "William Thomas and Sons, Architects" was constructed in 1857 at the corner of Queen and Mutual Streets in Toronto. Called Cooke's Church, it had twin spires (*Figure 10*, by Thompson in 1868; Public Archives of Canada).

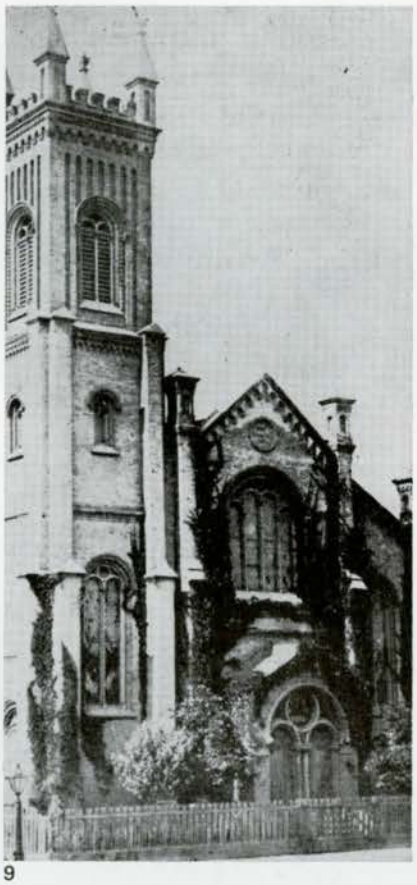
There are undoubtedly houses and other buildings in Toronto, Hamilton and elsewhere designed by Thomas but not yet been identified as his work. The last of his buildings of which there is a record is the jail on Gerrard Street in Toronto, which he designed in 1858, but construction of the building was not completed before his death in 1860.

Assessments of his Work

William Thomas must certainly rank as one of the leading architects of the middle decades of the 19th century in Canada, not only in regard to the number of buildings he designed but also in the high quality of their designs. He was an architect of an age in which style was undoubtedly one of the most important aspects of building, and style meant either Classic or Gothic. Thomas was a master of both. He has been described as an architect "of great taste and skill", and as one who was "a pioneer of Gothic architecture in Canada, and even on this Continent".

His work at once attracted favorable attention in Canada. In 1846, even before the stores on King Street he designed were completed, it was said that they "will be when finished the handsomest buildings of the kind in Canada, and equal to anything to be seen in England". His church in London received praise from the same writer: "London can now boast of possessing the handsomest Gothic church in Canada West", and St Lawrence Hall and Market were referred to as "a magnificent pile of buildings".

Of his work in Toronto, it was said on his death in 1860 "To him we owe some of the finest buildings of which our city can boast. He was one of the first to discover the use which might be made of the white brick peculiar to Toronto."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More recent assessments of his work have also been favorable. His halls at Toronto and Cobourg have been described as "imposing but reserved and dignified", while his work in general was "uniformly good, well proportioned and refined". St Paul's Church in Hamilton, "with its curvilinear tracery and graceful spire . . . is one of the best monuments of the Gothic Revival in Canada".

His Influence on Canadian Architecture

As a successful architect Thomas attracted articled students to his office, one of whom was William G. Storm, who later became a leading architect in Toronto. The partnership of Storm and F. W. Cumberland produced many important buildings. Storm's skill in architectural design was undoubtedly formed and developed under the guidance of William Thomas.

Two of his sons, William (?) T. and Cyrus (?) P. Thomas (and perhaps another son) were also trained in his office, and they apparently worked with him until his death. Many of the buildings attributed to Thomas were probably designed, at least in part, by his sons. It is recorded that they moved to Montreal in 1864 and worked in partnership for a short time, then C. P. Thomas moved to Chicago. W. T. Thomas continued his practice in Montreal and became a leading architect there, rising at once to the first rank among his confreres". He died in 1892. Like his father, he was responsible for a number of tastefully designed buildings, many of which reflect his father's skill. In open competitions his designs for St George's Church in Montreal and Trinity Church in Saint John were accepted. Several large houses in Montreal, including those of Thomas Workman, Lord Mount Stephen and Duncan McIntyre were designed by Thomas in a "scholarly treatment of classic details", which appreciation was also applied to a four-storey office building of his design erected in 1870 at St Helen and Notre Dame Streets. St Martin's Church (1874), the Caverhill block on St Peter Street (both in Montreal), and the Prescott Town Hall are other buildings designed by W. T. Thomas.

Conclusion

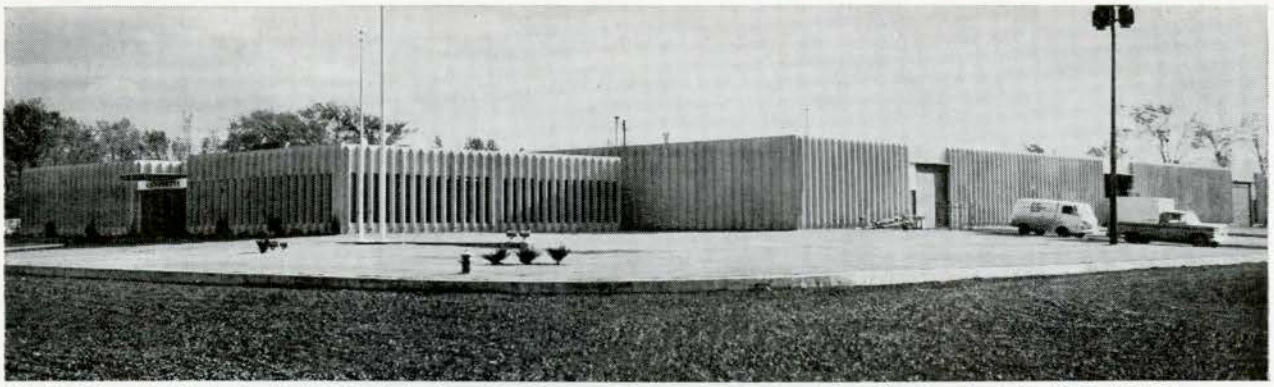
The architecture of William Thomas occupies an important place in Canada's architectural history. His was an age in which, even in the newly developing Canada, a high level of taste and competence in architecture prevailed, and his was also an age in which the most important aspect of building design was style, of which the Classic and the Gothic predominated. Many of his buildings which remain are of interest since they reflect so well the best qualities of that age of architecture, and they illustrate not only the good taste and skill with which he carried out his work but also his mastery of the art.

It is fortunate that in coming to Canada he found conditions which encouraged the employment of his considerable architectural skill, and which made his life in Canada such a productive one. His influence on the next generation of Canadian architects was undoubtedly important, at least two of his students becoming in their own rights leading architects of the day. It would, therefore, not be inappropriate to designate William Thomas as one of the founders of the Canadian architectural profession.

Bibliography

In the preparation of this sketch of the life of William Thomas information was obtained from the following sources:

"A Biographical Dictionary of English Architects, 1660–1840", by H. M. Colvin. John Murray, London, 1954.
"Smith's Canadian Gazetteer; comprising statistical and general information respecting all parts of the Upper Province or Canada West", by Wm. H. Smith, Toronto, 1846.
"Canada, Past, Present and Future" (Volumes I and II), by W. H. Smith. Toronto, 1851.
"Toronto's Early Architects", by T. A. Reed. *Journal Royal Architectural Institute of Canada*, Vol. 27, No. 2, February 1950
"Architecture: Looking Back", by S. G. Curry. Construction, Vol. XX, No. 6, June 1927.
Article by J. A. S. Evans in the *Hamilton Spectator*, March 25, 1961.
"The Classical Tradition in Ontario Architecture", by J. A. S. Evans. *Canadian Geographical Journal*, Vol. 64, No. 2., February 1962. (In the article by J. A. S. Evans the Cobourg Town Hall is attributed to Kivas Tully; S. G. Curry, above, attributes it to Thomas.)
"A Hundred Years of Architecture in Toronto", by E. R. Arthur; *Journal of the Royal Architectural Institute of Canada*, Vol. XI, No. 4, April 1934.
"Toronto: No Mean City", by E. R. Arthur. University of Toronto Press, Toronto, 1964.
"The Old Scottish Architecture of Ontario", by A. B. Cutts. *Canadian Geographical Journal*, Vol. XXXIX, No. 5, November 1949.
"Canadian Gothic", by R. H. Hubbard. *Architectural Review*, Vol. CXVI, No. 692, August 1954.
"Historic Architecture in Hamilton", by Arthur Wallace. *Journal Royal Architectural Institute of Canada*, Vol. 40, No. 4, April 1963.
"Toronto: Romance of a Great City", by Katherine Hale. Cassell and Company, Limited, Toronto, 1956.
"The Development of Architecture in the Province of Quebec since Confederation", by Philip J. Turner. Construction. Vol. XX, No. 6, June 1927.
"The Ancestral Roof, Domestic Architecture of Upper Canada", by M. Macrae and A. Adamson. Clarke, Irwin and Company, Limited, Toronto, 1963.
"The Late W. T. Thomas" (Obituary). *Canadian Architect and Builder*, July 1892.
"The Late W. G. Storm, R.C.A." (Obituary). *Canadian Architect and Builder*, August 1892.



Usine C. A. Cayouette Ltée, Boucherville, P. Q. Architectes: Cayouette & Tanguay, St-Hyacinthe. Ingénieurs en structure: Claude Lanthier & Associés, Montréal. Entrepreneur en fondations: Lamothe Construction Ltée.

Willow Tree Project parking garage, Halifax. Architect: Gregory A. Lambros, Halifax. Structural Engineers: Blower Horvoth Associates, Montreal. General Contractors: MacDonald Construction.

Guildford Town Centre, Surrey, B. C. Architect: Frank Donaldson. Consulting Engineer: Phillips, Barratt & Partners, Vancouver. Contractor: Laing Construction & Equipment Ltd., New Westminster, B.C.

Imperial Oil, Ltd., Toronto. Architect: John B. Parkin Associates, Toronto. General Contractor: Eastern Construction Co., Toronto.

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Royal Bank Building, Winnipeg. Associated Architects and Engineers: Smith, Carter, Searle Associates and Moody, Moore, Whenham & Partners, Winnipeg. General Contractor: Poole Construction, Limited.

