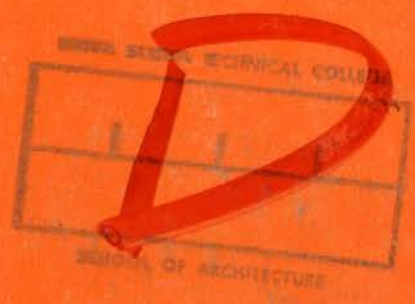


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# JOURNAL RAIC-L'IRAC



JUNE 1965 JUIN





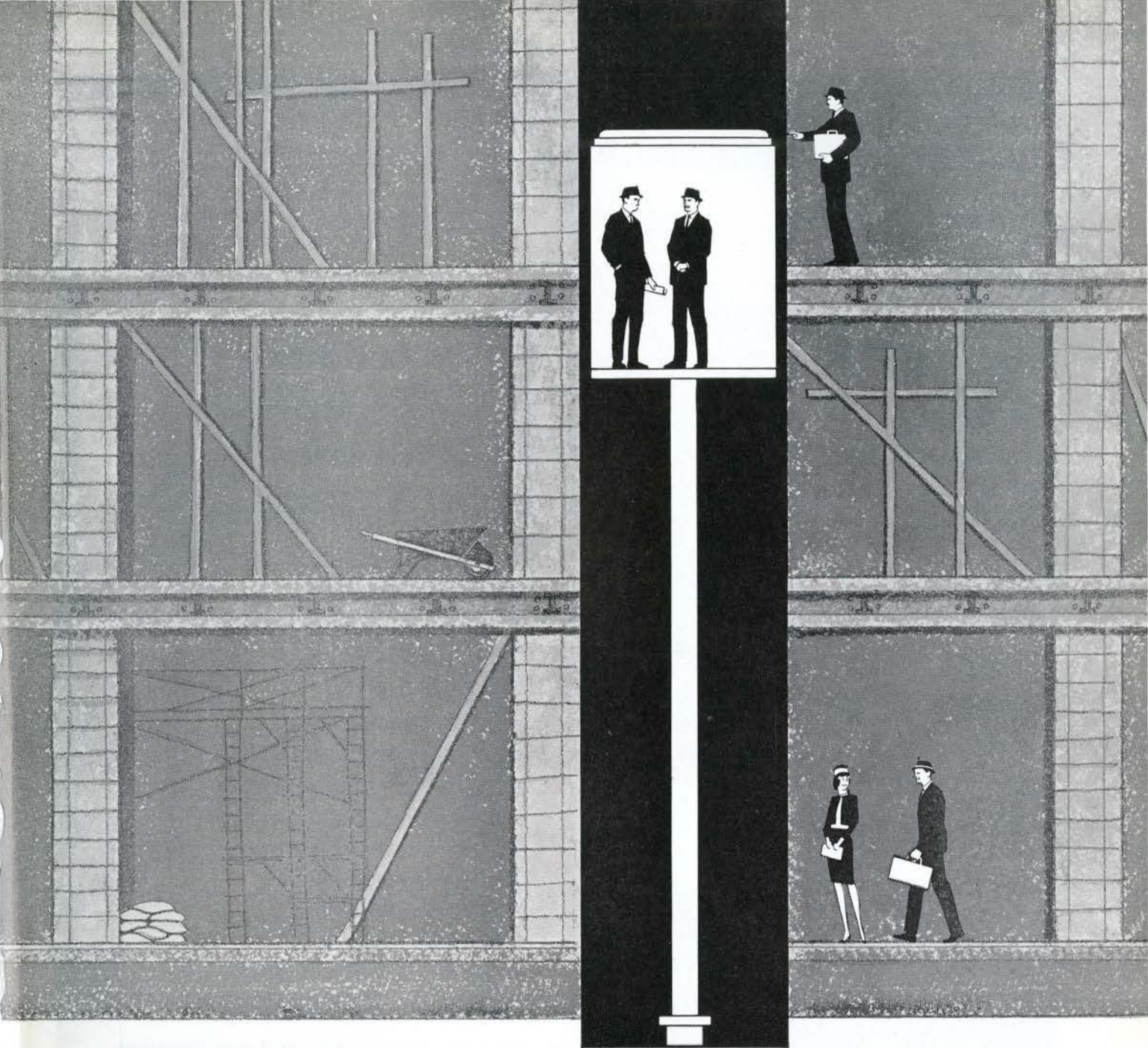
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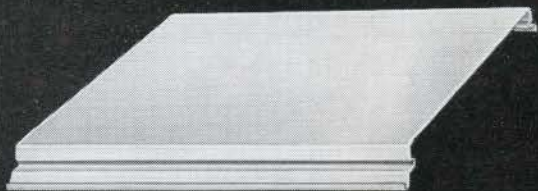
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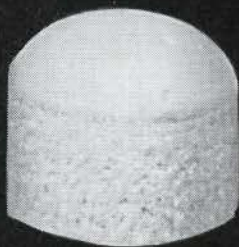
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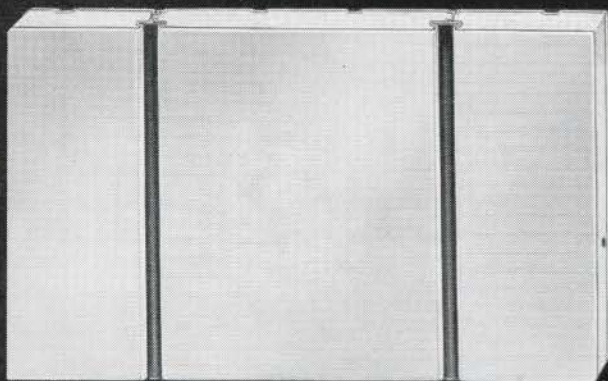
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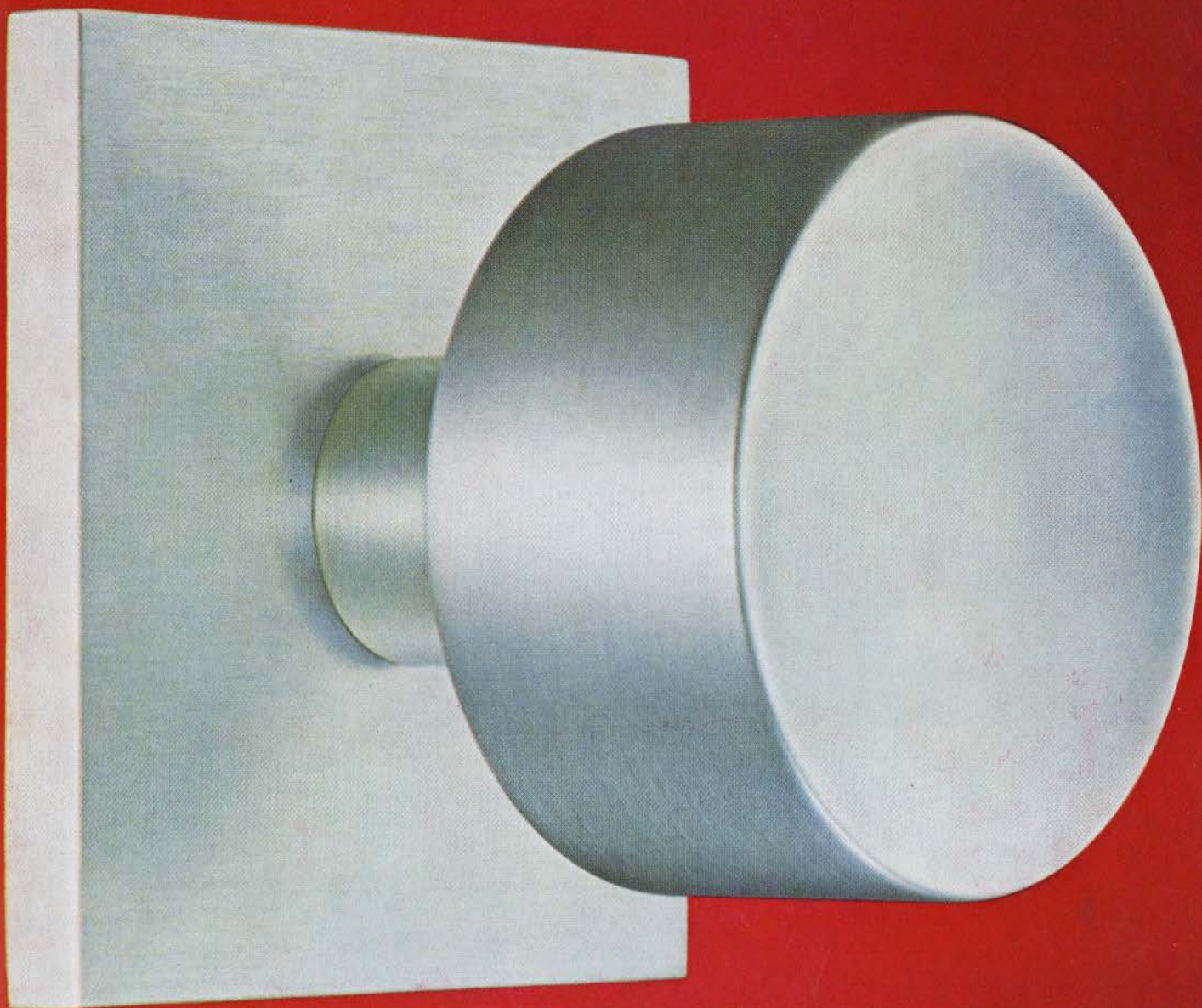
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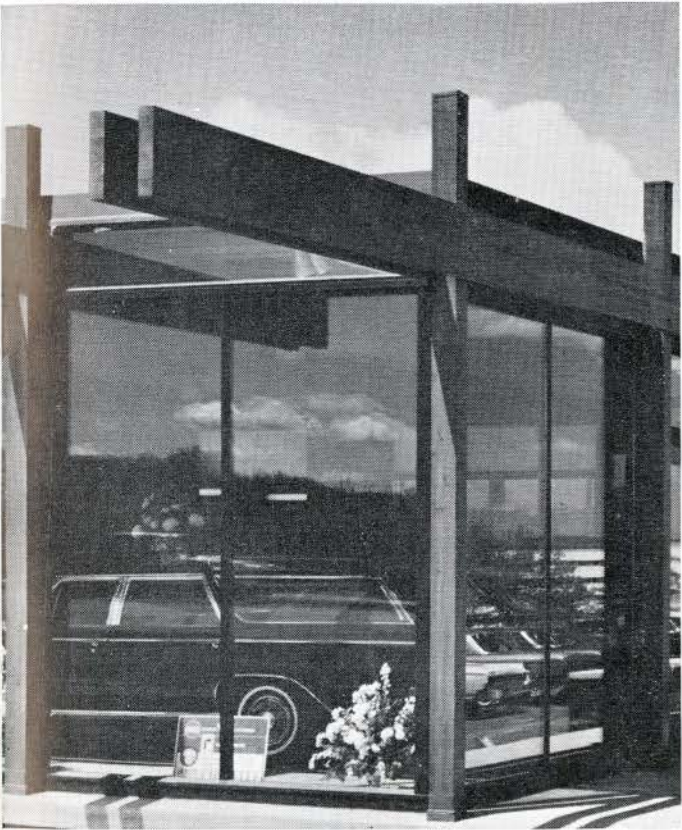
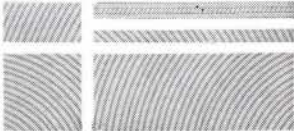
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ALVAN SHERLOCK MATHERS, BA.SC.,  
FRAIC, FRSA, RCA.

The news of the sudden death of one of Canada's most distinguished architects, Alvan Sherlock Mathers (Mathers & Haldenby), on 27th January, 1965, came as a great shock to the members of the profession as well as to his many clients and friends. Born the son of a clergyman in Aberfoyle, Ontario, in 1895, "Shy," as he was affectionately known to his friends, entered the Department of Architecture, University of Toronto, in September 1913. Strangely enough, his drafting board was right beside the board of E. W. Haldenby, another freshman. When World War I broke out in August 1914, "Shy" tried to enlist in the Queen's Own Rifles, but because of a heart condition was unable to pass the medical test.

While at Varsity, his clever pencil and general design ability came to the notice of John M. Lyle, who lectured at the Department of Architecture. He spent several summers in Mr Lyle's office, and his early thinking in architecture was considerably influenced by this able Beaux Arts architect and teacher.

After graduating in 1917, Mr Mathers entered the partnership of Banigan, Mathers & Thompson, who had all been in the class of 1917, and gave the writer his first job when demobilized from the army in 1918. Business was spasmodic in those days and after a couple of years the firm dissolved and Mr Mathers came to work in my office. Another architect, Benjamin Brown, who graduated from the Department in 1914, had an office along the corridor from me. As my work thinned out, his started to increase, and on suddenly losing his chief draftsman, he came to me pleading for help; I lent him Mr Mathers. He never returned to me, as that year a number of students whose courses had been interrupted by the war graduated from the Department and flocked in to see if I could give them jobs. I took on Roper Gouinlock and Ted Young (now head of Eggers & Higgins in New York) to whom I had already spoken, and sent Eric Haldenby and Bruce Wright along the hall to see

"Shy." From this evolved the firm of Mathers & Haldenby.

This was an excellent team and the firm flourished. With the recent addition to the partnership of their sons, Douglas Haldenby and Andrew Mathers, the firm should flourish for a long time to come.

Mr Mathers maintained a keen interest in the Department — now the School of Architecture, and in the University as a whole. His advice was often sought by governors and faculty in regard to architectural matters.

Among the firm's buildings in the design of which he took a personal and leading part are: the Head Office of the Bank of Nova Scotia, Toronto; the National Library at Ottawa; Imperial Oil Building, St Clair Avenue, Toronto; The Globe and Mail Building, Toronto; Whitney Hall, Hygiene Building and many others for the University of Toronto; Upper Canada College, including the quadrangle; Trinity College School Chapel, Port Hope; Arts and Administration Building, Dalhousie University; Library and Students Union, University of Alberta.

He took a very keen and unselfish interest in the profession, scorning the slightest breach of ethics. He was Past-President of the Ontario Association of Architects and Chairman of the Architectural Committee of the Federal District Commission (since 1956 the National Capital Commission). He was also a member of many committees, including the National Capital Planning Committee, Toronto Art Gallery, and the Council of the Toronto Board of Trade.

He was elected Academician of the Royal Canadian Academy in 1938 and a Corresponding Member of the Academy of Architecture of France in 1959. He was active in the Diet Kitchen Group of Architects waggishly named from an architect's table at the Diet Kitchen Tea Rooms on Bloor Street, usually presided over by John M. Lyle. This group enlarged into the Mac Club, named after Professor A. W. McConnell of the Department and composed mainly of graduates of World War I vintage. This became a very strong and active group, organizing and running the Beaux Arts Balls at the Royal York, the Toronto Chapter Biennial Exhibition at the Art Gallery (one of the best attended shows at the Gallery), and was the main force in rejuvenating the Toronto Chapter and also the O.A.A. Mathers was in the middle of all this.

"Shy" had a great capacity for friendship and had a host of friends. He had a lively sense of humor and was a raconteur, with a gift for mimicry, whose stories were full of interest and amuse-

ment. He was, as well, an attentive listener to the stories told by others. Fishing was one of his hobbies and he was an ideal companion on a fishing trip. In golf he was a delightful partner or opponent. As a family man he was one of deep devotion, full of kindness, understanding and generosity.

His passing is deeply mourned by his professional colleagues, his many clients, his host of friends and, needless to say, by his family. *F. H. Marani, Toronto*

## Practice Notes

Graduate of the State Engineering School, Mainz, Germany in 1964, wishes a position with an architectural firm in Canada. Miss Elke Ortwein has been employed in Germany as an architect engaged in planning and detailing dwellings. Reply Elke Ortwein, Scharfensteinstrasse 12, 6228 Eltville/Rhein.

Twenty-four year old engineering architect, Miss Karin Lehmann, coming to Canada in July wishes to find a position in a Canadian architectural office. Miss Lehmann has had a years experience in Mainz, Germany. Reply Box 123, Journal RAIC/L'IRAC.

Architect, Luis C. Fernandez, Jr., B Arch, University of Santo Tomas, Manila, seeks a position in a Canadian architectural firm. Mr Fernandez' last position was Chief Architect with a Santa Cruz, Manila firm. Reply Luis C. Fernandez, 324-E Bernabe St, Pasay City, Philippines.

The School of Architecture, University of Liverpool, and the Department of Architecture, University College Nairobi (University of East Africa) are now advertising a joint appointment for a Lecturer in Architecture.

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The development of research and graduate studies in housing, urban development and building science is now being planned in Nairobi.

*(continued on page 67)*



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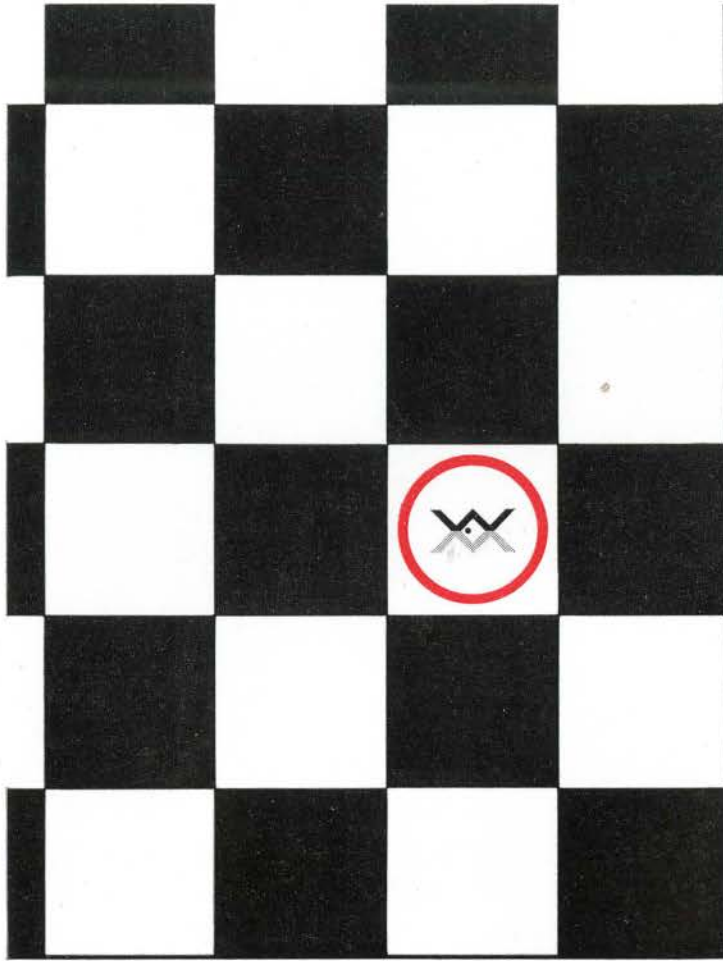
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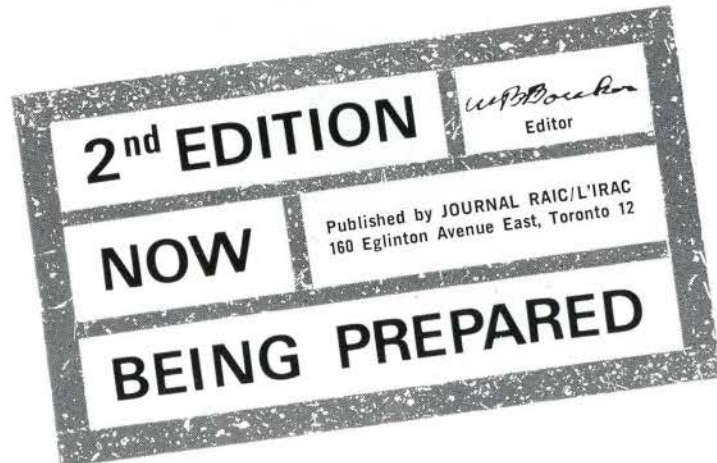
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# Perspectives

## From RAIC Headquarters

Canadian architecture will be represented for the first time at the VIII Biennale exhibition, Sao Paulo, Brazil. Entries were received by the Institute and forwarded to Sao Paulo, courtesy of our Department of External Affairs, from the following firms: Fairfield and DuBois, Toronto; Papineau Gerin-Lajoie LeBlanc, Montreal; John B. Parkin Associates, Toronto. The exhibition opens in September.

CMHC travelling scholarships to students planning to enter their final year in architectural studies have been awarded this year to: Russell Adams, U. of Montreal; Witold Rybczynski, McGill; William H. D. Hurst, U. of Manitoba; Rémy Thibault, Laval; Bing W. Thom, U. of British Columbia; Kryn H. Dubbeldam, U. of Toronto.

The tour, led by Prof. Marcel Junius of U. of Montreal, will enable the students to see examples of environmental architecture in major cities of North America.

Nova Scotia Technical College, Halifax, marked the conferring of its first degrees in architecture by adding a distinguished graduate to the class and strengthening further the close architectural links between Nova Scotia and Manitoba. John A. Russell (*F*), Dean of Architecture at U. of Manitoba, received the honorary degree of Doctor of Engineering.

At EXPO 67, the new approach to urban living designed by Moshe Safdie of Montreal will provide 175 dwelling units. The rooftops of each unit will serve as terraced gardens and children's play areas. Construction begins later this year, and is based on use of precast and prestressed concrete.

Premier Jean Lesage announced approval recently of plans to add two theatres to Place des Arts in Montreal — one having about 1,500 seats, the other 500. They will be ready in time for EXPO 67 and the EXPO Corporation will rent them for some feature productions.

An outstanding British stage designer has joined the staff of EXPO 67 to assist John Pratt in plans for La Ronde, the amusement park. He is Sean Kenny, and he is also helping Sir Basil Spence to design the British pavilion at EXPO.

Noted in the architectural journals:

*Arkitekten* (Denmark) — article and drawings of Moshe Safdie's Habitat; *Hungarian Architecture* Seminar issue 1964/65 on Industrial Architecture — feature on design of Lipton plant at Bramalea, Ont., by John B. Parkin Associates.

Among the many journals that come into this Headquarters, we take particular delight in *Charette*, published by the Pennsylvania Chapter of AIA. Another fine periodical is the *Journal of the Society of Architectural Historians*, and its March 1965 number is particularly noteworthy since it includes a complete record of papers and discussions at the 1964 Symposium on Modern Architecture, Columbia University. One of the papers, "English Architecture 1929-51", is by Anthony Jackson, MRAIC, of the School of Architecture, Nova Scotia Technical College. Current President of the Society is Prof.

## Du Siège Social de l'Institut

Pour la première fois, l'architecture canadienne sera représentée à l'exposition biennale de Sao Paulo (Brésil), dont la huitième a lieu cette année. L'Institut a reçu et fait parvenir à Sao Paulo, grâce aux bons offices de notre ministère des Affaires extérieures, des demandes d'inscription de la part des bureaux suivants: Fairfield et DuBois, de Toronto; Papineau, Gérin-Lajoie et LeBlanc, de Montréal; John B. Parkin Associates, de Toronto.

