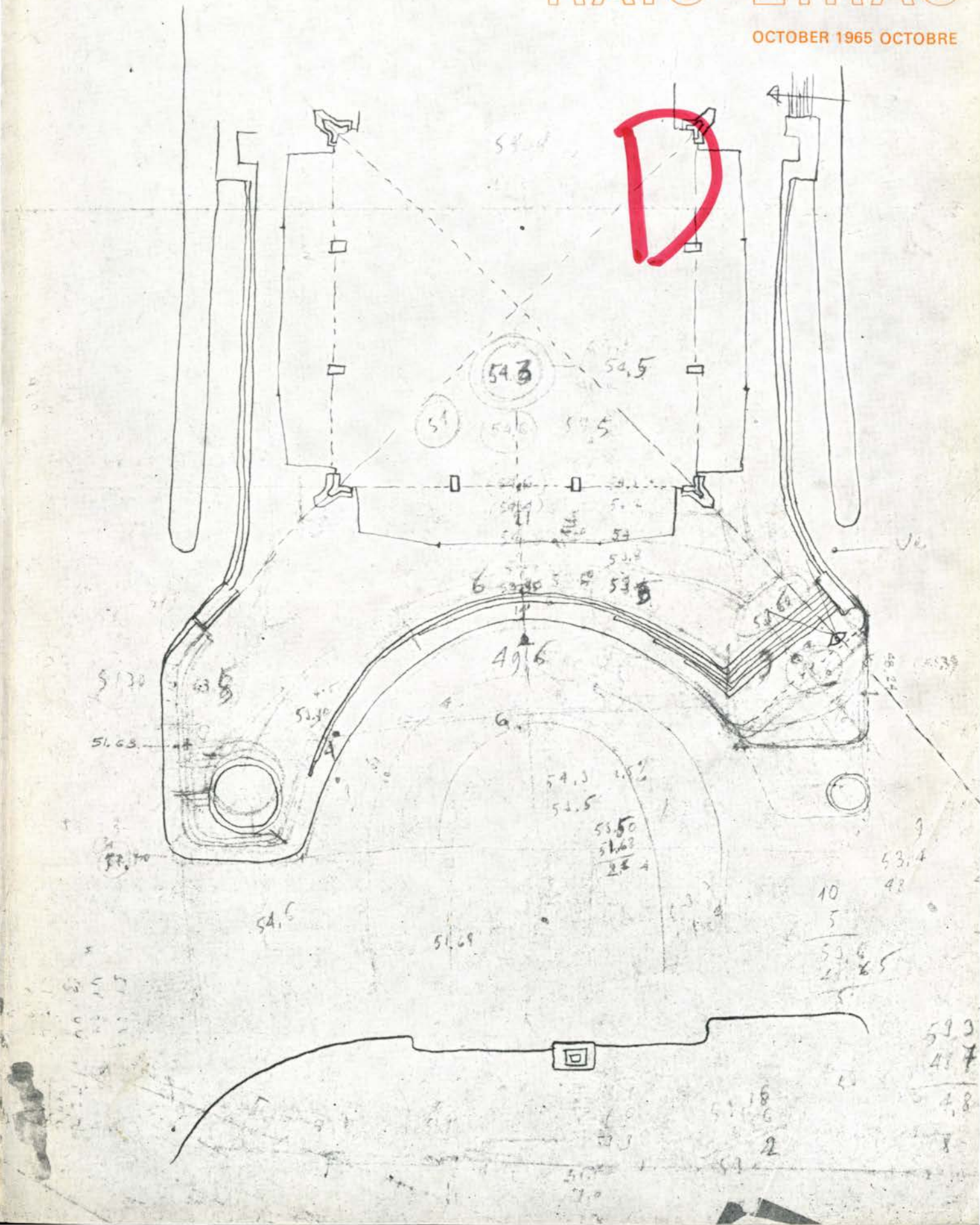
JOURNAL
RAIC · L'IRAC
OCTOBER 1965 OCTOBRE



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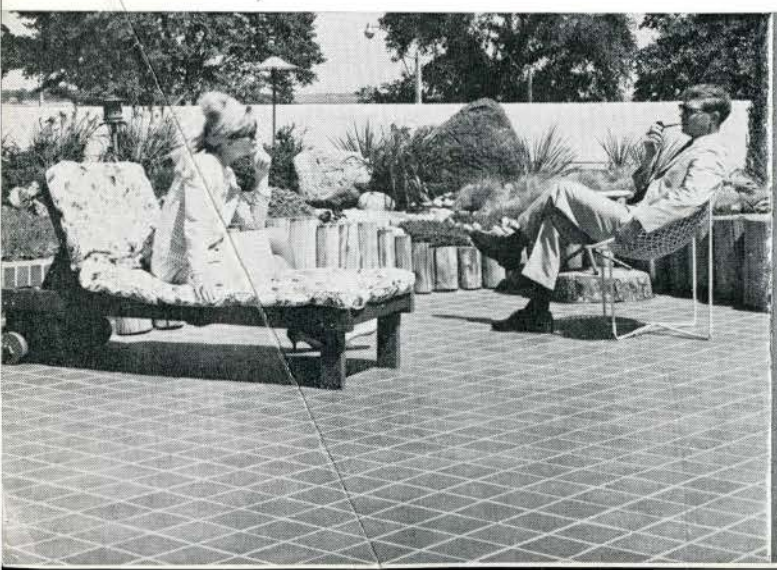

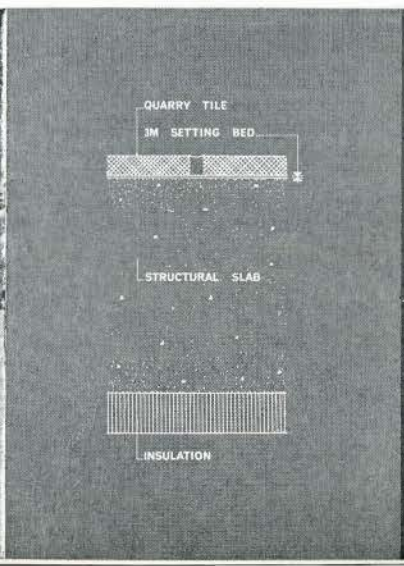

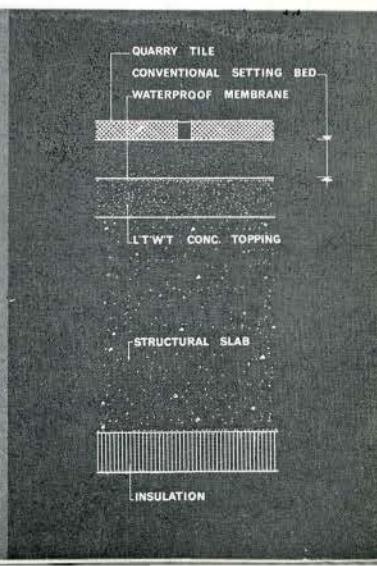

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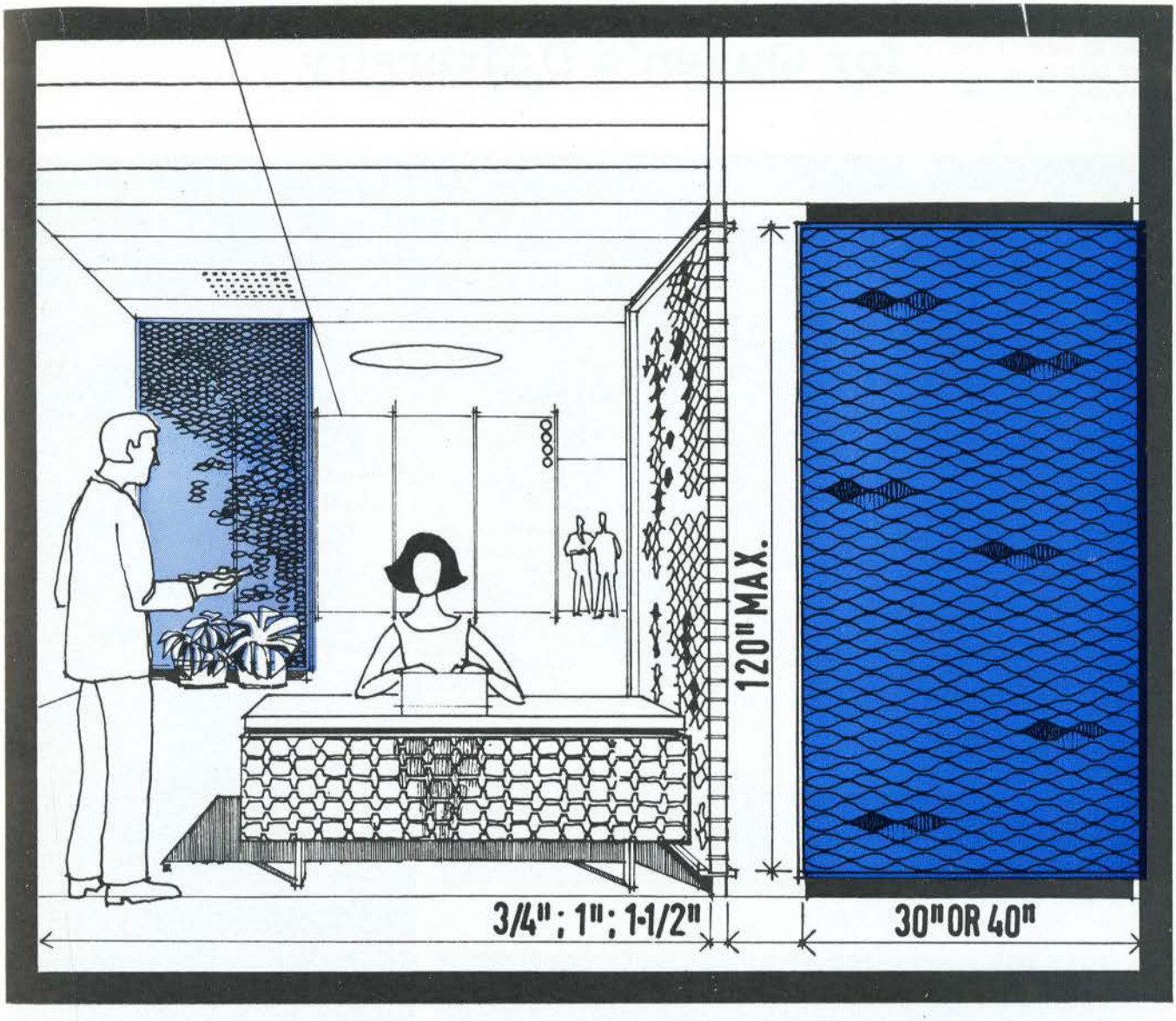

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News

Report of Executive Committee

The Executive Committee of RAIC Council, meeting in Jasper, Alberta, on September 10–11, received the interim report of the special committee on the Aims and Functions of the Institute. Prepared by Howard Bouey (*F*), of Edmonton, this report implements the terms of the resolution presented at the 1965 Assembly by Jean-Charles Martineau and Paul Lambert, of Montreal. It recommends immediate action to set priorities for numerous proposals, including a Handbook of Professional Practice, increased activity on behalf of salaried architects, continuing professional education, building cost index records, group insurance plans, study of Provincial Acts, etc. It also calls for study of the possibility of supplementary issues of the *Journal* in French.

A vote of appreciation was accorded to William G. Leithead (*F*) for his contribution in preparing *Decorations '67*. This was published in the August *Journal* and reprints have been sent to municipalities, libraries, chambers of commerce, newspapers and broadcasters across Canada, and the provincial associations will extend distribution of the Manual still further.

A message of congratulations was sent to Dr F. Bruce Brown (*F*) on being honored by Fellowship in the American Institute of Architects.

Reports on the UIA Congress in Paris were presented by Messrs Pettick, Strutt and Arnott, and expressed satisfaction with the good representation of Canadian architects present. John L. Davies (*F*) reported on the first biennial conference of the Commonwealth Association of Architects, held in Malta. A message of congratulations was sent to Mr Davies on his election to the CAA Executive Committee.

Revisions to the By-laws will be recommended to Council, in sections dealing with payment of per capita dues, College of Fellows Fund, composition of Council, elections, staff, and publications. The President announced that revised composition of the Architectural Education committee has been approved by Council.

Approval was given to the recommendation of the College of Fellows that the abbreviation for "Fellow" be (*F*) in both English and French usage.

A letter assuring our support will be sent to the new Science Council of Canada. Other business concerned Institute and *Journal* financial statements, plans of various committees, CIB, and coming Assemblies.

The Alberta Council also met on September 11, and took advantage of the opportunity to make detailed plans of program and arrangements for the 1966 RAIC Assembly in Jasper. A joint meeting was held with the Executive Committee to discuss some of these plans, together with other subjects of mutual interest.

FRED W. PRICE
Executive Director

Rapport du Comité éxécutif

Le Comité exécutif du Conseil de l'Institut, réuni à Jasper (Alberta) les 10 et 11 septembre, a reçu le rapport provisoire du Comité spécial sur les objets et les fonctions de l'Institut. Ce rapport, préparé par M. Howard Bouey (*F*) d'Edmonton, donne suite aux termes de la résolution présentée à l'assemblée de 1965 par les architectes Jean-Charles Martineau et Paul Lambert de Montréal. Il recommande des mesures immédiates en vue d'établir des priorités en faveur de divers projets, dont la publication d'un Manuel sur la pratique de la profession, la poursuite des études professionnelles, l'établissement de dossiers d'indices du coût du bâtiment, l'assurance collective, l'étude des lois provinciales, etc. Il recommande aussi d'étudier la possibilité de publier des numéros supplémentaires du *Journal* en français.

Le Comité a adopté une motion d'appréciation à l'adresse de M. William G. Leithead (*F*) pour son apport à la préparation du *Décoration 67*, publié dans le *Journal*. Des exemplaires de ce manuel ont été envoyés aux municipalités, aux bibliothèques, aux chambres de commerce, aux journaux et aux stations de radio et de télévision de tout le Canada. D'autres exemplaires seront distribués par les associations provinciales.

Un message de félicitations sera envoyé à M. F. Bruce Brown (*F*) à l'occasion de son admission comme Fellow de l'American Institute of Architects.

MM. Pettick, Strutt et Arnott ont présenté des comptes rendus du congrès de l'UIA à Paris et se sont dit heureux de voir les architectes canadiens aussi bien représentés. M. John L. Davies (*F*) a soumis un compte rendu du premier congrès biennal de l'Association des architectes du Commonwealth tenu à Malte. M. Davies recevra un message de félicitations pour son élection comme membre du Comité exécutif de cette Association.

Des projets de modification des articles du Règlement relatifs au versement des cotisations par membre, à la caisse du Collège des Agrégés, à la composition du Conseil, aux élections, au personnel et aux publications seront soumis au

Meeting of RAIC *Executive Committee with Council of Alberta Association of Architects at Jasper, Alberta. Front row: l. to r., R. F. Bouey (F) (President* AAA*), J. E. Searle (F) (Manitoba), Gérard Venne (F) (President* RAIC*), C. A. E. Fowler (F) (Nova Scotia), J. W. Strutt (F) (Ontario). Back row: l. to r., J. W. Long (Alberta), W. G. Leithead (F) (BC), M. G. Holdham* (RAIC *Executive Secretary), E. W. Tremblay (Quebec), J. McIntosh (Alberta), F. J. Nobbs (F) (President* PQAA*), F. W. Price* (RAIC *Executive Director), Mrs F. O'Connor (Alberta), J. R. Myles (New Brunswick), G. W. Lord (Alberta), F. Noseworthy (Nfld.), K. L. Bond (Alberta), G. R. Arnott (Sask.)*

Conseil. Le président a annoncé l'approbation par le Conseil d'un projet de modification à la composition du Comité sur l'enseignement de l'architecture. Le Comité a approuvé une recommandation du Collège des Agrégés portant que dorénavant l'abbréviation du titre "agrégé" (fellow) soit (*F*) en français comme en anglais.

Une lettre sera envoyée au nouveau Conseil des sciences du Canada afin de l'assurer de notre appui. Le reste de la réunion a été consacré aux états financiers de l'Institut et du *Journal*, au programme des divers comités, au CIB et aux prochaines assemblées.

Le Conseil de l'Alberta s'est réuni en même temps et il a profité de l'occasion pour établir des plans détaillés et prendre d'autres dispositions en vue de l'assemblée de 1966 de l'Institut à Jasper. Une réunion mixte a eu lieu avec le Comité exécutif pour l'étude de certains de ces plans ainsi que d'autres questions d'intérêt commun.

FRED W. PRICE
Le directeur général

CGSB STANDARDS AND SPECIFICATION INDEX

The June 1965 Supplement to the CGSB INDEX OF STANDARDS AND SPECIFICATIONS is now available from the Secretary, Canadian Government Specifications Board, c/o Dept. of Defence Production, Ottawa 4, Canada.

This Supplement lists 42 new and revised standards, as well as 30 amendments and 1 cancellation, issued since the release of the Annual Index on 4 January 1965.

Users of the CGSB Standard 105-GP-1, Inspection by Attributes, will be interested in a companion document, CGSB Standard 105-GP-2, Guide to the Use of CGSB Standard 105-GP-1, Inspection by Attributes, that has just been issued. Copies are available at 50 cents each.

CATALOGUE AVAILABLE

The 1964-65 Cape Dorset Catalogue of Eskimo Graphic Art and price list is available from the West Baffin Eskimo Co-operative Ltd representative, Mrs A. Houston, Room 819N, 400 Laurier Ave. West, Ottawa.

IN ERRATUM

Dans le numéro de Juillet 1965 une erreur s'est glissée au sujet de l'Ecole d'Architecture de Montréal, concernant l'article sur la Bourse Francou. La paranthèse, au lieu de se lire: maintenant affilié à l'Université de Montréal, doit être corrigée ainsi: maintenant école constituante de l'Université de Montréal.

Dr F. Bruce Brown and AIA President

F. BRUCE BROWN MADE FAIA

Dr F. Bruce Brown (*F*) immediate past president RAIC, was invested with the Medallion of Fellow of the American Institute of Architects at a dinner and reception in his honor in the Octagon, the 165-year-old headquarters of the AIA in Washington, on September 9. The investiture was conducted by Morris Ketchum, President AIA (Right).

ONTARIO DEPT. OF EDUCATION APPOINTMENTS

J. T. Ross, MRAIC, has been appointed assistant research architect for post secondary education building in the Division of School Planning, Ontario Department of Education. A graduate of McGill School of Architecture in 1951, Mr Ross practised in Galt prior to this appointment. R. E. Mitchell, MCIQS, ARICS, who comes to Canada from the United Kingdom by way of Jamaica, has been appointed to do research in methods and materials. J. B. Wimbs, MRAIC, ARIBA, has assumed responsibility for research in the elementary and secondary fields. Research Director Frank Nicol, MRAIC, ARIBA, is now visiting Europe and the U.K. to investigate various aspects of school design and research.

ACI PROGRAM

The Ontario Chapter of the American Concrete Institute announces the following program for the coming year.

October 27, 1965—Subject—FORMWORK FOR IN-SITU CONCRETE—Surfaces, Textures and Patterns
Speaker—Victor Leabu of Giffles & Rossetti, Detroit
8:00 p.m.—Sydney Smith Bldg., Room 2118.

December 2, 1965—Subject—HI RISE FRAMING SCHEMES—Slip-Form and Local Bearing Concrete Masonry
Speakers—John Maryon of John Maryon & Assoc., Toronto, Gordon Plewes, NRC Ottawa
8:00 p.m.—Sidney Smith Bldg., Room 2118.

January 26, 1966—ANNUAL DINNER MEETING

March 17, 1966—Subject—BRIDGE DECK STUDIES
Co-Chairmen—R. G. Lavery and John Elliott
8:00 p.m.—Sidney Smith Bldg., Room 2118.

UNIVERSITY TEACHING POSITIONS

The External Aid Office invites applications from those interested in university teaching positions under one of Canada's educational assistance programs in South and South East Asia, Africa and the Caribbean Area, beginning in the academic year 1966-67. For further information, please write to: Education Division, External Aid Office, 75 Albert Street, Ottawa (4).

MONTREAL SOCIETY IN TORONTO

The Montreal Society of Architects completed another successful charter flight on October 9th when twenty-eight members and guests visited Toronto. The tour was extremely well organized, thanks to Mr Vladan Milic of the Toronto Chapter and the many Toronto architects who took time to show the Montreal Society through their projects. An exhausting but worthwhile day was culminated by a long cocktail party and a short dinner.

(*continued on page 86*)

Montreal Architects with Boris Zerafa at Lothian Mews

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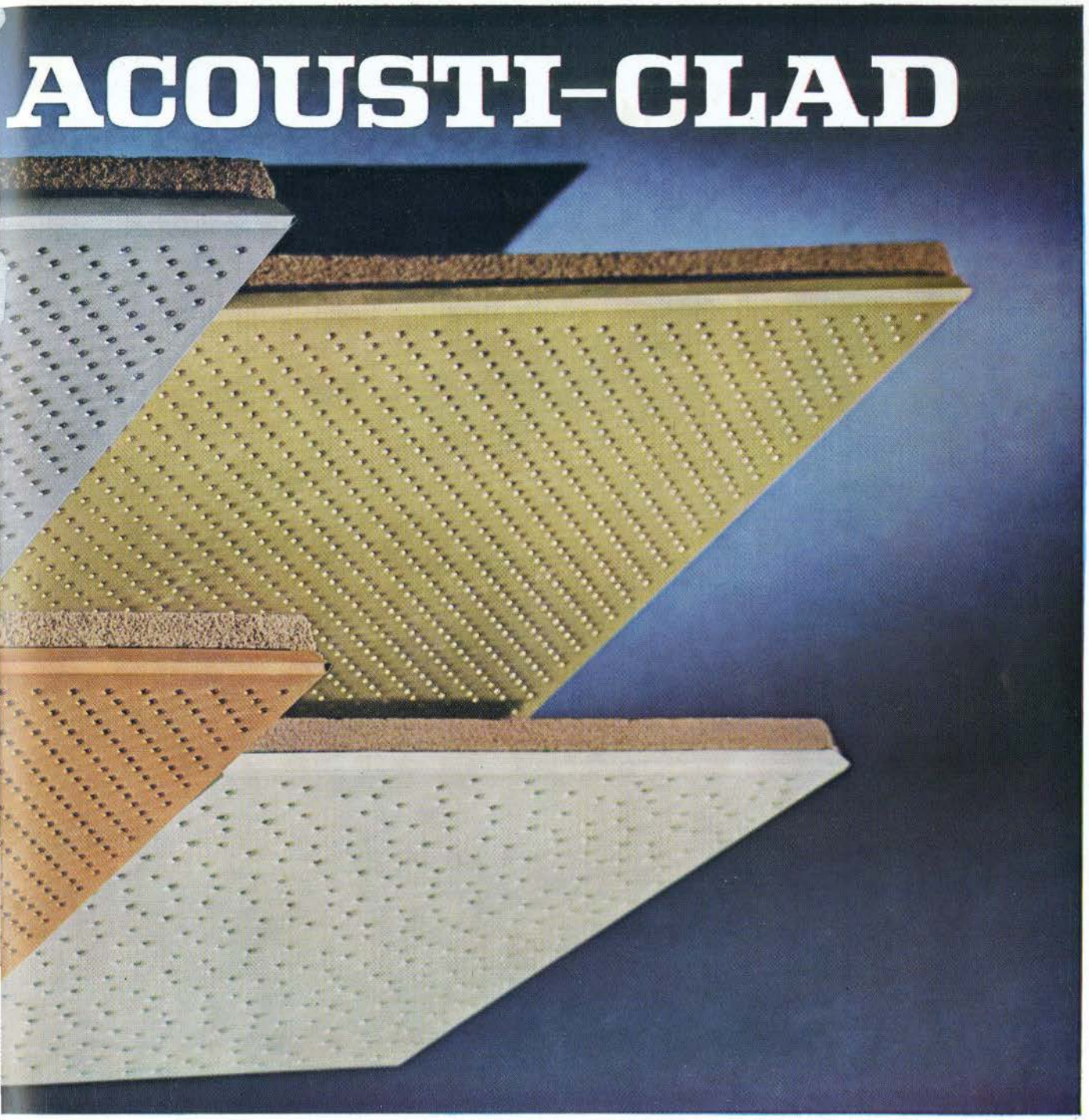

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Perspectives

From RAIC Headquarters

The Ontario Association of Architects, in cooperation with the Ontario General Contractors' Association, has recently issued the revised Document entitled "Architect-Contractor Practices and Procedures and Take-over Procedure When a Project is Substantially Completed". This document is a consolidation of the recommendations which have been agreed upon over the years through discussions by the Joint Committee comprised of representatives of the two Associations. This document will be of interest to architects in other provinces, and copies are obtainable from OAA.

The Department of Industry, Ottawa, reports that a large number of entries are being received daily from architects, buyers, manufacturers and designers for the "Canadian Design 67" program. Through this program, architects and others will have a means of locating the best existing Canadian-designed products as well as the opportunity to have products designed and produced to meet their special needs. Details are available from this headquarters and from all Provincial Associations.

Announcement of the Massey Medals for Architecture 1967 Competition will be made next spring in order to permit photographs during the summer months. The first stage of the Competition will be held in January 1967. The awards ceremony and opening of the Exhibition in the National Gallery of Canada is scheduled for May 24, 1967, co-incidental with the opening of the RAIC Diamond Jubilee Assembly in Ottawa.

Architects interested in buildings and other facilities for elderly people will be interested in the Canadian Conference on Aging, January 24–28, 1966, in the Royal York Hotel, Toronto.

The RAIC is a sponsoring body, and urges good participation by our members. Details available from RAIC headquarters or from Miss Marion E. Murphy, 55 Parkdale Ave., Ottawa 3.

"The architectural profession and those related disciplines concerned with the design and construction of the physical environment—buildings and the spaces in between—face many problems in the coming years. Not the least of these is the matter of communications. Architects traditionally are not serious readers—thus complicating the total problem—but even if there was an "ideal" information collection, storage and retrieval system, there is some doubt that the profession would make good use of it."

This challenging statement comes from Ben H. Evans, AIA Director of Research Programs. What is your reaction to it? Whatever you may think, Mr. Evans and his colleagues are doing excellent pioneer work in the field of architectural research. We recommend "Research News" and other publications available from AIA Headquarters.

Du Siège Social De l'Institut

L'Association des architectes de l'Ontario a récemment publié, avec le concours de l'Ontario General Contractors' Association, une édition revisée de "Architect-Contractor Practices and Procedures and Take-over Procedure When a Project is Substantially Completed". Ce document est une codification de recommandations acceptées au cours des années par le Comité mixte formé de représentants des deux associations. Ce document est de nature à intéresser les architectes des autres provinces, et ils peuvent se le procurer en s'adressant à l'AAO.

Le ministère de l'Industrie, à Ottawa, annonce qu'il reçoit quotidiennement d'architectes, d'acheteurs, de fabricants et d'esthéticiens un grand nombre de demandes d'inscription au programme "Esthétique industrielle du Canada, 1967". Ce programme permet aux architectes et à d'autres personnes de localiser les produits canadiens répondant le mieux aux règles de l'esthétique ou de faire fabriquer des produits répondant à leurs besoins particuliers. On peut obtenir des détails au sujet de ce programme de notre bureau et de toutes les associations provinciales.

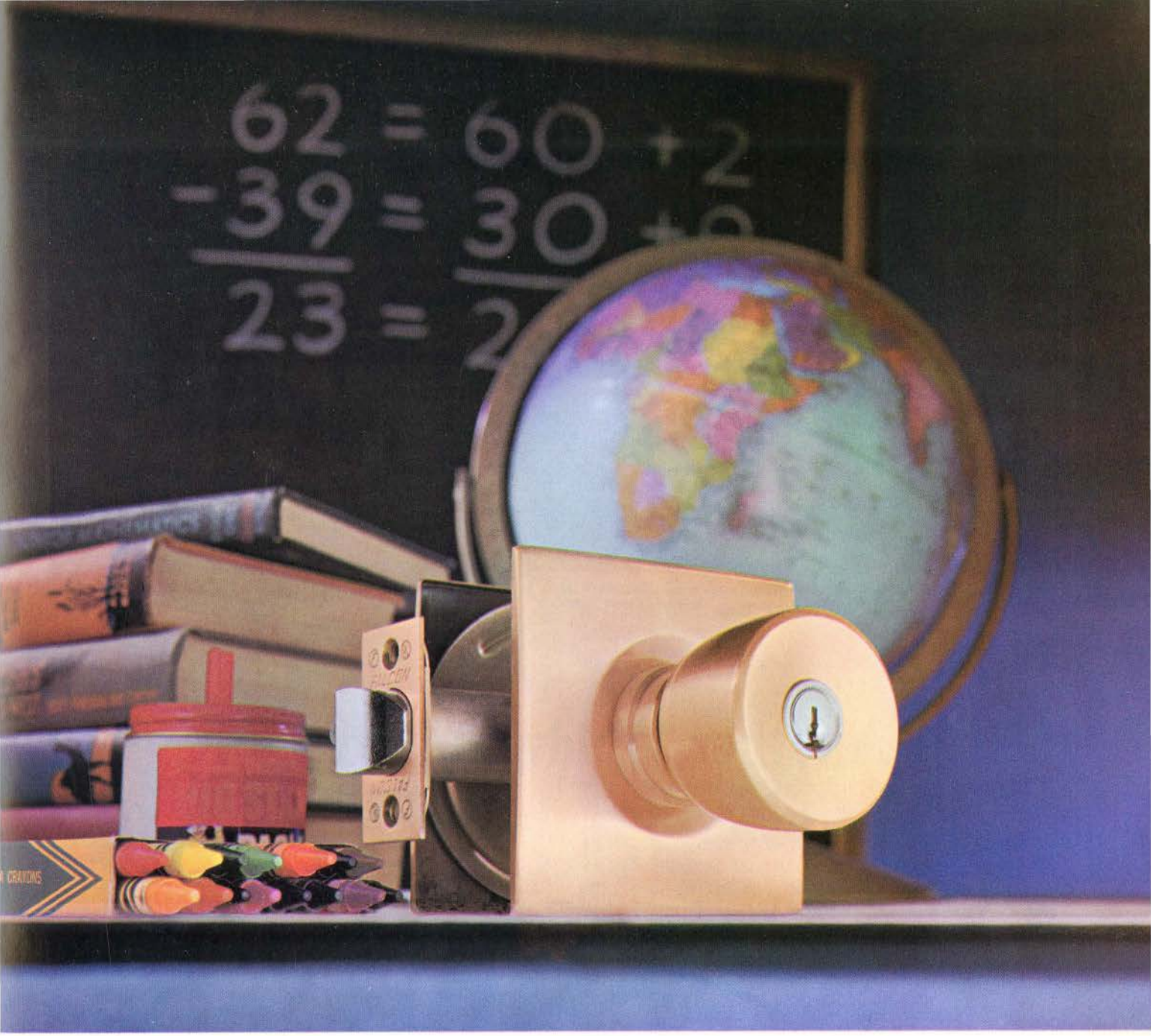
Le concours "Médailles Massey en architecture, 1967" sera annoncé dès le printemps prochain, de façon à permettre de prendre des photographies au cours de l'été. La première élimination aura lieu en janvier 1967, puis la remise des prix et l'inauguration de l'exposition à la Galerie nationale se feront le 24 mai 1967, à l'occasion de l'ouverture à Ottawa de l'assemblée qui marquera le soixantième anniversaire de l'Institut.

La Canadian Conference on Aging, qui aura lieu à l'hôtel Royal York de Toronto du 24 au 28 janvier 1966, devrait présenter un grand intérêt pour les architectes qui s'occupent de bâtiments et d'autres services à l'intention des vieillards. L'Institut est un des organisateurs de ce congrès et il invite ses membres à y participer en grand nombre. On peut se procurer les détails requis à notre bureau ou de Mlle Marion E. Murphy, 55 av. Parkdale, Ottawa 3.

"L'architecture et les disciplines connexes chargées de la préparation des plans et de l'aménagement de notre milieu physique—construction de bâtiments et aménagement des espaces qui les séparent—auront à faire face à des problèmes nombreux au cours des prochaines années. Au nombre de ces problèmes, celui des communications ne sera pas le moindre. Traditionnellement, les architectes ne sont pas de grands innovateurs, ce qui complique davantage les difficultés. Même si nous avions un régime 'idéal' de cueillette, d'accumulation et de classification des renseignements, il est douteux que la profession en profiterait."

Ce défi est lancé par Ben H. Evans, directeur des programmes de recherches de l'AIA. Quelle sera maintenant votre attitude? Quoi que vous puissiez en penser, M. Evans et ses collègues

(*cont. page 17*)



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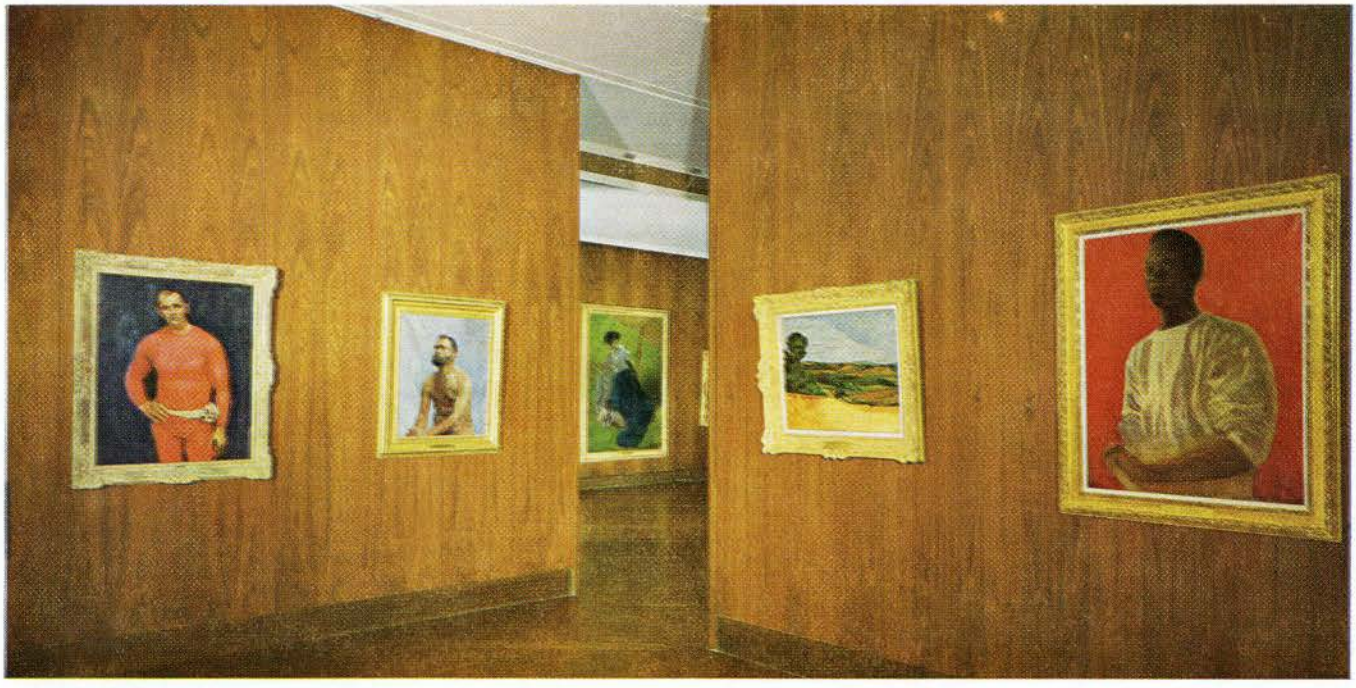

HAND BALANCER *by Walt Kuhn* | MALE NUDE *by Henri Toulouse-Lautrec* | SARAH BERNHARDT *by Paul Gustave Doré* | PAYSAGE A SAINT MAXIMIN *by André Derain* | PORTRAIT OF JAMES BALDWIN *by Marjorie Steele*

Another Weldwood original

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Some 30 AIA members were present as delegates at the recent White House Conference on Natural Beauty, termed by one observer as a turning point in the way Americans use their land and rebuild their cities.

William H. Scheick, FAIA, Executive Director of AIA, announces that Robert E. Koehler will succeed Joseph Watterson as Editor of the AIA Journal. Mr. Koehler, a professional journalist, has been Managing Editor of the Magazine since 1963.

The Union Internationale des Architectes announces that first prize in the Competition for the Civic Center Plaza, San Francisco, was awarded to Ivan Tzvetin and Angela Danadjieva, of Paris.

The UIA Prize of Athenes has been awarded to two students of architecture: Gorm Schmidt, University of Copenhagen, Denmark, and Jurg Lang, Ecole Polytechnique de Zurich, Switzerland. Mentions went to students of Schools in Tournai, Hungary, Kassel, Leningrad, and Birmingham.

The international jury, headed by Jose Lui Sert of Cambridge, examined 106 projects from 57 Schools of Architecture, on the theme "A School of Architecture".

The most valuable architectural award in the world, the Reynolds Prize of $25,000, went to James Stirling and James Gowan, of London, England, for their engineering building at the University of Leicester.

CMHC bursaries for postgraduate studies in housing developments have been awarded to: Harold J. Katzin, McGill B.Arch. '65, for study at Washington University, St. Louis, Missouri; James McKellar, Toronto B.Arch. '65, for study at University of Pennsylvania.