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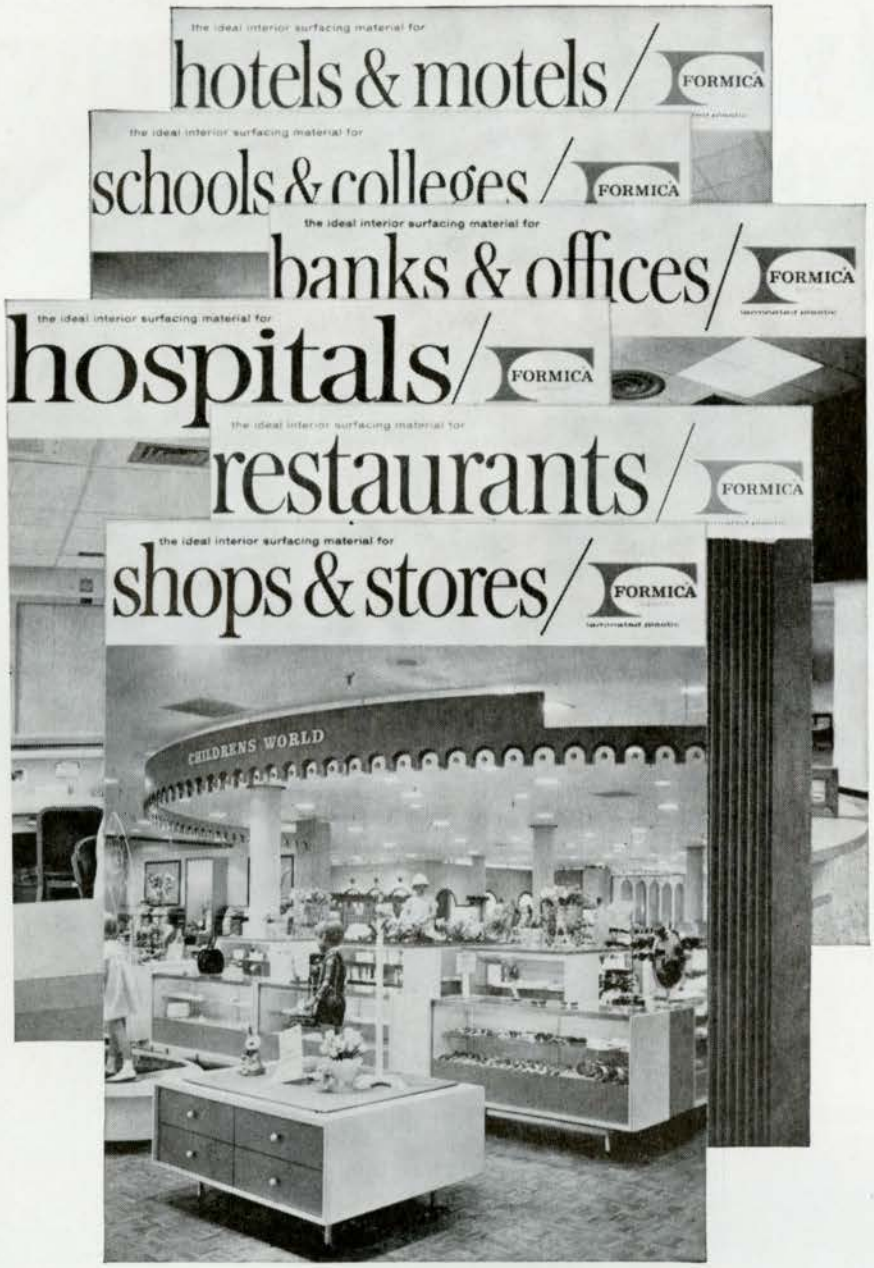

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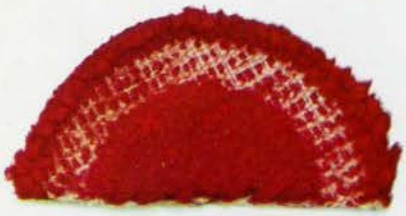

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Interior Vertical Elements

Technical Technique 6

D. A. Voisey, B.Arch.

Mr Voisey is with the Toronto architectural firm of Craig, Zeidler & Strong

For some time now the topic of Interior Vertical Elements or, to be more specific, permanent, movable and glazed partitions and doors, has been restricted to the single idea that the division of internal space is their only major function. It is becoming increasingly more evident that the processes of today's industrialized society and the design concepts of today's teams of architects and engineers require a much broader vocabulary than the present day one regarding the use of the materials available for construction. It is true that the interior vertical elements in buildings today and the materials available today offer a wide variety of adequate solutions to the problems of degree of flexibility, methods of construction, variety of detail, design and final appearance, and maintenance. However, we should be endeavouring to produce all of these ends as well as others which greatly affect the total building.

We all have heard much of the word "system" and the application of this word to the architecture of today. The word system seems to imply a very rigid order of things with its very sound, but it is only so if approached with a mind which is not open. The design team must first of course master the basic language of and understand the technology of a system, but there is still an infinite amount of freedom to be exercised to achieve the final product which must result in more than simply assembly line mediocrity.

A brief study of the current practices of the construction of interior vertical elements will serve to illustrate further that we are perhaps guilty of making only minor changes to the vocabulary of this topic when we should be making every effort to successfully develop each material to its fullest capabilities. Permanent partitions are generally constructed by building up a wall of components such as concrete or masonry units, with an applied surface treatment. The primary purpose thus far has not generally been load bearing capacity but rather the division of internal space. A partition must also provide any or all of the following functions; that of fire resistance, sound isolation, structural stability, and suitability for final finish materials. The nature of construction of permanent partitions is such that they remain constant during the life of the building and are not drastically affected by changes in occupancy of the building. Fixed elements of buildings, such as stairs, elevators, mechanical and electrical services and washrooms are generally enclosed by some type of permanent partition, constructed of concrete, masonry or clay tile units. These materials offer good fire resistant properties, and in cases such as elevator shafts may provide structural capabilities in supporting elevator machinery and equipment.

Concrete partitions require expensive formwork in their initial installation and metal reinforcing to add to their structural properties. Partitions of brick, concrete, and concrete masonry units are extremely heavy in their own dead load and are generally time consuming and difficult to construct. Structural clay tile or terra cotta tile, available in unit sizes usually 12" square and from 2" to 12" thick, is a material which offers the benefits of being light in weight and relatively easy to install. Gypsum block is a lighter weight unit material than clay tile and is available usually in 12" high by 2'-6" long units from 2" to 6" thick. Clay masonry units and mortar materials in their own right have great resistance to compression and shearing forces and when these are combined with structural steel reinforcing resistance to tensile forces, a practical and economical method of construction is achieved. The most common application of this form of construction is in forming lintels which are widely used. The costly formwork required for reinforced concrete is not required in reinforced masonry work, and the light weight structural members and minimum wall thickness in this type of work substantially lower the costs in comparison with reinforced concrete work.

Partitions of a slightly less permanent nature usually are constructed of materials such as metal channels with metal or board lath covered in plaster. This type of partition is lighter in weight and less expensive to install in comparison with masonry unit construction. Economical usage of square foot area is obtained through the use of this type of partition as the thickness of the finished wall may be as small as 2". Drywall construction consists of wallboard face layers which are laminated on the jobsite to a core material set in metal floor and ceiling runners. The joints between the face boards are then taped and finished smooth in preparation for the application of one of many decorative finish materials. As all the materials used in this method of construction are incombustible, the system has a good fire resistance rating. Drywall is a very versatile material and may be installed quickly and efficiently with a minimum of interference with the work of other trades. The 2" wall thickness normally used saves space and costly floor area and provides good sound transmission and structural stability properties.

Movable or flexible partition systems are the most recent development in the internal division of space and are available in a wide variety of types and prices. All buildings are different in their design and requirements and the choice of a movable partition system depends a great deal on the needs of the client as to his intended usage of the space and degree of flexibility required throughout the life of the building. Movable partitions are usually constructed of metal, wood, composition board or sandwich panels with a variety of finish materials. Sound control properties, degree of flexibility, degree of suitability for the integration of services within the components, degree of structural stability, variety of sizes and types are all factors which must be given careful consideration in the selection of the proper components in order to achieve the properly co-ordinated successful solution to each individual installation. For the most part the selection of movable partitions in those areas where they may be correctly used goes a long way to solving many of the problems encountered with permanent partitions of the types described earlier. Construction is able to proceed reasonably unhindered by interior partition work as much of the site work required with permanent partitions such as installation, application of finish materials, hardware, and fabrication is done in the factory rather than on the job site.

The recent advances made in the field of movable partitions insofar as method of manufacture and fabrication as well as the basic idea of an interior vertical element constructed of large component parts, and the advances made in the development of the

materials used in the manufacture of the small component parts of permanent partitioning have both reached the stage where combinations of this information existing in both fields may be combined to provide a superior building unit. The materials of permanent partitions such as concrete can be fabricated in large component units such as movable partition panels are made. These concrete units have all the advantages of both types of conventional partitioning and in some cases many more. Multiple functions such as structure, the ability to remain stable in its own right and also to support considerable load imposed from above, the ability to incorporate provisions for many electrical, plumbing and heating services within the unit at the time of fabrication, the ability to make insulation integral with the basic material used, and the ability to detail finish, location of openings such as doors and other architectural features, all result in permitting the design team to spend a considerable amount of time in the perfection of one unit rather than working separately with a number of smaller units and designs. By placing the concentration of all members of the design team on these few component panels, greater cooperation and coordination is achieved, and, along with this, a complete breakthrough from conventional thinking to a challenging amount of freedom which must be inherent with this approach to construction. Complete integration of these component interior vertical elements with the horizontal structural elements and exterior cladding is a necessity in order to arrive at the most satisfactory and successful completion of a project. It is most difficult to divide these elements into separate entities during the design process as each is completely dependent upon the other both for structural stability and functional usage. The major pitfall which must be avoided at all costs is to simply take the description of this method of design and construction and translate it literally into a building. It is too easy to simply state that we have a wall, floor and roof and this is the way it can be mass produced at low cost. This approach would only result in the system dominating and producing stereotyped monotonous architecture which could destroy completely all the inherent exciting possibilities which are waiting to be extracted from this system.
It becomes obvious that there are two different forms which this system of multi-functional components could take. It could become so widely accepted that all manufacturers would produce dimensionally coordinated interchangeable components which could be selected at random from a catalogue and combined in a limited number of ways. This would be the wrong approach and tend to produce a series of dull and monotonous buildings. The correct approach could be achieved by carefully assessing the individual needs of each project as is current practice and arrive at a solution based upon the use of carefully coordinated components of the one particular system which is capable of solving the problems in the best possible manner for that particular project. This would not limit design but would on the other hand increase the design possibilities immensely. One current application of a system of component parts used in the construction of a building is to be seen in Habitat '67, designed by Moshe Safdie on the Montreal site of Expo 67. This project carries the idea of multi-functional vertical components one step further and includes the horizontal structural elements as well. Prefabricated concrete boxes, with basically the same overall dimensions, are stacked one on top of the other to form a series of residential units making up the whole of an urban system for housing. Despite the fact that the components are of the same basic size and construction, no two units are the same, and the juxtaposition of these units to form the overall project is handled in an exciting fashion certainly illustrating that this system of multifunction elements is capable of producing something other than sterile architecture. □

Estimating

The preceding article brings out an important point regarding the comparison of costs. Although the principal function of a partition may be to divide up the interior space, it may also have other functions. A partition which is used to support the floor above, a precast concrete partition which incorporates electrical services within it, both are performing a dual function, and to compare the unit costs of different partitions without taking this dual function into account can be misleading. It is worth paying a premium for a partition if the premium can be offset by a saving in the cost of the structural frame, electrical work, or wall finishes.

Precast concrete load bearing partitions, similar to those described in the preceding article, were used in the McMaster University Men's Residence in Hamilton, Ontario, for which the architects were Husband, Wallace, Ellis and Garwood-Jones. The partitions were a standard 8'0" height and varied in width up to 20'0". They were used in conjunction with a precast concrete flat slab floor, had electrical conduits incorporated within them, had a finish suitable for painting on both sides, and cost about $2.00 a square foot in place.