L'exposition s'ouvrira en septembre.

Des bourses de voyage de la SCHL, destinées à des étudiants songeant à commencer leur dernière année d'études en architecture, ont été décernées cette année à: Russell Adams, Université de Montréal; Witold Rybczynski, Université McGill; William H. D. Hurst, Université du Manitoba; Rémy Thibault, Laval; Bing W. Thom, U.B.C.; K. H. Dubbeldam, U. de Toronto.

La tournée d'études, dirigée par le professeur Marcel Junius, de l'Université de Montréal, permettra à ces étudiants d'examiner des exemples d'architecture d'environnement dans les principales villes de l'Amérique du Nord.

Le Nova Scotia Technical College d'Halifax a voulu marquer sa première collation de grades en ajoutant à sa classe un diplômé distingué et en resserrant davantage les liens qui existent dans le domaine de l'architecture entre la Nouvelle-Ecosse et le Manitoba. Il a en effet conféré à M. John A. Russell (*A*), doyen de la faculté d'architecture à l'Université du Manitoba, le grade honoraire de docteur en génie.

A l'EXPO, le nouveau complexe urbain conçu par M. Moshe Safdie de Montréal fournira 175 logements. Les toits en terrasse de chaque logement serviront de jardins et de terrains de jeu pour les enfants. La construction doit commencer plus tard cette année; elle sera en béton précontraint.

Le premier ministre Jean Lesage vient d'annoncer l'approbation récente de plans en vue d'ajouter deux théâtres, l'un d'environ 1,500 sièges et l'autre de 500, à la Place des Arts de Montréal. Ces théâtres seront prêts à temps pour l'EXPO 67 et la Compagnie de l'exposition les louera pour certaines représentations spéciales.

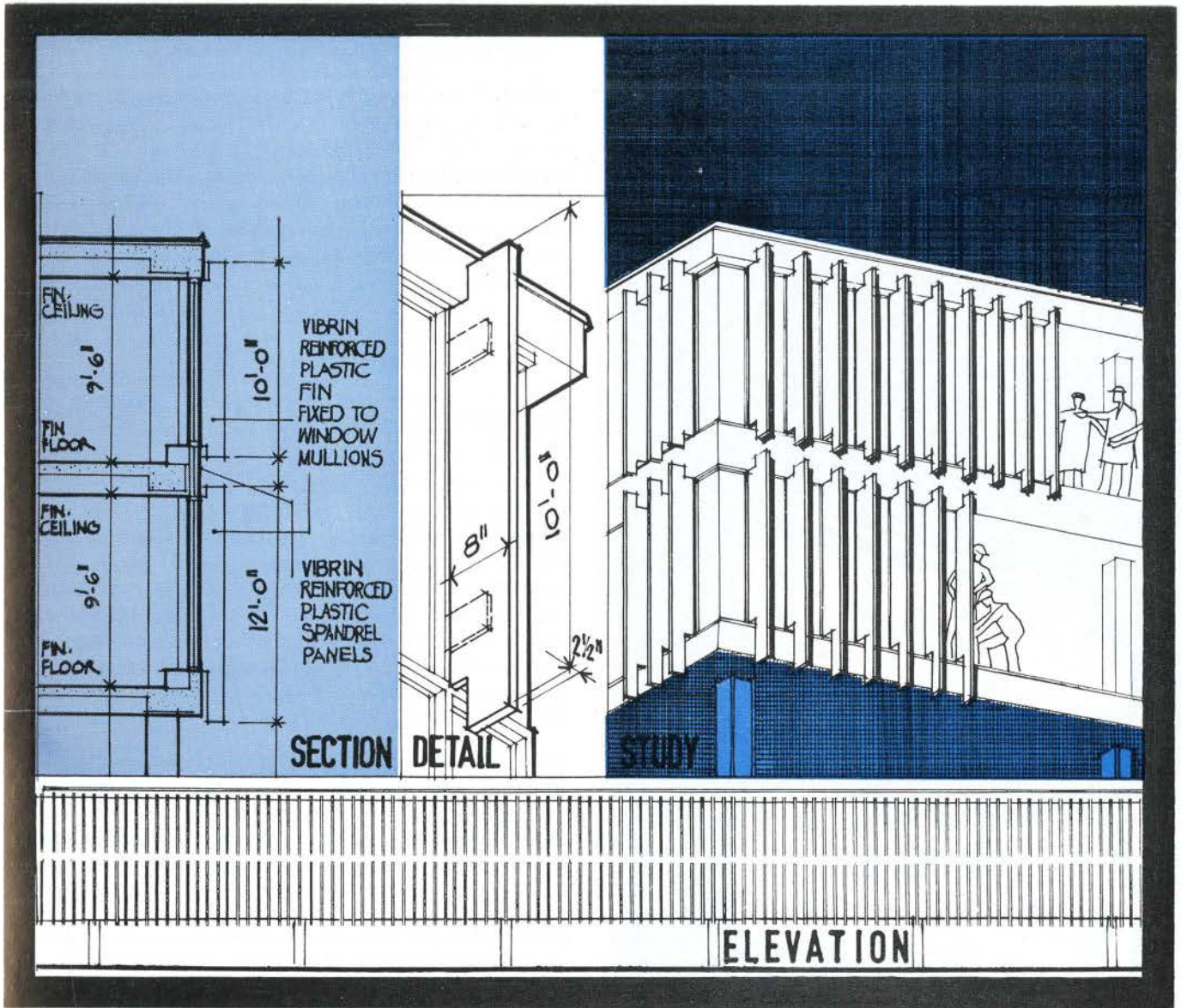
Un célèbre compositeur de scènes de Grande-Bretagne, M. Sean Kenny, s'est joint au personnel de l'EXPO 67 où il aidera M. John Pratt dans la préparation des plans du parc d'amusement La Ronde. M. Kenny aide également Sir Basil Spence dans la préparation des plans du pavillon britannique à l'EXPO.

Notés dans des journaux d'architecture:

*Arkitekten* (Danemark) — article et dessins au sujet de Habitat de Moshe Safdie; Séminaire sur l'architecture hongroise, édition 1964-1965 sur l'architecture industrielle — article sur les plans de l'usine Lipton à Bramalea (Ontario), oeuvre de John B. Parkin Associates.

Parmi les nombreux journaux qui parviennent à nos bureaux, nous apprécions spécialement *Charette*, publié par la succursale de la Pennsylvanie de l'AIA. Une autre belle revue est le





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H. Allen Brooks of the University of Toronto.

Awards being presented during the Paris Congress of the International Union of Architects include:

*Sir Patrick Abercrombie Award*

**Colin Buchanan** and his team, for their investigation of urban traffic problems and their conclusion that, since traffic is a function of urban life, human activities, architecture and communications can be usefully considered only in concert.

**Tibor Farkas** and his team, for the planning of the Lake Balaton region of Hungary which reveals an excellent relationship between function and architectural expression, in harmony with the surrounding countryside.

*Auguste Perret Awards*

**Hans Scharoun**, for works of great coherence as exemplified by the Philharmonic Hall in Berlin.

Honorable Mention to Heikki and Kaija Siren.

Prof Harold Spence-Sales of McGill's School of Architecture is engaged in preparation of a manual illustrating how various features of the urban environment of smaller centres may be improved in themselves or brought into better relationships with each other. A further aspect of this study, which is made possible through a \$25,000 CMHC grant, is the preparation of proposals (illustrated by display panels and models) for the immediate environment of the Fathers of Confederation Memorial Building in Charlottetown.

A new quarterly publication from CMHC will be of interest to all architects. Entitled *Urban Renewal and Public Housing in Canada*, the first issue features well-illustrated articles on housing projects and on new legislation in the field, as well as news items and statistics of interest. Write to CMHC for your copy.

NRC Division of Building Research hopes to produce a volume on *Building in Canada 1867-1967* as its contribution to the Centenary of Confederation. It will include a general review of building, the men who did it, materials new and old, community planning, etc. DBR people will welcome your suggestions, especially Research Officer T. Ritchie.

DBR, encouraged by the great success of its first two Building Science Seminars (exterior wall design, window design), is planning a third for March 1966 in Ottawa and Calgary. Subject is roofing. It is hoped to present at least one new seminar each year.

Herbert Schumann, fourth-year student of architecture at the U of Manitoba, won the first Canadian scholarship to be awarded by the Portland Cement Association. His winning design, completed as part of his regular class work, was entitled "Urb-Arctic Unit in Canada"—for a community of 100,000 inhabitants in the North. Judges included Yusing Jung of U of Toronto School of Architecture.

Schumann's scholarship is for the course at Fontainebleau, France, this summer, followed by extensive travel to points of architectural interest in Europe.

Another Manitoba student, Attila Burka, won the \$1,000 first prize in the 1965 American Concrete Institute architectural competition. The assigned sketch problem was to design a research centre for a space or nuclear laboratory in 10 hours without previous preparation or guidance.

From the papers:

"Alberta's shortage of professional architects and engineers is



*Journal de la Société des historiens en architecture* et le numéro de mars 1965 mérite une mention toute spéciale. On y trouve un compte rendu complet des documents qui ont été présentés et des discussions qui ont eu lieu au Colloque de 1965 sur l'architecture moderne à l'Université Columbia. Un de ces documents, "English Architecture, 1929-51" est l'oeuvre de M. Anthony Jackson, MIRAC, de l'École d'architecture du Nova Scotia Technical College. Le président actuel de la Société est le professeur H. Allen Brooks, de l'Université de Toronto.

Parmi les prix qui seront décernés au cours du congrès de Paris de l'Union internationale des architectes, il y a lieu de mentionner:

*Le prix Sir Patrick Abercrombie à*

**Colin Buchanan** et son équipe pour leur étude du problème de la circulation urbaine, au cours de laquelle ils en sont arrivés à conclure que, puisque le trafic est une fonction de la vie urbaine, il faut considérer les activités humaines, l'architecture, les communications, dans un contexte unitaire.

**Tibor Farkas** et son équipe, pour l'aménagement de la région du lac Balaton (Hongrie) où est réalisé un excellent accord entre la fonction et l'expression architecturale, en harmonie avec le paysage.

*Le prix Auguste Perret à*

**Hans Scharoun** pour des oeuvres d'une grande cohérence, dont un exemple typique est la Philharmonie de Berlin. Avec mention à Heikki et Kaija Siren.

Le professeur Harold Spence-Sales de l'École d'architecture de l'Université McGill travaille à la préparation d'un manuel illustrant des moyens d'améliorer certains éléments de l'environnement urbain dans les petits centres ou d'établir entre eux plus d'harmonie. Une autre partie de cette étude, rendue possible grâce à une subvention de \$25,000 de la SCHL, consiste dans la préparation de propositions (illustrées au moyen de panneaux et de maquettes) visant l'entourage immédiat de l'Edifice commémoratif des Pères de la Confédération à Charlottetown.

Une nouvelle publication trimestrielle de la SCHL intéressera sûrement tous les architectes. Elle porte le titre de "La rénovation urbaine et le logement public au Canada"; le premier numéro contient des articles bien illustrés sur les projets d'habitation et sur les nouvelles lois dans ce domaine, ainsi que des actualités et des statistiques de grand intérêt. Ecrivez à la SCHL afin d'obtenir votre exemplaire.

La Division de la recherche en bâtiment du Conseil national de recherches espère publier un volume sur "Le bâtiment au Canada de 1867 à 1967" à titre de contribution au centenaire de la Confédération. On y trouvera une revue générale des bâtiments, de leurs auteurs, des matériaux anciens et nouveaux, de la planification des agglomérations, etc. Les fonctionnaires du Conseil et en particulier M. T. Ritchie, préposé à la recherche, seront heureux de recevoir vos suggestions.

Le Conseil de recherches, encouragé par les succès de ses deux premiers séminaires sur la science du bâtiment (modèles de murs extérieurs et modèles de fenêtres), songe à la tenue d'un troisième séminaire à Ottawa et Calgary en mars 1966. Le sujet sera la toiture. Il espère organiser au moins un nouveau séminaire chaque année.

M. Herbert Schumann, élève en quatrième année d'architecture à l'Université du Manitoba, a obtenu la première bourse d'études décernée au Canada par la Portland Cement Associa-

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likely to get worse before it gets better, says Hon F. C. Colborne, public works minister.

Their services and those of their drafting staffs will be needed more than ever in the next few years as the province surges ahead — especially in the north, Mr Colborne told the Legislature during a night sitting Thursday.

He termed the shortage "severe", adding: I am further convinced that these shortages of professional people will be accompanied by similar shortages in skilled and semi-skilled workers in the years immediately ahead".

Maximum use must be made "of every training facility available for the training of skilled and semi-skilled tradesmen," he said, particularly for the construction industry.

This particularly applied to the Indian and Metis people "whose training has not yet been developed as it can be." Mr Colborne added.

He emphasized that responsibility for such training rests with industry as well as with government through apprenticeship programs on a larger scale than at present and through on-the-job training of every kind.

The Minister noted that millions of dollars worth of architectural and engineering work has been contracted to private firms by the public works department under a policy started 18 months ago. Mr Colborne said it will be well into 1966 before the department will be able to make a proper evaluation of this work." *Edmonton Journal, March 19, 1965.*

"MAINTAIN THIS TREND — If Alberta is short of professional architects, as Mr Fred Colborne, the minister of public works, says, this government is partly to blame.

For many years, it had public buildings designed by departmental architects, ignoring the protests of private practitioners. This could only discourage architects planning to enter practice in Alberta or young persons contemplating careers in architecture.

The government's invasion of the field of private endeavor may also have had a discouraging effect on engineering.

It is to Mr Colborne's credit that he initiated a new policy shortly after taking over the portfolio. Under this policy, he says, millions of dollars of architectural and engineering work have been contracted to private firms by his department.

The government should continue to shift its work to the private sector. And it should resist any temptation to use shortages of professional personnel as an excuse for backsliding." *Edmonton Journal Editorial, March 20, 1965.*

Hon. C. M. Drury, Minister of Industry, Ottawa, addressing the Canadian Wood Council recently: "Some time ago your Council asked my Department to give consideration to the establishment of a joint program of wood design awards. I believe that such a program would have great merit, and I am happy to announce that we intend to co-operate with you in this venture."

We are glad to note that Canada Council grants have been accorded to three professors of architecture:

Peter Collins, McGill, for research into architectural theory at the Conservatoire des Arts et Metiers, Paris;

Peter Collins, di(

Carl R. Nelson, Manitoba, to study architectural curricula at British universities;

Abraham Rogatnick, B.C., for research at the Instituto Universitario di Architettura, Venice.

FRED W. PRICE

tion. L'oeuvre qui lui a valu cette bourse avait été réalisée comme partie du travail de classe régulier. Elle porte le titre de "Urb-Arctic Unit in Canada" et est conçue pour une agglomération de 100,000 habitants dans le nord du Canada. Au nombre des juges se trouvait M. Yusing Jung, de l'Ecole d'architecture de l'Université de Toronto.

Dans un récent discours devant le Conseil canadien du bois, l'hon. C. M. Drury, ministre de l'Industrie à Ottawa, a déclaré: "Il y a quelque temps, votre Conseil a demandé à mon ministère de songer à l'établissement d'un programme commun de prix de dessin industriels dans le domaine du bois. J'ai l'impression qu'un programme de ce genre pourrait rendre de précieux services et je suis heureux de vous annoncer que nous entendons collaborer avec vous à cet égard."

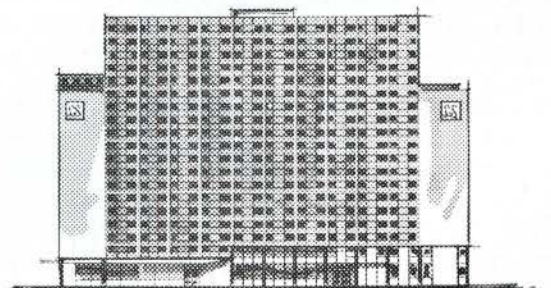
Nous signalons avec plaisir que M. Peter Collins, professeur d'architecture à McGill, a obtenu du Conseil des Arts une subvention en vue de recherches en composition à l'Ecole des Beaux-Arts de Paris.

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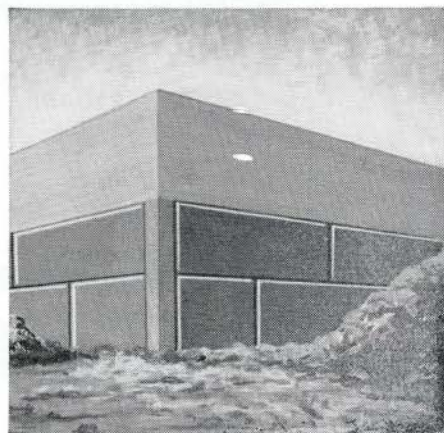
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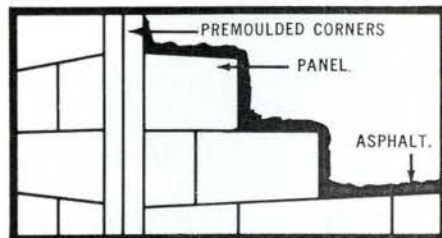
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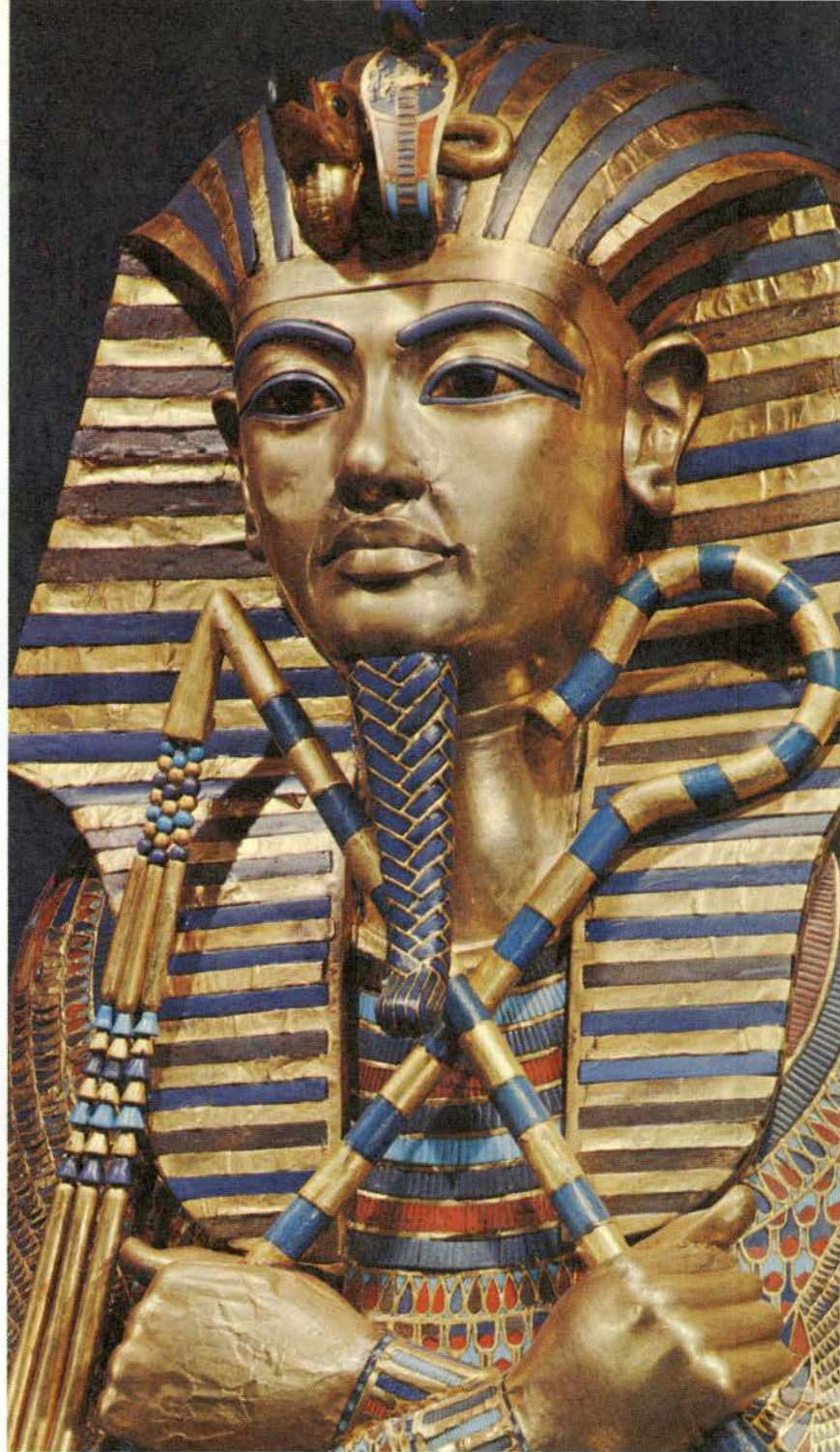
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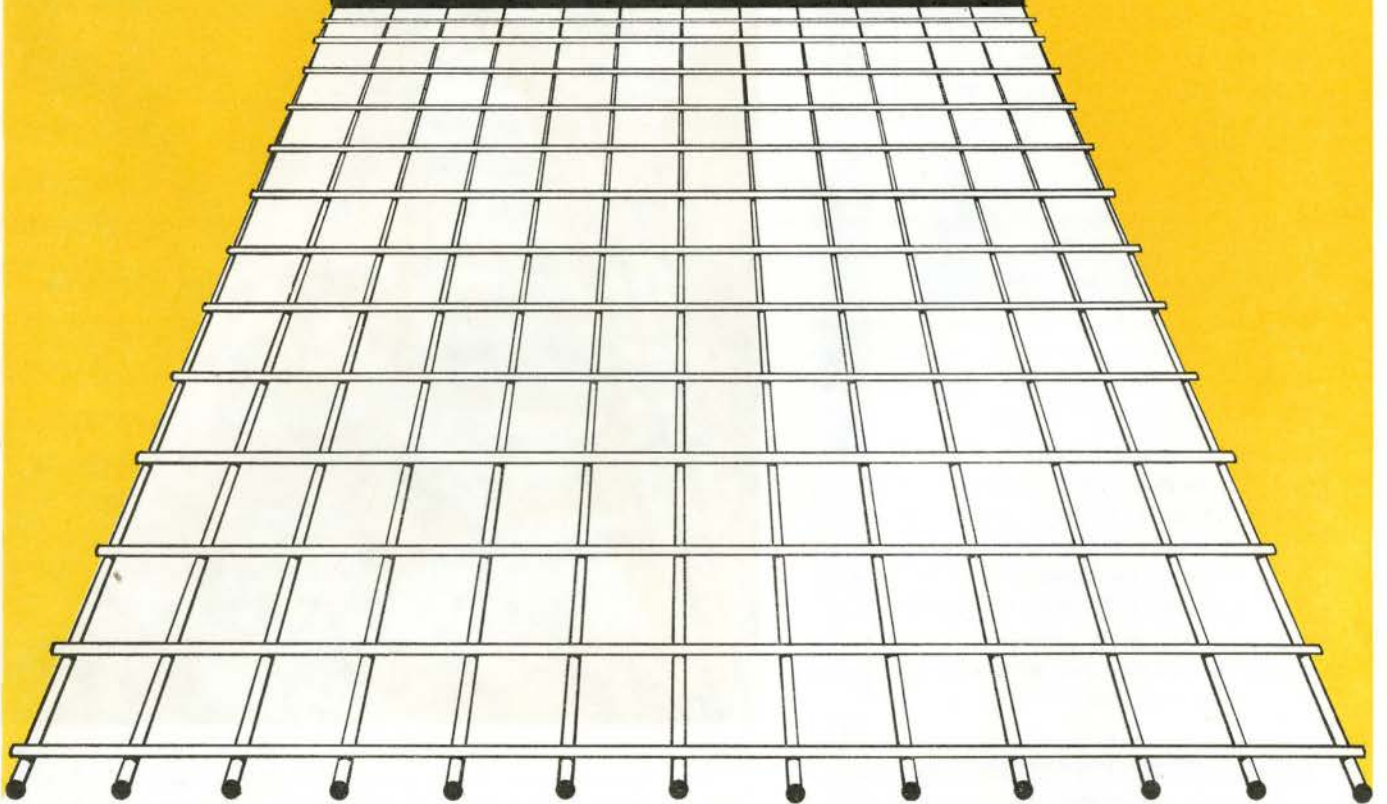


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## Revus des Livres

### "CONSTRUIRE LE MONDE"

PAR DENIS TREMBLAY (A)

Tel est le titre d'une nouvelle collection qui vient d'être inaugurée aux éditions Robert Laffont (Paris) et dont les deux premiers volumes ont paru en fin de 1964: "L'Avenir des Villes" présenté par Raymond Lopez et "La Maison de Demain" présenté par Emanuel Bernard-Bernadac, tous deux éminents architectes en même temps qu'écrivains et érudits.