A United Nations Commission on Housing, Building and Planning has submitted recommendations concerning:

1. Continuation of research work concerning the methodological problems involved in the comparison of costs, prices and physical elements of construction;

2. Use of mathematical methods, operational research methods, and electronic computers for the solution of building problems;

3. A common terminology in the field of economic studies related to building;

4. Study of the durability of plastic materials used in building;

5. Cooperation in the modular field and dimensional coordination.

Latest issue of the National Building Code News from Division of Building Research NRC notes the completion of 15 years of fire research by DBR, which now maintains a research laboratory manned by a staff of twenty-two people engaged in a broad range of fire research projects.

Among items of interest: "A ten-year survey of fire deaths in buildings in Ontario has recently been completed. The information recorded includes a description of the wall linings. The statistics are now being studied and when a summary is completed it should be of value to the committees working on future versions of the National Building Code."

font un excellent travail de pionniers dans le domaine de la recherche en architecture. Nous vous recommandons la lecture de "Research News" et d'autres publications que vous pouvez obtenir au siège de l'AIA.

Une trentaine de membres ont assisté en qualité de délégués au Congrès sur les beautés naturelles tenu récemment à la Maison Blanche. Un observateur a qualifié ce congrès de point tournant dans la manière dont les Américains utilisent les terrains et reconstruisent leurs villes.

M. William H. Scheick, FAIA, directeur administratif de l'AIA, annonce que M. Robert E. Koehler va succéder à M. Joseph Watterson au poste de rédacteur du AIA Journal. M. Koehler, journaliste de profession, est rédacteur-directeur de la revue depuis 1963.

L'Union internationale des architectes annonce que le premier prix du concours pour le Civic Center Plaza de San Francisco a été décerné à Ivan Tzvetin et Angela Danadjieva, de Paris.

Les Prix d'Athènes, de l'UIA, sont allés à deux étudiants en architecture: MM. Gorm Schmidt, de l'Université de Copenhague (Danemark) et Jurg Lang, de l'École Polytechnique de Zurich (Suisse). Des mentions ont été accordées à des étudiants des écoles de Tournai, de Hongrie, de Kassel, de Leningrad et de Birmingham.

Le jury international, dirigé par M. Jose Lui Sert, de Cambridge, a examiné 106 projets de 57 écoles d'architecture sur le thème "Une École d'Architecture".

Le prix le plus convoité au monde, le prix Reynolds de $25,000, a été décerné à MM. James Stirling et James Gowan, de Londres, pour leur projet de l'"Engineering Building" à l'Université de Leicester.

La S.C.H.L. a décerné des bourses d'études postuniversitaires en habitation à: M. Harold J. Katzin, B.Arch., McGill, 1965, pour des études à l'Université Washington, St. Louis, Missouri; M. James McKellar, B.Arch., Toronto, 1965, pour des études à l'Université de Pennsylvanie.

Une commission des Nations Unies sur l'habitation, le bâtiment et la planification a formulé des recommandations visant:

1. La poursuite des travaux de recherche sur les problèmes de méthodologie que présente la comparaison des coûts, des prix et des éléments physique de construction;

2. L'utilisation de méthodes mathématiques, de méthodes de recherches d'éxécution et de calculatrices électroniques pour la solution des problèmes de construction;

3. Une terminologie commune dans le domaine des études économiques relatives au bâtiment;

4. Une étude de la durée des matériaux en plastique employés dans le bâtiment;

5. La collaboration dans le domaine modulaire et la coordination des dimensions.

Le dernier numéro du National Building Code News, de la Division de la recherche en bâtiment du Conseil national de recherches signale l'achèvement d'une étude de 15 ans sur les incendies. Cette étude a été faite par la Division de la recherche en bâtiment qui a maintenant un laboratoire et un personnel de 22 fonctionnaires consacrés à toute une série de recherches sur les incendies.

(*cont. page 21*)

PROGRESSIVE IDEAS IN STEEL

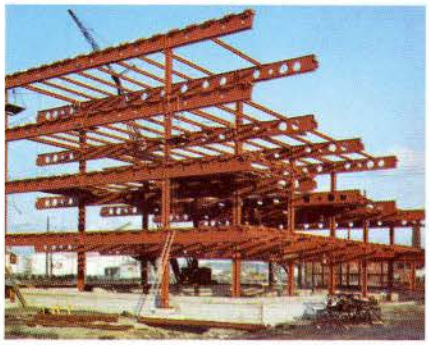
Showcased in Dofasco's new office building

Steel Piles

The building is supported on piles, because the site on industrial fill ruled out a foundation. 136 steel tubes were driven approximately 70 feet to bedrock, then filled with concrete. Steel piles drive quickly and are readily checked for straightness by sighting down the inside of the tube.

Fabricated Steel Beams

The 42-inch deep girders were fabricated from steel plate. Perforations in the girders accommodate heating ducts, electrical conduits and piping for maximum concealment of facilities with minimum floor thickness.



Composite Floor with Cellular Steel Decking

Cellular steel flooring was welded to the beams with Nelson studs. Three inches of concrete were poured on top. The floor load is carried by the steel deck; the concrete fill serves as the structural compression flange. The cellular flooring provides raceways for electric power and communication wires.

Steel Curtain Wall

The curtain wall treatment was developed after extensive research that led to a wall which includes thermal barriers and is double-glazed.

In-fill panels have porcelain enamelled steel on exterior surfaces, and baked enamel steel for interior walls. Two inches of insulation between the two layers are approximately equal to 10 inches of masonry. The comparatively thin wall (only 3½ inches) provides additional usable interior space. Because the curtain wall weighs only 12 lbs. per square foot, it was possible to reduce the size of foundation and structural steel.

Exterior Steel Paneling

The ground floor walls are of cement block covered with porcelain enamelled steel panels. The 4'4" x 9'8" panels are laminated to ¾" plywood, which is backed by galvanized steel. These panels, that contribute distinctive and enduring beauty, are anchored to the cement blocks with stainless steel fasteners.

Steel Clad Cement Blocks

This is among the most significant new techniques developed for the Dofasco building. Before or after the blocks are laid, pre-formed steel pans are attached with tile cement. Some pans received a baked-enamel finish before application. Others were painted on site. An infinite range of colours and finishes can be achieved. The steel surface offers excellent resistance to damage, yet the cost is less than for glazed block or vitreous tile.

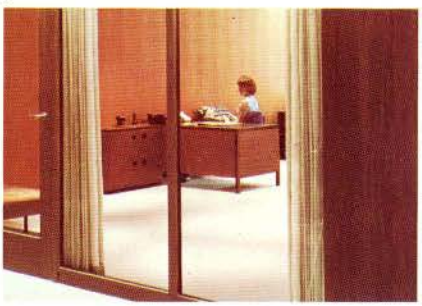
- ☐ PERFORATED STEEL GIRDERS
- ☐ INSULATED STEEL CURTAIN WALL
- ☐ STEEL CLAD CEMENT BLOCKS
- ■ **PROGRESSIVE IDEAS IN STEEL**

Steel Ceilings

The largest perforated steel ceiling pans ever fabricated, 4'8" x 4'8", are used in the Dofasco building. Lighting and air handling units are incorporated into the suspended ceiling panels. Lower maintenance costs result from the use of this ceiling technique because these units are hinged for ready access and removal.

Steel Partitions

Efficient office layout now and in the future has been assured by the use of prefabricated steel partitions. Because the partition units conform to standard building modules, they are interchangeable to meet changing needs. In the general offices, partitions were pre-finished with baked enamel for long, maintenance-free service. Steel partitions in the executive offices are covered with a variety of materials, such as wood veneers and grasscloth.



Steel Office Furniture

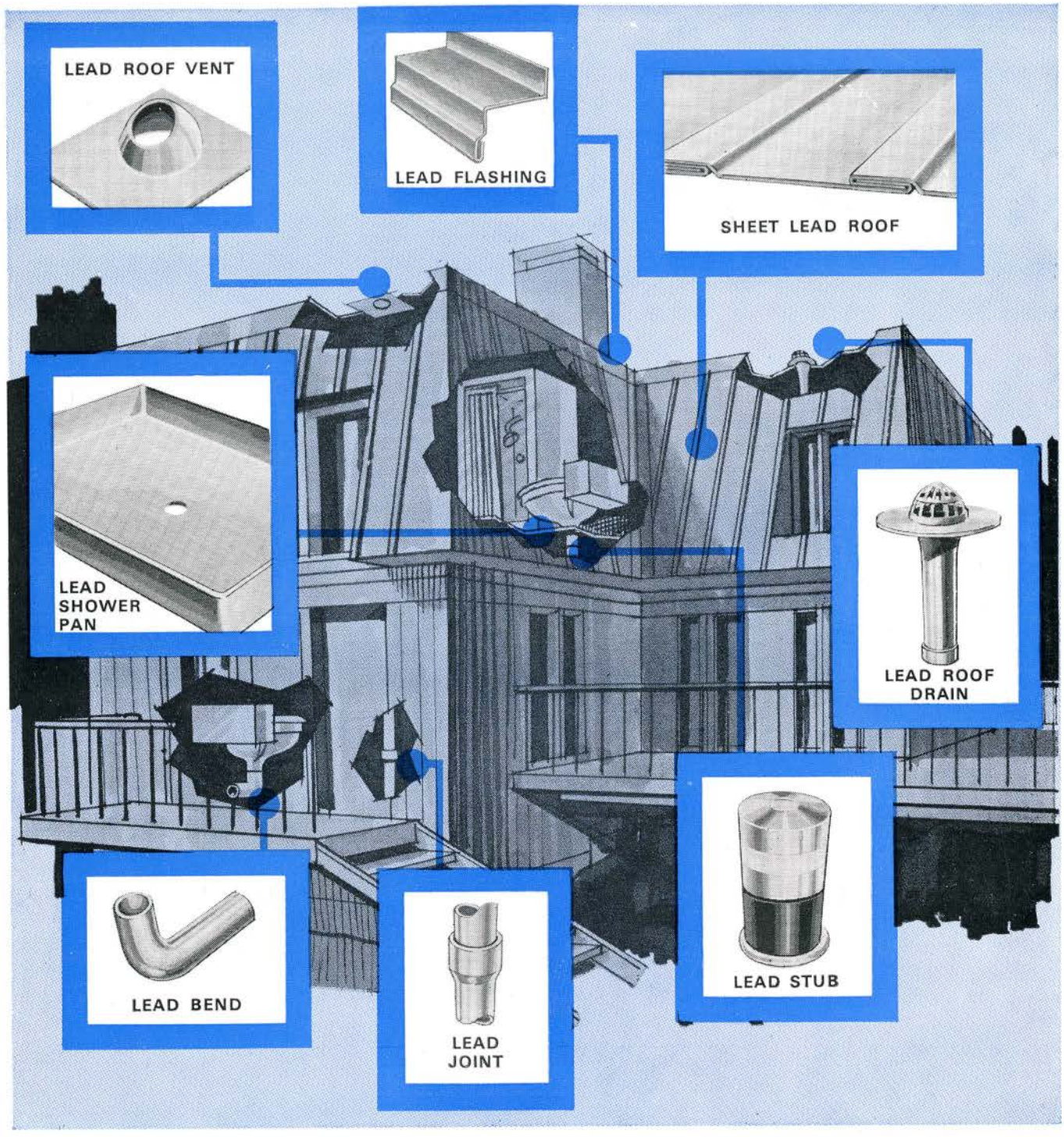
The clean-lined efficiency of the steel office furniture complements the total design approach. Moreover, the strength and endurance of steel assures a lifetime of unmarred beauty and minimum maintenance.

Steel—the *versatile* material

The sculptured steel screen in the executive lobby symbolizes the many-faceted role of steel in contemporary architecture. Steel is, of course, unmatched for strength and endurance. Moreover, it makes an important contribution to the aesthetic appeal of the new Dofasco office building.

The new Dofasco office building is among the most modern to be found anywhere. Much of its efficiency and clean good looks stem from the extensive use of steel. The building is more than the nerve centre of a growing steel-making complex. It is a showcase of the most modern concepts in the use of steel. Write for a 32-page full colour book describing these techniques in more detail.

DOFASCO
OF HAMILTON



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Our Assembly Keynote speaker, André Bloc, has written us to thank all members at the Assembly and elsewhere for the warm welcome to Canada that he and his wife received.

Members interested in Mexico will find a treasure trove of information and photographs in the new magazine "Turismo" available from Julio Espinosa, at Calzada de Tacubaya 21-1, Colonia Condesa, Mexico 11, D.F. (Mexico). Annual subscription: $10.00

FRED W. PRICE
Executive Director

Il y a lieu de noter en particulier le passage suivant: "On vient de terminer un relevé des pertes de vies dues à des incendies en Ontario au cours des dix dernières années. Les renseignements obtenus comprennent une description des revêtements des murs. On étudie en ce moment la statistique et lorsque le résumé en sera achevé il devrait aider les comités travaillant à la préparation de versions futures du Code national du bâtiment."

Nous avons reçu de M. André Bloc, orateur invité à notre dernier congrès, le message suivant: "Nous (ma femme et moi) tenons à vous faire savoir que nous avons beaucoup apprécié, tout d'abord votre accueil personnel, et aussi celui de tous les amis canadiens qui ont participé au Congrès. Nous avons trouvé auprès de tous une telle gentillesse que notre séjour a été particulièrement agréable. Nous souhaitons avoir l'occasion de revenir au Canada et nous vous prions de bien vouloir transmettre à tous les organisateurs du Congrès nos très vifs remerciements"

Les membres qui s'intéressent au Mexique trouveront une mine de renseignements et de photographies dans la nouvelle revue "Turismo", qu'ils pourront obtenir de Julio Espinosa, a Calzada de Tacubaya 21-1, Colonia Condesa, Mexico 11, D.F. (Mexique). Le prix de l'abonnement est de $10 par année.

FRED W. PRICE
Le directeur général

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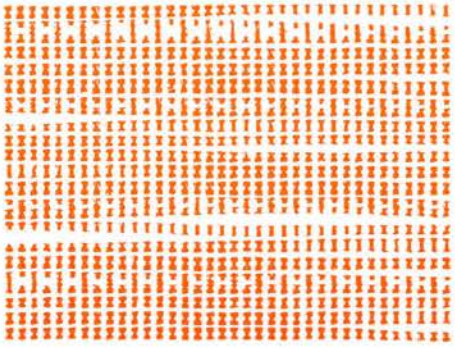

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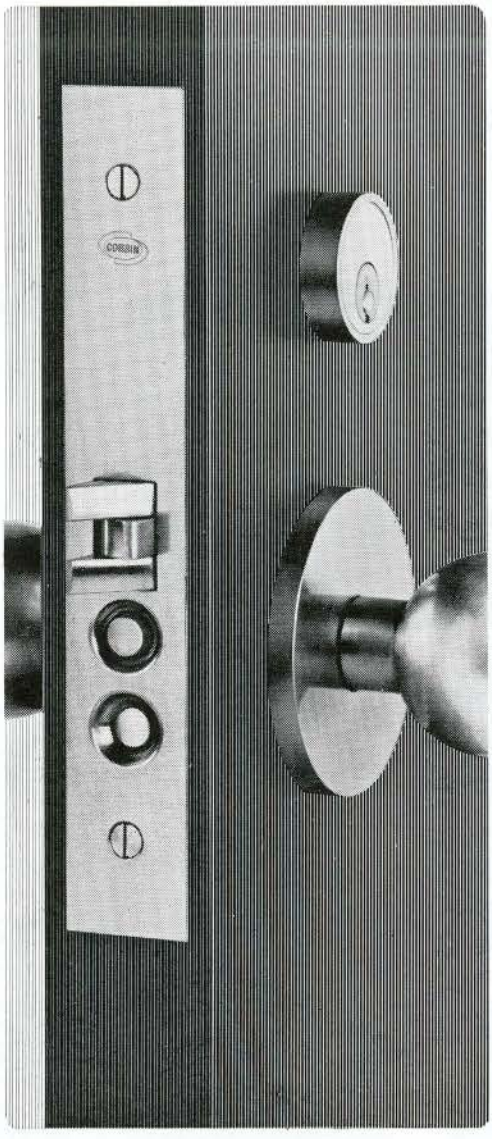

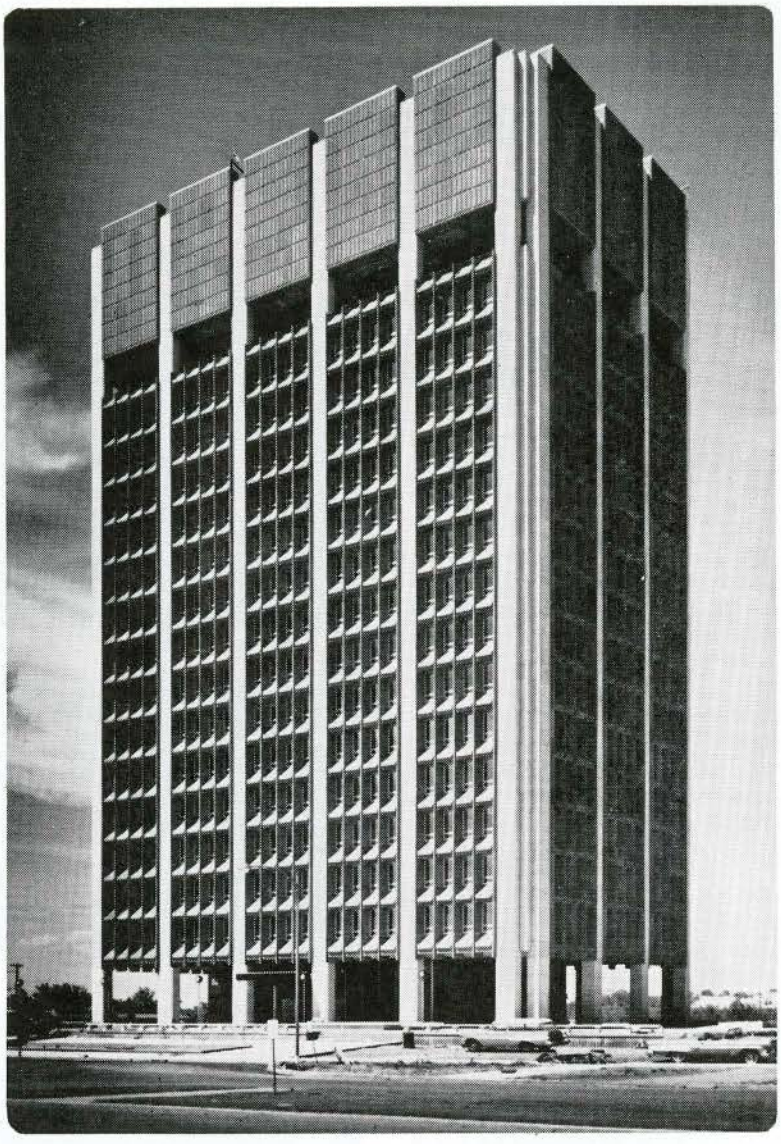

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ART AND ARCHITECTURE

Post War Trip—Old and New World

Reflecting on travel throughout North America and Europe in the two summers since I left Australia in May 1964 certain clear truths emerge relative to architectural decor.

1) The contrast between old and new world art features is mainly one of "confrontation" as well as the minor one of integration. The old confronts in boldness and authority as a centre piece or embellishment unsurpassed in the architectural scene. Not so with contemporary practice, where scale is so inept that total absence is preferable.
2) The general growth of architectural "bad manners" in contemporary decor in contrast to the obvious attention to architectural form rather than style, and honor to the feature piece or superior talent in the past.

3) The resultant near despair and hopeless attitude of the individual architect today to stem the tide of poor town planning, coupled with resentment of vulgar and uninformed interests controlling decisions.

4) The steady flow and production of exciting ideas in the world of art and the lack of co-ordinating agencies to place these before the architectural creators in a dynamic fashion; for in the main the architect's art thinking is at least ten years behind his architecture.

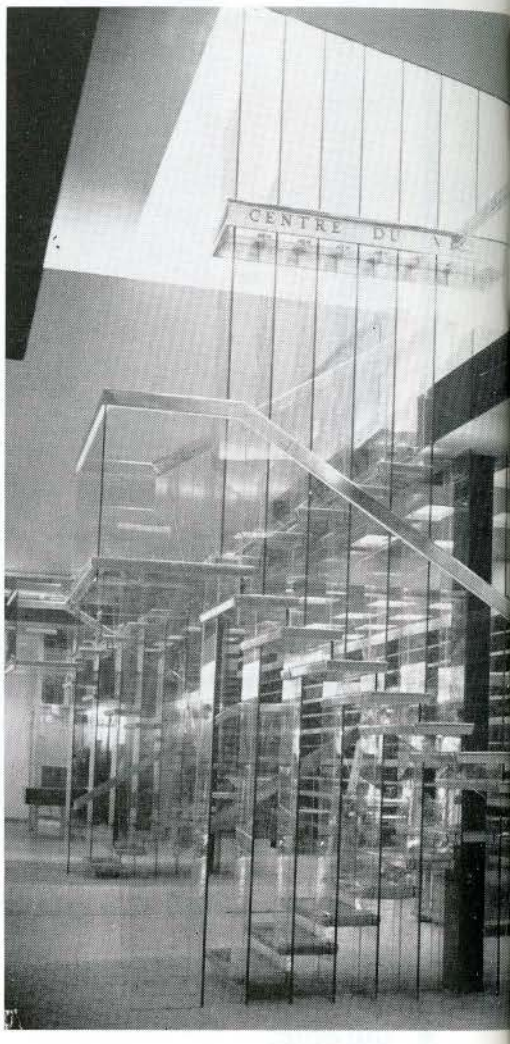
5) The conundrum of contrasting Latin and Anglo-Saxon aesthetics and the effect on communities old or new.

The Art Features

Monuments and sculptures of the past command a square in equestrian pedantry or imperious authority in no uncertain manner. Not so in contemporary decor. Where is the equivalent of the Victoria and Albert Memorial, tasteless and horrifying as it is but forever intriguing, and compelling contemplation on its obscure pseudo-classic symbolism? (incidentally one does wonder why the public quibbles at the obscurity of the abstract which is by comparison simple and naive). Even in the integrated embellishment of stone and plaster the richness intrudes upon public presence. Walking the streets of Paris on a wet Tuesday (the Parisian "Sunday" when few attractions are open to the tourist), few new things in art present themselves. The exceptions are shy and retiring behind glass frontages. A rare exception, the office of Centre de Verre de Boussois, 22 Boulevarde de Malesherbes, in the heart of the city which, by the bold assertive presence of a huge stained glass mural frontage, invited my return next day. Although built in 1956, this building merits a separate review and is a must for Canadian architects visiting Paris. The building and its art features are cleverly integrated to reveal the virtuosity of glass in all its aspects, structurally and decoratively. It is a credit to Latin skill and imagination as an architectural response to present the business of glass to intending clientele.

London revealed only the few inept brooches stuck to the wall, an odd "statue group" in a park, outdated in form; or early timorous experiments of Moore and Hepworth, not improved upon by later experimenters. I did stumble on an inviting office front decorated with pottery symbols of Hans Coper, well-known potter, for Powell Duffryn and a series of riotous, if a trifle vulgar, ceramic excursions decorating a string of cafes known as the "Golden Egg". Elsewhere except for the decaying past being tenderly restored, the drabness is little relieved by the excitement of contemporary art. This in spite of the fact that the first lead in experiment for legislation of one per cent of cost for art work was made in Britain. Production which exists is inept in scale and often poor in execution. All the excitement is hidden behind gallery walls not available to the public (other than the Tate and British Museum) on Sunday. How different to a New York Sunday, where church-going and gallery-going hold equal precedence.

I do not advocate a "return" to Gothic practice, for the purpose is entirely the opposite. Whereas the Gothic architect aspired to God and the artist supplied the humanism, the problem today is to furnish the aseptic technology of the unromantic architect with some quality of metaphysic mystery through the correlation of art, the fountainhead of all ensuing form. It is the scale and technology which falters more than content.



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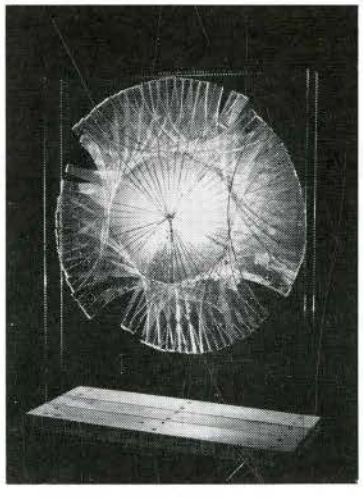

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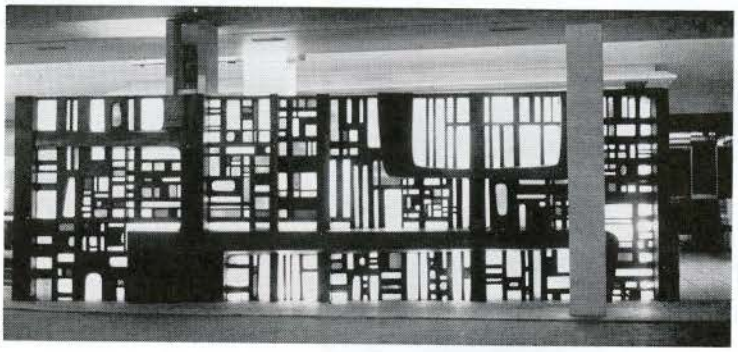
BLIN


BLIN

1 Glass Stairway—Boussois Glass Centre

2 Illuminated Mural Facade—Outside—Boussois Glass Centre

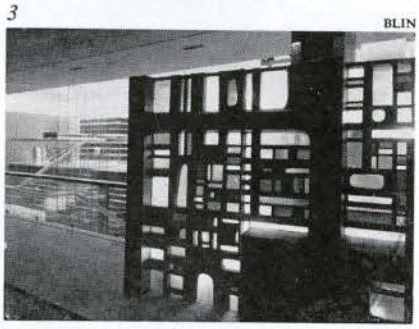
3 Glass Facade Mural—Inside—Boussois Glass Centre

4 All Glass Interior—Boussois Glass Centre

5 Hans Copher Symbols—operating from inside and outside

6 Harry Seager's Light Dynamics in Sculpture—the "experience" of movement is needed here for appreciation. Courtesy Gimpel Fils.

7 Sculptured "Light Dynamics"—Thinking differently, what a "mural" we could have. Courtesy Gimpel Fils.


BLIN

Nor do I recommend that subtlety be replaced by flamboyant gesture. Excitement, authority and relative scale of presentation are necessary. Art is not interior decoration or punctuation for an unresolved space. It should have "presence".

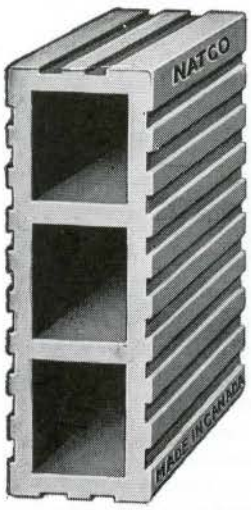
Architectural "Bad Manners"

Dispassionately looking at old and new world development where sometimes the old and new have co-existence, the growth of architectural bad manners is rampant and universal. Seen alongside the old, it is apparent in the past delicate correlation of anonymous architect and concession to architectural form, plus a homage to the greater talent of a feature edifice, was an ingenious enough arrangement for individual talent, great or mediocre, to function within a structure of unity. Paris never insulted with individual handsprings. Apart from the present practice of impossible nose and thumb gesture in architecture colleague to colleague, the incredible lapse of decorum can be seen in the prospect of St. Paul's Cathedral, miraculously bared to vision once again by Hitler's bombs. General agreement was made to keep it so, but in spite of protest and protection it is having its Wren face slapped by the towering vulgar structures of nearby commercial ventures. The architects involved, and there are many, have been morally prevailed upon and lack professional cohesion and integrity to protest at their seduction by vested interest.

Current practice shows a confused attitude towards overall form and the motive power is fast and gearless in both the old and new world. Here and there a gem raises its head in politeness, like New Zealand House in London, to be pushed and shoved into obscurity by overwhelming vertical soaring senseless disorder, as does the Hilton Hotel, not worthy of the feature position it has so rudely attempted to grasp from the nearby Palace, over whose garden walls it so crudely peers.

Architects the world over, in the main an affluent lot, are not at all proud of this malaise.

Some feeble attempts at university planning in a "democratic" way have revealed that the root cause is more serious



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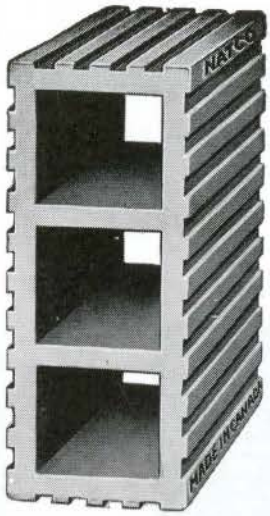

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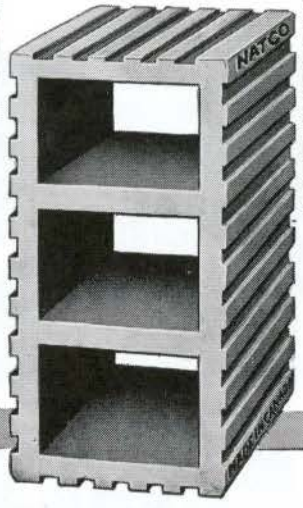

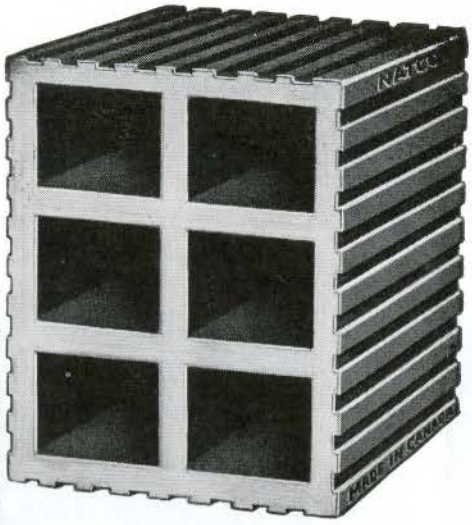

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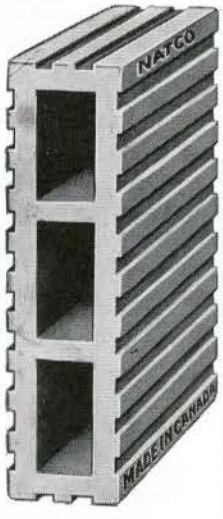

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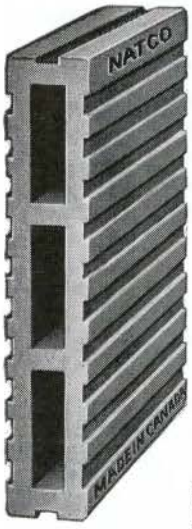

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than the greedy uninformed client (who is not always so). In fact, it is a lack of overall philosophy, even on a small scale, and egocentric performance, rather than recognition of a superior talent. Architects on the whole have got to want an improvement in manners before we can tackle the difficult problem of planning, which has no relationship to past development but is one rather of immediacy. I could suggest a deeper understanding of philosophy to match the absorption in technology and more respect for the godheads and superior talent revealed in authoritative statement than architectural dither. This comes before legislative force. In this the artist has shown better homage to his fountainheads. Unfortunately, it is often confused with a derivative course, but what is more basely derivative than the copied detailing and *a la mode* facades of glass or alternatively enclosed "fortress" of the contemporary architect replacing overall understanding of form.

Art Ideas

I saw many exhibitions of art ideas and experiments to inspire any architect and his projects. In general the architect rarely attends and when he does, fails to respond as he ought. Rueful gallery owners can subscribe to this truth in trying to form liaison. Photographs are not enough, as to witness the work of Harry Seager in London, whose experiments with laminated window glass were a joy and, although featured in photographs, need the dynamics of light play and actual movement to do them justice.

I visited the Design Centre in London, well advertised and a service well organized for the architect and layman.

This service also is worth a review in itself and makes it apparent that a like service for art and handcraft should be developed in the same way as a local activity. Such a service can operate dynamically outside the dead files and biased views of galleries and dealers. This will assist the difficult job of real confrontation when at last we understand the problems fully.

In Conclusion — the Latin and Anglo-Saxon conundrum

Extensive travel throughout the western civilization, especially if one has a predominantly Anglo-Saxon background as I have, marks an essential difference between Latin and Anglo-Saxon towns and cities. It is striking. Whether old or new, ordered or chaotic, it is one of "excitement" versus "drabness". Charm of Paris, backstreet slum or planned city, elegant Montreal or provincial Quebec, San Francisco with its winding elevations or New Orleans with romantic poverty of the backstreet—squalor or affluence, a joyous charm and character, irrational, transmits itself to all. Can one honestly say this about Anglo-Saxon development? Melbourne, Boston, in decay, Toronto, New York with its stupendous array of commonplace complexes for dwelling, rising like slabs of uninviting currant cake filled with busy ants, or London in its exhausting miles of suburban drabness matched only by the dreary climate. The general unbalance of Victorian industrial tastelessness has overcome the old and earlier charm into almost hopeless urban and suburban drabness and ugliness. What on earth has happened to British sensitivity and taste? The ruined lake shores of Toronto flanked by the drab squalor of Queen Street. Are they the fruits of colonization from the fountainhead of London? One could almost wish then that French rebellious forces had prevailed. I do not think, however, that Anglo-Saxon thinking must pay the price of unawareness and dullness of aesthetic perception. Above all, Canada, with a rich source of double identity of Latin and Anglo-Saxon culture, has a heritage to call upon which can produce more exciting unity than the designing of a new flag.

In conclusion, legislation by force to incorporate art will not do it either. Aesthetic awareness must be a general and agreed policy and philosophy. The idea failed in Britain. An architect colleague, responsible for the promotion and encouragement, told me so. It provided little delight and excitement, and mostly resulted in the collection of feeble and undistinguished work, hardly relevant to situations. In fact, the Beatles have done more to excite the aesthetic pleasure of England than the placing of sculpture in the schools. Morality for a hard day's work is not the only virtue; a hard day's fun and sensual delight are equally important. The Sydney Opera House, built out of a people's Lottery Fund against all morality and reason, may provide more excitement and put an end to aesthetic "lobotomy" which has allowed so many communities to suffer the drab chaos of their cities. Neurosis to the point of rebellion is undesirable as a choice. Good and bad and "standards" are not the operative terms. A well-cut grey suit may be preferred to a well-cut Latin raiment, but when both are at a level of ineptness then disorganized excitement is preferable to organized drabness. The best we can hope is that a dawning awareness will make palatable, by metaphysic energy, our unleavened bread.