In common with many other prefabrication systems, it is likely that the use of precast concrete load bearing partitions will increase. The principal influence on the cost of any prefabrication system is the degree to which mass production techniques can be employed. Prefabricated components such as brick and block can be mass produced at very competitive prices because of their wide acceptance and great demand, and as other components or methods gain a greater acceptance there is no doubt their prices will become more competitive. In the meantime it is advisable to consult closely with the manufacturer of any proposed prefabrication system in the early design stages.
Prices which can be applied to the interior vertical elements for preliminary estimates are as follows:

1. *a* 4" Block partitions, rough finished for plaster, including doors $.96 per SF
b 6" Ditto $1.06 per SF
c 8" Ditto $1.14 per SF
d 10" Ditto $1.28 per SF
e 12" Ditto $1.34 per SF
f 6" Concrete walls, no doors $2.17 per SF
g 8" Ditto $2.38 per SF
h 12" Ditto $2.80 per SF
i 2" Plaster partitions, no doors $1.30 per SF
j Metal stud and drywall partitions, no doors $1.00 per SF

2 *a* Movable metal partitions, including doors $2.20–5.00 per SF
b Folding partitions, non acoustic $3.50–5.00 per SF
c Folding gymnasium partitions $7.00-10.00 per SF

3 *a* Hollow metal glazed partitions, including doors $7.00–8.00 per SF
b Aluminum glazed partitions, including doors $12.00–15.00 per SF

F. W. Helyar

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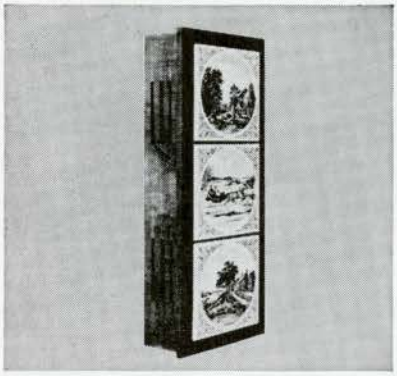

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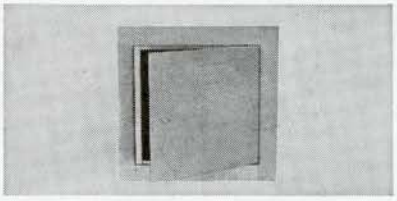

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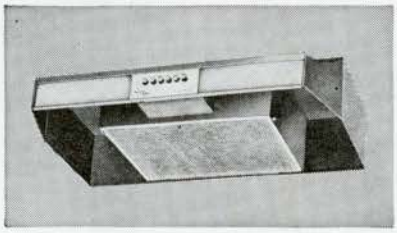

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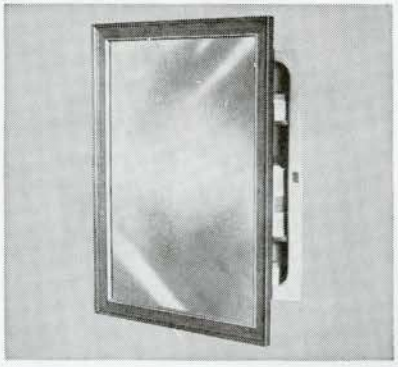

Cabinets and Mirrors

Pictured above is the *Canadiana* swing door cabinet with exclusive antique wood picture frame mirror. Five other frame styles available. Miami-Carey offers the widest selection in Canada of both recessed and surface cabinets with or without light fixtures.

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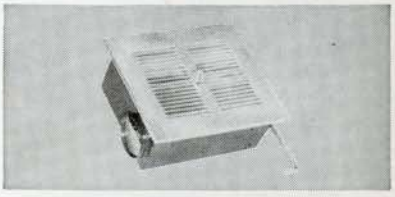

Ventilation Fans

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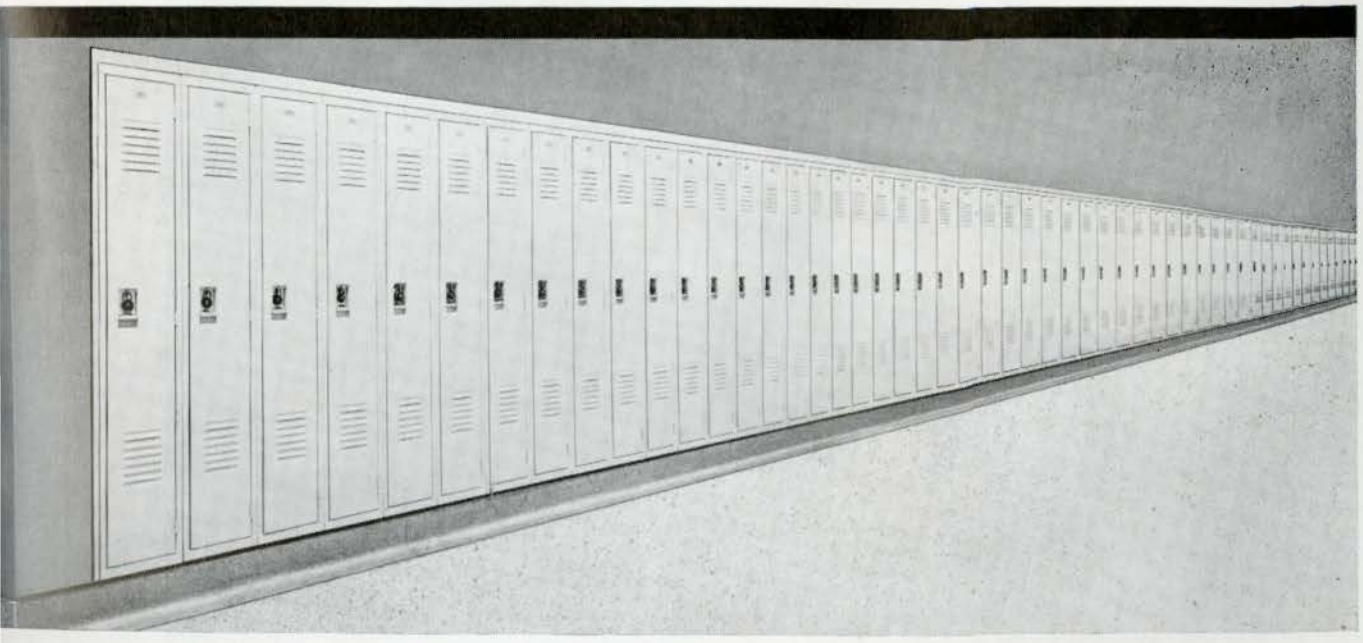

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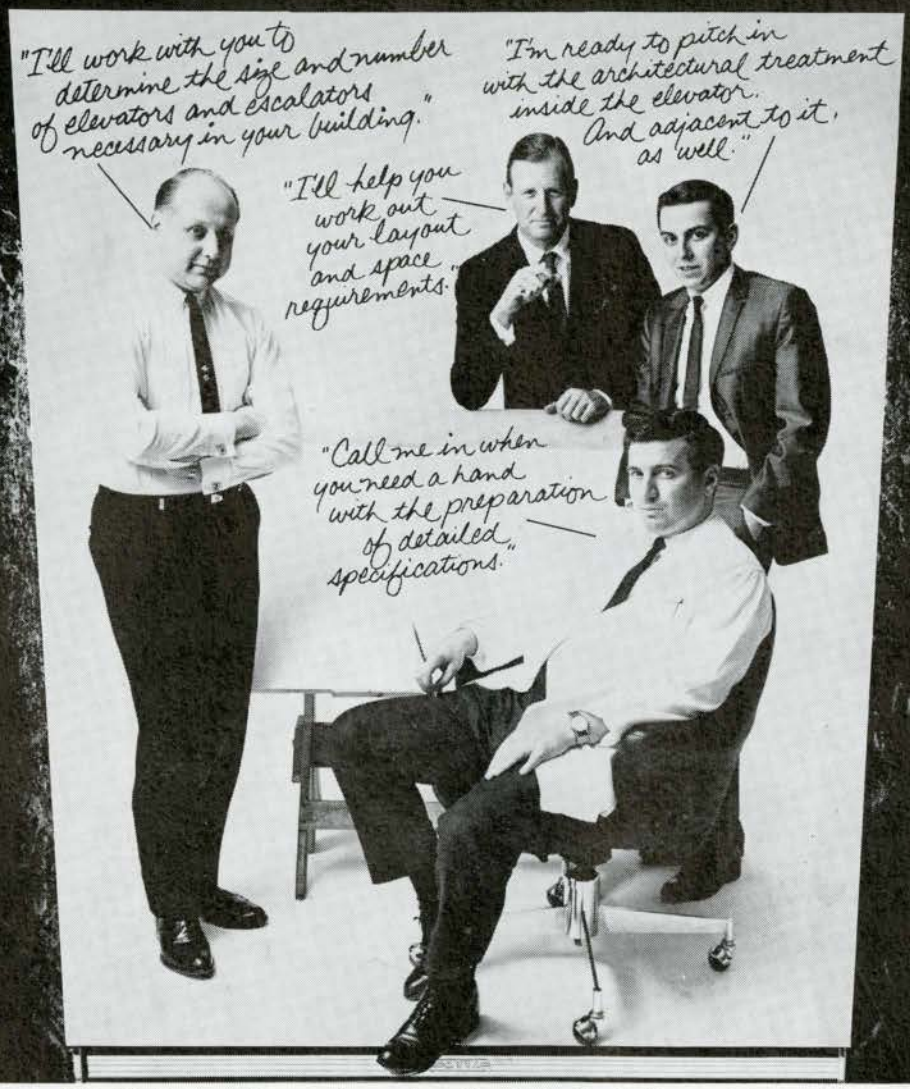

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Waterloo School of Architecture

Plans are now finalized for the establishment of a degree course in Architecture at the University of Waterloo this fall. *Architecture Canada* will present two articles on the school. In this issue are excerpts from the Waterloo proposal to the Ontario Advisory Committee on University Affairs, prepared by Prof. A. W. Sherbourne, Dean of Engineering; Prof. G. W. Soulis, Director of the Institute of Design, and Prof. A. Bernholtz of the Department of Design, currently a visiting professor at the Harvard Graduate School of Design:

Background

In the course of the development of the Faculty of Engineering, areas of study and research have evolved which are directed toward engineering in its social context. Specifically, work in resource utilization and planning, vehicular and pedestrian traffic, air and water resources and pollution, project organization and management, "soft" systems analysis and design, etc., has been developed. Much of this activity has a relationship to and a common interest with architecture. In consequence the people concerned with these see the presence of architectural studies as desirable.

At the same time structural analysis and design has become one of the strengths of the Faculty particularly in the Departments of Civil Engineering and Design. These people also feel that architectural studies would be a natural compliment to existing work.

Two years ago, interest in the problems of design as related to the human environment became so well developed that a separate graduate Department of Design was formed within the Faculty. This department offers graduate programs in the design of industrial products, communications media and special-structural design. The research and teaching have attracted the interest of architects and at present four students with architectural degrees are working in the areas of the design of mass housing, of northern communities and in studies relating to architectural lighting. The Department has also been able to appoint to its staff a professor from the field of architecture. This graduate work has quite naturally led to considerations of an expanded program in architecture.