Il s'agit d'ouvrages rédigés en collaboration sous la direction d'un Comité de rédaction dirigé par André Parinaud, par des spécialistes des questions étudiées. Les ouvrages sont publiés dans un format carré d'album, abondamment illustrés.

Devant la montée démographique et l'urbanisation de la majorité de la population, quel sera l'avenir de nos villes si l'on veut qu'elles en aient un, si l'on veut les guérir des maladies qui menacent leur existence même et par conséquent la nôtre? Après avoir établi un bon diagnostic, il faut appliquer la thérapeutique qui s'impose pour sauver le malade. Diverses solutions sont proposées. Il faut sauver ce qui mérite d'être conservé, mais il faudra sacrifier de larges secteurs non récupérables, pratiquer de larges trouées, réorganiser les circulations. Et comment loger les citadins de la "ville de demain", de la ville du XXI<sup>e</sup> siècle? Car c'est en fonction de demain qu'il faut dès aujourd'hui concevoir et réaliser la ville et la maison.

La ville et l'habitat ne peuvent plus être conçus isolément comme des entités distinctes l'une de l'autre. C'est bien cette conception globale du complexe urbain qui se ressort de ces deux ouvrages, qui se complètent l'un par l'autre, et qu'il faut lire tous les deux en commençant par la ville de demain.

Ces deux ouvrages sont analysés par Bernard Champigneulle dans un article paru dans la livraison du premier mars 1965 de la Revue des Deux Mondes, intitulé "L'Avenir des Villes". En somme, les critiques soulevées contre la situation

actuelle de nos villes et de l'habitat urbain, les grands ensembles, sont fort pertinentes et n'ont rien de nouveau. Pourtant elles ne sont pas amères, pessimistes, mais sont plutôt empreintes de foi en l'avenir en dépit des difficultés imposées par l'inertie sociale et les multiples contraintes d'un ensemble de règlements et de contrôles régis par une armée de commissions et de fonctionnaires tâtilons et souvent tracassiers. On constate que les problèmes français ressemblent fort aux nôtres, mais en pire. Ils peuvent nous

enseigner ce que nous devons chercher à éviter tandis qu'il en est encore temps.

LA MAISON DE DEMAIN Présentation E. Bernard Bernadac. 1 Vol. Bro. 81 illustrations (même éditeur, même prix approx.)

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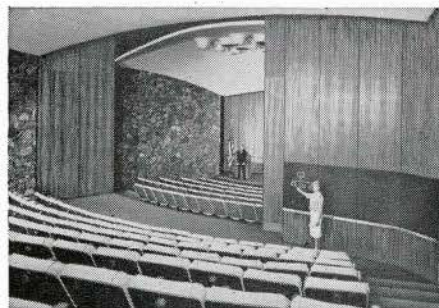


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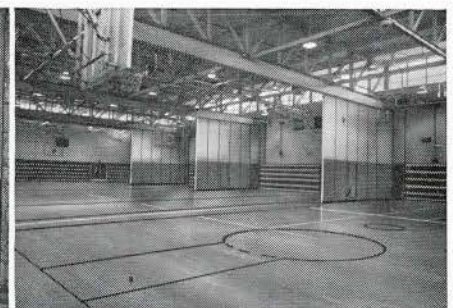
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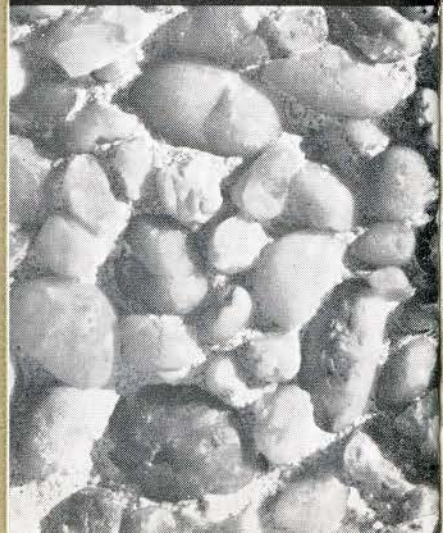
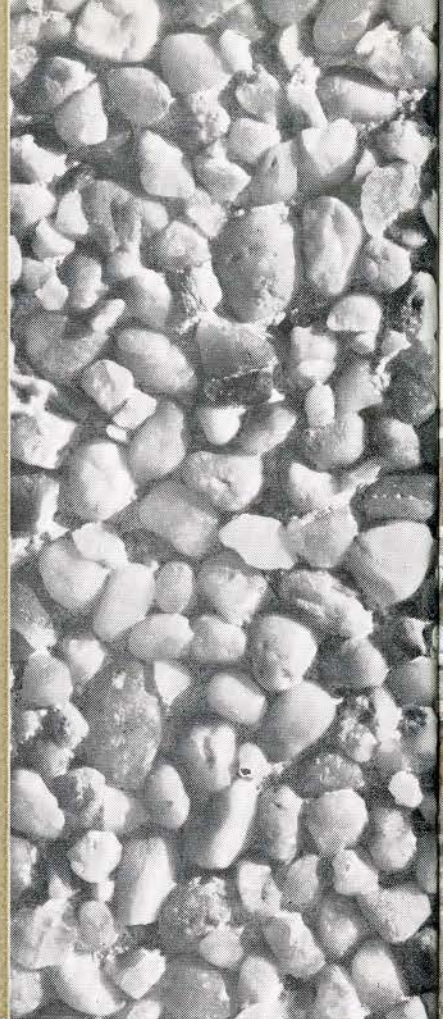
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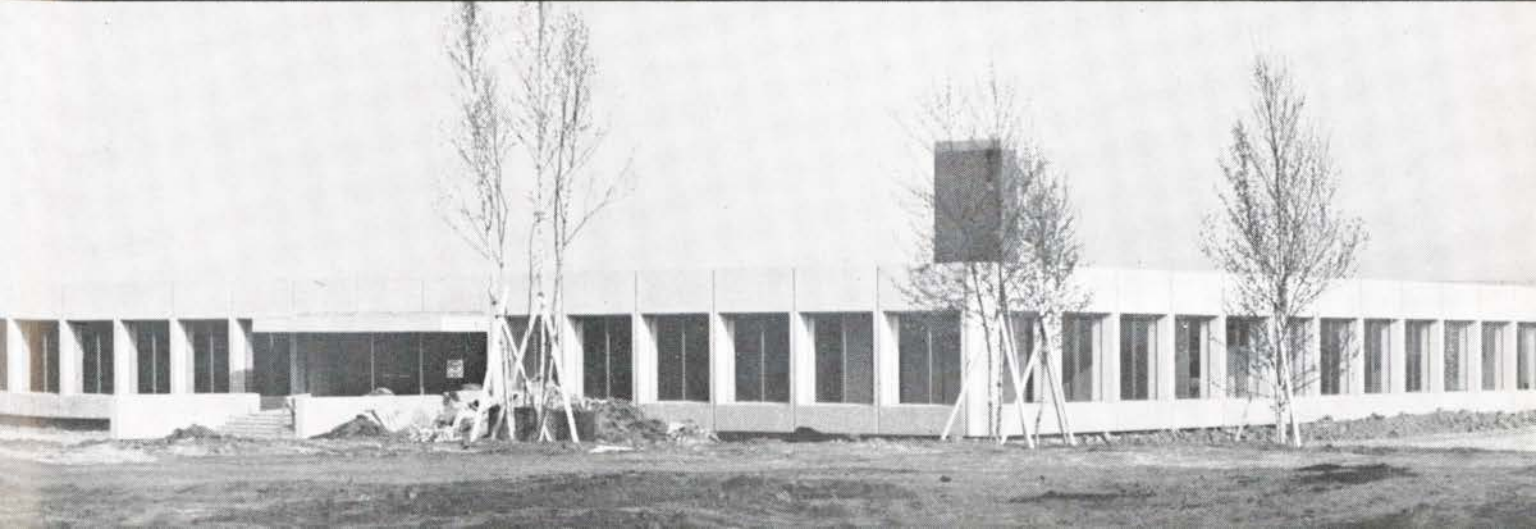
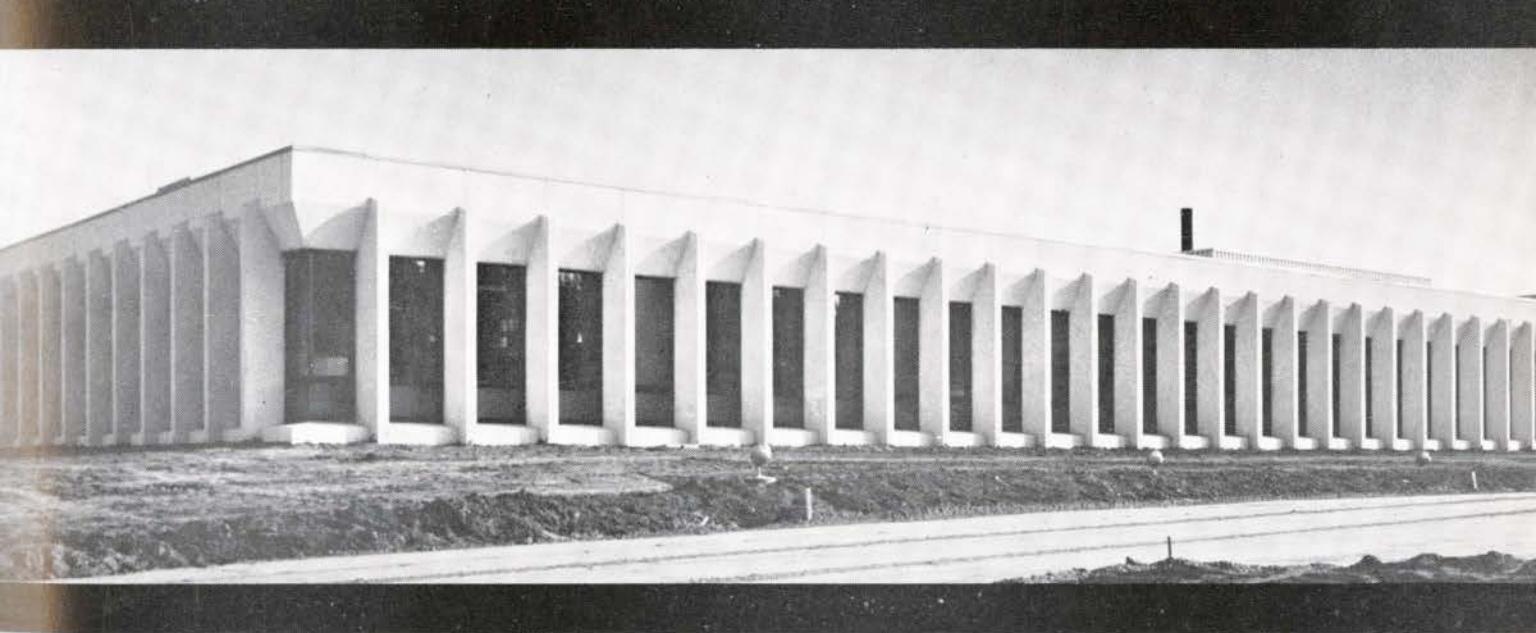
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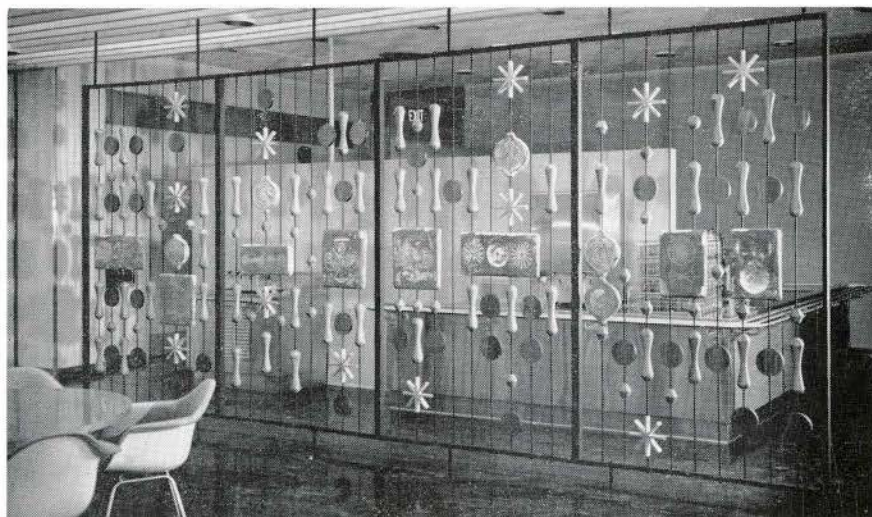
Art and Architecture  
by Anita Aarons, ASTC

## Formation of a National Crafts Council

by Merton Chambers

*Mr Chambers, an artist-craftsman, Ontario representative to the Council for Environmental Arts (Canada's national crafts body), was one of the official delegates to attend the First World Congress of Craftsmen and has maintained his own studio for the past eight years.*

*Don Wallace Wall Divider, Monarch Life, Winnipeg. Smith Carter Searle Architects.*



Henry Kalen



Wall Tapestry, Krystyna Sadowska.

The First Congress of Craftsmen in New York last June represented 47 countries and clearly showed that the crafts movement around the world had matured, was worthy of notice and was now strong enough to form a World Crafts Council. Each Country represented was charged with finding whether their country's craftsmen wished to organize and affiliate with this world body or not. Arising out of that came an exploratory meeting of Canadian government officials and craftsmen in Winnipeg at the University of Manitoba February 5-7 with the result that a national body of Canadian craftsmen was formed. The Canadian Council of the Environmental Arts — Conseil Canadien des Arts de l'Espace being the "pro tem" title established.

Following on this is to be a government sponsored meeting of craftsmen and educators at Lake Couchiching April 23-25. Active guilds and distribution centres in Canada up till now have existed for craftsmen mainly as amateurs or indigenous native craftsmen.

The points arising out of the First World Congress of Craftsmen and the following Winnipeg meeting have made Canadians more deeply aware of the unsatisfactory and ambiguous nature of the handcrafts organizations — not always in the best interest of the contemporary artist craftsman. The American Craftsmen's Council gave the lead to form the World Crafts Council, and to use the methods and experience gained by them plus proper consideration of local geographic conditions and so put handcrafts on a healthier footing throughout the contemporary world. In both the New York and the Winnipeg meeting the raising of standards was the most important issue so to come to terms with it the whole craft movement was carefully noted and found not to be formed of just an amorphous whole of amateurs but made up of several facets: (a) native handcrafts based on tribal imagery (b) pioneer craft skills preserved by talented amateurs (c) products produced and distributed by contemporary craftsmen again sharply divided in two bodies; (1) adult amateurs collecting part time skills and (2) professionally trained artist craftsmen products of art schools able to work in the various fields of art, architecture and design for industry.

Because the term "craftsman" varies so much in conotation from country to country it is now suggested that these terms will perhaps more clearly define: artisan - craftsman, one who executes traditional designs or the designs of others; artist - craftsman or designer - craftsman, one who is capable of originating and executing his own designs and who exhibits and sells under his own name; designer in the craft field, one who knows the techniques in a given media





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Ian Sanson

Wool tapestry by Grace Svarre, terra cotta planters by Merton Chambers, Acres Ltd, in the National Trust Building. Commissioned by J & J Brooke Interior Decorators. Terra cotta planters, 18" on stainless steel supports, by Merton Chambers. National Trust Lobby.

but prefers to design work for others rather than execute it himself.

The Winnipeg meeting discussing the need for the Canadians to put their house in order and give a clear direction through the general agreement of the 40 people present (about equally craftsmen and government agencies) formed the CCEA — Canadian Council of the Environmental Arts. The CCEA intends to coordinate the loosely formed bodies already existing. As a national body it is now busy drawing a constitution, organizing funds and public relations to put Canadian handcrafts on a national unified plan of action. It is hoped, in part, to provide: (a) films, slides, literature and records of contemporary and traditional crafts, (b) an index of craftsmen in Canada, (c) set up exhibitions on a national and international scale, (d) provide some scholarships, (e) to set high standards so essential in giving respect due to the artist, (f) possibly give approval seals to those individuals and agencies who maintain those standards, and (g) to provide information to retailers, architects and designers on craftsmen and their type of production. The governing body is formed of an executive and councillors and fifteen master craftsmen as advisers for two year terms.

Each province will have its own representative who will gather and correlate all information, channel it to headquarters (P.O. Box 2431, Postal Station D, Ottawa) and be generally aware of the movement of crafts and provide

direction and assistance. Liaison is to be sought with all the arts — particular note was taken of the architectural field. The CCEA will then be primarily a standard setter, direction finder and clearing house whose services will be extended to all those individuals and groups interested and engaged in Environmental Design *ie* anything that has to do with the decoration and designing of those things that enrich man's living conditions.

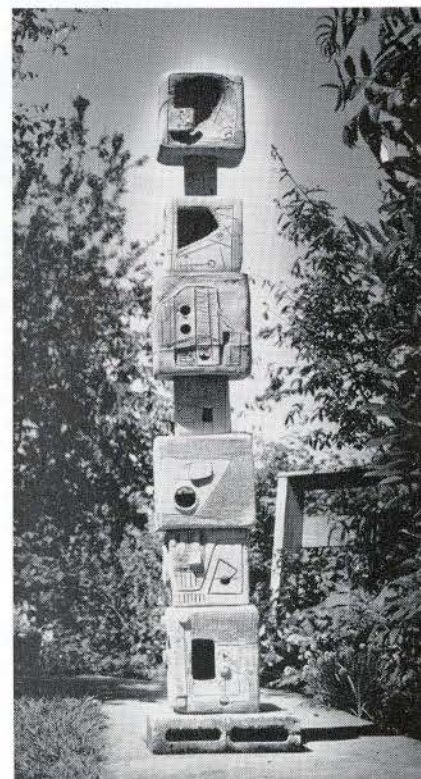
This organization will need a great deal of interest and support to make it effective. For the time being it is natural to suppose that most of its efforts will simply be turned to the tremendous task of correlating and compiling the vast amount of information needed to make it work. However despite the terms of reference being so wide some projects (reduction of the 11 per cent Federal tax and participation in Expo '67) have already been put in motion.

The dilemma of education and the place of the handcrafts in education it is hoped will be examined, discussed and some plans made at the Couchiching conference inaugurated and organized under the auspices of the Department of Education. The program schedule here is to be of workshop seminar discussions under loose direction of group leaders *eg* (1) Development of Craft Skills (2) Craft Instructor Training (3) Marketing the Product (4) What Do We Need?

No plans as yet exist to form a professional society of the standing of the American Craftsmen's Council. It is

hoped in time this will follow out of the various bodies meeting and discussing with an eye to standards and contemporary organization.

Since this article was written the Couchiching conference has been held and a pro-tem committee has been instructed to draft and establish an Ontario Craft Council.



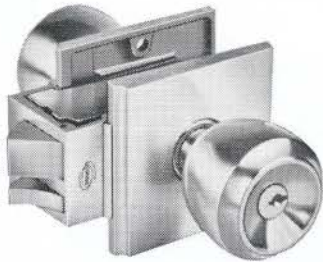
Basil King

Totemic Number 2, by J. N. Hardman. Owned by Lethbridge Jr. College, Alta.

