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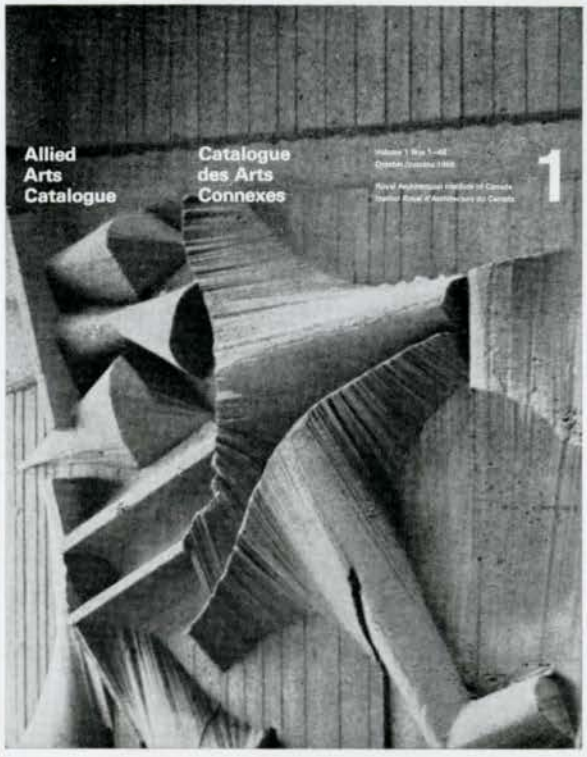

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L'Institut Royal d'Architecture du Canada

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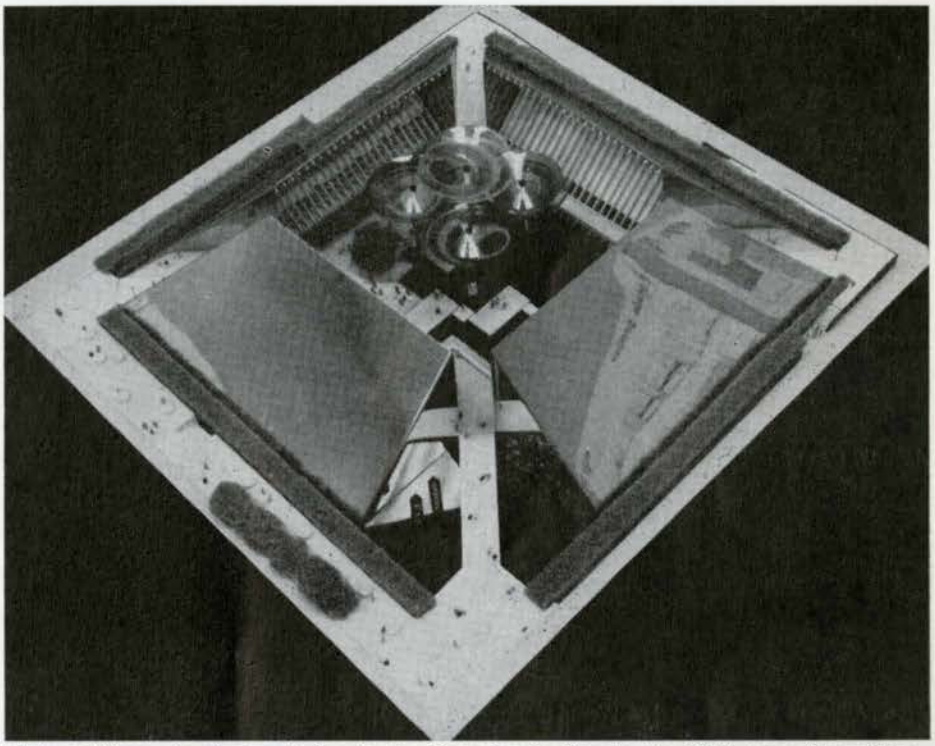
Erickson/Massey Win Osaka Pavilion Competition

Winner of the competition for the Canadian Pavilion for the Japan World Exposition, Osaka 1970 is the Vancouver firm of Erickson/Massey. The winner and five finalists were chosen from 208 first stage entries in what the jury felt was a most successful competition.

The 42,000 sq. ft., two million dollar winning pavilion will consist of mirror sheathed walls sloping inward on a 45° angle over a center courtyard and a giant kinetic sculpture by Vancouver artist Gordon Smith. Structural consultant is Jeffrey Lindsay.

Architecture Canada will publish in detail the winners and finalists in the August issue.



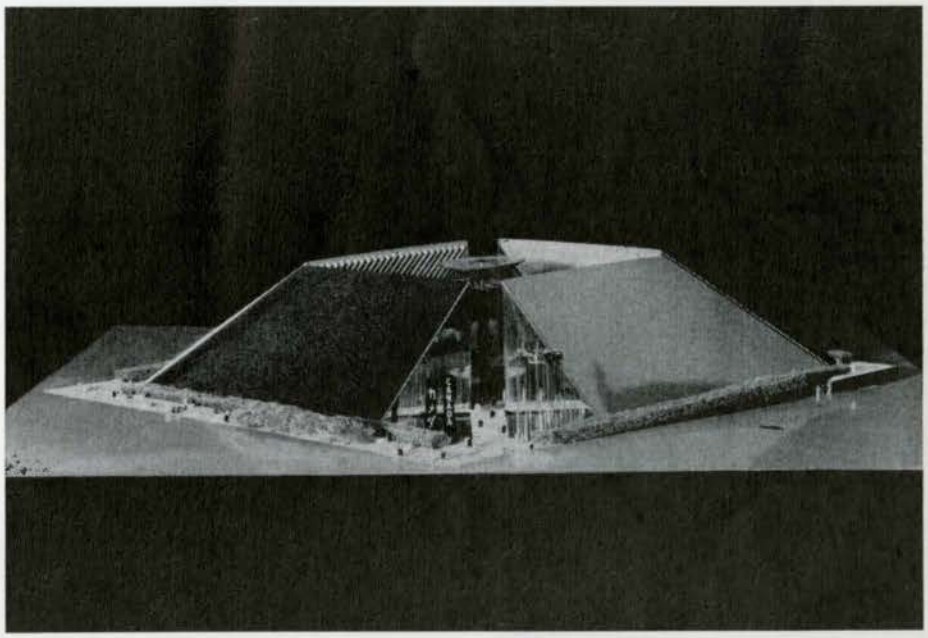
Erickson/Massey's winning design for the Canadian Pavilion for the 1970 Japan Exposition

Winnipeg Art Gallery Competition

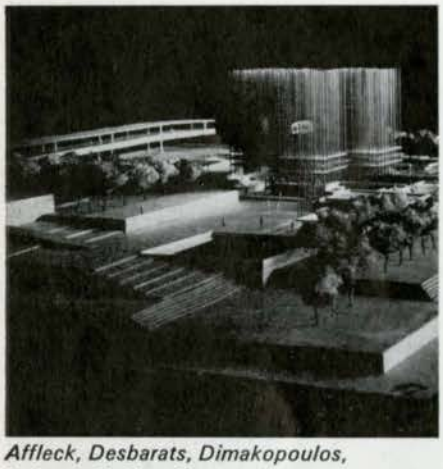
A national competition in one stage for registered Canadian Architects for the design of a new Art Gallery for Winnipeg has been announced. First prize is $10,000, second $6,000, and third, $3,000. The jury is H. Harvard Arnason, Guggenheim Museum, New York; John C. Parkin (*F*) Toronto; C. E. Pratt (*F*) Vancouver; Harry Weese FAIA, Chicago; and Ralph Rapson, MRAIC, FAIA, Minneapolis, who is also professional adviser. Conditions (fee $10.00) are available July 15th; registration closes August 15th; questions close October 1st; final date for entries is November 15th and awards will be announced December 1st. For registration forms write Ralph Rapson, Professional Adviser, Winnipeg, Art Gallery Competition, Civic Auditorium, Winnipeg 1.

Concours pour la Galerie des Arts de Winnipeg

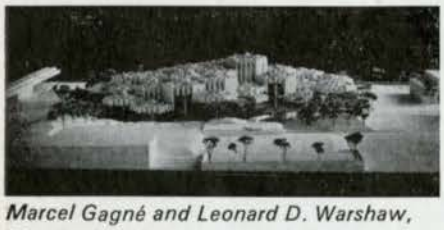
Un concours national d'une étape ouverte aux architectes canadiens inscrits a été annoncé pour le dessin d'une nouvelle Galerie des Arts à Winnipeg. Le premier prix s'annonce à $10,000; le deuxième à $6,000 et le troisième à $3,000. Le jury est composé des Messrs. H. Harvard Arnason du Musée Guggenheim à New York; John C. Parkin (*F*) Toronto; C. E. Pratt (*F*) Vancouver; Harry Weese FAIA, Chicago; et Ralph Rapson, MIRAC, FAIA, Minneapolis qui est aussi le conseil régional.



Shown below are the five finalists of the Osaka Canadian Pavilion Competition
Ci-dessous les cinq finalistes du couconcours du pavillon canadien à Osaka



Affleck, Desbarats, Dimakopoulos, Lebensold, Sise, Montreal



Marcel Gagné and Leonard D. Warshaw, Montreal

John Gallop, MRAIC, Toronto

Gardiner, Thornton, Gathe, Davidson, Garrett, Masson & Associates, Vancouver

Ian Martin, MRAIC, Montreal

Can/Govt Exhibition Commission

Canada's entry in the AIA Convention Trade show, "done with mirrors", was "the best product exhibit the jury had ever viewed".

Les conditions (inscription $10.00) sont disponibles jusqu'au 15 juillet; la régistration se termine le 15 août; les questions seront acceptées jusqu' au 1er octobre; la date finale des soumissions est le 15 novembre et les prix seront annoncés le 1er décembre. Pour obtenir les papiers d'inscription, écrire à Ralph Rapson, Conseiller professionel, Winnipeg Art Gallery Competition, Civic Auditorium, Winnipeg 1, Manitoba.

Canadian Building Products Show best at AIA Convention Exhibition

Canada's exhibit won top honors in the building products exhibition at the annual convention of the American Association of Architects in New York in mid-May. The display, sponsored and designed by the Dept of Trade and Commerce, showed the products of 14 Canadian manufacturers, and marked Canada's first participation in an AIA show.

Fred Price Resigns Executive Directorship

Fred W. Price has resigned his appointment of Executive Director of the Royal Architectural Institute of Canada to accept another position. In accepting the resignation, the President, James E. Searle (*F*), expressed the Institute's thanks to Mr Price for his services over the past four years.

Sellors New Dean of Manitoba School

Prof. Roy Sellors, FRAIC, AIA, has been appointed Dean of the Faculty of Architecture, University of Manitoba. He succeeds the late Dean John Russell, and had been Acting Dean since Prof. Russell's sudden death last December 28th.

Dean Sellors received his B.Arch. degree from the University of Manitoba in 1936, winning the Isbister Scholarships and two RAIC gold medals during his course. He then obtained his Master's degree in Architecture at MIT, winning a graduate scholarship there. He practised for ten years with firms in Winnipeg, West Virginia, Fort Worth and Minneapolis before returning to the University of Manitoba as a teacher in 1946. He became a full professor in 1956.

Project: Le Chateau Champlain, Montreal *Architects:* D'Astous & Pothier *General Contractors:* Cape – Janin; Joint venture *Hardware:* Durand Hardware Company

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RAIC Annual Meeting, May 25 and 27

Following a message of greeting from George E. Bemi, Chairman of the Assembly Host Committee, President Charles Fowler (*F*) called the meeting to order in the Chateau Laurier, Ottawa, on Thursday, May 25, a.m. Annual Reports were presented by the President, Honorary Secretary, Honorary Treasurer, Executive Director, College of Fellows, RAIC Foundation and the various committees and representatives of the Institute.

Chief order of business concerned implementation of the Survey of the Profession recommendations, as presented to the 1966 Annual Meeting. Good progress was reported by several of the task forces working on this program, but the President noted that it has been evident that considerable additional funds and well-qualified staff are needed if our aims are to be realized.

At the second session of the Annual Meeting, on Saturday morning, Honorary Treasurer William G. Leithead (*F*) presented a resolution which noted that the Survey Report had been accepted by the members of the Institute at their 1966 Annual Meeting and the Council given a mandate to proceed with it: "Be it therefore resolved that this Assembly expresses the wish that the Council proceed at once to receive voluntary contributions to the RAIC Foundation for the exclusive purpose of defraying the costs of the continuing implementation of the Study of the Profession."

The motion was seconded by Henri-P. Labelle, President of PQAA, and was approved unanimously.

A resolution was presented by Vladan Milic, Chairman of Toronto Chapter, OAA, requesting that the Institute form a committee on the environment on an inter-professional basis, to study deterioration of the physical environment across Canada, with a view to its restoration. The motion was seconded by Paul-O. Trépanier (*F*), and was referred to Council for action.

Another resolution concerned an Institute study of "package deal" practices. It was presented by John Dayton, President of AIBC, and was referred to Council for consideration.

RAIC Council, May 24 and 27

The final meeting of the 1966-67 Council was convened by President Charles Fowler on Wednesday morning, May 24, in the Chateau Laurier, Ottawa.

The President reported on discussions and correspondence with the PQAA concerning the question of per capita dues to the Institute.

Council studied reports of committees and task forces concerned with recommendations of the Survey Report on public relations, architects' acts, handbook of practice, standards of performance and fee structure, salaried architects, and RAIC staff.

Amendments to the By-laws concerning Publications Board and Architectural Education Committee received final approval.

Frank Nicol, Toronto, was appointed Chairman of the 1969 Assembly Committee. This Assembly will be held in Chicago in conjunction with the AIA Convention.

On recommendation of the Scholarships and Awards Committee, the Wilby Scholarship is granted to André Cardinal, Laval University, and the Francou Scholarship to Pierre Beaupré, University of Montreal.

C. F. T. Rounthwaite (*F*) agreed to assist Robert E. Briggs, Chairman of Legal Documents Committee, in study of final draft of standard form of agreement between consultants and Department of Public Works, Ottawa.

Council considered the status of the RAIC Group Plan of Professional Liability Insurance. This plan is of particular benefit to smaller firms, and the whole question will be studied further by Norman H. McMurrich (*F*) incoming Vice-President of the Institute.

Robert Bouey reported that a new school of Environmental Design is being established by the University of Alberta, in consultation with the Alberta Association of Architects.

Edouard Tremblay (*F*) reported that the Competitions Committee has given tentative approval to the Winnipeg Art Gallery Competition and to the competition for a new Headquarters Building of the Department of Forestry in Hull, Quebec. Council authorized

Assemblée annuelle de l'Institut, les 25 et 27 mai

Dans la matinée du jeudi 25 mai, au Château Laurier d'Ottawa, après quelques paroles de bieuvenue de M. George E. Bemi, président du Comité d'accueil le président de l'Institut, M. Charles Fowler, déclare l'assemblée ouverte.

Des rapports annuels sont présentés par le président, le secrétaire honoraire, le trésorier honoraire, le directeur général, des représentants du Collège des fellows, de la Fondation de l'IRAC et des divers comités ainsi que de l'Institut.

Le principal article à l'ordre du jour vise la suite donnée aux recommandations formulées dans le rapport de l'enquête sur la profession à l'assemblée annuelle de 1966. Les diverses équipes de travail affectées à cette tâche signalent des progrès satisfaisants mais le président ajoute qu'il faudra beaucoup plus de fonds et du personnel très qualifié pour mener la tâche à bien.

Au cours de la deuxième séance de l'assemblée annuelle, le samedi matin, le secrétaire honoraire, M. William G. Leithead (*F*), présente un projet de résolution dans lequel il rappelle qu'à leur assemblée annuelle de 1966 les membres de l'Institut ont approuvé le rapport de l'Enquête et ont confié au Conseil la tâche d'y donner suite. "Il est en conséquence résolu que la présente assemblée invite le Conseil à commencer immédiatement à recevoir des contributions bénévoles à la Fondation de l'IRAC aux fins exclusives d'acquitter le coût de la mise en application du rapport de l'étude sur la profession."

La motion ayant été appuyée par M. Henri-P. Labelle, président de l'AAPQ, est approuvée à l'unanimité.

M. Vladan Milic, président de la succursale de Toronto de l'AAO, propose une résolution demandant à l'Institut d'établir un comité interprofessionnel sur le milieu, chargé d'étudier la dégradation du milieu matériel dans les diverses parties du Canada en vue d'aviser aux moyens à prendre pour l'améliorer. La motion est appuyée par M. Paul-O. Trépanier (*F*) et renvoyée au Conseil qui devra y donner suite.

Une autre motion vise une étude que devrait entreprendre l'Institut sur les pratiques en

the Committee to give final approval when all conditions have been fulfilled.

Proposed membership of the new Advisory Committee on National Architectural Archives was approved, with Dr. Eric Arthur (*F*) as Chairman and Derek Buck (*F*) as vice-Chairman.

Plans were outlined for the John A. Russell Memorial Conference of students representing all Schools of Architecture in Canada, to be held this October in Montreal.

The President reported that he has sent a letter conveying greetings, renewal of pledge of allegiance, and offering professional and personal services to his Excellency the Right Honorable Roland P. Michener, Governor General of Canada, on his accession to office.
Council considered financial statements, advisory committees of the Department of Industry, Ottawa, membership in international organizations, recognition of retiring Presidents, RAIC Seal, nominations and election procedure of the Institute, Minimum Syllabus questions, and meetings with CCA and ACEC. A vote of thanks was tendered to the retiring President and to the retiring members of Council.

The first meeting of the 1967-68 Council of the Institute was held on Saturday afternoon, May 27, with the new President James E. Searle (*F*) in the chair. Resolutions concerning banking procedures, auditors, and solicitor were approved.
William N. Greer was appointed Chairman of the Publications Board for the coming year, and membership of the Board was approved as recommended.

The Officers were asked to give immediate attention to the resolution of the Annual Meeting concerning funds for implementation of Survey Report recommendations, for consideration by the next meeting of Council.

During consideration of the report of C. F. T. Rounthwaite (*F*) concerning standard of performance and fee structure, it was agreed that all such reports on Survey recommendations should be submitted to the Provincial Associations as well as to RAIC Council, for their study and comment.

Council approved the recommendation of the Committee on Architectural Education that a John A. Russell Memorial Lecture Fund be set up, administered by the RAIC Foundation, and that a letter be sent to all members concerning this fund.

Council considered communications from the OAA and PQAA concerning per capita dues.

Thanks were expressed to the Ontario Association of Architects and the Ottawa Chapter for the excellent organization of the 1967 Assembly.
Council will meet on September 8 and 9 in Winnipeg.
Fred W. Price
Executive Director

matière de "contrat global". Elle est présentée par M. John Dayton, président de l'IACB, et renvoyée au Conseil pour étude.

Conseil de l'Institut, les 24 et 27 mai
La dernière réunion du Conseil de 1966-1967 a lieu sous la présidence de M. Charles Fowler au Château Laurier d'Ottawa au cours de la matinée du mercredi 24 mai.
Le président fait rapport des entretiens et de la correspondance avec l'AAPQ au sujet de la cotisation des membres de l'Institut.
Le Conseil étudie les rapports des comités et des équipes de travail chargés de donner suite aux recommandations contenues dans le rapport de l'Enquête sur la profession au sujet des relations publiques, des lois sur les architectes, du manuel pratique, des normes de rendement et des tarifs, des architectes salariés et du personnel de l'Institut.
Des amendements aux articles des Règlements visant la Commission des publications et le Comité sur la formation des architectes sont définitivement approuvés.
M. Frank Nicol, de Toronto, est nommé président du Comité de l'assemblée de 1969. Cette assemblée aura lieu à Chicago à l'occasion du congrès de l'AIA.

Sur recommandation du Comité des bourses d'études et des prix, la bourse Wilby est accordée à M. André Cardinal, de l'Université Laval, et la bourse Francou à M. Pierre Beaupré, de l'Université de Montréal.

M. C. F. T. Rounthwaite (*F*) accepte d'aider M. Robert E. Briggs, président du Comité sur les documents juridiques, dans l'étude du texte définitif du modèle d'entente entre les experts-conseils et le ministère fédéral des Travaux publics.
Le Conseil examine la situation en ce qui a trait au plan collectif d'assurance de responsabilité professionnelle. Ce plan est tout particulièrement précieux pour les petits bureaux d'architectes et toute la question sera étudiés par M. Norman H. McMurrich (*F*), vice-président élu de l'Institut.

M. Robert Bouey annonce qu'une nouvelle école d'aménagement du milieu vient d'être établie par l'Université de l'Alberta en consultations avec l'Association des architectes de la province.
M. Edouard Tremblay (*F*) déclare que le Comité des concours a donné son approbation provisoire aux concours visant la Galerie des arts de Winnipeg et un nouveau siège du ministère des Forêts à Hull (Québec). Le Conseil autorise le Comité a donner une approbation définitive à ces concours dès que toutes les conditions réglementaires auront été remplies.

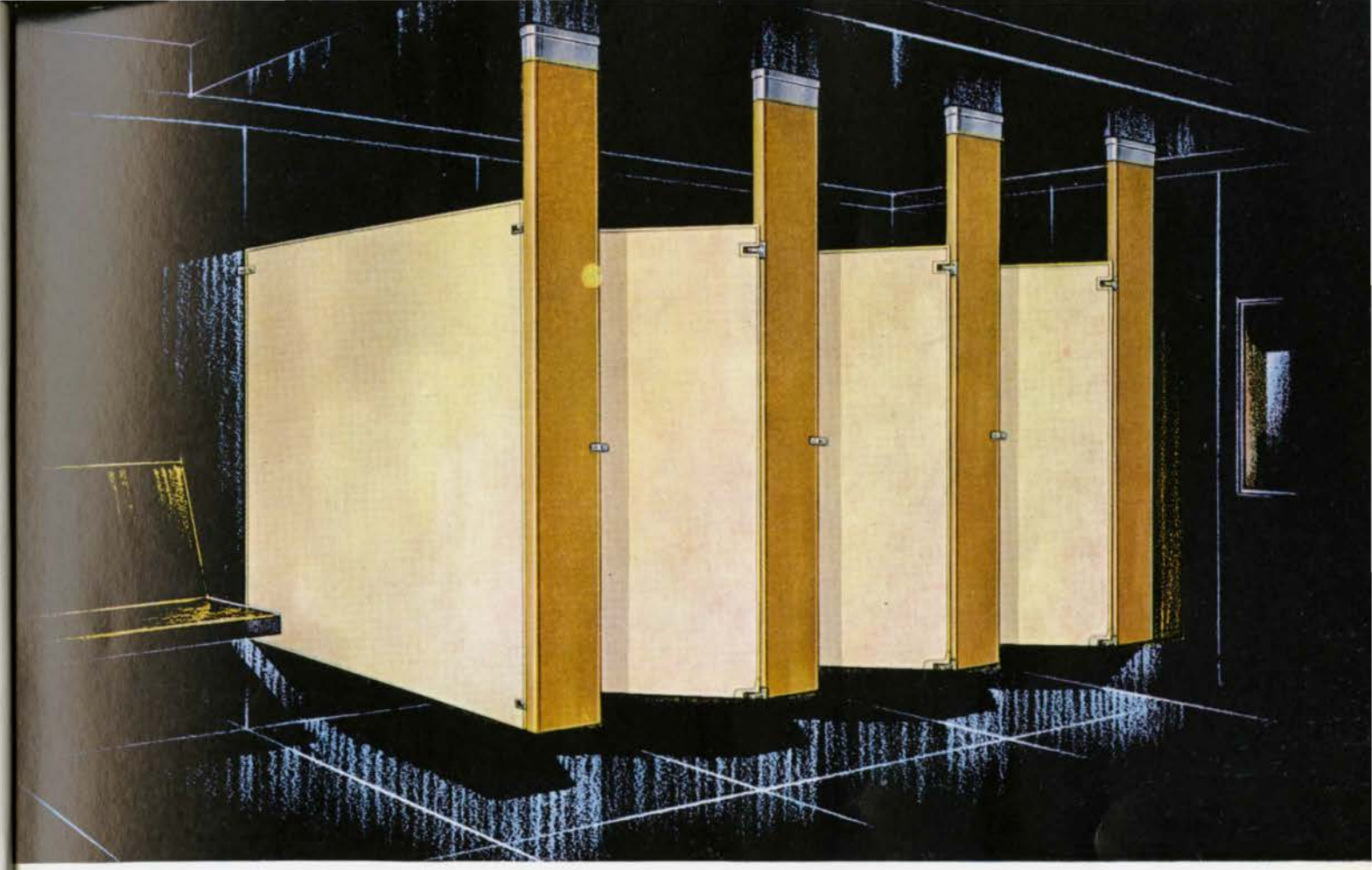
Le Conseil étudie la composition du nouveau Comité consultatif des archives nationales en architecture. M. Eric Arthur (*F*) en sera le président et M. Derek Buck (*F*), le vice-président.
Le Conseil reçoit un exposé des plans de la John A. Russell Memorial Conference qui doit avoir lieu à Montréal en octobre prochain et à laquelle assisteront des élèves représentant toutes les écoles d'architecture du Canada.

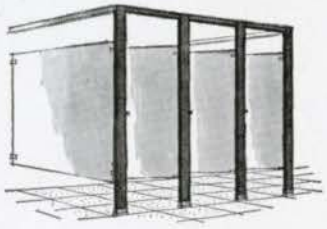
Le président déclare qu'il a fait parvenir à Son Excellence le très honorable Roland P. Michener, gouverneur général du Canada, à l'occasion de son entrée en fonction, une lettre de félicitations, dans laquelle il a renouvelé son assurance de fidélité et offert ses services professionnels et personnels.

Les autres sujets étudiés par le Conseil comprennent : les états financiers, la question des comités consultatifs du ministère fédéral de l'Industrie, la participation à des organismes internationaux, la reconnaissance à accorder aux présidents sortant de charge, le sceau de l'Institut, le mode de mise en candidature et d'élection, la question du programme d'études minimums et celle des réunions avec la CCA et l'ACEC. Des remerciements sont exprimés au président et aux autres membres du Conseil sortant de charge.
Le Conseil de 1967-1968 tient sa première réunion dans l'après-midi du samedi 27 mai sous la présidence de M. James E. Searle (*F*), nouveau président de l'Institut. Des résolutions visant les affaires bancaires, les vérificateurs et les conseillers juridiques sont approuvées.

M. William N. Greer est nommé président de la Commission des publications pour l'année qui commence et la liste des personnes proposées comme membres de la Commission est approuvée.
Les membres du Bureau sont priés de songer immédiatement à la résolution de l'assemblée annuelle visant la perception des fonds nécessaires à la mise en application des recommandations contenues dans le rapport de l'Enquête et de faire rapport à la prochaine réunion.
Au cours de l'étude du rapport de M. C. F. T. Rounthwaite (*F*) sur les normes de rendement et les tarifs, il est convenu que tous les rapports visant des recommandations formulées dans le rapport de l'Enquête devraient être soumis aux associations provinciales, aussi bien qu'au Conseil de l'Institut, avec invitation à les étudier et à faire connaître leurs impressions.
Le Conseil approuve la recommendation du Comité sur la formation des architectes de former une caisse dite "John A. Russell Memorial Lecture Fund", administrée par la Fondation de l'Institut et d'envoyer à tous les membres une lettre au sujet de cette caisse.
Le Conseil étudie des communications reçues de l'AAO et de l'AAPQ au sujet des cotisations des membres.