Anita Aarons

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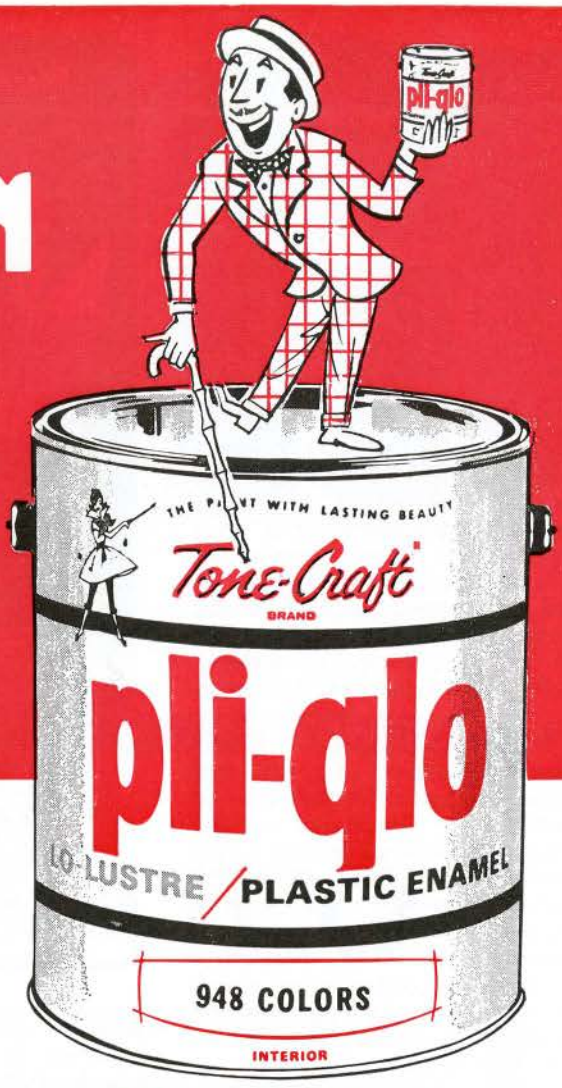

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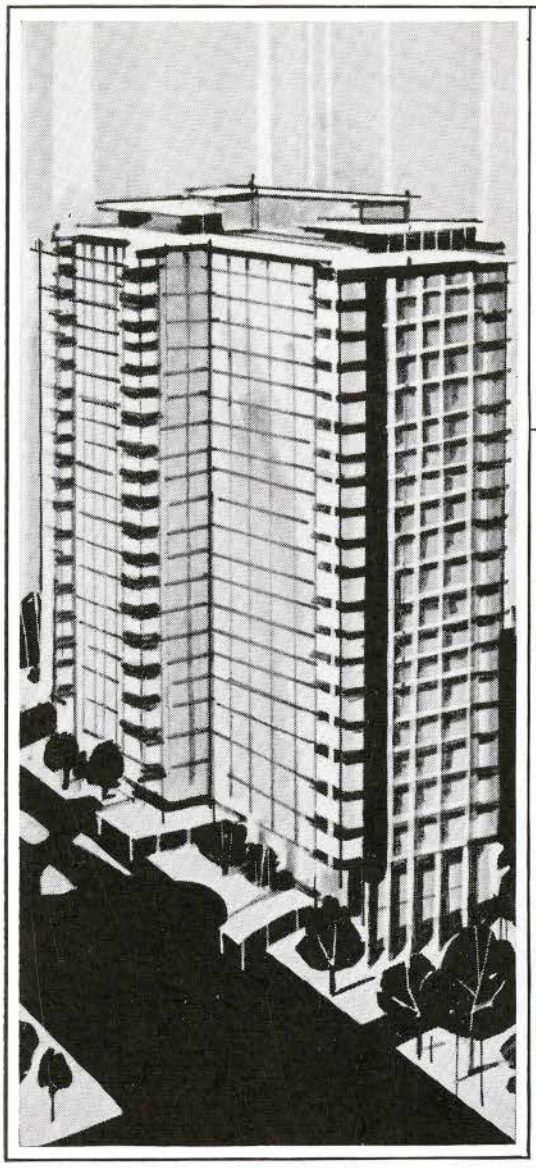

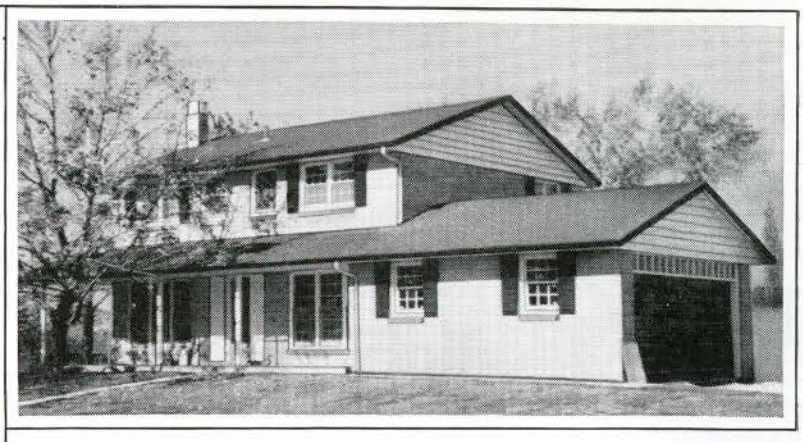

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LE CORBUSIER

Charles-Edouard Jeanneret-Gris, known by his professional name of Le Corbusier, was born on October 6, 1887, in La-Chaux-de-Fonds, Switzerland. He died on August 27, in Roquebrune-Cap-Martin. His mother was a musician, his father and grandfather were engravers. From his youth, Corbusier showed a talent for drawing. He enrolled in the art school in La-Chaux-de-Fonds at fourteen and worked at murals and sculpture while at school.

He built a villa at eighteen for a member of the art faculty, and travelled with the money earned. In Vienna he met Hoffman, then the leader of the Vienna workshop. In 1908 he went to Paris where he worked for Auguste Perret. To observe the crafts movement in Germany he travelled to Berlin where he met Peter Behrens, for whom he then worked for a short while. This was followed by more travel and intermittent work, including a period of teaching at his old school. In 1917, at the age of thirty, he settled down for good in Paris. Learning from earlier pioneers like Garnier, here he began his life work in architecture among such masters as Taut, Poelzig and Oud. He began his practice via painting, sculpture and writing, and the design of numerous projects, many of which never were built. For an architect of the stature and wide influence of Le Corbusier, he built astonishingly few buildings.

Sullivan, when writing of Beethoven, gave a clue to the measure of the composer's greatness by explaining his organic growth. This is a trait invariably found in the truly great artist, never relying on past solutions, examining each problem afresh, each resolution a fundamental step forward. This process began for Corbusier and the modern movement in his Domino house in 1914. Here he indicated the potential of a concrete slab supported by concentrated points of support: this liberated enclosing membranes from the function of support, and thus made the free plan a reality. Perhaps an ability that characterized Corbusier's work most strongly, and which puts him as an architect in the company of the historically great, was the ability to transform prosaic fact (with whatever insight this was conceived) into poetic expression—a poetry of truth and not romanticism. Those who see his work as plastic artistry alone, miss the essence of the man and architect. Form was seldom contrived without the generating force of an idea of vitality. That this idea itself was at times one of misplaced priority in no way detracts from his gigantic talent and of his contribution to architecture. But he was aware of this potential pitfall too, and demonstrated his awareness by his aphorism—"designing takes talent, but programming requires genius".

Among his honors, to which he leant distinction rather than the reverse, were honorary doctorates from the Universities of Zurich, Cambridge and the Swiss Federal Institute of Technology. He was a Chevalier de la Légion d'Honneur, and a recipient of the Distinguished Service Medal from Queen Elizabeth.

Probably the most appropriate eulogy that can now be made is to quote the laudatio accompanying the bestowal of his honorary degree by Cambridge University. "At the time when, worn out by the first World War, men were commonly content with restoring old fashions and imitating obsolete styles, there arose a small band of architects who did not despair of their own age nor the future. Above all it was this man who, from Paris, the fountainhead of the arts, spread over all the *Esprit Nouveau*, as they called it, and for more than thirty years since he has been the leader and standard-bearer of the young. He holds philosophic views on his art, he believes with Pythagoras that number, and with Plato that geometry, underlies the harmony of the universe and the beauty of object, and with Cicero that utility is the mother of dignity. He is also akin to Leonardo, in that he observes the principles of the engineer while applying to them the eye of the painter and sculptor, and to those who are seeking the famous divine proportion, he has proposed a standard he calls modular, based on the stature of a man, or, to be exact, a six-foot man. In planning cities he emerges by dispersing high blocks to leave most of the site free for green grass and trees. In designing buildings he is always inventing new and apt devices and giving evidence of his original and most fertile mind. He has seen a number of monuments to his genius completed, and moreover, if his daring schemes have often been frustrated by ill luck and sometimes by the timidity or unreliability of men, yet the wide publication of his plans even for works never carried out has spread his fame and influence. Not only his native France, but India, Moscow and both North and South America can bear him witness, so that one may well ask in a line of Virgil, slightly altered, 'what region on earth is not full of this man's work?' "

His publications include the inspiring "Towards a New Architecture", and "When the Cathedrals Were White". His breadth of interest ranged from a cosmic order to city plans to concrete formwork. Louis Kahn, who discovered the modern movement through Corbusier, said of the period during which he had little building to do and much time to do it in, that he lived in a city called Corbusier. Modern architecture, as a whole it may be said, fortunately lives in that city too.

A.J.D.

Le refus de considérer une habitude acquise comme valable caractérise la pensée de Le Corbusier. Et cependant il respecte certaines traditions, les remet parfois en vogue et va même jusqu'à en ressusciter de très anciennes qui étaient abandonnées et qui lui paraissent dignes d'attention (par exemple le retour à l'échelle humaine, même dans les édifices publics à caractère grandiose, ou encore le retour à la fenestration au fond d'une alvéole comme dans l'église de Ronchamp, qui est une reprise presque textuelle de certaines fenêtres pompéiennes). Cette contradiction apparente entre "esprit nouveau" et "retour aux sources" sera toute sa vie l'équilibre de Le Corbusier, et seuls les esprits étroits y décèleront une contradiction. Corbu, pour ceux-là, se placera toujours en situation de "délit idéologique", en refusant de jouer le jeu traditionnel des modes architecturales et des habitudes non réfléchies. Ce "délit" est permanent, et il provient d'une vision globale de la société.

La famille, par exemple, est pour Le Corbusier une fonction parmi d'autres, mais jamais une fin. C'est pourquoi il conçoit la cellule familiale comme un ensemble parfaitement organisé de l'intérieur, mais répétable à satiété. On parlera par conséquent de "clapiers" ou de "casiers à bouteilles" ou de "ruches" à propos de ses projets d'habitation . . . sans prendre la peine d'étudier à fond l'infinie variété des cellules qu'il propose (de Marseille à Chandigarh) et d'analyser que ce sont les habitations *des autres* qui font penser surtout à des "ruches" impersonnelles. (1)

La journée de travail, et de repos, est pour le Corbusier un cycle naturel, qui va du lever au coucher du soleil, avec cette obstination et cette sérénité des journées du paysan. Corbu est un paysan rugueux, qui n'accepte pas que le temps mange les meilleures heures de l'homme, et veut organiser la vie de la Cité comme s'organise la nature. On parlera donc de villes "monstrueuses", inhumaines, alors que justement les villes *des autres* sont un cahos impossible où l'homme meurt étouffé par son activité inorganisée. Ainsi, Brasilia soulèvera la colère et les moqueries parce qu'elle est issue d'une conception rationnaliste, scientifique, alors qu'elle est le seul chef-d'oeuvre à l'échelle planétaire qui se soit élevé dans les trois amériques depuis l'arrivée de Colomb.

La plastique architecturale de Le Corbusier est également en état permanent de "délit": suppression du décor d'abord, mais non pas (comme chez un Mies Van der Rohe) remplacement de ce décor par une série d'habitudes techniques qui, finalement, constituent une autre forme de décor en elles-mêmes. Dans leur nudité de lignes verticales et horizontales de teinte sombre, dans leur finition lisse et brillante de surfaces de métal ou de verre, les oeuvres de Mies (et celles de toute l'école américaine qui a suivi le maitre autrichien) atteignent à la beauté par un décor qui pour être architectural et ne pas faire appel aux "artistes" peintres ou sculpteurs, n'en est pas moins un décor, et devient vite un poncif ou une habitude. Les oeuvres de Corbu au contraire suppriment le décor juxtaposé à l'architecture d'abord (comme celles de Mies) mais vont plus loin: elles rompent totalement avec un esthétisme donné, quel qu'il soit. Chaque nouvelle oeuvre de Corbu surprend, choque. Elle commence par là, c'est la première réaction qu'elle produit. Et elle choque parce que sa plastique est en état permanent de délit de pensée: surfaces et textures réputées jusque là: laides. Percements considérés jusque là: maladroits. Rythmes: irréguliers et cahotiques. Couleurs: en oppositions violentes. Les formes même surprennent et gênent par leur état d'inéquilibre, comme le clocher du couvent de l'Arbresle ou les façades de Chandigarh.

Ce qui caractérise la plastique de Corbu, c'est d'avoir rompu successivement avec toutes les habitudes plastiques de l'architecture. Il faut faire un énorme effort de rajeunissement, oublier tout ce qu'on sait, pour contempler sans gêne des "morceaux de plastique architecturale" comme le centre des Arts Visuels de Harvard. Oublier ce qu'on sait, c'est-à-dire plonger dans une nouvelle idéologie, dans une nouvelle façon de penser, celle de Corbu, permanent délit contre l'ordre établi ou l'habitude acquise.

Ceci ne veut pas dire que Le Corbusier soit un homme *dangereux* au sens où l'on entend habituellement ce mot. En effet, le *révolutionnaire* classique, tel que le définit la littérature, est surtout un destructeur. Le terme même de révolution indique bien la reconnaissance d'une ou de plusieurs erreurs à l'intérieur d'un système, et le désir de détruire ce système pour en supprimer les erreurs. Le *révolutionnaire* propose souvent un système de remplacement, mais ne peut garantir son bon fonctionnement de façon sûre, puisqu'il n'a pas été mis en application. C'est l'un des principaux reproches que l'on puisse faire à toute pensée révolutionnaire.

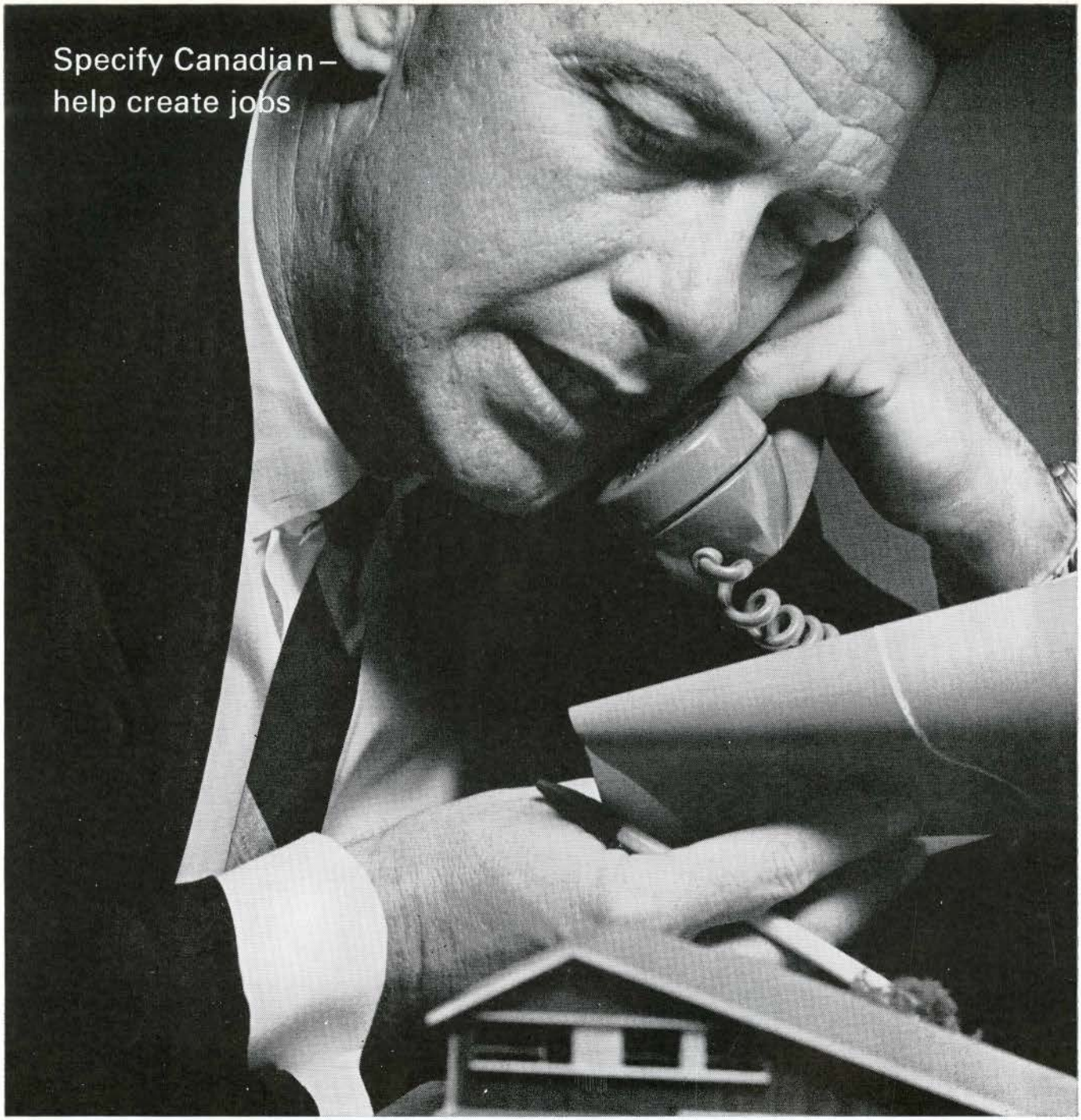
L'avantage de l'architecture, au contraire, c'est qu'elle est toujours une proposition de meilleur système, qui permet d'établir visuellement la comparaison entre ce qu'on propose et ce qui existait (Brasilia ou Rio, le Seagram's Building ou l'Empire State, etc. . . .)

A cause de sa profession même, Le Corbusier n'est pas à proprement parler un revolutionnaire. C'est un fabricant d'inquiétude. Il est lui-même le perpétual inquiet, et chacune de ses oeuvres reflète sa préoccupation dans un domaine différent. Elle transmet cette préoccupation aux spectateurs de l'oeuvre. Elle glisse le doute dans l'esprit du public et dans celui des créateurs d'architecture. Mais, par ailleurs, cette inquiétude, ce doute permanent s'accompagnent toujours d'une esquisse de réponse, d'une esquisse de solution. De là vient certainement le fait que les oeuvres de Le Corbusier ne soient jamais les mêmes, et que son architecture soit la plus difficile à copier. Il est facile de copier Mies van der Rohe, Wright. Il est difficile de copier Corbu. Chaque projet apporte une nouvelle vision de l'espace, un nouveau traitement des solutions. C'est donc bien le contraire d'un évènement révolutionnaire. C'est une crèation basée sur une inquiétude et une vision réfléchie de la société, c'est une action en profondeur, c'est l'ouverture d'une porte par laquelle passeront d'autres architectes. C'est l'action à l'état brut, à l'état sauvage.

Le Corbusier a été le Michel-Ange de notre temps, et son influence sera aussi longue que celle du maître de la Renaissance. Dommage que le scepticisme de ce siècle et l'ignorance des hommes au pouvoir, ne lui aient pas permis de travailler en paix.

Jacques Folch-Ribas

(1) cf L'habitation suédoise contemporaine, cachant derrière des façades très sensibles une indigence extrême dans l'imagination du logis familial. Et on cite pourtant la Suède comme exemple.



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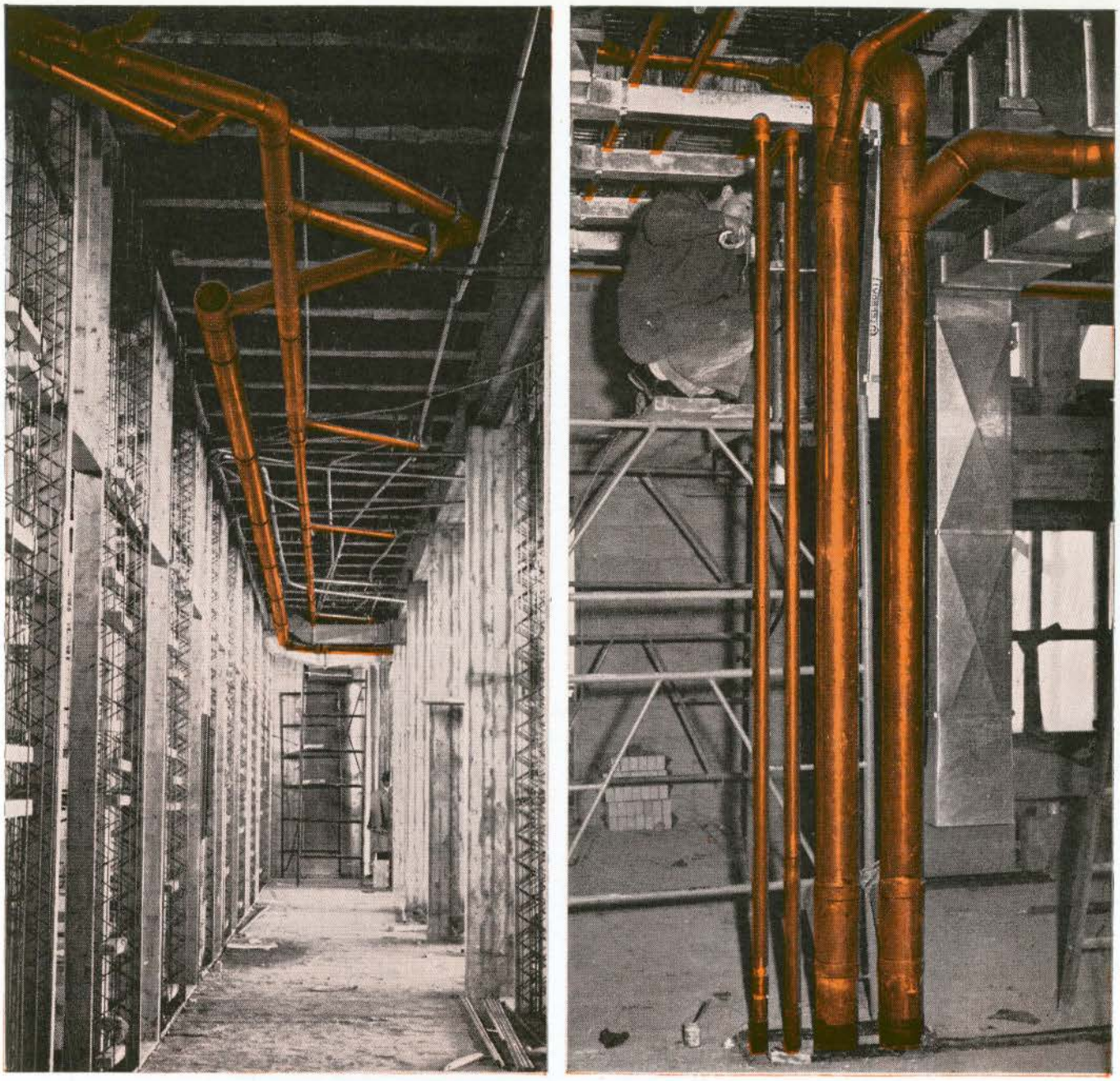

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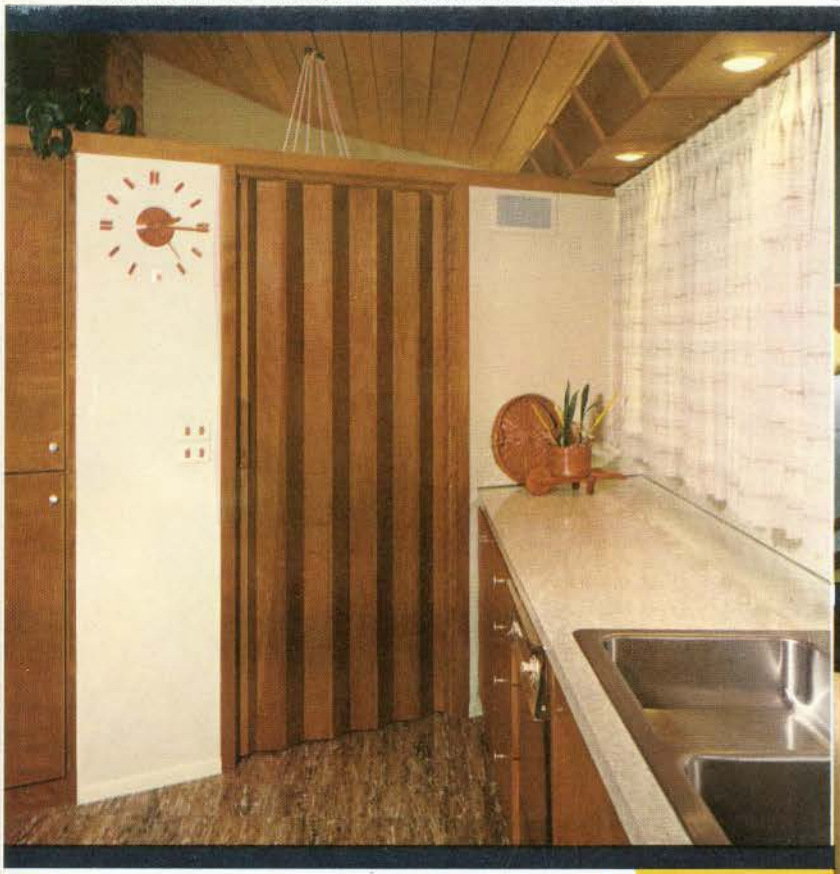

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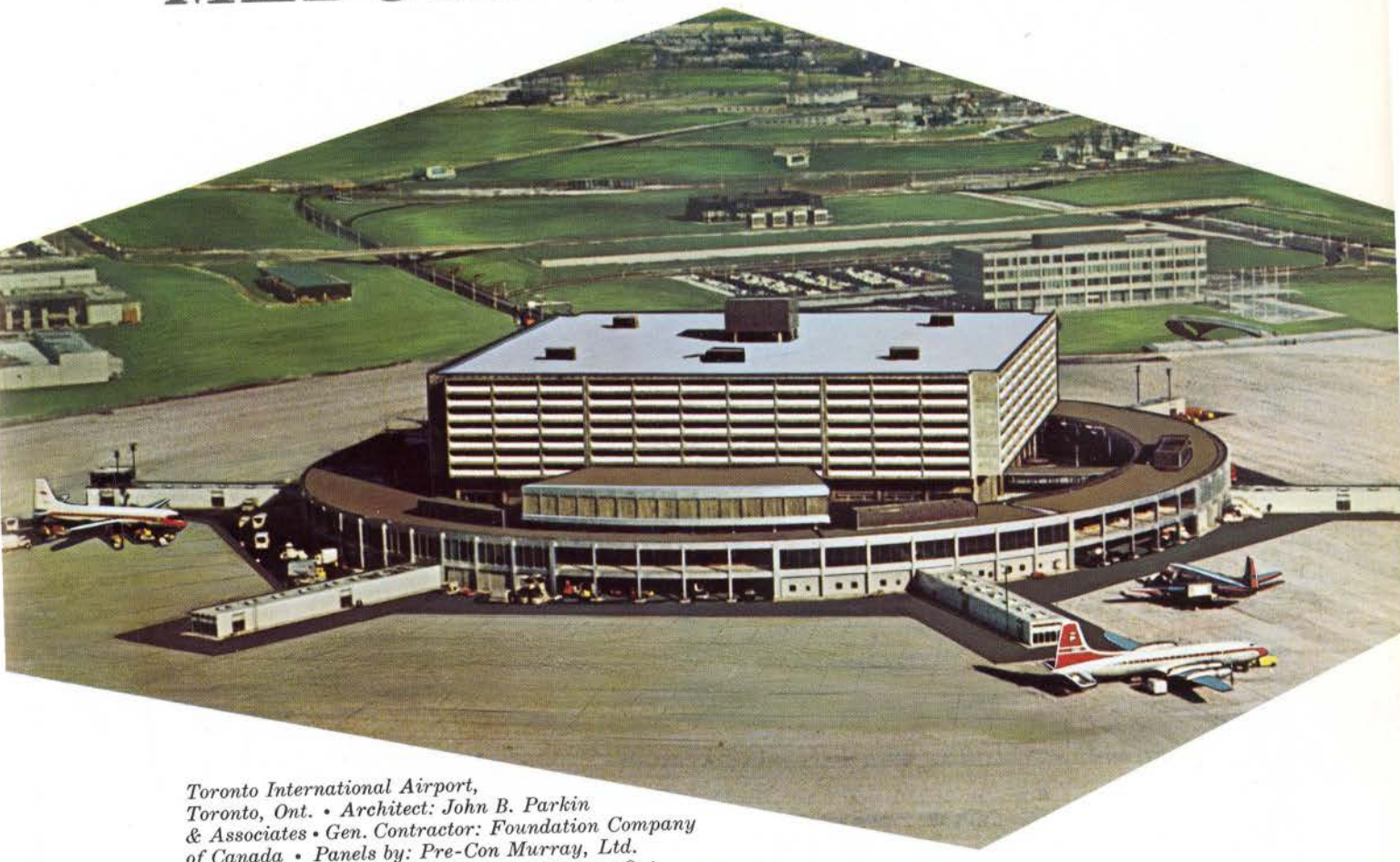

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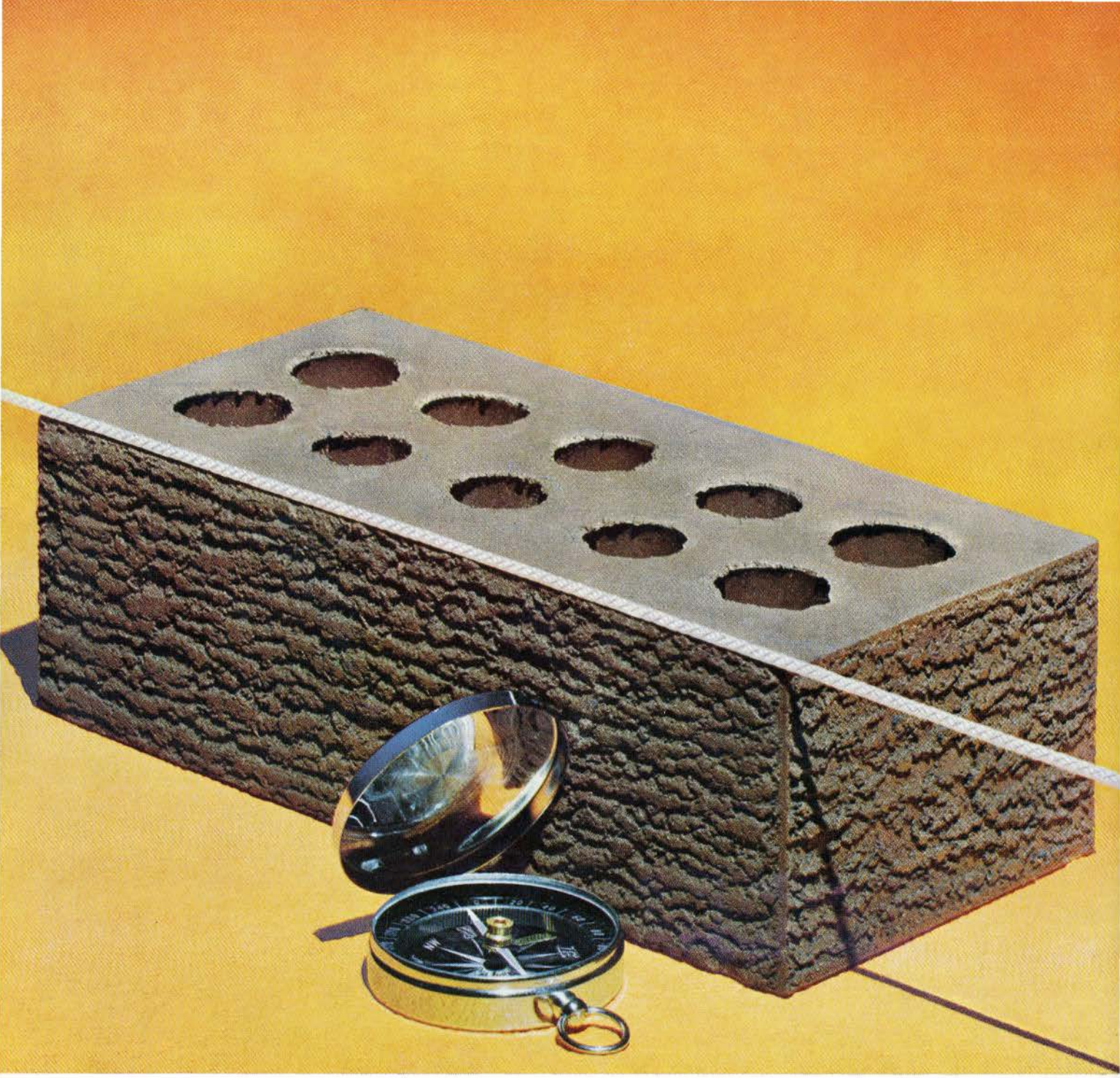

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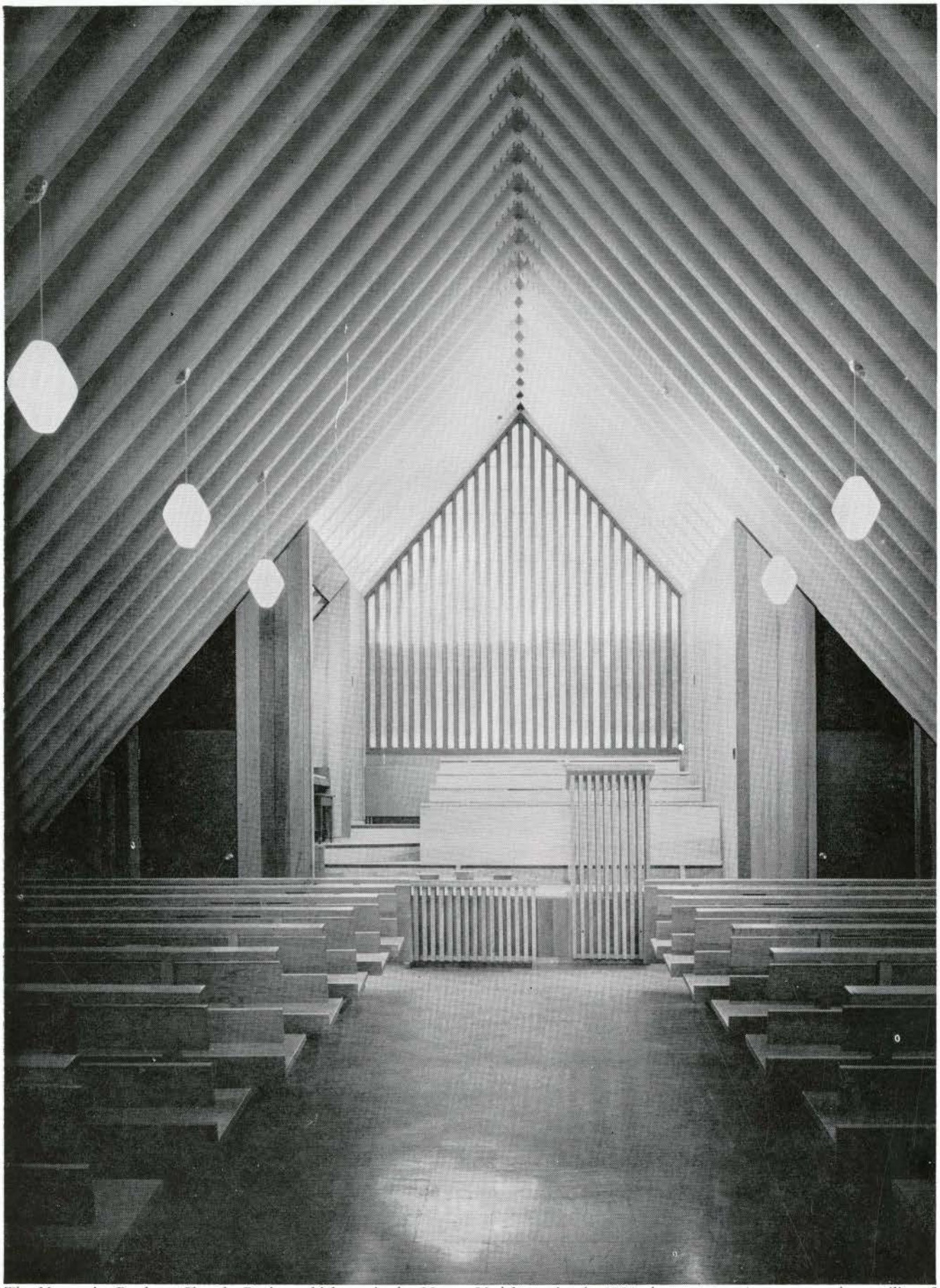
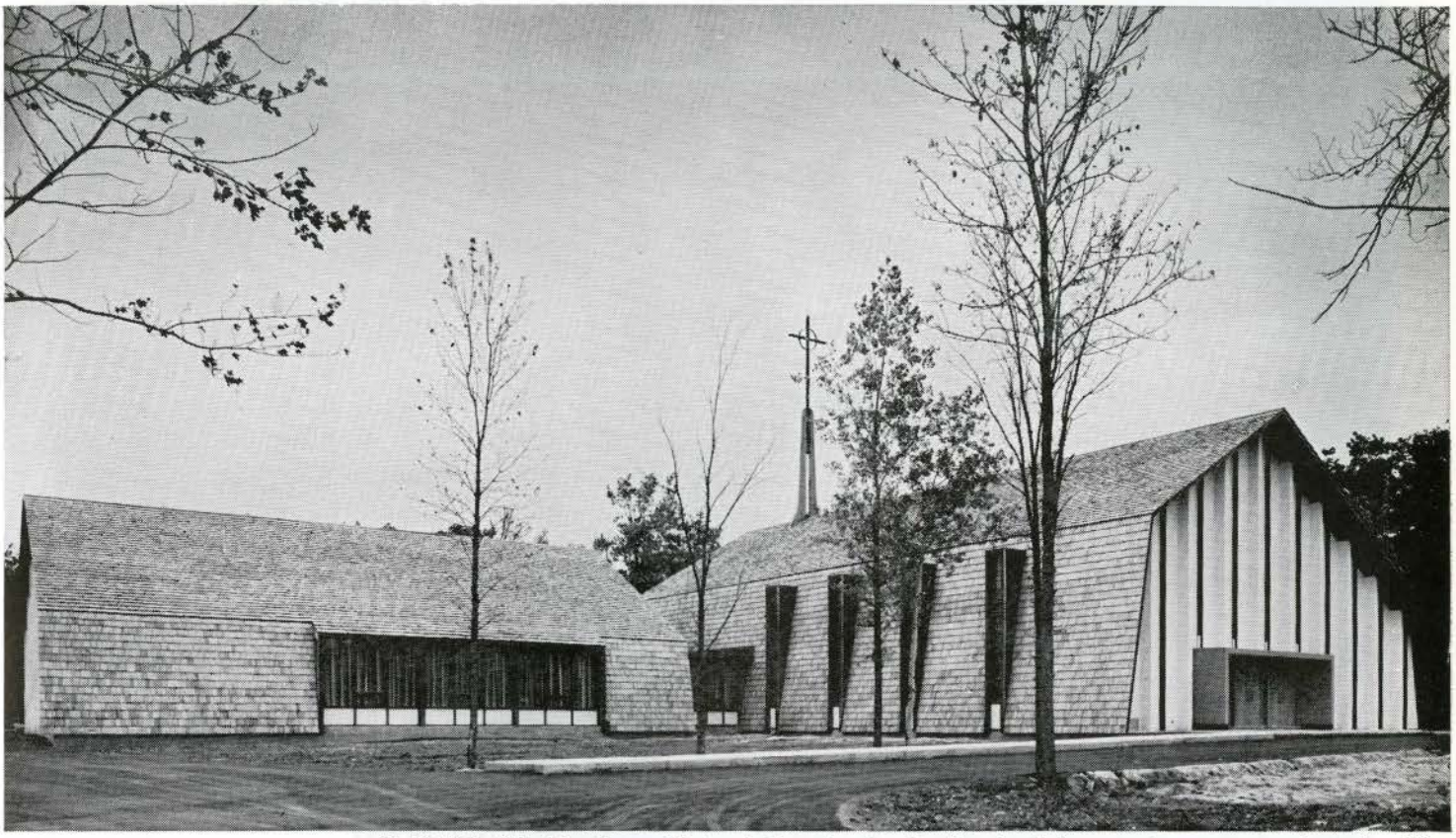


The Mennonite Brethren Church, Regina, which received a Massey Medal mention in 1964, demonstrates the beauty and versatility of wood. The unique plywood beams, in a W-arrangement, provide lightweight roof support at minimum cost. Architect, Clifford Wiens, Regina.