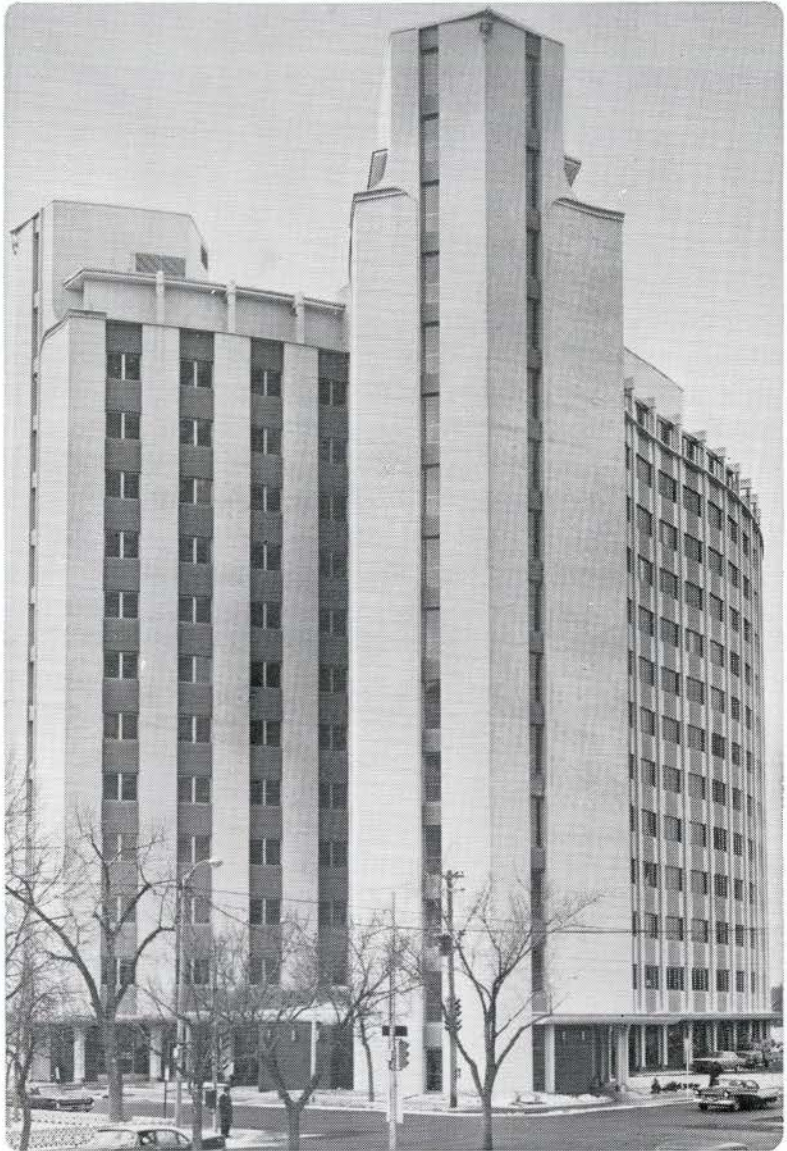




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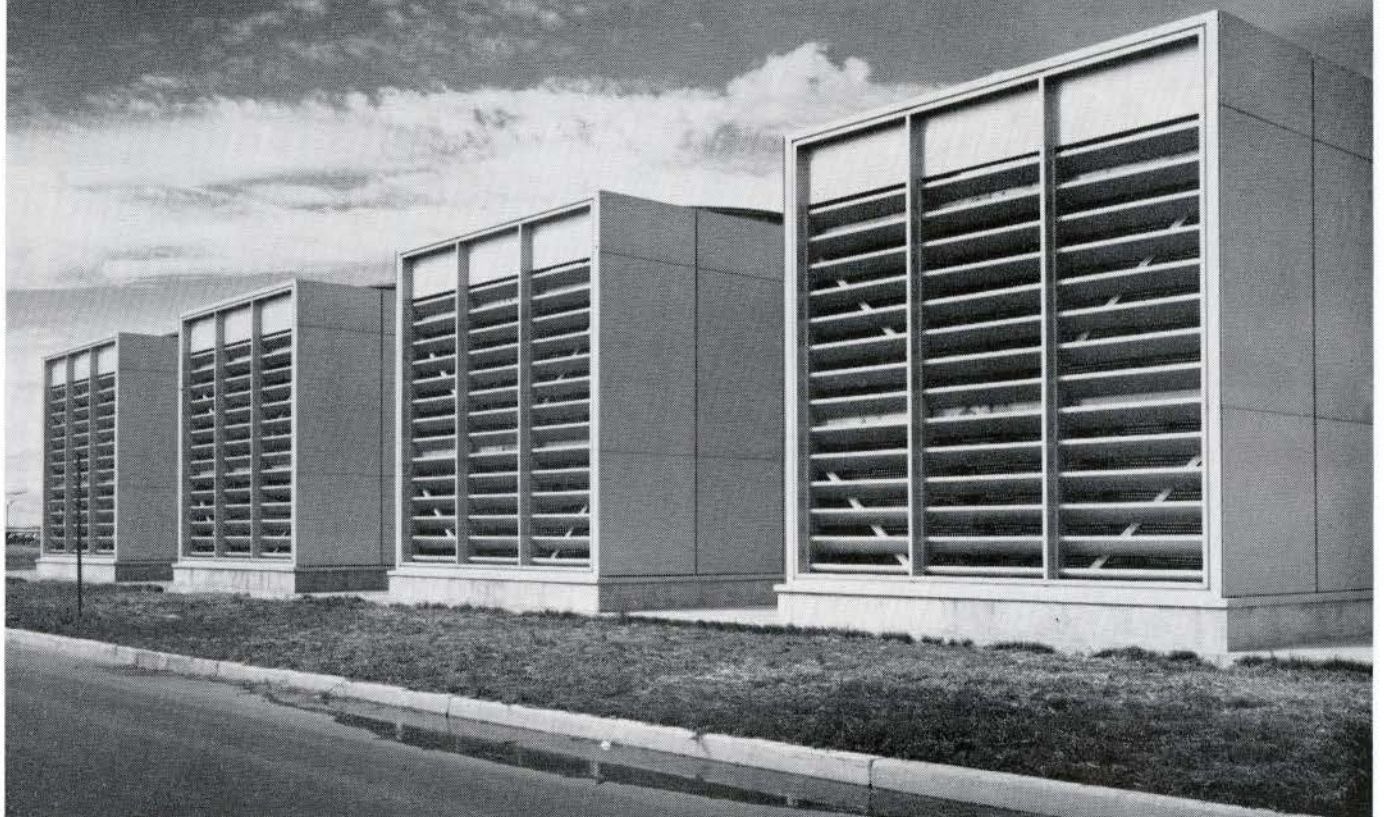
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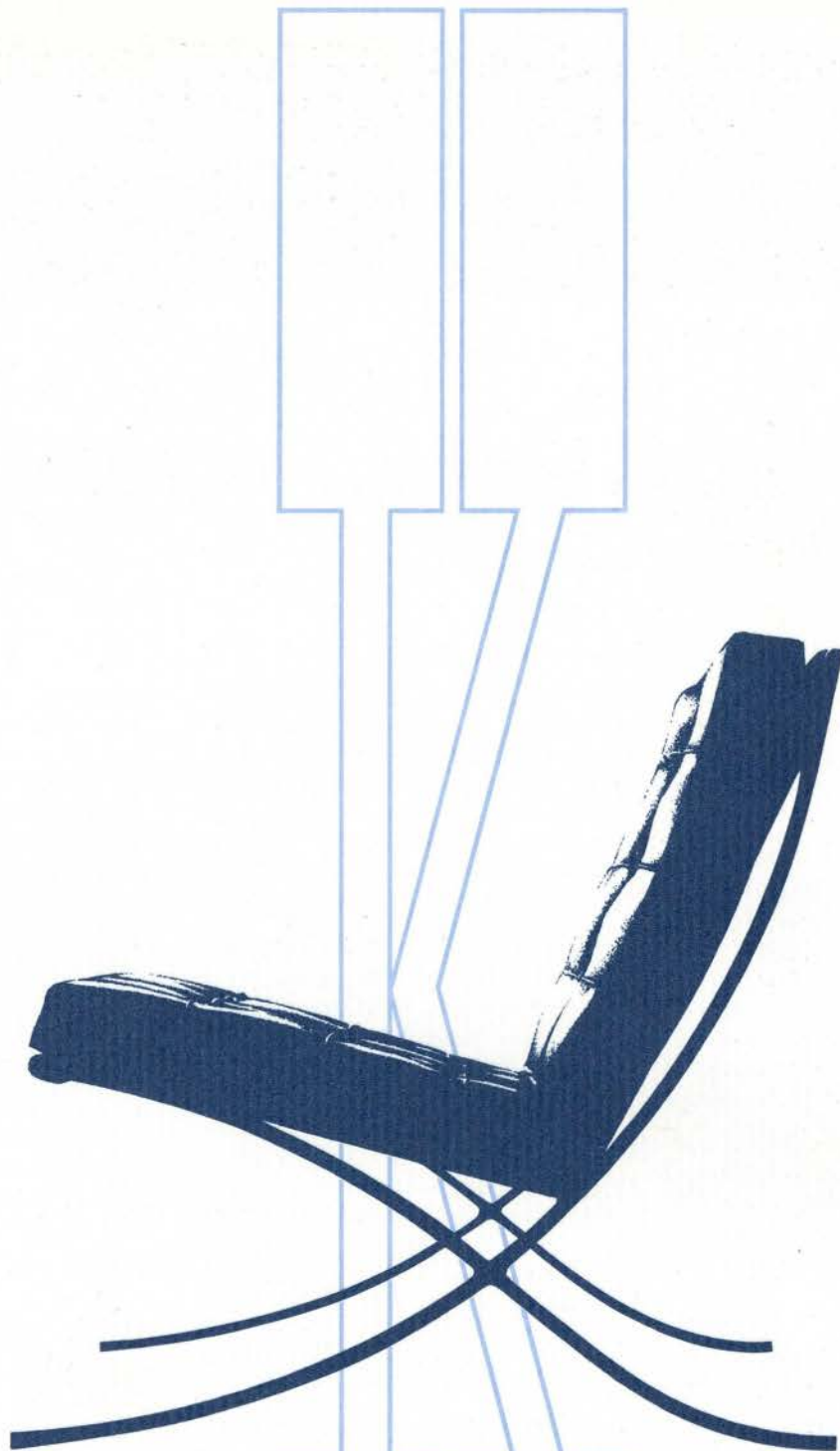
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*Collier's Encyclopedia*

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Henry Kalen

## ARCHITECTURE OF THE PRAIRIES

by Hans Elte

Some time in the future, perhaps, someone may undertake to write a history of prairie architecture and, it will no doubt reflect to a considerable degree the achievement of industrial maturity rather than an evolution of the art of building; an evolution in which a series of ebbs and flows can usually be discerned.

It is evident that from the days of the first settlers that the utilitarian element has played a very predominant role, and that by far the greatest part of building work was not in any sense inhibited by conscious or aesthetic considerations. The word "utilitarian" has always been central in discussions of prairie life. The reason for this lies in the way the population is distributed in hundreds of small hamlets and villages where people have to rely on their own initiative and fall back on their own resources.

The conventional concept of the "beaux arts" theory of architecture and its inherent conflict between construction and

the aesthetic impulse, with first one and then the other carrying the day, simply did not exist here. One might even go so far as to say that, on the prairies, the pre-occupation with utilitarian aspects resulted in a near total negation of other values, equally important in a human environment.

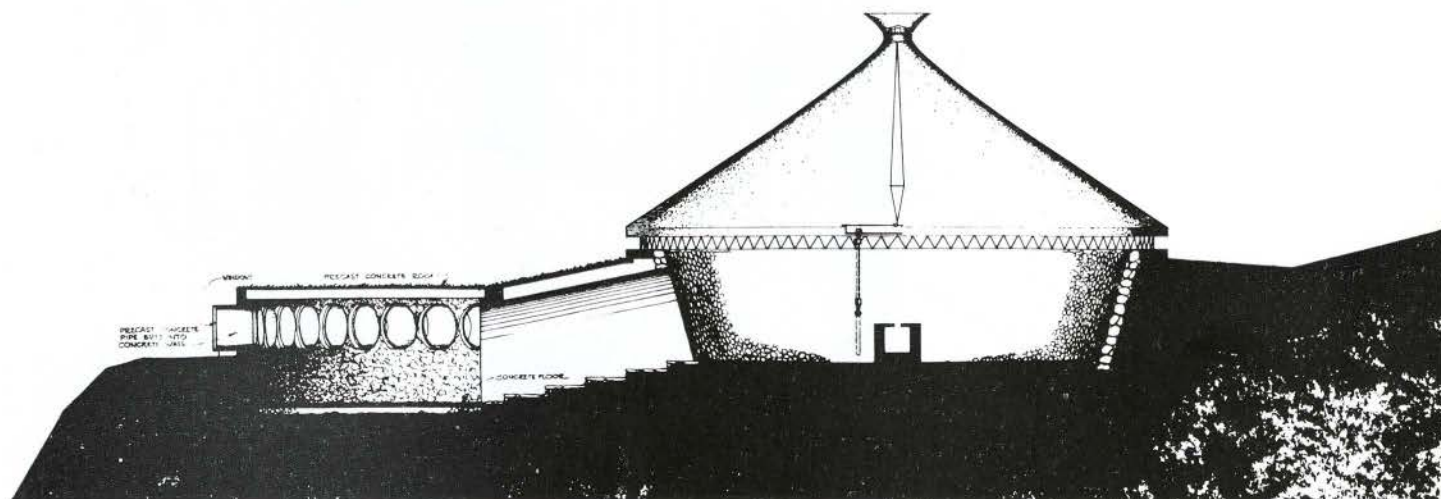
After years of slow economic progress a new dynamism seems to have taken command over prairie life, stimulated by the discovery of great mineral wealth and vast quantities of energy in the form of natural gas and petroleum. Now, with the discovery of potash in Saskatchewan, the construction of entirely new industrial centres, and even whole new towns will become a necessity. Il vient le temps des architectes.

It is encouraging to note the response from the many talented architects at work in the prairies, and some of the work of two of them, Clifford Wiens and

Etienne Gaboury, is published in this issue. In the work of these gifted designers a complete expression of the humanistic principles of architecture can be seen at its best.

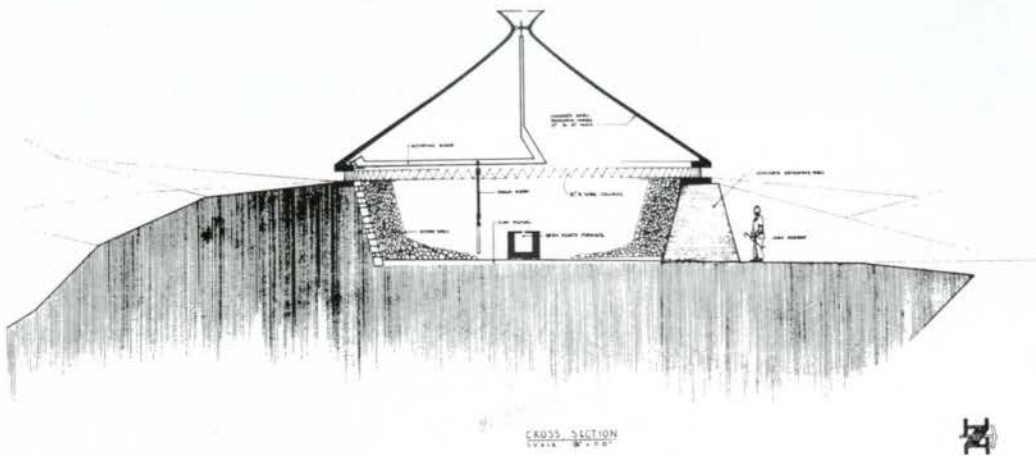
It is evident from his work that Clifford Wiens is an architect of no mean analytical talent. Combined with an uncommon poetic sensibility this imparts to his designs a certain lyricism, but of a kind by no means devoid of intellectual strength. His talent is perhaps best demonstrated in his admirable candle factory outside Regina.

As a man Etienne Gaboury creates the impression of being a shy and rather withdrawing individual. This one would never guess from his work. Strikingly bold in conception, the essence of his design is to be found in a deep concern with plasticity. As an illustration of this one need look no further than at his civic centre in St. Boniface.

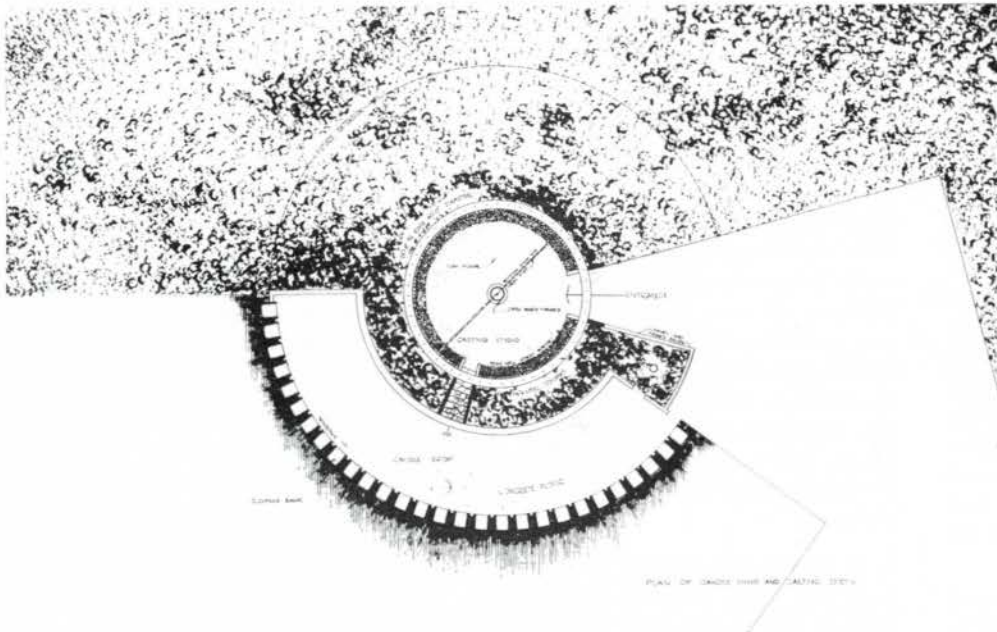


*Section Through Casting Studio and Candle Factory, Lumsden, Sask., Clifford Wiens, Architect.*

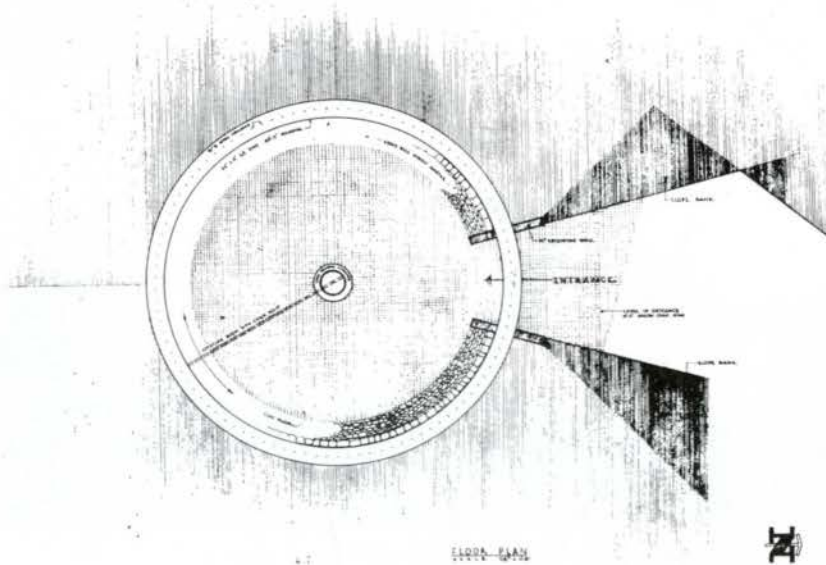




Cross Section



Plan of Casting Studio and Candle Shop



Floor Plan



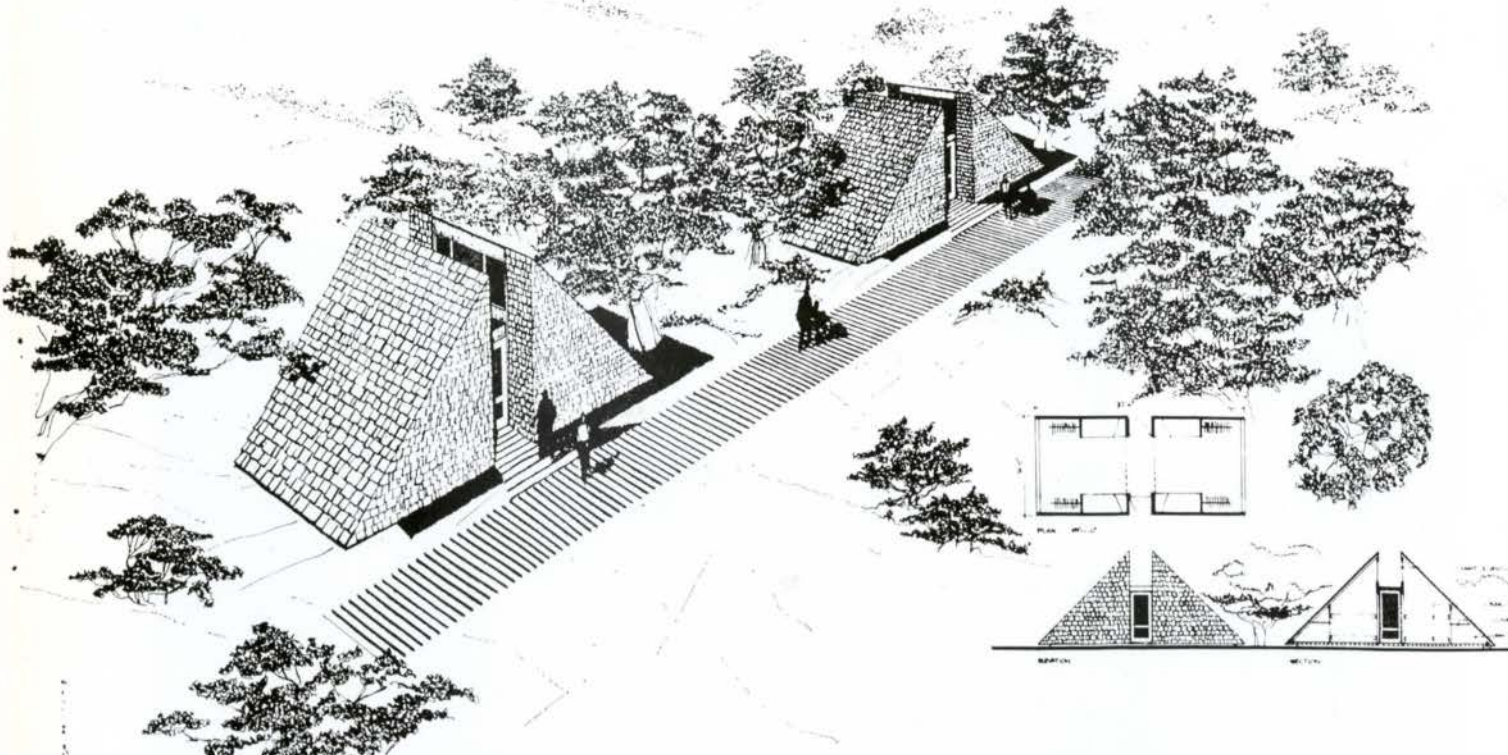


*Clifford Wiens, Architect*



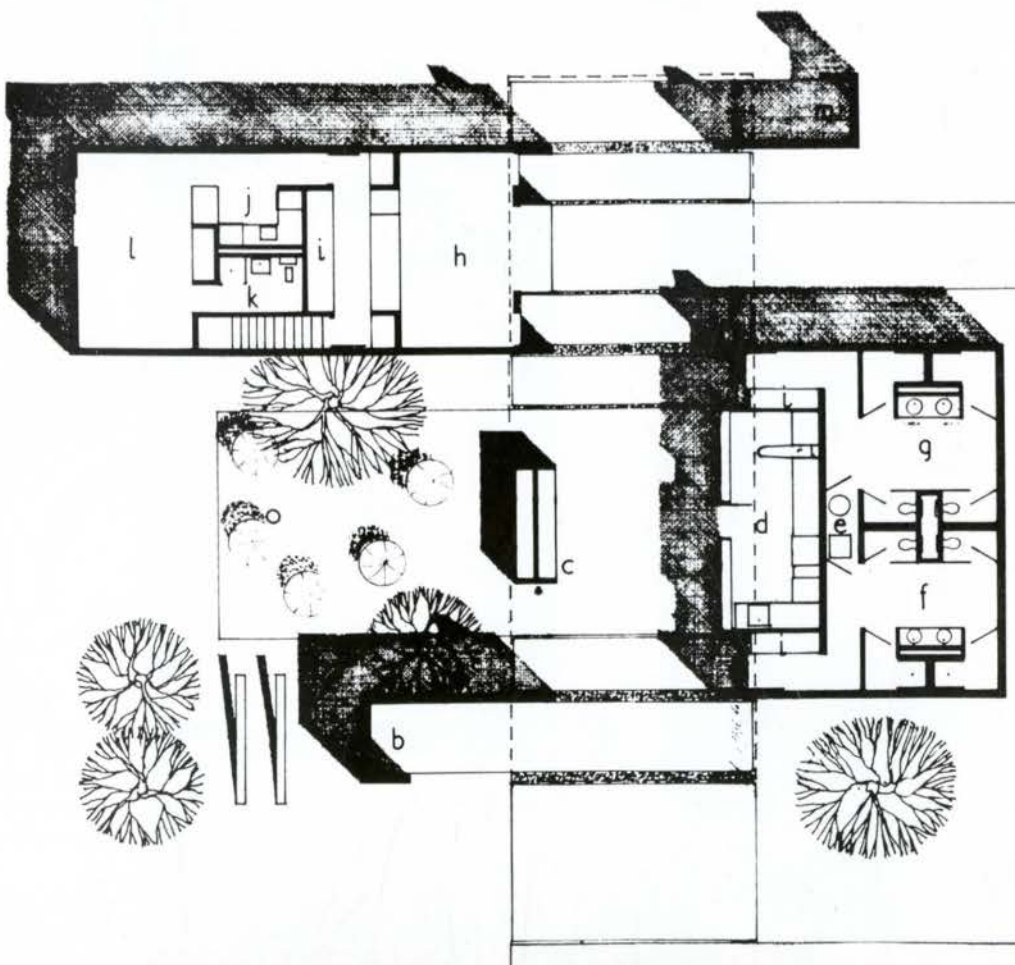
*Darke Hall Addition to  
Regina Campus  
University of Saskatchewan*