Des remerciements sont exprimés à l'Association des architectes de l'Ontario et à sa succursale d'Ottawa pour l'excellente façon dont elles ont organisé l'assemblée de 1967.
Le Conseil se réunira de nouveau les 8 et 9 septembre à Winnipeg.
Fred W. Price
Directeur général





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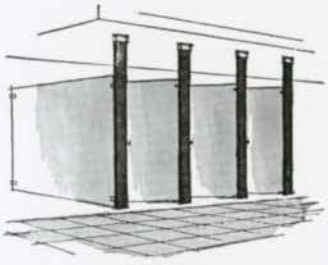

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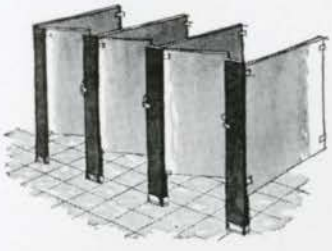
(illustrated in colour, above)



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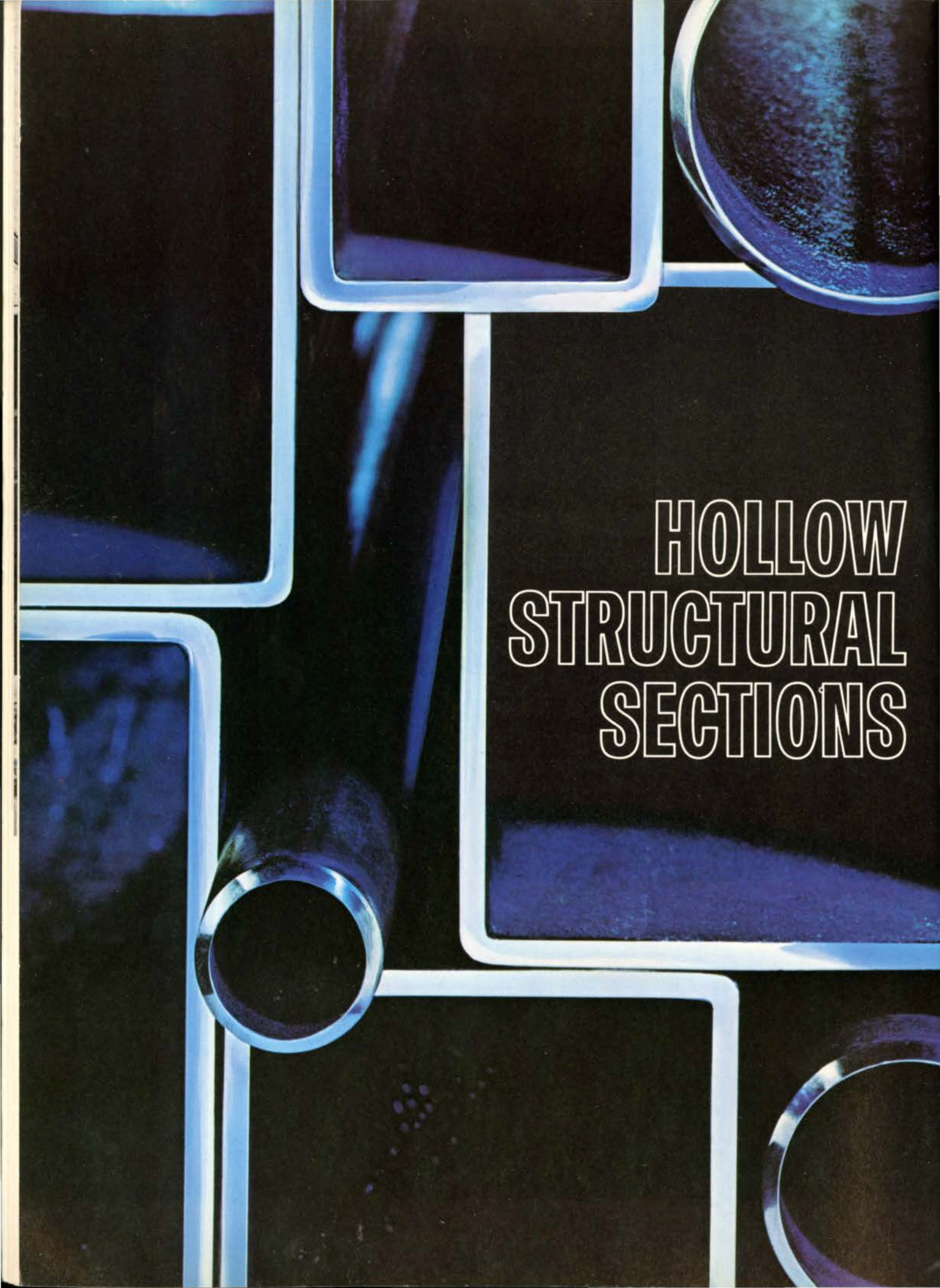
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SECTIONS

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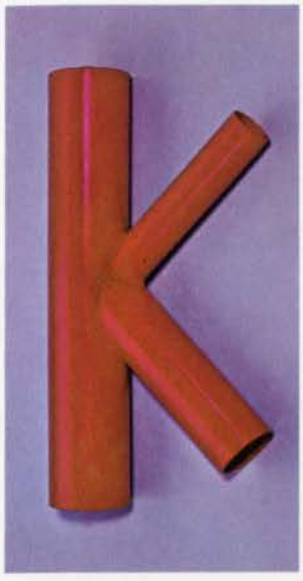

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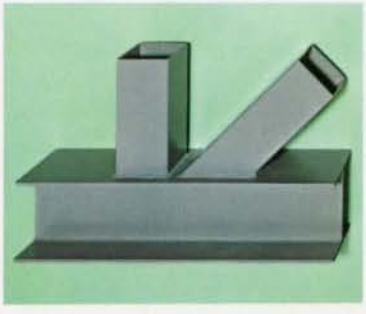

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6701/2

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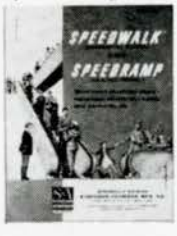

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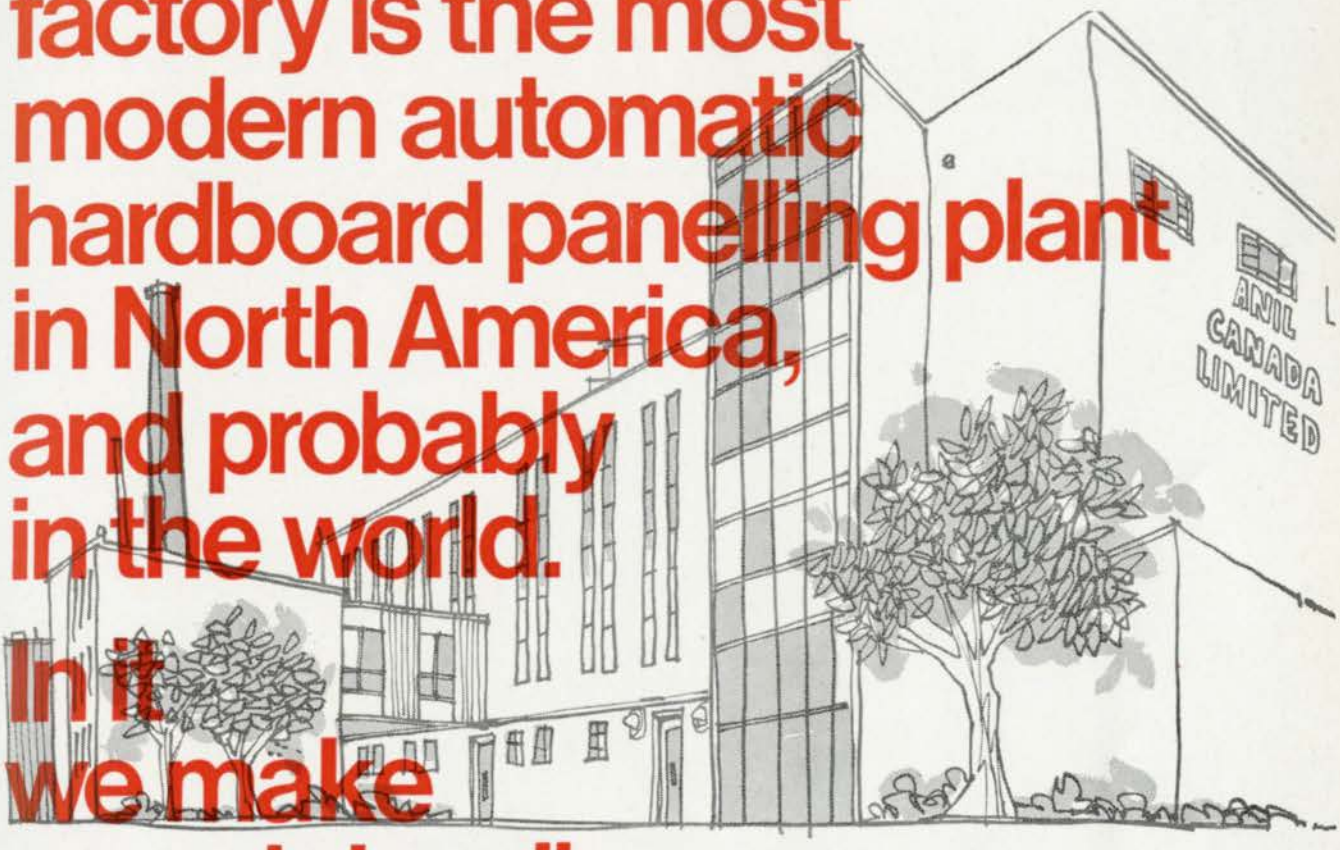

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Part 2 – **The Sculptor**

Expo '67 is a momentous occasion for 20th century sculpture. With a parade of world sculpture, roughly beginning in the period 1900 to the early 'sixties, never before has so much sculpture been brought together in a grand international survey. Sculpture infests every corner, inside and outside of the pavilions, performing various arabesques to the perambulating crowd. It is, however, a story of "yesterday"! What is missing, apart from hints of developments in display work, is the new and joyous, the "Pop" and the kinetic movement of light and sound plus movement – the hard bright plastic forms and electronics evident in the current Cameron show (Toronto) that add up to 1967-68. Officialdom in selecting well known and well publicized figures in sculpture has really made a postwar survey which shows conclusively for posterity the development of the first "international" form of totemic expression. It emerges non-figurative, introspective, organic and expressionistic – a form of tortured, morbid introspection. The figurative, depictive image of the last century has changed. Released by the constructivist movement, sculpture is free to state in whatever terms it chooses and selects a well articulated but non-figurative image. Classic or romantic, it is a formal statement in terms of pure form with no analogous reference. Exceptions of figurative statements (by aesthetically backward countries, or by conservative choice as in the able hands of Belgian artists) by their very exception only prove the case more vividly. There is, however, a hint of departure in the strong cool construction of iron and painted steel which shows a will to a more classic authority, although in total, England, France, Australia, Canada, America, Italy and even Mexico show that a predominant number of capable image makers were absorbed in stating an image of intolerable sadness, organically binding its own energy in the reflective cords of introspection. This is the emergence of the first image of international man and his anguished period of gestation 1900-1968 – the "Angst" totem. What comes later may be told in 1970.

Skills and Performers

If the architect, "obsessed with the drawing board" (*Arts Canada April*) is self centered, flamboyant and socially indifferent, he is nevertheless a brilliant competent performer with materials and modern technology. His bravura performance at Expo is as florid as a grand opera diva's. The applause is loud and constant.

Obversely the fountainhead of his forms – the sculptor, appears in the same arena more tenuous, uncertain and somewhat clumsy in his handling of scale and media. Even if competent and monumental, he is rarely flamboyant, seldom witty and at most times painfully introverted. Is he perhaps out of place at a world fair? Some things do not transplant – the sunshine of Australia and Italy, the smells and sounds of India and the sense of religion of simple societies – these are lacking at Expo. Is the fine artist a failure when transplanted onto the "stage" of theatrical national digests?

After a preview examination of Expo these are the questions as reviewer and critic I asked myself. My inner carpings at poor enshrinement, bad placing (competitive elements rudely push aside sculptural comment), the inept scale of work, overcrowding, vapid content, and a thousand critical evaluations nagged at the perceptions . . . and then, the people came! ! !

The People and Sculpture

I was humbled. This is an exceptional exposition. A case for aesthetics has been stated and the people have taken over with tolerant good will and happy cheerfulness. They have accepted and are examining the prospects and implications even if they only point up past performance. The Calders, Laderas, Moores – the giant "Man-Gods" and soaring constructions did draw a "wonder" stare from young and old. However, it it was the "people scale" tortured images or where people wandered amongst small stonehenge-like monoliths (France) or

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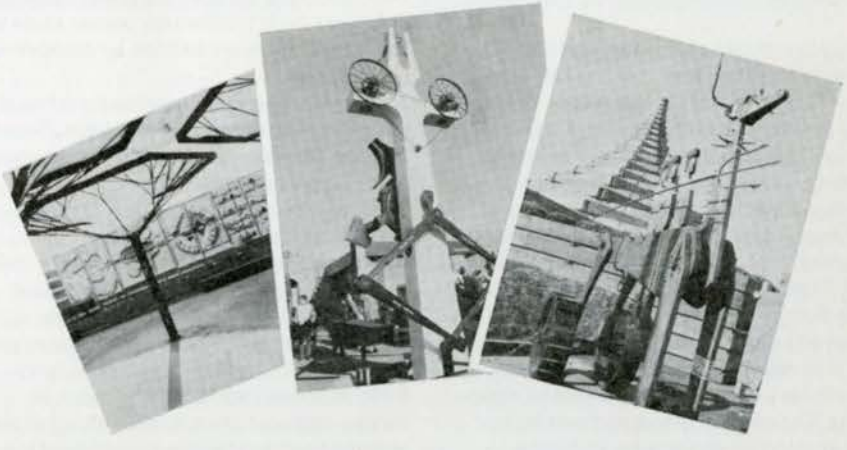
The Calder, "technically comparable to its architectural neighbours"
La sculpture de Calder



2
Ron Baird's "amusing world of sculpture"
"Le monde amusant de la sculpture" de Ron Baird

mirrored themselves in shiny surface brass that convinced me that art education should never be self-conscious or pretentious. I do not think for one moment these people became educated at the constant exposure or were at all interested in titles or motivating symbolism. The cheerful acceptance for these unfamiliar shapes, the touching, sitting upon, being photographed with, were more akin to the "bottomstroking" of Italian and continental populaces than the distressing ridicule aimed at contemporary sculpture in the anglo-saxon urban market place. These sculptures were accepted as "Wonders of the Fair". This is the positive atmosphere in which sculpture is struggling for its own uncertain voice to be heard without ridicule or censure. In this respect, against the odds of bad placing, my sculptor colleagues are perhaps justified in accepting happily the fact that they are there and happy to be performers on this man made island that is the world's playground for a few short months.

Scale, Stars and Performers

Another truth emerging from Expo is that "big monumental" sculpture has been quiescent. Giants and pygmies perhaps but no monumental confrontations. The biggest commission at Expo then has special significance . . .

The Calder

Everything moves at Expo except the Calder . . . what an anachronism! In a definite total of audio-visual design display of movement the King of Mobility chooses to be stabile! ! ! I would at this juncture like to thank promoters who had the idea to give one of the world's leading contributors to sculptural imagery a chance to write his signature large and bold in monumental outlines. The entrepreneurs take their rightful place with the great patrons of history. Calder has responded. That he chooses to take a construction inert, and "industrial" in form, is his business. He puzzles and disappoints. The scale is grand and worthy to take position on the skyline. Industrial processing makes it technically comparable to its architectural neighbors. Articulating planes engage by size but do not enthrall. That's the pity of it – our own Leonardo of the twentieth century failed to get his "kite" into the air. I personally am disappointed that this great innovator of the fourth dimension "virtual volume" in sculpture should have failed to record his great findings here. It is as if the accidental discovery of penicillin were to have lain unperceived on the laboratory slide. Anyway great art was never "made to order", it arises out of the moment. Maybe the right moment for Calder was thirty years ago and we, society, left his public engagement too late. Let us be more prepared for "the" moment with our new talent.

The Smallest

Ironically the smallest sculptures, intriguing "clock" spring confections by Gunter Haese (*see Horizon, July*) invite attention by nervous mobility on entering the broadwalk of the German Pavilion.

The Canadians

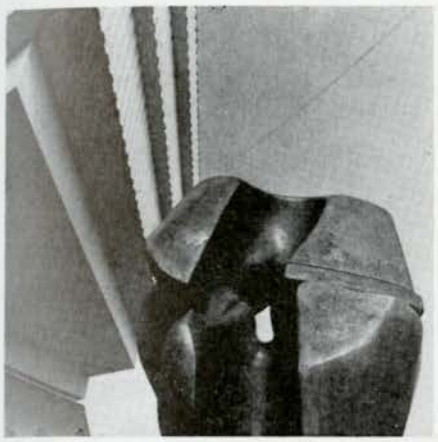
Canadian representation is insidious, varied and democratic. The result, in contrast to the international scene which is more selective and autocratic, is to make the Canadians appear derivative and tentative. Technically they appear naive. Surely Canadians are the only Expo performers who believe rusting steel to be a preferable technical solution. Bad placing of exhibits (to which most of the artists are fairly indifferent) causes scale to be completely overwhelmed by competing impediments.
Mario Merola whose fountain muddled with minirail emerges better under night illumination. Jo Drenters, our truly rural monument-maker, needs space for his two pieces of "biggest" folk art ever. Yves Trudeau gallantly survives with his competent giant which is rudely shoved too close to a theme pavilion. Tolgesy and Sullivan fight hard with "toy" constructions and fare less successfully with the general environment than the similar "fascist" like form of Fuhrer. Etrog in sullen fury is the only work to survive amongst the collected group of irrelevancies on the exterior promenade of the Canadian Pavilion. Here, as elsewhere at Expo, he shows a strong ability to dominate the skyline.

The More Fortunate

"Fusion des Arts", a composite work of Soucy, Lacroix, Rousseau, Gagnon and Robillard, is fairly successful and probably is the only work fitting for the occasion and place. Armand Vaillancourt's "Presence" may be a permanent addition to its happy piece of siting, Archambault shows capability in two places, "Un Grand Couple" is well placed and his "People" in the Canadian Plaza work well in the environment. Bonet is likewise fortunate in an open plaza amongst people. As far as Canadian "image" is concerned, where it is apparent it is perhaps marred by lack of maturity or competency. Michael Snow, a contender for the title of most original, is not mirrored elsewhere. His silver "walking women" are strange and although not needed in the setting at the Ontario Pavilion are none the less very welcome. Richard Turner turns up with a most unlikely, disconcerting, slightly "shocking" solution against the backdrop of Grossman's monumental concrete structure. Ron Baird's amusing world of sculptures (hard to read without "explanations") while hardly creating new images shows a less self-conscious response to situation than most sculptors. Finally to Canada's self-elected "greatest", Gerald Gladstone – three pieces and what do they prove? ? ? In La Ronde his big scale irresolute piece of concrete bravura rudely pushes aside planned pieces for the area, badly upsetting co-ordination for no good purpose. "Uki" with its rusting clumsy forms wallowing plus mechanical snortings hardly convinces me, as Gladstone would have it in a T.V. interview, that he is in a "genius" class. There is much to be said about Canadian sculptors as a whole but as far as Gladstone is concerned I am contantly irritated by this foremost "image" maker who in no way lacks the ability to make his presence felt. He certainly did a hard sell at Expo. What is maddening is that with his obvious talent he does not do a hard sell on *himself* to produce less work of a partially successful nature and give us at least one or two top rate Gladstones to remember him by.

As for the rest, best honors really go to a masterly piece of integration of artists Bieler-Vaillancourt and Comtois for Irving Grossman

3
The "Henry Moore" a Rolls Royce among sculptures
Henry Moore, un chef d'oeuvre de la sculpture
4
The "Etrog" dominating the skyline
L'Etrog, dominant l horizon
5
"Tortured image", polished brass by Olivier Strebelle
"Image torturé" en bronze poli par Olivier Strebelle
6
Figurative fun from Mexico
Figurines insolites du Mexique
7
Belgian work, conservative statement of the human figure
Oeuvre belge, sculpture classique d'un corps humain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and his Massey Medal winning Administration Building. Space forbids complete survey. Democratic experiment at Expo however did reveal the true story of Canadian sculpture from which inferences can be made for better post graduate education or subsidy for large scale work and a greater skill with contemporary materials.

The International Scene

Here are too many well publicized and competent sculptors to single out many individuals or further publicize what is already known to any artistic literate. The total scene (where actual work stands in real three dimensional confrontation) only endorses the findings of the various art writers and critics throughout the world. Maybe a few minor talents are obscured on the international scene but top talent authoritatively states its own case for merit. One salient important fact emerges from the following: *Sweden* with a small survey placed in an excellent little sculpture garden failed to show it had new or more worthy talent than Canada. *Switzerland* with its top talents and others showed that its most publicized artists justify the attention. *Austria* with courtyards of vaulting forms and polished brasses, *Germany* with dictatorial authoritarian statements and ingenious constructions, *Belgium* with conservative but undoubted ability to state the human figure in dignified and valid terms, *France* with brilliant exposition of sophisticated talents, *Australia* with its beautifully placed modest contribution of local talent, *Greece* with subtle selecting of old and new in juxtaposition and all the others – *Mexico, India* plus the total exhibition of outdoor international sculpture – the fact is that the activity of sculptors has been regenerated. New totemic symbols of the period have survived the test of time. The biggest problem is for society to find the way to accept the Sculptor, great or small, into society in an economic situation which affords him a reasonable livelihood while perfecting his ability to make large scale work. This is the challenge after Expo, in the long chain of aesthetic possibilities. In conclusion it is "The Moore" in charge of its environment rather than enslaved by it, which gives us the symbol of hope. Top flight sculpture has proved that it is still capable of being an "international" symbol for inspiration.

Anita Aarons

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LCN

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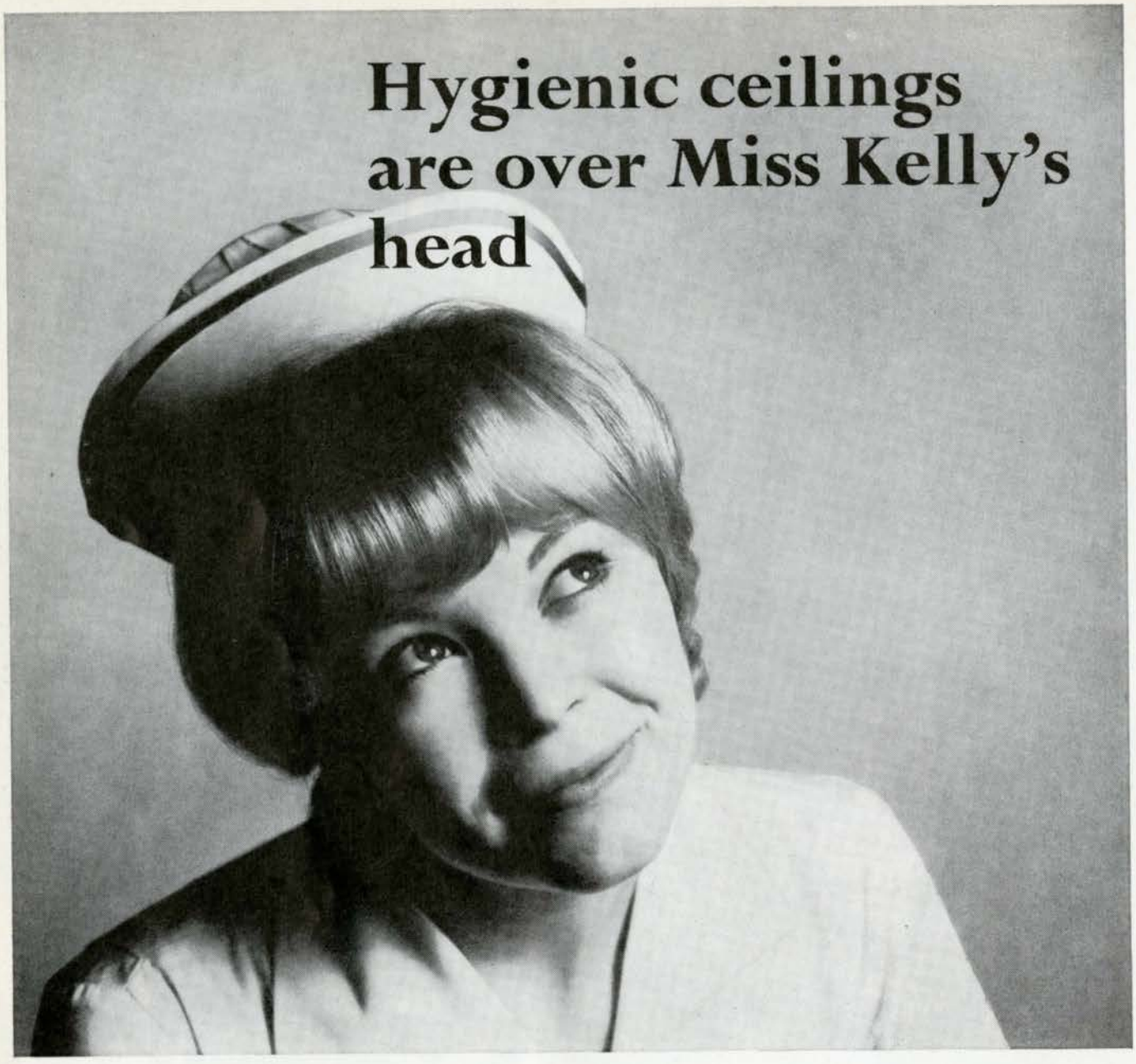
Hygienic ceilings are over Miss Kelly's head



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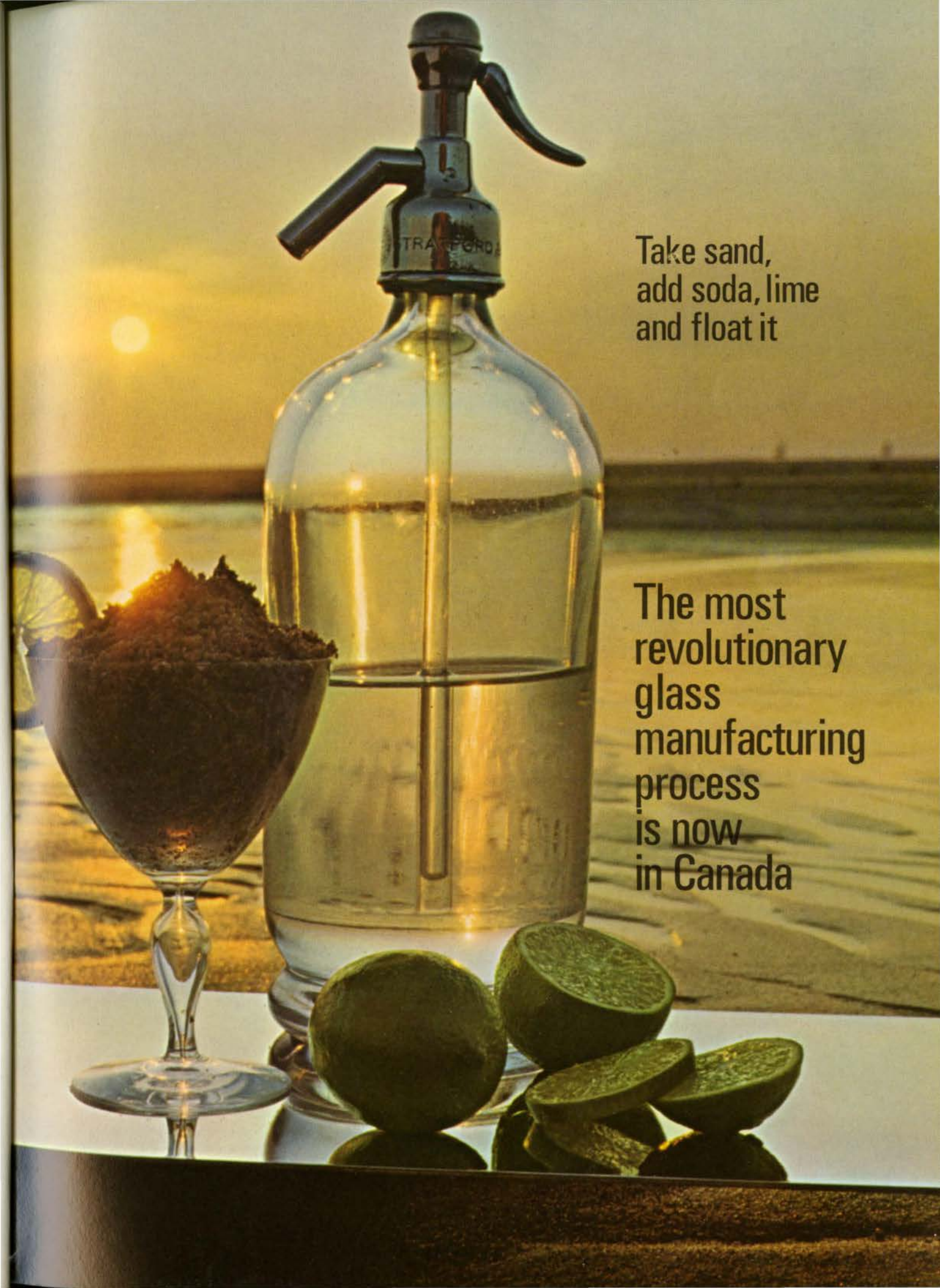
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The remarkable story of Pilkington's revolutionary Float glass

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The basic ingredients of glass are sand, soda and lime. These have not changed since glass was discovered by the Egyptians over 4,000 years ago. There have been many developments and refinements in glassmaking since then, but none more important or spectacular than the invention of Float glass in 1952.

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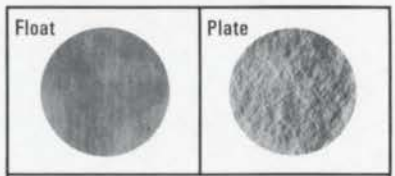
The beginning With a background in mechanical science, Alastair Pilkington left Trinity College, Cambridge to join the company at St. Helens in England. He began as a technical assistant in sheet glass and five years later, in 1952, he had convinced the company that it should test his new theory of glassmaking.

The Float process The Float glass process can be compared to the way fat forms on top of water. Because it is less dense, it floats on the surface. The forces of gravity cause the fat to set in a perfectly flat and uniform layer. Similarly, in the Float process, a ribbon of molten glass flows from a furnace over a bed of molten tin. All irregularities disappear and, since glass hardens at a temperature higher than the tin, the ribbon of glass comes off the bed with perfectly flat, parallel and fire-polished surfaces.

Trials and tribulations With a development budget initially estimated at 12 million dollars, work began on the new process in 1952. Yet by 1954 the Float glass being produced by the pilot plant had not reached the required standards. Float glass was supposed to replace plate glass. As such, it had to be of a very high quality. It appeared that years of experimentation lay ahead.

Success, then suddenly—failure The process was far enough advanced by 1955 that it was decided to design and build a full-scale production unit which was completed in 1957. Almost

all the serious problems were resolved by 1959 and Pilkington began to actively promote Float glass. The response was so immediate and encouraging that the company decided to renovate the set-up of the float bath and replace worn-out parts to get



These microphotographs show how Float outdates Plate with its smoother, finer surface

ready to handle the orders. Then, to everyone's amazement, the plant began to produce waste glass again.

The secret It took three months to discover that the good glass which had been produced was, in part, accidental. Renewing the worn-out parts from the original set-up had removed a vital ingredient. However, this shortcoming was replaced and saleable glass was soon in full production.

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This year we have added sectional tabs and telephone numbers for your convenience.

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Pronounced (â' də)

Review
Revue

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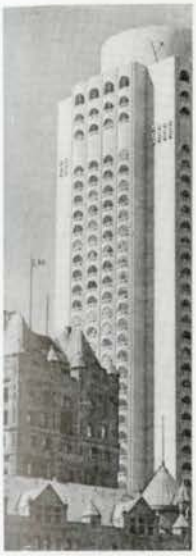

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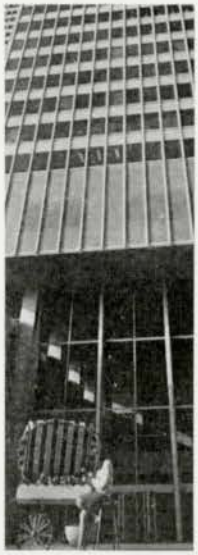

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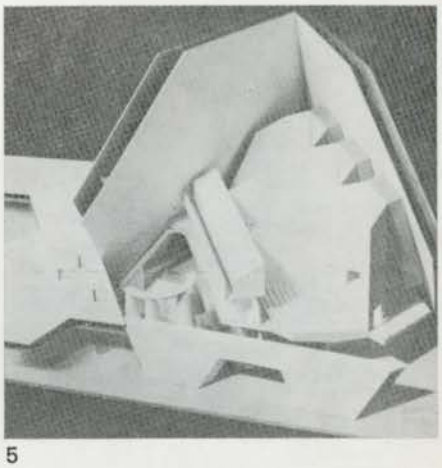
The current focus of many professional, literary and lay magazines is Expo 67 and Canada: *Harpers* May issue (with article by Edgar Kaufman Jr.), the April issue of *Holiday* (**1, 2, 3, 4**), the May issue of *Architectural Review*, the February issue of the *AIA Journal*, the June issues of *Progressive Architecture* and *Forum* are a few among the many published and those to come. There is among them all the freshness of discovery, of delight in the surprise at the quality and sophistication of Canadian architecture, its big cities and its political and administrative systems. But more significant is this discovery for Canadians themselves. In a relatively small community, it is hard to believe that the Tom or Dick we know compares with the vaunted and much publicized foreign architect. But now the magazines, and at Expo, Canadian work is a part of the international scene; not only does it make the scene, but stacks up better than most. Perhaps this will encourage Canadian clients, either public or private, to have confidence and pride in Canadian work. Perhaps it will be a more effective lesson than such fiascos as Yamasaki's (an American consultant) Wascana campus, where an entirely artificial idea "the podium concept" – actually prevents the possibility of solutions which solve relevant planning and design problems. The only work there of any significance to date, and one which does not conform to the phony podium, is Cliff Wien's heating plant. Canadian architects should now, while confident enough to accept any competition, be vociferous in their criticism if that competition is employed for "name" reasons, and not demonstrated ability. Perhaps this self realization is partly due to seeing our work and environment exposed in sophisticated media, either in the photography of magazines such as Holiday, or in the movies at Expo. For long has the USA been exploiting the physical resources and beauty of its country and places in the glamorous media of film and photo – we have as much, and more qualitatively, to exploit.