The Department of Design also operates an Institute of Design which undertakes contractural design problems of an original and unusual nature.
So far, this work has led to a significant amount of architectural work, particularly in theater and exhibition design. More recently, the Department has been developing work in the area of computer graphics. This is very closely related to architecture and, since schools of architecture are interested, the Department is in contact with work at Harvard, UCLA and the University of Washington.

In general, it may be said that the Department of Design offers a natural foundation for the development of architectural studies at Waterloo.

The existence of the cooperative system at Waterloo in Engineering, Applied Mathematics, Physics, Chemistry and Psychology has led to the suggestion by many cooperative employers that the system would be well suited to architecture. Many employers of engineering students also employ or engage architects. They are particularly strong in the suggestion that Waterloo should consider architecture.

Within the University, the experience has been that the cooperative system offers very distinct educational advantages in those areas of study where applied experience is necessary as a part of the student's undergraduate education. Upon examination architecture appears to be no exception to this viewpoint.

Other departments and areas of the University have indicated that the presence of architectural studies would complement work presently being done. The Department of Geography and Planning has noted especially the close relationship with their activities. Other areas of the social sciences, such as psychology and sociology, have expressed an interest and willingness to cooperate with architecture.

At a recent meeting of the Senate, the principle of establishing a School of Visual Arts at Waterloo was approved. In giving this approval, the Senate explicitly approved the concept of developing a third major area of endeavor, that of the creative arts, to complement work in the sciences and technology and the humanities. The intent of the University in encouraging the creative arts would indicate that this work, in combination with existing areas, will establish Waterloo as a center where those "creative professions" responsible for the design of the human physical environment will be strongly represented. Architecture would make a vital contribution to this development. Such a situation appears to offer the opportunity to parallel in Canada the development in the United States of major university centers concerned with the application of many disciplines to the problems of environment design (Harvard, MIT, University of Pennsylvania, University of Washington, U.C. Berkeley, and UCLA).

Educational Philosophy

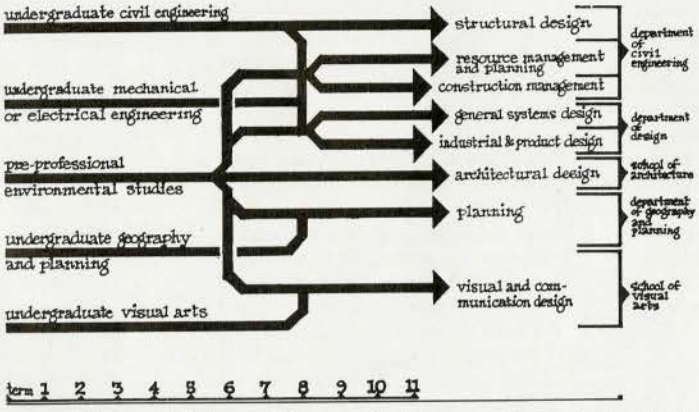
Architectural education shares with the education of professionals in general many problems, in that no single agreed objective of the educational experience can be defined and there is no clear single description of the ideal architect. The architect fulfils many functions in society at different times and different places. Some of these functions appear incompatible. He is sometimes a generalist, sometimes a specialist; sometimes primarily a technologist, at other times an artist; sometimes a creator-designer, at other times a supervisor of construction. At various times he performs tasks which demand that he be a "near engineer," "near social scientist," "near humanist," and "near artist."

Depending upon the viewpoint and experience of the person or persons involved in the educational process one or more of these characteristics will be emphasized. It is difficult and likely impossible to define a single educational philosophy or curriculum

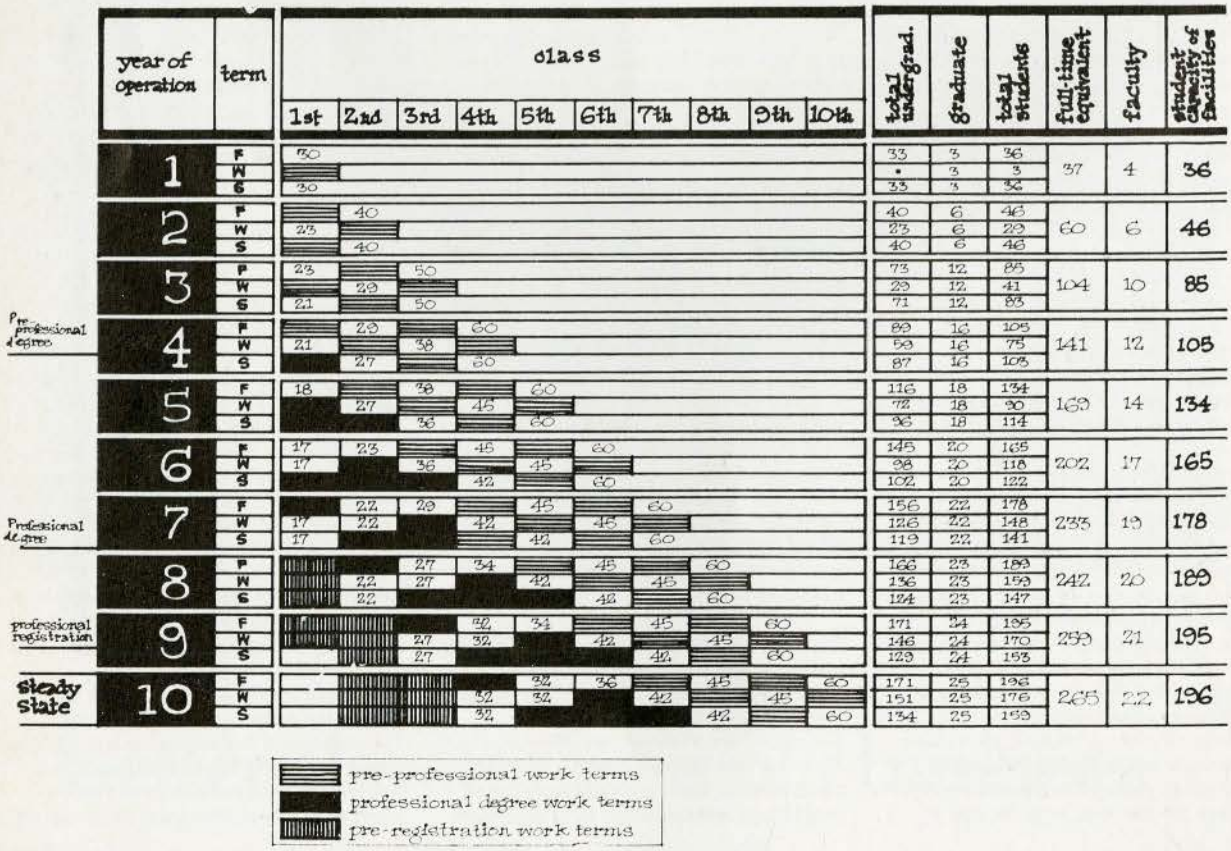
as ideal. The ideal probably is that, within a social and cultural area, various philosophies be represented in a variety of places. It seems inappropriate that within any one school any attempt should be made to embrace or represent all philosophies. Instead, it can be argued that several schools should exist each with its own philosophy and character and possessed of a willingness to submit to the ultimate test of survival in the social environment.

The justification for additional Schools of Architecture is put forward on the basis of demand and numbers. There is also a sound justification for this in terms of educational philosophy. The above argument goes further in advocating that new schools should be of a different character from existing schools, not merely to emphasize differences nor because one is necessarily better or worse but rather because architecture, in practice, has a breadth and diversity which cannot be effectively represented in a single school.

The diversity of architectural experience makes it unreasonable to define architecture in terms of a specific body of knowledge appropriate to the discipline. Instead, like other professions, architecture can only be defined in terms of the functions performed. At any point in time it may be possible to relate a particular function to a particular body of knowledge. Since these functions are performed in a changing and developing society the body and areas of knowledge related to a particular function are continuously shifting and often expanding. And yet within this change there remains the basic requirement that the architect be the creator of buildings, systems of buildings and a physical environment within which contemporary and future society will function. The over-riding criterion for judging the objectives of any particular educational experience appears to lie in the ability of an individual to perform this function singly or as part of a group.



1 Human physical environment studies combining existing work, the new school of visual arts and the proposed school of architecture



2 Projected enrolment and faculty requirements

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ICE ON ROOFS

by M. C. Baker

UDC 69.024

In most parts of Canada ice has a tendency to form on roofs during the winter months, particularly when there has been heavy snowfall. On poorly-drained flat roofs the ice may seldom be seen, but the occupants of the building are often made aware of its presence by loud cracking noises on cold nights. On sloping roofs, ice is usually visible as a build-up at the eaves, often with icicles hanging down to form a pleasant winter scene. The occupants of the building may sometimes be very much aware of its presence because of leakage of water into the building.

Flat Roofs

Roofs referred to as flat usually have shallow depressions due to structural deflections, and these tend to pond water from melting snow. When the temperature drops below 32°F, the water may freeze completely to form a thin plate of ice, and repeated thawing and freezing may take place with changing temperature conditions. The strains induced in the ice by contraction of the thin plate are relatively small, and because the ice is weak in tension it soon cracks and relieves them. The strains induced in the roofing membrane will probably be even less than those in the ice, and are considered to be very much below the strains that roofing membranes are capable of resisting. Such ice formations will probably not damage roofing, but if water can penetrate cracks, wrinkles, holes or other defects and then freeze, the expansive force of the freezing water may tear the membrane apart. This danger of damage to the membranes of nearly flat roofs can be greatly reduced by designing them with adequate slopes to interior drains.

Sloping Roofs

Roofs that slope downwards to the outside walls of a building are cause for much greater concern. Quite large quantities of ice can form at the eaves, even on small buildings such as residences. The weight of ice can cause structural damage at the eaves, and falling icicles can constitute a significant hazard to persons and property.

Water from melting snow may be prevented from running off the roof by ice formations at the eaves. On buildings with overlapping water-shedding units such as shingles, tiles or corrugated sheet roofings, the backed-up water may leak into the building or into the roof and wall construction to cause considerable damage. Home owners may be familiar with effects such as wet insulation in roofs and walls, wet wood causing decay and paint failure, efflorescence on masonry walls and, in severe cases, damage to interior ceiling and wall finishes and to furnishings. This Digest will, therefore, be chiefly concerned with ice dams on the eaves of sloping roofs.

Conditions for Ice Dams

Ice damming results from a combination of snow on a sloping roof, outside air temperatures below freezing, heat loss or radiation to cause snow melting, and an open end of snow where ice can form. A continuous, almost uniform, coating of ice can form on a roof surface during a sleet storm and under patches of snow, but ice dams at the eaves form only when there is a full or partial blanket of snow on the roof that extends to the eaves.

The outside temperature at which snow melting will take place on a roof surface de-

pends on the depth of snow, the wind conditions, the roof construction, and the inside temperature conditions. On some buildings melting may take place at very low outside temperatures, but for insulated buildings it will probably occur at temperatures above 15°F. Ice dams form when water from the melting snow drains (under the snow) down the slope to the eaves, where some of it is held by the snow at its open end and freezes. Water that cannot be held drips off to form icicles. Progressive accumulation causes a build-up of the dam in roughly horizontal layers, and spilling and dripping over the dam causes enlargement of the icicles hanging from the dam. When the outside temperature rises above freezing, the ice rapidly melts at its contact with the roof and eaves. Under such conditions the ice weight soon causes it to slip away from the roof to create the falling ice hazard.