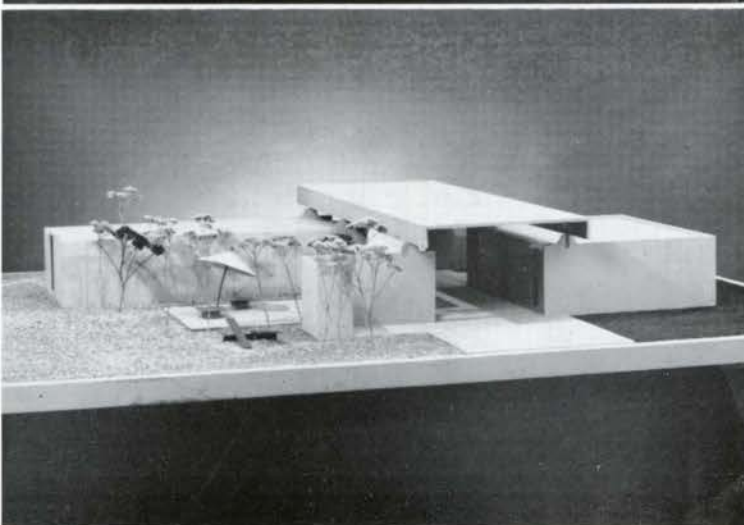
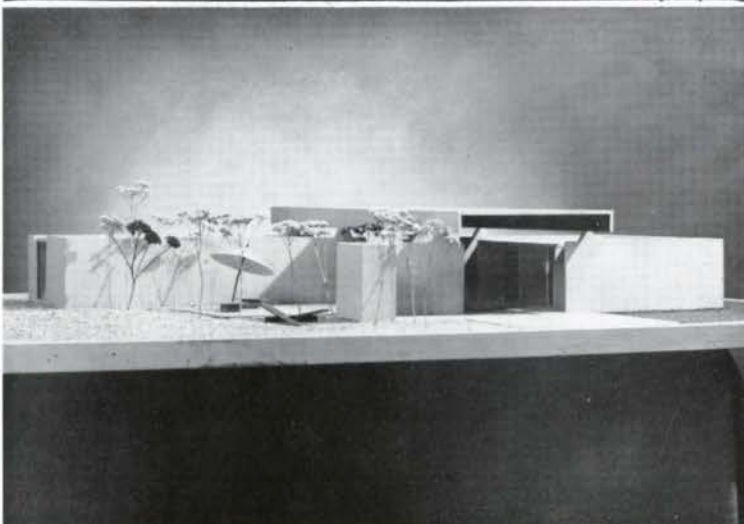
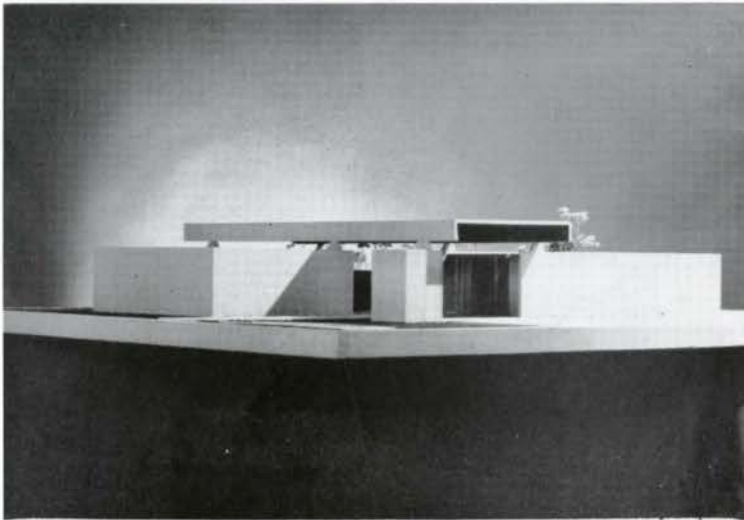
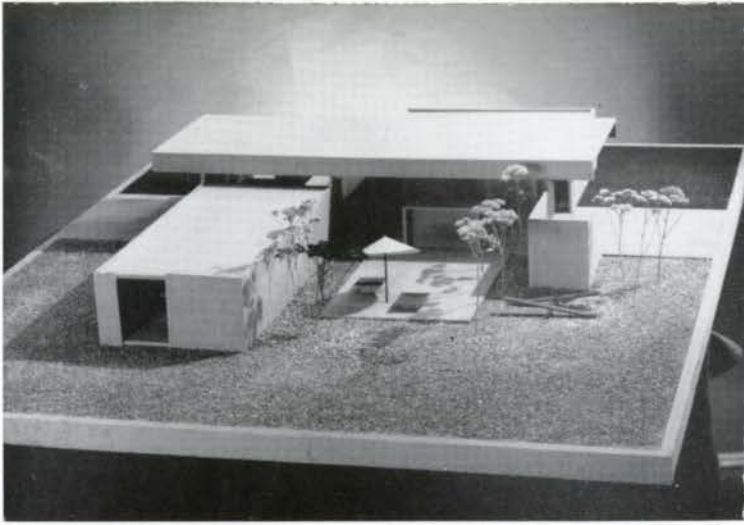
*Camp Easter Seal, Lake Manitou, Saskatchewan. Preliminary Design for Cottages. Clifford Wiens, Architect*

- b SOFT DRINKS
- c DISPLAY
- d LAUNDRY
- e FURNACE
- f MEN'S
- g OFFICE
- g WOMEN'S
- h OFFICE
- i STORAGE
- j KITCHEN
- k STAFF LAV
- l LIVING ROOM
- m TELEPHONE
- n ROOFED COURT
- o OPEN COURT



*Maple Creek Campsite  
Saskatchewan*



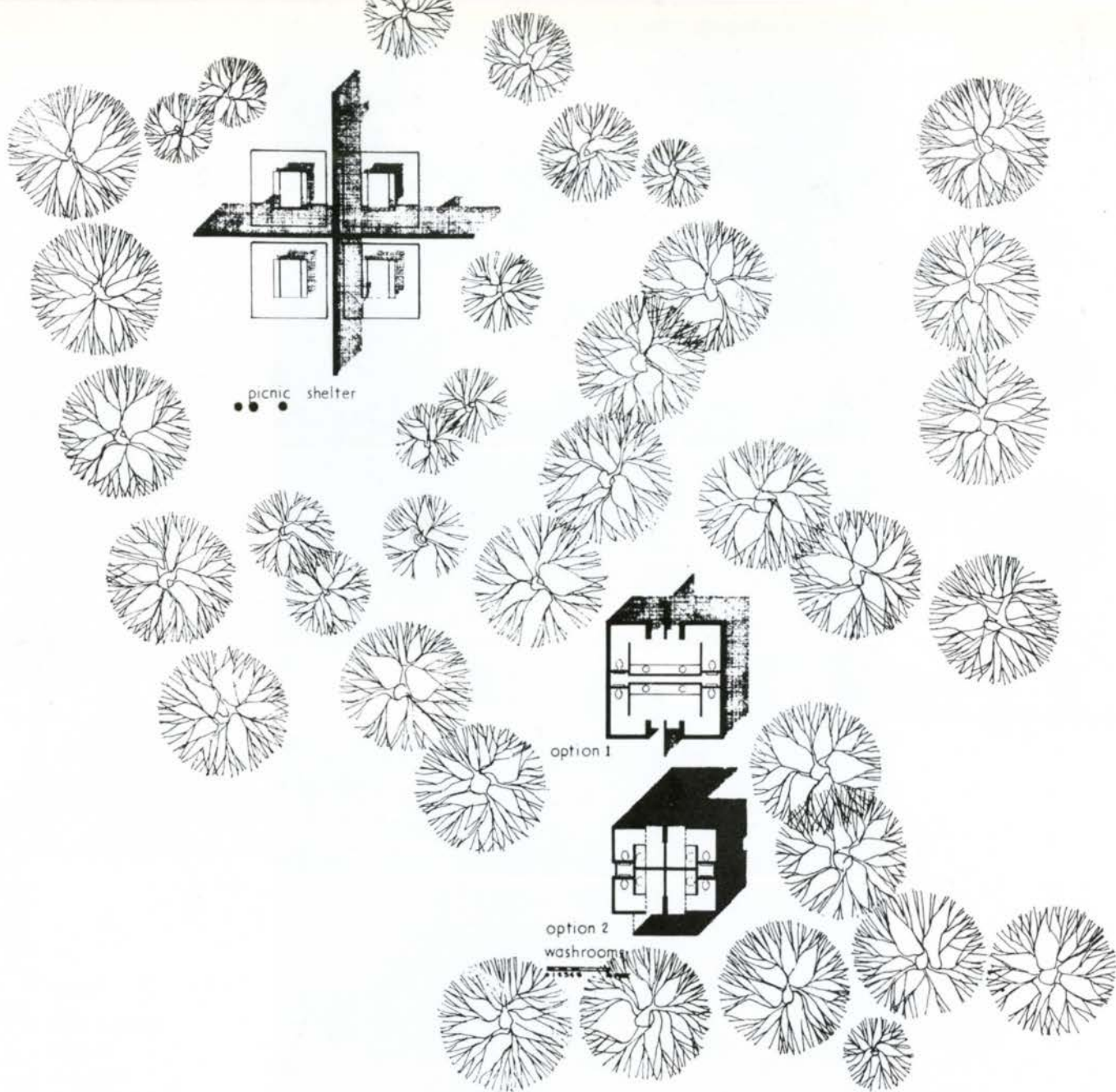


*Maple Creek Campsite  
Saskatchewan*

*Models*

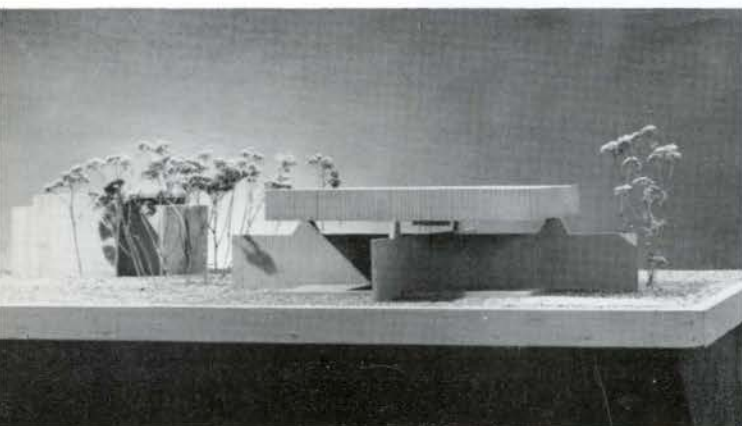
*Clifford Wiens, Architect*





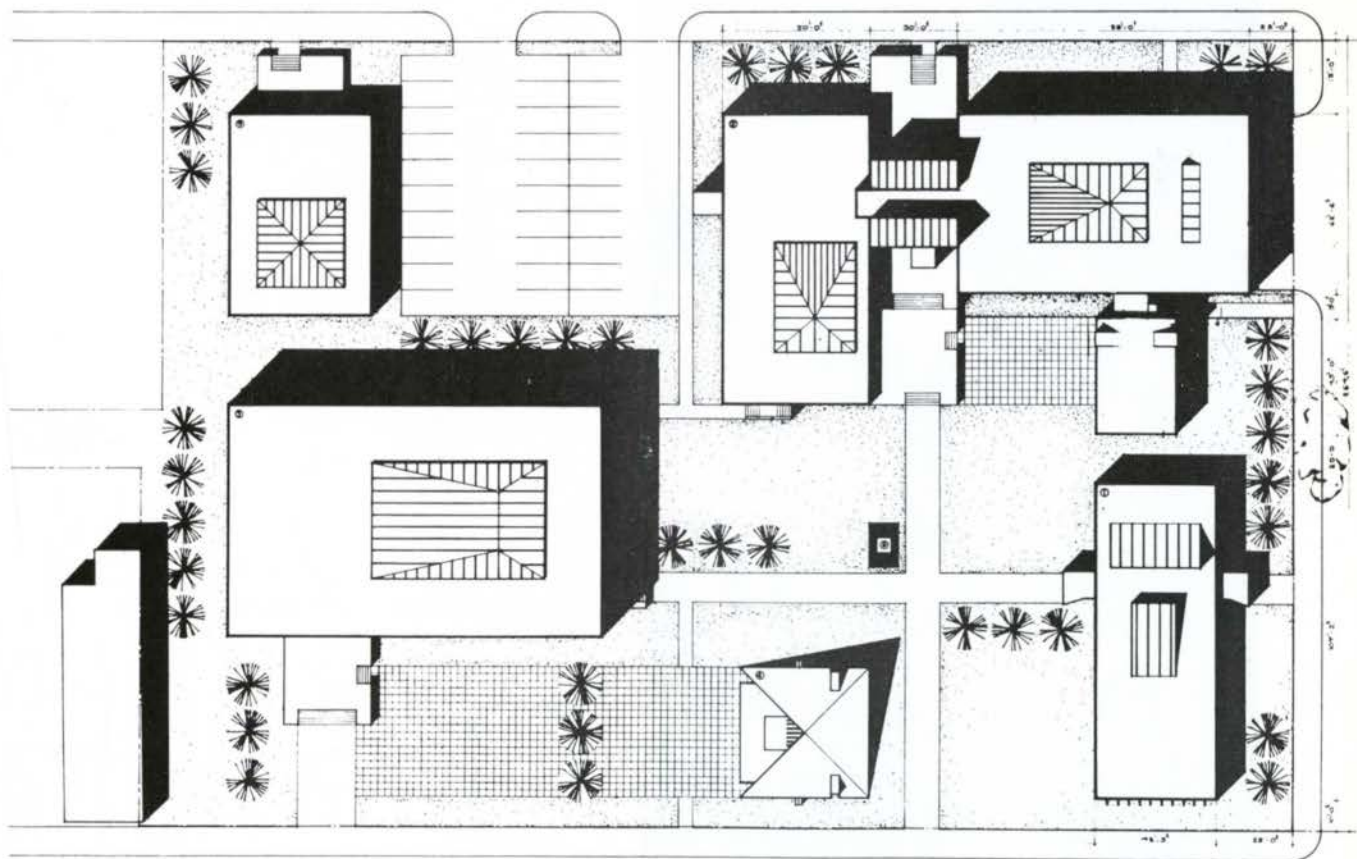
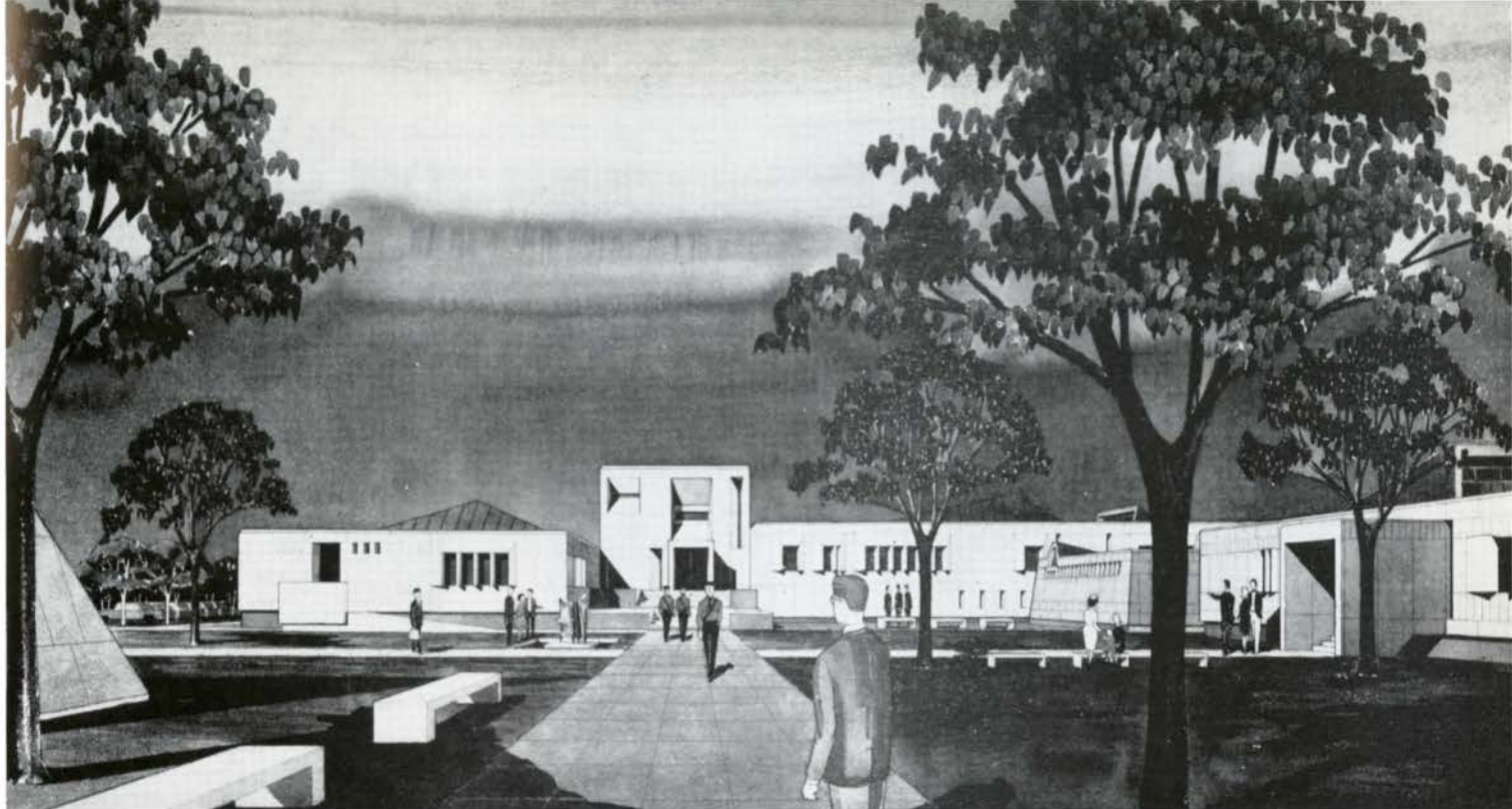
Maple Creek Campsite, Saskatchewan. Picnic Shelters & Washrooms. Clifford Wiens, Architect

Plan & Models



Sask. Govt. Photos





*Civic Centre in St. Boniface, Manitoba. Etienne Gaboury, Architect*



# ONTARIO GOVERNMENT PAVILION EXPO '67

ARCHITECTS: Fairfield and DuBois  
Macy DuBois, Partner in Charge

CONSULTANTS: Structural — Morrison, Hershfield, Millman & Huggins Ltd, and  
Norbert Seethaler  
Special Consultant — Walter Bird  
Mechanical — G. Granek & Associates Limited  
Electrical — Jack Chisvin & Associates  
Restaurant Consultants: Ports of Call International  
Exhibit Designers: Stewart & Morrison Limited

Because of its height and distinctive shape (115 feet at its highest) the Ontario Pavilion should be visible from an appreciable distance. All traffic on Victoria Bridge and Jacques Cartier Bridge will see it. All visitors to the fair will eventually take the rapid transit or subway into the fair. From these stations anywhere from 6,000 to 20,000 persons/hour will be walking in the south end of the Canadian Pavilion Complex.

The three most significant buildings in the Canadian Complex are the "Canadian Government Participation" with its KATIMAYIK, the Quebec Government Pavilion, and the Ontario Government Pavilion, the tallest of the three.

There are two major and one minor entries to the Ontario Government Pavilion site. The major accesses are from the Federal Pavilion site and the east pedestrian way, the other from the Quebec site.

Since the main pedestrian way passes through the Ontario site, it has been made a unique feature of the building. By directing the traffic under the building and changing the extent and direction of the pedestrian way as it moves through

the site, all circulation here is under its influence.

This pedestrian way flows into the court of the Ontario building with care taken not to differentiate between the two separate functions, so that all seems a part of the court.

The building itself divides the site into two areas. (*Photo #1, showing building with roof removed*). One is the main court which is overlooked as visitors move up the mechanical ramps carrying them into the building. This large court will be animated by the monorail periodically crossing on its east edge, (*at bottom of photo #1*) by a sidewalk cafe and marina development at its south east corner, by movement to and from the Quebec building, by the activities which will occur in the lagoon, and occasional special attractions provided on the site by the Ontario Government itself. The second court will be a children's area. Here, the exact programming has not been worked out, but possibilities indicate a baby sitting service for long or short periods, light snacks, and lunches for the children, with play equipment telling in its own way some other phase of the Ontario theme. As

well as providing for the children, it will serve as an attraction, exhibition, and crowd stopper for the adults as they leave the building and make their way back to the pedestrian way. Finally this area, close to the restaurant area, will allow the parents to relax in the dining area while still keeping in contact with their children.

The treatment of the outdoor areas has been relatively simple. In order to avoid too many retaining walls on a site that has significant grade changes, to provide a strong elemental base for the building, to control traffic flow through the site, and to provide unselfconscious incidental sitting areas, unfinished cut blocks of Ontario stone have been used, which are placed in an informal way on the site. The same or similar material will be used for the walking paved areas in the courts and walkways. Out of this will spring large coniferous trees which will provide shade and a natural contrast with the technological refinements of the structures.