The University of Waterloo Quarterly summer issue has published their Department of Design's involvement in three key projects at Expo 67–"the Kaleidoscope pavilion, the Man and His Planet and Space pavilion, and an exhibit in the industrial design section of the Man the Creator pavilion. The Kaleidoscope pavilion, reviewed in the December 1966 Quarterly, is proving one of the most popular buildings in Expo . . . surpassed in numbers of visitors only by three major national pavilions. Other exhibit areas in the pavilion were done outside the University under contract with the Institute of Design. The Man and His Planet and Space pavilion is divided into three sections: the entrance, the theatre and the exhibition hall. The theatre (**5**) features three auditoria in which a 12-minute film entitled 'The Earth is Man's Home' is projected. The industrial design exhibit, sponsored by the Bata Shoe Company, is a pictorial representation of the design process as applied to the problem of sore feet. 'Since the Department of Design has a keen interest in design methodology, we decided to take a humorous look at the problem solving process,' said Tony Parsons, who also served as project director for the exhibit. The exhibit consists of 10 four-by-eight foot panels, the first four of which define the problem and the last six of which develop a number of solutions. In turn, Expo has meant growth and development for Waterloo. Work on the above projects attracted designers and architects to the campus and their presence proved a factor in the awarding of a program of architectural studies to the University."

A. J. D.



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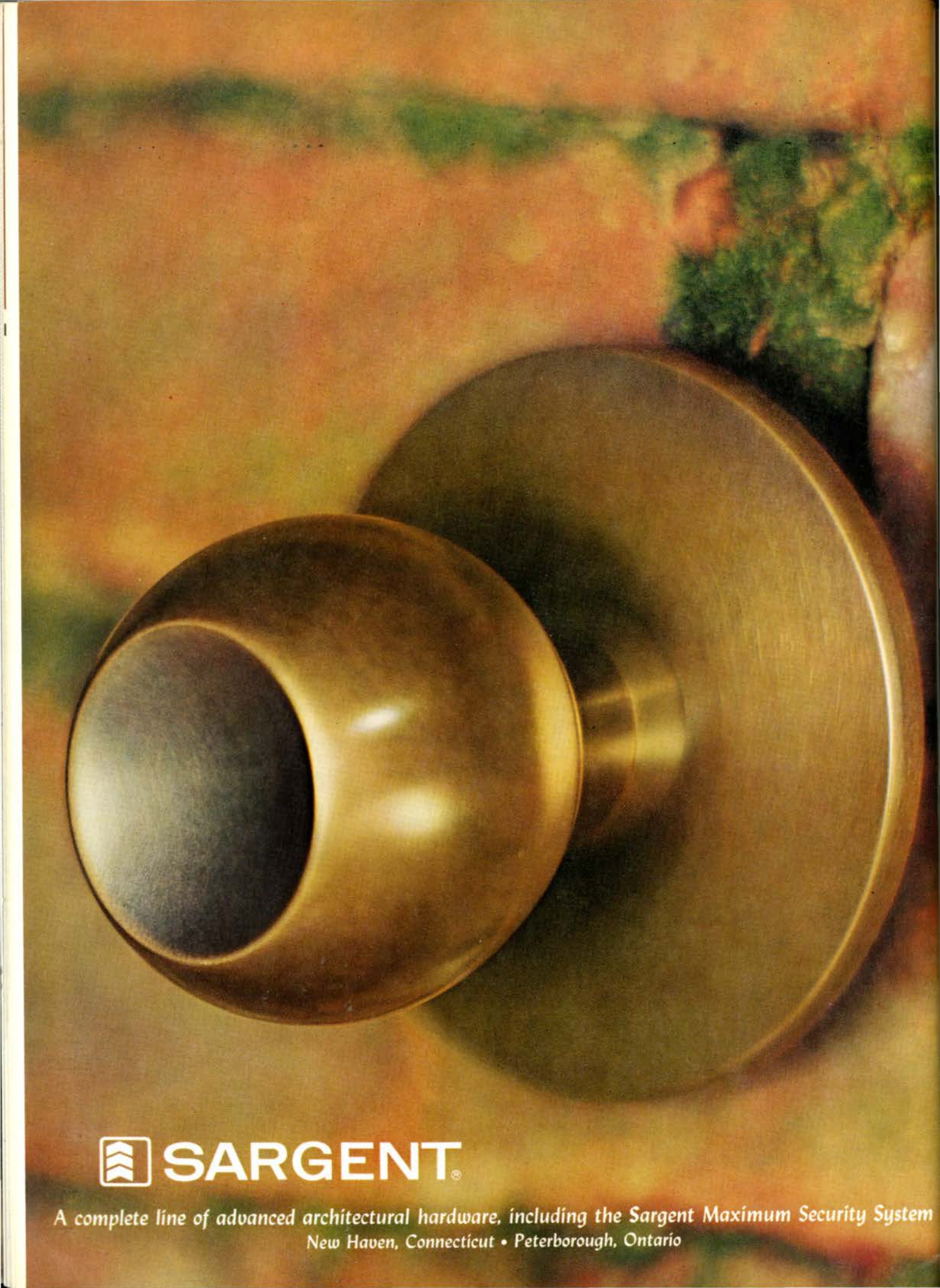
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Résumés

Page 32
Place Bonaventure – Vue de L'Architecture

L'expérience de la Place Bonaventure a été unique pour ses architectes de trois points de vue : le procédé de réalisation ; le mélange urbain ; l'architecture en tant qu'expérience totale.

Le Procédé

Ce procédé qui a évolué dans la réalisation de la Place, comprenait un développement simultané de la programmation, du budget, dessin, des plans d'exécution et de la construction. Toutes ces activités impliquaient la participation d'une grande diversité de disciplines qu'on peut grouper en trois catégories traditionelles : le Propriétaire, l'Architecte et l'Entrepreneur. En fait, les barrières professionelles s'estompaient au fur et à mésure que le procédé se développait. Il fallait une communication continue et une compétence evoluée en communications. L'auto-critique – l'exposition créative des conflits et l'interpénétration consciente des façons qualitatives et quantitatives de pensée et de jugement étaient aussi impliquées. Le triumvirat classique du Propriétaire, Architecte et Entrepreneur fonctionnant en isolation l'un à l'autre était remplacé par l'interaction simultanée de ces entités travaillant ensembles aux moyens des "Conférences de Programmation" hebdomadaires ; le "Programme" et le "dessin" étaient développés aux buts et mésurés continuellement en relations au budget, aux plans d'exécution, etc. Par conséquent, des définitions nettes avaient tendance à s'estomper à l'égard des fonctions et des rôles des gens en cause. Par exemple, "Programme" et "Dessin" devenaient si étroitement liés que souvent ils étaient indiscernables. Les origines des concepts de base transcendaient les divisions professionelles mais leurs implémentations restaient dans les voies traditionelles.
Le mot "Happening" s'applique à bien des aspects de ce procédé. "L'architecture" est ce qui "happens". Un "Happening" exige un milieu très sophistiqué et la confiance mutuelle, ce qui est en contraste marqué avec le manque de confiance mutuelle traditionnelle entre les membres du triumvirat. Notre expérience indique qu'une solution aux défauts de l'industrie de la construction n'est pas l'expansion de l'architecture aux secteurs périphéraux mais plutôt la "professionalisation" de toutes les entités impliquées dans le jeu. Ceci permettrait éventuellement l'automatisation de la plupart des procédures, tel que le développement en dessin, la documentation, etc. Avec un procédé pareil, une des fonctions les plus importantes de l'architecte sera la communication des idées générales en dessin de façon à encourager les autres "joueurs". Les concepts rationnels complets n'y ont plus de place aussi bien que les "présentations" formelles si chères normalement à l'architecte. Dans ce contexte, le mot "architecte" s'applique à toute l'équipe. Les termes "propriétaire" et "entrepreneur" réfèrent également à une grande diversité de capacités et de responsabilités.

Le Mélange Urbain
La Place Bonaventure est un exemple intéressant d'un complexe urbain à usages multiples lié étroitement aux diverses méthodes de circulation. Le Métro, le chemin de fer et l'auto sont liés par divers moyens à un système interne complexe pour piétons qui à son tour est lié au système extérieur existant pour piétons et au nouveau mélange d'activités présenté par la Place elle-même. Au fur et à mésure que le procédé de dessin avançait, il devenait évident que ce n'était pas les entités elles-mêmes qui constituaient le problème majeur mais plutôt le dessin des interconnections entre les diverses fonctions. Le système de circulation pédestre évoluait comme la charpente du dessin total et éventuellement il est devenu l'élément le plus permanent du rapport unité-diversité. En effet, la cité était mise sens dessus dessous et l'arrangement urbain habituel était placé dans un climat controlé. Un aspect important du système des raccords entre les diverses activités est l'interconnection pour piétons sous abri des trois majeurs super-blocs en plein centre ville de Montréal – ce qu'on appelle des fois une "Ville souterraine".

L'Architecture en Tant Qu'experience Totale
Dans la conception de la Place Bonaventure, on a essayé de développer une architecture basée sur les modèles du comportement humain plutôt que sur les préconceptions de la composition formelle qui ont généralement dominé notre profession depuis la Renaissance. En tant qu'attitude générale envers l'urbanisme, nos idées et nos méthodes découlaient naturellement du procédé décrit ci-dessus. En repensant la création de la Place Bonaventure, je peux dire que la barrière environementale (la façade) était l'élément le plus difficile à traiter, peut-être à cause de notre histoire qui nous tracasse dans cet ère d'expression.

Page 41
Architecture '67

Le sujet "La Construction des Villes", était héroïque aussi bien que l'optimisme du comité de l'IRAC en choissisant un tel sujet. Avec une assistance changeante et une présentation monolithique pareille, on ne pouvait pas avoir un dialogue fructueux entre le speaker et l'assistance. Comme Casson a remarqué, "Je ne veux pas vous faire perdre votre temps en vous faisant de la chaire de poule, en vous ennuyant avec les éructations philosophiques typiques des conférences de ce genre." N'est-il pas clair que les conférences que nous tenons n'ont pas encore réussi à construire une procédure ou une forme ou pour vrai dire, trouver de sujets vraiment utiles aux individus de notre profession ? Quels sont ces sujets et comment peut-on communiquer leur sens aux conférences ? Les suggestions des membres pourraient sans doute aider l'IRAC mais néanmoins, la qualité des discours faits à Ottawa avait certain mérite peut-être parce qu'ils ne portaient pas loin et qu'ils étaient donnés par des experts qui ne rechignaient pas aux sagesses conventionnelles architecturales. Selon Michel Chevalier . . . "J'ai bien peur qu'il me faut retrécir un peu l'image puisqu'une description plus réaliste du procédé de l'urbanisme, d'après moi, est l'étendue croissante de l'urbanisme, pas l'apparition d'un tas de villes magnifiques chacune avec une âme et un but à elle seule." Pareillement, R. T. Adamson s'est avoué contre trois des quelques soi-disantes théories sacro-saintes : les conditions des logements en baisse ; les gens "moyens" de moins en moins capables de s'offrir des logements neufs ; et la maison particulière n'a plus de viabilité. Il faut suivre les discours des Messieurs Chevalier et Adamson pour se rendre compte de la validité de leurs idées ; Architecture Canada vous donne la suite de leurs remarques ainsi que des passages choisis du discours de Sir Hugh Casson.

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L'Urbanisme – Son Accroissement et son Développement

(Remarques au Seminar de l'IRAC par R. T. Adamson, le 25 mai, 1967).

Un employé du gouvernement a bien du mal à discuter du sujet de cette conférence, étant donné l'opinion agitée du public en ce moment.

Marshall MacLuhan, suivant l'exemple de ces ancêtres intéllectuels, dont Machiavel et Goebels, nous a expliqué qu'entre l'évènement et le public, le message intervient et exerce sa propre influence indépendante. L'année passée a vu une crise de l'opinion publique à propos des logements et de l'urbanisme mais il ne se trouve pas de changement profond dans l'urbanisme qui est en cause. Selon moi, il n'existe pas de crise de logement, malgré l'hystérie actuelle. On cite trois causes de cette crise, fallacieuses toutes les trois : qu'il existe une detérioration des conditions de logement au Canada ; que les gens "moyens" ne peuvent plus s'offrir des logements comme dans le passé ; que la maison particulière n'a plus d'avenir. Tout ceci n'est pas vrai. Les canadiens sont mieux logés que jamais et nous sommes à la hauteur de la course entre le coût des logements et les rentes. On ne risque pas la demise, ou la promesse, selon son point de vue, de la maison particulière.

Un des moyens de juger de l'état actuel des conditions de logement au Canada est fourni par les estimatifs des nombres de familles vivant avec d'autres familles ou avec des ménages sans famille. Ces nombres ont diminué depuis 1950. De 329,000 en 1951 à 239,000 en 1961. Il est probable que le recensement de 1966 nous montrera une baisse même plus grande. Les logements achevés entre 1961–1966 dépassent l'accroissement estimé des familles et des ménages par 100,000. L'augmentation des ménages n'est pas la seule cause des nouveaux besoins de logement. Néanmoins, les cinq dernières années suggèrent une réduction plus rapide des besoins de logements que pendant les années cinquante. En plus, une nette amélioration en qualité est évidente, montrant la diminution absolue des habitations défectueuses. C'est dire que les conditions de logement s'améliorent partout même avec le déclin en nouveaux logements en 1966. Il n'y a pas lieu à penser que l'économie canadienne ne serait plus capable de produire assez de logements.

Quant à la deuxième idée erronée : qu'on ne peut jamais construire sans subventions des logements pour ceux qui n'ont que des petits revenus et même pour les classes moyennes. Bien sûr, les premiers n'ont jamais pu s'offrir des nouveaux logements mais il n'y a pas lieu de croire que cette situation s'empire. On sait que les revenus augmentent plus vite que le coût des logements, donc, une plus grande sélection des groupes par revenus peuvent occuper de nouveaux logements. L'exclusion des plus pauvres de nos habitations neuves représente un défaut de notre système, pas parce qu'il ménace notre capacité de réaliser une production satisfaisante mais parce qu'il ne permet pas la planification de nouvelles communautés incluant tous les groupes sociaux. Il n'y a pas moyen d'inclure les gens à bas revenu sans subventions ou sans baisser les normes de qualité en construction ; avec tout ça, il n'existe pas de nouvelle crise dans ce domaine.

Quant à la soi-disante mort de la maison particulière prédite par le magazine Macleans ; il existe un déclin graduel depuis la fin de la deuxième guerre mondiale de 79% en '49 à 50% pendant ces cinq dernières années. Mais, il n'y a pas eu de déclin subit. Depuis la fin de la guerre, la famille canadienne se fait plus petite et la demande pour des grands logements est en baisse. Donc, il est surprenant que la maison particulière a pu maintenir un marché absolu. Comme architectes, nous ne pouvons pas nous féliciter des défauts des habitations à haute densité quant il s'agit des besoins des grandes familles. Si nous ne trouvons pas de meilleures solutions, les jeunes familles vont de plus en plus se tourner vers la maison particulière comme solution à leur problème de logement.

Il existe des problèmes réels en logement et en urbanisme. Le public n'est pas content. Il s'inquiéte et leurs soucis offrent une promesse d'appui public aux actions publiques créatives. L'appui public aux actions non-créatives reste un danger quand même puisque les solutions superficièlles qui existent, et qui aideront sans doute, ne s'addressent pas carrément aux solutions des tâches principales. On a fait du progrès depuis vingt ans mais il semble probable que le progrès futur dépend d'une plus profonde reconnaissance des problèmes représentant les responsabilités publiques, c'est à dire, tous les niveaux des gouvernements. Le public lui-même doit s'engager dans les procédés de construction des villes, ce qu'il ne peut pas faire sans qu'il aie un mandat régional urbain transcendant les gouvernements locaux.

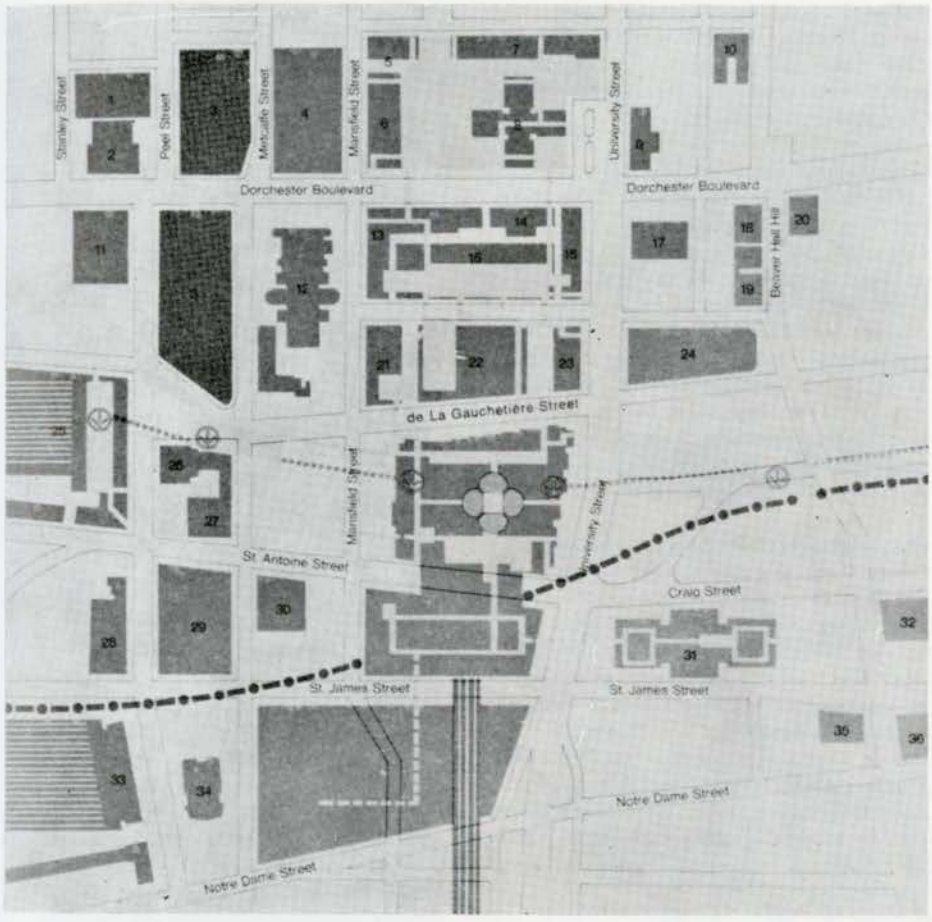
Page 44
L'Urbanisme – Son Accroissement et son Développement

(Remarques au Seminar de l'IRAC par Michel Chevalier le 25 mai 1967)

D'autres conférenciers ont établi des prévisions plus valables sur l'extension et la croissance des villes canadiennes durant les années à venir. Je me contenterai d'inventer le futur. – Le sujet de cette réunion est la construction des villes. Il me semble qu'une déscription honnête montre l'étalement des zones urbanisées plutôt que l'existence d'un réseau de villes magnifiques avec leurs caractères et leurs âmes propres. (Il s'agit maintenant de transférer cette disposition sur une carte du Canada, en omettant pour quelque temps la Megalopole. Le Canada est plus une terre d'extension des compagnies étrangères qu'un pays de quartiers généraux.) D'importantes organisations dominent des régions géographiques de vastes dimensions. La standardisation des formes urbaines est partout présente. Pour être plus précis la tyrannie de la standardisation dans un milieu urbain serait le dénominateur commun. Le retraçage des limites n'est pas suffisant et de toute manière trop tard en raison de l'intransigeance de notre administration municipale et du pouvoir des intérêts investis dans sa structure. Il nous faut penser dorénavent en termes d'organisations. Pouvons nous espérer d'avoir réellement une ou deux communautés typiquement canadiennes. L'exemple dont je veux parler est le triangle de Winnipeg, Regina, Saskatoon. Aucune de ces villes parait avoir l'attrait que représente Chicago, San Francisco, New York ou même Montréal. En dépit du fouillis des Mégalopoles et des Métropoles c'est là que se trouve l'activité. Il est temps que notre Gouvernement fasse quelque chose à ce sujet. Il est temps aussi que notre administration publique s'éloigne un peu du vieux cliché de plans conventionnels, afin de mettre au point une stratégie plus réaliste d'action entre ces offices publiques et les choses qu'ils font.

Place Bonaventure

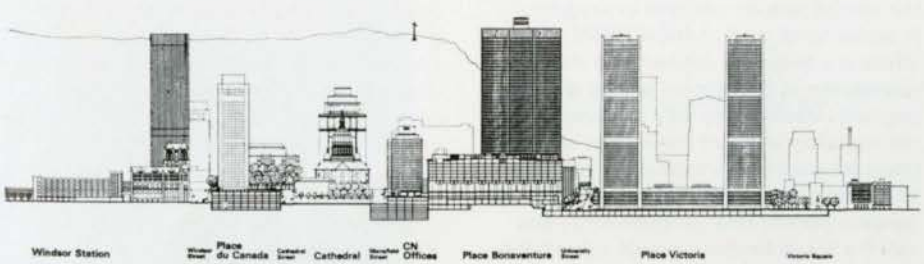
Architects, Affleck, Desbarats, Dimakopoulos, Lebensold, Sise
Structural Consultants, R. R. Nicolet & Associates; Lalonde, Valois, Lamarre, Valois & Associates
Mechanical & Electrical Consultants, Jas. P. Keith & Associates
Contractor, Concordia Estates Ltd



Legend / Legende

- Trans-Canada Highway
- Pedestrian Passageway
- Subway Access
- Subway

1 Windsor Hotel
2 Canadian Imperial Bank of Commerce Building
3 Dominion Square
4 Sun Life of Canada Building
5 Greenshields Building
6 IBM Building
7 Esso Building
8 Place Ville Marie
9 Prudential of England Building
10 Canada Cement Building
11 Laurentian Hotel
12 Mary Queen of the World Basilica
13 Queen Elizabeth Hotel
14 Terminal Tower Building
15 CNR Central Station
16 Aviation Building
17 CIL Building
18 Canada Permanent Building
19 Chamber of Commerce Building
20 DuPont Building
21 CN Office Building
22 CNR Parking
23 Central Terminal Building
24 Bell Telephone Building
25 Windsor Station (CPR)
26 Le Chateau Champlain
27 Place du Canada, Office Building
28 Queen's Hotel
29 Central Post Office
30 Gazette Building
31 Place Victoria
32 Canada Steamship Lines Building
33 CN Freight Station
34 Dow Planetarium
35 Crédit Foncier Building
36 Toronto-Dominion Bank Building



Downtown Section looking north
Centre ville, coupe faisant face au nord

Place Bonaventure
The Architect's View

R. T. Affleck, MRAIC, ARCA

Mr Affleck of the architectural firm Affleck, Desbarats, Dimakopoulos, Lebensold, Sise was the partner in charge of the Place Bonaventure project

For the architects involved in Place Bonaventure, the experience has been a unique one in a number of ways that depart from normal architectural practice. These unique aspects might be summarized under the following headings:

a) The Process of Realization
b) The Urban Mix
c) The Architecture of Total Experience

Process

The process evolved in the realization of Place Bonaventure involved a simultaneous development of programming, designing, budgeting, scheduling and construction. These activities, by their very nature, involved the simultaneous participation in the process of a great variety of disciplines. The principal disciplines can be loosely grouped under the traditional categories of Owner, Architect and Contractor. Actually, as the process developed, there was a considerable degree of blurring of the traditional professional barriers. The action involved a continuous participation in communication and demanded a high level of communication skills. Also involved was continuous self criticism within the group, – the creative exposure of conflict, and the conscious interpenetration of qualitative and quantitative modes of thought and judgment.

The classical triumvirate of Owner, Architect and Contractor functioning in linear sequence and in relative isolation from one another, was replaced by the simultaneous interaction of these entities, working together through weekly "Program Meetings", involving principals and continuous detailed follow-up. What evolved might be described as a process of discovery which was open-ended and unpredictable.

Sequential organization
Decision making in conditions of fragmented information

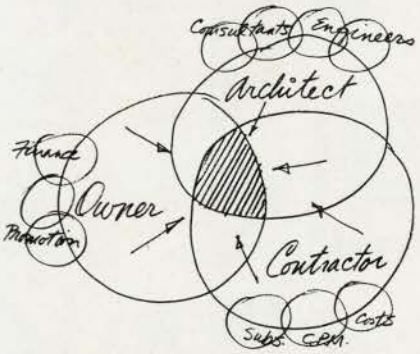
Within this process, "Program" and "Design" were developed in relation to over-all goals and were continuously measured with respect to both quantitative and qualitative criteria such as budget, schedule, appearance, maintenance and operation characteristics, and human response.

In such a process sharp definitions tend to get blurred, – both with respect to functions and roles of the people involved. For example, "Program" and "Design" became so closely interwoven as to be often indistinguishable. It was found that in the process of problem stating, problem solving and decision making, basic ideas came from any individual or any discipline. The follow-through of ideas tended to remain within traditional professional channels but the origination of basic concepts transcended professional or occupational divisions.

In many facets of the process, the term "Happening" is applicable. To a large extent the "Architecture" is "what happens". As is always the case, a "Happening" requires a very sophisticated milieu, with a high level of mutual trust and hence a readiness by all parties to expose themselves to various modes of critical judgment. This is, of course, in sharp contrast to the climate of mutual distrust, rehearsed roles, posturing, and manipulation that so often characterizes Owner-Architect-Contractor relationships in the traditional sequential – isolation relationship.

Our experience indicates that one answer to the apparent inadequacies of the building industry is not the expansion of the architectural profession into peripheral areas, but rather the professionalization of all the entities already involved in the game. A professional level of commitment and ethics is a minimum necessity for the functioning of the process we are discussing, and indicates one way of overcoming the appalling waste of knowledge and talent inherent in the traditional relationship. This total professionalization of the process (since it permits total programming) also sets the scene for the eventual automation of most of the back-up procedures, such as design development, documentation, scheduling, budgeting and financial analysis. It can also be seen as the technique whereby the architects' energies can be released from many side issues and channeled into the compelling issues of urban design as an art form.