St. Patrick of the Island, near Montreal, shows how hand-split cedar shakes root the structure to its setting. The economies of wood permitted both church and hall within a limited budget. Architect, John W. Cook, Montreal.

For grandeur in any size church

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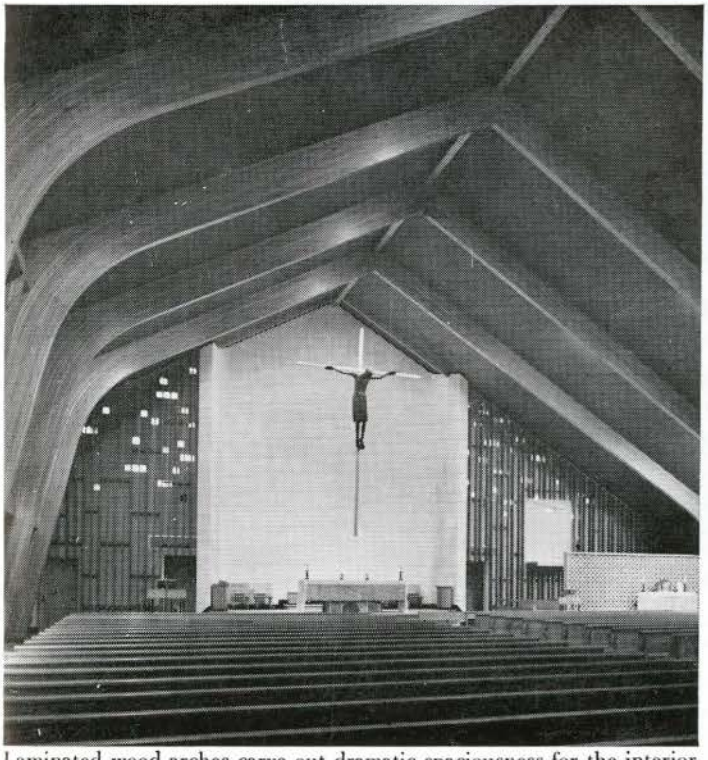

Laminated wood arches carve out dramatic spaciousness for the interior of St. Patrick's. Solid wood decking combines insulation with beauty.

There is nothing in the world like wood to create a receptive environment for worship. Its remarkable versatility frees the imagination to create inspired designs unhampered by modest budgets. In a small church, simple A-frame construction opens up majestic new space . . . while the beautiful variety of wood tones gives warmth and humble dignity. In a large church, wood offers even wider opportunities. Laminated wood arches send ceilings soaring and free interior space to magnificent dimensions.

For construction, for panelling, for pews, is it any wonder wood is the choice of contemporary church architects. Wood is strong, beautiful, practical. It's a natural insulator. It has excellent acoustical qualities. And its economies are unmatched by any other material. For more data on designing with wood, write:

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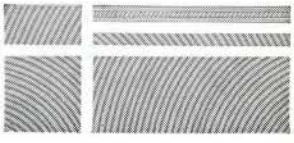
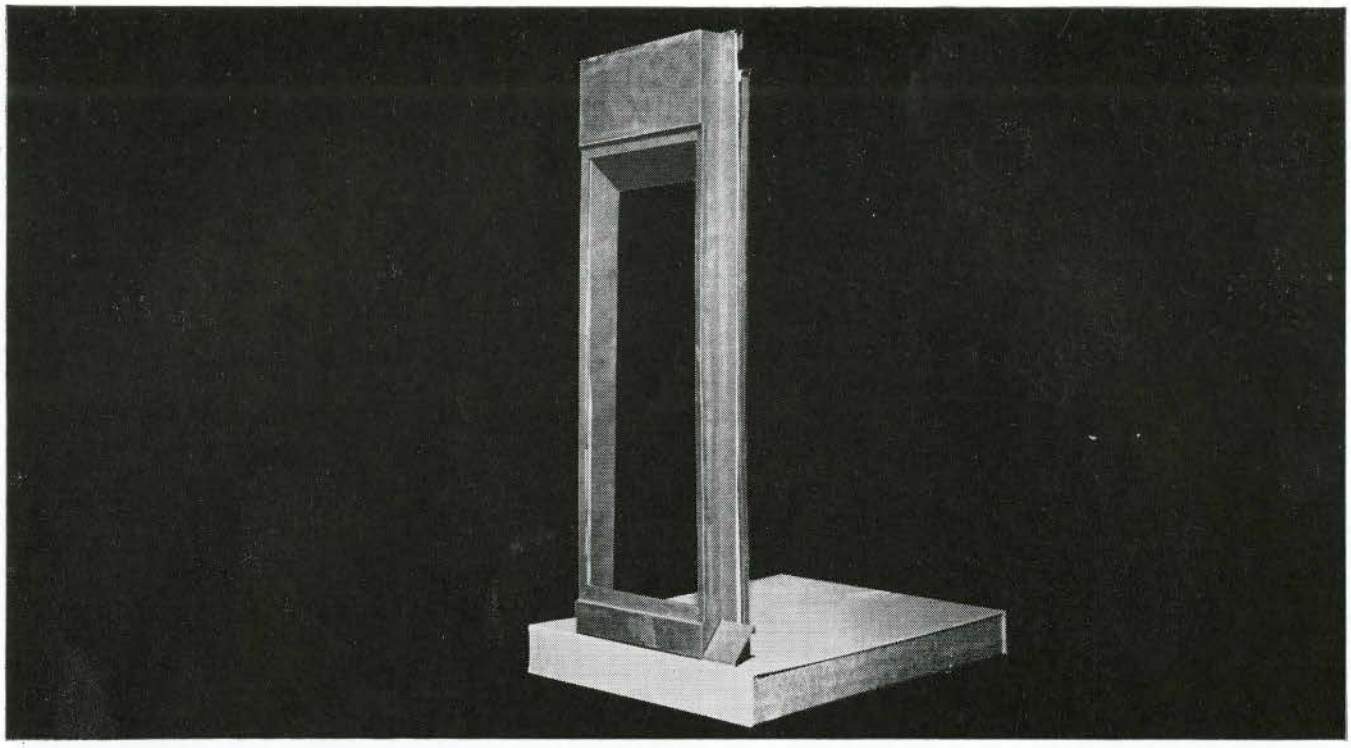
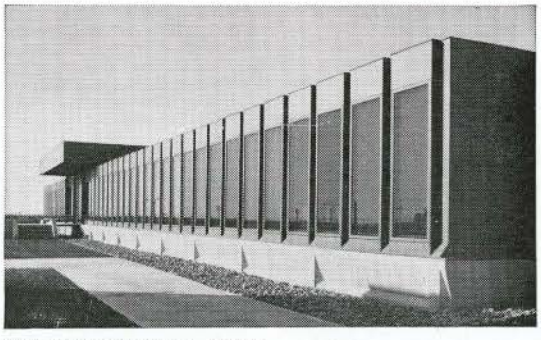




What the architects had in mind was a prefabricated fully load-bearing, sheet steel wall



Civic Centre, Chomedey, Quebec
Architect: Affleck, Desbarats, Dimakopoulos, Lebensold & Sise

So that's what Canarch supplied

We're fortunate at Canarch. We can make full use not only of Canadair's huge manufacturing facilities, but also of the materials-testing, stress analysis and finished product testing procedures they developed for the aero-space industry.

And frankly, we needed them when the architects for Chomedey's new Civic Centre came along with their rather radical idea. What they wanted were sheet metal panels that would not only support themselves, but would also act as a primary load-carrying structure for the new centre at Chomedey, Quebec.

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All of which goes to prove that when you have a new idea involving architectural metals, it pays to call Canarch—the company that can put complete facilities at your disposal.

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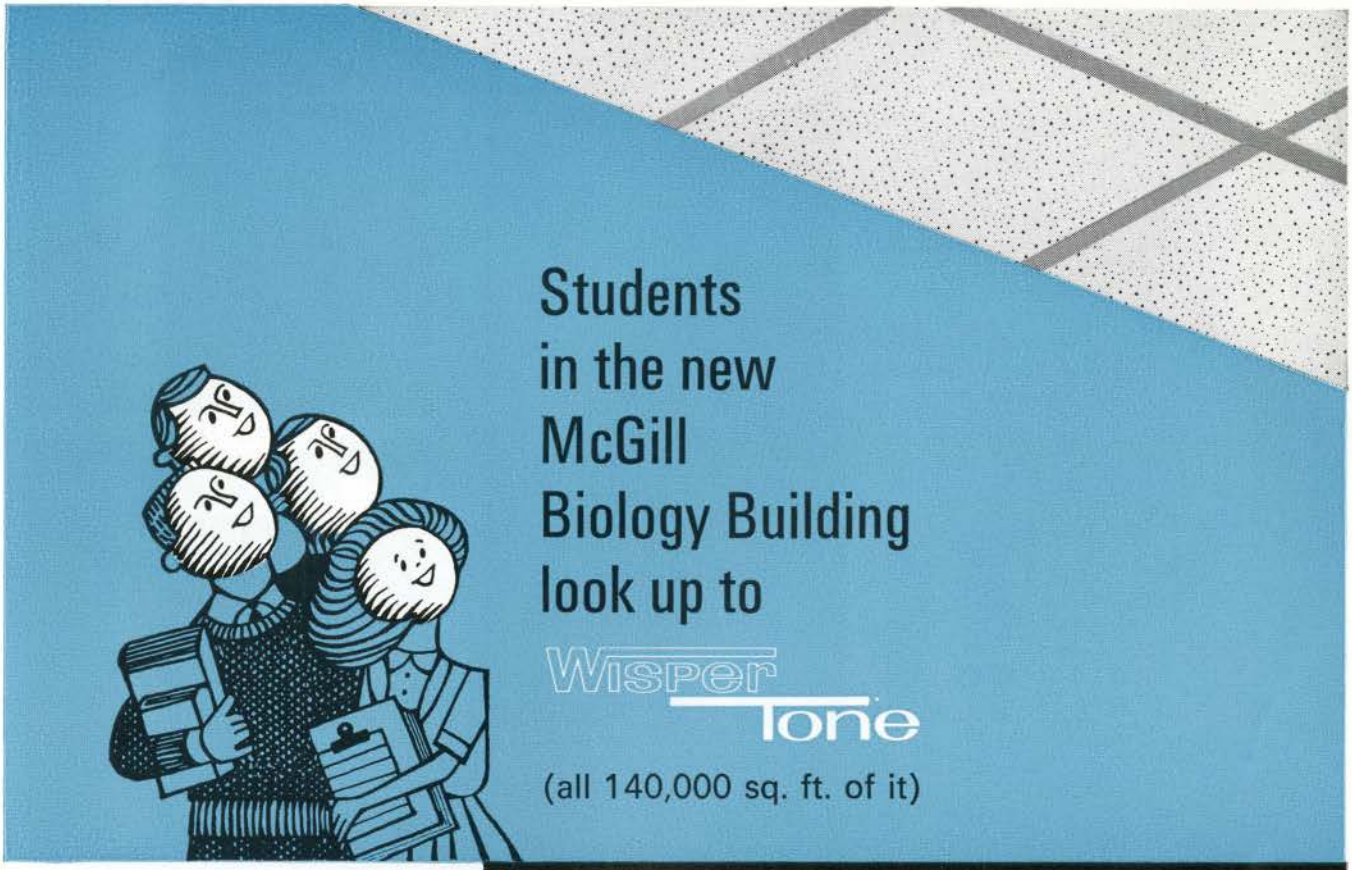

Students in the new McGill Biology Building look up to

WisperTone

(all 140,000 sq. ft. of it)

The new Stewart Biological Science Building will house McGill's Departments of Botany, Zoology, Genetics and Psychology, and will accommodate facilities for lecturing, laboratory teaching, research, and staff for these departments.

Architects: Dobush Stewart Bourke

Acoustical Contractor: Promont Inc., Montreal

Consulting Engineers (Structural): de Stein and Associates

Consulting Engineers (Mechanical and Electrical): Wiggs Walford Frost and Lindsay

General Contractor: Foundation Company of Canada Ltd.

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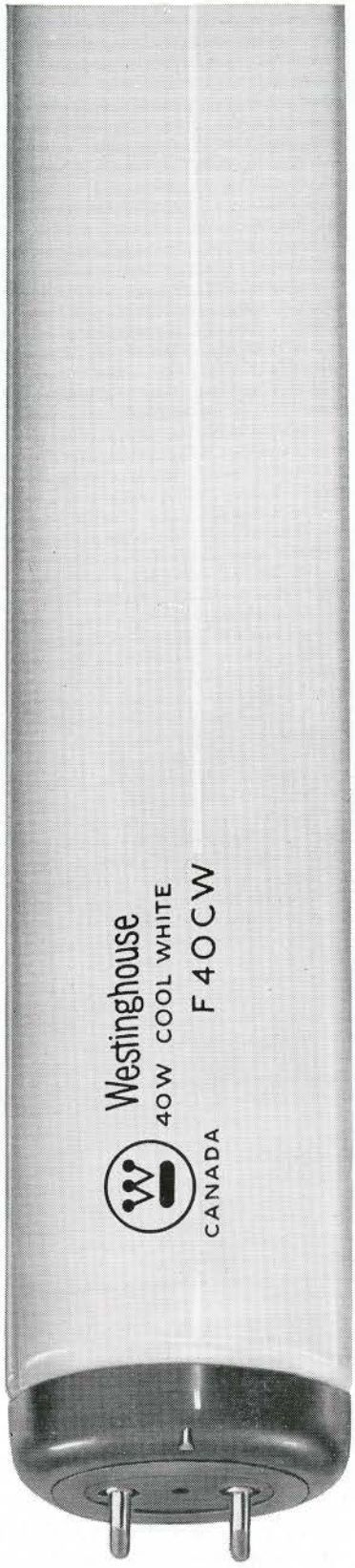
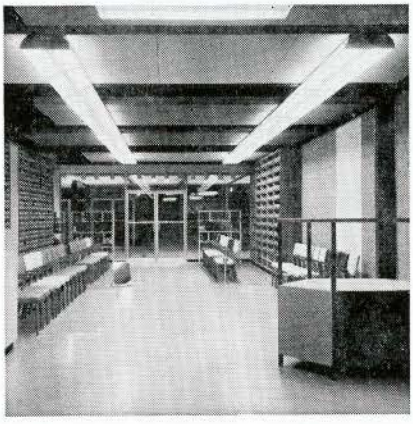
Sun Life Building, Montreal





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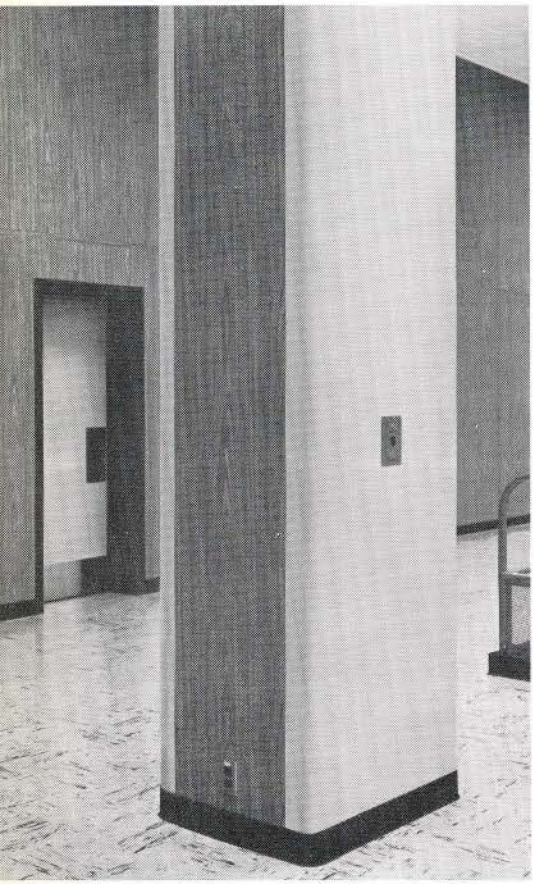

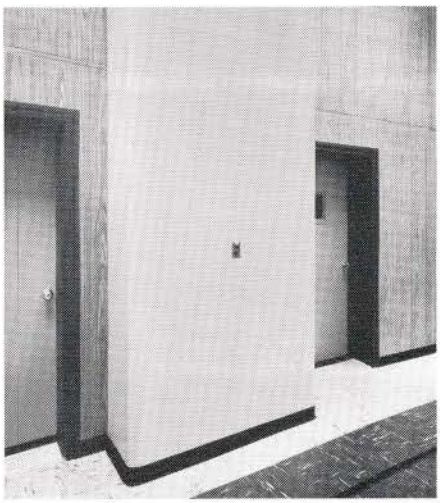

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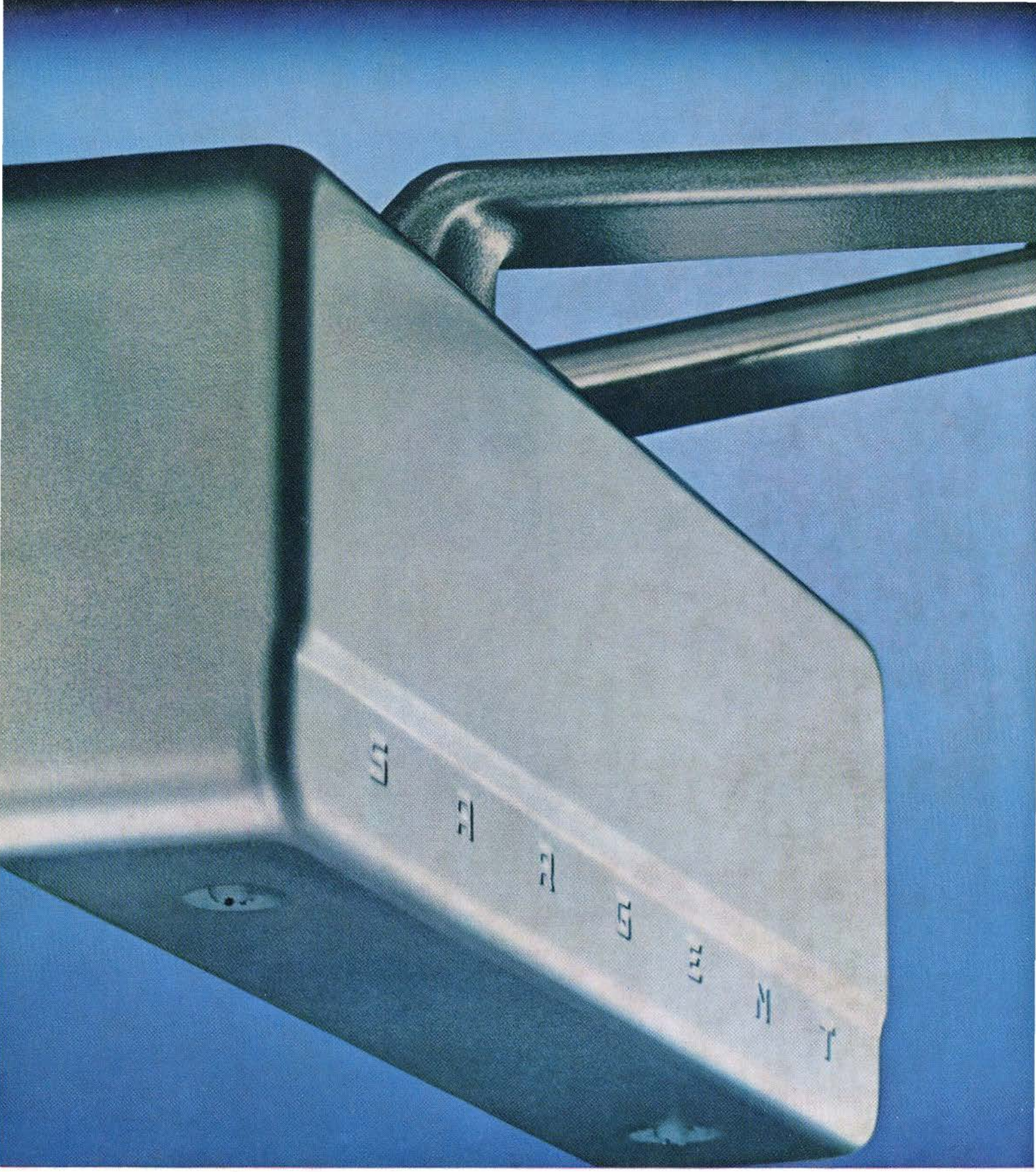

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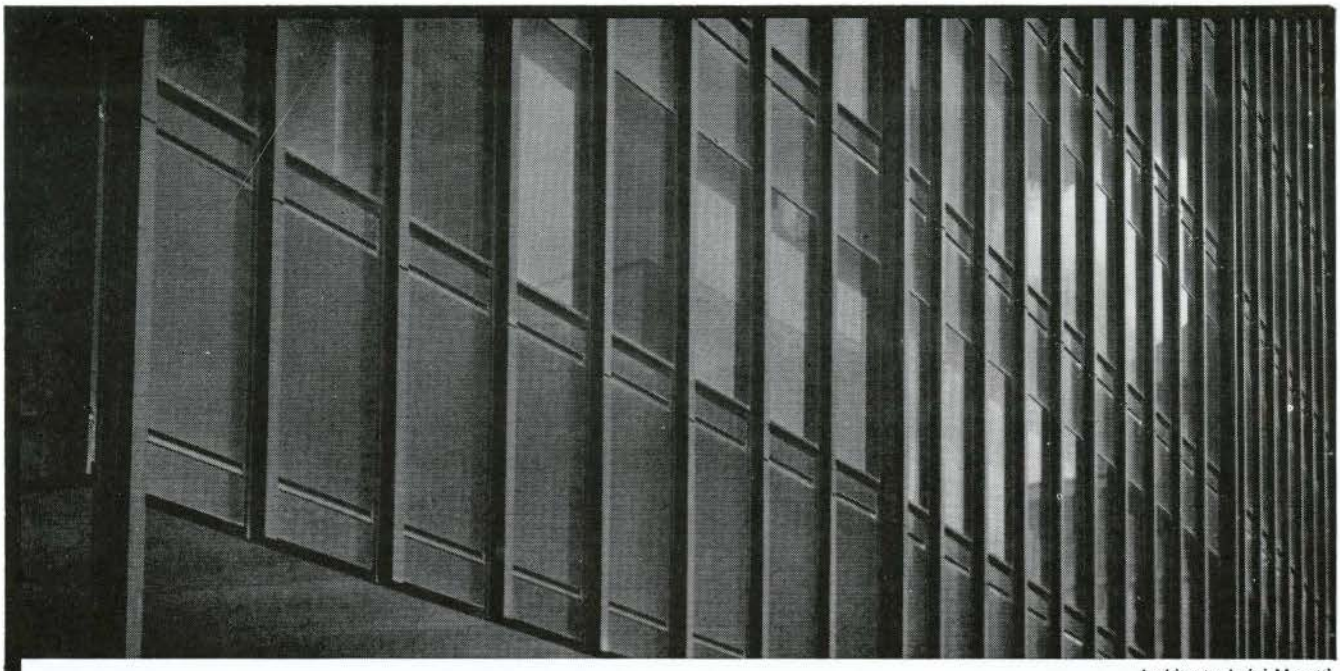


This unusual Curtain Wall design posed unusual challenges in construction.

CPI met them—as usual

Architects: Luigi Moretti and Pier Luigi Nervi, Rome

Associate Architects: Greenspoon, Freedlander and Dunne, Montreal

General Contractor: E. G. M. Cape & Company (1956) Limited

The 5½-acre glass and metal curtain wall of Montreal's Place Victoria that was supplied, erected and glazed in its entirety by Canadian Pittsburgh is unlike any other in the world. The innovations that set it apart from conventional walls demanded special skills and extra-special care in manufacturing and erection.

For example: Each wall of the tower slopes inward, receding a total of two feet from bottom to top.

Each of the four elevations is divided into three planes, angled from each other at four degrees.

Vertical aluminum mullions supporting the electric window washing system were placed on fifty-foot centres, rather than the usual maximum of thirty feet. Consequently these mullions had to be specially designed and engineered to take the unusual loads that they would be called upon to carry.

All aluminum sections of the wall were anodized by CPI in a special olive-bronze colour, complementing the CPI Solarbronze* heat and glare-reducing plate glass.

Sloping, planing, strengthening, colouring—these are four of the many unusual challenges CPI met in manufacturing and installing the glass and metal curtain wall for the world's tallest reinforced concrete building. CPI takes pride in meeting tall orders. Next time your plans call for curtain wall—of any size—call CPI. *TM reg.

Materials Data

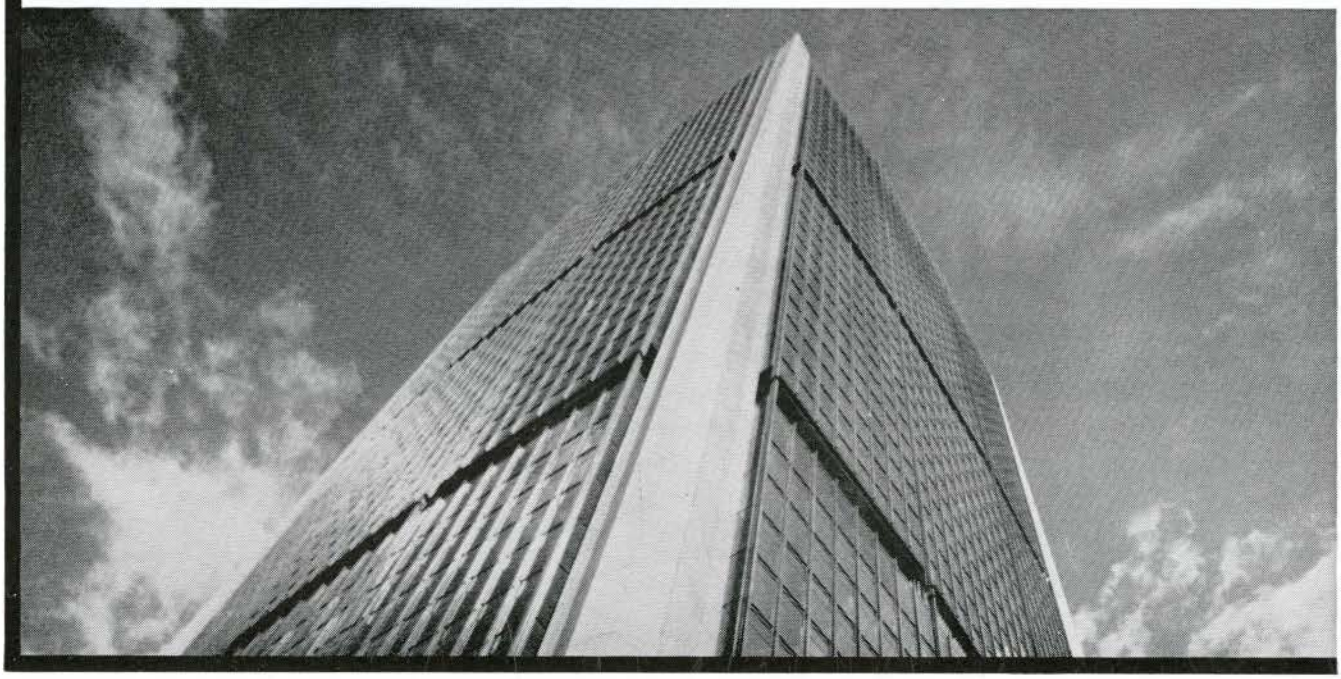
Glazing:

Connecting buildings: Twindow* insulating units composed of ¼" Solarbronze and ¼" clear plate.
Tower: 1st floor to 33rd floor: ¼" Solarbronze heat and glare-reducing plate glass.
34th floor to 47th floor: ¾" Solarbronze plate.
Total Glass Area: 141,268 sq. ft.

Metal Parts:

Silicon-Aluminum alloy sheet and extrusions.
Colour: Olive Bronze.
Total Weight of metal wall: 1,400,000 lbs.

One Source, One Contract, One Responsibility **CANADIAN CPI PITTSBURGH** INDUSTRIES LIMITED



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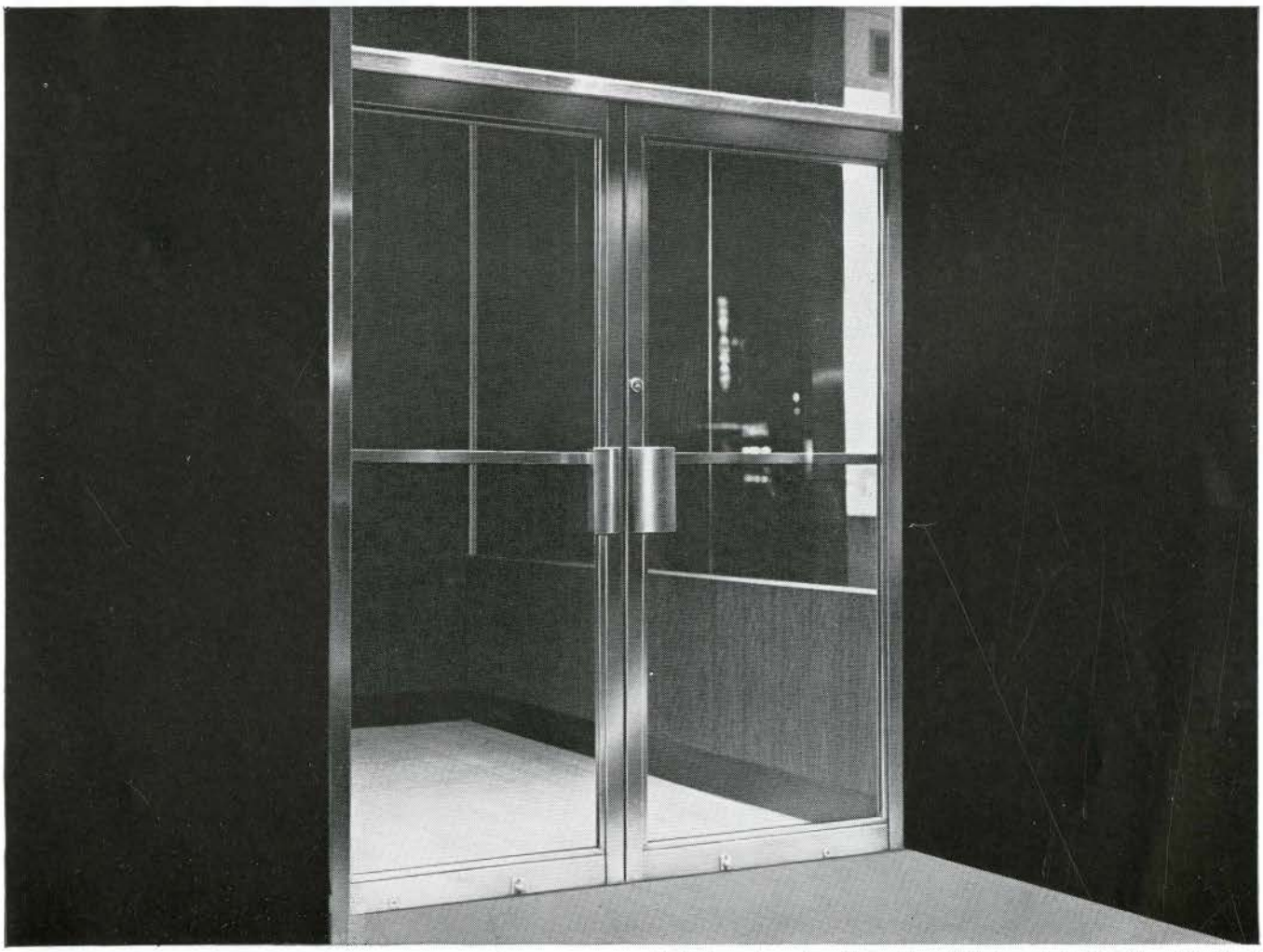

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Two floors a week was the amazing construction schedule achieved in the erection of the huge Place Victoria structure — the tallest reinforced concrete office building in the world. The contractors and project managers devised a "critical path" chart which made full use of all the advantages offered by concrete, combining them with the most modern construction methods and material.

Canada Cement is proud to be associated with this great addition to Montreal's skyline — built in such spectacular fashion!

The concrete made with "Canada" cement was supplied to this project by Mount Royal Paving & Supplies Ltd.

Architect: L. Moretti, Rome. *Associate Architects:* Greenspoon, Freedlander & Dunne, Montreal. *Consulting Structural Engineers:* P. L. Nervi, Rome; D'Allemagne & Barbacki, Montreal. *Associate Consulting Engineers:* Letendre & Monti. *General Contractor:* E. G. M. Cape & Co. (1956) Ltd. *Reinforced Concrete Frame Contractor:* Janin Construction Ltée.

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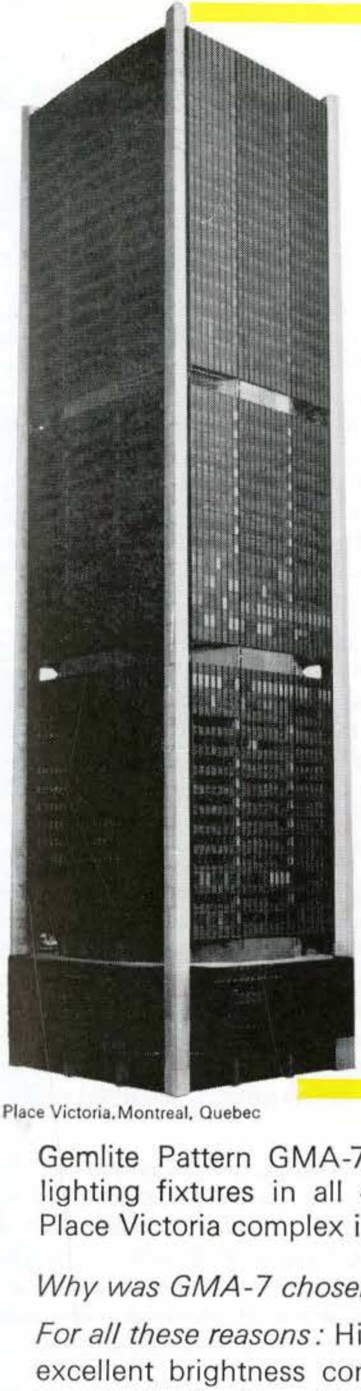

Place Victoria, Montreal, Quebec

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Gemlite Pattern GMA-7*was specified for the lighting fixtures in all 48 ceilings of the new Place Victoria complex in Montreal.

Why was GMA-7 chosen?

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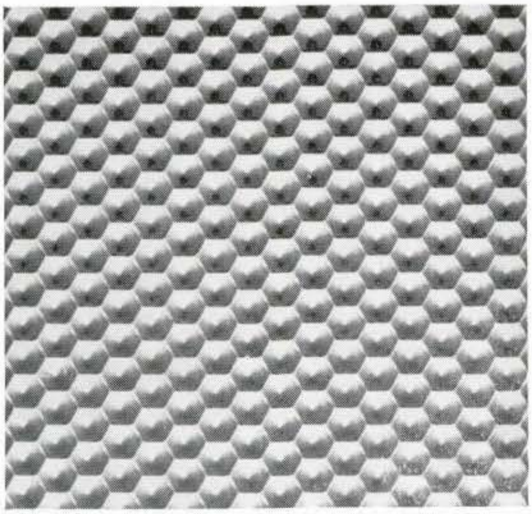

GMA-7 Pattern in Crystal-Clear Acrylic

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Place Victoria

Emerging Montreal Patterns: Above, Surface, and Sub-Surface

Place Victoria is a node in the network or a link in the chain of the new Montreal central-city developmental pattern. Important buildings or groups of buildings tend to be associated with a space, a square, "une place." Usually the building is placed on a space and the name of the plaza or public place is conferred on the building or building group. Either the space existed previously as a municipal square or buildings were pushed aside to make an opening in the city fabric. Place Ville Marie and Place des Arts created spaces of their own. Place Victoria takes advantage of an existing city square which is being renovated. The new fashion is to raise not a mere building but a beautiful adjunct to a fine civic space.