An area of bare roof surface is exposed below the open end of snow when the snow on a roof does not extend to the eaves. It has been observed that ice dams do not usually form in such cases; and that water is not held by the snow, but flows out onto the bare roof surface to evaporate or form only a thin layer of ice.

The rate at which an ice dam forms depends on the amount of melting and, to some extent, on the shape of the roof. Valleys formed at the intersection of two sloping roofs, for instance, act as collectors and concentrate all the water from the melting snow of both slopes in the lower end of the valley. This, combined with drifting of snow into the valleys to provide a large supply for melting, can produce very large ice dams at the ends of valleys. On wide overhangs and extensions of roofs over unheated spaces such as car ports, ice will still form at the eaves of the overhang, as already described, and there may also be a thin layer of ice on the roof back to the building wall.

Snow Melting

The main mechanism for snow melting is heat loss from the building through the roof, but sun heat by radiation may also be a factor in melting the snow or in heating attic spaces to cause melting. Heat loss through the roof will depend on the inside temperature conditions, the amount of insulation in the roofing system, and the ventilation of spaces, if any, between the insulation and the roofing. These factors can be allowed for in design of buildings, and often can be adjusted on existing buildings to reduce the heat loss to a point where melting will be minimal from this source.

The amount of melting that can take place from sun heat is highly variable and depends on factors such as snow properties, depth of snow, wind conditions, slope of the roof, and building orientation. Transmission of radiation into deep snow can cause some melting, but transmission through shallow depths for absorption at the roof surface is usually the more significant factor. At Ottawa enough sunlight can be transmitted through a 6-inch snow cover on a clear winter day to cause melting at the roof surface, even when the outside temperature is as low as 10°F, with an attic temperature of only 25°F.

A roof slope facing south will become bare of snow much more quickly than one facing north, because of melting from heat loss and sun radiation combined. This sometimes can add to the problem of ice formation on north slopes. The heating of the attic space from absorption of heat energy from the sun on the bare south slope can cause melting of snow at the roof surface on the north slope. This effect will be most noticeable on buildings with a limited amount of attic ventilation and roofs of steeper slope.

Conditions for Leakage

For leakage to occur there must be water at the roof surface, openings to permit entry, and forces acting to move it inward. If any one of these conditions is eliminated, water penetration will not occur (CBD's 67, 73). When there is snow on the roof of a heated building, there will almost surely be water at the roof surface, either from melting by heat loss from the building or by sun heat. Leakage will not occur when roof coverings are impervious, and will seldom be a problem on roof coverings of sloping, overlapping units unless some obstruction interrupts the gravity flow down their surface.

Ice formations starting at the eaves and progressing up along the roof slope can, however, produce such an obstruction. When the ice reaches a level on the roof near the extension of the wall line, the water may not freeze at the roof surface because of heat loss through the roof. The ice formation may continue to build, with water backing up behind it (Figure 1) and draining by gravity through any openings it contacts such as those at the overlaps of roofing units. It will continue to drain while the supply of water lasts, unless some easier path of drainage occurs, such as can be produced by making drainage channels through the ice dam.

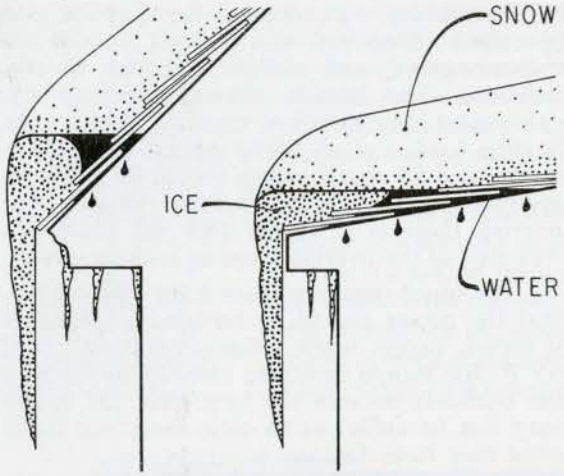

Figure 1 Formation of ice dam.

Slope of the roof is important in relation to the snow that can accumulate and in relation to ventilation by chimney effect where attic spaces are involved. Together with the amount of unit overlap, it also determines the height of rise at which water will penetrate the overlaps of the units. This height of rise for the same amount of overlap will be much smaller on a low-sloped roof and the likelihood of water penetration greater.

The distance the eaves extend beyond the wall is of considerable importance in determining whether leakage will occur. On wide overhangs and extensions of roofs over unheated spaces, leakage will probably not occur because there will usually be no melting from below to cause a water back-up. If leakage does occasionally occur in these cases, it is seldom of consequence.

The type of eaves construction and the presence of gutters or snow guards will affect ice formation. Construction that makes it difficult to achieve continuity between the wall and ceiling insulation may be troublesome, and lack of insulation or gaps in it at this junction can permit excessive heat loss to cause melting behind an ice dam. It is important, too, that the construction is such that ventilation through the eaves to attic space is not restricted.

Snow guards at the eaves will usually prevent snow slides, but may cause an increase in ice formation. Gutters also may increase the ice formation, although initially icicles may be prevented from forming. As soon as the ice fills the gutter, however, icicles will then form at the edge of the gutter as the ice builds up above it.

Design Precautions

It may be very difficult to prevent entirely the formation of ice on sloping roofs, but the amount of build-up can be greatly reduced by eliminating some of the conditions that cause it. For buildings with attic spaces or air spaces above the insulation, the two most important considerations are adequate insulation and ventilation of the space above the insulation with outside air. The economic thickness of insulation, based on fuel and insulation costs, will probably be sufficient to minimize snow melting at the roof surface. For houses in Ottawa, the economic thickness is approximately 6 inches, which is probably a good deal more than most houses will have. In general, it would not be practical to use more than the economic thickness merely to control ice damming, but it seems logical to use up to that thickness because there are benefits in summer heat control as well.

Ventilation of spaces above the insulation permits the flow of outside air to remove warmer air from the spaces, providing a so-called cold roof. Such venting is normally installed to control condensation in those spaces during the winter and to limit heat build-up in the summer. It also helps in controlling snow melting at the roof surface. To be effective, the amount and location are important. For housing, the amount is arbitrarily set at a minimum of 1 square foot of unobstructed vent area for every 300 square feet of insulated ceiling. Air movement through the space will be caused by differences in wind pressure and chimney effect. To obtain the advantage from chimney effect, inlet vents must be as low as possible at the eaves and outlet vents as high as possible near the ridge. On low sloping roofs, chimney effect will be small and it may be necessary to increase the size of vents.

For some building occupancies neither ventilation nor insulation may be required or possible. If ice damming is to be prevented in such cases, water from melting snow must be removed before it reaches the eaves and taken away through interior heated drains or in some other manner. On such buildings it is important to give consideration to this at the design stage. Remedial action after construction may be extremely difficult.

In addition to limiting the formation of ice at eaves by insulating and ventilating the roof to reduce heat loss, leakage from water back-up can be prevented by providing impervious roofing or an impervious strip at the eaves and valleys where ice damming can occur. The

latter can take the form of impervious flashing underneath overlapping units (although nail holes may still be a problem) or of an impervious strip such as metal at the eaves without overlapping units, if aesthetic considerations will allow this. When a strip of exposed metal is used at the eaves ice damming is generally less of a problem because snow tends to slide off; and even when ice forms it too tends to slide off more quickly during thaws. The hazard from falling snow and icicles, however, is still present.

When no, or only partial, action is possible in relation to the above considerations, the designer may have to consider the use of electric heating cables to maintain drainage channels through ice dams that form at the eaves and to keep gutters and downspouts open. These may be specially designed and fabricated for the job. Ready-to-install units, however, consisting of the heating cable, cold wire leads, and attachment plug are also available, usually as a kit complete with roof attachment clips. Heating cables may be single-wire or two-wire types of varying lengths, usually power rated at from 5 to 7 watts per lineal foot.

Heating cables are considered most effective when fastened along the eaves in a zig-zag fashion extending up the roof with points about 2 feet apart along the eave. The lower points should extend over the eaves to prevent icicles from forming at the end of the drainage channels. The cable is usually carried up the roof so that the upper points of the zig-zag are at least 6 inches past the interior wall line. With wide overhangs, this may not be necessary if the installation is operated to prevent an ice dam from growing. Where there is a gutter, cable should also be laid lengthwise in the gutter and carried down the downspout to keep them free of ice.

As faulty electric installations can create a fire or shock hazard, care must be exercised in the installation, with frequent checking for safe operation. Electrical connections should be moisture-proof and outlets installed in dry locations. The branch circuit supplying the cable must have sufficient capacity to carry the heating load, and all metal gutters and downspouts and all metal siding should be properly grounded. If the cables become twisted and overlap there is a danger that the insulation will melt at the overlap, causing a short circuit.

The usual recommendation for operation is that the power should be turned on whenever it snows, except when temperatures are above 45°F. Ice should never be allowed to form in the channels because the heat from the cables may not be sufficient to clear large ice dams once they have formed.

Summary

The formation of ice dams on the eaves of sloping roofs often causes water leakage through roofing composed of overlapping watershedding units. Snow melting on the roof and freezing at the eaves is the cause of ice damming. Snow melting is due chiefly to heat loss from the building through the roof or from attic spaces, although some melting can occur from sun radiation.

Temporary relief can be obtained from the effects of ice dams by clearing the snow off the roof, particularly at the eaves, and by knocking ice formations from the eaves and valley ends, taking care not to damage the roofing. For a more permanent solution and to limit the formation of dams, consideration must be given to more adequate roof or ceiling insulation, ventilation of air spaces above the insulation, and moderation of inside temperatures.

Leakage can usually be avoided by using wide overhangs, wide impervious flashings or roofing at the eaves, or heating cables to melt drainage channels through the ice.

In setting particular objectives within this criterion, individual schools will make different decisions regarding the fundamental disciplines upon which they choose to draw and those areas of study and research they privately choose to pursue. This will be an individual choice dependent upon the character of the faculty and it cannot be prescribed except within the limits imposed by the legal responsibilities and requirements of the profession. The founding of a school of architecture within a university, however, places upon that society the responsibility for setting it within an environment in which a sufficient spectrum of studies related to architecture is both present and accessible. At the same time the university must be capable of providing the opportunity to students and faculty to pursue independent development and research. *While architecture interacts strongly with other disciplines, a suitable program cannot be created by simply borrowing and combining bits and pieces from other areas of study.* Rather, a group of people must be contained within an identifiable and challenging school, capable of maintaining a free association with a broad and ever changing group of related studies.