One of the most important functions of the architect within the process is the communication of design ideas in a form that is rough and open-ended enough to encourage and leave room for immediate participation by other players in the game. This automatically rules out the rationally complete

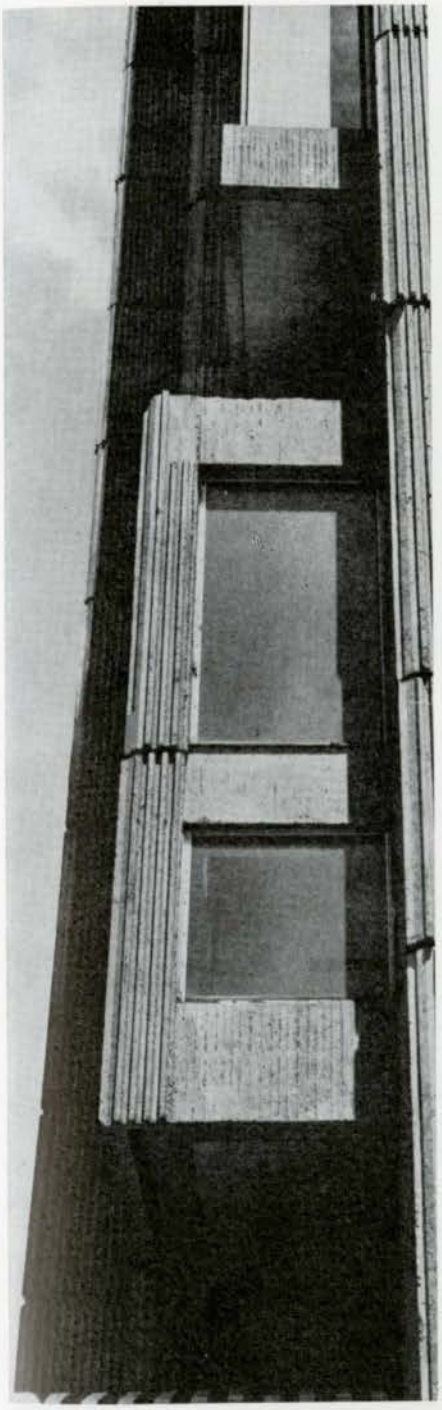


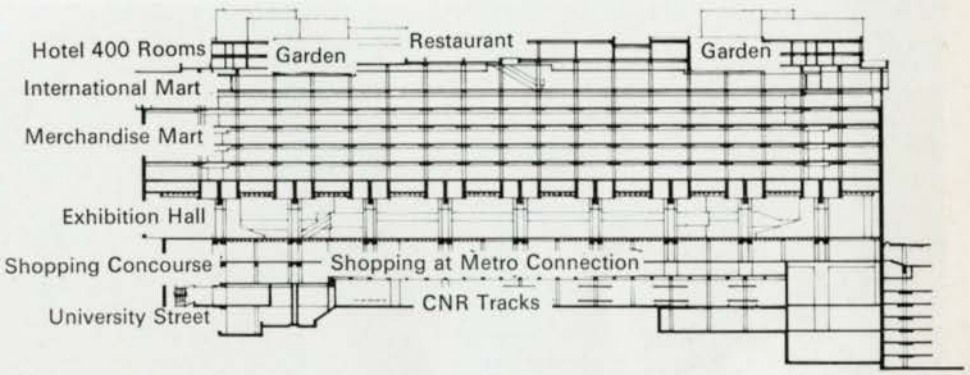
▨ = decision making in conditions of Total Programming Simultaneity.

concepts and elaborate formal "presentations" so dear to the heart of our profession. In his book, "Synectics, the Development of Creative Capacity", Wm. J. J. Gordon expresses this feature of the creative process in the following words:

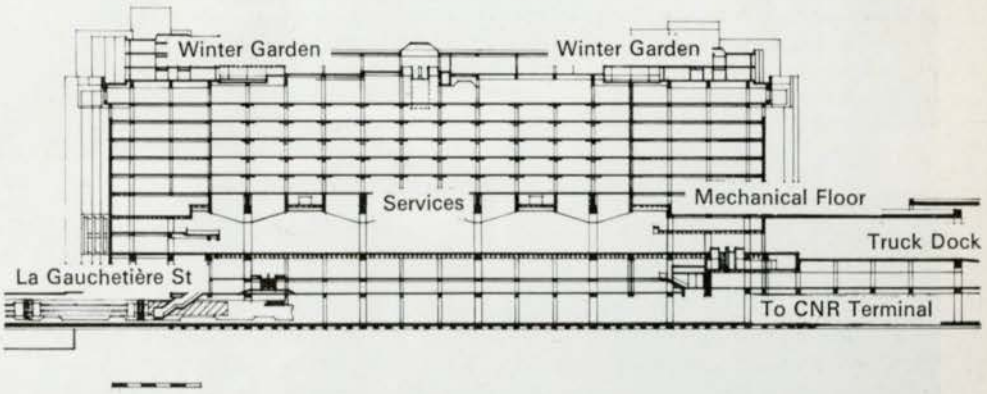
"When an idea is expressed after being completely worked out it is either acceptable as true or unacceptable as untrue. It resists modification. It lives or dies as uttered. No one else can find his way in and build on it; the author of the thought finds himself adorned with a conceptual jewel which is isolated and untouchable. Non-rational communication, on the other hand, produces evocative metaphors, images with rough surfaces, and fissures on which others can get a grip and participate. Of course, this kind of non-rational interplay is only part of a process which spirals up towards increasing coherence. Ultimate solutions to problems are rational; the process of finding them is not."[1]

[1] *Wm. J. J. Gordon – "Synectics, The Development of Creative Capacity".*

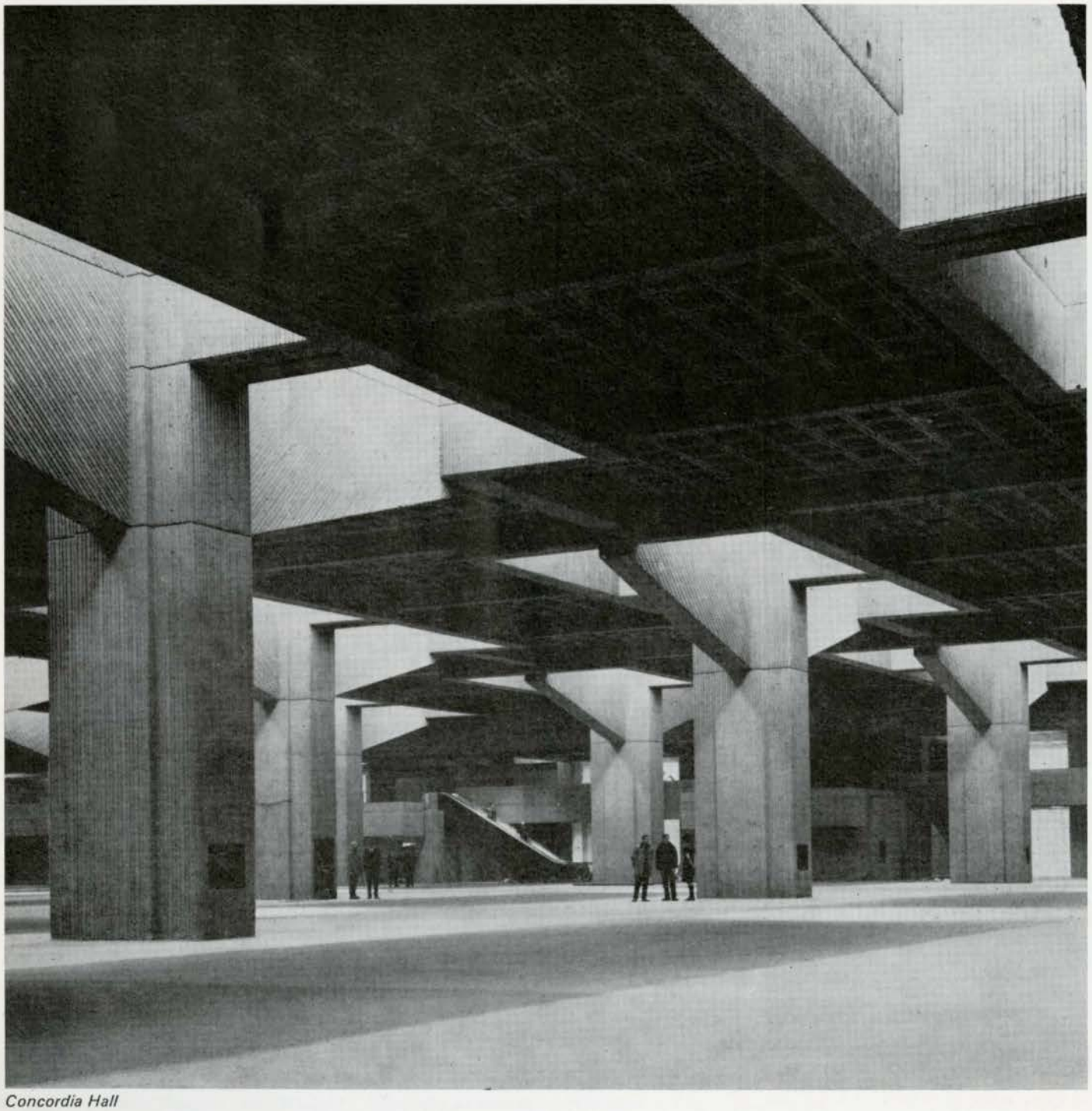




Cross section looking south / coupe sud



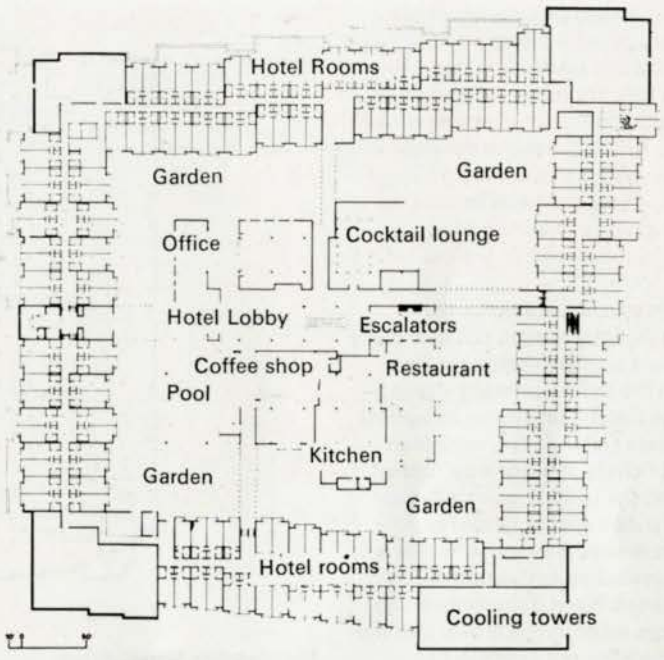
Cross section looking east / coupe est



Concordia Hall

In the above discussion the terms "Owner", "Architect" and "Contractor" are used merely as handy labels, and not in any way in a literal sense as the names no longer adequately describe the complexity of function performed within each general category. This phenomenon is, of course, already familiar to the architect in relation to the engineers and other experts required by contemporary technology.

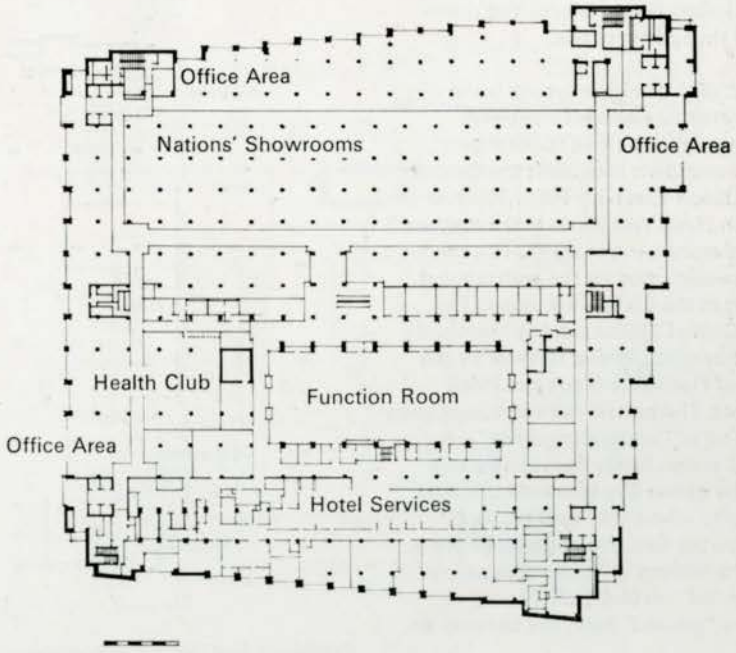
In this sense the term "Architect" is used to refer to the entire professional team involved in the project in varying degrees of intensity and continuity. In a like manner the terms "Owner" and "Contractor" also refer to a great variety of skills and responsibilities. The three general categories, however, retain a great validity in terms of responsibility for initiative (e.g., programming, designing, budgeting, scheduling) and with respect to detailed follow-through, such as design development, documentation, field construction and sub-contract management.



Hotel / hôtel

The Urban Mix

Place Bonaventure is an interesting example of a multi-use urban complex tied intimately to circulation of various kinds. The Metro, railway and automobile constitute the 3 main wheeled media of circulation, and are in turn linked in various ways to a complex internal pedestrian system. This, in turn, is linked to the existing exterior pedestrian system, the existing weather protected system, and the new mix of activities introduced by Place Bonaventure itself. These activities (from the bottom up) consist of *retail shopping*; a *cinema*; a *"Better Living Center"*; – (a permanent exhibition of building materials and consumer products similar to the Building Center in London or the Baucent rum in Rotterdam); *Exhibition Hall* (for short term shows such as the auto show, home show, etc); *Merchandise Mart*; (permanent wholesale showrooms for manufacturers, importers, etc); *Office space*; an *International Mart* (permanent showrooms for the trade departments of the various national states), and a *400 room Hotel*. Supporting these activities is a 1,000 car garage and a public open space of approximately 50,000 square feet.

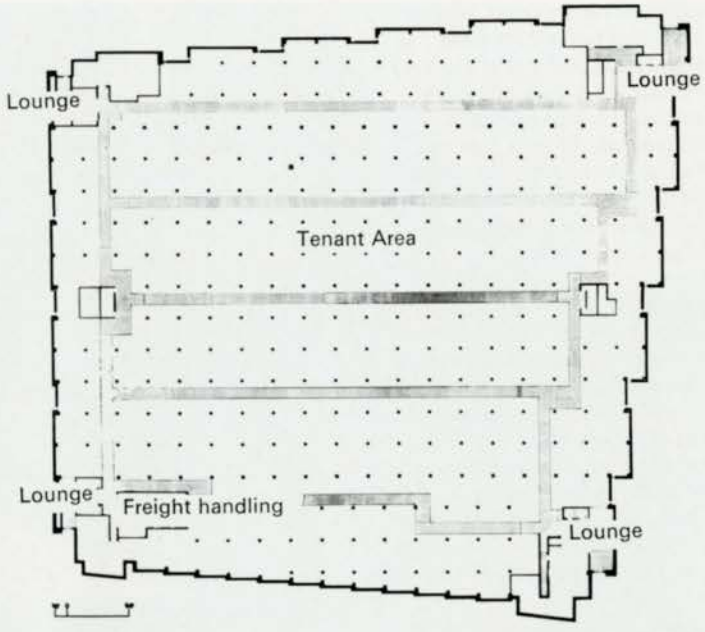


International mart / Centre international de vente

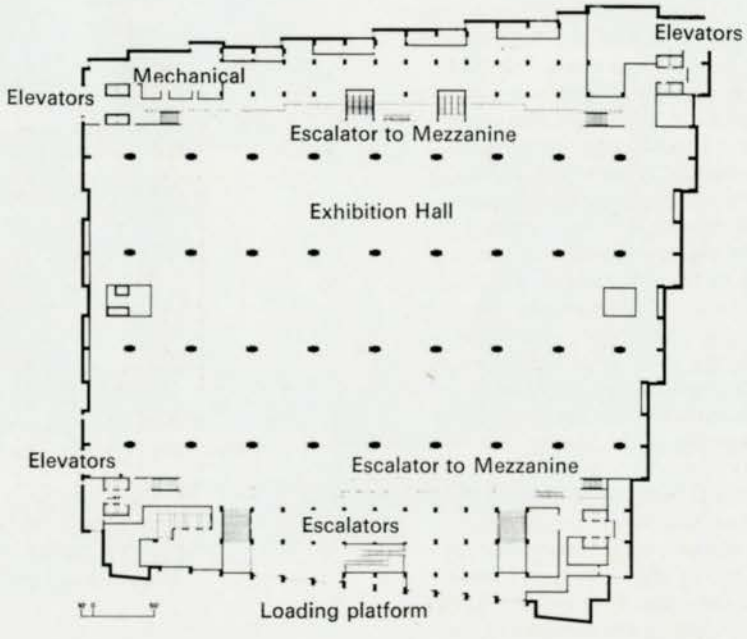
As the program-design process advanced it rapidly became apparent that it was not the design of the entities themselves that was the major problem, but rather the design of the linkages and connections between these diverse functions. This led to the development of an extensive system of pedestrian circulation, both horizontal and vertical, and the architectural celebration of significant nodal points within the system.

This circulation system evolved as the framework for the total design, and eventually became the more permanent element (the continuum) in the unity – diversity – ratio; – in this case the circulation system as against the tenant spaces (retail shops, exhibition spaces, etc). In effect, the city was "turned inside-out" and the familiar urban equation of streets and public spaces related to individual private uses reappeared within a large climate-controlled environment. The difference between Place Bonaventure and many other large urban projects was that the diverse activities were not expressed as individual isolated forms but were enclosed within one relatively simple environmental barrier, including both the activities themselves and their connections.

One aspect of this linkage system is the weather protected pedestrian network which now connects three major super blocks in downtown Montreal; the Central Station – Queen Elizabeth Hotel block at the center, with Place Ville Marie to the north and Place Bonaventure to the south. This unique system was originated by the architectural department of the CNR at the time of the design of Central Station, and subsequently, in rapid succession, carried forward by the architects of Place Ville Marie and Place Bonaventure. This system has sometimes been referred to as an "underground city" – a notion that seems hardly appropriate to a high density center city area built primarily over air rights where the "ground" is in effect where the designer chooses to put it. In effect the notions of "underground" or "above ground" involve entirely new criteria. The "ground" itself has become an artifact.



Merchandise Mart / Etalage



Exhibition Hall / Salle d'exposition

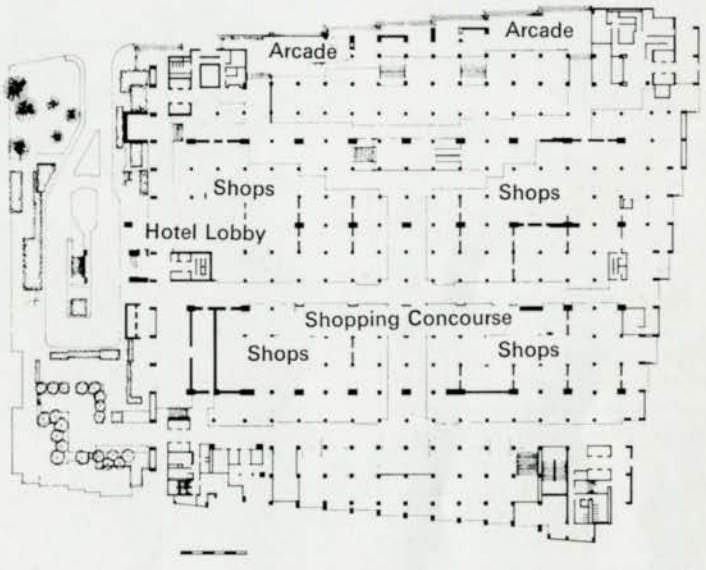
The Architecture of Total Experience

An attempt was made in the design of Place Bonaventure to develop an architecture based on patterns of human behaviour, rather than on the tenets of formal composition which have, generally speaking, held sway in our profession since the Renaissance. The general notion can be expressed in a variety of ways: –

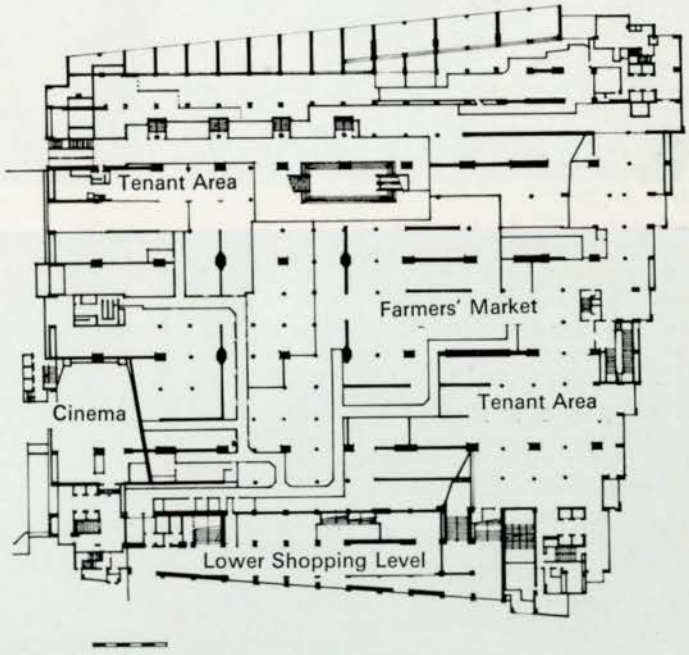
an architecture oriented to total experience, involving all the senses, (not merely the visual) and involving movement as a primary activity – rather than an architecture related primarily to static objects to be "looked at"; an architecture of participation, where form is understood as process rather than object; – an architecture related to the discovery of patterns, rather than the imposition of patterns (a difficult task since it involves both existing and induced patterns); – an architecture with its roots in human activity rather than pictorial relationships; – an architecture committed to the precarious balance between change and continuity, rather than ideas of total control and permanence.

The above phrases are, of course, merely different ways of saying the same thing, and as notions are easier to state than achieve (particularly in view of our profession's long commitment to "form as object"). As a general attitude to urban design, however, these ideas and methods flowed naturally from the process described above. A rigid compositional approach would not have been possible within the terms of that process. It was not a question of "form following function" (a typically sequential notion) but of achieving a complex identity of form and function (or program and design, or activity and expression).

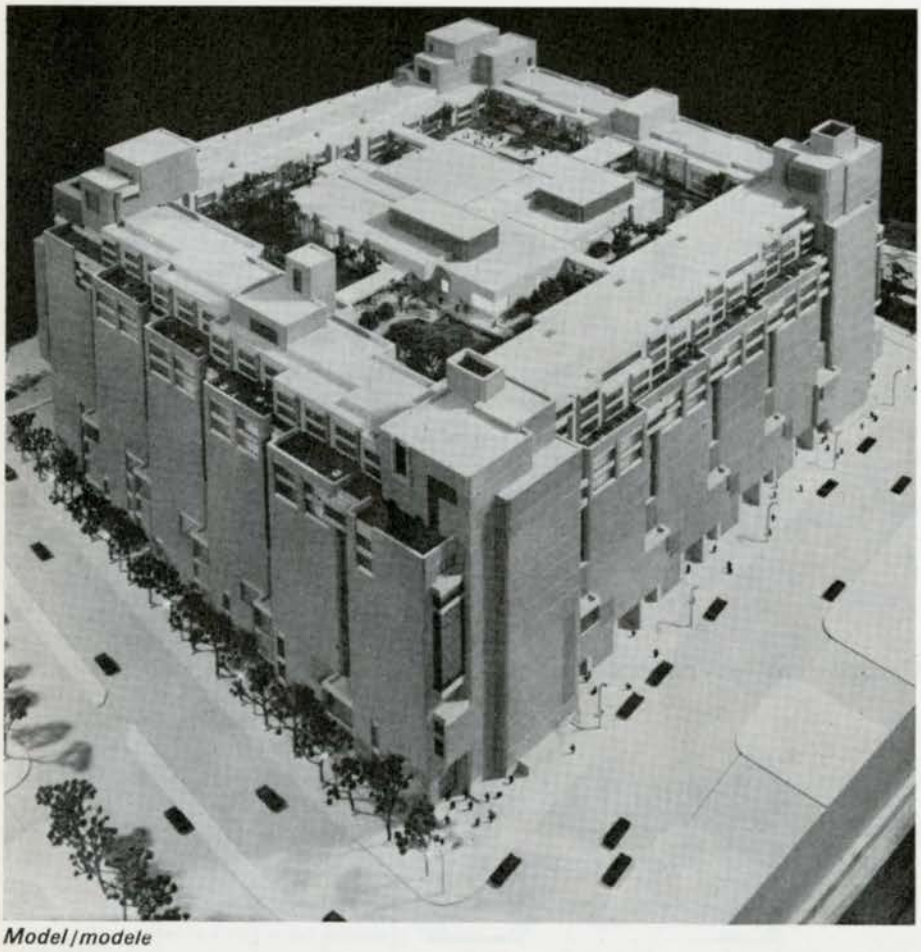
The architecture of the internal streets and places became a major field for the direct application of these ideas, as did the creation of the special "fun-environment" for the Hotel. In retrospect, I would say that the environmental barrier (façade) was possibly the most difficult element to cope with; – maybe because of the weight of historical baggage that we still carry with us in this area of expression. □



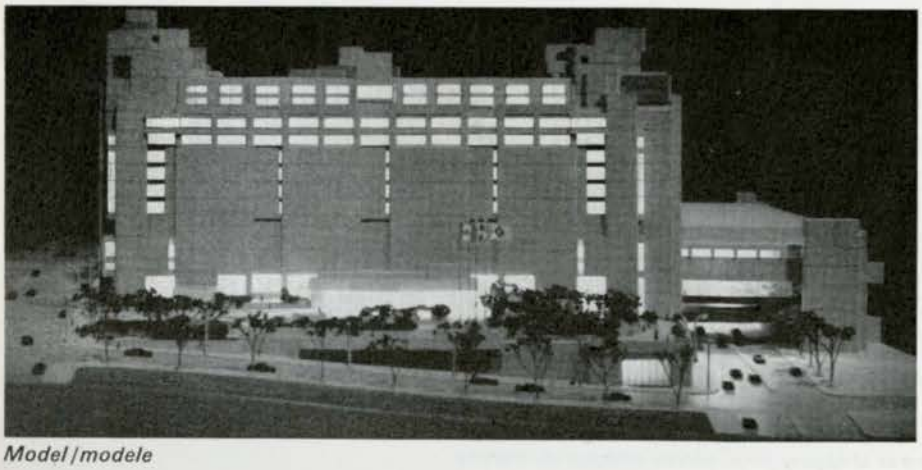
Shopping level / niveau du marché



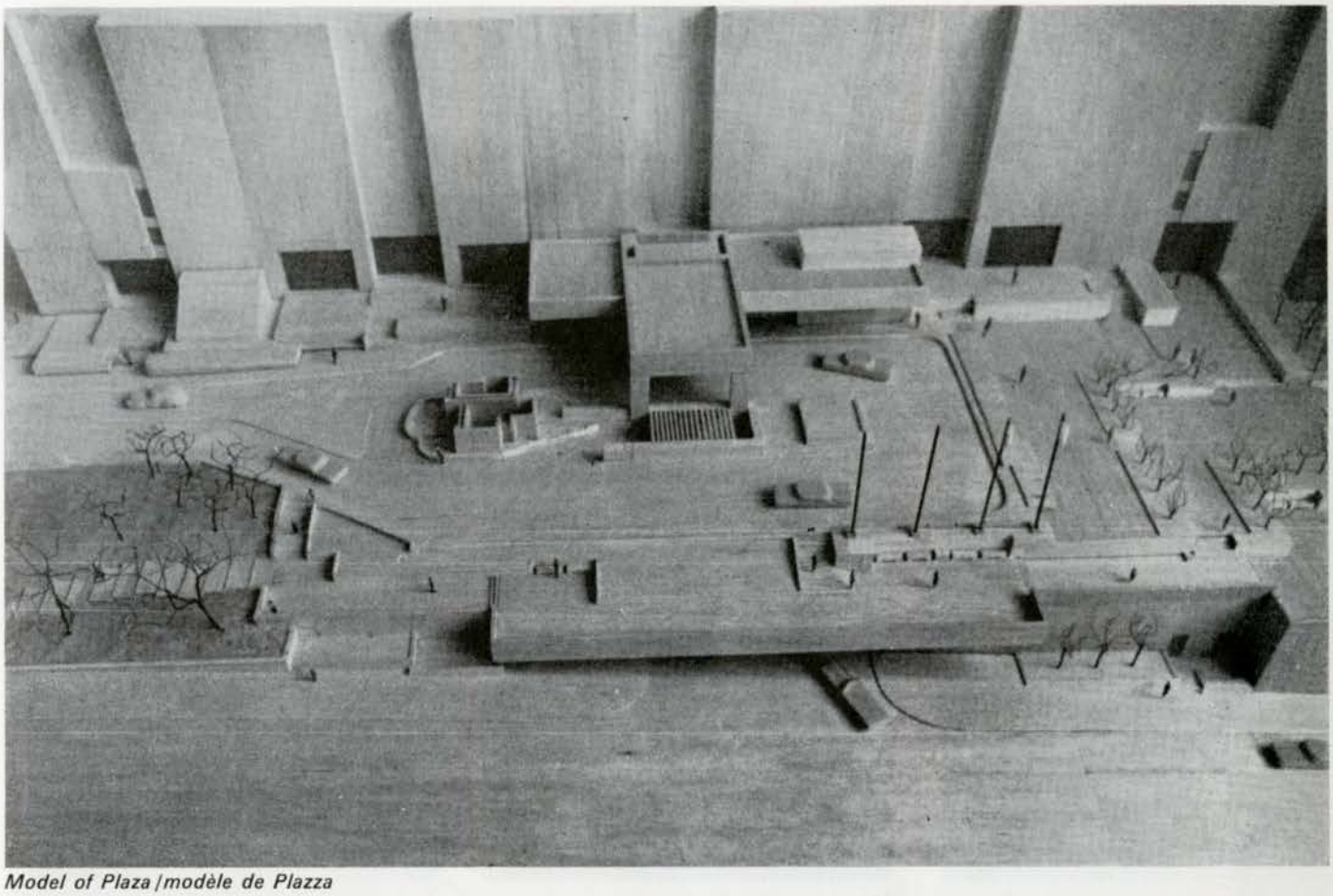
Lower shopping level / niveau inférieur du marché



Model / modele



Model / modele



Model of Plaza / modèle de Plazza

Concordia Hall

1
James E. Searle, 1967-68 RAIC President, receives medallion of office from Past President C. A. Fowler
James E. Searle, président de l'IRAC pour 1967-68, reçoit la médaille de service des mains de C. A. Fowler, président sortant de charge
2
Harland Steele (right), retiring Chancellor of the College of Fellows, and incoming Chancellor Peter Thornton
Harland Steele, chancelier sortant du collège des Fellows (à droite), et le nouveau chancelier Peter Thornton
3
Jean Drapeau (left), Mayor of Montreal, receives RAIC Gold Medal from A. T. Galt Durnford
Jean Drapeau (à gauche), reçoit la médaille d'or de l'Institut de A. T. Galt Durnford
4
Gerald Trottier (right), receives 1967 RAIC Allied Arts Medal from President J. E. Searle
Gerald Trottier (à droite), reçoit la médaille des arts connexes de J. E. Searle
5
Founding Member Leslie Fairn (F), Wolfville, N.S. (right), receives Honorary Membership from C. A. Fowler
Leslie Fairn (F) fondateur-membre (à droite), reçoit le titre de membre honoraire de C. A. Fowler
6
The new President and Mrs J. E. Searle
Le nouveau président et Mme J. E. Searle
7
Gordon Arnott, Regina, Host Committee Chairman for 1968 Assembly at Regina, and Mrs C. A. Fowler
Gordon Arnott, Regina, président du comité de réception de l'Assemblée pour 1968 à Regina, et Mme C. A. Fowler
8
H. W. Hignett, President of CMHC, addressed the Annual Dinner
H. W. Hignett, président du CMHC, faisait un discours au diner annuel

1


3


6


4


7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8

RAIC Assembly
Ottawa, May 24-27

The subject "The Building of Cities" chosen for the theme of the RAIC Assembly was heroic in scope. Heroic too was the optimism of the program committee that such a subject, with such a large and changing audience and such a monolithic presentation structure, over such a period of time, could ever generate a sequential, or fruitful dialogue between speaker and audience. And it was too much to expect that such discussions as those that did take place, would not degenerate into breast beating. As Casson, in is eminently witty speech, remarked – *I do not want to waste time making your flesh creep, wringing hands and calling people names. I find these philosophical wailings, so familiar at conferences of this kind, a great bore and usually totally unconstructive.* Is it not clear that the conventions we hold have not yet managed to construct a procedure or form, or for that matter, find topics that are really useful to individual practitioners? What are these topics, and how best might their content be conveyed to conferees? The program committee in Saskatchewan for the '68 Assembly would without doubt welcome the membership's suggestions.