On the other hand, City Planning Director, Aimé Desautels, has been quoted in the Montreal Star as saying that, "We're going underground almost automatically. I don't think we'll see the rise of another major skyscraper here for some time. We'll see extensions to these underground links. We're also planning our subway exits and accesses within and under buildings so people can travel and shop underground in comfort."

There are many physically-exemplified city-making forces: on the ground are the squares and the streets, pedestrian routes, surface transportation. Communication systems occur both above and below the ground. The new transportation systems will do the same. Underground will be the Métro and the Trans-Canada Expressway in its route through downtown Montreal, as well as the newly emerging pattern of sub-surface streets and malls.

Although the brave new appearance of tall skyscrapers heralds a new era, the city of the future will require, at least in part, a subterranean urbanism and architecture. Citizens will experience great heights without dizziness and enjoy cave-like spaces with gaiety. The squares, "les carrés," "les places," will be joined with colonnades, piazzas, arcades, lanes, passages, avenues, streets, "des ruelles," — some above and others below. On that intermediate territory, the ground, promenades and esplanades will lead from one grandiose scene to another.

Central Montreal, Two Cores or One?

Montreal is fortunate in possessing a number of civic squares or breathing places. The attractiveness of an open space as the site for an imposing edifice was first clearly comprehended by the churches. Many a Montreal church, cathedral, or religious building, benefits by being located on an open area or space.

Dominion Square became the pivot for development in the uptown area. Apart from churches, the first important buildings were of a social or service type such as the old YMCA, Windsor Hotel and Windsor Station. Today, the great corporations and developers are aware of the importance of siting buildings in the context of the city's spatial organization, transportation networks and points of maximum activity, and so is the City Planning Department of the City of Montreal.

The Sun Life Assurance Company of Canada, when Dominion Square was selected as the site for a new head office, was the first large financial organization to foresee the value of locating a dominant and important building on a civic square. The building was built in three stages. The first portion erected in 1918 was five storeys high and occupied one-seventh the ground area of later building. More recently, the Canadian Imperial Bank of Commerce, by erecting their new office building on the square facing the Sun Life, have followed suit. The Bank of Montreal had built previously on Place d'Armes but Notre Dame Cathedral remained the dominant mass.

Immediately to the east of the Sun Life on Dorchester Boulevard, the new Place Ville Marie arose, having created its own surface and sub-surface public spaces, linked below the boulevard to the CNR transportation and hotel services, as well as to the St. Catherine Street shopping area. This large and complex project had its beginnings in an unsightly hole in the ground which remained after a railway tunnel had been driven through the volcanic heart of Mount Royal.

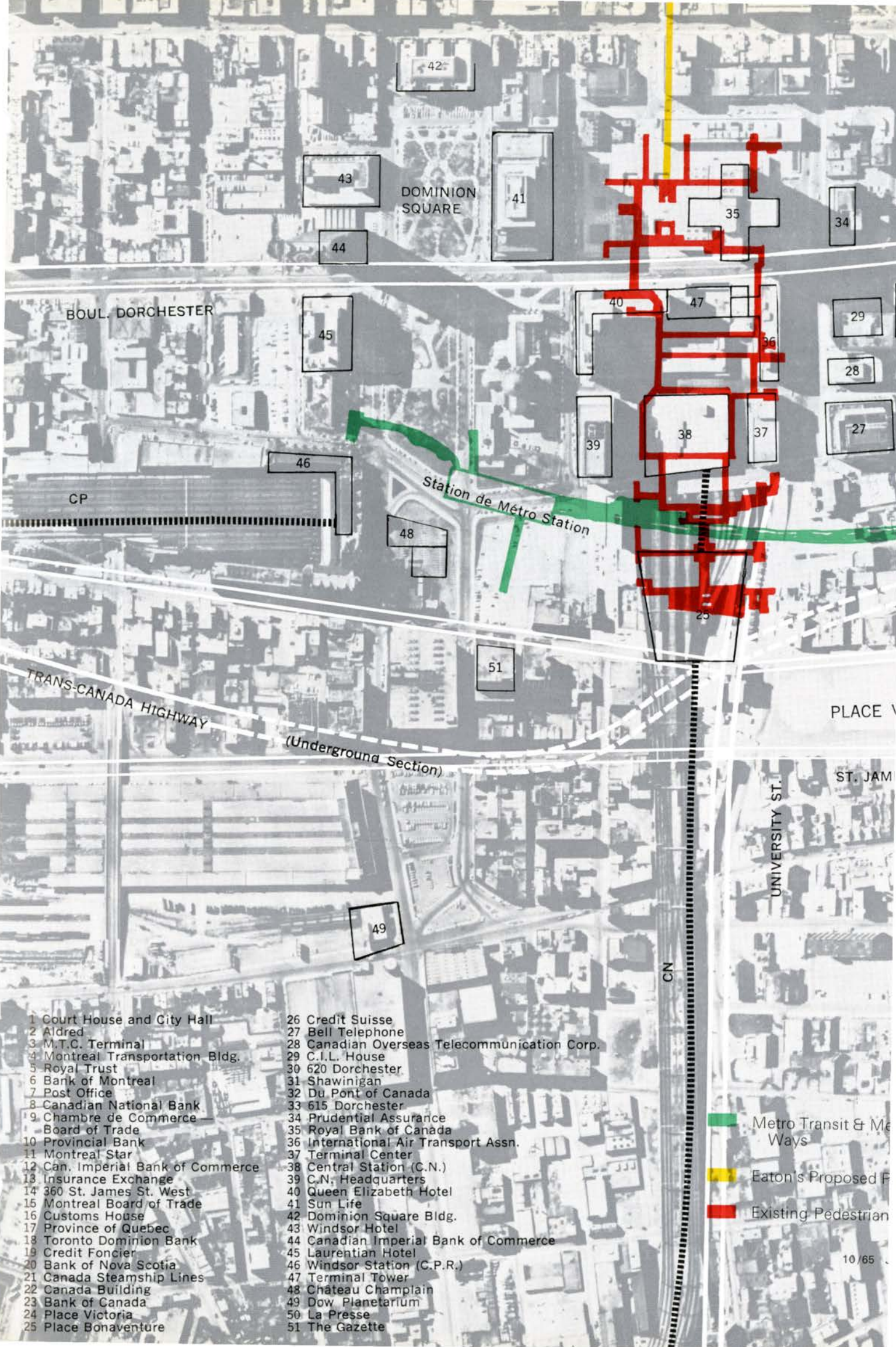
In the late twenties, early studies had been made for a CNR complex much more restricted than recent development. The new CNR station, just south of Dorchester in the cutting, was built in 1943, replacing the old Bonaventure Station on St. Antoine at the foot of Peel, a magnificently moody structure of 1888. More recently, development led to the construction of the Queen Elizabeth Hotel and the International Aviation Building. Not until Place Ville Marie did a sub-surface pattern of pedestrian malls and arcades emerge.

The name of the old CNR station will be revived in "Place Bonaventure," Montreal's new mart, a $75,000,000 and two million square foot headquarters for trade, exhibition and convention activities. This largest, if not tallest, Canadian building will run down the hill to encompass St. Antoine and reach as far as Notre Dame Street. The pattern of pedestrian passageways extended from PVM, the Central Station and adjacent garage, will continue through the new trade centre.

One block east of PVM on the south side of Dorchester Boulevard, the new CIL building soars from its own plaza. A 20-storey Board of Trade Building is rumored for nearby at the top of Beaver Hall Hill.

This extensive new development nestling around uptown squares, transportation termini and communications centres, resulted in a shift of a part of the power centre of finance and management. Power flowed along St. James Street through Victoria Square and up Beaver Hall Hill to the new uptown central area.

Montreal had two important cores — an uptown and a downtown. Formerly, the uptown area was devoted to retail merchandising and commerce. The downtown area was the financial, wholesale, overseas transportation and communications centre. Downtown began as a trading area near the harbor. Today the uptown area is important both commercially and financially. However, the old



1 Court House and City Hall
2 Aldred
3 M.T.C. Terminal
4 Montreal Transportation Bldg.
5 Royal Trust
6 Bank of Montreal
7 Post Office
8 Canadian National Bank
9 Chambre de Commerce — Board of Trade
10 Provincial Bank
11 Montreal Star
12 Can. Imperial Bank of Commerce
13 Insurance Exchange
14 360 St. James St. West
15 Montreal Board of Trade
16 Customs House
17 Province of Quebec
18 Toronto Dominion Bank
19 Credit Foncier
20 Bank of Nova Scotia
21 Canada Steamship Lines
22 Canada Building
23 Bank of Canada
24 Place Victoria
25 Place Bonaventure
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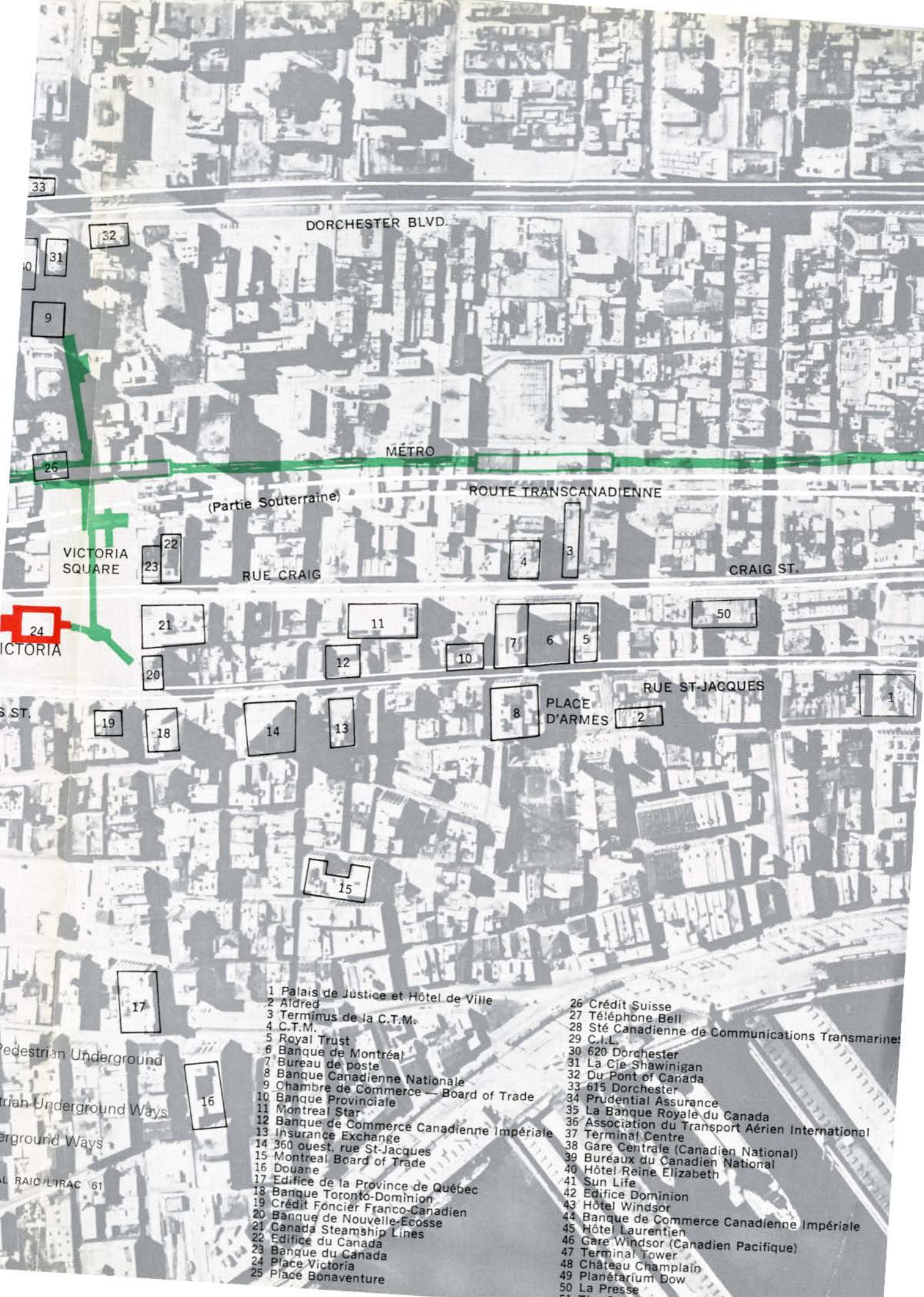
27 Bell Telephone
28 Canadian Overseas Telecommunication Corp.
29 C.I.L. House
30 620 Dorchester
31 Shawinigan
32 Du Pont of Canada
33 615 Dorchester
34 Prudential Assurance
35 Royal Bank of Canada
36 International Air Transport Assn.
37 Terminal Center
38 Central Station (C.N.)
39 C.N. Headquarters
40 Queen Elizabeth Hotel
41 Sun Life
42 Dominion Square Bldg.
43 Windsor Hotel
44 Canadian Imperial Bank of Commerce
45 Laurentian Hotel
46 Windsor Station (C.P.R.)
47 Terminal Tower
48 Château Champlain
49 Dow Planetarium
50 La Presse
51 The Gazette



1 Palais de Justice et Hôtel de Ville
2 Aldred
3 Terminus de la C.T.M.
4 C.T.M.
5 Royal Trust
6 Banque de Montréal
7 Bureau de poste
8 Banque Canadienne Nationale
9 Chambre de Commerce — Board of Trade
10 Banque Provinciale
11 Montreal Star
12 Banque de Commerce Canadienne Impériale
13 Insurance Exchange
14 360 ouest, rue St-Jacques
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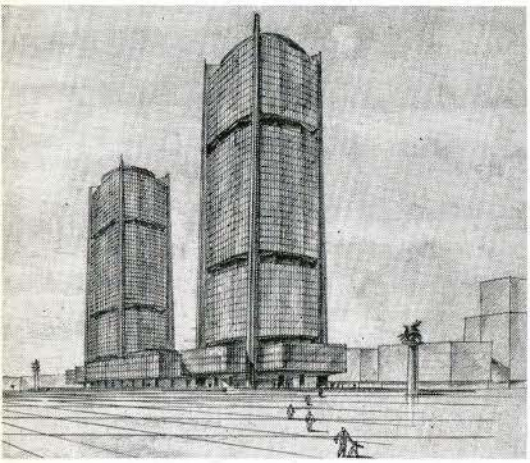
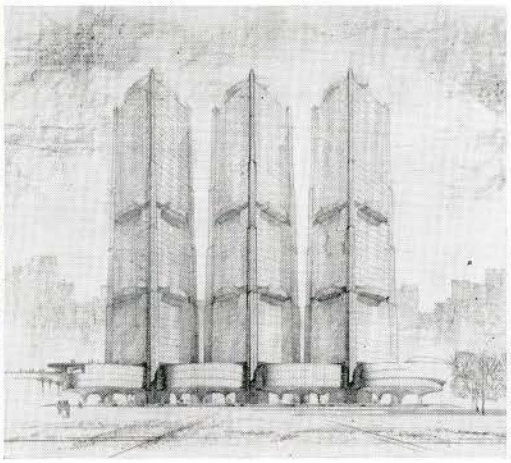
19 Crédit Foncier Franco-Canadien
20 Banque de Nouvelle-Ecosse
21 Canada Steamship Lines
22 Edifice du Canada
23 Banque du Canada
24 Place Victoria
25 Place Bonaventure
26 Crédit Suisse
27 Téléphone Bell
28 Sté Canadienne de Communications Transmarines
29 C.I.L.
30 620 Dorchester
31 La Cie Shawinigan
32 Du Pont of Canada
33 615 Dorchester
34 Prudential Assurance
35 La Banque Royale du Canada
36 Association du Transport Aérien International
37 Terminal Centre
38 Gare Centrale (Canadien National)
39 Bureaux du Canadien National
40 Hôtel Reine Elizabeth
41 Sun Life
42 Edifice Dominion
43 Hôtel Windsor
44 Banque de Commerce Canadienne Impériale
45 Hôtel Laurentien
46 Gare Windsor (Canadien Pacifique)
47 Terminal Tower
48 Château Champlain
49 Planétarium Dow
50 La Presse



A



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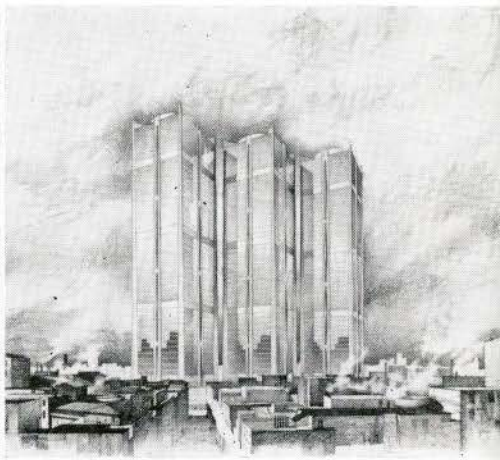


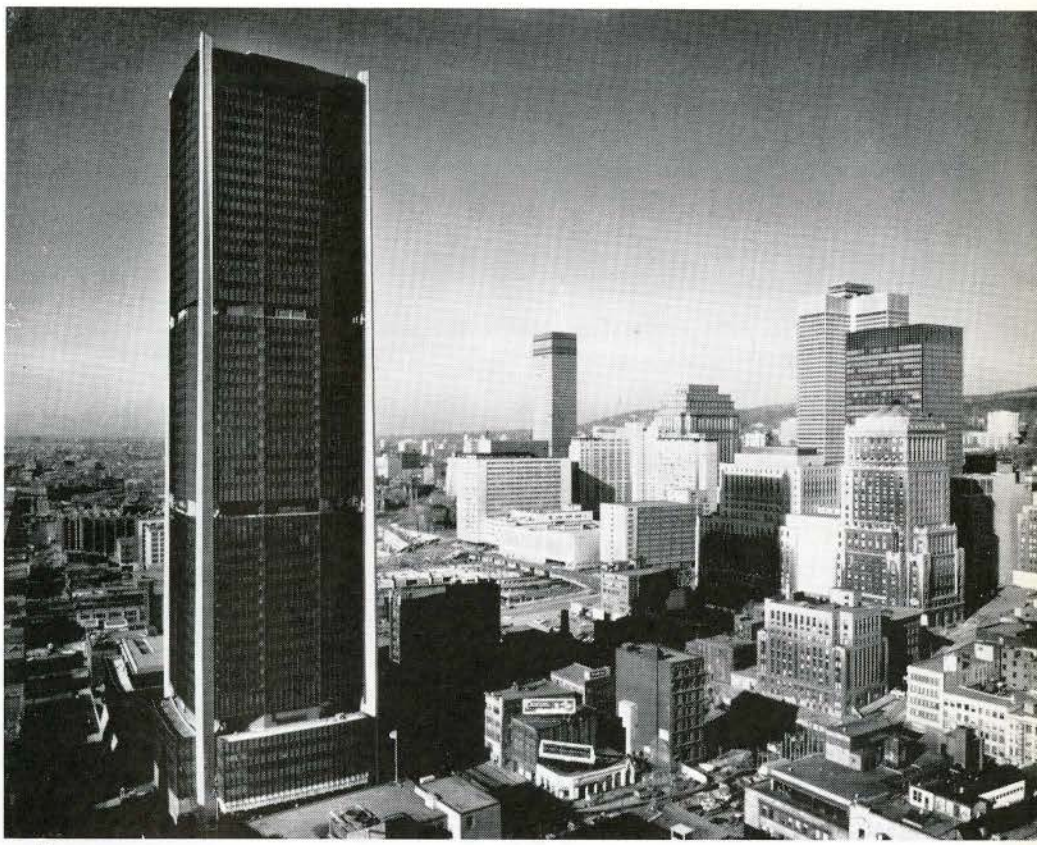
C

A, B, C The development in the initial design phases, sketches by Moretti.

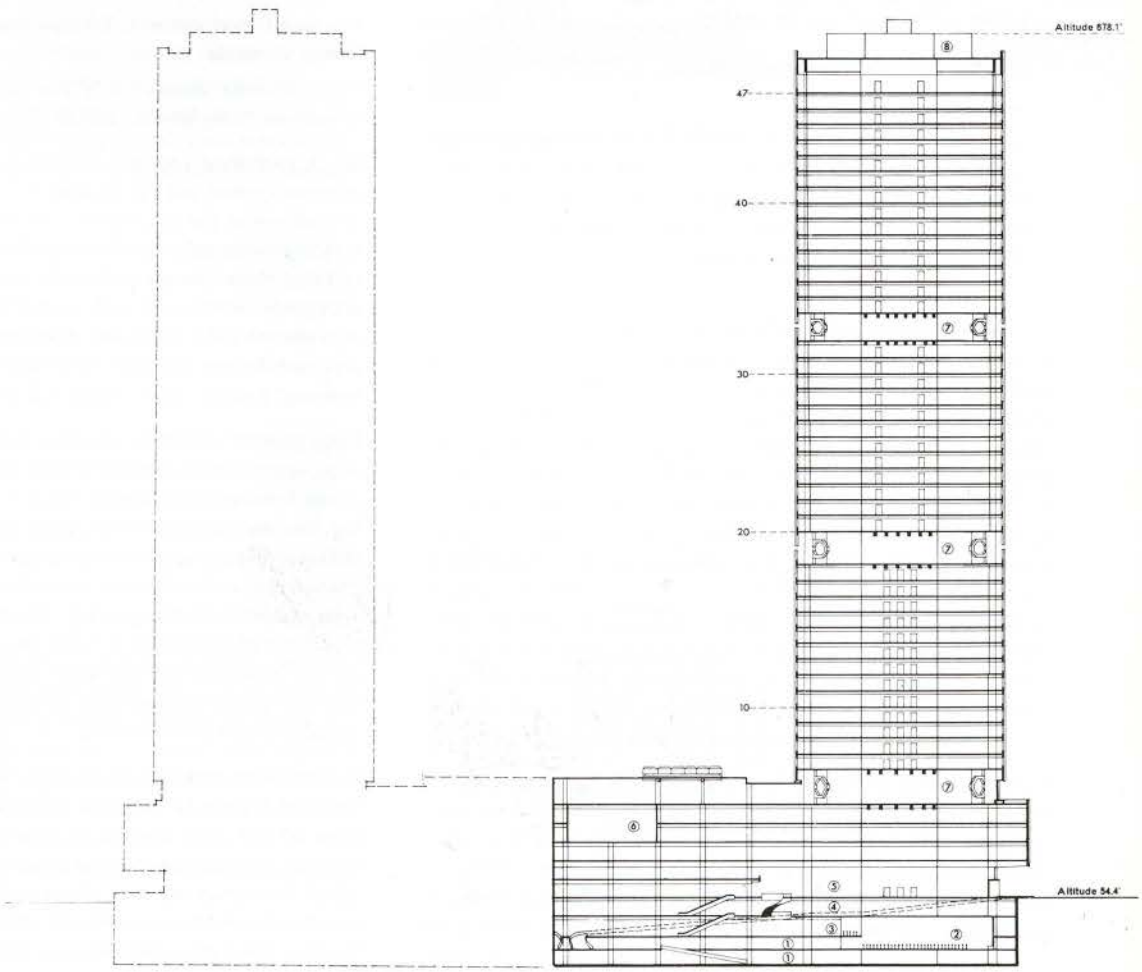
D Photo montage of existing building with second stage outlined.

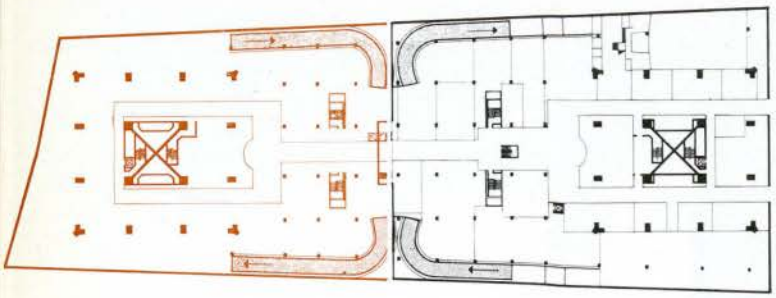
E The building today.

D

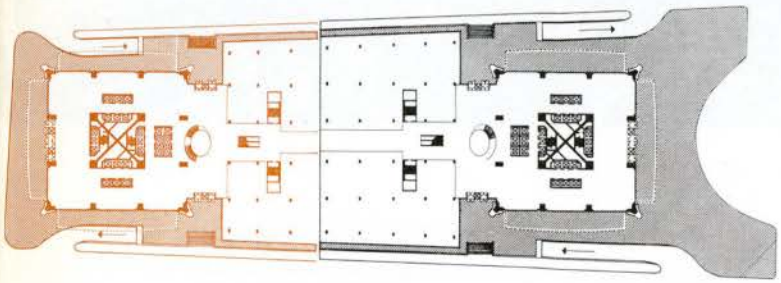


E

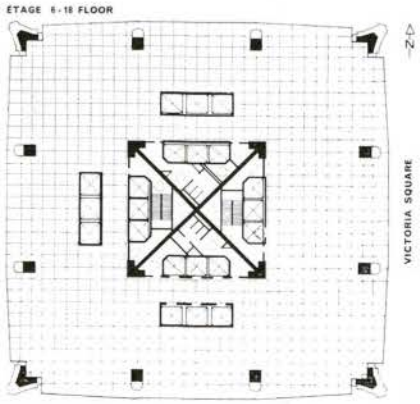




Metro Arcade



Ground Floor



financial area remains a nerve centre, and the recent move of the Montreal and Canadian Stock Exchanges from St. Francois Xavier to Place Victoria is an indication of the continuing vitality of the Place d'Armes, St. James Street, Victoria Square district.

Downtown Development

In the downtown area, St. James Street remains the connector between Victoria Square and Place d'Armes. Both church and finance are represented on Place d'Armes. Immediately to the east of the square is the Civic and Provincial Governmental Centre clustered about the old Bonsecours market and Champ de Mars. A new towering Palais de Justice, proposed cost $20,000,000, will occupy an area bounded by St. Lawrence, Craig, Notre Dame and St. Gabriel, at the western end of Champ de Mars and fill the vista down St. James from Victoria Square.

But the largest and most ambitious undertaking downtown has been Place Victoria. When the second tower of this complex is built and the new Place Bonaventure just south of the CNR station is completed, the two buildings will be one block from each other.

A zig-zag line of giant structures will have linked uptown and downtown Montreal. In winter pedestrians will be able to walk from uptown to downtown without going out in the cold. Place Victoria will be connected to a mesh of passages leading from downtown to uptown and west to the new Place du Canada, Chateau Champlain and Windsor Station. An expanding multi-planar central city core will interlock its activities within a larger matrix.

Project Development, Design and Teamwork: Place Victoria

Place Victoria stands on a site bounded by Victoria Square, University, Craig and St. James Streets.

Stock Exchange Tower is important because of its position and economic value, but it is also well-conceived and bold, all 624 feet of building in the sky, making the 47-storey structure the tallest building in Canada, and the world's highest reinforced-concrete building. Only four other concrete buildings of comparable height are known: in Chicago, a 55-storey, 590-foot apartment building; also Marina City, 60 floors, 580 feet; in Sydney, Australia, the Australia Square building, 45 floors, 620 feet; and the Peugeot building, Buenos Aires, Argentina, 54 floors, 620 feet.

Luigi Moretti, architect, and Pier Luigi Nervi, designer, engineer and builder, citizens of Rome, Italy, both world-famed, conceived of the form and structure of Place Victoria. About five years ago the Societa Generale Immobilare and the Mercantile Bank of Canada joined strengths to develop a site on Victoria Square. The Place Victoria-St. Jacques Company was incorporated in 1960. Three months after the pouring of the first footings, the corporation in a report of September 1, 1963 set out the goal of their program as, "an integrated service which provides facility in communication and supporting services, in order that efficiency in business operations can be maximized."

In these terms architecture becomes a support for commercial and financial activity as well as a formative element in the texture or grain of the city. The thrust towards an ultimate effort leads towards optimization moving simultaneously in many directions. "Joe" Dunne of the firm of associated architects, Greenspoon, Freedlander & Dunne, believes that the working out of Place Victoria depended primarily on two stages, the search for a

concept, and the development of a design. In this sense the concept is an intellectually formulated statement of the desirable relationship of the project to its surroundings. Much searching, probing and knocking on doors is required. Concept deals with the analysis and meaning of information.

During this stage two reports were made. The first by Prof. Harold Spence-Sales of the School of Architecture, McGill University, studied the form of the city, its growth, the history of Victoria Square and the connection which it bore to the rest of the city. The second report dealt with real-estate values and economic feasibility.

The original design of Nervi and Moretti, produced in the latter part of 1960, showed three slim towers set on the diagonal. This proposal was too dense, blocked out the view of city and Mount Royal from the south, had too high a ratio of core to rentable floor area and was difficult to execute in stages. The design was gradually modified to its present form; twin towers and a lower connecting element, a five-floor lower building.

The definitive design was produced in 1961. Such factors as the size and shape of the building, the rental area per floor, the number of elevators, had to be considered. Development was not always smooth even if the final product gives no clue.

In a country with a difficult climate Moretti perceives the necessity for the three levels of urbanism, but thinks that if the lower levels are insufficiently opened up to the surface that these levels will be ignored and problems will develop. Moretti is presently working on a scheme which will "propose" that a portion of Victoria Square in front of the Stock Exchange Tower be lowered and treated as a sunken space.

When examining the present Place Victoria building which embodies the final design, it is interesting to trace the developmental history of some of the features. Most aspects of the building originated with the first Italian design; their modification in Canada could be said to represent an adjustment to differences of environment.

The giant corner columns or plinths offer a good example. The shape of the plinths as originally designed proved too difficult to build. The form was studied and re-studied. The present shape and the one-third, two-thirds proportion which controls the flare or entasis given to the vertical line was the result of collaborative effort.

The original design called for exposed concrete in uncovered structural elements, particularly the plinths. Experience with Montreal's sometimes harsh climate counselled otherwise. Expansion and contraction in exposed concrete columns due to temperature differences would have been excessive. The Division of Building Research of the National Research Council studied the problem and predicted a six and one-half inch movement.

The structural frame acts also as a vertical cantilever receiving possible severe wind and earthquake loads. The core is designed to resist lateral shear in the form of horizontal shear on core walls. Bending in the vertical plane is taken care of partly by the core and by transforming overturning moment into upward and downward vertical forces in the outside corner columns. Trusses equivalent to a depth of two floors at the roof and at three levels (mechanical floors) in the tower convert overturning moments into two forces. The core is connected to corner columns by these horizontal frames. Should the tower deflect, the corner columns would be subjected to a large force. The upward force is less than the load on the column. Considerations stemming from the maintenance of this complex balance, rendered more demanding by possible differential deflection of floor slabs with loading variations, made it essential that the frame be protected from varying climatic conditions. The associated engineers, d'Allemagne and Barbacki, recommended insulation and the associated architects suggested the facing of precast concrete panels. The cladding was separated from the structural corner columns by a heated space large enough to accommodate an inspection ladder and various duct systems.

The initial design indicated a stepped face to the exterior walls. Further study permitted a battered face with a smooth slope.

Detail design of the curtain walls was worked out in conjunction with the National Research Council. The Division of Building Research made recommendations concerning the design of the curtain wall with regard to air leakage, rain penetration, condensation, and thermal considerations.

Layout of the curtain wall follows the basic module of 4'-8". A three-quarter inch sliding joint occurs in mullions spanning from floor to floor. The joint was designed to prevent buckling of mullions should expansion occur at the same time as differential deflection of slabs.

Double glass is installed in lower levels and single above. Up to the thirty-second floor glass thickness is one-quarter inch, above thickness increased to three-eighths of an inch to resist wind.

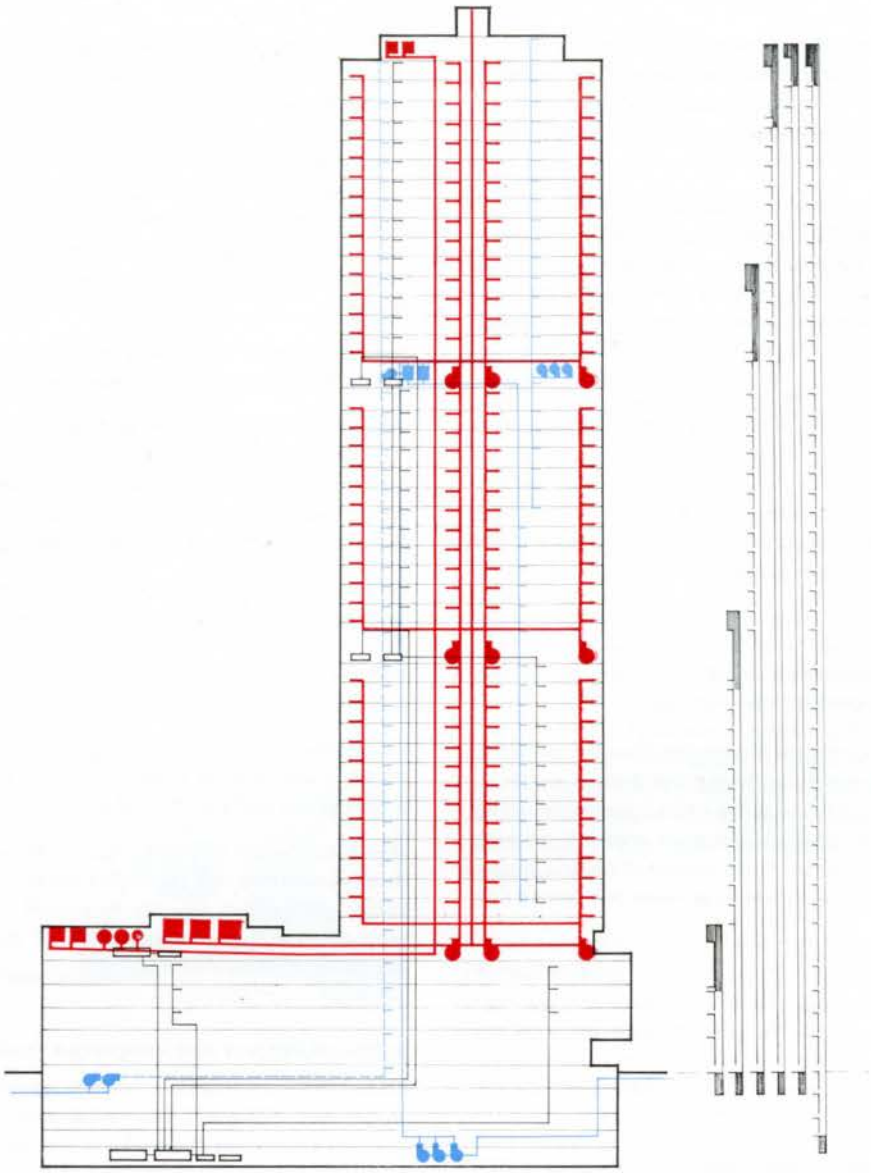
Moretti believes in inflected transition between different elements. He does not think that two unlike materials or formal units should be brought together abruptly. As a result, the final building reveals careful and detailed consideration of the "notch" or indented demarcation gap.

Scope of Project and Integrated Environment

Phase I of the development includes a gross floor area of 1,461,700 square feet; office and commercial space 1,118,000 square feet, 141,700 square feet of garages as well as 203,000 square feet for building services. The gross area of the complete project will be 2.75 million square feet.

The ground floor esplanade, level with the outside terrace, is raised about seven feet above adjacent streets. Above ground is the esplanade and forty-three floors of office space and three mechanical floors. Five floors are below grade. Two underground concourses contain shops, stores, snack bars, restaurants, cocktail lounges, cafés, a post office and a 530-seat cinema-convention auditorium. Below is the two-level parking garage and a level for mechanical services. The Promenade is one level down. Entrance to the Métro is by an eastern link at second concourse level or through the Métro Arcade, connecting to the Métro Rotunda under the Square. Another entrance to the Rotunda will exist at the south side of the Square. From the Rotunda, a tunnel will lead to the Place Victoria Métro Station on the north side of the Square. This line of the Métro will continue westward as far as Windsor Station and eastwards will connect to the whole system.

Immediately west of Place Victoria, University Street is being widened to serve as the principal access road to Expo '67, the harbor and the Champlain and Victoria Bridges. The "parti" of the scheme is interesting in relation to this street. On completion of the project, pedestrians will stroll through the two covered ground-floor plazas below the towers connected by a promenade under the Stock Exchange to arrive at the broad boulevard.