While the choice of association and areas of study will ultimately rest with the future faculty, any discussion of a new school must attempt to suggest some proposed direction. Without this, potential faculty will have no basis for choosing to be associated with the school and there may be a danger of creating a faculty with such diverse objectives that no significant initial accomplishment will be possible. In general, the direction suggested is the following:

a The school should emphasize a rigorous approach to architectural studies with the choice of fundamental subject matter to be studied being firmly vested in the faculty. The school must avoid the pitfall of sampling or surveying a wide variety of disciplines in such a manner that the student gets an over-simplified impression of the relevance of these disciplines to architecture.

b Experiment and development in teaching methods and student-faculty interaction must constantly be present. Architecture in common with many other university disciplines, has for generations used certain well established teaching methods. The changing character and content of architectural education must inspire an examination of new methods of communication and interaction.

c In comparison with other professions, architecture has fostered the impression of being oriented away from research. An examination of the research being done in the schools of architecture in the United States reveals that, in total, this research does not exceed the work done in a single medium-sized medical or engineering school. This omission is currently being recognized and a move toward research and experiment is noticeable. These new trends and directions should be paramount in a new school.

d The role of creative imagination in architecture must be recognized in the school and developed in the students. An understanding of the creative process must be sought, based upon rational examination and explanation in preference to a treatment of some mysterious alchemy.

e The school must strive to be a center for the development of new knowledge and understanding of architecture. *It must not be simply a place where faculty impart to students knowledge and opinions gained through experiences outside the school.* The school must foster ideas and not just become an environment for transferring information.

Proposed Program

Many alternatives are available in choosing a proposed program. In the spectrum of North American schools programs are offered which vary widely in emphasis and duration. Two programs, however, appear to predominate today in architectural education in this country and the United States:

1 The undergraduate program of five consecutive years in a professional school leading to the professional degree of B.Arch.

2 In Canada there also exists a six-year program consisting of three years of pre-professional undergraduate education. In the case of Manitoba, the first degree is a Bachelor of Environmental Studies and the first professional degree is a Bachelor of Architecture. In the United States a split 6½–7½ year program is followed in which four years is spent in pre-professional undergraduate education in a college of liberal arts with some concentration in architectural sciences. This results in an orthodox Bachelor of Arts Degree followed by a professional degree of Bachelor of Architecture. The latter is offered after 2½–3½ years of professional studies in a graduate school.

After careful consideration the committee recommends a program which is a variation of the second type. Essentially, the program suggests an undergraduate cooperative program consisting of six terms leading to a pre-professional degree followed by five terms to a professional degree. This would be accompanied by a standard graduate program to the master's or Ph.D. level.

The cooperative aspect has a variation over existing types of work experience currently available at the University of Waterloo. The last four cooperative study and work terms at the professional degree level are doubled, thus yielding eight month sessions of study and work. The nature of this cooperative phasing is illustrated graphically in Fig 2.

Pre-professional Degree

The six term pre-professional degree is envisioned as an introduction to the fundamental disciplines and problems associated with the physical design of the human environment. Because of the interest in problem solving inherent in students who enter this type of school, the work would be strongly problem oriented and would emphasize quantitative methods where necessary. The faculty would choose design problems relevant to the areas of the physical and social sciences and humanities to which the student is being introduced. The curriculum and problems would be chosen such that the student would have the ground work not only for continued work in architecture but also professional studies in the areas of Visual and Communications Design, Planning, Industrial or General Systems Design, Construction and Project Management or Resource Management. These latter studies would be available to him through existing departments in the University. The interrelation of this work is illustrated in Fig 1.

Professional Degree

The five term professional degree in architecture following pre-professional work is envisioned as being largely related to the design of buildings and architectural planning. Inevitably the work will be connected with other areas of design in the University. Because of the general character of the University it is expected that professional studies would emphasize quantitative methods more strongly than is normally done in some schools of Architecture.

Graduate Studies

It is proposed that graduate work begin with the inception of the school. It is anticipated that faculty recruited by the school will have research and experimental interests which they would wish to pursue in concert with graduate students. At this level it is expected that faculty would have common interests with members of other departments involved with design and planning. The existence of the Institute of Design and Planning should provide vehicles for joint research and design work. In turn the existence of this graduate work within a university large enough to provide adequate facilities such as library, workshops, computers, etc., should lead to significant work being accomplished.

The program proposed is set out in the form of a few guiding principles; at this point in time it does not seem appropriate to specify details. The authors feel that the proposal should concentrate upon suggesting possible directions only. The primary authority for development should lie within the purview of the faculty appointed to responsible positions within any future school. It is felt that a statement of principles as outlined would enable the University to select suitable faculty and would provide prospective faculty with a basis for making a decision to join the University of Waterloo. □

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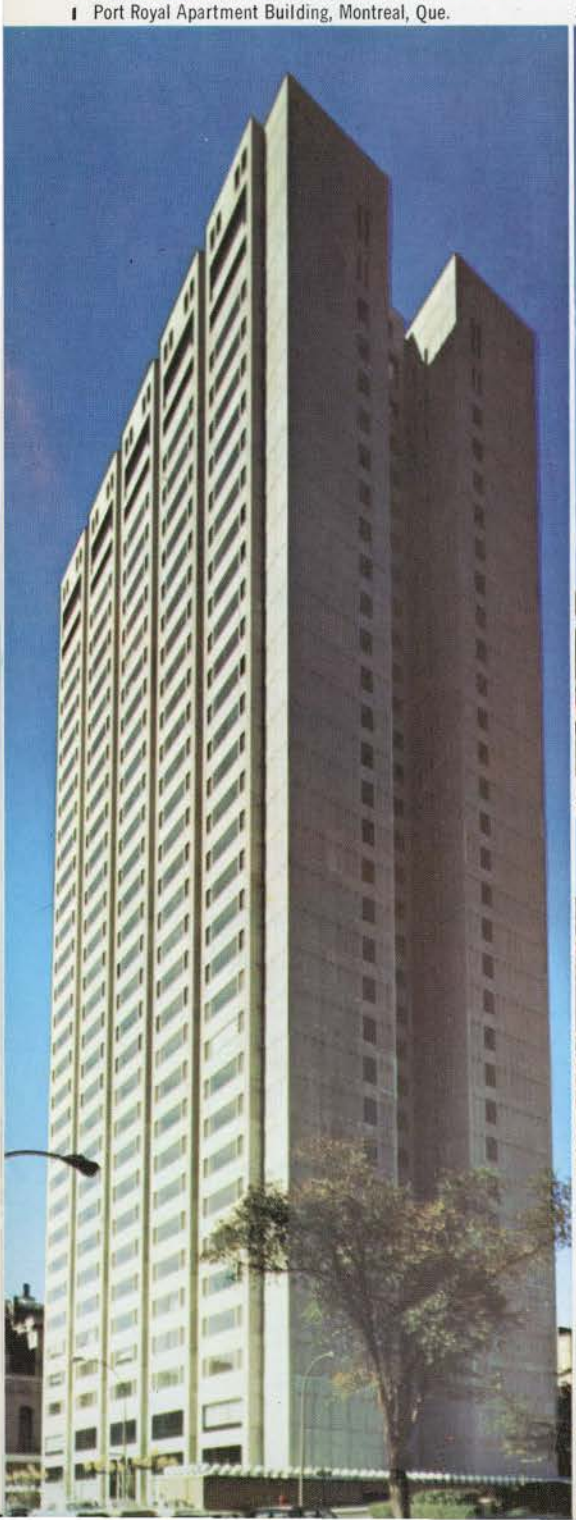
SPECTACULAR STRUCTURES IN CONCRETE

1 Port Royal Apartment Building, Montreal, Que.



2 Prestressed concrete inverted umbrellas at Steinberg's Miracle Mart, Ottawa, Ont.

5 Dramatic use of concrete for the Yacht Club Chalet, Chicoutimi, Que.

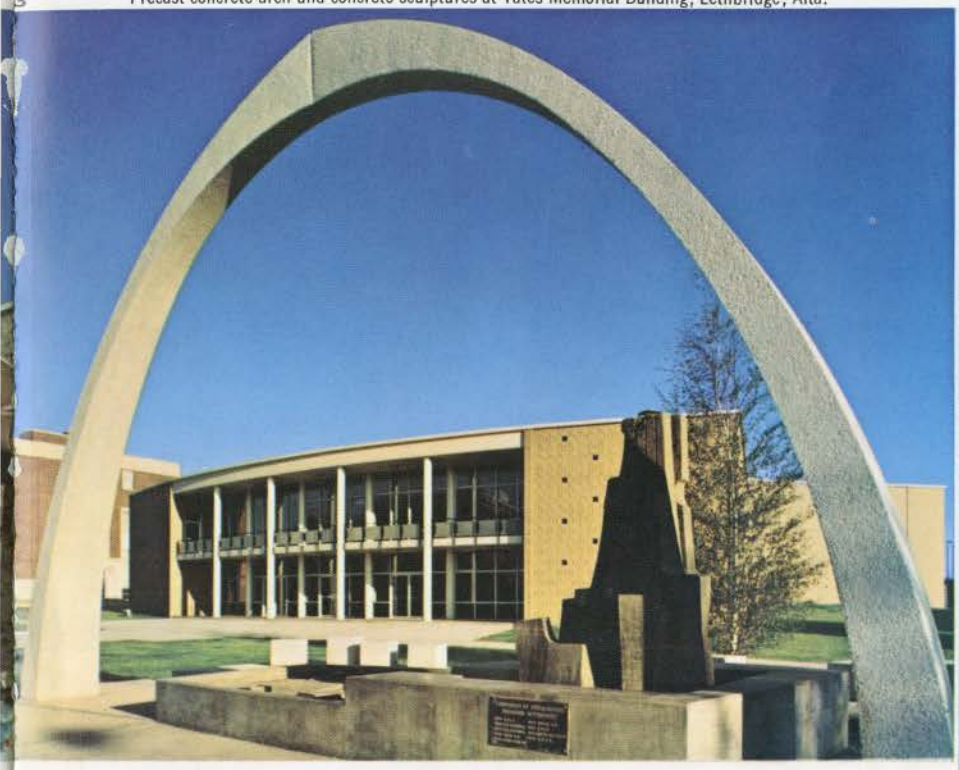
7 Concrete circular dining room of Seaway Motor Inn, Montreal, Que.

CAST IN CONCRETE

CANADA CEMENT

1. Architects: Ian Martin and Gabor Acs.
Consulting Structural Engineers:
R. R. Nicolet & Associés
General Contractor: E. G. M. Cape & Company (1956) Ltd.
Precast concrete panels: Francon (1966) Ltd.
2. Architects: Lithwick, Lambert, Sim & Johnston
General Contractor: Foundation Company of Canada Limited
Precast and prestressed concrete members: Francon (1966) Ltd.
3. Architects: Lurie & Neufeld
General Contractor: Kenwood Engineering Construction Ltd.
Arch and sculpture: Oland Construction Co. Ltd.
Precast concrete arch: Stoy Concrete Products Ltd.
Water fountain sculpture: Design Associates
4. Architects: Bregman and Hamann
Consulting structural Engineers: Farkas, Barron, Jablonsky
General Contractor: Pigott Construction Co. Ltd.
Ready-mixed concrete: Transit Mixed Concrete & Builders Supply Ltd.
5. Architects: Gravel & Gravel
6. Architects: N. H. Fooks & Associates
General Contractor: Chronik Construction Ltd.
Precast concrete members: Con-Force Products Ltd.
Ready-mixed concrete: Revelstoke Building Materials Limited
7. Architects: Shenkman & Hersen
Consulting Structural Engineer: Irving Backler
General Contractor: Louis Donolo Inc.
Ready-mixed concrete: Francon (1966) Ltd.