However, the quality of the papers delivered at Ottawa were of high merit, perhaps because they were narrow in scope and given by experts in their fields, who did not hesitate to challenge the conventional architectural wisdoms. Michel Chevalier questioned the grand image that the theme of the conference conjured up . . . *I am afraid that I will have to flatten out the image a bit, because to me a more realistic description of the process is the spreading pattern of urban settlement, or pattern of urbanization – not the appearance of strings of magnificent cities, each with a purpose and soul of its own.* Similarly, R. T. Adamson shot some sacred cows. *The first of these fallacies is that Canadian housing conditions are deteriorating. The second is that there has been some significant change in the extent to which middle income people can afford to acquire new housing. And the third is that the single family house is doomed. These are fallacies. There is no truth in them.* *Architecture Canada* publishes these papers following this introduction, with excerpts from Sir Hugh Casson's luncheon address. *A. J. D.*

Urban Growth and Development

The Gloomy Pollyanna

R. T. Adamson

The following article is the address by R. T. Adamson, chief economist and executive director CMHC, to the RAIC Annual Assembly Seminar, May 25.

Urban growth and development in Canada, as the theme of this seminar, offers a difficult subject for a public servant to discuss in the present state of agitation about it in the public mind.

Marshall McLuhan, following a long line of notable intellectual forbears, among whom Machiavelli and Joseph Goebbels are probably the most well known, has explained to us all, that between events and the public, the message intervenes and exerts its own independent influence.

There has developed over the past year a real crisis in public opinion about housing and urban affairs but there has been no profound change in the state of housing and urban affairs to account for it.

I would like to foreshadow what I am going to say by describing my attitude as that of a gloomy Pollyanna.

No Housing Crisis

I use the term Pollyanna because of my view that despite all the current hysteria, there is no housing crisis. There is simply no credible basis for the three principal fallacies that are widely touted today as evidence of a housing crisis. The first of these fallacies is that Canadian housing conditions are deteriorating. The second is that there has been some significant change in the extent to which middle income people can afford to acquire new housing. And the third is that the single family house is doomed. These are all fallacies. There is no truth in them. Canadians are now better housed than they ever have been. We are not falling behind in the race between housing costs and incomes. And we do not face the danger or the promise, depending on one's viewpoint, of the demise of the single family house.

Let us look at these questions one after the other. One of the most convenient summary measures of the actual state of housing conditions in Canada is provided by estimates of the number of families in the country who have to double up with other families or with non family households. This figure has been declining steadily since the early 1950's. It dropped by about 90,000 from 329,000 in 1951 to 239,000 in 1961. We will have a new reading of this figure before very long from the 1966 quinquennial census. Tentatively one would have to guess that there has been a greater improvement in the five year period from 1961 to 1966 than there was in the whole decade of the fifties. Housing completions from 1961-1966 exceeded the estimated increase in families and non family households by over 100,000. During the whole of the fifties this gap was only about 20,000 and yet was consistent with a large reduction in doubling up. Now it is obvious that imperfections in the annual estimates of completions and of new needs make intercensal guesswork hazardous. The increase in households does not account for all the new housing needs. And the annual count of completions fails to pick up all the housing units added to the stock. Nevertheless the record of the past five years suggests that backlogs of need were being reduced more rapidly in the last few years than in the fifties.

Conditions Getting Better

This is apart altogether from the persistent improvement in the quality of the stock that past census records indicate is taking place, and which is manifest in the absolute decline of occupied units that are defective in structure or basic services and amenities.

Over the long run, then, housing conditions are getting better and not worse in this country. It is true that in 1966 the rate of new starts fell below what was required to maintain the improvement, but it is hazardous to project the future possibilities of an industry on the basis of experience in its worst years. There is no reason to believe that the Canadian economy suffers from any permanent incapacity to produce enough houses.

I am not suggesting that housing conditions across the country are satisfactory. I am only suggesting that both in absolute and in relative terms they are better than they ever were.

Now to the second fallacy. There are some people who believe that new housing can never be produced in adequate quantities because of its inaccessibility, without subsidies, to low income people and now even to middle income people. It is of course true that low income people in Canada cannot afford new housing. It always has been true. If this constitutes a crisis then we have endured it for a long time.

There is, however, no reason to believe that this feature of our housing market is getting worse in the long run. Analysis of this phenomenon requires a great deal of data on overall income distributions and on income distributions among the tenants and purchasers of new housing. These data are not available in the detail that we would like. But there is some information and it suggests, that as incomes are for the most part rising faster than housing costs, a wider band of income groups is able to occupy new housing.

In 1957, only 2% of NHA home owner borrowers came from what was then estimated as the lower third of family income groups. From 1957 to 1963 there was some improvement in this distribution as the lower income third represented 4.2% of all NHA home owner borrowers in 1959, 9.5% in 1961, and 10.4% in 1963. Similarly the share of the top income third over this period declined from 57.7% in 1957 to 48.5% in 1959, 42.2% in 1961, and 32.2% in 1963. We do not yet have more recent data but one would have to guess that things have got worse again since 1963. It would be more difficult in a year like 1967 for lower income families to claim the same share of new housing output than they did in 1963. However, as the rate of new housing output increases again, so will the opportunities of these people to claim some part of the new product. Thus, while the data we have do support the view that poor people cannot afford new private housing, they do not suggest that there has been any long run deterioration in the situation.

Defect in the System

The exclusion of lower income people from access to new housing constitutes one of

the most unattractive features of the market system. This exclusion of low income people is often regarded as a threat to the capability of the economy to produce enough new houses. In this sense it does not constitute a threat at all. The number of new housing units produced is to a large extent independent of the income distribution of the new housing occupants.

The exclusion of lower income people from new housing represents a defect in our system, but not because it threatens our ability to achieve a satisfactory scale of output. It represents a defect because it allows no way of planning new communities for the whole range of social groups who make up our society. In this sense it constitutes a planning liability and a handicap to social policy. There is no way to admit lower income people to new housing areas without subsidies or without a drastic cutback in the physical standards of the new housing product. However the current phase of Canada's housing ushers in no new crisis on this score.

Now to the single family house and its demise as predicted by Maclean's magazine in one of its more hysterical effusions. There has been, in Canada, a gradual and persistent decline since the end of World War II in the proportion of Canada's new housing that is built in the form of single family houses. Single family houses represented 79% of Canada's new output in 1949 and have averaged about 50% over the past five years. There has been no sudden change in this trend and no dramatic new developments in the past year or two. Most of the shift has represented an increase in apartment building. The long established trend does not indicate any fundamental deterioration in our ways of doing things, or indeed any sudden shift in the values or attitudes or moral fibre of Canadians. Morever it does not spell the end of the single family house as one of the sound ways of meeting the needs of large families, even in Toronto.

The fact is that since the end of the war the composition of the increase in Canadian households has been shifting in favor of small households of three people or less. Probably two-thirds of the increase in households in Canada in the early fifties was in households of four people or more, who require large units. This proportion dropped to one half in the latter half of the fifties and such households now constitute less than one third of the current increases.

It has been astonishing indeed, that the single family house has been able to maintain a pretty steady absolute market in the face of the rapid decline in the growth of the number of large households. Those who regard home ownership as a safeguard of Canada's public morals can therefore breath more easily.

Apts vs Single Family House

I do not know however that architects can take much professional pleasure in the failure of higher density forms of housing to meet the needs of more of our large households. Unless better alternative forms of large housing units are developed, the young families of today will turn once more to the single family house as the best solution to the problem of space as their family size increases.

So much for Pollyanna. I do not like the role. I am as naturally impelled toward gloom as any architect. Let me hasten then to assure you that the insubstantial basis for the current hysteria about housing affords no grounds for rejoicing.

There are real and difficult problems in housing and urban affairs. But they did not begin in 1966 and they will not go away in 1967 and 1968 when the current hysteria about problems that are either unreal or transitory has fizzled out.

The state of public alarm is real. There is an authentic current of public discontent about housing and urban affairs. The unreality of the objective factors to which it ascribes its origin does not diminish the force or the authenticity of the public concern itself.

This concern offers the promise of widespread public support for creative public action in an important and difficult field. But it would also offer support for public action of an uncreative, misdirected, and reckless kind. The persistent problems that are before us in housing and urban affairs will not yield to superficial treatment. We cannot look for any significant help from new devices to bonus home owners; or from Government machinery with old jobs and new names; or from new forms of tenure; or from the assumption of one or another local government expense by some other level of government. Panaceas abound. Some of them will no doubt help. But none is addressed squarely to the main positive tasks.

There are really only two serious problems and they have both been with us for a long time. There is the problem of providing decent housing for poor people and the problem of ensuring that the growth of our cities makes them better and not worse places for all income groups to live in. Much progress has been made in 20 years but it appears likely that future progress depends on deeper recognition that the problems themselves represent public responsibilities and will not yield to ordinary market processes. The public itself must become more heavily committed in the actual process of building cities and providing housing for the people who cannot afford its market price. By the public I mean governments and by governments I mean all levels. The public can do neither of these jobs well without a regional urban mandate that transcends the adventitious fragments that local governments now represent.

What is really alarming about the urban growth before us is not that we cannot handle it with our present devices, but that we can. The existence on this continent of cities far larger than any we are likely to have in Canada by the end of this century stands as an ominous warning that we can in fact go on building cities the way we now do. Neither our existence nor our growth capability is threatened. The danger lies in the fact that there is no crisis. □

Urban Growth and Development

The Shape of Things to Come

Michel Chevalier

The following is a translation of urbanist Michel Chevalier's remarks at the May 25th RAIC Assembly Seminar.

The other speakers on this subject today have covered far better than I can the aspect of substantive projections about the extent and makeup of cities in Canada over the next generation. I will content myself with predicting in another dimension. And I would like also to extend that dimension into one of trying to invent the future just a little bit. With this combination of prediction and invention, what follows may be defined in a sense as "future planning," that is, planning in a frame of reference based on projected future states, rather than as we so often do on the present state projected into the future.

Before going ahead with my predictions, however, I would like to digress for just a moment and discuss a basis for them. In the planning field today there is much talk about social accounting in the post-industrial society. In the United States, for example, a bill is passing the Congress to set up a Council of Social Advisors to the President – which will play a similar analytic and advisory role in social matters as the President's Council of Economic Advisors does today in economic affairs. Economic accounting is an old story based on money, employment and on production and consumption of goods and services. The question arises as to whether or not social accounting is any more than just some parallel qualitative cum quantitative set of measures about the level of well-being of people in what has become a primarily urban society. This is the present dilemma facing the social planners who must provide the President's Council of Social Advisors with the measuring sticks to permit them in turn to advise the President. Those measuring sticks we really don't have yet in the United States. Nor do we have them here.

Social Interaction or Statistics

Now, maybe some of our philosophers can provide us with a clue. For example, the mathematician and atomic physicist, Eddington, spoke eloquently for his colleagues two generations ago when he explained to the layman that he hadn't the slightest idea what an atomic particle was like – he couldn't define it. All he could define and predict were some aspects of the mode or pattern of inter-action, or the relationship between the particles. It is, of course, no different in atomic physics today but we do have readily controllable atomic energy. Marshall McLuhan echoes Eddington in another age and perspective in his "It is the medium, not the message." Could it be that the social planner is spending too much time measuring social conditions in statistical or substantive terms when he should be thinking of patterns of social inter-action? Should he discount those long-awaited urban data banks just a little bit?

Some of us who are searching for adequate measures of social accounting are thinking somewhat in these terms. We are thinking of a calculus of social patterns upon which to base new forms of social prediction and guidance, and this to complement and even possibly in some respects to replace the manipulation of hard statistical data. The pattern we are considering has to do with the mode and direction of inter-action between groups in society – people, groups of people, interest groups, informal and formal organizations. At the present time, this pattern can only be defined, or analyzed, on a verbal descriptive basis, or at best with the crudest of models. Certainly, we can sometimes predict with reasonable accuracy the course of a comparatively simple phenomenon like an urban transportation flow using the most sophisticated of mathematical models, or again a trend of regional economic or urban land development. To get beneath these surface phenomena to the critical human factors and outcomes, to get a measure of the complex social inter-action patterns between groups, is still quite beyond us. But that is what cities are made of, of people, groups of people, and how they inter-act in various kinds of environment. This view, I should imagine, does not cause antipathy among architects and urban designers.

The theme of this assembly is the Building of Cities. This conjures up a grand image. But I am afraid that I will have to flatten out the image a bit, because to me a more realistic description of the process is the spreading pattern of urban settlement, or pattern of urbanization, not the appearance of strings of magnificent cities, each with a purpose and soul of its own. In the United States, which is half a century or more ahead of us in scale of urbanization, one is now talking about several kinds of urban settlement within the pattern – the megalopoli or metropolitan clusters – such as the Northeast corridor (Boston-Washington), the lower Great Lakes (Detroit-Cleveland), Lake Michigan (Milwaukee-Chicago), the California coast (Los Angeles-San Francisco) and maybe one or two more great urban blobs. Then there are the Metropolitan Centers which focus a less urbanized surrounding region; and there are the poly-nucleated regions where a number of separated cities may inter-act sufficiently to form a single urban system.

Finally, there are the thousands of satellite urban communities which are found in the hinterlands of one or another of these main kinds of urban settlement. Let us transfer this pattern to the map of Canada, omitting, for the time being at least, the megalopolis. And let us put an overlay on this pattern representing the groups and organizations of people, of interests, the driving forces of urban life.

Social Pattern is Emerging

One of the planning terms noted earlier was post-industrial society. There is nothing absolute about it. It is merely a useful way of tagging the future. Now, the shape of things to come – the pattern of organization – is beginning to emerge in the more advanced post-industrial countries of the world, primarily at the moment in the United States. There is, first of all, the world corporation. The majority of this class of company is headquartered in the United States, operating partly in response to global considerations and partly as extensions of the United States abroad.

Other countries, too, penetrate beyond their borders in this manner and are provided with an international economic leverage which strengthens them as nations. Canada, incidentally, is more a host to penetrations of companies of this kind from outside than a headquarters for them. Some world companies are of a public-private nature. This gives them a closer identification with the policies of their respective countries – the Société Générale de Belgique, for example,

with large investments in Canada. The respective and complementary roles of various kinds of organization in socio-economic affairs are beginning to be better understood and to be exploited – government agencies, universities, research corporations, industrial corporations, etc., as well as combinations of these. The far-flung partnership of the United States' National Aeronautics and Space Administration with space industry corporations is a case in point, particularly as the space industry is now turning its research experience to the solution of other national problems, such as the urban condition in America. In this, business corporations are combining their capabilities with those of universities, for example.

The character of the university in the United States is changing rapidly, too, particularly the urban "multi-versity," which is linking itself in many new ways with organizations of many different kinds. Here is a trend which is just beginning in Canada. The re-casting of education – learning – as a central part of the whole socio-economic process is another recent phenomenon which is gathering momentum. This is reflected in such new developments as the establishment of the General Learning Corporation in the United States and the beginnings of a direct participation by business corporations of many kinds in providing knowledge resources to the US educational system for teaching purposes. Although the exact nature of the pattern of organizations and their roles and relationships is not clear, the general trend *is* clear. As described by Bertram M. Gross, a United States "future planner," it is toward huge organizations inter-penetrating each other in a vast number of ways over vast geographic areas, supporting a vast number of smaller specialized organizations and special functions within larger organizations. It is toward a much greater emphasis on research, new information, many years lead time in new product design and market planning. It is toward a growing investment in learning by all organizations. It is toward networks which make sets of organizations highly interdependent in some respects and independent in others. (The world air transportation industry is an example.) And finally it is toward organizations which initiate change and adapt rapidly, the merging of organizations, the setting up of new organizations for planned purposes and sudden emergence of others to exploit incubator ideas, the establishment of countervailing organizations to trigger broader and deeper competition and conflict, the closing down of sick or obsolete organizations. More and more, this pattern will play on the world stage with entities of unbelievable size by today's standards, and relationships between them of unbelievable complexity and sophistication.

I suggested a moment ago that we place an overlay of group and organizational interactions on top of the pattern of urbanization in Canada. It is obvious that this overlay is only a corner, and an inseparable corner at that, of one that covers the world. However, parallel to this will be patterns of decentralization made possible by improved communication, transportation and manipulation of data, and possibly also greater understanding of inter-personal and inter-group relations. The field of initiative for specialist enterprises in knowledge, service of industrial production will continue to grow, with small organizations to complement the large ones.

Now, you may feel that I have been citing conditions in the United States rather too liberally. But I have done it deliberately for two reasons: *one*, their present societal and urban state can teach us some things about the potentials and dangers of our urban future, and *two*, trends there have a direct, if hopefully not devastating, effect on what happens here.

Standardized Urban Environment

You, in all probability, also feel my description of the pattern of urban settlement overlaid by the pattern of inter-action of organizations to be at least uninspiring, if not uninspired. After all, there is nothing new about this. Standardized urban design (and the lack of it) has been with us for a long time in cities across the country, for schools, railroad depots, service stations, factories, slums and so on. Urban life styles in every city are finding new common denominators every day across the country and the continent. And big organizations, government and private, have been operating in many cities at once for years. But in the post-industrial society this standardization will not only be a factor which will contend with local initiatives, social styles and urban forms in any one city. It could turn out to be the overriding factor in our cities – or to be more precise a tyranny of standardization of the urban environment in which almost all Canadians will live, one whose common denominators are at the low end of the scale.

Our exercise in prediction has not brought forth any inspiring image of Canada's urban future. The main impression that sticks with me is one of a sort of spreading skin condition of more or less uniform texture across the face of Canada, with little people (or germs) organized in groups and scurrying about in wider and wider circles, doing all sorts of little things which have to be done to keep the condition operating and growing – the urban condition.

Is it possible to marshall society and to minimize social constraints — the stand-pat pressures of a myriad of interest groups, and create something better than this, something that smacks of the grand idea of building cities.

Here is where we come to the notion of inventing the future in the frame of reference of the post-industrial society. To do this, we have to take a pretty hard look at the old ideas, some of the old undisputed truths. One of them is the notion that we must rationalize the *boundaries* of our urban centers, develop forms of metropolitan government in many places, for example. The not inconsequential successes of Toronto metro, the North American model, should not fool us. There are some other recent examples of confederation, amalgamation (and other forms of boundary "rationalisation") and there are a host of plans recommending such action in many parts of the country. But any changes of this sort will be ponderous at best, and are being fast outstripped by the spreading urban condition — mushrooming along highways, popping up in rural municipalities, crunching together at the borders of adjoining towns, compacting sloppily at city centers.

The re-drawing of boundaries is too little, too late because of the rigidities of our municipal structure, and the power of the vested interests in its woodwork. But even if

this were not so, the new scale and complexity of organizations, both government and private, make this kind of response quite inadequate. It has some merit, but because it is grossly insufficient by itself, it is not really relevant. As of now, we must leave the present municipal structure largely intact, except when clearly beneficial and acceptable changes emerge. Since we must leave it at that, let us then put our primary focus elsewhere.

We must think in terms of organizations doing things — private ones on their own initiatives, public ones on legislative mandate. They would do things on an inter-provincial, provincial and regional basis, across rural and urban municipal boundaries. What is new about this? It is happening right now. We can all think of scores of examples. But in land use, for homes, business and industry, recreation, public facilities and the rest, the municipality still reigns supreme — not as a creator, but as a patchwork regulator. Urban professionals — architects, planners, civic designers, and the others must, then, change their tune and encourage provincial governments to provide organizations to do urban jobs of planning, regulation, and action. We are doing a bit of this, but pressures for change should be applied here, and boundary juggling should be de-emphasized. Certainly, provincial governments are moving toward the kind of functional and regional organizations we must have, like for example, the Ontario Housing Corporation and its Quebec counterpart; but they are moving at a pace which will not begin to catch up with the spread of the urban condition. And our so-called "far-out" reformers are still crying for tidy urban boundaries. The post-industrial society has passed them by. National, provincial, and regional public agencies are becoming the local agencies of tomorrow, and naturally so because the growing size of organizations generally makes these agencies relatively smaller in the scale of things as time passes. Incidentally, for those who worry about man's anomie as he wanders in this new environment of vast organizations, of centralization, the counter-trend toward individual choice and toward specialization in other dimensions, offers hope.

I suggest then, that we spend a little less time fighting a thing which is receding into the past, even though it still lays its hand on the trend of events — that is the present geographically based municipal structure.

Test Urban Administrative Structure

And I suggest that we go all out to invent and test the urban administrative structure of the future. There are already a great number of government organizations of a functional nature that have to do with the urban condition — with such diverse roles as the federal Manpower Department, the National Harbors Board, the CMHC. And then almost all provincial agencies and departments are in on the act. Recently I examined the coordination between the agencies of a provincial government as applied to the physical development of a particular region. This coordination was almost non-existent, except for trading off — who was responsible for what at the crudest level of consensus — or conflict a typical if not universally representative case. Bring in the Feds, and add maybe an interprovincial situation, and we have chaos, or just drift. We talk big about something called inter-agency coordination, we talk about it and legislate for it ad nauseam. But really we have not been able to handle the interface between organizations — those large provincial and national (and sometimes regional) agencies of government I spoke about which, more and more, will be doing the job of running our cities — or should I say our urban condition.

It is, then, the modes of interaction between organizations I spoke about earlier which I believe to be at the frontier of the planning and administration of Canada's urban settlement — in inventing a more inspired urban environment.

Let us take, as an example what may have the potential of becoming an urban region with an identity of its own, and with a big enough scale, size and diversity — to provide the choices demanded by tomorrow's urban dweller. This concept of regional consolidation is particularly important for Canada, because we find ourselves in the tremendously persuasive orbit of the great budding megalopoli to the south. Will our urban places be drawn ever more into this orbit as mere satellites or hinterlands — or to be more fanciful a row of ragged birds huddled together along the fence — the U.S. border — facing eagerly south, or will they retain their own identity. Is, let us say, Expo '67 no more than a flash in the pan?

Can we hope for more than one or two really great and distinctive Canadian urban communities? Will we have any at all?

The example I spoke about a moment ago is the Winnipeg-Regina-Saskatoon triangle. It may have the potential of being a poly-nucleated urban region with a heart of its own. At the moment, and I confess that I say this with some trepidation, none of these cities or their satellites, be they Brandon, Esterhazy, or one of the little elevator communities, appear to me as exciting or rewarding to live in for the complete urban human being as, say Chicago, San Francisco, New York, or maybe Montreal. It is partly a matter of scale, diversity, agglomerations of all kinds of things and choices about them. Despite the mess of megalopolis and metropolis, that is where the action is.

Now, with 300 mile an hour plus surface travel on the horizon, with environmental design to nationalize all those declining little communities into a new pattern of settlement which won't chase away the next generation of kids — or fence them in, could we make something much better than megalopolis out of this typical kind of Canadian region, a better environment, but also a place where the action really is.

We may be able to do it. We have designers of many kinds to make it, and make it work. But we don't have the creative control structure. It is time for our senior governments to really get moving on this — and they can, within the political art of the possible — to set up public agencies — organizations with defined functions covering large areas — to take the critical load off the welter of little municipalities which clutter the country (some of the bigger urban units will, of course, survive). And it is time for our public administration to edge away a little from the old clichés of comprehensive planning, coordination, optimal states and goals to move realistic strategies of inter-action between these public agencies and the things they do. □

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EXTERIOR COATINGS FOR WOOD

by H. E. Ashton

UDC 667.637.2

There are many opinions as to which organic finishes should be used on the exterior of buildings, particularly wood surfaces. Such disagreements undoubtedly arise in part from differing individual experiences. Most coatings can be expected to give satisfactory results under favourable conditions. It is necessary, however, for those advising on the use of coatings to consider over-all experience with various types and to allow for circumstances where unfavourable factors may be combined.

Coatings and Wood

Coatings are not essential for the protection of wood from the weather. There are wooden buildings that have remained in good structural condition for 100 years or more without benefit of paint. Weather effects result in a slow change of the exposed wood surface, indicated mainly by a change in appearance. Wood which is frequently wetted turns grey; but with a minimum of wetting it will, over a long period of exposure, turn a rich reddish brown. These natural colours are preferred in some countries to the colour of new wood, and stains are often used on new construction to produce an aged wood appearance. On this continent, the appearance of new wood is often preferred and there is much interest in clear coatings that will preserve it.

Wood that is unprotected and exposed to wetting and sunlight will also exhibit quite serious checking (cracking), probably the result of the rapid moisture changes and corresponding dimensional changes associated with such conditions. Coatings may therefore be desirable in order to minimize the rate and range of changes in moisture content in wood. In contrast to this, coatings may occasionally be detrimental when, in conjunction with poor detailing of exposed wood parts, they serve to retain water and thus produce conditions conducive to rotting.

Appearance is a major factor in the use of coatings. The ability to develop, with the aid of colour, any desired appearance and to renew it or to change it as desired is of great importance. Once a coating has been applied, however, failure to maintain it leads to undesirable appearance, and this usually forces renewal or replacement at intervals of a few years.

Some of the fundamental properties of wood become involved in a major way in the performance of coatings. Thus it is not possible to devise a good coating without taking these properties into account. Dimensional changes in wood resulting from changes in moisture content are of particular importance. This property and some of its implications have been discussed in CBD's 85 and 86. It may be recalled that wood may shrink as much as 5 per cent or even more across the grain with a change in moisture content from 30 per cent to the oven-dry condition, with corresponding expansion or swelling upon rewetting. Although such a range of moisture content would be unusual in painted wood, changes leading to as much as 2 per cent expansion or contraction can reasonably be expected. The attached coating must therefore exhibit sufficient extensibility throughout its useful life to permit it to follow these changes in the dimension of the wood without rupture.

A further complication is introduced when the coating itself is of a type that swells when wetted with water. Wetting of the paint and of the wood may also affect the strength of the bond between the coating and the wood. When this is reduced, there is the possibility that the coating may separate from the wood under the influence of dimensional changes in the wood or the coating.

New coatings are usually capable of withstanding elongations in excess of 5 per cent. Oil paints, however, rapidly lose extensibility upon exposure, although it has been shown that aged oil paint films swell at least as much as wood when water-saturated. The type of failure may, therefore, depend upon the amount of

liquid water present at the wood-film interface. The rate of swelling of wood as well as the amount is an important factor in coating failure. In general, coatings that do not have or retain the required extensibility fail by cracking, peeling and flaking.

Another paint problem associated with wood is blistering. Blisters can be readily produced in the laboratory by applying heat and moisture to the back of a piece of painted wood and there is general agreement that moisture and its migration toward the paint film is responsible for blistering. The moisture associated with blistering may get into the wood in a number of ways. It is known that water vapour from humidified rooms in a building can migrate outwards and be condensed within the construction when the outdoor temperature is low. Correspondingly, the outward leakage of moist air can bring water vapour into contact with cold parts of the construction. Wetting of siding frequently also occurs from the outside from rain or melting snow, which may even enter at one point and create difficulties at another. The obvious remedy in all cases is to identify and correct the defects that lead to extensive wetting. This is easy to say, but is often very difficult to accomplish.

It has been shown that blistering is closely related to the permeability of coatings to water vapour and to their adhesion to surfaces that have become wet with water. Work carried out in Scandinavia and in DBR/NRC laboratories shows that coatings can be classified as having high or low permeability and good or poor wet adhesion, as indicated in Table I.

TABLE I

Wet Adhesion	Permeability	
	Low	High
Poor	Oil Paints	Latex
Good	Alkyd	—

Coatings with low wet adhesion and permeability blister badly when conditions are such as to cause continuous condensation at the coating-substrate interface. Those with high permeability but low wet adhesion tend to resist blistering in all but severe conditions because they allow some moisture to escape through them. The opposite combination of properties, high wet adhesion but low permeability usually has good blister resistance also. Alkyds can be formulated to have high permeability through overpigmentation, but this reduces wet adhesion and makes the film brittle. Efforts are continuing to develop coatings in the fourth category, those having substantial permeability combined with good wet adhesion, but as yet there has been only limited success.

Knots in wood have been a perennial problem. If they are not treated, resin from the knot may exude into the coating and discolour it. Pre-treatment with shellac or specially developed knot sealers can lead to loss of adhesion of subsequent coatings. The result in either case is often visually objectionable. The best procedure is to select wood, whenever possible, that has a minimum number of knots.

Resin streaks exuding from pockets on new wood should be removed with solvent before coating. Wood containing such pockets may cause trouble several years after it has apparently been painted successfully. A colour change on repainting from a light to a dark-coloured coating has been known to induce resin problems because of the increase in surface temperature under sun conditions arising from the colour change. The problem is always more severe with woods that are rich in resin, and should not be confused with moisture-induced blistering.

Types of Coatings

Oil Paints. These are deficient in the two properties that favour good resistance to blistering. In addition, it has been shown that they have low initial extensibility and lose even this soon after exposure (1). Despite this they have been and are still widely used. In past years they were the best materials available. The binder of such coatings gradually degrades under the action of sunlight and water, so that the surface erodes. This characteristic is often an advantage since surface dirt is carried away, keeping the paint clean and preventing build-up, with time, of thick coats that lead to cracking.

The self-cleaning feature is not desirable with colours, however, or where white is used above other materials such as brick or stone. Erosion causes colour to appear faded, and the chalk run-off leaves an unsightly stain on masonry or other surfaces below. This stain cannot be removed with the acid solution used to dissolve efflorescence from brick because it results from pigments that are acid insoluble.

When wood to be painted with oil paints is located above masonry, the pigmentation can be altered to reduce considerably the rate of erosion. Such paints are referred to as tinting or chalk-resistant whites. They naturally do not have the two advantages of the chalking type, but their other properties are similar.

Alkyds. Alkyd enamels have been used extensively for trim work because of their good gloss and colour retention. They have not, in spite of good wet adhesion, moderately high initial extensibility, and good retention of tensile properties, been used for over-all wall areas in North America. Alkyds have, however, been used successfully for this purpose in other countries.

Most of the alkyd finishes sold on this continent for use on siding are really alkyd-

modified oil paints. The work previously cited showed that these gave little improvement over straight oil paints. One property of alkyd finishes that has probably deterred their use in North America is their incompatibility with previous coats of oil paints, which generally contain zinc and, often, lead. The alkyd vehicle reacts with these pigments to form a highly impermeable layer that results in peeling and blistering if any moisture is present. It may be that this possibility has prevented the promotion of such finishes. Where these coatings are to be used for repainting, the existing coatings should first be completely removed.

Latex Paints. To provide resistance to blistering, coatings with low wet adhesion and high permeability (such as latex paints) have generally been adopted on this continent. When latex topcoats were introduced, they were applied over conventional oil primers. In Europe, by contrast, latex was often considered suitable for exterior use only as a primer under alkyd topcoats.