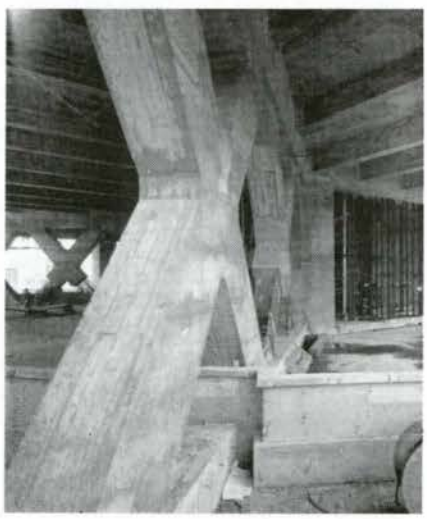
Mechanical Section

Elevator Diagram

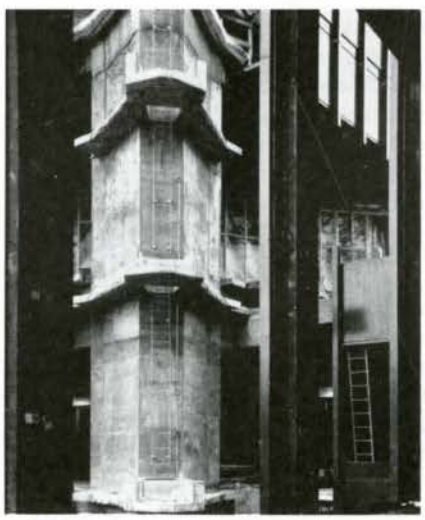
Legend

Heating, Ventilating, Air Conditioning

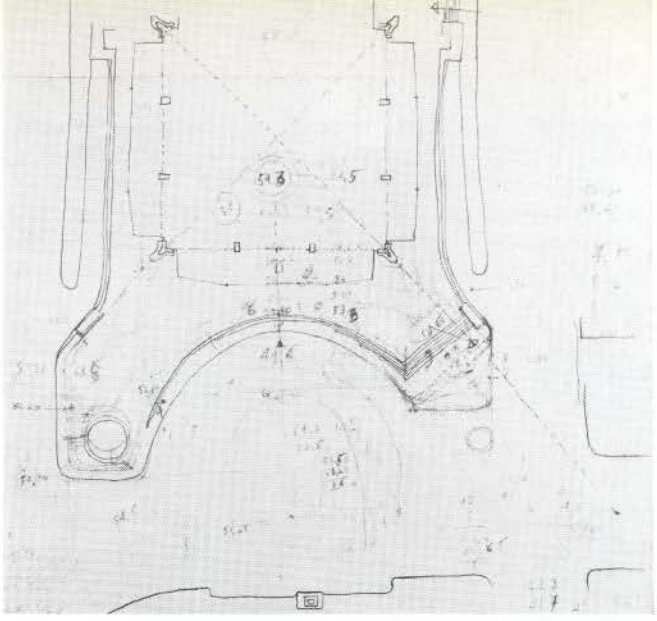
Domestic water and fire protection



Mechanical Floor — Bracing Structure



Unsheathed Corner Columns



An early Moretti sketch exploring the relationship of the building and podium to the square.

In the vicinity of Guy Street in the western part of Montreal, the new Trans-Canada Expressway will enter a tunnel and continue under the central city area passing, like the Métro, to the north of Place Victoria. A loop road will connect the new boulevard to the Expressway. The new building is strategically located in relation to these transportation routes.

Car operators or service vehicle drivers may take these traffic routes to arrive at the building or two-level parking garage. Those commuting by train will be provided with a pedestrian tunnel connecting with Place Bonaventure, Central Station and Windsor Station. Métro users will have access to the Place Victoria Métro Station.

Fast-moving escalators and elevators will take office occupants rapidly to their work.

Service

Complex arrays of mechanical and electrical systems serving tenant and building are nested within the structure.

The building skin of the tower and a twelve-foot peripheral space are served by a high-pressure induction system. Heating/cooling units under each window of any single tower-face are fed with air and hot or cold water from outside ducts located at a single corner as well as a subsidiary air duct located on the face. Other columns may be used as service columns. Individual control of induction units is by motorized damper and thermostat. Inner areas are served by high-pressure induction systems and mixing boxes at each floor. Lower pressure ducts and diffusers bring air to suit each tenant. Various levels are zoned into sub-zones.

Separate heating and ventilating systems are provided for the trading floor of the Stock Exchange, electronic computer room, lobby and two banks. Tenants in arcades at lower levels have outside air, separate fan-coil units, exhaust air-ducts, chilled water and steam. The kitchen is exhausted to tower-roof. Restaurants and kitchen are air-conditioned and ventilated.

The main equipment on the fifth floor supplies air to garages and exhausts back to same floor. Air is distributed to garages in sub-floor trenches and ducts. Separate ventilation is provided for transformers, electrical rooms and toilets. Special exhaust duct systems for tenants are supplied.

Radiant heat is supplied at car ramps and main plaza entrances to thaw ice and snow.

The fifth floor contains the main mechanical and electrical equipment. Two 50,000 and one 20,000 lb/hr. psi. steam water tube oil-fired boilers vented to roof provide steam heat. The stack discharges to roof. Basement storage is provided for three 18,000 gal. heavy oil tanks. A 5,000 gal. light oil tank is provided for start-up and emergency. Boilers are connected to main header from which service connections go to upper and lower levels, domestic hot-water tanks, garage ventilation system, air-conditioning systems, oil-heating and oil atomizing. Steam pressure is reduced by pressure-reducing valves for ventilation and heating systems. Condensate from lower levels descends to a 1,000 gal. tank in basement from where it is pumped to a receiver in the boiler room. Automatic maintenance of constant steam pressure in boilers is achieved by instrument control and regulation of oil, air flow and draft. The refrigeration plant and cooling towers are located here. Cooling towers are also concealed on the roof. On the fifth floor is installed air conditioning equipment for lower floors, Stock Exchange, garage and floors from six to eighteen. The main control panel is located beside the boiler room.

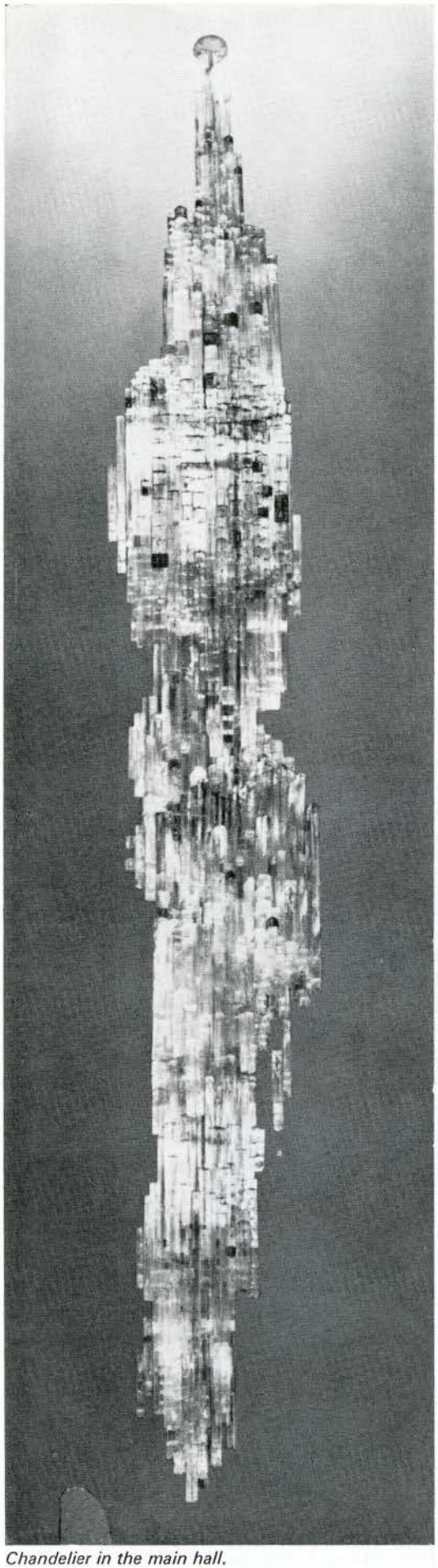
Related mechanical and electrical rooms may be found in the fifth basement and on the fifth, nineteenth and thirty-second floors and penthouse roof.

Basement mechanical rooms contain water entrances, electrical and telephone services, diesel emergency electric set, oil storage tanks, oil transfer pumps and heaters, fire and sewage pumps.

Air-conditioning fan-coils, fan units, exhaust fans and electrical transformer vaults and secondary distribution panel boards are on the nineteenth and thirty-second floors, while water-tanks and pumps are on the thirty-second floor.

Stack, cooling towers, and separate air-conditioning for the forty-sixth and forty-seventh floors and kitchen exhaust fans are inside roof of penthouse.

Domestic water is supplied by the city with two six-inch connections, each on St. James and Craig Streets, and leading to a metered header. Connections are taken off for boiler room, garage, as well as lower levels up to and including fifth floor and stores.



Chandelier in the main hall.

Water boosters are connected and pump to upper level tanks, two 10,000 gal. tanks on the thirty-second floor. Tanks feed from twenty-seventh to fifth. Water is pumped from house-tanks to supply from twenty-eighth to forty-seventh floors.

Fire protection sprinkler connections and stand pipes for hose risers are connected to main for protection up to and including fifth floor; above fire stand-pipe risers are taken to fire pumps. Fire pumps are connected to emergency diesel electric set. Garage areas are sprinklered.

Roof drainage is led from roof to basement. There it combines with waste and soil drainage and leaves building for city sewers. Each fixture is vented. Yoked vents are provided for each twelve floors. Waste and soil from street level and below are discharged to sumps and pumped to sewer.

Place Victoria is supplied by three lines of 12,000 volt hydro lines. An additional line will be added in the future. The 12 KV switchboard in fifth basement is double; services split into owners and tenants sections, and distribute to 550 volt sub-stations. A transformer vault on fifth floor serves owners' equipment, refrigeration plant, air-conditioning and boiler. A tenants' sub-station and distribution room is located on the nineteenth floor. Voltage is stepped down to 120/208 volts for tenants' floors. Tenants are metered individually. Owners' sub-station is on thirty-second floor.

Under-floor ducts bring power and communication to any desk. A trench-header system is sized for future needs and makes all transverse ducts accessible.

Structure

Reduction in the weight of the structural frame and the size of the frame members was an important consideration in the design of structure. The original floor-slab design was modified by the associate structural engineers. Model tests justified the choice of the modification.

The floor slab was required to support a live load of 100 psf. over a span of 46'-8" between exterior columns. Floor to floor height was set at 11'-4". To meet these conditions a two-way ribbed flat slab with drop panels at columns was devised. A total structural floor thickness was arrived at of eighteen inches, a three-inch slab over fifteen-inch deep ribs at 5'-10¾" on centre. Drop panels tapered to a depth of ten inches below the ribs giving a maximum depth of twenty-eight inches. Cross-ribbed stiffened fibreglas waffle pans with sloping sides on rib forms for easier removal were used to form the non-standard floor slab. A compressed air blast broke bond of pans and concrete upon removal.

Twelve exterior columns, four corner columns and eight other columns, and the St. Andrew's cross-form interior core support the tower. The frame was designed to resist lateral forces due to earthquakes in accordance with the severity established in Zone Three of the National Building Code. Forces induced by earthquake increase with the height and weight of the structure. This fact as well as space requirements and economy gave several reasons for the necessity of reduction in frame weight and size.

High-strength concrete (6,000 psi., 90 days) and high-strength steel bars (A 431, 30,000 psi.), butt-connected rather than lapped (G-loc device), in the largest size (2¾ inch), were employed where necessary to assist in the reduction of size in corner columns. To maintain strength of concrete in corner columns and footings it was necessary to keep the temperature of concrete low during setting. Low calorie cement reduced the rate of hydration.

Ice in blocks instead of water reduced the temperature of concrete upon delivery. Temperature of concrete never exceeded 120°. Concrete strength in corner columns varies from 4,000 to 6,000 psi. reducing in strength towards the top.

Enhanced Urban Setting

Moretti decided to increase the importance of the square as a setting and to enhance this effect he set the tower back. About eighty feet of land in front of the Stock Exchange Tower on Victoria Square will be added to the square and used as an approach to the principal entrance of the tower. This land will be deeded over later to the city.

The City of Montreal has decided to enlarge the whole square by about forty per cent. Beaver Hall Hill will no longer flow into one corner of the square but will arrive almost midway on the north side. As the widening of the square will imbalance the present layout it is planned to remove the statue of Queen Victoria to a more central position, perhaps on a new base. Waterpools and fountains are suggested. Excavations for Métro made it necessary to cut down most of the large group of elms which adorned the northern side of the square. Those few trees remaining may perish due to excessive draining of the soil. New trees will be planted.

"Place Victoria" as Spectacle

During construction when the beautifully shaped and sturdy concrete frame was exposed in all gradations of dimension and form, the building was probably at its formally and plastically most interesting stage. It was the moment in April 1964 when the "Montreal Star" captioned a photo as follows, "This picture taken from the ground level of the Place Victoria project makes it appear as the world's tallest concrete pagoda." Then its gutsy massiveness and clear structure outdid the grain elevators nearby in the harbor. When the ducts and services were run in and laid up against the concrete anatomy, the building was most interesting, at least to some observers, and a new beauty appeared.

Now both elemental vigor and complex subtleties are covered by the curtain wall. Like a dark veil, olive-brown anodized aluminum network and bronze-colored glass conceal the physiognomy. The public face appears.

Columns are glimpsed behind glass. Splayed flaring plinths, sheathed in pale precast concrete panels, jut out at each corner and run the full height of the tower through a space-curve gamut to spall off in the sky. A truly fantastic detail view of the building may be had by setting the eye at the base of the plinth and staring upwards at the fore-shortened warped surface sailing off skywards.

The constant adjustments and shifting of forms to achieve a feeling of both rootedness and "elan" have resulted in a sleek and svelte building, whose character, although in the idiom of the skyscraper, is somehow un-American. Not a one-off production, a chunk of the continuum, the effect is static, a dynamic surge in a fixed position. The pervading mechanical pattern has been broken, not as a mere gesture, but to achieve a human stance.

Seen closer up, the building is less taut, and has a feeling of substance and physique. The plinths cease to be mere corner pinnacles and become powerful supports. From below, the breaks help to anchor the flight of the tower. From certain view-points, the corner plinths with their masonry cover and their termination above the tower roof as decorative elements, tend both to weaken and emphasize the edges of the tower. The overall appearance of shaped architectonic features of great subtlety and the masonry covering tends to separate these elements from the more mechanical character of the curtain wall. On the other hand, closer up, where the corner plinths can be seen springing from the podium, the size and shape of these columns can be sensed as powerful muscular legs.

From Craig Street, St. James, or from Place Victoria, can be seen the three lower floors above the main floor jutting out as cantilevered canopies between the plinths, shading the windows below and protecting the terrace. Although these projections never looked well in presentation drawings, they now form a most stirring and intriguing part of the scheme. Complexity of structural capabilities as well as freedom of action and movement are excitingly evident. A linking of large forms occurs which establishes an architectural pattern owing little to any previous monumental prototype; forms which although related are different in character to the single confined jet of the tower.

"Place Victoria" as Experience

Until all paths interlocking with Montreal's new labyrinth are connected, and the square completed in accordance with the vision, a total experience of Place Victoria is impossible. Not only a building and civic setting, Place Victoria will be a nodal point in a telescoped series of reflex circuits or loops.

Executives, brokers, investors, businessmen and staff may arrive by private car and land in the garage, or move towards the image through the grandeur of the Square. They may arrive underground via Métro with the public and move up through shopping concourses to the main lobby at ground floor esplanade.

A prismatic chandelier, in the form of a crystalline sculpture, made up of 3,000 separate elements of hand-blown glass fabricated in Murano near Venice, is suspended 42 feet into the elliptical openings reaching down to the Métro Arcade. Translucent and glowing by the light of a myriad of small electrical bulbs in many tints and tones; white-pink, pink-white, green-white, white-green, amethyst, ruby, lapis lazuli. Small groups of secretaries, shoppers and curious passersby stand quietly fascinated by the spectacle, eyes fixed on the glow. Appetite for visual excitement in calm spaces is evident. *Stuart Wilson*

Architect: Luigi Moretti

Associate Architects: Greenspoon, Freedlander & Dunne

Architecture Consultants: J. Morin
Studio Gabor ACS
Societa Generale Immobalare

Consulting Engineer: Pier Luigi Nervi

Associate Engineers: Structural — D'Allemagne & Barbacki
Electrical — Jas. P. Keith and Associates

Engineering Consultant: Letendre, Monti and Associates

General Contractor: E. G. M. Cape & Co. (1956) Ltd.

Owner — Place Victoria: St Jacques Company

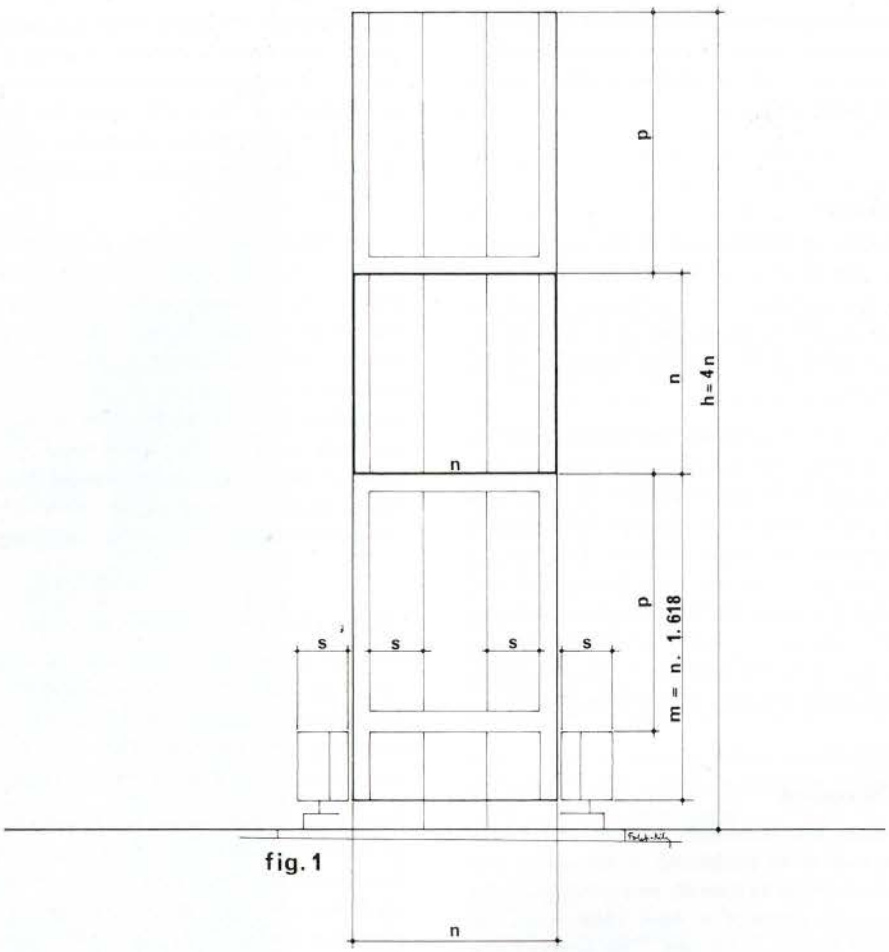


fig. 1

Place Victoria

Precisions sur la Tour de Bourse

La Tour de la Bourse de la Place Victoria est certainement le plus beau gratte-ciel de Montréal, et l'un des plus beaux du continent. Je ne puis lui comparer, par l'élégance, que le Seagram's Building de New York, l'Hôtel de Ville de Toronto et surtout l'édifice Pirelli de Milan, dont il semble poursuivre les données de raffinement.

Je voudrais me limiter à son aspect, à sa plastique générale, ou plus exactement à une approche d'étude de ses proportions architecturales. En effet, une étude complète serait très longue et peut-être fastidieuse. Elle risquerait aussi de charger cette architecture d'intentions qu'elle n'a peut-être pas, et, voulant trop prouver, de ne rien montrer. Que l'on me comprenne bien: *le contenu de la Beauté est une énigme*. Pourquoi les proportions du Palazzo Ducale de Venise sont-elles ainsi faites? Pourquoi celles du Panthénon? Nous ne le saurons jamais. Mais il est cependant passionnant de chercher ces proportions. Ne serait-ce que pour mieux apprécier les lignes et les volumes qui les composent, et donc mieux aimer ces oeuvres. Il est certain que les correspon-

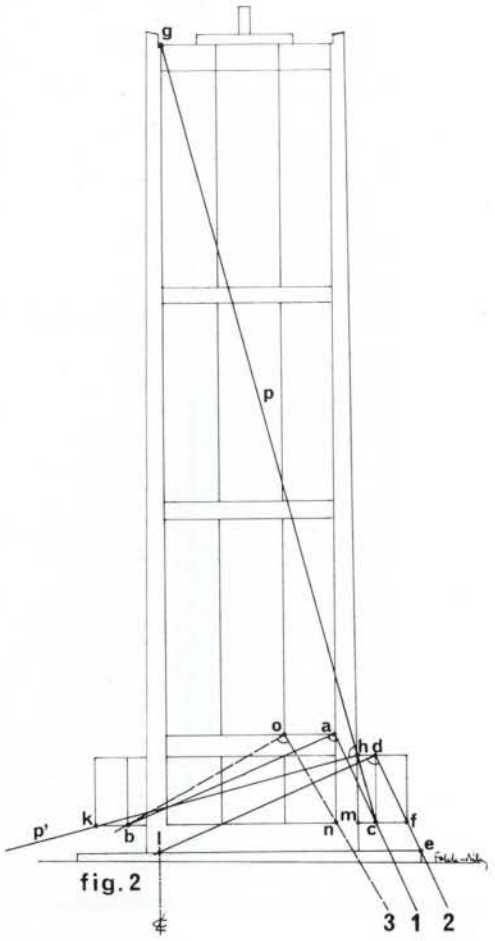


fig. 2

dances mathématiques que je présente ici *n'ont pas été pensées telles quelles par Monsieur Moretti.* Mais deux choses sont également certaines: d'abord que ces correspondances mathématiques existent, ensuite que Monsieur Moretti et ses collaborateurs ont essayé *continuellement*, tout au long du travail des avant-projets et des plans d'éxécution, de garder le contrôle de l'apparence finale de l'oeuvre, en la chargeant de subtilités, de corrections optiques, de proportions, et ceci chaque fois qu'une modification leur était proposée par les techniciens de l'économie ou de la structure.[1]

Le Volume d'Ensemble

Depuis le début des études, une proportion totale avait été établie. Elle fut modifiée plusieurs fois pour des raisons de structure, de tremblements de terre, de hauteurs d'étage, d'économie, etc. . . . Après ces études successives, et la décision finale, nous nous trouvons en présence d'un volume d'ensemble composé de quatre masses importantes. La figure no: 1 indique les curiosités géométriques de ces masses (on peut les appeler des coïncidences):

— la masse centrale de la Tour est un *carré* dont le côté (*n*) est la largeur *moyenne* de la tour.

— le volume général de la Tour est un rectangle dont la hauteur (*h*) est quatre fois la base (*n*).

— la position du carré central est très curieuse: ce carré est placé à une distance (*M*) de la masse inférieure, telle que M et n sont dans un rapport de 1.618, soit le "nombre d'or" des grecs. Ceci peut se vérifier facilement par la géométrie.

— les deux distances (*P*) sont égales.

(1) j'apporte ici le témoignage de Monsieur W. Kubasiewicz, qui a bien voulu me préciser l'action constante de Monsieur Moretti sur l'aspect visuel de l'architecture, et les nombreuses corrections apportées à chacune des étapes du travail.

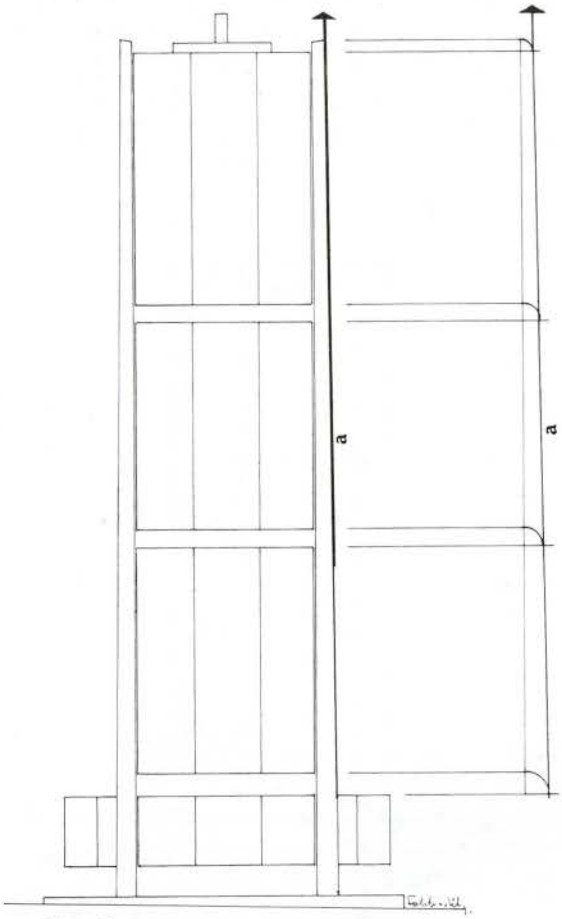


fig. 3

— la masse inférieure se projette d'une largeur (*s*) vers l'extérieur. Cette largeur est égale a celle des surfaces vitrées (*s*).

Le Volume Bas et la Tour

La figure no : 2 indique d'autres coïncidences curieuses existant entre le volume bas et l'ensemble de la Tour.

— la diagonale générale de la Tour (*p*) a naturellement une pente de 1 :4. Etablie à partir du point (*g*), elle passe exactement aux points (*h*) et (*c*). Le rectangle vitré (*m c d h*) est un rectangle de même proportion que la Tour.

— la perpendiculaire (*p'*) établie à partir du point (*h*) passe par le point (*k*).

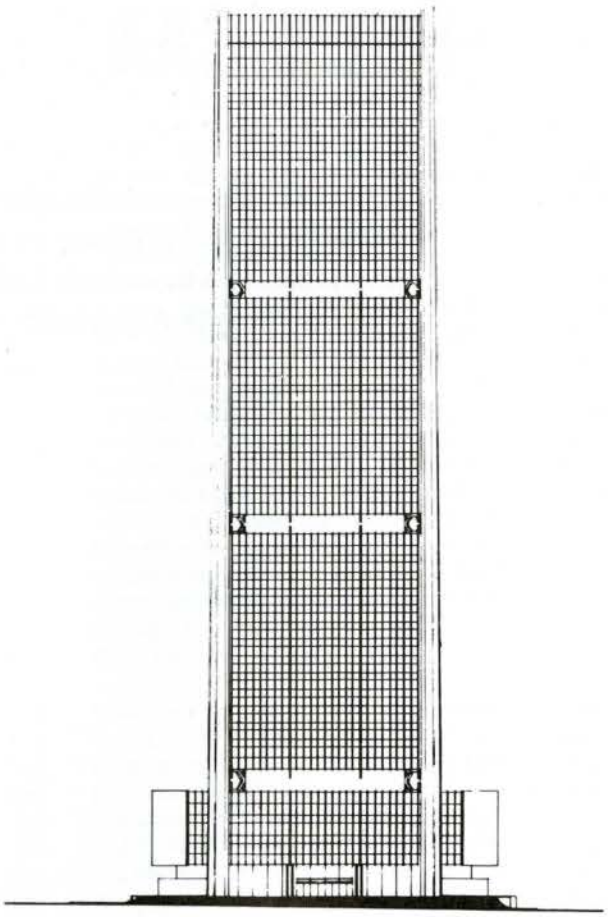
— on peut trouver des relations très étroites entre les points importants du volume bas, en plaçant un angle droit dans les positions 1, 2 et 3. Les côtés de l'angle droit passent par les points (*c, a, b*) ou encore (*e, f, d, l*) ou encore (*n, o, b*).

Il est évident que d'autres coïncidences peuvent être trouvées. Mais celles que j'indique m'ont paru importantes, parce qu'elles déterminent des points essentiels de la composition.

Les Piliers d'Angle

Les piliers d'angle sont très complexes. Ils ont 10 côtés chacun, et diminuent de section progressivement, ce qui donne cette allure caractéristique à la Tour, et corrige optiquement les effets de lourdeur et de sécheresse habituels aux gratte-ciels. La diminution de surface de chacun des 10 côtés des piliers a été résolue : 8 d'entre eux diminuent en forme de trapèze. Les 2 autres ont dû être traités en surfaces *gauches*, qui tournent sur elles-mêmes de façon très subtile, mais visible à l'oeil nu.

Quant au "galbe" des piliers d'angle, il a été étudié maintes fois par Monsieur Moretti. Finalement, il se compose de 6 segments droits, mais aucun d'eux n'est vertical. En partant du sol, un



VICTORIA SQUARE ELEVATION

premier segment franchit environ 11 étages. Il se continue par une série de 4 segments très courts (ce choix a été fait après de nombreuses hésitations), et le pilier se termine par un segment très long, franchissant environ 30 étages, soit environ les 2/3 de la Tour.

Il est remarquable que la pente de ce dernier segment soit dans le même rapport que la diminution de hauteur des étages de mécanique, tels qu'établis par la structure. Il s'agit évidemment d'une coïncidence, mais curieuse (voir figure 3).

Les Fenêtres

La courbure du mur-rideau est très intéressante par sa discrétion. Elle ajoute à la Tour une autre dimension, un caractère d'oeuvre terminée, complète, centrée sur elle-même. Mais ce résultat a nécessité un travail extrêmement compliqué. En effet, *aucune fenêtre n'est exactement la même*. Chaque cadre métallique constitue en réalité une surface rhomboïdale, mais la très légère différence est absorbée par le scellement des vitrages, qui ainsi ont pu être standardisés ainsi que les meneaux qui ont tous une dimension constante. Le mur-rideau est incliné d'environ 24 pouces dans toute sa hauteur, et ce résultat est très sensible.

Il y aurait beaucoup d'autres choses à dire sur cette oeuvre. Les couleurs extrêmement sobres du vitrage et du mur-rideau en aluminium anodisé, couleurs qui se rapprochent de celles du bronze. La franchise des ventilations et des éclairages du hall d'entrée, qui sont simplement exposés sans aucun camouflage ou décor inutiles. La courbure très savante de l'escalier (qui n'est ni une ellipse, ni un ovale, mais deux ellipses reliées entre elles).

Je crois que l'architecture dans sa définition la plus élevée est ici. Un contrôle de tous les instants, une connaissance de la technicité telle que celle-ci devienne un instrument parfaitement accordé, et surtout une sensibilité précise comme la mathématique. Tout n'est peut-être que géométrie, mais une géométrie de la sensibilité.

J. Folch-Ribas

UIA & CAA

Observer's Report by Douglas Shadbolt, MRAIC
Working Sessions Report by Dr Thomas Howarth, FRAIC
RAIC and UIA by Joseph Pettick, MRAIC
Commonwealth Association of Architects, Official Report

UIA

1. Observer's Report

It is only now that articles are beginning to appear on the UIA Congress that I realize that, as an "observer", dutifully representing the organization that sent me, I missed half the fun of the Paris meeting probably by taking it too seriously, even though at the time there appeared to be a great number of deadly serious people about. I attended only the second week during which the formal conference took place, and I gather that most of the real work of the meeting was done the previous week by the several Commissions reviewing their activities of the past two-year period. Figuring out

exactly what was going on was a problem in itself for this one-language Canadian.

As this was my first World Congress, I had not appreciated the immensity of the organizational problems that were involved nor the complexities of registration for such a diverse group. This was rather smoothly organized for those who had completed their pre-registration precisely, but for those of us who had goofed or changed our minds about the options, life became extremely complicated from the beginning. Despite the efforts of a bevy of absolutely gorgeous French girls with their lavish eye make-up and their very sexy version of English, and because of the incredible rudeness of one section of the organization which shall remain nameless, and also because of the bad manners of some of the more volatile delegates of certain foreign countries, registration took long enough for me to miss part of the opening ceremonies. However, at the exact moment I walked into the auditorium a 120-piece military orchestra in full uniform, complete with epaulets and swords, burst forth with the Marseillaise, so I couldn't have missed very much. There followed a series of fifteen-minute speeches, led off by Sir Robert Matthew, interspersed with fifteen-minute selections from this massive orchestra. The poor musicians had to sit on the stage in full view through the speeches and try nobly to hide their collective lack of interest. As I had not picked up my translating machine, I amused myself during the speeches I could not understand by estimating the cost in dollars for the enormous concentration of unused man-power involved in this extravagant ceremony, considering alternately 125 idle musicians at union rates, and a thousand or more professional architects at professional fee rates on somebody or other's expense account ($13,500). Returning after lunch, I was told that there was a Film Festival running concurrently with the Congress and, after wasting an hour trying to find it in the same building, I lolled away the balance of the afternoon watching a series of good and bad architectural films. I was tempted to pack it up there and then, but decided to give it one serious old-school-try, so that with the aid of wife and daughter and a French-English dictionary, I finally doped out the program and appeared on the second day with a renewed determination to take in what was available.

The Conference membership was divided into three groups, each with a particular subject to discuss: (a) General Training, (b) Technical Training, and (c) Plastic Training. There were three things to do —sit in a talk session, sit in a movie in the Film Festival, or go on a visit to a group of buildings around Paris. As there was only the one room equipped with simultaneous translation facilities, all of the groups had to take turns using the major auditorium, so the schedule for any one group prevented the delegates in that group from hearing discussion on any other subject. Having seen the films, I decided that the most fruitful way to find out what was going on would be to stay put in the auditorium to hear the working groups in action from all three divisions of the subject matter. This proved to be an interesting but tiresome and frustrating experience, the latter because of the enormous concentration required to drown out extraneous noises while one is trying to make out the message coming from the bug-in-the-ear, and because, despite the incredible facility of the translators, the resulting translation often was without sense. Architectural lingo is complicated enough in one's own language and meanings are often none too clear.

When one is confronted with the words "plastic" or "plastic expression" as a translation from French in a context that one vaguely recognizes as being a discussion of the subject of design, one begins to wonder what it is we are talking about. (Perhaps we should ask some of our more erudite bilingual architectural historians whether architectural jargon in the French language is so rooted in the Beaux Arts formalistic architectural theories that there is no equivalent for the "design-as-process" notions of current architectural thought in some English-speaking and other countries.) Apparently I was not alone in my difficulties, judging from the number in attendance at the later sessions. Several of the delegates I spoke to indicated that they would wait for the written translations in the hope that someone would have edited them down. What I got for my trouble, then, was a series of formalized speeches, prepared papers that were read. The rather stiff format prevented the possibility of any spontaneous discussions from the floor but it presented a fascinating opportunity to study national character and to get some insights into the enormously different context in which ideas about architectural education are being considered. For me the greatest surprise came with the discovery of the enormous influence that the Beaux Arts architectural theories and methodology in architectural education have had and are still having on matters of architectural education around the world, particularly in France, eastern Europe, Russia and the Latin American countries.

While the political differences between countries were not directly reflected in the UIA nevertheless it had some of the quality of a miniature UN. The two major power blocks consist of the RIBA with the Commonwealth Group, and the French group with its strong Beaux Arts orientation. It is obvious also that the UIA is seen as a different vehicle by different groups; for example it was obvious that a good number of countries were interested in having the UIA put through resolutions that could be used in their own political context to lever their governments into supporting certain attitudes about the architectural profession or providing facilities for architectural education. This resulted in obvious "politicking" from the rostrum, and formalized speeches read into the proceedings that were irrelevant to the debate, wasting everyone's time except the protagonist's.

The British group, which I feel is giving the major leadership to the UIA, seems to be concerned with providing professional architects for the vast unsolved building problems of the world and they seem to have some real insights into the magnitude of the problem and how to go about it. (The enormous prestige which the RIBA enjoys in Britain is certainly the envy of all the national groups, and their methods of achieving it in the last ten years is an object lesson worthy of study.) Their interest in architectural education seems principally to place great emphasis on professionalism, on higher and higher professional standards of performance, and a purging of the amateur element in architectural education. They want more direct involvement of students in building matters, better and more integrated technical education, more responsible programming and program analysis, and less and less emphasis on "art"-oriented design programs. One British delegate went so far as to say that he was shocked and surprised to hear so much debate from the French group over the word "plastic" as he had thought this emphasis had been replaced in architectural education in the 20's.

If I heard the translation correctly, the French block seems to place heavy emphasis on the individual formal (plastic?) training of the architect, that is, they are very concerned with compositional training, design in the grand manner, and one feels the heavy emphasis on the role of the architect as the great form-giver in society. From this group one hears much less about technical training, teamwork or professionalism. However, there was one very interesting paper read on efforts of a group of architects in the south of France which has been making a concerted effort to organize professionally in the public interest.

The Russian and American groups provided some interesting sidelights on the other two. The Russians placed great emphasis on space-age technology and the resulting need for understanding industrialized society, etc., and they placed great emphasis on inclusion of town planning and large-scale development in the training of the architect. On the other hand, when they talked about so-called "plastic training", the language as it came through suggested that they were very much in the grip of the Beaux Arts thinking. The American delegate whom I heard seemed to stress comprehensiveness in general education, and suggested the need for design training at the secondary high school level. His concern in the university phase was with teaching of systems, analytical method, and process thinking rather than pushing for immediately applicable results as the British seem to be doing. (As my own prejudices run in this direction, I naturally found this to be the most significant contribution.)

While the debate went on from the delegates of the large power blocks in the general direction outlined above, comments from the smaller countries shed light on other kinds of problems. Some of the Latin Americans seem to identify different design philosophies with certain political ideologies, and I got the distinct impression that the schools were divided into studios according to the political-philosophical views of the studio master. Left and Right would really mean something in such a school! More seriously, a rather passionate and dedicated group from Pakistan voiced yet another problem with the unbelievable statistic that their country had 25 architects to 100,000,000 people. Theirs was a plea for HELP which suggested that perhaps the basic division of the subject matter for the whole Congress missed the point of what the urgent problems facing the delegate groups really were.