3 Precast concrete arch and concrete sculptures at Yates Memorial Building, Lethbridge, Alta.



5 Concrete hyperbolic paraboloid shell roof at the W. R. Myers High School, Taber, Alta.

4 The "Skylon", a 520-foot concrete tower at Niagara Falls, Ont.

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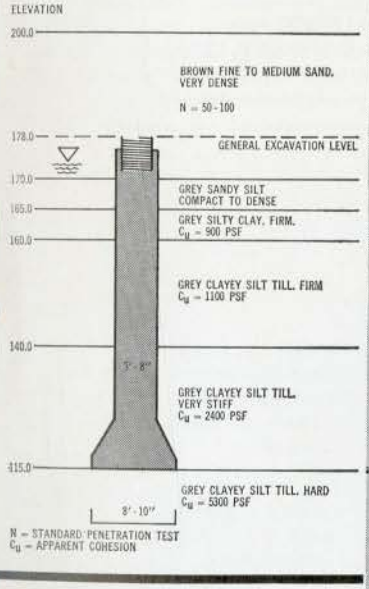
FRANKI FACTS

R.A.I.C. File No. 6-A-2



A Proud Addition to Franki's Excavated - Caisson Foundations

Problem:

This high-rise, Y-shaped apartment building was to be located on the edge of the Don Valley. The designers were confronted with the problem of how to transfer the heavy structural loads to a competent bearing stratum without excessive settlement and at the same time not endanger the stability of the 100 foot high slope.

It was initially suggested to rest the building on a raft foundation in the dense sand at about elevation 180. However, settlement was still considered to be a problem. Not only was the magnitude of settlement difficult to predict, it would also take time to complete and last until well after completion of the structure. In addition, the superimposed surcharge within the slope as a result of the raft foundation necessitated extensive measures to the slope to increase its stability.

These factors together with the inherent high cost of a raft foundation prompted the designers to recommend that consideration be given to alternative foundation designs, consisting of end bearing piles or excavated caissons, founded in, respectively on, the hard till stratum at below elevation 115.

Solution:

Franki was approached and given the opportunity to tender for one of the alternative foundation designs.

Taking into consideration the heavy concentrated loads of the proposed building, Franki tendered for the installation of excavated caissons of a maximum carrying capacity of 1,000 tons, to be belled-out on the hard till stratum.

This tender, which provided for a fixed lump sum quotation and a guaranteed foundation, was accepted by the Owners.

Franki's experience and working knowledge were demonstrated by careful procedure and efficient installation of these foundation units and the Company is proud to add this strikingly handsome tall building to its long list of excavated-caisson foundations, carried out in the City of Toronto and throughout the Province of Ontario.

FRANKI HAS THE RIGHT FOUNDATION FOR EVERY STRUCTURE.

OWNER:
Hemus Development Limited

LOCATION:
Don Mills, Ont.

STRUCTURE:
Apartment Building

BUILDER:
P. Dimitroff, Toronto

CONSULTING ENGINEERS:
P. T. Mikluchin & Associates, Toronto

SOIL CONSULTANTS:
Racey MacCullum & Bluteau Ltd., Montreal
Donald Inspection, Toronto

NUMBER OF FOUNDATION UNITS:
54 Excavated Caissons

MAXIMUM LOADS:
1,000 tons

AVERAGE DRILLED DEPTH:
63'

AVERAGE CONCRETE LENGTH:
60'

FRANKI
OF CANADA LIMITED

Head Office: 187 GRAHAM BLVD., MONTREAL 16, P.Q.
QUEBEC OTTAWA TORONTO EDMONTON VANCOUVER

Literature - This series of job highlights, as well as other descriptive literature, will be sent to you upon request to Franki of Canada Ltd., 187 Graham Blvd., Montreal 16, P.Q.

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DO NOT MAIL

Letters
Lettres

8

McLuhan at OAA

The Editors:
I know that many were fascinated by Marshall McLuhan's remarkable speech at the recent OAA Annual Convention. I was disappointed to see, in the April *Journal* the perfunctory notice "Marshall McLuhan spoke to a capacity audience. . .", but with no comment on his speech.
In his discussion on space boundaries – of interest to every architect — he mentioned the "audio" boundary as being a very real thing. He would have been very interested in the address given by Sir Basil Spence to the Toronto Chapter some years ago on his ideas on a "visual" boundary of about four hundred feet. That determined the length of the new Coventry cathedral from the entrance entrance to the great tapestry at the far end. He wanted the tapestry to be seen from the entrance. It may be interesting for those who who may not know that a Chinese Emperor, at about two hundred B.C. built an audience chamber in his new palace one hundred and ten feet wide, four hundred feet long (by measurement) and about one hundred and eighty-five feet high (by tradition), a room of a magnificence unknown to-day that could contain the nave of a large Gothic cathedral — also about four hundred feet long. It would be interesting to hear what hear what Mr. McLuhan would think of this aspect of space or environment. After all, architects need a philosopher's advice sometimes especially when their dreams or their their client's hopes have a head-on collision with brutal reality!
John H. W. Bradfield, MRAIC, Scarborough

On the Allied Arts Catalogue

The Editors:
I congratulate you heartily on the excellence of Volume I of the Allied Arts Catalogue. The layout, text and photography are all first rate.
However, if I were to make a suggestion for the future, it would be that consideration be given to making a hard cover version available as an "option". This might cost a little more, but such a binding would have many virtues—resistance to wear, longer life, and more suitability for gift-giving.

John Caufield Smith,
Executive Director,
Canadian Structural Clay Association

We have received a number of requests for hard cover Allied Arts Catalogues and these are now available with either black or white binding. Price $9.00
Order from Publications Board, RAIC, Suite 307, 160 Eglinton Ave. E. Toronto.
The Editors

The Editors:
I have received your complimentary tear sheets of my work as it appeared in your RAIC Allied Arts Catalogue.

In a twofold capacity, first as an artist and secondly as Ontario representative of the Canadian Craftsmen's Association, a sincere thanks and congratulations.
The stimulating and forward thinking of projects like this and your Crafts For Architecture exhibition are so much in the better interests of Canadians generally that it is hard to imagine why no one had the courage to not only attempt to do them but to actually come up with such a quality product. These projects have been of such importance that they are even being taken note of on the international art scene.
Again may I offer congratulations and the full support of these and any of your future projects.
Merton Chambers, Ontario Representative, Canadian Craftsmen's Association

. . . Architecture Canada

The Editors:
Having recently arrived from post graduate studies abroad, the most gratifying surprise on my return to Canada has been to discover a most comprehensive new format and editorial content for the *RAIC Journal.*
Please accept my congratulations for a most stimulating *Architecture Canada.*
L. J. Stechesen, Winnipeg

The Editors:
We would like to congratulate you, your staff, and the others responsible for making *Architecture Canada* a leader in magazines directed towards our profession. Whereas we were accustomed to setting the old *Journal* aside as being a dull and unreadable institution, we are delighted by the new format and re-organization of content and emphasis to the extent that we look forward to the monthly issues.
Your efforts have made a significant contribution to the profession and are much appreciated.
Donovan C. Marshall, MRAIC, Victoria

The Editors:
I have had my attention drawn to page 31 of your January issue of *Architecture Canada* which sets out what purports to be the plans for an auditorium, etc, for Queen's University, including its location and much other detail, all expressed as if it were a settled matter. Actually, nothing whatever has been settled about this. Queen's University did not commission the study made by Affleck, Desbarats, Dimakopoulos, Lebensold & Sise nor has its Board of Trustees ever indicated any favorable conclusion about it. Mr Lebensold was commissioned by the Alma Mater Society of Queen's University, which is an independent association of the students of the University, whose actions in no way bind the University itself.
J. A. Corry, Principal and Vice-Chancellor Queen's University, Kingston

We received the Queen's project in the course of gathering material for our January "Preview '67" issue and regret, as we are sure do the architects, that publication apparently has left the impression stated by Principal Corry.
The Editors

Classified
Annonces
Classées

9

B.Arch. from the University of Cairo in 1963, 28 years old, working in Germany since 1963, fluent in English and German is looking for a job in Canada in an architectural firm. Write Emile Takla, Goerdelerstrasse 5 /83, 44 Muenster, West Germany.

Associate of the Indian Institute of Architects, 27 years old, with three years experience in housing and hospital design in India and England, wishes to immigrate to Canada and seeks a job with an architectural firm. Write Anil Panchal, 3 Huron Road, London, S.W.17, England.

Austrian Architect /Technical Engineer, 28 years of age, graduate of the Technical University Vienna (Diplomingenieur), 4 years office experience, speaks English, German and Italian, wants employment in Canada, preferably in the Toronto or Montreal areas. Contact Hans Bichler, Erzherzogkarlstrasse 83 /52 /7, A1220 Vienna, Austria.

Architect, ARIBA qualified 1961 wishes to emmigrate to Toronto area and is looking for a suitable position. Age 34, British, married with 4 children. 17 years full time experience. Conversant with many building types experienced estate layouts and interior design, Canadian and British references available, write: Derek R. Norris, 25 Meadway, Harpenden Herts., England.

Architecte, agé de 36 ans, de nationalité polonaise, envisage d'émigrer au Canada, de préférance dans les provinces francaises. Sera au Canada (mai ou juin) pour interview. Etudes Faculté d'architecture de Varsoive. Références professionnelles en Pologne et en France Réalisations. S'adresser à Mieczyslaw CHODACZEK, 10 rue Dancourt, Paris 18e Seine, France.

Canadian architect, UBC Grad (1957), MRAIC (1959), SIA (1962), after 7 years experience in Switzerland as designer and job-captain, wishes to re-establish in Canada and seeks position leading to association or partnership in a progressive firm. Will be visiting Canada in June. George Feistmann, Via Varenna 75, 6604 Locarno, Switzerland.

Indian Architect, age 24, graduate in Architecture from the Govt. College of Fine Arts and Architecture, Hyderabad, Associates of Indian Institute Architects, more than three years practical experience, seeks position in Canada, enabling immediate immigration. Syed A. Hameed, 3-4-131, Barketpura Hyderabad, Andhra Pradesh – India.

English Student, of Intermediate level, and a Probationer of the Royal Institute of British Architects, seeks employment with a Canadian architectural firm for five months starting August 1967. David Gibson, 33, Muswell Hill Road, London N.10, U.K.

Architectural Assistant, 27, Graduate of Northern Polytechnic Architecture School, London, England, seeks position in Toronto. Three years in England. Will be in Canada within the year. A. G. Forman, c/o M. L. N. Bolton, 75 Spencer Avenue, Apt. 807, Toronto 3, Ontario.

Architect wants a job in Canada, with firm of architects. More than 15 years experience in construction of modern-style high buildings in Egypt. Write to Adib Mourad Ghali, 26 El-Aziz Bellah Street, Zeitoun Gardens, Cairo, Egypt, U.A.R.

24-year-old first year student at the University of Edinburgh Department of Architecture, has B.A. University of Manitoba (1964), taught high school for two years, seeks summer employment in Canada June 23 to Sept. 30, 1967. S. R. Pakarnyk, c/o Darke, 44 Howe St., Edinburgh 3, Scotland.

Graduate architectural engineer (28) with experience in industrial, hospital and apartment buildings, at present employed in Munich, Germany, seeks interesting position as of 1 August 1967. Zoltan Piedl, 8 München 90, St. Quirinstr. 10, Germany.