Latex binder, because of the manner of film formation, has to be inherently highly extensible. Whether this also becomes a property of the pigmented film depends upon the formulation of the paint. Some commercial materials of this type have been found to have less elongation than alkyds. Permeability of latex paints to water vapour is generally, although not universally, high. Perhaps their good application properties — easy brushability, rapid drying and applicability to damp surfaces — have contributed the most to their popularity.

Latex paints, unless highly modified with water-soluble solvents, are sensitive to low temperatures at time of application. They can only form a coherent film if the resin flows as the water in which it is dispersed evaporates. At low temperatures a powdery deposit of resin particles and unbound pigment results.

Primers. For many years oil paints were used with additional oil and thinner to serve as prime and intermediate coats in a three-coat system. Research showed that equivalent results could be obtained with a special oil primer and a single oil paint topcoat. As labour costs increased this system was generally adopted in North America. It was also found that aluminum pigmented primers gave superior results with oil paints, but unfortunately two coats of white are required to hide the grey colour completely and this has militated against their use.

As was discussed in CBD 78, the problems of high viscosity of high polymers can be overcome by using them in the form of a latex — that is, a dispersion, not a solution, of the resin in water. The large molecules, however, cannot penetrate the powdery layer on chalking surfaces. The original latex paints, therefore, required a special primer. The use of slow-drying oil primers obviously detracted from the desirable application properties of latex paint as well as markedly reducing permeability. Much development work has taken place and self-priming paints or water-based primers have been introduced. Some of the primers are made with latex also while others contain emulsified or water-soluble binders. It has not been possible in all cases to keep water-soluble stains in red cedar and redwood from bleeding through the topcoat. Some manufacturers, therefore, still recommend oil primers while others prefer alkyd primers under latex topcoats. The individual manufacturer's instructions on primers should be carefully followed because he has formulated his coating to perform best when used in that way.

The finish coat should be applied to primers, including those on preprimed siding, as soon as possible, consistent with suitable weather conditions. Autumn applications of primer alone to protect new wood over the winter, with topcoat to be applied the following spring, is not recommended. This practice has frequently resulted in peeling from the primer, and if primer is allowed to weather for some time, sanding or repriming will be required before the finish coat can be applied.

Clear Finishes. There are no really satisfactory clear coatings for exterior wood in spite of the large amount of time and effort that has been devoted to their development. Studies at DBR/NRC over several years have shown that clear finishes fail in either of two ways. Some protect the underlying wood, but in so doing degrade in a manner that is not conducive to easy recoating. Others do not fail within the film but transmit considerable ultra-violet light, which, in combination with moisture, degrades the top layer of wood. Failure then occurs by peeling over large areas (delamination). The amount of ultra-violet light absorber that must be added to inherently durable binders to stop wood degradation generally appears to be uneconomical.

The most durable clear coating in the DBR/NRC tests (2) was a tung oil-para-phenylphenolic varnish. Materials complying with Canadian Government Specifications Board 1-GP-99 should have similar durability because they are required to contain the same resin, although the type of oil is not controlled. Accelerated tests indicate that additional weathering resistance is obtained by applying the above varnish to wood and topcoating with a clear alkyd.

Even the varnish with the best durability needed repair of small defects as they occurred to prevent their spreading to larger areas. As this touch-up needs to be carried out after every second summer, the film thickness becomes excessive and leads to cracking so that eventually the whole system has to be removed. If a clear coating is allowed to deteriorate to the point where the wood starts to weather, any subsequent clear coating will fail rapidly.

Stains. Stains are used where it is desired to see some of the natural wood grain yet obtain more protection than clear finishes can provide. Only stains made with pigment are durable under exterior conditions. Dyes are not sufficiently lightfast and, being transparent, transmit light with resulting degradation of the wood surface. If the pigment content is high, the grain may be completely obscured. Stains, therefore, are a compromise between the desired appearance and the required protection, with most commercial materials tending to emphasize the latter property. They contain either large amounts of solvent or a low viscosity binder so that a thick film is not left on the surface. They fail by erosion, thus leaving a good surface for refinishing.

The best results in DBR/NRC exposure studies were obtained with the stain formula developed by the U.S. Forest Products Laboratory in Madison, Wisconsin. The dark colour probably accounts for much of its good durability. This colour can be varied, but lighter colours will be less durable. In the same tests, alkyd-based stains were somewhat less durable and a creosote stain was markedly inferior. Although properly formulated stains are more durable than the best clear finishes, they should not be expected to last as long as fully pigmented coatings.

General Recommendations for Wood

New Work. A clear coating should not normally be considered a good alternative to painting or even to staining. Clear coatings should only be specified for exterior wood when there is a strong preference for them that outweighs other considerations such as their short life and need for excessive maintenance. To date, the most durable clear system consists of two coats of the phenolic varnish described above and two coats of a clear alkyd topcoat. For stains, the Madison formula is recommended, although allowance must be made for shorter durability with lighter colours.

For completely pigmented materials, the choice lies between latex paints and alkyd finishes, unless oil paints have performed satisfactorily on similar structures in comparable locations. Latex is more readily available in a full range of colours and application costs are probably lower than with alkyds. Nevertheless, it is believed that use of alkyds on new wood should receive more consideration than it has in the past.

After a decision has been reached on the topcoat to be used, an appropriate primer must be specified. The manufacturers' recommendations should be carefully considered in making this selection. Oil primers can be used under any of the three types of topcoats, but may not be best with a particular formulation. Alkyd primers have proved to be better than oil primers for use under some alkyd finishes. As discussed above, the selection of a proper primer for use under a latex finish may be critical.

Recoat Work. Oil paint originally applied on new homes frequently fails by peeling, not because of moisture migration but because of conditions during application that prevented development of proper adhesion. If the surface is properly prepared, subsequent application of oil paint will generally give satisfactory service. It is necessary, however, to remove as much as possible of the old material, especially in areas adjacent to the peeling; although adhesion was good enough to prevent peeling in the first place, it may not be sufficient to resist the forces exerted by additional coats of paint.

If several applications of oil paint have failed by moderate blistering not evidently associated with structural defects, latex should be considered. Again, it is necessary to remove more than just the blistered spots because adhesion in adjacent areas has been weakened and will fail when recoated. Where a latex system applied to bare wood has performed successfully, apparently because of its ability to transmit moisture, it should be recognized that additional coats applied in repainting will reduce the over-all permeability.

Alkyds should only be used for repainting if the previous coating is known to be compatible or if it has been removed completely. Application of alkyd over oil paint is not the only cause of intercoat failures. Because of local conditions there may be a high rate of dirt collection. This dirt must be removed before repainting can be successful. Areas under the eaves are particularly susceptible to soot and oil deposits. In sheltered areas the gloss will have been retained, so that, after washing, sanding will be required to improve adhesion between the new and old coatings.

References:

1. Harris, J. A Study of House Paint Properties. Canadian Paint and Varnish, Vol. 37, No. 2, 3, Feb.-Mar. 1963 (NRC 7371).
2. Ashton, H. E. Clear Finishes for Exterior Wood, Field Exposure Tests. J. of Paint Technology, Vol. 39, No. 507, April 1967, p. 212–224.

City Sense

Sir **Hugh Casson, MRAIC, FRIBA**

These quotations were taken from the luncheon address by Sir Hugh Casson at the 1967 RAIC Assembly

Let me say at once that I am not a sociologist nor an art historian, nor a qualified Town Planner – I appear before you therefore as something of a fraud. But as most of us depend heavily in our professional careers upon the art of bluff, may I please assume that I am speaking today to a gathering of fellow frauds.

I do not want to waste time making your flesh creep, wringing hands and calling people names. I find these philosophical wailings, so familiar at conferences of this kind, a great bore and usually totally unconstructive.

We all know the God's-own-Junk-Yard story backwards by now and many of us perforce here have contributed to it.

Canadian architecture is now generally agreed to be of world league status – a fact that as a member of the Massey Medal jury I can confirm with my own envious British eyes.

May I say first how encouraging it is to find that here in Canada for a century or more the prime believer in and the principal and most spectacularly successful practitioner of the anti-city – (as we all know, the center of the North American city is characteristically a cross-roads – a dynamic symbol – rather than a "place" or static symbol) – should now be devoting professional time and energy to the restudy and perhaps the re-questioning of this concept.

Artists and scientists alike are equally vain, egocentric, quick to antagonize, potentially tyrannical, and personally grubby. And both – because we often deal with the incomprehensible – are equally unpopular.

We cannot at the present time depend upon the vigorous and vocal support of public opinion. The need for salvage, for creative planning, has not been accepted by the ordinary citizen.

It is tempting – so complex is the problem, so fluid the situation, so unpredictable the future – to chuck one's hand in . . . to write off planning as impossible, to admit that our cities are out of hand and beyond rescue. I regard these attitudes as unacceptable for two reasons. First, the premise is untrue. Many cities seem out of hand; some – look at Ottawa's splendid example – are manifestly not. Hardly any are beyond rescue. Secondly, no civilization worth its salt can permit its centers of living to disintegrate – as some of them threaten to do or already have into what Shankland has called 'a mixture between a World's Fair and a transit camp.' Let us ignore then the shirkers and the anarchists, and stay on the job.

To leave economic initiative to private enterprise alone and let public action deal with nothing but salvage is absurdly old-fashioned.

I believe that architects secretly or unconsciously do not really like people. We like order. People are unpredictable. We are by nature and training bent on doing good. Fair enough, even though, it seems to me, our victims are bent double in the process. We seem often resentful when people begin asking for what they want instead of what we believe they should have. Some of us indeed now feel obliged with the best intentions to be social philosophers and to assume obligations and powers not dissimilar from that of the medieval church. Do we often – by drawing up imposing or grandiose and hopelessly impracticable monuments to our own vanity – make the ideal the enemy of good (by delaying the earlier advent of the latter). Do we not too often underestimate, or entirely ignore the time and trouble needed to explain and get public support for new ideas.

As you may have noticed, the use of logic and intellect in the conduct of life is not a British characteristic; that is why perhaps we have never been warmly admired by such clever races as the French or the Hindus – but for that reason perhaps we know better than some that science is neutral and the artist appeals to it in vain.

The real reason – for aiming at high standards of design – is that you are an artist and you are designing for the highest standards that you know, ie. your own.

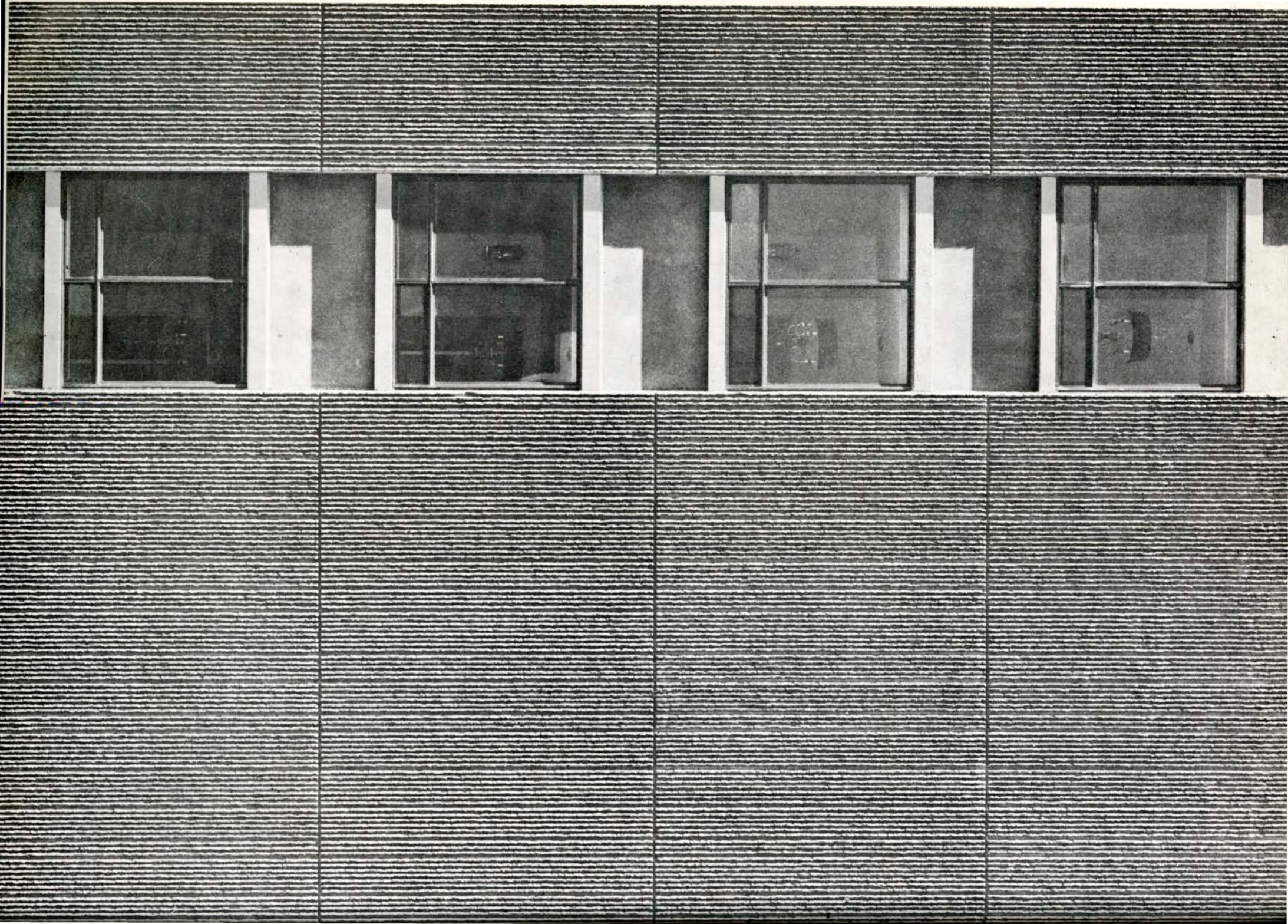
Although we are dealing with a visual medium, design is not – repeat not – the most important element in city-building.

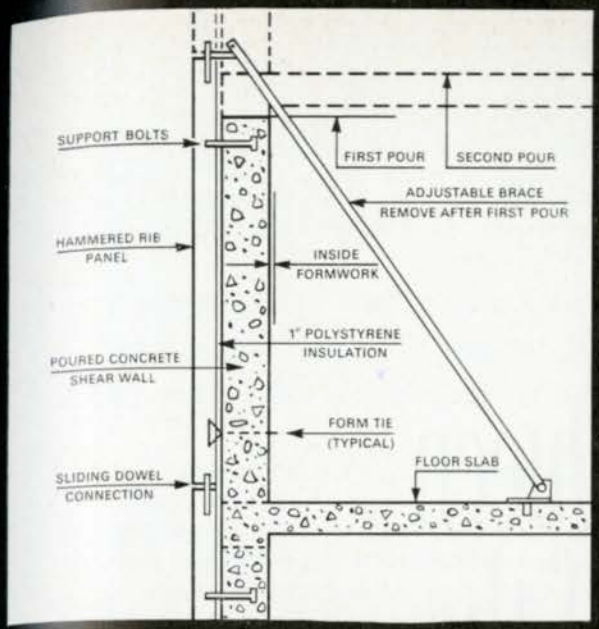
Most of us who are artists have often been worried or disturbed by the fact that what we know to be aesthetically vulgar or brash seems to possess a vitality and vigour so often lacking in what we know as 'good' design. Walk down any surburban high street – bustling, multi-coloured, glamorous, on a Saturday morning – and your eye will alight upon practically nothing of any visual quality or merit, and yet the whole place bubbles with visual vitality which is as irresistible as it is irritating.

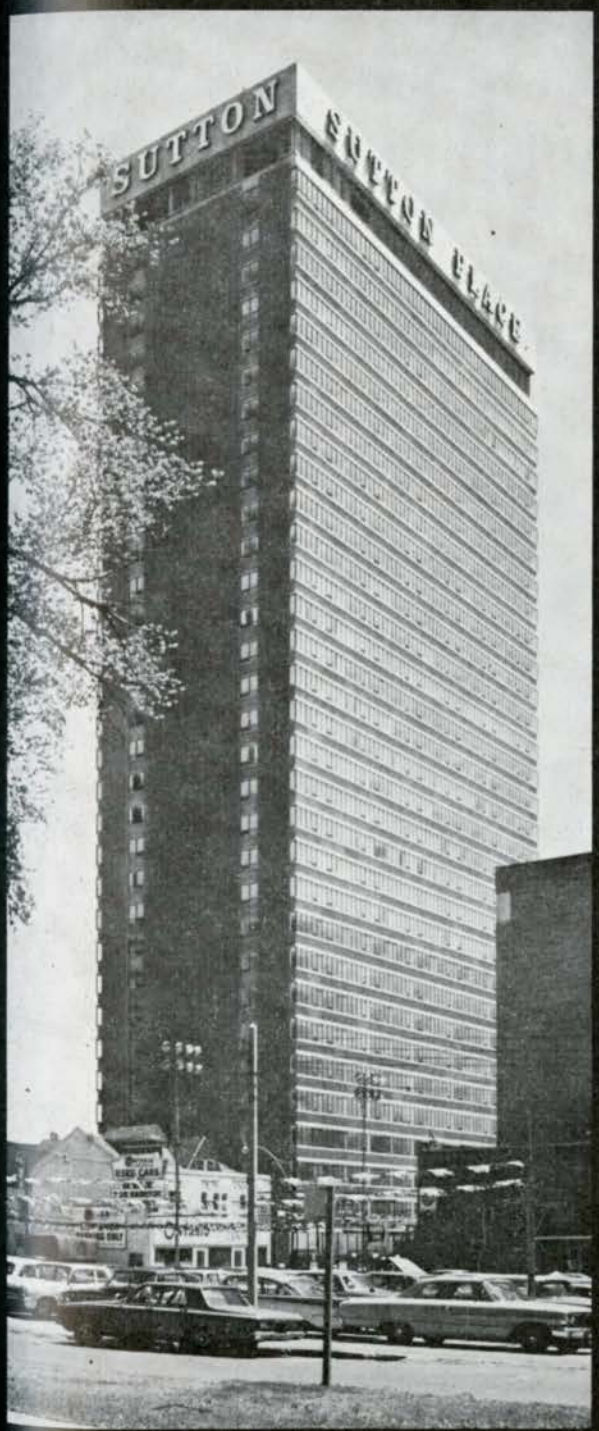
To aim at high standards of design needs no further justification.

The artist's eye, whether he likes it or not, is always on duty, picking its way as selectively as a goat over the landscape of his environment.

Most of the world's greatest tyrants and libertines from Nero to Mussolini were trained in art, literature and philosophy.







Luxury hotel features precast walls

The impressive hammered-rib precast concrete panels used on the new Sutton Place Hotel meet all conditions for economy, insulation and ease of construction.

Used as formwork in the construction of the poured concrete shear walls the floor to floor panels are placed by tower crane in the same manner as normal formwork. They are braced to the floor slab, one inch insulation applied to back, reinforcing steel placed and formwork bolts attached before concrete is poured.

ADVANTAGES:

- ☐ Placing cost same as normal formwork.
- ☐ Finished wall – no formwork stripping required.
- ☐ Economical – $2.50 per sq. ft.
- ☐ Complete insulation of building's structural frame improves stability – eliminates need for flexible partitions.
- ☐ Improves building technique – no lintel angles required, meets all by-law requirements.

Spandrel panels are in plain form finished precast concrete complementing the texture of the end wall panels.

The Sutton Place Hotel, 955 Bay Street, Toronto
Architects: Webb, Zerafa, Menkes

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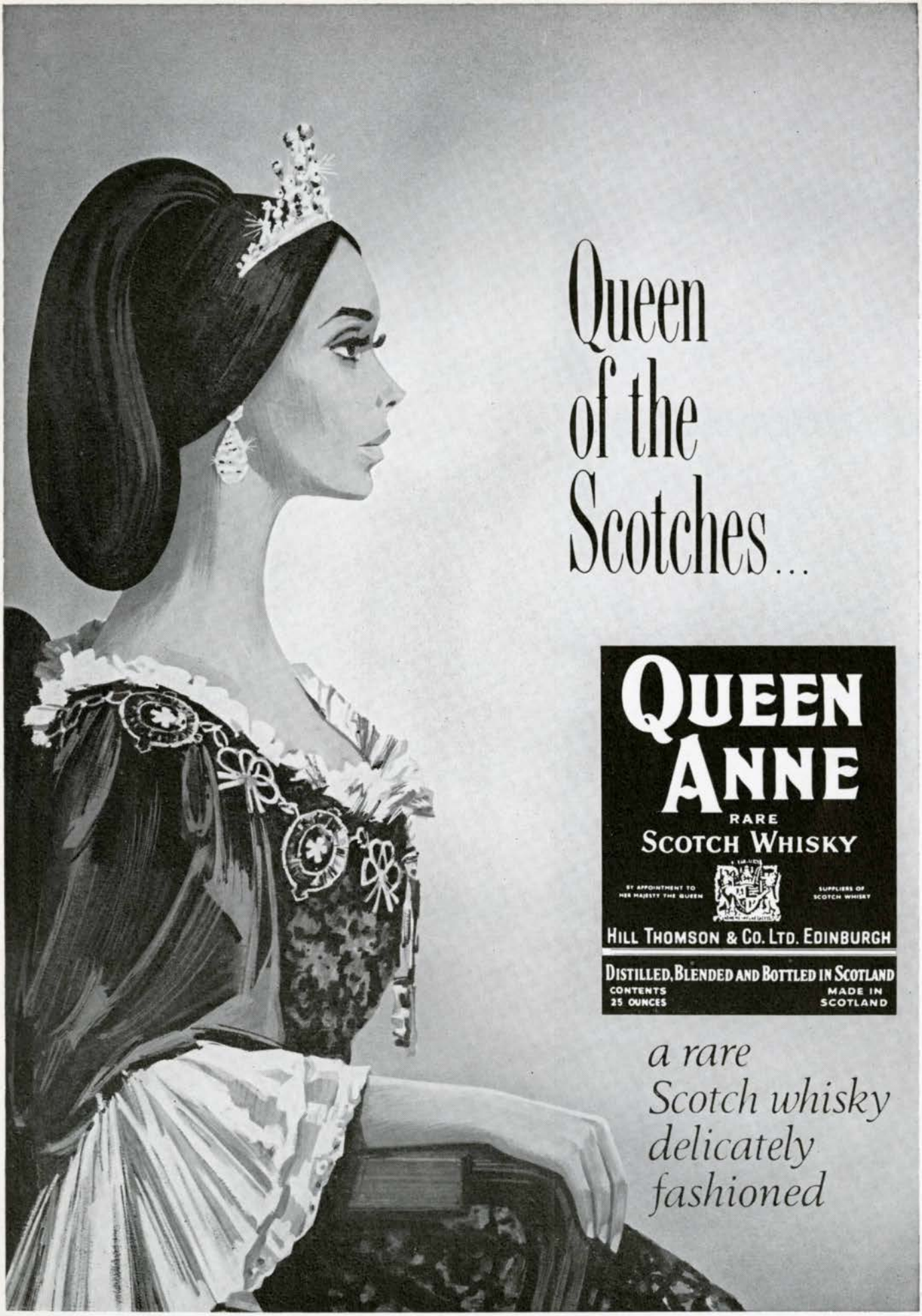
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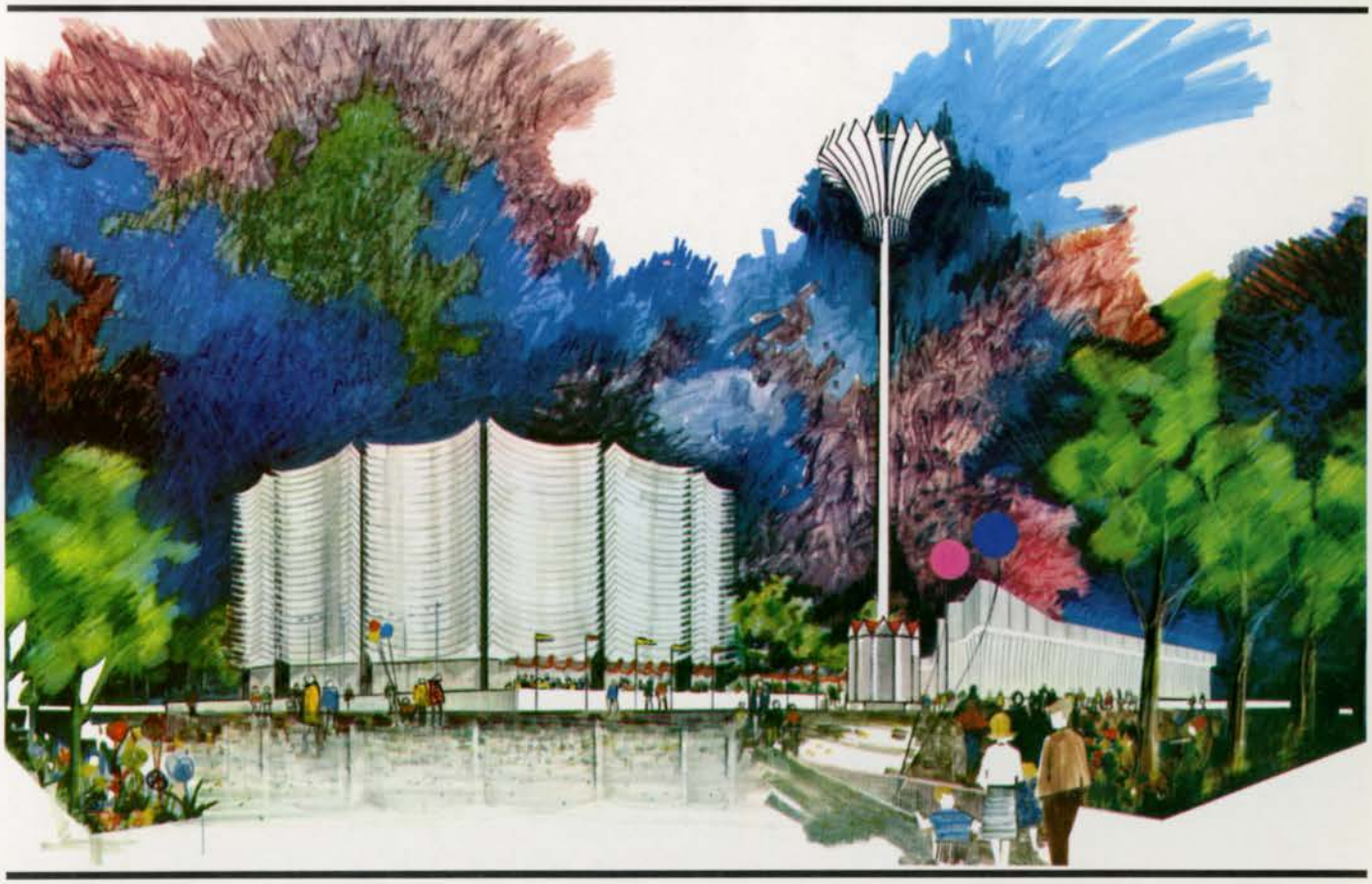
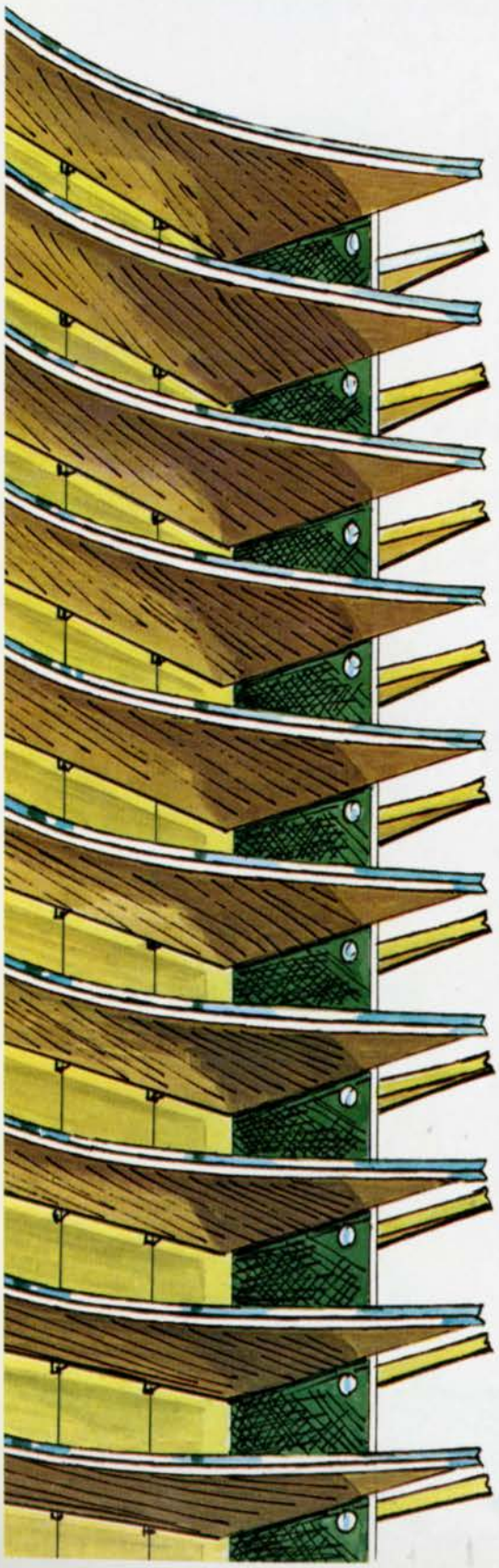
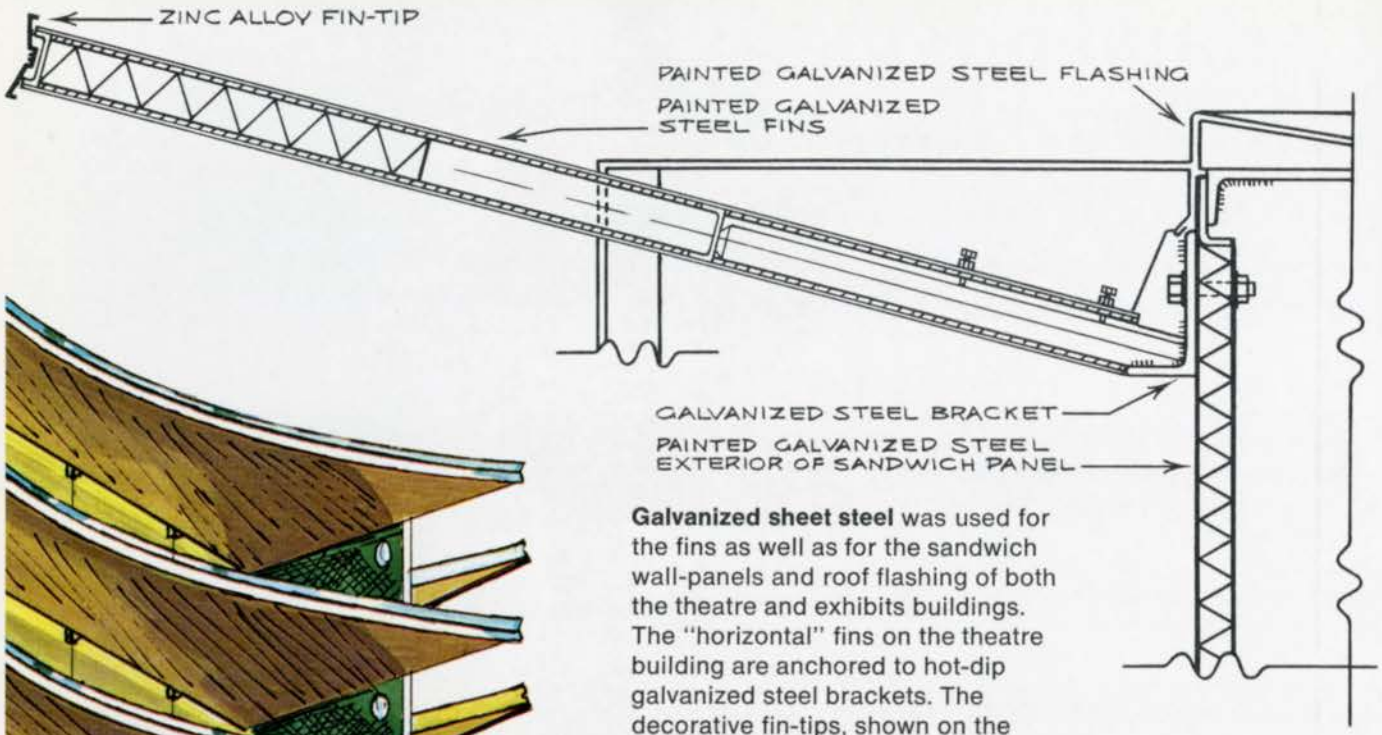
Canadian Pacific/Cominco Pavilion – Expo 67

Designers: De Martin · Marona of Canada Limited
Architects: Dobush, Stewart, Bourke, Longpré, Marchand, Goudreau
General Contractors: Hewson Construction Ltd.