Well, after sitting through a day and a half of these ponderous statements, it was very interesting to go over to the Beaux Arts School to see an enormous exhibition of the work of the architectural schools from around the world, organized by countries. Each country had produced a panel which summarized the position of architectural education in it, and explained the basic format of that education. The content was illustrated by student projects. This was a fascinating exhibition and merited more study than I was able to give it. While the verbal barrage of the previous day and a half suggested that there are pretty fundamental basic differences in philosophies between the work in different countries, the graphic material suggests a higher degree of agreement than perhaps exists. All the schools seem to agree, for example, that the incoming student needs some kind of visual formal training, that in the ensuing years there is a balance between problem analysis, historical background and theory, design and technique. These kinds of comparisons, of course, are extremely difficult to make without visiting the school itself because they are influenced to such an extent by the staff-student ratio, and the attitudes of the particular staff involved. The Swiss-display, beautiful as one would expect with superb graphics, involved a complete explanation of the continuity between technological training in architecture and the equivalent of our university Schools of Architecture. The Russian display was large and revealed the very strong Beaux Arts influence in the compositional devices and drawing techniques used. The United States' exhibit was an amalgam of the work of five schools picked from the ACSA, but it was condensed to the point where it did not really put its point across, which was rather disappointing. Of course, Canada was missing except for a small exhibit of student work from the University of Toronto.

And for that matter, why wasn't our Canadian delegation heard from? Tom Howarth gave a short resume of the method of architectural education in Canada and the facilities provided but, aside from that, I believe there was not one other comment from the Canadian group. I understand that Canada joined the UIA earlier only this past year but I am extremely disappointed that no concerted effort was made to make our presence felt. It seems to me that, with our strong Commonwealth position, we are in a position to give some real leadership to the developing countries. In this particular case, in terms of architectural education we could have made a significant contribution. I realize in saying this that I have to assume one-seventh of the responsibility as a Head of one of the architectural schools in Canada; but, aside from the circulation and some discussion of a rather vague questionnaire a year ago, there was no hint that we could play an important role at the UIA Congress nor any suggestions in our discussions with the RAIC executive that we should. It seems to me that over the next year or so the RAIC and the schools should get together and discuss just what Canada's role in the UIA should be, and take steps to establish suitable budgets to enable us to take a responsible and aggressive position.

At the London and Mexico meetings of the UIA, over the past few years, Buckminster Fuller came out with his great concept of a "World Design Decade" proposing the mobilization of the architectural students of the world to take an inventory of the position and state of development and to pinpoint the major problems of the world in architectural terms. I gather that while his idea was accepted in principle in diluted form, that the component members of the UIA and their architectural schools have had great difficulty in working out a suitable method by which Fuller's ideas could be realized, and that his support has been minimal. There was an exhibition of this work prepared for this Congress by Fuller and student volunteers which attempted to summarize the information collected to date. I got the feeling of a rift between the "action-oriented" group led by Fuller and the more ponderous "world architectural Establishment" that appears to dominate the UIA. Unfortunately, I missed the Fuller exhibit and so I am not able to report on it first hand.

Well, when I said I missed the fun, I was referring to the fact that I did not participate in the social affairs of the Congress, but that is my own fault. I did not hear too much about them, but I got the impression that there were champagne parties, garden parties, and sophisticated soirees going on all over Paris in the most elegant and grand style at the homes of the French architects. Paris would certainly be the perfect setting for such entertainments. Perhaps next time, in Prague, I can get a little more involved.

Douglas Shadbolt

UIA

2. Working Sessions Report

The following are excerpts from a report made by Dr T. Howarth who acted as an observer for the RAIC.

The organization of a World Congress, and the ordering of debate so that many national groups, delegations, and individuals may have a voice, is an operation of indescribable complexity, and one must admire the skill and devotion of those who plan and direct such a program successfully.

The subject of architectural education is a popular and important one these days, and a great deal of preliminary work had been done by standing committees and national groups during the interval between the congress in Havana and the Paris assembly. Unfortunately their excellent publications did not reach many of us in time for detailed study before we participated in the work sessions. Most of the issues raised, however, were familiar to those who have been deeply involved in education—although they may well have been new to the practitioners who do not teach—and the universality of our problems, and the difficulty of finding adequate solutions, was at once reassuring and challenging.

I attended eight of the nine working sessions and the following notes will give an impression of the range and substance of topics discussed.

Statements of a general nature culled from many sources were used by way of introduction, for example:

—architectural education should be concerned with the basic understanding of society and cultural development; this will range from literary and historical sources to the sciences that increase our knowledge of the human environment.

—the *manner* in which education is dispensed is more important than its basic subject matter.

—the student should be encouraged to develop his personality without "falling into the temptation of egoism and pride".

—emphasis should be placed on the acquisition of basic knowledge so that architects may participate intelligently in a dialogue with the technician and scientist.

—the need for some form of international licensing to practice was recognized although the difficulties were fully appreciated.

—the necessity for more post-graduate research on architecture and urban design was stressed repeatedly.

—refresher or "recycling" courses, especially in technical subjects and in matters relative to our knowledge of man and society are urgently needed everywhere (a Russian speaker said that his government is setting up refresher courses in many subjects, and in their experience such courses need to be of six months' duration if they are to be effective). The UIA was urged to establish international courses, especially in town and city planning.

The Third World

During the discussion the most dramatic intervention (which the chairman permitted to cut across the agreed limitations of time) was by a spokesman for *The Third World*—Africa, and the Middle and Far East—that great emerging force which we had already encountered in our Commonwealth Association deliberations at Malta. Stress was laid on the social problems of these countries, on their desperate need for help in the education and training of architects and technicians. Such is the speed of urbanization, we were told, that The Third World has no time for frills and niceties, its needs are basic and urgent if even minimum standards of living and human comfort are to be established and maintained. In such a situation the architect must be prepared to make far reaching decisions on a wide range of social and planning problems in addition to those of building. "Exhibitionism" said the speaker, "has no place in the developing countries".

The system of "twinning" developed in the United Kingdom is one positive contribution which merits extension internationally. By this system a well established school, and one in a developing country agree to close liaison by way of staff and student exchanges, etc. So far this system has worked successfully between the Architectural Association in London and Kumasi University, Ghana; and between Liverpool University and the school at Nairobi. It could be extended rapidly throughout the Commonwealth and beyond if financial support were available, and the recent assemblies at Malta and Paris have provided your Observer with an opportunity for informal discussions on Canadian participation.

—teaching cannot create imagination, perception, and sensitivity, but it is the duty of the teacher to awaken, sharpen and develop these qualities in his students.

The following points emerged from a study of the three areas allocated to the panellists—Before, During and After the educational process.

Before

—"the opinion of men must be formed at school" and the design of the school itself can have a major influence on the child.

—in an age when architects work increasingly for the public rather than for an elite it should be essential to introduce some architectural content into elementary and high school programs.

—communication media—films, lectures, publications, etc., should be exploited for the education of the public.

—vocational guidance, aptitude testing and other selection methods should be major factors in ensuring the success of architectural education at university level. (Dr Abercrombie of London University and your Observer both contributed to the panel discussion of this subject).

During

—a school of architecture appears to have the essential mission of giving an aesthetic, technical and humanistic training to students who have previously acquired an adequate general education.

—it is now recognized that, generally speaking, the architect is inadequately educated in the liberal arts and humanities fields.

—team work, and the resolution of "Problems on an ever vaster scale" and "the architecture of vast urban complexes" should form an important part of the students curriculum.

—some knowledge of the human sciences must be acquired so that the architect may be able to converse intelligently with his colleagues and clients in other disciplines. (Now that international problems are becoming so important it was regretted that a foreign language was no longer mandatory in many schools of architecture.)

After

—there is wide recognition of the need for a substantial period of organized professional experience after graduation and before licensing.

The citizens of The Third World have much to teach us and, with all our sophistication, we have much to learn.

Although the official Canadian delegation did not participate in the working sessions your Observer presented a paper on architectural education and registration in Canada which was circulated. He used his time as a panellist to say something about the general situation in this country as well as to discuss the more specific subject of selection for professional education. On the last day it was possible to contribute again, this time on recent developments in audio-visual aids to teaching architecture, and the use of the computer as a design tool for architects, engineers and planners. The importance of new technical developments in assessing the performance of buildings, and predetermining environmental and comfort standards was also stressed.

Another Canadian contribution came from Professor Stanley Kent of the University of Toronto, who strongly advocated greater professional recognition for the architectural technologist and research worker. Behind the scenes, Peter Collins of McGill University used his diplomatic skill and linguistic gifts to make smoother and more effective the work of the high administrative officers.

Through the intellectual stock-taking that follows inevitably upon such a conference one attempts to assess the value of participation on a national as well as on a personal basis. The advantages of membership of the IUA are as obvious, and the benefits as elusive as those of membership in any other great international organization that has noble ideals but little power, distinguished sponsorship but little money, and dedicated workers but too little continuing collaboration.

Participation permits us to observe the attempts of others to solve universal problems; to contribute our own experience in the hope that others will listen and learn from our achievements and mistakes; to share in the pooling of new information and challenging ideas; to understand the needs of others and by understanding, approach more closely to that concept of universal brotherhood that is implicit in all such organizations. We cannot escape the fact that the future of the Third World in terms of education, human environment, and personal dignity should be as much our concern as the resolution of our own local and provincial problems which by comparison, seem insignificant indeed.

Thomas Howarth

UIA

3. RAIC and UIA

Commenting on RAIC *participation in the Paris Congress of the* UIA, *Joseph Pettick, of Regina, Chairman of the* RAIC *Committee on International Relations and leader of the Canadian delegation to Paris, said:*

Throughout the year previous to the Paris Congress we made a number of appeals for active participation in the UIA activities. We wrote to each School of Architecture in Canada and invited active participation in the Congress by the heads of the Canadian schools of architecture. Since the conference working session dealt primarily with this field of activity we directed our appeal for participation to the Canadian schools of architecture. The Canadian schools have a very high standing on the international front and we were particularly anxious to receive assistance from those responsible for administering the courses of study. Dr Thomas Howarth, Director of the School of Architecture at Toronto University, presented a paper at the Congress, which was very well received by the participants in the working sessions.

We were successful in bringing about the appointment of Peter Dobush, FRAIC, Montreal, to the UIA Commission on Housing. Negotiations are under way at present to increase Canadian participation on two other key commissions relating to the Practice of the Profession and Architectural Education.

A tremendous amount of work is carried out through the year involving direct liaison between members of the various working commissions, the UIA Executive, and myself. Information is constantly being transmitted relating to special conferences, exhibitions and seminars. Currently five such activities are being organized which will take place within the next two years.

The RAIC has been asked to participate actively in an International Colloquium and Exhibition of Museum Architecture to be held in Montreal in 1967. While in Paris we conferred with the agency of Unesco responsible for organizing this International seminar.

The Japan Architects Association has been actively engaged in a program to place young talented Japanese architectural students into training in Canadian offices. You may recall that an appeal has been made in the form of newsletter reports from the Executive Director's office regarding this item. In the future we would appreciate the *Journal*'s more active promotion of this particular type of program.

With reference to exhibits displayed in Paris, no invitation to participate in this phase of the UIA Congress was received. Exhibits which were on display were prepared by the schools of architecture in a number of member countries. During the last Congress, which was held in Cuba, a very good display was prepared by our section, with the final assistance, and active participation of Central Mortgage and Housing Corporation in Ottawa. Funds are not readily available through the RAIC for preparation of this type of exhibition material. It therefore rests with the individual member or group of members to financially support the preparation of these displays.

I hope that the UIA Congress in Prague, Czechoslovakia will receive the enthusiastic support of the RAIC *Journal*, and that we may obtain your assistance in promoting more active participation as the Congress draws near.

I heartily endorse Professor Shadbolt's comment regarding the establishment of suitable budgets to enable us to take a more responsible and aggressive position in UIA work. Keen interest in this particular field of activity has brought about our attendance and participation in the past three Congresses of the UIA. Canadian architects who have attended these meetings have done so at their own cost, and will probably continue to do so in the future. We strongly believe that some financial assistance should be provided by the membership at large, ensuring that exhibition material and other special project costs will not be a deterrent to participation in these activities.

Joseph Pettick

CAA

Official Report

General Purposes and Achievements of Conference

The first Conference of the Commonwealth Association of Architects was held in Malta from 24th to 29th June, 1965. Eighteen societies were represented by thirty-three delegates and observers. Canadian Delegates were Dr Thomas Howarth (*F*), and John Lovatt Davies (*F*) who was a member of the Steering Committee. Mr Davies subsequently was elected to the Executive Committee. The Conference approved its Articles of Association which included the following statement of purposes:

(*a*) mutual support in professional matters, in registration requirements, in technical aid and the raising of standards of professional service;

(*b*) the establishment and sustaining of codes of professional conduct;

(*c*) the furtherance of the inter-recognition of qualifications between member societies;

(*d*) the evaluation of educational standards in schools of architecture and of standards of qualification;

(*e*) the provision of a clearing house of information and advice on architectural practice, management and techniques, the recruitment and exchange of teaching staff, all forms of collaboration between architectural schools at undergraduate and research level, courses and syllabuses;

(*f*) collaboration with the International Union of Architects and other international organisations on matters of mutual interest;

(*g*) such other purposes as from time to time may be considered desirable by the Association.

The Conference set itself the aim of making substantial progress in the next few years towards achieving inter-recognition of architectural qualifications. Differing standards of education within the Commonwealth often arise from differences in the stages of development. The aim of the Association in promoting inter-recognition is to raise standards where necessary, to give the member societies in those countries a target to aim at, and to foster freer movement of architects from one country to another, and even within the same country. A major step in the realisation of these aims would be the establishment of academic standards which could be recognised by all member societies and, in turn, by their registration authorities. The founding conference in 1963 already adopted the RIBA Final standard as the yardstick, and this has been confirmed by the present conference. The problem, however, is how to establish machinery for determining whether this standard has been achieved by architectural schools. In promoting inter-recognition member societies should emphasise with the authorities in their countries the public interest in such developments.

The Conference therefore agreed:

(*a*) to establish and support a *Commonwealth Board of Architectural Education* as a Committee of the Association with the object of raising and maintaining the highest standards of professional service;
(*b*) the Board should have the power to set standards of professional education acceptable for recognition by member societies of the Association;
(*c*) the Board should establish machinery for the recognition of architectural schools, this recognition to be reviewed periodically;
(*d*) the main instrument of the Board for recognition should be a system of visiting panels appointed by the Board to visit schools and to report back to the Board;
(*e*) the Board should also be in a position to give advice to member societies and other parties on the establishment and recognition of schools and on any other matters relating to architectural education;
(*f*) the Board should act in conjunction with member societies in evaluating standards for those schools in their area which aim at recognition by the CAA. This did not mean that they might not also have recognition machinery of their own for their own schools. There was no intention of interfering with the internal arrangements of member societies;
(*g*) the Board should investigate the educational needs of various countries and the technical aid required.

Staffing Problems

Information supplied by Conference members confirmed that the shortage of competent teaching staff was one of the major problems in architectural education, and called for urgent remedial measures. The Conference felt that the following action was required:

(*a*) provision of funds to underwrite the movement of teachers to and from the developing countries on a more generous scale;
(*b*) the establishment of realistic financial terms and conditions for teachers who serve overseas;
(*c*) firm arrangements (which were already reported to exist in the UK) that teachers who go overseas under technical assistance schemes are assured of continuity of employment on their return to their own country, so that overseas service is regarded as a step and not a hindrance in their careers;
(*d*) coordination at national and international levels in the work of Technical Agencies, providing aid whose activities at present lead to waste and duplication;
(*e*) encouraging and even requiring architects engaged in teaching also to practise their profession or to undertake research, possibly for second degrees;
(*f*) offering more opportunity to teachers of architecture to put experimental ideas into practice;
(*g*) fuller use of audio visual aids;
(*h*) circulation of information on teacher training schemes.

Availability of Scholarships and Other Forms of Aid

The Conference was disturbed by the fact that few postgraduate grants under the Commonwealth Scholarship and Fellowship scheme had so far gone to architects, possibly because their availability was not widely enough known. The Conference agreed that information on all postgraduate courses, fellowships and other financial aid should be assembled and made available to member societies. This information should distinguish between:
(*a*) aid available only on direct application to Governments;
(*b*) aid available from one school to another through the Inter-University Council or by direct approach; and
(*c*) aid available from any other agency, such as UN or foundations.

Basic Educational Requirements for entry

The 1965 recommendations on the basic educational requirements for a student embarking on an architectural course were reaffirmed. The present flexibility and breadth without detailed conditions as to subjects offered from school examination certificates should be retained. It was agreed that the Association should, however, take up with education authorities, possibly in conjunction with other professional bodies, the need for some

agreed table of equivalence between school leaving examinations in different countries so as to remove what was often a vexatious disability to a student going outside his own country on a course.

Selection Methods
Selection methods and processes among applicants varied considerably but were of particular value in tempering any rigidity in entry requirements. It was not however within the knowledge of delegates that schools had attempted a follow-up evaluation between the subsequent performance of the student and the factors governing selection. Such investigations should be made.
Member Societies were advised that they should also try to recruit the best type of entrant to the profession by meeting parents, career advisers and pupils in secondary schools so as to explain the value and nature of the architectural career. Ignorance about it was widespread and action on these lines had paid handsomely in certain countries.

Urban Design and Landscape Architecture
The Conference laid stress on the importance of all architects having a basic education in urban design and landscape architecture. These should be an integral part of the course to enable them to design buildings in their context, and to contribute as architects to the work of design teams in urban and rural areas. They should also have the opportunity for subsequent specialised study in postgraduate courses in urban design and landscape architecture. While some architectural schools provide a basic education in these subjects, many do not

Management
The Conference emphasised the importance of Management Education as an integral part of the undergraduate course as well as special courses immediately prior to qualification. It was given examples of work being done including an interesting scheme at the University of Hong Kong where the various aspects of management were dealt with over the full five years.

Specialisation
A five-year undergraduate course should provide an opportunity for a degree of specialisation in a subject of the student's choice appropriate to the needs of his country, and provided it is not to the detriment of the course. Architect specialists, who are experts in particular fields, should emerge from postgraduate courses and specialisation in architectural practice.

Joint Education
Many countries were beginning to develop courses which provided for some joint training with other members of the building team. The examples of Ghana, Hong Kong, East Africa and Malta were cited. The pattern of the courses varied, but they often provided a common first year for architects, builders, building technologists and quantity surveyors. Integration of education with engineers had not advanced so far, because it was more difficult to establish common ground.
The common first year should be distinguished from the preliminary first year required to bring students up to matriculation standard.
It was agreed that these developments were highly desirable and should be encouraged. The Association should be asked to obtain and circulate information about these developments to member societies.

Books and Equipment
The Commonwealth Board of Architectural Education should be in a position to advise schools and institutes on the purchase of books and equipment and funds available for help in supplementing supplies.
The Association should gather together essential information on the value of architectural degrees in different countries including English speaking countries not represented in the Association.
The Conference had in mind the difficulties in relating degree standards to the professional Intermediate and Final stages. The Conference was concerned by difficulties which could arise from the interpretation of standards of qualification and considered it to be important that the degree structure of a University course should present a clear picture of a student's attainments and, where appropriate, of his capacity to work as a qualified architect. In particular there should be no attempt to devalue the recognised standing of degrees by the award of a lower degree to students who have failed at a higher degree level. The Conference recognised, however, that the skilled manpower resources represented by students who have failed to achieve the professional level should not be wasted, but used to the fullest extent at a non-professional level, and considered that further thought should be given to the definition of their educational attainments.
The need for technicians was accepted and it was agreed that architects should take the lead in setting up appropriate training facilities.

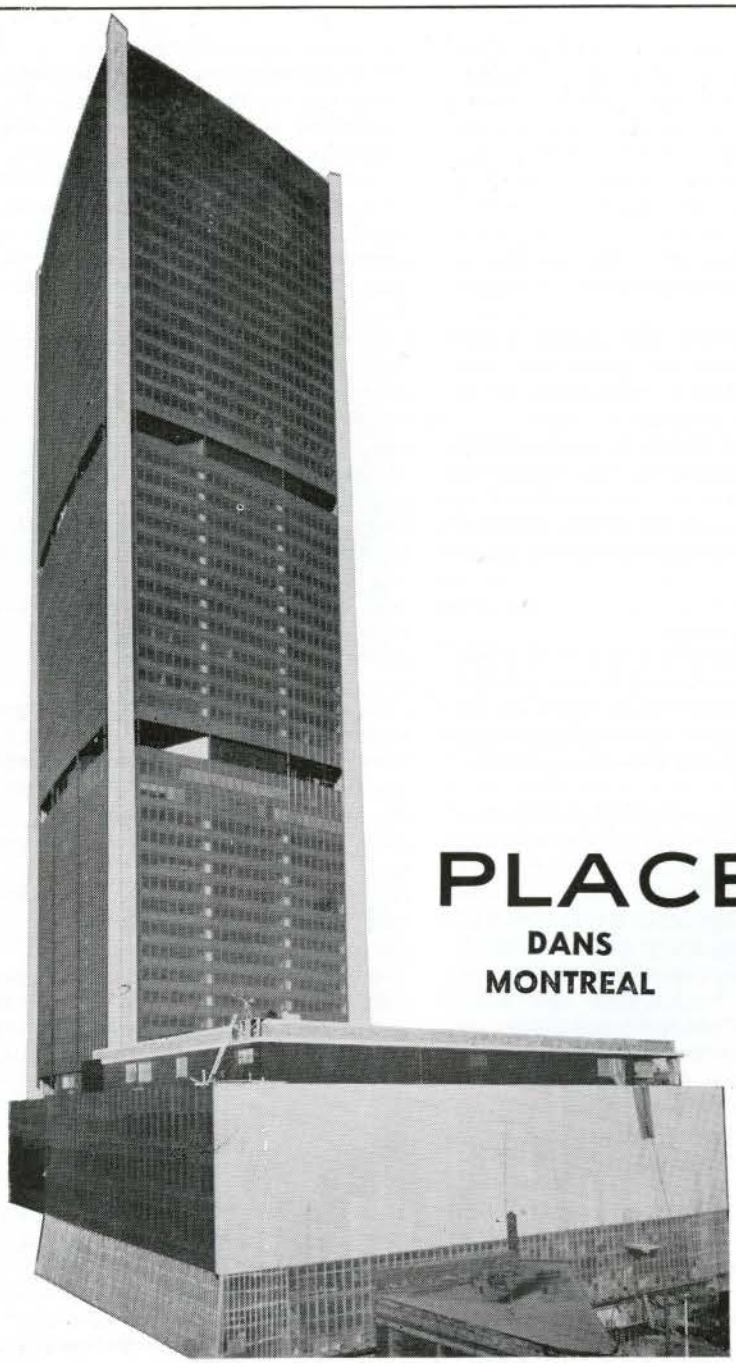
Indigenous Traditions
Indigenous traditions and methods should be respected in courses of architectural education.

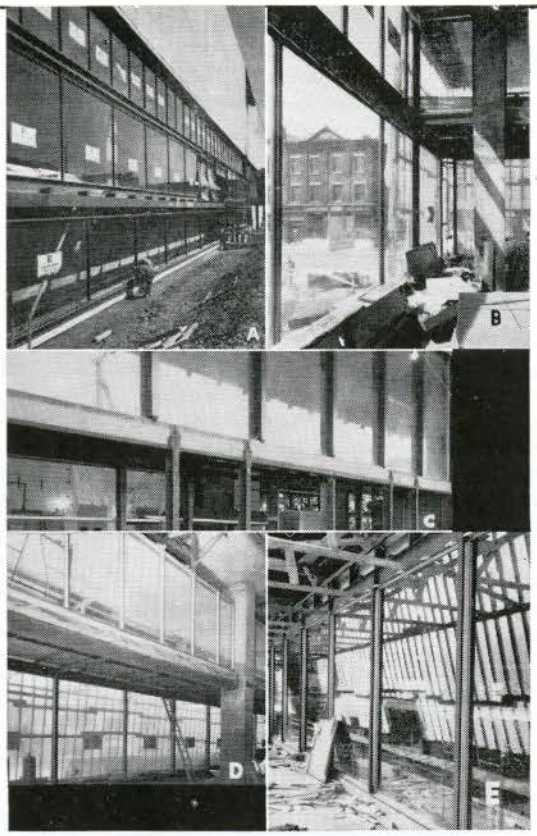
Student Participation
Student participation in the organisation of courses was recommended.
The Conference discussed the Professional Practice and Practical Experience Examinations and came to the following conclusions:
(*a*) while there are differences in local requirements the Conference recommended that the aim should be to increase the common elements in the final Professional Practice and Practical Experience Examinations;
(*b*) the Conference confirmed its previous recommendation that courses of education and training should include two years of practical experience, at least one year of this to be in the later stages of the academic course and one year after the course. It was glad to note that many countries are implementing this recommendation, and that the use of a Log Book as a guide and record of practical experience was now widespread;
(*c*) it drew attention to the necessity of giving notice to students of changes in requirements;
(*d*) it was important to include management studies both as an integral part of the undergraduate course and in preparation for the Professional Practice and Practical Experience Examinations, so as to improve the professional competence of the architect;
(*e*) arrangements for students to undertake practical training in other countries was to be encouraged.
The Conference emphasised the importance of member societies taking a close and continuous interest in the problems of architectural schools. It considered that the professional bodies are responsible for the professional training of architects.

Registration
The Conference considered that legislation for the registration of architects, acceptable to the local member's society should be enacted in all member countries which at present have no registration Acts, both for the protection of the public and to ensure good architectural standards.

Venue and Date of Next Conference
It was decided to hold the next Conference at Delhi in 1967. The precise date and subject matter were referred to the Executive Committee and the main subject would be the Role and Status of the Architect.

Elections
The following elections were made:
President: Professor Sir Robert Matthew;
Executive Committee: J. R. Bhalla (India); M. Collard (Australia); J. Lovatt Davies (Canada); Prof. A. Ling (United Kingdom); Oluwole Olumuyiwa (Nigeria). J. R. Bhalla was subsequently elected Vice-President by the Committee and Prof. A. Ling Honorary Treasurer.





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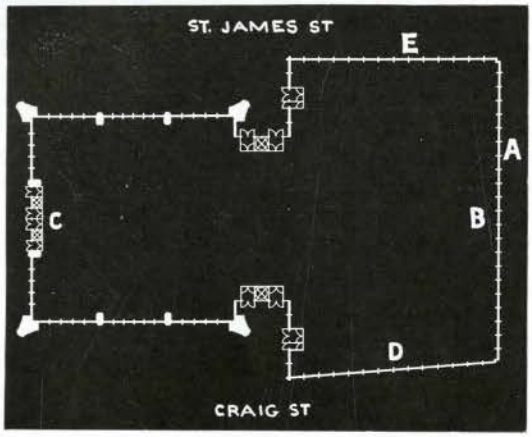

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Technical Column

Edited by Douglas H. Lee

New Developments in Structural Ceramics

by Dr. P. T. Mikluchin, P.Eng., MEIC

For many years ceramic clay products in various forms—brick—tile, etc. were the principal materials used in the construction of buildings and other structures. At the turn of the Century, many new building materials, including steel and concrete, were introduced to the building scene, and for many types of buildings they largely replaced clay products for providing structural rigidity. For many of the larger and higher structures, clay products were used in the manner of a curtain only and not as a structural or load-bearing material.

Lately, there has been a return to the use of ceramic units for structural and other architectural purposes, and this has resulted in many buildings which possess aesthetic merit as well as construction and economic advantages.

Recent Trends

Recent developments in the field of structural ceramics have attracted the attentions of architects and engineers throughout the world. In Switzerland, an 18-storey apartment building was erected in 1957, which used hard clay brick entirely for its structural support. The brick had an ultimate compressive strength of 8000 psi and the mortar 3000 psi. Exterior walls were 15″ thick and the interior walls were 7″ thick.

In 1961 in the same country a number of 14-storey apartment buildings were erected, using exterior load-bearing brick walls only 8″ thick and interior walls 6″ thick. In South America and Mexico, churches, factories, offices, schools, hotels and apartment buildings have been built using ceramic units in a wide variety of structural forms, including tall thin bearing walls, shells, domes, and other curved structures. In the U.K., Scandinavia and the U.S., clay brick and other ceramic units have been used in a variety of ways to fulfill the structural and architectural requirements of buildings ranging from 12 to 15 storey towers to large institutional and commercial projects. In Canada, too, a number of major buildings utilizing such techniques of structural ceramics have been designed and will soon be erected. What is responsible for this? Traditionally, structural ceramic products were used in the manner of a hand-crafted or trade material. It was not considered to be a material of engineering and subsequently was not worthy of the scientific design and analysis as have been steel, concrete, and even wood. The realization of this fact by the ceramic industry resulted in a great deal of theoretical and experimental research on the part of the industry to document the properties of the old material, to develop new materials and to discover new techniques of utilizing both the old and the new. These efforts have resulted in the following developments:

(a) The creation of a rigorous theory of design based upon the knowledge derived from experimentation.
(b) The manufacture of many new ceramic materials.
(c) The development and improvement of construction techniques.
(d) The codification of new, theoretical and experimental knowledge.

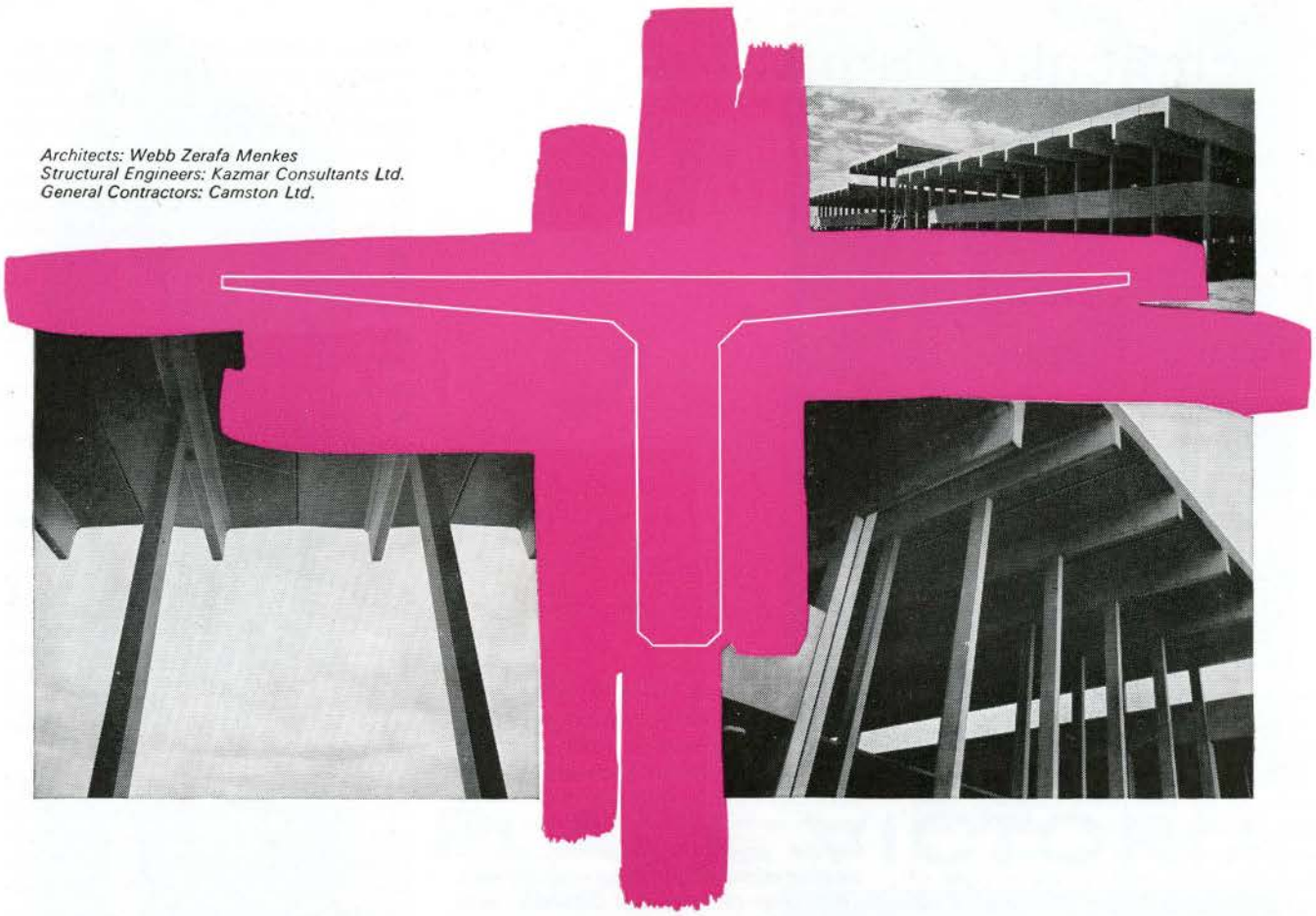
(a) A modern design theory for the structural design and analysis of clay structures is derived from the study of and experimentation on the elastic and plastic behaviors of ceramic materials. As a result, design theories are now established to include the consideration of simple and continuous beams, deep beams, columns and other linear elements of structural ceramics. Current theoretical methods also enable the rational design and analysis of structural plates, slabs, shells, domes and other such three-dimensional space structures. New theories also enable consideration of building problems associated with wind, tornadoes, earthquake and other dynamic forces. Recently particular attention has been given to the design of prestressed ceramic structures utilizing post-tensioning techniques.

(b) Parallel to the development of the new theories has been the manufacture of new ceramic products. Besides a consideration of new sizes (smaller sizes, similar to face brick—intermediate sizes, similar to structural clay tile—larger sizes, 12″–24″ wide and 12 feet in height), new developments in texture, colours and strength have been achieved. Strengths of structural ceramic units now range from 5000 psi to 25000 psi. Developments have also taken place in related materials, e.g. mortar (high bond), grout (high strength), reinforcement (prestressing).

(c) With the development of design theories and the new materials have come new and improved construction techniques. There is now a trend to change from skeleton construction to load-bearing structural walls in multi-storey buildings to make better use of the high strengths of ceramic products and the other improved materials. High-strength grout and reinforcing enables new structural assemblies. Today, besides plain masonry we have reinforced masonry, reinforced grouted masonry, and prestressed masonry. These can be carried out in a prefabricated or on-site manner. Mechanical developments in construction include new cranes, scaffoldings, magnetic levels, prefabricated assemblies and new material handling equipment.
(d) The codification of the new developments in structural ceramics has resulted in a new confidence in this material. This confidence is reflected in the requirements of the new edition of the National Building Code of Canada to be published later this year.

Economics of Structural Ceramics Construction

It is recognized that steel and reinforced concrete have been very successful in meeting the structural requirements of many framed structures. At the same time it must be pointed out that there is a large class of buildings in which the requirement of fixed repetitive interior partitions makes it possible to build the structures without frameworks of beams and columns. This can be done by utilizing the potential structural participation of all walls acting as vertical diaphragms. Such vertical diaphragms,



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when designed to act jointly with floors and roofs (horizontal diaphragms) are extremely effective in resisting not only gravity forces but also lateral forces. The high stress concentrations at beam-to-column connections and in the columns themselves, can be avoided by using the racking resistance of vertical walls.

It is clear that the structural requirements are less demanding when transferring stresses from horizontal elements of the structure to the foundations through bearing walls than they are with skeleton-framed structures.

The writer considers the cost of structural ceramic building in the following manner: If the cost of 6″ load-bearing wall construction for 6–10 storey buildings is assumed to be 100%, then 8″ load-bearing wall construction will be 105%, concrete frame construction 108% and steel frame construction 112%. As far as the walls themselves are concerned, it is the writer's experience that in comparing the relative ultimate costs of one square foot of wall for masonry, metal panels and double plate glass, their respective relative costs are 100%, 180% and 405%. In view of the foregoing, there would appear to be considerable merit in the use of ceramic construction materials in structural ways that they have never been used before. In the light of proposed changes to building codes in this country, increased use of structural ceramic work is indicated.

(*continued from page 11*)

WOOD DESIGN AWARDS

The Department of Industry and the Canadian Wood Council are co-sponsoring, in co-operation with the National Design Council, a Wood Design Awards Program for six categories of wood structures.

Awards will be made to registered Canadian architects and engineers who have designed buildings and bridges of outstanding merit. They will be granted on the basis of excellence of design, as well as the best use of wood as a structural material. Awards categories comprise commercial buildings, recreational buildings, single-unit dwellings and residential subdivisions, bridges, schools and churches.

The awards jury consists of: Roger D'Astous, MIRAC, Montreal; C. E. Pratt, FRAIC, Vancouver; J. W. Strutt, FRAIC, Ottawa; Carson F. Morrison, P.Eng., Toronto, and Claude Robillard, Eng., Montreal.

Winning designers will also be presented with a suitably inscribed replica of a work being executed for the awards program at an awards ceremony to be held in April, 1966. Owners, general contractors and fabricators of winning structures, will receive certificates in recognition of their contributions. In addition, owners of the winning structures, are to receive suitably inscribed plaques.