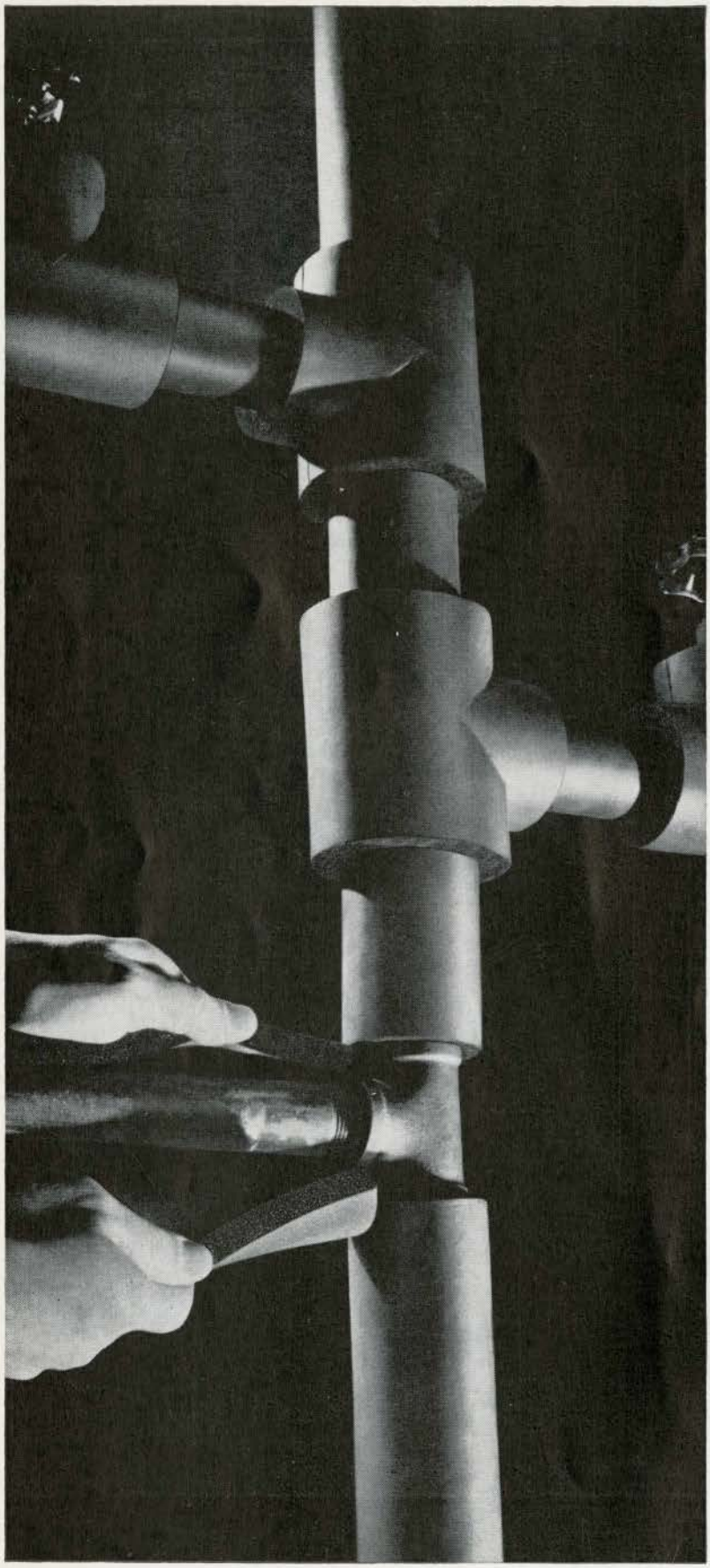
Associate of the Indian Institute of Architects, working as part-time Lecturer in Sir J. J. College of Architecture, Bombay since August 1965, four years experience in architecture, seeks position in Canada. A. W. Pradhan, 14-B2, Officers Quarters, Haji Ali Park: Bombay 34 WB India.

Second Year student at the University of Liverpool School of Architecture, seeks employment with architect for July to September inclusive. Write Jane Miller, Salisbury Hall, Elmswood Road, Liverpool 18, England.

Experienced architectural assistant, 29 years old, graduate diploma in building, Final Standard RIBA, wishes a job in a Canadian architectural firm. Write James Chan, 32 Leinster Gardens, London, W.2., England.

Two Filipino architectural /structural steel draftsmen, B.Sc. in Architecture University of Manila, with Philippine and Canadian experience wish a position in a Toronto architectural firm and will furnish detailed resumés. Contact Ernesto V. Flores and Ramon N. Floro, 104 MacDonell Avenue, Toronto 3, Tel. 533-4843.

Architectural student, RIBA intermediate, wishes to spend twelve months practical experience with a Canadian architectural firm before returning to the School of Architecture, Northern Politechnic, London. Write Anthony Leach, 15 Empress Avenue, London, E. 12, England.



What to look for when you buy a "one-step" insulation.

All the flexible insulation characteristics in Armaflex work together — in balance. We don't shoot for high-scoring honours with just one property. Because you don't buy a "one-step" insulation for just flexibility — or dimensional stability — or conductivity — or any other single characteristic. You buy it for total insulating performance.

It's our precise balance of independent properties that causes Armaflex to outperform other insulation materials. As you might expect, Armaflex has a first-place rating on several individual characteristics. But we're not about to crow on that score. Total performance is our message.

For more information and literature write: Armstrong, Packaging and Industrial Products Division, P.O. Box 919, Montreal.

INSULATIONS BY

Armstrong

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Index to Advertisers

How did Pozzolith concrete shape up on Canada's largest interchange?

Photo: Department of Highways, Ontario.

Beautifully.

This is the Spadina Avenue Interchange on Highway 401 in Metropolitan Toronto. It's a $13-million, 150-acre complex of twenty-seven concrete ramps and bridges. (Some are the longest spans in the country.)

Why was POZZOLITH used in all the concrete? Consider the requirements.

Maximum strength was essential. (POZZOLITH concrete develops up to 25% greater compressive and flexural strength, with up to 40% greater bond strength to steel.)

So was durability. (POZZOLITH makes good concrete even more resistant to freezing and thawing and to scaling from the use of de-icing salts.)

So was workability. (POZZOLITH concrete flows more easily around steel reinforcing members because it needs less water for a given slump.)

So was precise scheduling of placement. (POZZOLITH makes it possible to control the rate of hardening for *precise* scheduling.)

And so was good appearance with a minimum of finishing and rubbing. (POZZOLITH controls water content, slump and workability, resulting in a better surface finish after forms are stripped.)

If you'd like to know more about POZZOLITH and the advantages of using it in *all* concrete, consult a Master Builders field man. General office and factory—Toronto 15, Ontario; Branch Offices in Vancouver, Calgary, Edmonton, Regina, Winnipeg, Ottawa, Montreal, Moncton.

Spadina Avenue Interchange, Highway 401. *Contractors:* McNamara Construction Equipment Limited; Raney, Brady, McCloy Limited; Swansea Construction Co. Ltd. *Ready-Mix Suppliers:* Dufferin Materials & Construction Ltd., G. McCord & Co. Ltd.

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POZZOLITH

A Product of

MASTER BUILDERS

*POZZOLITH, *a registered trade mark of The Master Builders Company, Ltd.*

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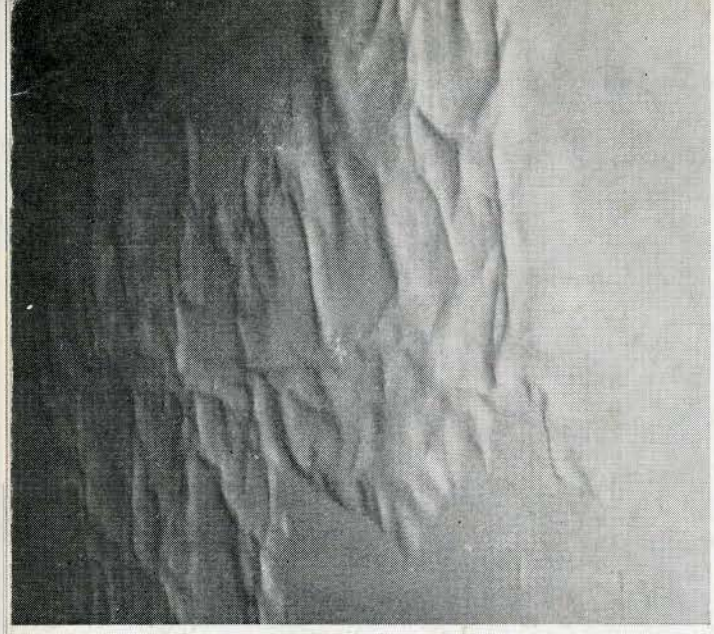

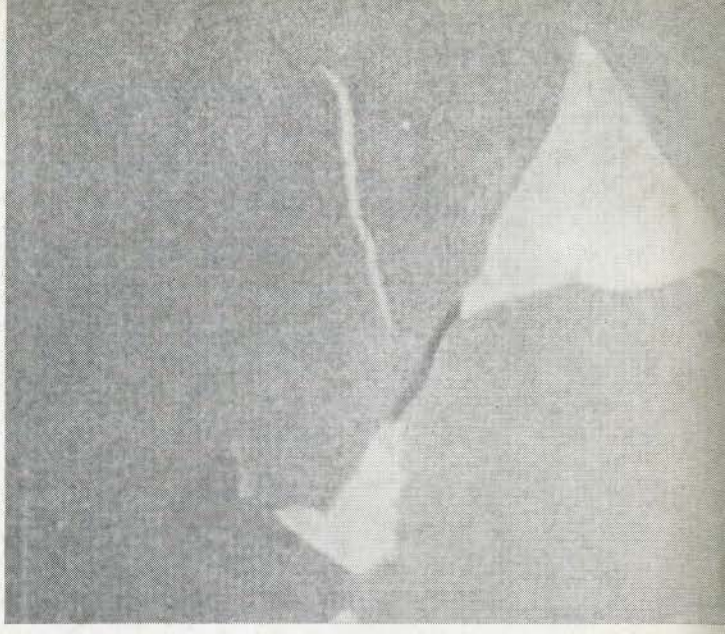

There are some decorating effects you can't get with Domtar Typess Plaster.

Not that you're crazy about them anyway.

Blistering and spalling in finish coat plaster over masonry or monolithic concrete have been bugging the building industry with increasing frequency. Typess trowel finish plaster overcomes this problem.

This blistering and spalling effect is due to the expansion of lime bearing a high content of magnesium oxide (unhydrated particles of lime).

Bond failure occurs only where there is a lack of recarbonation, as in masonry and monolithic concrete applications, and not in situations where the plaster is applied to lath exposed to air and carbon dioxide from behind. This condition is aggravated by the shortness of the interval now common between the application and painting of finish coat plaster, thus further sealing the finish from air.

It is now proven that with a magnesium oxide content in Finish coat plaster of not more than 8% such bond failure does not occur. (Normal finish coat plaster far exceeds this).

That's why we came out with Typess — it has less than 2% magnesium oxide content. And it's the only pre-gauged plaster (just add water) of its kind in North America.

Next time you're faced with a masonry or monolithic concrete application, try our Typess trowel finish plaster.

You'll be amazed at the effects you won't get.

DOMTAR
Construction Materials Ltd.