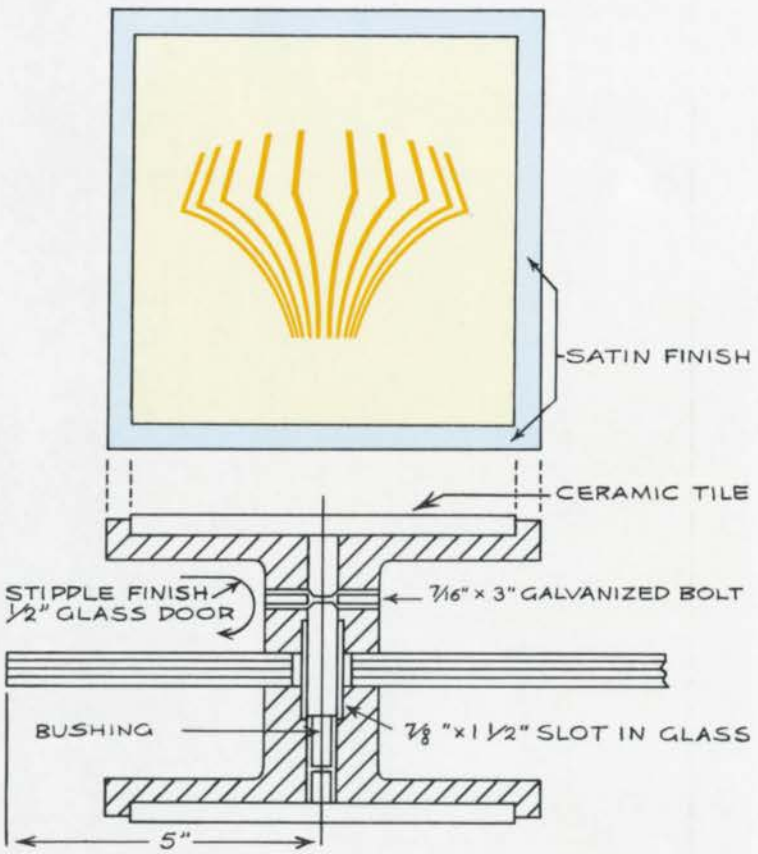
This two-building pavilion, costing in excess of 4 million dollars, is one of the largest individual corporate projects at Expo 67, and one of the most interesting architectural statements of corporate activity in the entire exhibition. Designed essentially as volume-containing structures to house specific programmes and to provide a comfortable environment for visitors, the pavilion also implies movement and diversity, rhythm and expansion and utilizes many architecturally significant applications of lead and zinc products in its construction. The pavilion, which consists of a multiscreen motion picture theatre, an exhibits building, a landscaped plaza, and a dominant high rise element, should be of particular interest to members of the architectural profession visiting Expo this year. Some aspects of design are illustrated in the following pages, but only a personal visit can reveal the many exciting ideas and architecturally interesting features of the pavilion.



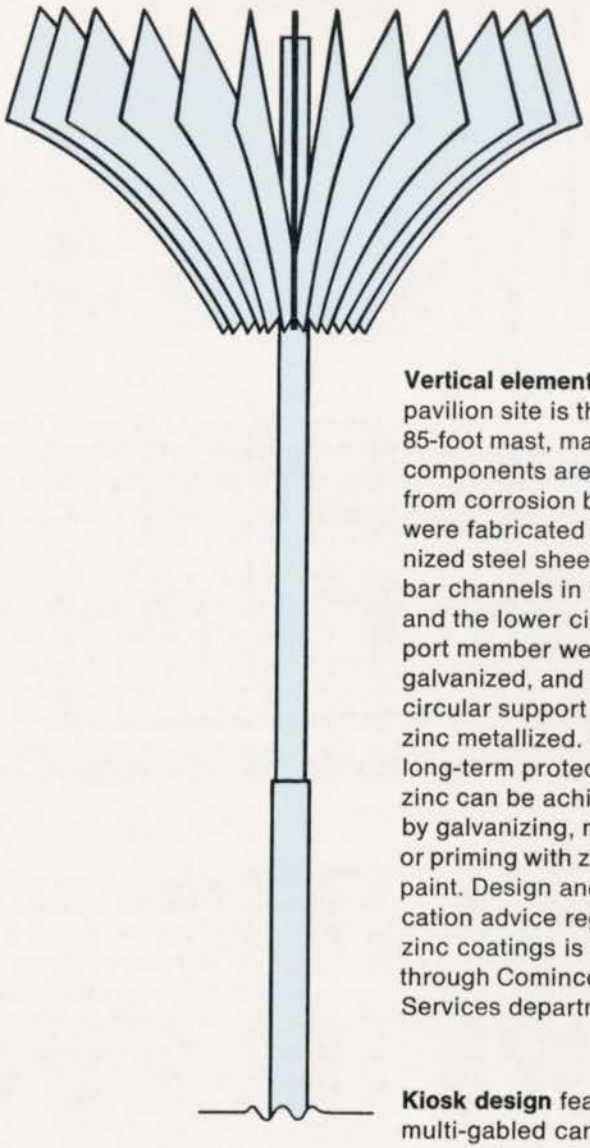




Galvanized sheet steel was used for the fins as well as for the sandwich wall-panels and roof flashing of both the theatre and exhibits buildings. The "horizontal" fins on the theatre building are anchored to hot-dip galvanized steel brackets. The decorative fin-tips, shown on the detail drawing above, are roll-formed from a highly polished zinc alloy — one of many such alloys widely used in architectural applications.

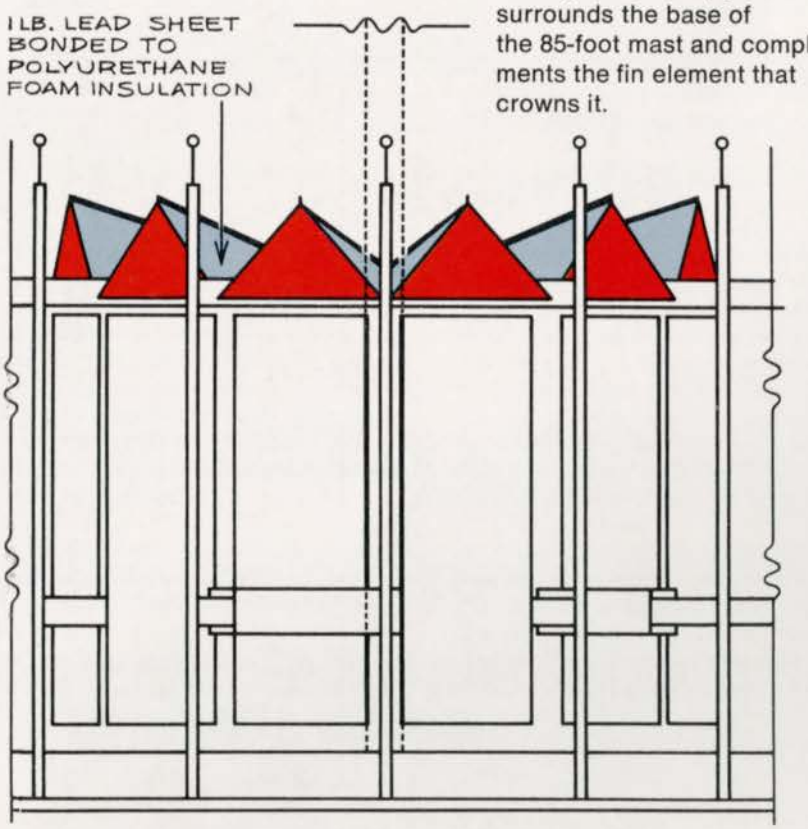


Cast zinc alloy door pulls with ceramic plaque inserts were specially designed for the glass doors of the pavilion; details are shown on the sectional drawing above. The plan view shows the plaque design which complements the fin motif of the vertical element.



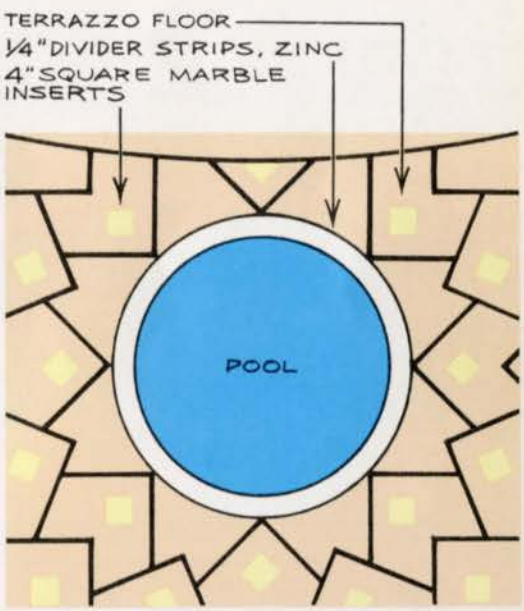
Vertical element on the pavilion site is the striking 85-foot mast, many of whose components are protected from corrosion by zinc. Fins were fabricated from galvanized steel sheet; the 3-inch bar channels in the fins and the lower circular support member were hot-dip galvanized, and the top circular support member is zinc metallized. Effective, long-term protection with zinc can be achieved by galvanizing, metallizing or priming with zinc-rich paint. Design and specification advice regarding zinc coatings is available through Cominco's Marketing Services department.

Kiosk design features this multi-gabled canopy which surrounds the base of the 85-foot mast and complements the fin element that crowns it.

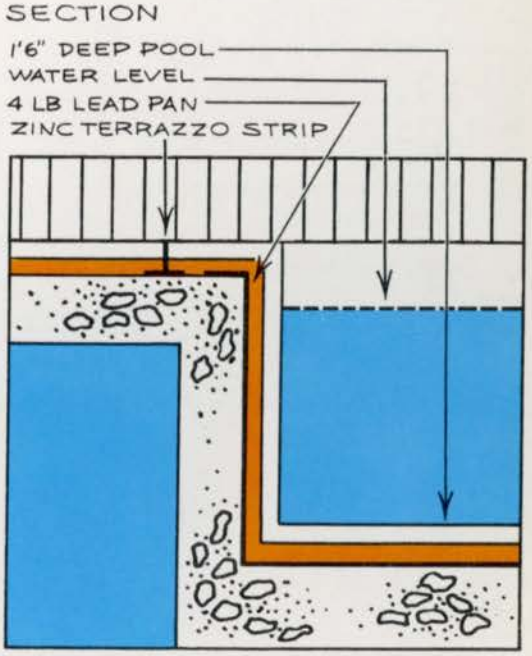


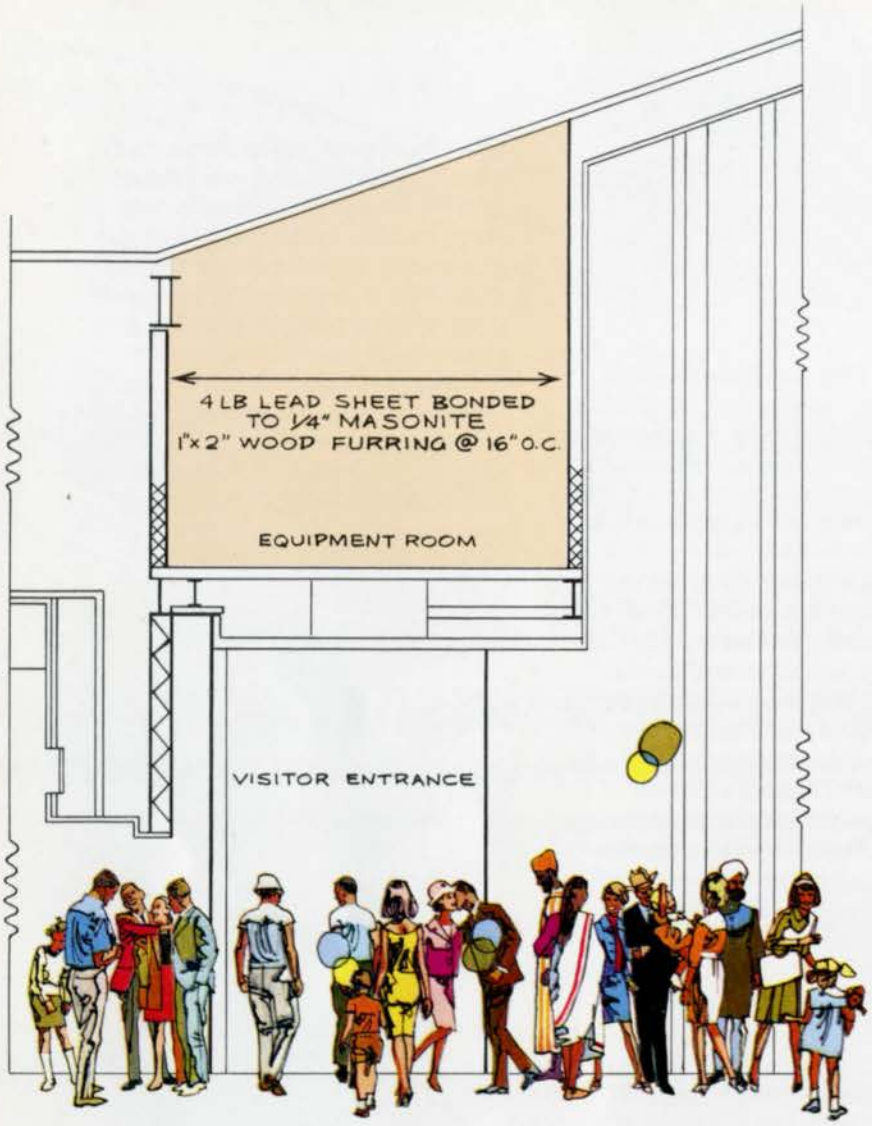
Lead-lined pool. Many architectural uses of lead and zinc are evident in these buildings: for example, the lead-lined pool shown above is surrounded by a terrazzo floor divided by zinc strips and graced by a hanging planter made of chrome-plated zinc sheet. Aside from conventional galvanized conduit, ductwork and roof-deck, other interesting uses of zinc are: in extruded form as handrails and carpet trim, and in cast form as furniture accessories, door handles, door stops and light fixtures for illuminating the exterior of the pavilion.

PLAN



SECTION





Creating the sound barrier is one of the most recent additions to the many architectural uses of lead sheet. Preventing the transmission of sound from a mechanical service area into the theatre is one demonstration of this use (depicted in the section drawing on the left). Other areas where lead is used for sound insulation are in the doors to the lounge areas, the walls of the projection booth and as a plenum barrier in the exhibits building.

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Metals Cominco

Interior Finishes

Technical Technique 6

John Gallop, MRAIC

Mr Gallop is in practice in Toronto as an architect and consultant in architectural interiors, graphics, exhibits and product design

A year ago we looked at interior finishes as applied to walls or vertical surfaces; this year we will look at floor finishes.

As with wall finishes, the line between floor finishes and flooring is a fuzzy one. We might consider that floor finishes run the gambit from hard through not so hard, to actually soft. Historically floor finishes were either hard, such as marble, tile or wood; or soft, such as carpet, often laid over a tile, wood or otherwise hard floor. The basic flooring was always hard and carpets were added to *soften* the floor . . . literally and figuratively. Broadloom or *wall to wall* carpeting is a relatively modern approach to floor covering, as are the not so hard or resilient floor finishes.

Before looking at the characteristics of individual floor finishes it might be worth examining the reasons behind floor covering or finishes. A basic concrete floor for example is like a concrete wall, perfectly adequate for many uses provided, of course, that you are willing to accept a floor surface that is hard, possibly uneven and pitted, prone to dusting, and gray. Anything that you might add to alter these characteristics would constitute a finish. Let us look at the most basic finishes first, finishes that do not change the concrete-ness of the basic floor. We could call these skin finishes.

Skin Finishes

1 *Cure and Sealer* – This coating holds the moisture in the concrete to improve curing. It gives the concrete a harder surface and unlike the old curing compounds doesn't dust off. This finish renders the concrete floor usable, but does not generally alter the appearance. Colored concrete is an integral pigment, not a "finish".

2 *Concrete Paint* – This coating protects against acids, alkalies, oil, water and other highly active materials. It holds up under heavy abrasion and may also be used on metal and wood floors. There is a variety of alkyd or polyurethanes suitable for various conditions. This finish hardly changes the texture of the surface but can change the appearance.

Next are finishes which hide the characteristics of the basic floor material.

Hard Finishes

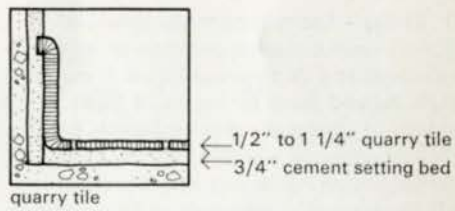
1 *Hardwood* – Maple, birch, red or white oak hardwood floors are noted for their strength, durability, and appearance. Strip tongue and groove floors of both ⅜" and 25/32" thickness should be nailed to a plywood subfloor. Wood blocks are made of short strips of hardwood flooring usually bound together by steel splices imbedded in the backs. These may be laid over a wood subfloor or directly on the concrete slab. This type of flooring is reminiscent of antique parquet wood floors. For industrial purposes thick wood blocks are pressure treated with creosote and laid end grain up over a concrete base. This gives a resilient, non-dusty floor that will cushion heavy components.

2 *Marble* – Marble is available in a wide variety of colors and textures from almost all parts of the world. Because the marble floor tile is only a by-product its size is limited. It may be noted that as quarried materials vary considerably in density, care must be taken to choose a suitable hardness for the intended usage and exposure. As may be seen in antique examples marble may be used as parquetry to achieve patterned effects.

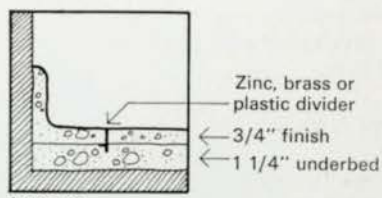
3 *Terrazzo* – Composed of marble chips in a cement matrix, terrazzo is one of the most versatile flooring materials for large public buildings. It has a unique ability to combine base and floor in the same material. Although poured into place in a two stage operation terrazzo must be divided at frequent intervals to accommodate any settlement or movement in the basic slab. Because of staining, terrazzo should not be used around urinals.

4 *Quarry Tile* – A sometimes inexpensive clay tile, for interior or exterior use, quarry tile comes in a variety of colors, shapes and textures. Easy to set and clean, it is non-absorbent and resists oil and acid. It is durable and can withstand severe weather conditions. Normally considered for kitchen and service applications, there have been some recent handsome examples of its use in institutional and commercial spaces, notably universities.

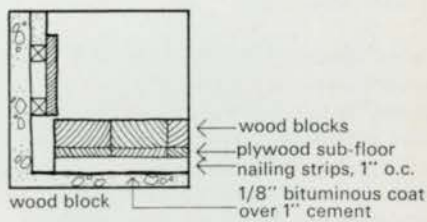
5 *Ceramic Tile* – A usually thin, pigmented clay tile, ceramic tile may be used in lieu of quarry tile or terrazzo. The new thin set application techniques, extreme durability, and a wide range of color, shape and texture make ceramic tile increasingly popular. Low maintenance and easy sanitation make it particularly useful for washrooms and hospitals. Two recent examples of the wide use of this material for a flooring finish are the TWA Terminal at the John F. Kennedy Airport, New York, and le Métro in Montreal.



quarry tile



terrazzo



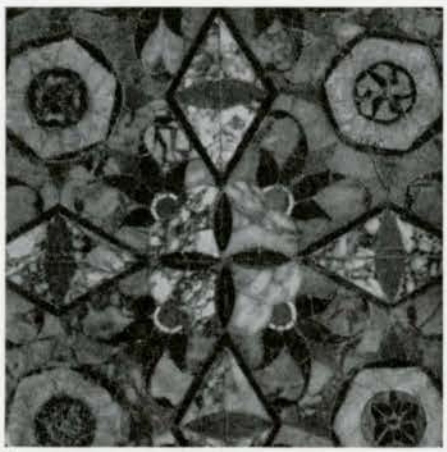
wood block

1
Inlay parquet floor
Marqueterie, plancher en mosaique

2
Marble and stone floor from house in Pompeii
Plancher en marbre et en pierre d'une maison à Pompéii

3
Daghestan rug
Motif d'un tapis Daghestan

1



2

3

6 *Epoxy* – Epoxy is normally trowelled directly onto concrete, plywood or steel subfloors as a thin viscous liquid. It may be installed and ready for use in 24 hours. A variety of admixtures and aggregates can give this material a wide range of consistencies reflecting its end use. It is waterproof, seamless, lightweight and non-dusting. A slight resilience gives it a high resistance to the damages of heavy traffic. This material, except for concrete, is probably the only combined finish material which can be applied over a steel deck to provide a finished floor.

Resilient Finishes

1 *Asphalt* – One of the original plastic floors in tile form, asphalt tiles are limited to the darker colors and have serious disadvantages. Asphalt tiles are seldom used today. They have poor grease-resistance and tend to be brittle.

2 *Vinyl-Asbestos* – By far the most popular product in resilient flooring, the vinyl asbestos tile is available with marbleizing effects, embossed patterns, and a complete range of colors. Vinyl-asbestos tiles are grease and water resistant and are not restricted to any color range; they are even available in solid colors. As with all resilient tiles, vinyl-asbestos tiles are laid over concrete or a plywood sub-floor with a black or colorless adhesive.

3 *Cushioned Vinyl Sheet* – Cushioned vinyl asbestos sheet flooring is composed of three layers: the vinyl surface, strong woven fibre glass reinforcement, and a backing of soft air tight vinyl foam. This not only creates a more comfortable walking surface, but also helps deaden sound and insulate the room, and is in a sense "seamless".

4 *Vinyl* – A more expensive product, pure vinyl is available in both rolls and tiles. It has an excellent clear color range. Unlike vinyl-asbestos tiles, its surface is extremely smooth, so much so that initial traffic tends to "scratch" the surface.

5 *Vinyl Corlon* – Vinyl corlon is composed of vinyl chips floating in a clear or lightly colored vinyl. This effect helps conceal scuff marks, heel indentations and tracked in soil. Vinyl corlon is generally used in a seamless roll application.

6 *Linoleum* – Moderate in cost, extremely durable and easy to maintain, linoleum is one of the original resilient floorings. The plain or battleship linoleum is available in a number of basic colors. Its 6 foot width makes it possible to inset large designs. Textured linoleum is available in a variety of colorings and patterns. Its grease resistance makes it particularly suitable for kitchens.

Soft Finishes

1 *Carpets* – Conventional carpets are available in four basic weaves: tapestry, wilton, axminster and tufted; the first three being generally yarn and backing "loomed" or woven carpets in the conventional sense. The last is a new system, highly automated, in which the yarn (commonly nylon) is forced into the prepared backing a row at a time. Often a secondary backing is added. This new system promises to be a beneficial one. A recent development is carpet with an integral foam latex backing or applied foam sheeting. (Conventional carpet is laid over a separate felt or latex underpad.) This backing is used both on the conventionally woven carpets and on a newer type of dense knit low pile carpet. Savings in these carpets usually result from a faster application although installation problems have not been entirely overcome.

2 *Near Carpets* – Another development is the indoor-outdoor carpet made of synthetic fibre or polypropylene. These carpets may be used almost anywhere, indoors or outdoors, without shrinking, rotting or mildewing. These recent developments have really not been in use sufficiently long to judge their worthiness and a number of defects due to faulty installations have shown up. □

Estimating

Comparative unit prices which might be used for the floor finishes described in the preceding article are as follows:
Cure and one coat of sealer on concrete floor including steel trowel finish $.09 per SF

Paint concrete floor including steel trowel finish $.15 per SF
⅜" Maple or birch strip flooring with a ¾" plywood sub-floor for residential use $1.03 per SF
⅜" Oak ditto $1.00 per SF
25/32" Maple, birch or oak strip flooring with a ¾" plywood sub-floor for commercial or industrial use $1.35 per SF
¾" (Nom) x 9" x 9" Maple wood block flooring $.95 per SF
¾" (Nom) x 9" x 9" Oak ditto $.90 per SF
2½" x 2½" x 6" Pine wood block flooring for industrial use $1.30 per SF
Marble. Ranges from cheapest, Travertin $5.00 per SF to most expensive, White Carrar, Botticino, etc. $7.50 per SF
Terrazzo Depending upon quantity, 200 SF $1.50 per SF over 1,000 SF $1.20 per SF
Floating terrazzo with polyethylene and mesh, add to regular terrazzo price $.10 per SF
Terrazzo with 30% non-slip carborundum aggregate, add to regular terrazzo price $.20 per SF
Quarry tile, average price $2.00 per SF
Note: Price depends upon thickness, color, quality, price of origin and design. Some quarry tiles can cost $6.00 per square foot.
Ceramic tile, average price $2.00 per SF
Epoxy flooring for industrial use $1.50 per SF
Ditto for commercial use $1.90 per SF
Asphalt tile – No longer available
Vinyl asbestos tile. Ranges from 1/16" $.30 per SF
to ⅛" $.50 per SF
Pure vinyl tile $1.00 per SF
Note: Some tile such as Renaissance can cost as much as $6.00 per square foot.
Sheet linoleum, battleship $.85 per SF
Tapestry, wilton and axminster carpet. Prices vary depending upon location, quantity and material
Minimum price $10.00 per SY
Maximum price $5.00 per SY
Tufted carpet. The same qualifications as tapestry, wilton and axminster
Minimum price $8.00 per SY
Maximum price $25.00 per SY
Near carpet.
Minimum price $8.00 per SY

It should be emphasized that these prices were obtained in Toronto and could vary in other localities, that they are average figures, and that they can vary depending on the quantity of material provided.