The final date for receipt of notice of intention is October 25th, 1965; and for receipt of preliminary submissions, November 15th, 1965. An awards banquet will take place in Ottawa on April 18th, 1966.

Further information may be obtained by writing the National Design Council, c/o Department of Industry, Ottawa, Ontario.

AIA, PRINCETON PIONER RESEARCH

The AIA has contracted with Princeton University for a study of educational programs that will better prepare the architectural profession for its expanding national role in design of the total physical environment. The Board has appropriated $100,000 for the initial 18-month phase which will involve testing of new educational approaches and curricula by a cross section of the professional schools of architecture.

Directors of the study will be Robert L. Geddes, dean of Princeton's School of Architecture, and Bernard P. Spring, senior research architect at Princeton.

The new programs will be developed in the participating schools and will be reviewed by leaders in architecture, education, engineering and behavioral sciences. Emphasis will be on educational methods which will lead to development of more reliable and creative environmental design procedures—including more effective techniques of stating and solving design problems and of evaluating building performance.

The project will also study the relationship between education, architecture, and related fields devoted to creation of the human environment; methods of professional internship, and continuing education for practitioners. Recommended by AIA's Commission on Education and Research, the project is endorsed by the Association of Collegiate Schools of Architecture.

1965 TOURIST ACCOMMODATION AWARDS

The OAA, with the co-operation of the Ontario Department of Tourism and Information, will again present design awards for outstanding buildings which are of particular importance to the tourist industry in Ontario. Again, the jury will consist of Alexander B. Leman, Toronto; James E. Secord, St. Catharines; E. H. Zeidler, Toronto; William E. Carruthers, Toronto and T. G. Clarke of the Ontario Department of Tourism and Information.

Awards will be in the form of an OAA Design Award Certificate, suitable for framing, and will be presented to the owners of the winning buildings with commendation to the Architects responsible.

Members of the OAA who have designed buildings in any of the five categories (*1* Hotels and motels of 50 bedrooms and up; *2* Hotels and motels of 49 bedrooms and under; *3* Restaurants and cocktail lounges; *4* Cottages and ski chalets; *5* Miscellaneous), are invited to submit photographs, plans and other descriptive information sufficient to clearly describe the nature and character of the project and its relationship to its immediate surroundings. The jury will give first consideration to those projects completed within the past two years.

Submissions should be forwarded to William E. Carruthers, Ontario Association of Architects, 50 Park Road, Toronto, not later than November 15, 1965.

REGISTRATIONS

The following three new members have joined the Nova Scotia Association of Architects:

Mr George A. Halse, 1580 Barrington Street, Halifax, Nova Scotia.

Mr Tomasz Januszewski, c/o Project Planning Associates Limited, 6252 Quinpool Road, Halifax, N.S.

Mr Henno Sillaste, 5059 Spring Garden Road, Halifax, N.S.

Practice Notes

Philippine Architect with 12 years experience in the practice seeks a position with an architectural firm in Canada. Hopes to register in Canada after the required period. Reply E. C. Francisco, LPA, P.O. Box 3961, Manila.

Assistant architect from England with experience in England and Germany desires a position in Canada. Reply Alan Luty, 63 High St, Knaresborough, Yorkshire, England.

Experienced British architect wishes employment in Ontario. Has handled commercial and industrial contracts throughout the British Isles. Reply John Howell, 64 Wick Hall, Hove 2, Sussex.

Architectural graduate from Bombay University with experience in India and England wishes to secure a position in Canada. Reply Shashikant Yeshavant Washikar, 9 Forres Gardens, London N.W. 11.

Recent graduate from University of Hong Kong seeks a position with an architectural firm in Ontario. Reply Au Yeung Wing-sang, 315 Prince Edward Road, Flat 2, 2nd Floor, Kowloon, Hong Kong.

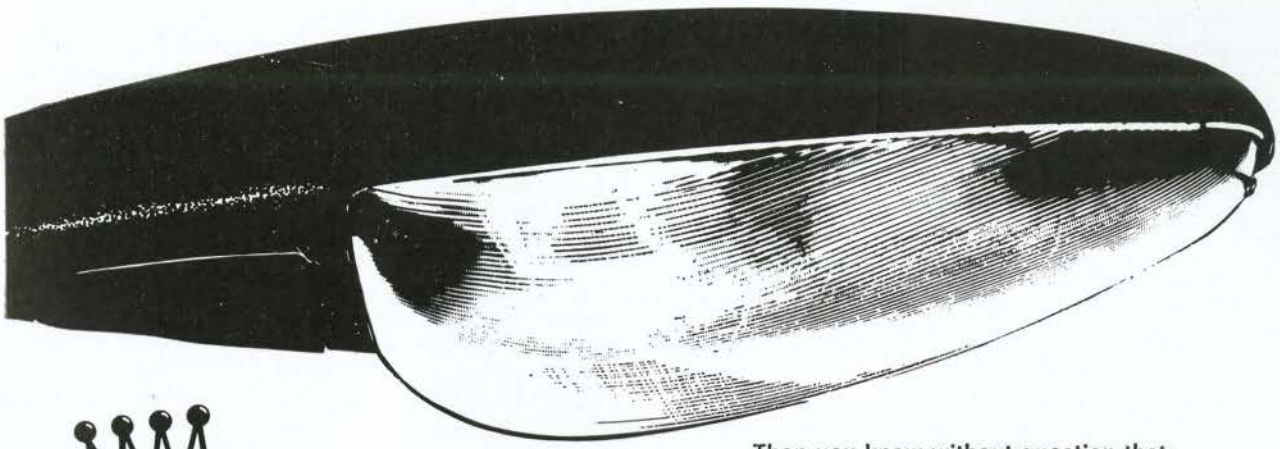
1965 graduate from the University of Hong Kong wishes to work with an architectural firm in Ontario. Reply Alfred Li Kai-kwong, 5 Li Kwan Ave., Top Floor, Causeway Bay, Hong Kong.

Architect from the Philippines seeks employment in Canada. Has worked in Government and private architectural offices since 1961. Reply Miss Virginia Anulacion, 3091 Reposo St, Sta. Mesa, Manila, Philippines.

Experienced Philippine architect seeks a position with an architectural firm in Ontario. Reply Celestino Sanchez, Sineguelasan, Bacoor, Cavite, Philippines.

Licensed Philippine architect with experience in American methods and practice seeks an opening in a Canadian firm or Federal service. Reply Jose D. Diaz, Box 125, *Journal RAIC*.

Murray M. Cheetham, B.Arch., MRAIC has opened an architectural practice in North Battleford, Sask., on Oct. 1, 1965. This office would be pleased to receive manufacturer's literature at P.O. Box 33, North Battleford, Sask.



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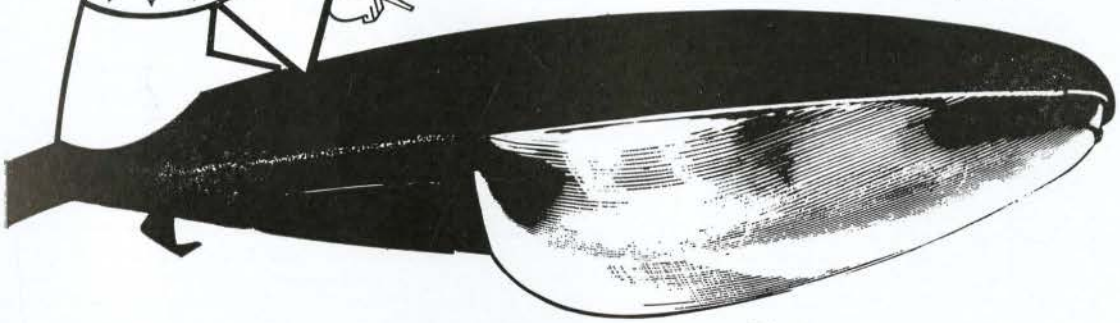

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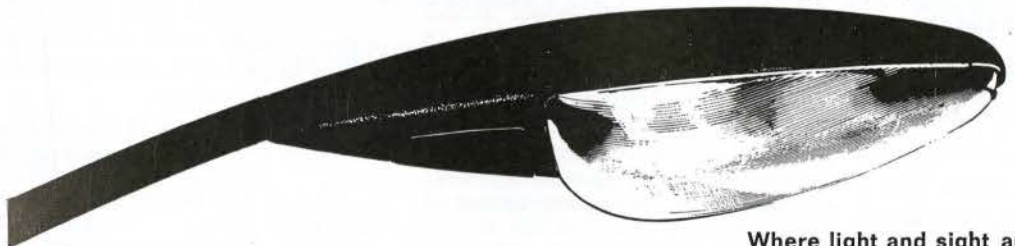

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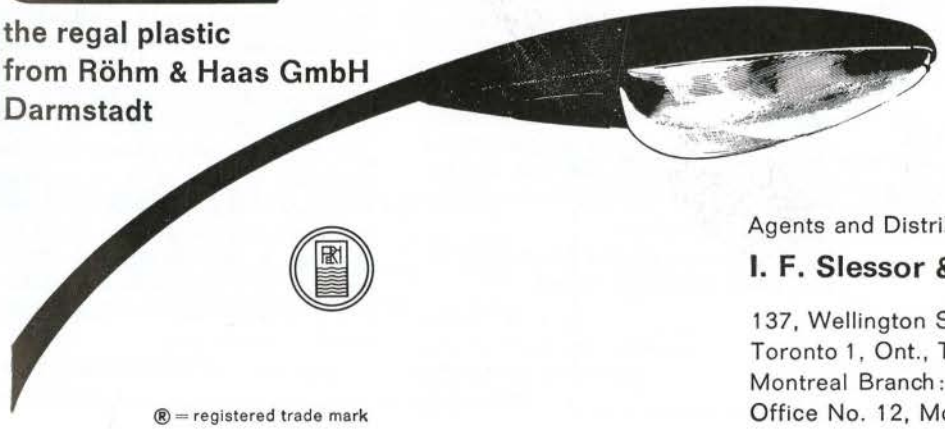

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Letters

Editor,
Journal RAIC/L'IRAC

We have just read with interest Mr. Leman's letter on the February, 1966 issue of the *Journal*. Although we are not involved in this type of work we are very much looking forward to this issue. It is particularly the approach to the problem that we find very exciting. This is the type of information that the *Journal* should be providing, expecially since there is no other source of it in Canada. In fact, we feel that the *Journal* should be doing very much the same work as the Architects Journal does in England. We particularly feel the lack in Canada of an organized system of procedure and information retrieval as typified by the Architects Journal's Sfb system. We hope that the February 1966 issue is a turn in this direction.

Once more we are looking forward to this issue of the *Journal* and we hope that this type of information will become a regular and integral part of the magazine.

Morton Rubinger, MRAIC,
Montreal.

Editor,
Journal RAIC/L'IRAC

May we compliment you on your informative and inspiring "Feature for 1967" in the August issue of the *Journal*. The section on the Manual of Street Decorations is of special interest to the staff and students of this School. We should be very glad to receive two copies of the booklet for use in our School Library.

This School is deeply involved in the problem of the relationship of art to buildings and communities. It might be of interest to note that the majority of the street banner designs in Vancouver originated at the Vancouver School of Art.

F. A. Amess, Principal,
Vancouver School of Art,
Vancouver,

Editor,
Journal RAIC/L'IRAC

The recent visit by Miss Anita Aarons, your Allied Arts Editor, was much appreciated. Her aim to bring artist and architect together is a high one, and her enthusiasm and sincerity were obvious in her presentation.

I would like to add that we enjoyed her visit to the university as well.

E. N. Yates,
Associate Professor of Art,
University of Alberta,
Edmonton.

Editor,
Journal RAIC/L'IRAC

Congratulations on the August issue of the *Journal RAIC* on the subject of street decorations. The whole thing is great but the graphics particularly are a knock out. Keep it up!

Douglas Shadbolt, MRAIC, *Director,*
Nova Scotia Technical College,
Halifax.

Allied Arts Editor,
Journal RAIC/L'IRAC

I would like to thank you for your articles in the *Journal*. It is unusual to find either perceptive criticism or an honest response to art forms. You seem to have both, and I am occasionally compelled to rush home to my artist-husband with one of your articles crying gleefully, "You see, there is *one* voice of reason!" As for your assessment of current attitudes and attempts as summarized in your talk yesterday, I believe you know exactly what you are talking about.

I am sorry you met so few artists during your visit to Vancouver. Perhaps this is because so many fine artists feel that the cause of 'Art and Architecture' is hopeless, or at best that it recommends itself only to bannerwaving dillettantes. But I am sure you are familiar with this attitude. I think, also, that many versatile and capable people would avoid an attempt to meet you lest such action be construed an effort at self-publicity. However, if and when you come to Vancouver again, may I offer you an evening at my home and an opportunity to meet some creative artists, art teachers and others, none of whom would have any architectural work to show you, but most of whom would be interested in your efforts to place more significant art work in our buildings.

Colleen Toppings (Mrs M. Glenn),
Sunshine Falls, B.C.

Allied Arts Editor,
Journal RAIC/L'IRAC

I think the referral service coupled with the catalogue which you propose could be of great assistance to us when we have jobs in which we can involve artists. As many architects across Canada have probably told you, we hesitate to approach a specific artist until we can give him a definite commitment, but it would be of help to us to know what artists, working in which architectural materials, exist in our area. Even knowing that a certain material could be adapted, by a certain person, to decorative purposes would broaden our design scope.

Vladimir Plavsic, MRAIC,
Vancouver.

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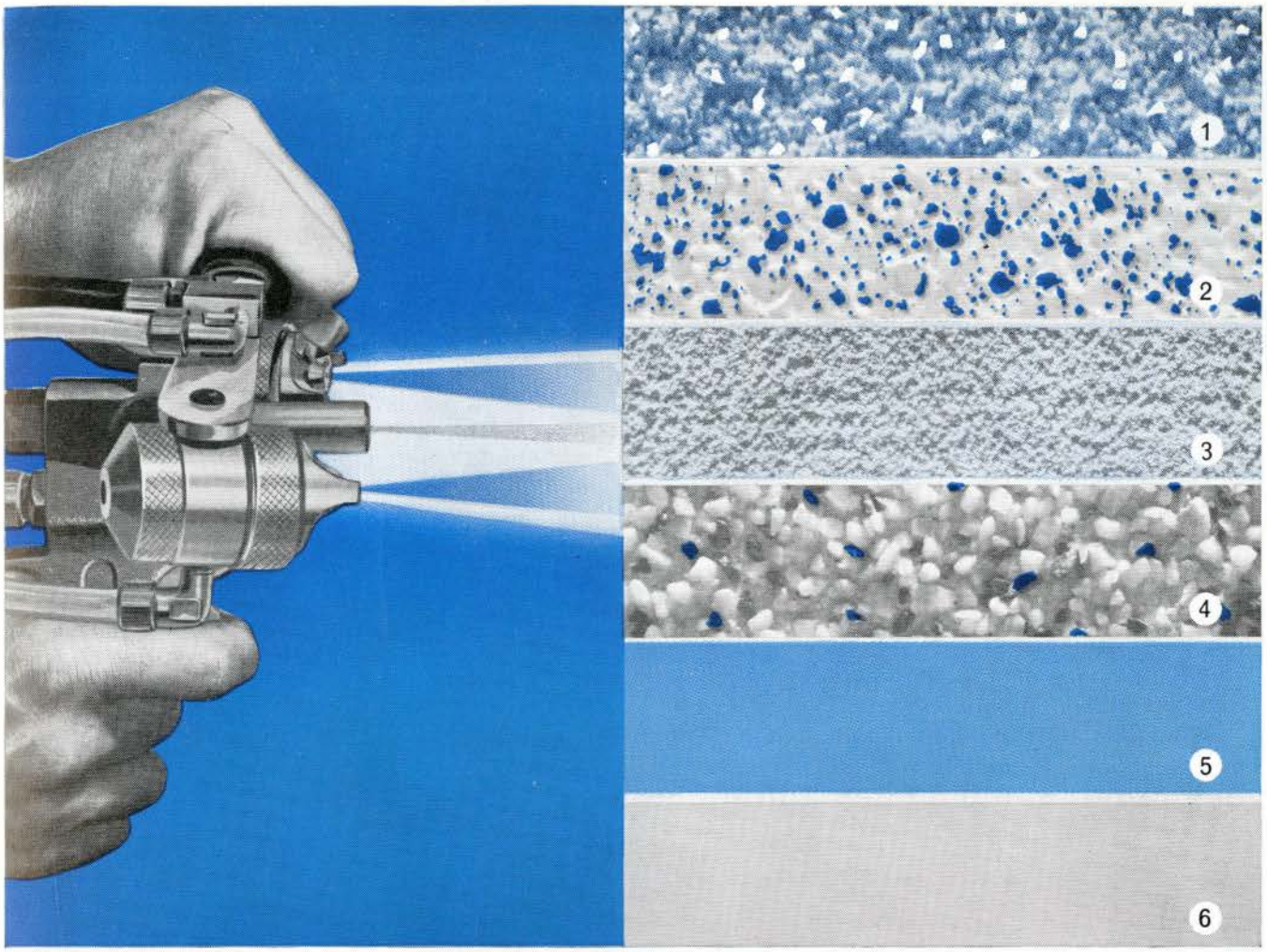

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Also new is *Bostik Textured II*. This is a subtly textured exterior "breathing" coating which, in a single application, achieves 10-15 times the thickness of paint to seal porous surfaces against the weather. It offers reliable low-cost protection for stucco, concrete and cement block.

Bostik Featurestone is a spray-applied matrix with finished surface containing marble, quartz, granite or other stone chips ranging from 00,0 to 1 terrazzo aggregate. Suitable for exterior column and spandrel areas and as an economical alternative for Bostik Textured I.

Bostik Sheercote I gives exterior masonry surfaces a durable, high-performance coating; alkaline resistant, the rubber resin vehicle eliminates film degradation as a result of saponification. *Bostik Sheercote II* like Sheercote I is a "breathing" coating. It can be applied to damp surfaces and has high resistance to weathering and ultra-violet light.

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Roofmate FR... New Concept in Roof Insulation

These challenging ideas will probably change your entire thinking on roofing procedure.

Average reading time 5½ minutes.

This new concept in roofing practices challenges conventional roofing methods, yet produces a more permanent, premium-quality roof . . . without increasing costs!

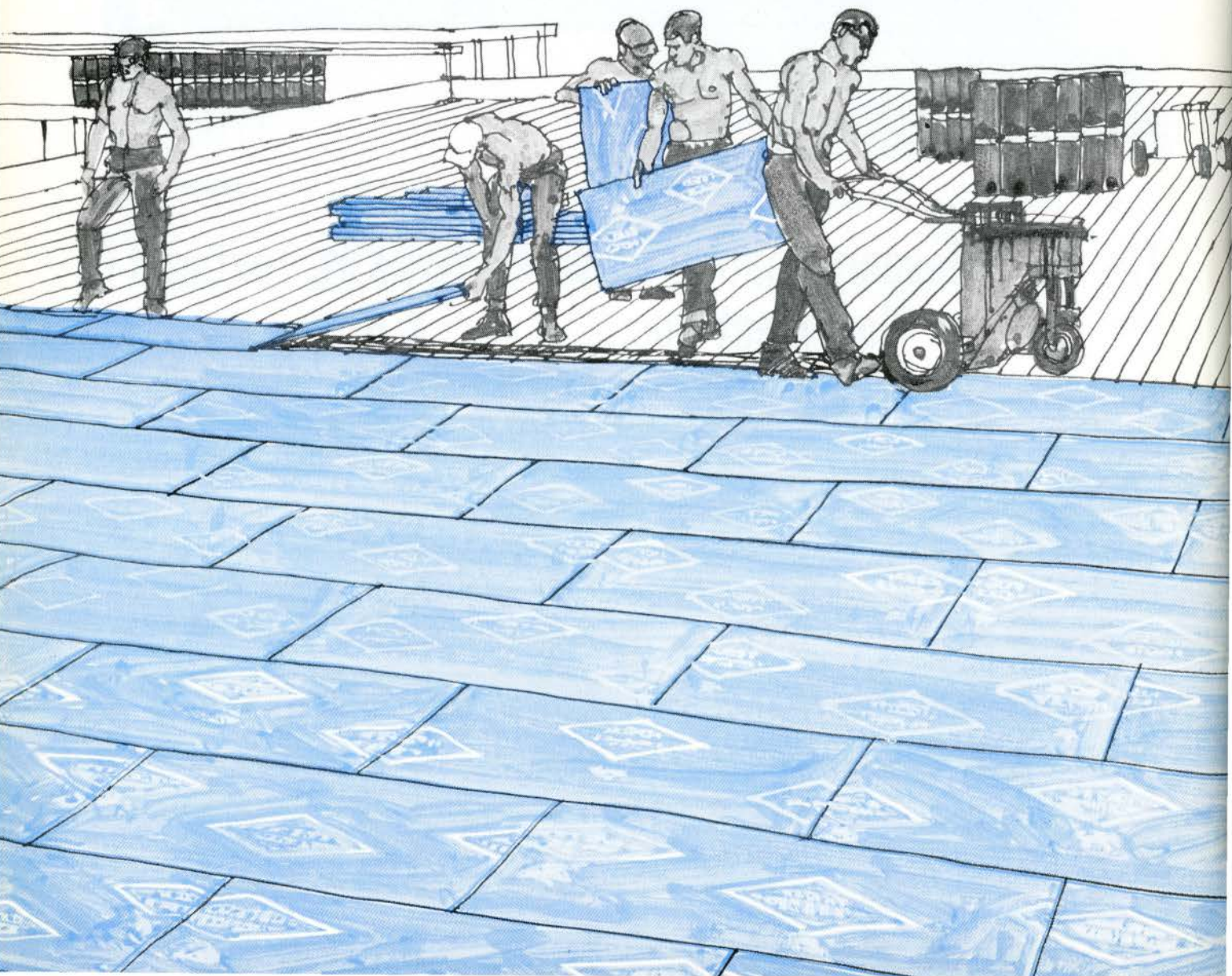
For many years, architects, building contractors, and roofing experts have battled with the problem of utilizing a permanent-type insulation in built-up roofs to make them last longer . . . without increasing the cost! Almost invariably their endeavours involved changes in the insulation product, which increased the cost. Then came a new idea . . . change the roofing technique!

This revolutionary approach led to the development of the Coated Base Sheet System, which in turn made practical the use of a new, completely-permanent insulation material called Roofmate* FR. Together they produce a unique built-up roof that stays permanently dry . . . because the insulation neither transmits nor absorbs water at any time.

Permanently Dry Insulation

This Roofmate FR insulation is an extruded polystyrene foam board that, because of its

Roofmate FR being laid in strip mop of hot asphalt. It is coloured blue for easy identification.

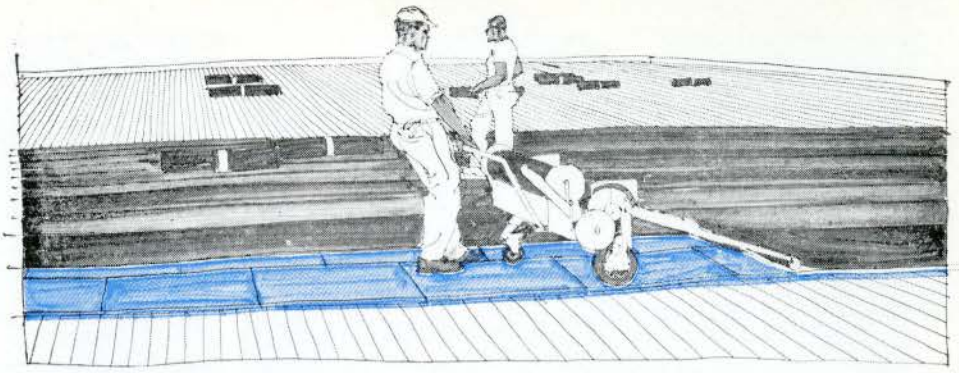


closed cell construction, is water-resistant and does not need vapour barriers. Since it is unaffected by water or water vapour, Roofmate FR maintains a permanently low "K" factor leading to lifetime insulating effectiveness. Furthermore, because it stays permanently dry, it eliminates a major cause of roof-blistering and subsequent roof leaks.

This new insulation board is designed especially for installation under built-up roofs in conjunction with the Coated Base Sheet System. Compared to most other insulation materials, Roofmate FR has extremely high impact resistance and compressive strength, and because of its high density skin there is less danger of ripping the surface. In addition, Roofmate FR is a flame retardant material.

The Coated Base Sheet System

In the final analysis, it is the complete compatibility of Roofmate FR with the Coated Base Sheet System which produces the permanence and superiority in the finished roof. They complement each other so perfectly that the finished roof has literally no weakness. Yet the cost factor is competitive with present pricing structures.



Coated base sheet produced on the job from saturated roofing felt.

The secret to this lower cost factor lies in the reduction in costs brought about by the use of the Coated Base Sheet System, which employs conventional roofing materials and know-how, takes less time and labour to complete . . . and eliminates the need for a vapour barrier!

The only change from normal roofing techniques that need be made is in the sequence of operation. The first layer of felt in a 4-ply built-up roof is replaced with a coated base sheet. This is followed by 3 plys of #15 felt. These are applied with hot asphalt in the conventional manner, finished as usual with gravel embedded in a flood coat of hot asphalt. This means that the first layer of asphalt is installed as an integral part of the first felt with consequent savings in cost, time, and labour . . . while the finished roof has been improved in performance and durability.

Interesting Technical Data

The following interesting technical data on Roofmate FR, support these contentions. • Because of its closed cell construction, Roofmate FR maintains a permanently low K factor of 0.23 (BTU/hr.-sq. ft.-°F) • The excellent impact resistance is evidenced by the density of 2.5 lbs./cu. ft. average. • A compressive strength of 30.0 psi. at 5% deflection. • Water resistance properties show capillarity at zero, and water vapour transmission (perms) at less than 1.0. • Roofmate FR can be bonded directly to *any* conventional poured concrete, pre-cast panel, poured gypsum, wood or metal decks. • Product is conveniently taped in bundles of approximately 100 board feet, weighing approximately 25 lbs. • The "C", "R", and "U" values of Roofmate FR are superior to those of conventional insulation. • Roofmate FR is made in Canada from Canadian raw materials.

Overall Advantages and Summary

There are a great many other advantages to using Roofmate FR insulation which should at least be mentioned at this time. It is easy to handle and cut, goes down quickly and effortlessly, and its smooth clean surface develops a high tensile bond strength with the coated base sheet. It lowers roof dead loads, and needs no costly tools to install. Because it has no edible value, and stays dry permanently, fungus cannot grow and rot cannot occur. Roofmate cuts down-time on the site, since it comes packaged only by glass-reinforced tapes which virtually eliminate unpacking and clean-up time.

There is a great deal more evidence available to you in the form of brochures, engineering and technical data, and illustrated installation instructions, which are worthy of your consideration. Just contact the Dow office nearest you. Dow Chemical of Canada, Limited, in Vancouver, Calgary, Winnipeg, Sarnia, Toronto, Montreal, Saint John.

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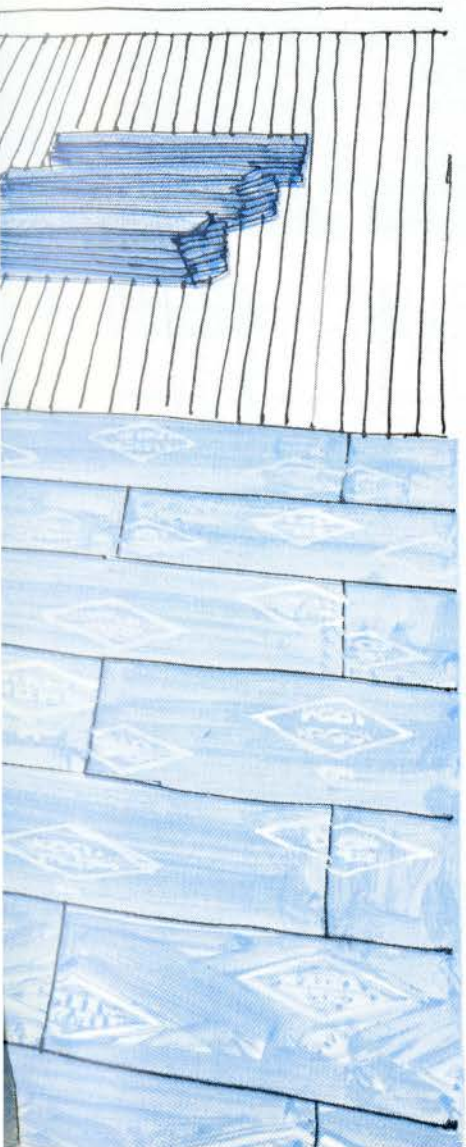
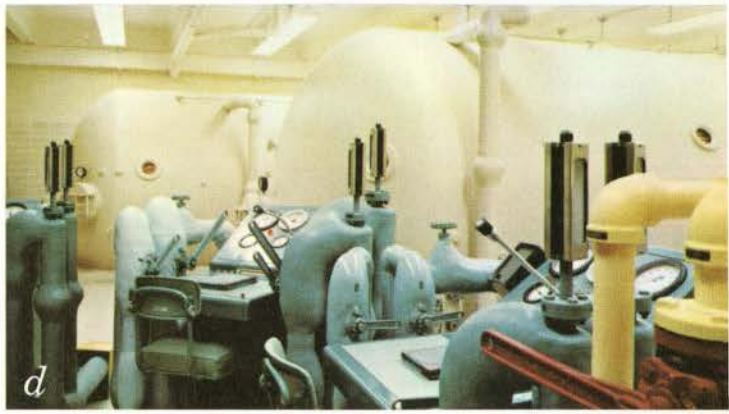


Felt being mopped over factory-coated base sheet. Hot asphalt does not contact Roofmate FR.

a


b


c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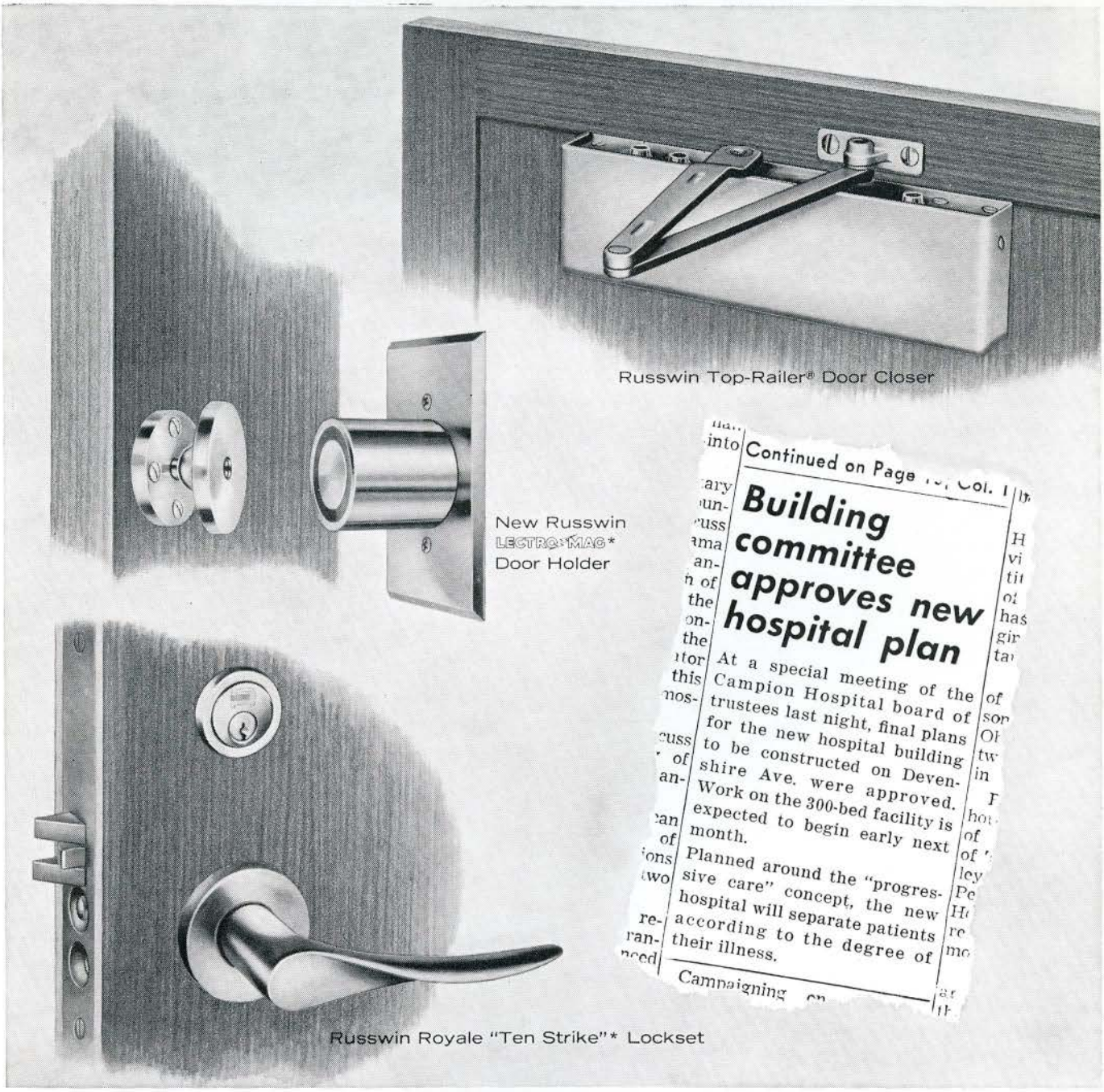

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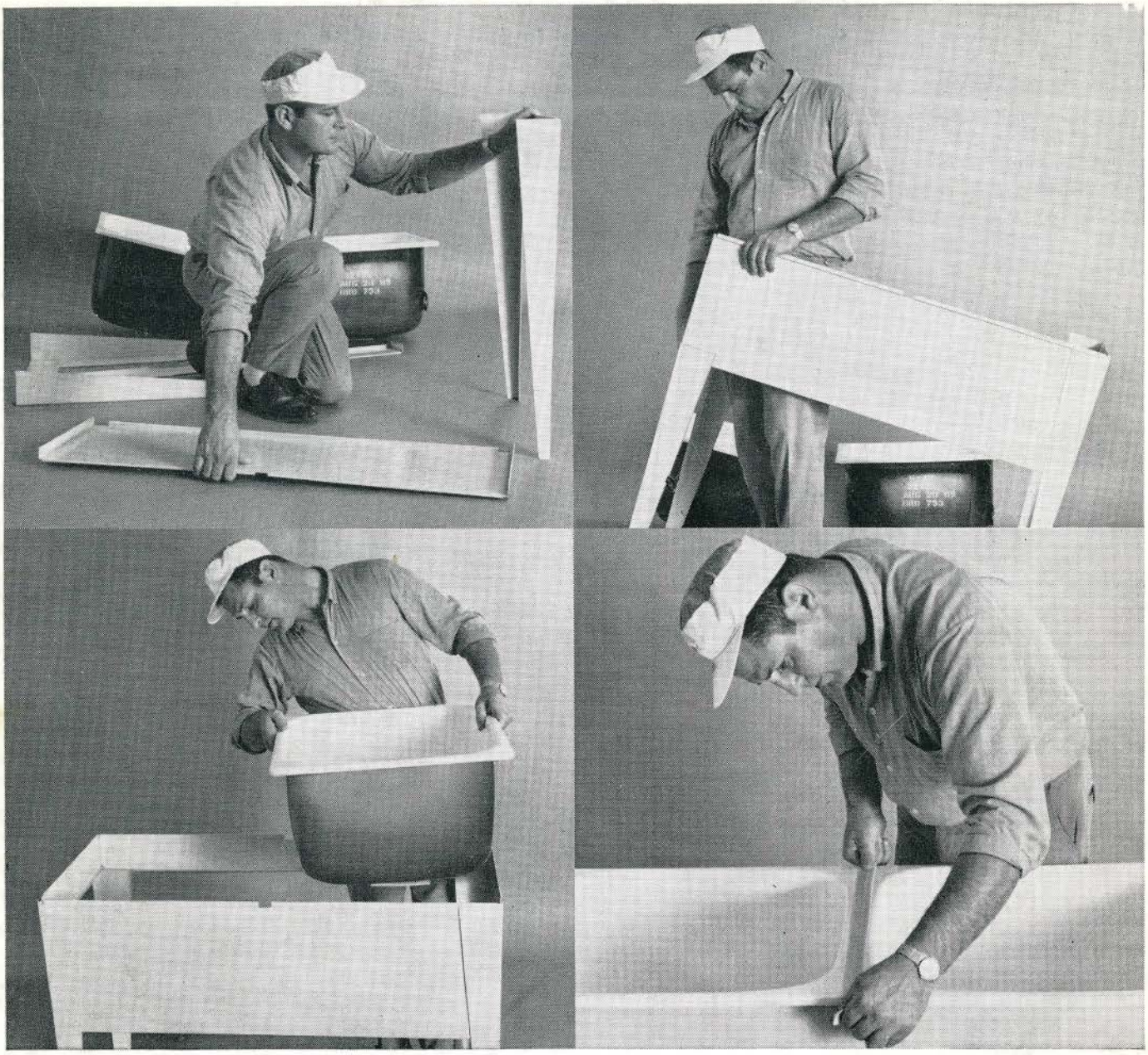

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