The monorail is a pleasant addition to the fair and to the Ontario site. It gives visitors a glimpse of the building and courts, and provides as previously men-



tioned, another sense of activity to the large court.

Visitors will enter the Ontario buildings by a mechanical ramp onto an upper level of exhibits enclosed by a tent-like roof. This will allow the exhibit to develop another kind of reality separated from the activity going on around the site. As the visitor moves through the exhibit the amount of exterior light coming through the roof is diminished until as the viewer enters the focal attraction the space is completely black. If the focal attraction is full or the viewer wishes to avoid it, he moves around a bypass ramp which leaves him at the entrance to the restaurant. Similarly, a visitor who has gone through the focal attraction is also deposited here.

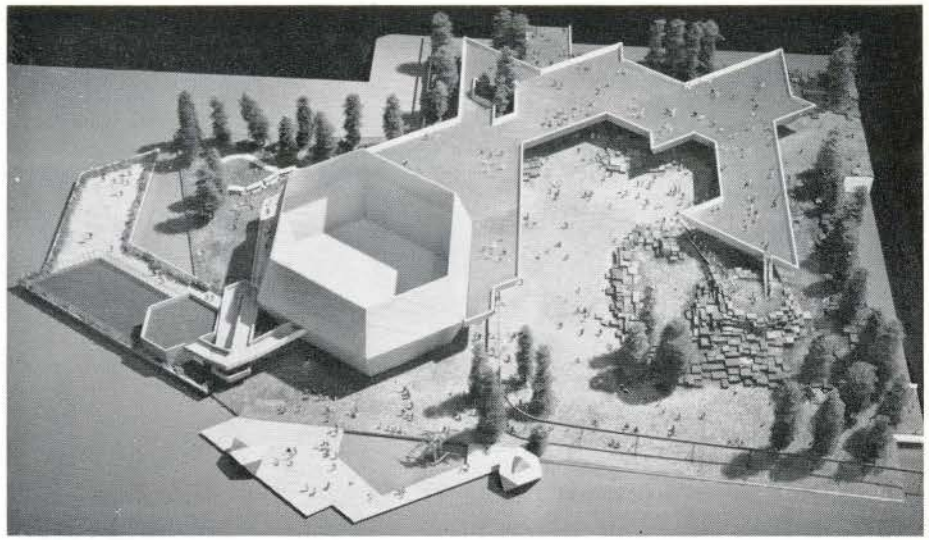
The Official Reception area includes dining facilities which overlook but are not overlooked by the main restaurant. Contiguous to these facilities will be office space for the administrative staff of the Pavilion.

Toward the end of the restaurant platform there will be an open deck which will provide a dancing area for the evening visitors. The sense of being over water should encourage the natural festive quality of the dining and dancing. On the east edge of the site, partly screened by the focal attraction, the marina exhibit will have a discotheque for teenagers and a sidewalk cafe surrounding it. This should provide a note of activity particularly in the evening which could in itself attract people from the pedestrian way.

The structure of the platform is a wood covered metal space frame allowing for long free spans and providing an unpretentious, attractive, yet temporary and economical surface. The roof structure is a much more technologically advanced structure. The architects wished to capture the festive quality that perhaps is best expressed by the qualities of a tent: light, economic, temporary means for weather protecting large spaces.

This is however, a tent in modern terms. Using a fabric developed and used in large radomes in Canada, a fibreglass fabric coated with a vinyl, all capable of withstanding large stresses with very little elongation, the roof is then framed into metal edge members. These steel edge members carry the load down to the ground as well as provide the method by which the fabric is tensioned. Every section is actually a quadrangle, warped to give load carrying strength.

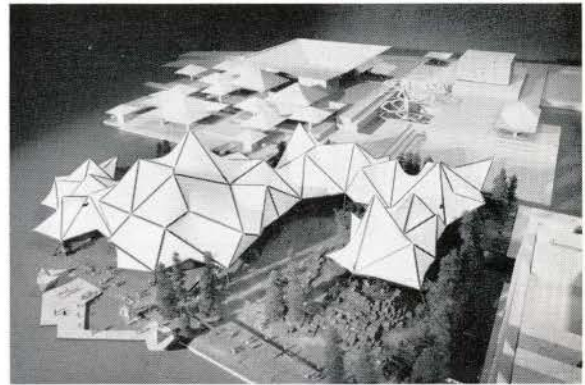
Tenders will be called in the fall of 1965.



*Aerial view from the east with the roof removed. Shows from left to right: the restaurant, focal attraction, and illusion area with the marina in the foreground*

Photos by Panda

*Aerial view from north-east with Federal Pavilion beyond and Quebec Pavilion at lower right*



*Entrance to the Pavilion from the Quebec site*

*View into the court from the East*





# ONTARIO'S CENTENNIAL CENTRE OF SCIENCE AND TECHNOLOGY

CREDITS: Department of Public Works' Chief Architect D. G. Creba  
Project Architect, Raymond Moriyama  
Structural Engineer, M. S. Yolles Associates  
Mechanical Engineer, Nicholas Fodor and Associates  
Electrical Engineer, G. E. Mulvey and Company Limited  
Outside Services, H. G. Acres and Company Limited  
Site development and landscaping by the architect

The group of buildings to be completed in the next year and a half is only the first phase of a long-range program extending beyond 1985.

The site consists of 180 acres of rolling park land located in the valley of the west branch of the Don River in Metropolitan Toronto. The Architects have been retained by local authority to develop the complete site, and will exercise control over all design, including shelters, comfort stations, vehicular and pedestrian bridges, an open air theatre seating 4,000, and all miscellaneous hardware from litter baskets to light standards. Site conditions have necessitated flood control studies, and a complete flood control system has been designed. The immediate vicinity of the centre will be given over to "active" recreation, with artificial ski slopes, skating rink, children's play area, wading pool, and integrated with these such science artifacts as steam locomotives and air craft.

Difficulties presented by the terrain have been turned to advantage by obviously careful and thoughtful siting of the buildings. Large parking areas have been set at the site perimeter. The low structure is kept as far as possible from the competition of surrounding high-rise buildings. The main building is located on the only important knoll in the valley, and connected to the entrance building by a 250-foot bridge over a ravine. The separation of buildings forced by the site has been used to provide space for physical and psychological adjustment for the visitor to the Centre.

The Centre is entered from Don Mills Road on the east. Flanking parking lots here are depressed ten feet to free the valley view. Separate entries are provided for parties of school children and for adults.

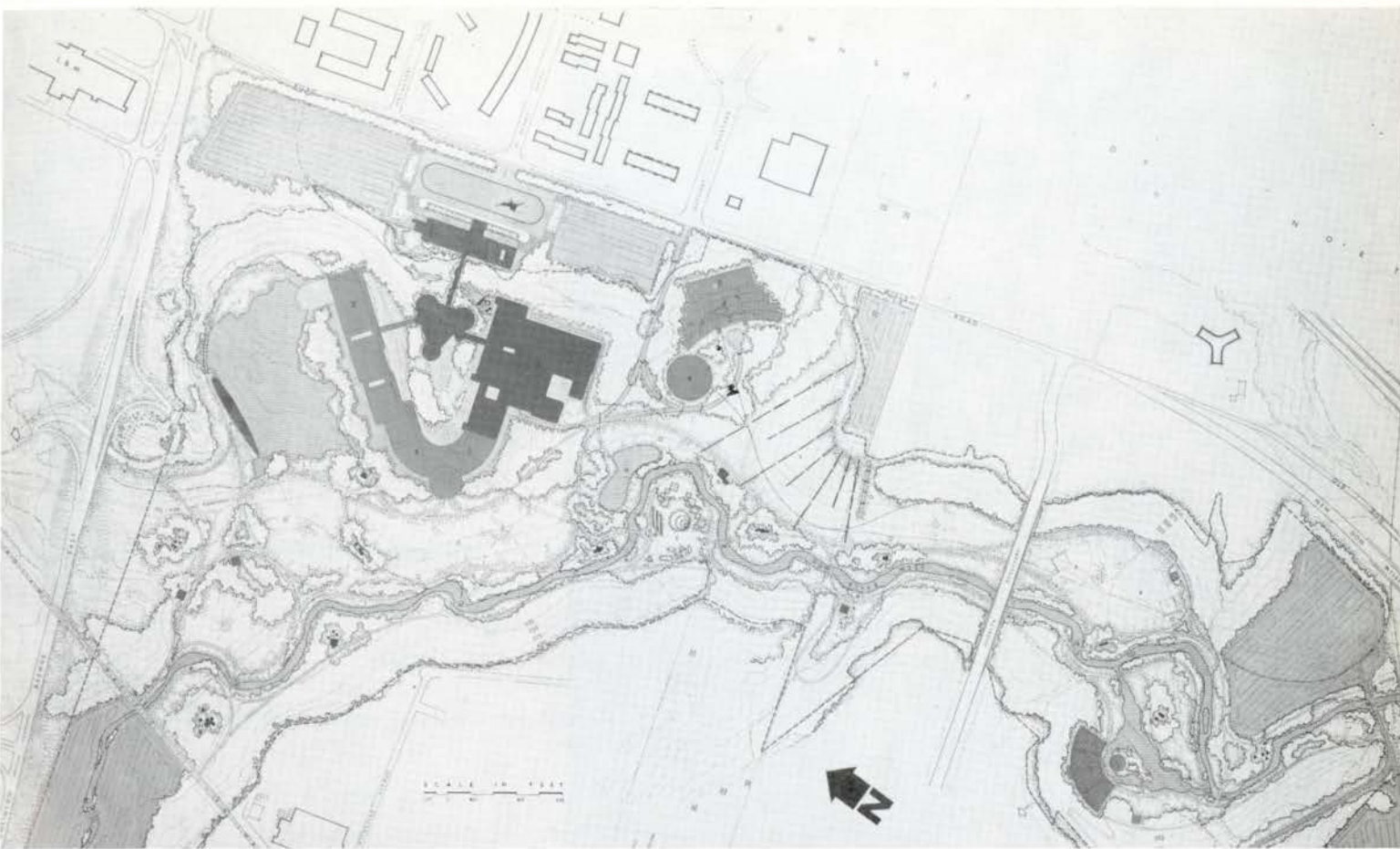
Checking, souvenir buying, eating and other necessities are concentrated in the entrance building. The bridge to the triangular "core" building, it is hoped,



will act as a mental bridge from the mundane to the new world of science and technology. Within this "core", the broad statement of science is made, and the visitor is oriented in technological history. Passing on by elevator and escalator, the visitor reaches, at the base of the knoll, exhibition halls containing specific departments of science, conservation laboratories, library and workshops. Future exhibition halls will cluster around the knoll base in this area.

The Architect hopes to work with the curators to achieve a dynamic approach to the subject of science. Participation by the spectator will be constantly invited, and social implications of scientific techniques and inventions will be used as a context for their exposition.

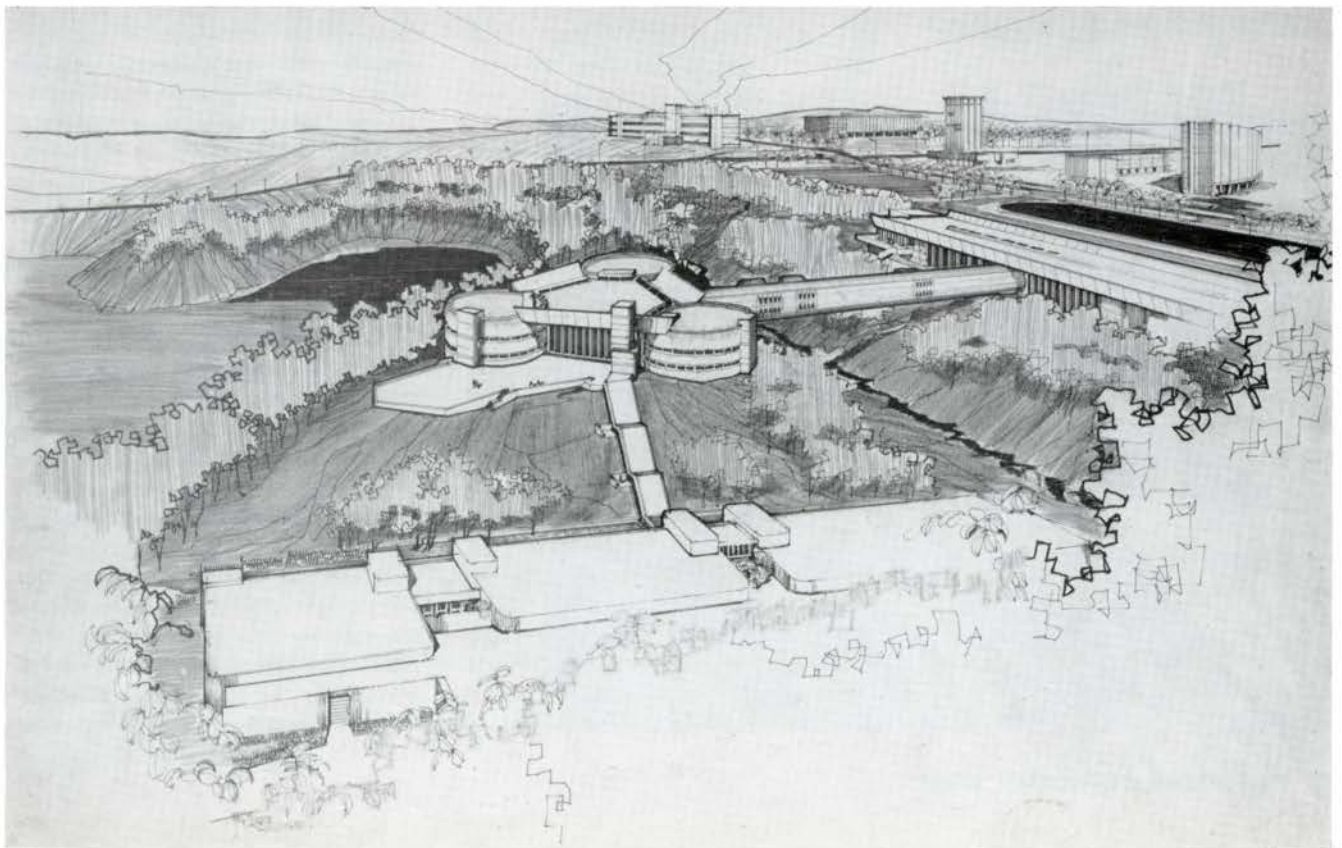
Principal material used will be concrete, both pre-cast and in situ, bronze, and tinted glass. Tenders will be called in August 1965, and construction of the first phase is estimated to cost approximately 14 million dollars.





-  MUSEUM BUILDING
-  FUTURE BUILDINGS
-  WATER
-  PARKING
-  TERRACE

*Perspective taken from the south looking north toward Eglinton Avenue*





# HABITAT '67 PHASE 1

- CREDITS:** Moshe Safdie & David, Barott, Boulva, Associated Architects  
Dr. A. E. Komendant, Structural Consultant  
Adjeleian & Associates, Structural Engineers  
Huza & Thibault, and Nicholas Fodor & Associates,  
Mechanical and Electrical Engineers  
Community Development Consultants Limited, Development Consultants
- OWNER:** The Canadian Corporation for the 1967 World Exhibition  
Department of Installations: Colonel E. Churchill, Director  
Chief Architect's Branch: E. Fiset (A), Chief Architect

Habitat 67 has to date received a great deal of superficial attention from the popular press, as well as some considered architectural appraisal of the basic scheme. The first has taken the form of spectacular statement concerning spectacular aspects of the scheme and its relation to Expo 67 — "The soul of the Fair" — "Manmade hill-sides" — "One of the great events of modern architecture". The architectural view has examined siting, population density, effect on surrounding areas, and basic design philosophy.

From this fairyland of imaginative supposition and broad assessment now emerges definite fact anent the final form of the scheme as 1967 will see it, and concerning plans for the following year.

At the time of writing, tenders have been called for May 26, 1965 on Phase 1 of the project.

Phase 1, located at the down-river end of Mackay Pier, is a 12 storey complex of 176 housing units.

Expected cost is approximately ten million dollars, or about \$60,000 per unit. This cost of course includes large initial equipment costs such as crane, plus the cost of development of construction and handling techniques.

The crane is now on order, and will be available for the future phases of the project to be undertaken by private enterprise. Also with this future phase in view, sufficient land for the total project has been leased on Mackay Pier.

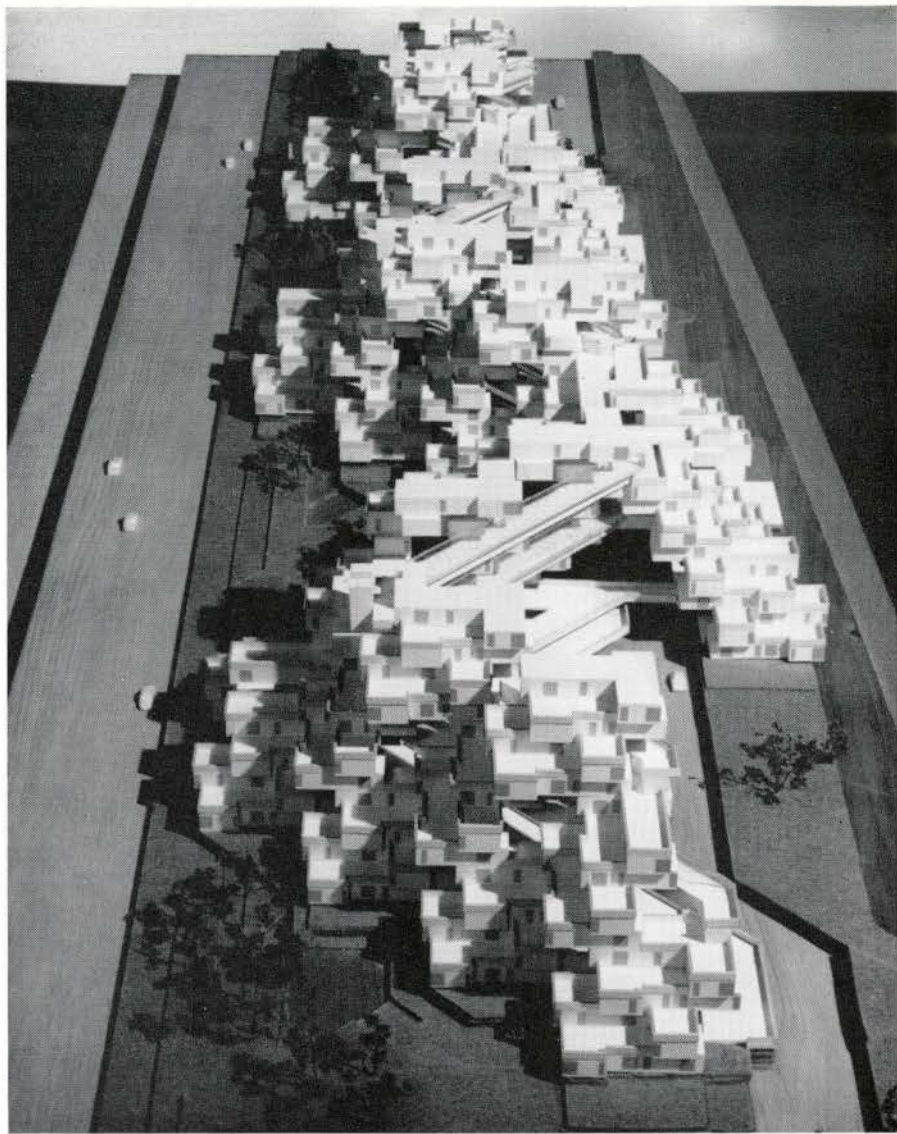
Unlike the 22 storey neighboring future project of Habitat '67, Phase 1 because of its smaller scale does not employ the structural system that gives the larger project its striking pattern of sloped trapezoidal planes.

Pre-cast load-bearing units make up the 176 housing units. These are erected one on top of the other, and carry the major part of the load through walls and piers. Further structural support is given by the horizontal streets. These streets are 10 feet high and contain mechanical services within them and the pedestrian

circulation on top of them. A portion of the loads is transmitted from the concrete "boxes" to these streets horizontally to the vertical elevators and stair cores. In addition, overall stability for wind and seismic conditions is provided by the action of house units and streets. The house units are connected to each other by post-tensioning and bolting, and the street units themselves are constructed of sections which are post-tensioned to form one unit.

Following the casting, modular units are taken to a finishing area where all components, fixtures, and finishes are installed in an assembly-line method. Kitchens, bathrooms, window frames, insulation, etc. are all installed into the box unit, which is then ready for erection. The finished unit is brought to the crane site at which time it is lifted into position. The weight of the boxes varies from seventy to ninety tons at the time of lifting. Pre-casting and plant conditions provide for a good surface finish for exterior exposure. The interior of the





*Model of final development of Phase I.*

*Montreal river front model, made during period of feasibility studies, showing location of project on Mackay pier at right, with connection to Sainte Hélène Island in background.*



units is lined with insulation and wall finish. The majority of the components are pre-made (bathrooms, kitchens), and installed as complete units into the box before the roof is connected. The modular units are incorporated into the structure in such a way that adjacent walls, floors, and ceilings of neighboring houses are separated, thus a high level of sound and vibration insulation is achieved.

House types are achieved by different combinations of one, two, or three box units — thus a variety of house types results, both of one or two stories in height. All gardens are provided with planters, automatically irrigated and fertilized from a central source. The houses have been designed as self-contained units with their own plumbing and service connections, so that they can easily be sold as individual units using the condominium method, now common-place in Europe and South America. The house within the structure is, for real estate purposes, a self-contained unit.



In grouping the units, terraces are formed by the roof of the unit below (the large ones measuring 17' x 36'). All houses have at least one terrace, and the large houses have two.

Other elements in the structure such as pedestrian streets, elevator cores, stairs, are also precast in the yard and erected by the crane. The crane is a stiff-leg derrick supported by a 70' x 70' base, which in turn moves on a track 70' wide. The houses vary in size from a 1-bedroom 600 square foot dwelling to a large 4-bedroom 1,700 square foot house. There are 15 house types, the majority of which are 2, 3, and 4 bedrooms. Covered parking is provided for all tenants, as well as ample visitor parking. The project is designed to incorporate a commercial content of shops and offices, and these could be expanded upon in the future.

The houses are centrally heated and air conditioned. Each box contains all plumbing and electrical services in a sub-floor space. Also housed in this space is a fan-coil unit which is supplied with cool or hot water from the central plant, depending on the season. This is then converted to warm or cool air which is distributed through slots at the edge of the floor.

There are two networks of ground circulation: a service road system which connects all service areas and parking facilities, and a pedestrian network one level above which connects all parts of the project through walkways, bridges, and plazas. The pedestrian and vehicular networks are completely separated.