Prices for interior finishes which might be used for a preliminary estimate are as follows:
1 *Floor Finishes*
(a) Office buildings – prestige $.96 per SF of gross floor area
(b) Office buildings – speculative $.52 per SF of gross floor area
(c) Hospitals $1.23 per SF of gross floor area
(d) Public schools $1.06 per SF of gross floor area
(e) High schools $1.31 per SF of gross floor area
(f) Vocational schools $1.16 per SF of gross floor area
(g) Apartment buildings $.72 per SF of gross floor area
(h) Factories $.54 per SF of gross floor area
2 *Ceiling Finishes*
(a) Office buildings – prestige $.94 per SF ot gross floor area
(b) Office buildings – speculative $.61 per SF of gross floor area
(c) Hosps. $.95 per SF of gross floor area
(d) Public schools $.85 per SF of gross floor area
(e) High schools $.91 per SF of gross floor area
(f) Vocational schools $.88 per SF of gross floor area
(g) Apartment buildings $.66 per SF of gross floor area
(h) Factories $.53 per SF of gross floor area
3 *Wall Finishes*
(a) Office buildings – prestige $.76 per SF of wall area
(b) Office buildings – speculative $.50 per SF of wall area
(c) Hosps. $.65 per SF of wall area
(d) Public schools $.20 per SF of wall area
(e) High schools $.50 per SF of wall area
(f) Vocational schools $.48 per SF of wall area
(g) Apt buildings $.37 per SF of wall area
(h) Factories $.16 per SF of wall area

Frank Helyar

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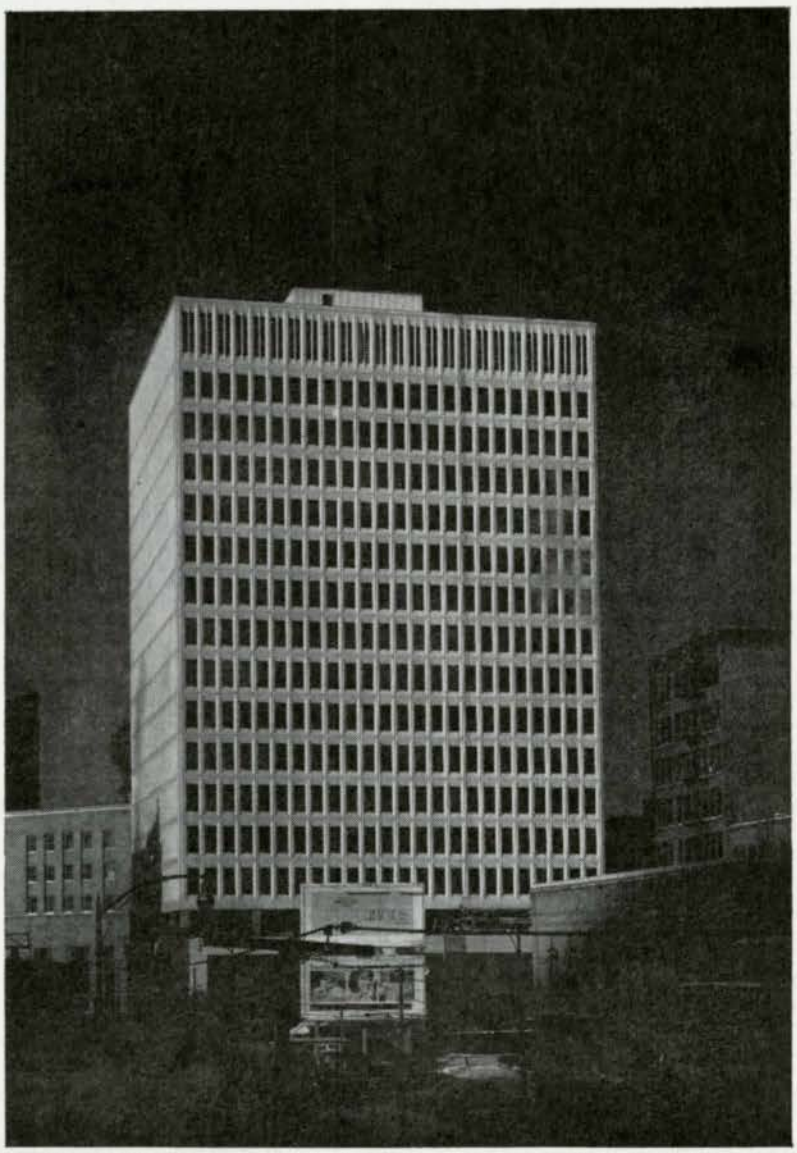
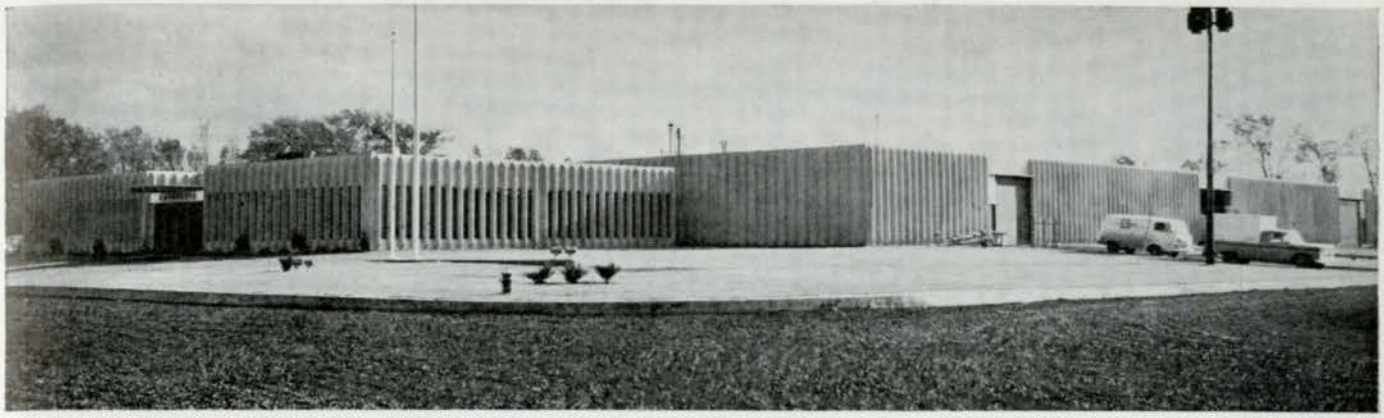


Royal Bank Building, Winnipeg. Associated Architects and Engineers: Smith, Carter, Searle Associates and Moody, Moore, Whenham & Partners, Winnipeg. General Contractor: Poole Construction, Limited.



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

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

Guildford: Town Centre, Surrey, B. C. Architect: Francis Donaldson. Consulting Engineer: Phillips, Barratt & Partners. Developer: Grosvenor-Laing. Contractor: Laing Construction.

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

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Curriculum

Anthony Jackson, ARIBA

Anthony Jackson is a professor at the School of Architecture, Nova Scotia Technical College

The architect has two basic functions.

The first is to consider those design factors of a given building that require solution: siting, plan arrangement, structural system, constructional method, environmental condition, *et al.* – and select from the many alternative possibilities, within the framework requirements and money available, those components that best answer each specific problem and at the same time permit an overall solution.

The second is to organize these possible components into physical form.

The first of these functions has led to the awareness that an intelligent selection from alternatives can only be made when the basic principles of each specialty are understood. The need is not to know beforehand all the existing alternatives for every occasion but firstly to understand the fundamentals of each specialization such as economics, engineering, building; and secondly to be able on specific occasions to elicit from each specialist relevant alternatives.

While specialization in the design of buildings has developed a number of separate disciplines and many of the portmanteau concerns of architects continue to be professionalized, the architect tries to preserve for himself one specialty of his own: aesthetics.

However, rather than isolate the aesthetic component of design and make it explicit, the architect prefers to merge it into his second function of component synthesis so that the aesthetic component only becomes apparent as the synthesis proceeds. In this process the aesthetic component is so inextricably mixed up with the selection and correlation of the other design components that it appears to have no entity of its own. Nevertheless, when the aesthetic component has been previously codified as in the compositional rules of neo-Classicism or the International Style, it can be seen to be like any other specialized component in its comprehension and application. Unfortunately at present, no widely acceptable aesthetic exists. It seems that one will have to come either from the synthesis of non-aesthetic components; or from research into the nature of aesthetics; or from individual creativity.

In pedagogic terms there are three alternatives:

1 To omit aesthetics as one of the separate components of design. While this is the essence of functionalist theories of design where the solution of contemporary problems by contemporary means automatically produces a valid contemporary aesthetic, *viz.* space hardware – it potentially undermines the architect's reason for being and is therefor mistrusted.

2 To teach aesthetics as a separate component. While a fair beginning is being made in the psychology of imagery and the sociology of taste, these subjects are still being learnt rather than taught. And once again, the architect sees this knowledge as potentially undermining his reason for being, and his unwillingness to become involved in the methodical exploration of such subjects tends to perpetuate their inadequate study.

3 To induce sensitivity to that which is aesthetic. This, of course, is inherent in the teaching of the history of architecture but only in specific terms of time and place. The aesthetic of here and now is supposedly gained in the studio where the prejudice-emptied student is taught by a sensitized teacher through a Pavlovan course of praise and admonition. As the aesthetic demanded varies from teacher to teacher and is never made explicit (many not practicing themselves or dismissing their own and all other attempts as obsolete or practical compromise), the student has to discover himself through a frustrating and demoralizing sequence of trial and error. Thus pass some years of satisfying varying and often mutually exclusive personalities and the student himself has apparently become sensitized. This drawn out process of tuition by friction ostensibly provides the student with the aesthetic component of design to correlate with all those other components derived from other specialties.

The architect's second function is to organize the design components into physical form.

In theory, having acquainted himself with the possible alternatives of the various design components, the architect intuitively selects the most valid as he proceeds with the total form itself. In fact, the architect is large unequipped to make this step from analysis to synthesis. Without even the logical resources of a professional business administrator, he is unable to do more than decide amongst the most simple alternatives. He may be able to select a steel frame rather than a concrete one, and a brick clad steel frame rather than a curtain wall steel frame, but by the time he gets to the selection of an economic acoustic spatial brick clad steel frame he is unable to formulate the possible permutations. In practice his primary determinant is the plan arrangement, tackled like a jigsaw puzzle, which, falling into place, automatically causes the utilization of other design components. Those who are more concerned with trying to achieve a balanced design, attempt to use the plan as a notational tool and ostensibly keep an open mind so that the other component factors can influence its evolution; but while this process may start off with explicit choices, it soon suppresses the various alternatives into half-felt intuitions which, as they never materialize, cannot be used for comparison and re-ordering.

To pre-select all the design components and then interrelate them simultaneously is currently beyond the architect's ability. Even amongst those buildings put forward as architectural models, the resultant imbalance is striking: Rudolph's art and architecture building functions poorly, the structure of Kahn's medical laboratories is irrational, Sert's systemization is spurious, and so on. In this situation, the architect will either have to improve his reasoning faculties; or he will have to take advantage of electronic methods to do what is too complex for the mind; or he will have to expand his intuition. Again, in pedagogic terms, there are three alternatives.

1 The fundamentals of logic can be taught in much the same way as any other special-

ized subject. However, while this would permit the student to see his problems more clearly, their solution would still be beyond his capabilities.

2 The student could learn to work with computers, an alliance necessitating the analysis of building problems into programs with their attendant variables, valuations and inter-relationships. Unfortunately, as with the study of aesthetics, the use of computers in architectural design is in its infancy and is similarly more a subject to be learnt than to be taught. And here again fearing the loss of his professional mystique, the architect disregards the machine in case it might replace him.

3 A greater sensitivity to synthesis could be be developed through more intense experiences. In the conventional method of teaching how to organize design components into physical form, the student proceeds from simple to complex problems and supposedly develops his ability to imagine patterns of combinations. The success of this process varies with the talent and personality of teacher and student and as neither ever actually formulates his methods or aims, the result is due more to empathy than instruction. When the student's projects are subsequently criticized, both he and his critic are unable to show how the component alternatives were, or could have been, selected and put together. This results in a negative technique which denies the additive accumulation of knowledge, the student being only shown the imbalance of his design and never how, in principle, to correct it.

There are, then, two contrary approaches to an architectural education. One treats architecture as essentially an art form with attendant practical complications. The other attempts to limit the study of architecture to that which is communicable.

The main argument against teaching architecture as an art form is that it is unnecessary. Before professionalism closed the way, the master architects found their tuition in life itself. Wright, Mies, Le Corbusier – all did well without professorial direction. Secondly, when art is taught rather than experienced, the process is unending. The average architectural student is tied to his studio not only during official class hours but evenings and weekends, day after day, year after year. The only comparable course is alchemy.

Given the complexity of the design gestalt, osmotic education would require a staff with the individual capacity of an updated da Vinci. While conceivably there are some such persons around, they seldom show themselves in practice. Furthermore the inference that this type of person is not only the professorial but also the pedagogic ideal is proved false in the normal office where few graduates ever personally produce a building as complex as their studio projects. Working with programmers, detailers, administrators and the like, the so-called "designer" is simply one of a team in an ever-expanding multi-billion dollar industry.

It is evident that fashion and style are not just due to creative genius and that the separating out of inspiration from public sanction would reduce the area of incomprehension. It is equally evident that the process of synthesis is mechanical and that control lies in the selection of components and the choice of their organization.

Architects must come to terms with knowledge and methods that at present are avoided. Although these studies are still in their infancy, the structure of the architectural curriculm influences their exploration. The intuitional approach blends subjects into amorphous studio projects. The methodological approach separates instruction into courses with limited objectives that permit specialization.

The need is for:

1 As large a spectrum as possible of the basic principles of existent specializations.

2 Workshop instruction in aesthetics which would become more rationalized as the subject is developed.

3 Training in component synthesis through programming and, initially, related studio exercises, then, as methods become familiar, by computer instruction.

4 Advanced electives in all specializations including "aesthetics" and "synthesis".

5 Majoring in various specialities – programming, synthesis, administration, etc.

While schools can appear to function in isolation, the outside pressures of a growing urban population demand a more sophisticated relationship. The interests and aptitudes of staff and students, the changing role of architects as decision makers, the organizational techniques of getting buildings built, the role of colleges in specific research, the moving of schools of architecture into the wider context of university and professional needs – these will force the study of architecture out of its inbred amateurism. The "studio" system will have gone the same way as the "Orders". □

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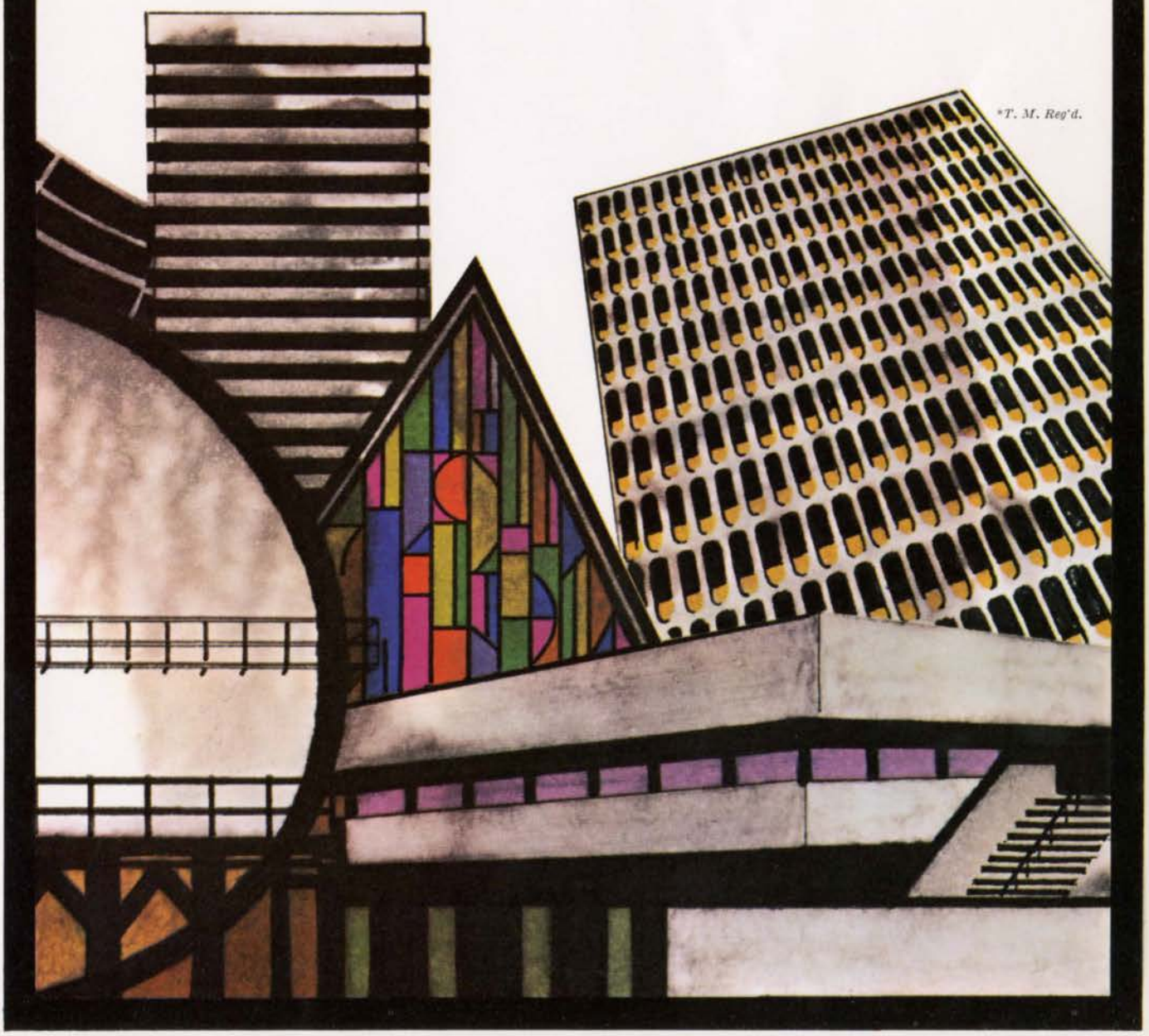

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The Editors:

At last year's Stratford Seminar, Ian MacLennan said with respect to improved physical environment that "nothing was going to happen until those who wanted it did something to make it happen."

This observation was in my mind during the urban design sessions at the recent RAIC Assembly. With due respect to the organizers and participants, there was very little that was fresh or different about the program. Nearly everything that was said has been said before, many, many times. Only the slides were new.

It seems to me that such discussions are, in a large measure, unrealistic and, therefore, futile. They grow stale with repetition, while our physical surroundings – in both town and country – steadily worsen.

Perhaps the trouble is that the assumption is made that today's architect can in fact originate the creation of a better environment. True, he can design, and sometimes guide, the placement of a particular building, or group of buildings, but that is all. He is far too low on the decision-making ladder to make a major contribution.

The fact is that, in Canada, the conception of what constitutes environment is far too narrow. As a rule, it only refers to the relationship of housing to the urban facilities and amenities in its immediate vicinity.

This approach is inadequate and anachronistic. Compare it to that of France (far in advance of the rest of the world in this respect) where environment planning (aménagement du territoire) is linked to the growth of the national economy, regional development, and the achievement of a higher standard of life for all citizens.

French environment planning guides the nation's growth in space, just as economic planning guides it in time. There is no such connection here, although the projected increase in production of goods and services in France and Canada is about the same – 5% to 5½% per year to 1970.

The French have mobilized the resources of many disciplines besides those of architects. They reason that a drastic increase in population, combined with greater technological sophistication, will vastly complicate existing urbanization problems. Changes are in the making that will greatly alter the geographic distribution of people, their standards of value and way of life. It is necessary to plan now to meet these new conditions. Otherwise, imbalances prevailing in both the economy and population will be accentuated, with serious consequences.

History shows that man does not adapt spontaneously to change. Progress often exacts a human toll. Environment planning can ease the psychological and physical impact of change, to help people adapt themselves to it. This applies as much to the country dweller as to the city man.

If Canadian architects are to make a real contribution – and they have the potential ability to do so – to the cause to which they are generally pledged, they will have to rethink their role in the environment planning process. If they want to be leaders, they will have to develop the qualities of leadership. They must have far greater awareness of the forces which form and shape the community, learn how to co-operate with other disciplines and operations, and as Ian MacLennan advised, activate themselves politically (in the good sense!).

How can they do this? Certainly not by going back to school. No university in the country provides the course required. But the RAIC could help interested individuals. At future assemblies, say for a three-year period, program planners could forget the traditional pattern of speakers lecturing to audiences and, instead, concentrate on general participation sessions. Perhaps these could be of the round table type, and be captained by representatives of the powerful forces which are shaping our environment, while architects talk.

J. F. C. Smith, MRAIC, Oakville, Ont.

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Classified Annonces Classées

Advertisements for positions wanted or vacant, appointments, changes of address, registration notices, notices of practices including establishment or changes in partnership, etc., are published as notices free to the membership.

Positions Wanted

Chartered Architect practicing near London, England, 13 years, desires contact with architects interested in potential of Association of Practice or Joint Venture Schemes. Reply Box No 140 c/o *Architecture Canada*.

Available for interview in August, Indian Architect, 29 years old, Government Diploma in Architecture, Graduate from Sir J. J. College of Architecture, Bombay, Associate Member of The Indian Institute of Architects. Working toward the RIBA Final, five years experience in Architectural firms, seeks position in Ontario. Write Noshir N. Dastoor, Box No 141, c/o *Architecture Canada*.

Licensed Italian Architect, 15 months professional experience, 27, knowledge of English and French, seeks position in Canada after September 1967. Reply: Giuliano Lapasini, Vittorio Veneto (TV), Via Cavour, 92 Italia.

Austrian Architect, 26, educated in Vienna, five years widely diversified experience, all project phases, house building, schools, hotels, churches, warehouses and at present townplanning, is available in October 1967 for position in Canada. Siegfried Huber, Kungssatravagen 8, Skarholmen-Stockholm, Sweden.

British Architect/Landscape Architect, Fulbright scholar, 3 years experience, seeks employment in Canadian Architectural planning office. Please reply to: H. R. Grist, Dip. Arch. (Dist.) MIA (Penn) ARIBA, Heath End Cottage, Oxted Green, Milford, Surrey, England.

Two English architectural students seek positions as architectural assistants for a period of nine months as from Oct. '67. Educated at Nottingham University, Dept of Architecture, third year, RIBA, intermediate pending. Some site and office experience. Presently engaged in high-density, low-rise housing. D. Broome, R. Brearley, Dept of Architecture, University of Nottingham, Nottingham, England.

Japanese architect, AIJ, 24 years old, six years experience in architectural design field seeks position in Canada. Reply Takashi Tsuji, 1 Nishinokuchi Shioe, Amagasaki-City, Hyogo-Pref, Japan.

Experienced British Architect, MIA, ARIBA, 10 years private practice South Africa, wide experience of supervision and administration, seeks responsible position. Reply I.O. Horvitch, 36 Hollycroft Ave, London, N.W. 3, England.

Scottish 3rd year architectural student, Edinburgh University, intermediate RIBA standard, urgently seeks employment in Toronto or Ottawa office for one year from this summer. Student member of Royal Incorporation of Architects in Scotland and the Edinburgh Architectural Association. Particulars on request. R. J. Pollock, 12 Melbourne Road, North Berwick, East Lothian, Scotland.

Young architect, B. Arch. from University of Delhi, India with one year of practical experience as assistant architect, wishes to obtain a position with an architectural firm in Canada. Write: Suresh C. Manchanda, R-721, New Rajinder Nagar, New Delhi 5, India.

Projeteurs-dessinateurs en architecture de nationalité Suisse désirent travailler au Canada. Diplomés de l'Ecole Professionnelle de Zurich. Un an de pratique en Suisse, et deux ans en France. Arrivée au Canada, mai 1967, écrire à Cécile Starkl et Walter Fischer c/o Atelier d'Architecture, 34 Pl, du Marché St Honoré, Paris 1er, Seine, France.

Third Year architectural student of the University of Bristol wishes to obtain six months practical experience in a Canadian office, after having taken B.A. exams leading to the Intermediate membership of the RIBA in June 1967. Reply James Leggott, 2 Stokesley Road, Nunthorpe, North Yorkshire, England.

Graduate of the University of Sto Tomas in 1965 with 2 years postgraduate experience wishes a position in Canada with view to immigration. Caesar Cinco Alzate, 58 Isarog Street, Sta. Mesa Heights, Quezon City, Philippines.

Architecte DPLG, urbaniste, 32 ans, français, 11 années d'expérience professionnelle, cherche place collaborateur dans cabinet d'architecte, province francophone, libre rapidement. Ecrire à C. Babadjian, 44 Bd Ch. de Gaulle, 92 Villeneuve La Garenne, France.

Immigrating to Canada, Indian architect seeks office employment. 4 years experience as senior architect. B.Arch. (degree, 1963); AIIA (Allied to RIBA.) Reply: Manishi Basu, 209 Jodhpur Park, Cal-31, India.

28 year old Yugoslavian architect, Dipl. Arch. Eng., member of architectural society of Slovenia "DAS" — Yubyana, seeks position in Ottawa. Write: Ivan Y. Romih, b. Mursec-Romih, Feldkirchen b Ingolstadt/Deisenhofener Str. 6, Germany.

Practice Notes

Mr Asbjorn R. Gathe, as of the 13th of June 1967, has left the firm and the remaining partners are continuing the practice under the firm name of Gardiner Thornton Davidson Garrett Masson & Associates, 1111 West Hastings St Vancouver 1.

Change of Address

Panda Associates, architectural photographers, have moved to a new studio at 3 Southvale Drive (Leaside) Toronto 17. Telephone 421-4611.

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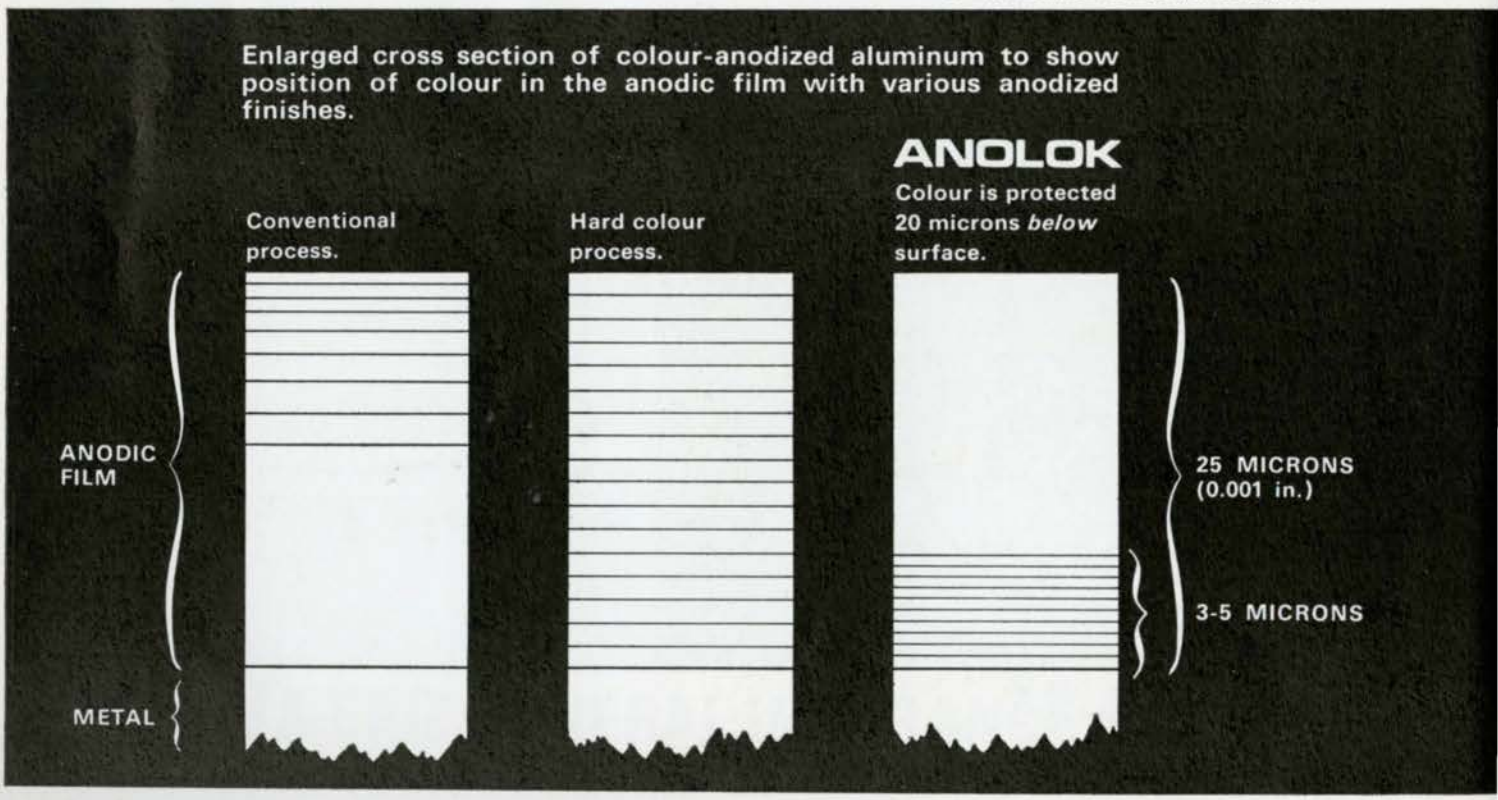

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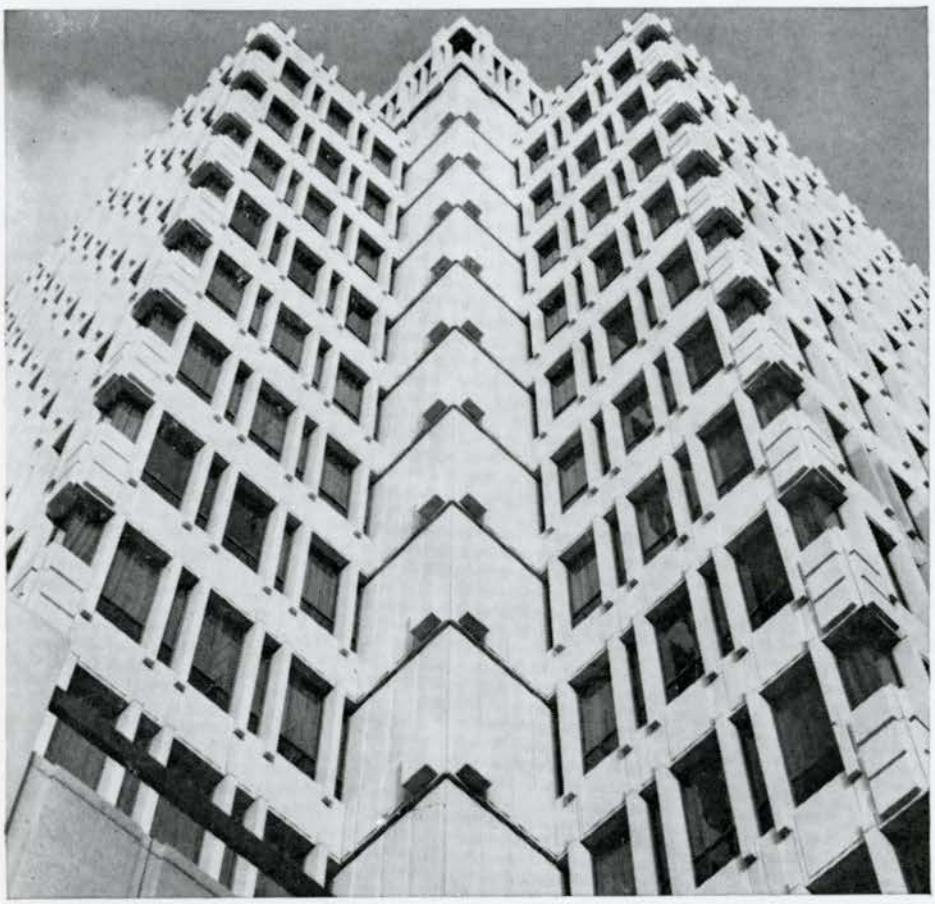

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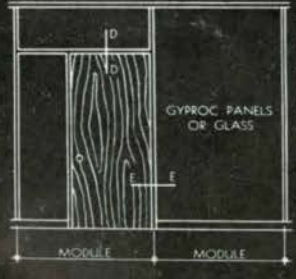

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