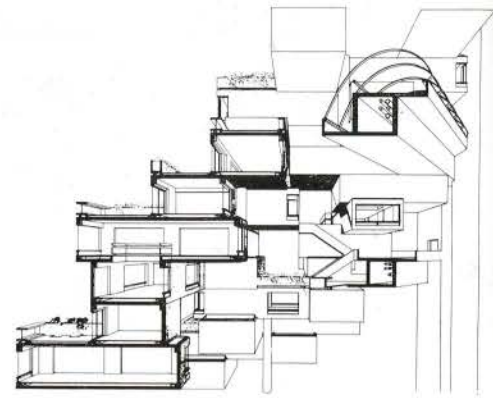
Vertical circulation is through three vertical cores. Elevators stop every four floors, serving horizontal pedestrian streets. Access to the houses is directly off these pedestrian streets, sometimes being one level above or one level below the main pedestrian walkway. The horizontal pedestrian streets are continuous throughout the project so that tenants can move horizontally through the project at several levels.

There are playgrounds along the streets for younger children. These are located at the 5th floor and 9th floor levels, and would be used by children not old enough to independently go to the parks on the ground. Since many of the houses are two stories high, no housing unit is more than one flight above or below the street. The pedestrian street is sheltered with a plastic cover which protects it

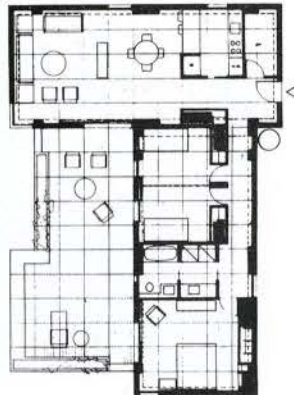
from wind and snow. Critical areas have automatic snow-melting devices.

Phase 1 will be built by the Canadian Corporation for the 1967 World Exhibition. Ownership will therefore be 50% Federal Government, 37½% Provincial Government, and 12½% City of Montreal.

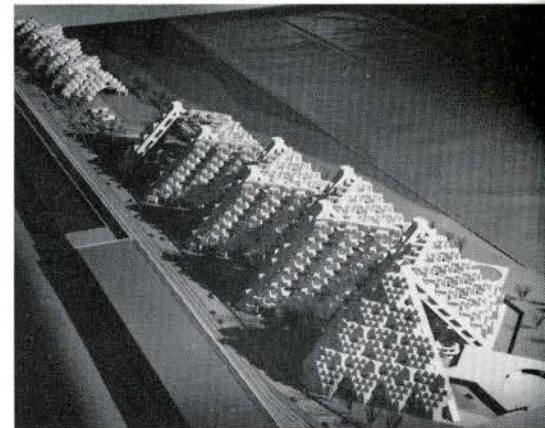
It is anticipated that the project will be sold to private enterprise after the close of the 1967 World Exhibition, and that the balance of usable land on MacKay Pier will be made available at that time to private enterprise for the extension and continuation of this development.



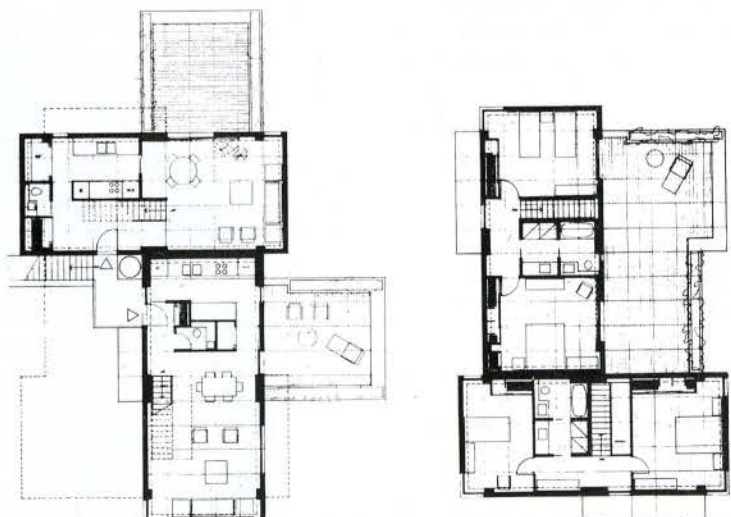
*Perspective transverse section.*



*Plan of typical two bedroom single-storey units.*



*Later model, showing further development. In background, Phase I.*



*Plan of typical two bedroom two-storey units.*

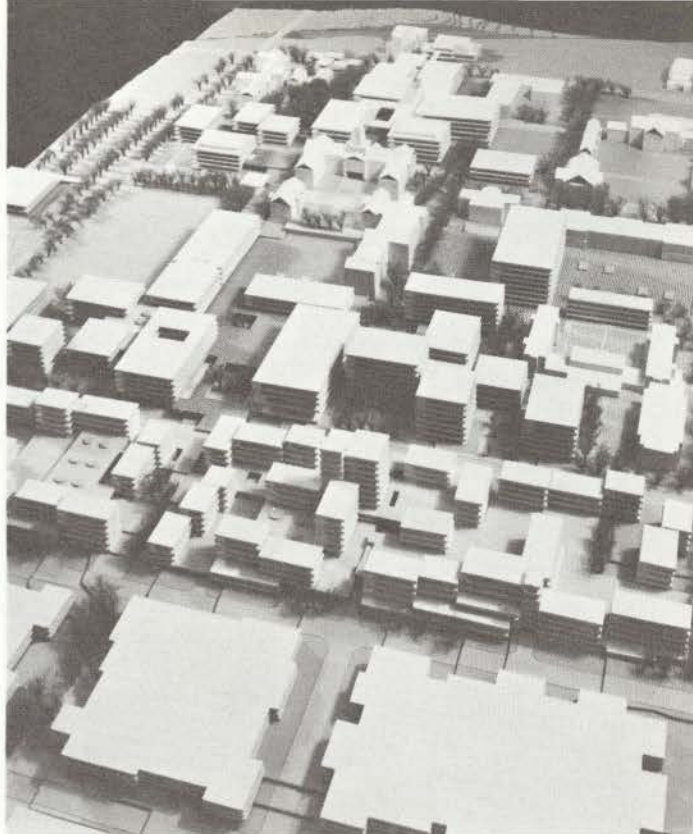


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1

A development plan

DALHOUSIE UNIVERSITY

Student project at the  
School of Architecture,  
Nova Scotia Technical College,  
Halifax, N. S.

- 1. Aerial view of the model, stage 1, from the East.
- 2. Existing buildings in the study area showing the strong University Avenue axis (the boulevard in the centre of the plan).



2

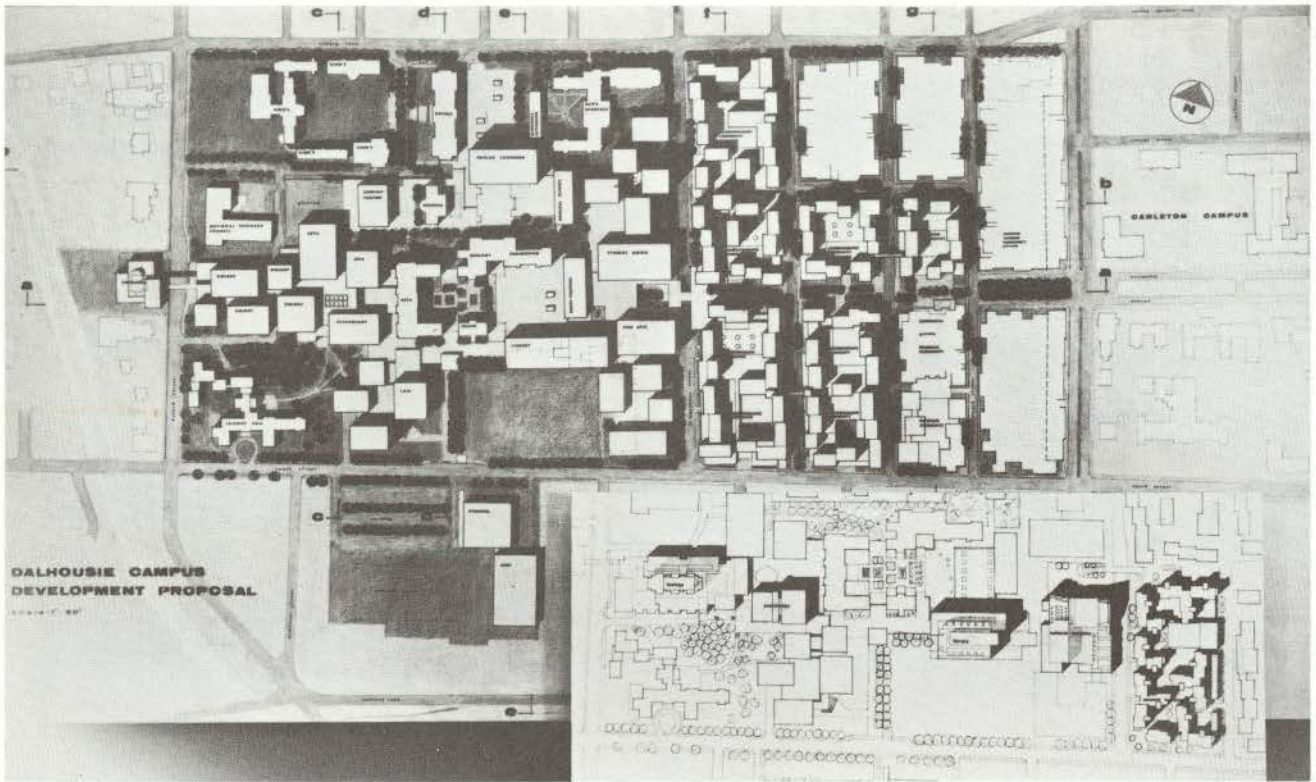
The School of Architecture at Nova Scotia Technical College has had its full program in operation for the first time this year, culminating in the graduation of the first class of five students on May 12, 1965. The complete work of this class in the Studio during its final year (ie two terms) has been centred on one project which is the subject of this article.

Since it was first proposed, the curriculum has contained the idea of the "terminal problem" as a final 14-week assignment developing out of an urban design study executed by the class as-a-whole. By selection of a suitable project with real clients it was hoped that opportunities for community action, team work, "role playing" (the role of the urban designer versus the role of the architect), study of problems of grouping buildings, development plans, urban design controls, etc. could all be facilitated during the first term (12 weeks). Simultaneously

each student would be assigned a specific building within the larger project for which he would develop an extremely detailed program, working with the real "client". Later, during the second term (14 weeks) he would then design the building to meet the program requirements, and in addition, design it within the urban design controls and decisions set out in the first term. Thus the terminal project becomes a measure of the student's ability to resolve a single building within very precisely determined criteria.

In searching for a suitable project, the staff were fortunate to obtain the cooperation of President H. D. Hicks and Dean H. S. B. Cooke of Dalhousie University in Halifax. By a coincidence of timing, Dalhousie had just received a Development Plan Report from a Consultant Architect and hence had at hand a detailed brief outlining its expansion requirements projected to





1980. The students were given the same information that was given to the Consultant, and during the first term, Dean Cooke acted as the "client". Five of the most urgently required buildings were assigned, one to each student to develop a program in collaboration with Department Heads and University Committees as appropriate.

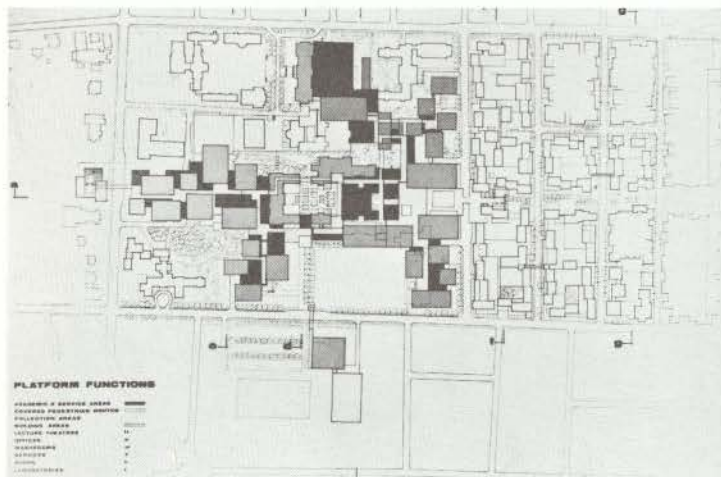
The first four weeks were spent on planning analysis of the areas surrounding the Dalhousie campus, including land-use, traffic, transportation, assessments, topography, climate, etc. The next four weeks were spent on independent development plan design studies by each student. The five schemes were then thoroughly diagnosed by the staff. Because of the complexity of the problem and the short time available, and because of the parallel direction some schemes were taking, a decision was made to consolidate the solutions into a single plan, and complete it by team effort over the remaining four weeks of the term. The result was then presented formally to the President and Deans and other officials of the university. A rousing discussion ensued, as, needless to say, the student project takes a vastly different tack to that of the Consultant Architects.

The programs for the individual buildings were reviewed at this point, and after the Christmas holiday and an initial period of program adjustment, the whole second term was spent on the design of the five separate buildings. Again, after marking, a presentation was made to the Dalhousie group, during which each student had the opportunity to present and defend his scheme to his "client". A final review in the form of a day-long "crit" by the staff together with a Visiting Critic, took place on the following day.

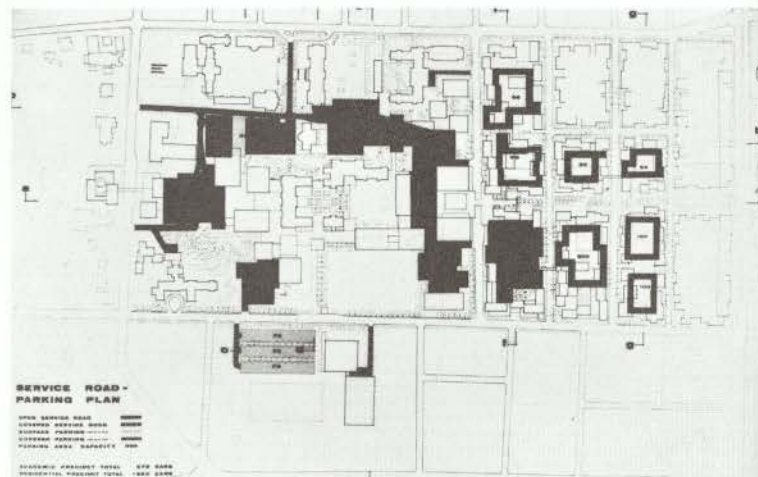
The teaching objectives of this program have been richly fulfilled. There is no substitute for "real" problems, and the unpredictable nature of them afford a great challenge and teaching opportunity for the staff. The students particularly enjoyed the give-and-take discussion with the "real" clients, and they are much more definite about the program they are solving. The collective "client", in this case, has really enjoyed the exchange, and much worthwhile discussion has been stimulated which will ultimately influence the building policy at Dalhousie, at least that is the fond hope of staff and students alike.

Douglas Shadbolt

4

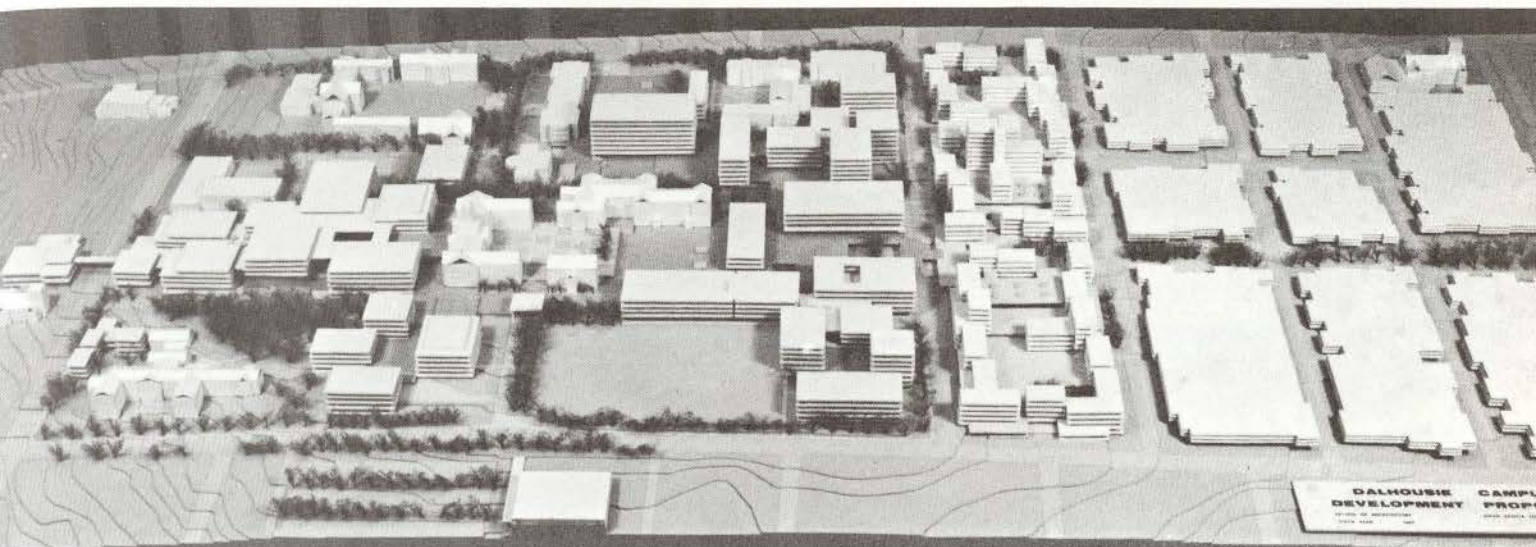


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7. Aerial view of the model from the South showing the development plan, Stage 1 as completed during the first term.

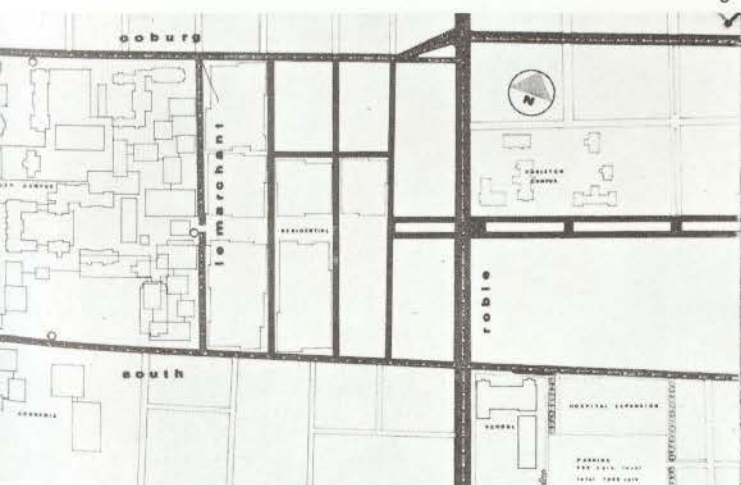


3. The development plan. The insert in the lower right quadrant shows the redesign of the central area of the development plan with the five building projects undertaken by the students in the second term.
4. The platform level showing the interior pedestrian circulation area connecting all parts of the academic complex.
5. The service level under the pedestrian level showing roads and parking.
6. Definition of the housing and academic precincts. University Avenue terminated for vehicular use but the visual axis retained along pedestrian mall for three blocks through the residential area. Stadium complex removed to a site shared with St. Mary's University shown in the lower right-hand corner.

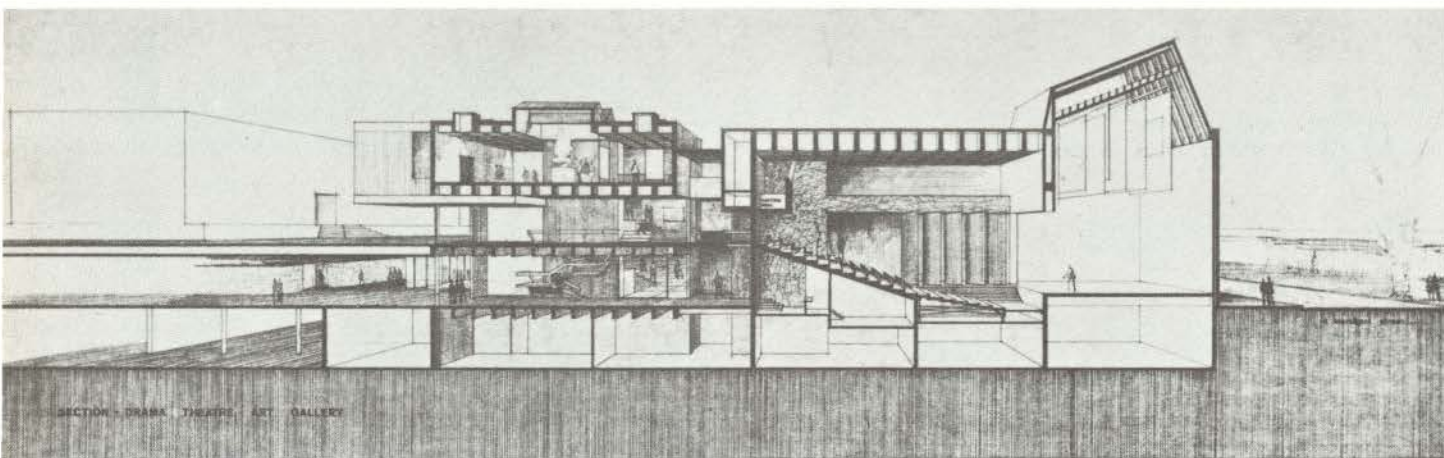
### The Concept

The development plan has a number of major features which make it interesting to Dalhousie. They are:

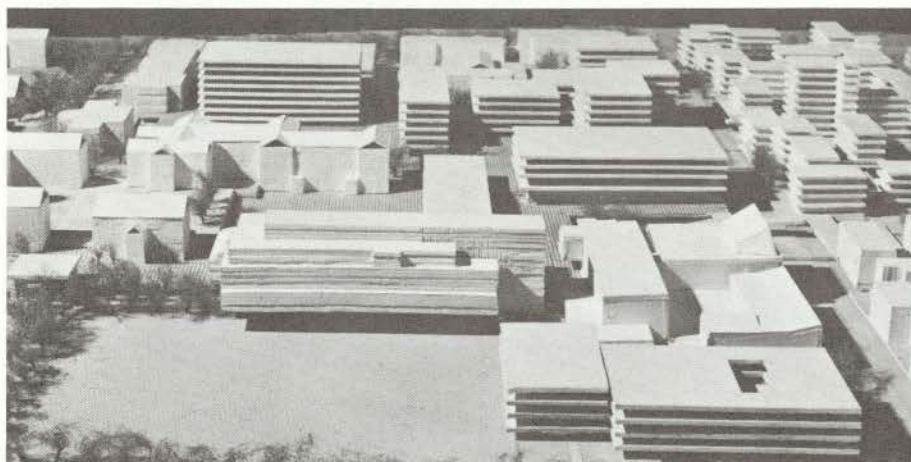
1. The definition of an academic precinct on land presently held by the University (*see fig. 6*) bounded by Coburg, Oxford, South, and Le Marchant Streets.
2. The definition of a housing precinct of eight blocks (*fig. 6*) divided by present city streets, which can be developed on a piece-meal basis as the housing demand increases, and hopefully in cooperation with private interests.
3. The definition of an athletic complex on a shared basis with St Mary's University within four blocks of the academic Campus (*fig. 6*).
4. The "platform" or indoor circulation area (*4*) connecting all major building groups, with another layer underneath (*fig. 5*) providing some covered parking and service connection to all major circulation nodes.
5. The completion of the "heart" of the Campus, utilizing the strong central grouping of buildings, finishing it off with the addition of the Library and a general purpose Classroom building. At the lower pedestrian level, the same area is the Great Hall or indoor "place", surrounded by the major lecture halls, the commercial areas, coffee shops, etc. which will hold the main undergraduate concentration in the "heart" of the complex immediately adjacent to the Library, the Student Union, and the Arts Complex, and immediately accessible from the transportation depot on Le Marchant Street.
6. The provision of a system of growth by which the platform is extended to a "nodal" point at each major stage of development from which the elevator service and vertical circulation elements rise to feed the new high buildings as they are developed in clusters around this new core.



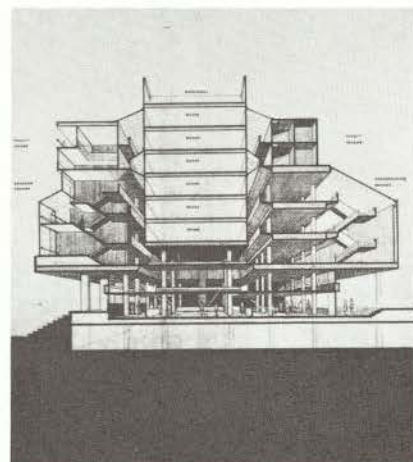




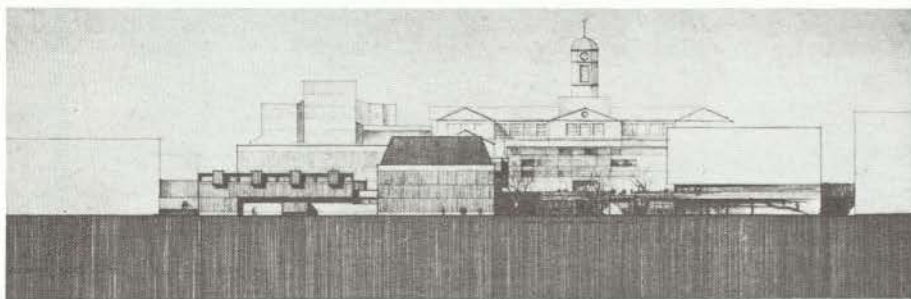
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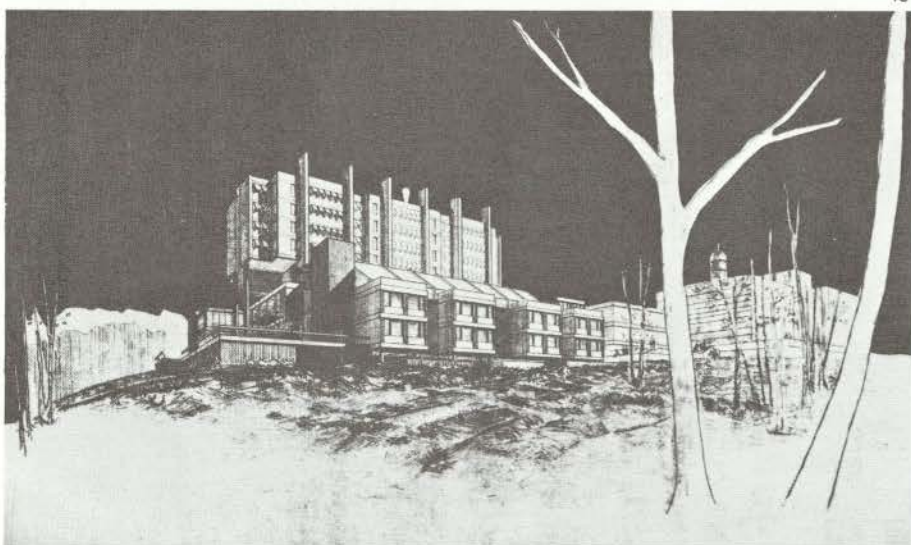
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12



13

- 8. Section through theatre and art gallery.
- 9. Detailed view of the Library and Cultural complex in the context of the new campus.
- 10. Section clearly revealing the functional components.
- 11. Elevation from Le Marchant Street at main entrance.
- 12. Library building from the South.
- 13. Perspective of the proposed Biology complex from the South-west.



CANADIAN

# BUILDING DIGEST



DIVISION OF BUILDING RESEARCH • NATIONAL RESEARCH COUNCIL

CANADA

## The National Building Code of Canada 1965

by R. F. Legget

UDC 69.009.182

Since building in Canada has to be carried out in conformity with appropriate regulations, it appears to be useful to include in this series of Digests a summary statement about the National Building Code of Canada. The fourth edition of this publication has just been released and copies are now available. The notes that follow refer to the 1965 Code but no basic changes, other than those to be noted, were made from the 1960 edition. Much of what is said, therefore, applies also to the use of this earlier edition by municipalities that may already have adopted it.

Municipalities in this country have the power to regulate building within their area by reason of a delegation of authority from their respective provincial governments, usually through the Municipal Act. Control is specifically in the interest of public safety. As buildings have become more complex, so municipal building regulations have become more comprehensive, until today those of the major cities comprise fair-sized volumes. Public safety, however, remains paramount, with structural sufficiency, proper fire prevention measures, and adequate provisions for public health the three bases upon which all such regulations must rest.

Since municipalities across Canada have developed from greatly differing origins, in dif-

ferent ways and at different rates, it is not surprising that there have been wide variations in local building regulations, even between those of adjacent municipalities. "The chaotic building code situation" has often been blamed for apparent lack of progress in building when this has been under popular attack. Today, 65 per cent of the population of this country that resides in organized areas has the benefit of local building bylaws based on the National Building Code, if indeed the Code itself is not being used directly as the local regulation; and of the 161 Canadian cities, 138 now use the National Code in one way or another. With the promise of wider adoption of the new edition, Canada may be within reasonable distance of having effective uniformity of building regulations from coast to coast through the use of the NBC.

### Preparation of the Code

The Code itself is an advisory volume only, unless it is legally adopted for local use by an appropriate enabling bylaw. This can readily be passed by any municipal council under powers granted to it by the provincial government. When the Code is put to such legal use it becomes the local building regulation, with such amendments as may be necessary to take care of special local circumstances. In time, these exceptions should gradually decrease.

NRC

DBR

OTTAWA

JUNE

1965

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The Code is naturally drafted in such a way that climatic variations across the country are taken into full consideration. Specific requirements that depend on climate are related to the basic climatic data for the locality in question. These can be provided by the Code Secretariat in Ottawa, one of the many services that supplement the document itself.

The Code is published as a public service, at the cost of printed copies, by the National Research Council. Responsibility for its preparation and maintenance as an up-to-date document has been delegated by the Council to its *Associate Committee on the National Building Code*. This is a national group of twenty-four leading members of the construction industry in all its phases, drawn from all parts of Canada. The members serve voluntarily, each appointed as an individual and not as a representative of any special group, each for a three-year term of service. The Associate Committee determines all policies for the Code and is directly responsible for its many services. Specialist committees in various technical fields are appointed by the Associate Committee to assist it with the drafting and revision of the several parts of the Code and its associated supplements.

Through the Division of Building Research, the staff of the NRC provide the necessary secretarial services, and the research officers of DBR/NRC give the necessary technical support, but only in an advisory capacity, the Associate Committee being entirely responsible for what does or does not go into the published Code. The official link between the Committee and the working staff of the Council is provided by the Chairman of the Associate Committee since, by direction of the Council, he is also the Director of the Division of Building Research.

Meetings of the Committee are generally held at about six-month intervals. Between these main meetings the many technical committees hold their working sessions, their recommendations finally coming before the Associate Committee for approval and implementation. In order to maintain the independent

position of the Code and to ensure that all who are interested in it receive exactly the same consideration, it is a fixed policy of the Committee to receive all suggestions for improvement or change only in writing.

Comments upon all sections of the Code are welcome at all times from anyone interested enough to submit them. All are most carefully considered, and drafts of new or revised documents are made available for public comment before issue. In these and similar ways the Code has steadily achieved the status of a truly national document, a continuing tribute to the voluntary work of architects, engineers, contractors, house builders, public officials, trade unionists, manufacturers and others who have served and are serving on the many committees that have now resulted in the greatly improved 1965 edition.

#### The 1965 Edition of the Code

The new edition is available as either a slim blue-bound volume or a series of loose-leaf pamphlets conveniently secured in a strong binder. The basic arrangement remains unchanged. This resulted from a major research study that led to the appearance of the 1953 edition in loose-leaf (and bound) form, an achievement generally regarded up to that time as an impossibility. Clue to the arrangement was the segregation of all those requirements of buildings that relate to their *Use and Occupancy*, irrespective of the construction material. Part Three remains the core of the Code, with the title just noted. It has been much improved over its form in the 1960 edition, but its basic approach to the functional requirements of buildings remains unchanged.

Part One provides the necessary provisions for the *Administration* of the Code when it is used as a bylaw. Part Two contains the corresponding legal *Definitions* of the main terms used in the body of the Code, grouped here as a matter of convenience. Part Five is a small section dealing with *Materials*, almost all of which are covered by standard specifications, to which an *Appendix* provides a useful guide. Removal of most of these references to other documents from the text of the Code itself



makes it a better document from the legal point of view, without interfering with the convenience of those who use it. These several administrative parts of the Code are published, for the loose-leaf version, as one pamphlet.

Part Four deals with structural *Design* and is the largest portion of the Code. It is divided into seven Sections dealing, respectively, with *Loads and Procedures*, *Foundations*, and then detailed design procedures for *Masonry*, *Wood*, *Concrete*, and *Structural Steel*, with a final short section on *Cladding*. Typical of the cooperative work that distinguishes the Code, the sections on Wood, Concrete and Steel Design are shared jointly with the Canadian Standards Association. That on Wood was prepared first for the Code and passed to CSA for their use. The reverse is the case with the Structural Steel section. For the new section on Reinforced Concrete design, a special joint committee was established by the Associate Committee and CSA. The resulting document is one of the major new features of the 1965 edition. It breaks new ground in its field in ways that will be described in forthcoming technical papers.

Parts Six and Seven required little change from their appearance in the 1960 edition other than the necessary "up-dating." *General Services*, such as heating and ventilation, are dealt with in the first of these parts, and *Plumbing Services* in the other. *Construction Safety Measures* are dealt with in Part Eight. Questions have been raised as to the correctness of including reference to safety measures in a municipal building bylaw, because such safety precautions are usually administered by provincial agencies. The Associate Committee has, however, been encouraged to continue to issue Part Eight if only as an educational part of the Code, although it is also a useful guide to proper safety measures and does not conflict with provincial requirements.

### **Residential Standards, 1965**

Part Nine of the new Code is somewhat unusual. It is entitled *Housing* and is quite short, yet it is comprehensive in its coverage of the main elements in residential construction.

Close examination of the document will show that the new Part Nine is truly a "performance code," of the type so often lauded in theoretical discussions of code preparation. Taken by itself, Part Nine is a useful document, though very limited in its application, since all detailed requirements are continued in one of the seven Supplements to the Code - No. 5, *Residential Standards, 1965*. This is a complete guide to good practice in residential construction, except for such major matters as structural design that are adequately dealt with in the rest of the Code. It represents a consolidation of the previous *Housing Standards*, issued as Supplement No. 5 to the 1960 edition of the Code, and the "Apartment Standards" previously published by the Division of Building Research of the National Research Council.

Originally, both the Housing and Apartment Standards were published by Central Mortgage and Housing Corporation. The two documents were used by the Corporation as their regulations for the control of residential construction under the National Housing Act, which CMHC administers. It was clearly desirable to have the responsibility for these two documents in the hands of some agency other than the Corporation itself. As a first step, they were passed over to DBR/NRC to publish. The appearance of the *Residential Standards 1965* as a part of the 1965 Code is therefore the final phase of a carefully planned development. For the first time all regulatory documents for the control of building in Canada are combined under the aegis of the National Building Code. CMHC uses Supplement No. 5 as its own regulation under the terms of the National Housing Act. Municipalities using the Code may now also use Supplement No. 5 for the control of all other housing within their borders, with no conflict between municipal and NHA requirements.

### **Other Supplements**

Six other special technical documents supplement the Code in a variety of ways. Supplement No. 1 presents a schedule of information regarding climatic requirements for most of the larger municipalities of Canada, together with a set of climatic maps that give a useful



general idea of climatic variations within this country. Supplement No. 2 is an entirely new document, now entitled *Fire Performance Ratings, 1965*. Instead of presenting, as did its predecessor, a long list of tabulated test results, this document gives a simple analytical approach to the calculation of fire performance ratings for a variety of building material combinations. It is of such importance that a separate Digest will be devoted to it later this year.

Supplement No. 3 is a useful compilation of shape factors for the calculation of wind loads on structures, with additional information on snow loads. The fourth supplement presents a set of sketches, which illustrate the detailed requirements of Part Seven of the Code (Plumbing), and so aid in its rapid interpretation. Supplement No. 6 is a set of recommended practices for the design of *Farm Buildings* other than houses. Published for the first time in 1964, it is a pioneer document that has already attracted international attention in view of the critical attention now being given to the better design of buildings for agricultural purposes.

The last Supplement, No. 7, presents a simple set of design requirements for making buildings convenient for the use of handicapped citizens, its exact title being *Building Standards for the Handicapped*. When it is realized that one Canadian in every seven has a permanent physical disability or an infirmity associated with aging, the need for some attention to this large group of citizens will be at once apparent. It can be said that no document yet issued by the Associate Committee has given the members such pleasure as this, even though it can now be seen that its preparation should have been initiated long before it was. The Supplement sets out desirable requirements for ramp entrances, widths of

doors to take wheeled chairs, and similar details of design that cost almost nothing if incorporated into original building plans, but which can make all the difference to the convenience of handicapped citizens. The document is advisory only, but with the support already promised for its promotion in all parts of the country, it will probably be put to good use, and on a wide scale, in the immediate future.

### How to Obtain the Code

It can be suggested with appropriate certainty that there should be a copy of the 1965 edition of the National Building Code of Canada, and of its supplements, in every architectural and engineering design office in Canada. Copies of the Code may be obtained for \$4 a copy, either bound or loose-leaf (i.e. \$8 for both versions), with the supplements costing \$2 a set. Orders and inquiries should be addressed to:

The Secretary,  
Associate Committee on the National  
Building Code,  
c/o National Research Council,  
Ottawa.

A price list for all Code documents will gladly be sent by the Secretary upon request; all Code documents are published in both of Canada's languages. Payment of this one charge ensures the receipt not only of the documents ordered but of all revision slips that may be issued before the next edition appears, as well as regular copies of the *NBC NEWS*, a bi-monthly news sheet that keeps its readers fully informed of Code developments in Canada and elsewhere, as well as about new publications of use to those who possess copies of the Code.

*This is one of a series of publications being produced by the Division of Building Research of the National Research Council. It may be reproduced without amendment if credit acknowledgement is made. Vinyl Binders (price \$2) and additional back issues of the Digest are available on request. The Division has issued many publications describing the work carried out in the several fields of research for which it is responsible. A list of these publications and additional copies of this Building Digest can be obtained by writing to the Publications Section, Division of Building Research, National Research Council, Ottawa, Canada.*



*"It follows, therefore, that architects who have aimed at acquiring manual skills without scholarship have never been able to reach a position of authority to correspond to their pains, while those who rely upon theories and scholarship were obviously hunting the shadow, not the substance. But those who have a thorough knowledge of both, like men armed at all points, have the sooner attained their object and carried authority with them."* Vitruvius

## Architectural Disorder in Our Cities

An examination of the chaos  
created by Twentieth Century Architects

A little over a year ago in an address to the Minnesota Society of Architects I strongly advocated the concept of "expanded services" as *the viable one* — the undoubted answer to our current problem, and I firmly believe it to be so. That inherent in such a concept lies the hope for a change in the techniques of practice which would make it possible to obtain mastery over the form of our environment.

My remarks today are intended to both expand and temper my thesis, in accord with your consideration of "Architectural Disorder in our Cities — An examination of the chaos created by twentieth century architects".

In Minneapolis I observed that in the accumulated mythology of architecture there persists the notion of the architect in a precise role, immutable, inviolate and in varying degrees, securely professional, whether high priest, monk or gentleman dilettante. Scholarly research or even casual historical review would refute such a concept, I believe. In fact, the periods of greatest architectural achievement suggest the architect as a foremost Agent of Change, often as an entrepreneur acting in a fully responsible manner.

Once again, I had said, we stand at a crossroad in the history of architectural practice. If we are to recast the city into equilibrium, we must cultivate what has been described as "the unscientific talent of persuasion for use among one's fellows and in the ante-rooms of power."

If "power attracts advice", then Good Advice must attract Power. Advice without Authority will be ignored, and Authority without responsibility and recognition is impossible. If we architects do indeed lack true Authority in the "ante-rooms of power", then our environment must suffer in consequence. But why might we fail in Authority — could it be, may I suggest, that "Authority demands consistency and obedience from

An address by John Cresswell Parkin, RCA, FRAIC, FRIBA,  
to the Manitoba Association of Architects 50th Annual Meeting,  
Winnipeg, Manitoba, January 15, 1965



its technicians, not a giddy plurality of options?"

Through further admittedly random samplings of professional non-authority, lack of expertise and absence of persuasion, I would hope we might now assess our responsibility for the visual disorder — the chaos that surrounds us.

#### *Examine theory, education and practice*

The Protean shape of architecture makes our task all the more difficult. Architecture today is a variable, and as a variable it is difficult to ascertain both its form and what that form ought to be. Nevertheless, I would propose that we examine the state of architecture under such general headings as theory, education and practice, and am consoled in so doing by Albert Camus' observation that "The need to be right is the sign of a vulgar mind."

There are those of course who disclaim all responsibility for what has become "God's own junkyard".

Among them is Walter Gropius who has said:

"As we well know, the architect and planner has almost never received a mandate from the people to draw up the best possible framework for a desirable way of life. All he usually gets, is an individual commission for a limited objective from a client who wants to make his bid for a 'place in the sun'. It is the people as a whole who have stopped thinking of what would constitute a better frame of life for them and who have, instead, learned to sell themselves short to a system of rapid turnover and minor creature comforts. It is the lack of a distinct and compelling goal, rather than bad intentions of individuals that so often ruin attempts of a more comprehensive character to general planning and sacrifices them bit by bit to the conventional quick-profit motive. "I cannot accept, therefore, the verdict of the critics that the architectural profession as such, is to blame for the disjointed pattern of our cities and the formless urban sprawl that creeps over our countryside. And this is, of course, where we all come in. In our role as citizens we all share in the general unwillingness to live up to our best potential in lack of dedication to our acknowledged principles, in our lack of discipline towards the lures of complacency and material abundance."<sup>1</sup>

Gropius reminded us at the same time that the ancient Greeks considered Chaos

to be oldest of the gods. We architects are not alone in our depression over the immensity of our task. Speaking of another art, the theatre, Tennessee Williams said:

"That the most exalted of the Arts should have fallen into the receivership of business men and gamblers is a situation parallel in absurdity to the conduct of worship becoming the responsibility of a herd of water buffaloes. It is one of those things that a man of reason had rather not think about until the means of redemption is more apparent."

To a certain extent then — cynicism, alienation, defeatism over the size of the task is an attitude of some of the capital 'F' "few" as well as the small 'm' "many". The pace of change is now so swift there is scarcely any human relation that is not caught up with unfamiliar problems and without dependable guidelines. While failure may be the normal state of theatre in Moss Hart's view as well, it would be *incredible* to think of in an art of such social significance as architecture.

#### *New concepts of architect must evolve*

I believe, however, that we are not without hope, for an increasing body of opinion is arising *within* the architectural profession that there must evolve entirely new concepts of the architect himself — his motives, his methods of work and his relationship to technologists, to manufacturers and builders, and above all, to those he serves. His motives and ideas must no longer stem from abstract concepts or the search for architectural self-expression, but from the service of human activities and purposes. "If architects want to control man's environment, their actions must be supra-professional and all pronouncements made by the profession must be based on what is best for society at large and not what is best for *some* members of the profession."<sup>2</sup>

There can be little doubt that architects not only want to control man's environment, but believe this their proper task. The fact that studies and analyses of the profession are underway by the Institutes of many western countries, is indicative of our acceptance of responsibility, or partial responsibility for the visual chaos of our cities. It has been suggested that many of these worries and pre-occupations of our profession, have their origin, at least in part, in a strongly developed moral conscience. This moral conscience

is that large and intricate complex of virtuous and essentially good feelings, ideas and controls which create the peculiar coherence and loyalty of life in this society. Oftentimes in our profession today — this moral dialogue — this long discussion of our duty to society — our role in the industry and our aim as artists tends to militate against the very purposes it intends to serve. One at times becomes so absorbed in these matters and they become so fascinating in themselves that one gets quite remote from ordinary people and forgets that nothing is more immoral than to build that which has no meaning except to us and our friends. Serge Chermayeff recently made the plea that architects "get themselves into the driver's seat, so that they can control *what* is built — not merely *how*. Otherwise they will remain a profession of streetwalkers at other people's bidding."

The development of a social conscience amongst architects is a fairly recent phenomenon. Throughout history architects were responsible primarily to a power-elite, the Church, the nobility, and then the industrialist, and their buildings, be they the churches of the Middle Ages, the palaces of the Renaissance, or the factories of the Industrial Revolution did *nothing* to raise the standard of living for the masses. A more democratic social structure in itself does not automatically produce an urbanism based on social conscience. Only an enlightened and continuing reappraisal of the program requirements by the architect for his client — *Mankind* — can lead to a more satisfactory solution. Le Corbusier failed, Wright failed, Garnier failed. "Unité d'Habitation" failed because it refused to recognize the existence of a social and cultural scale. "Broad Acre City" failed because Wright chose to ignore man's essentially gregarious nature. Garnier's theories failed because they ignore the human aspect completely.

Our present dilemma is that most of us have been indoctrinated with theories of contemporary architecture based on an anti-city ideology and prejudice. Morton and Lucia White in their definitive book — "The Intellectual Versus the City" forcefully demonstrate the historic alienation of the intellectual from the city in North America in particular. It is on this false lore that so much anti-city doctrine has been postulated particularly in the theories of Wright and some of the English garden-city concepts. As they so aptly put it: "The attack on the city via



the simple command to follow nature is philosophically unconvincing — one merely refuses to be bullied into anti-urbanism by muddled or indefensible metaphysics in the service of a questionable moral philosophy.<sup>3</sup>

We architects have taken the easy way out, skirting the main issue by becoming Piranesi-like renderers, latter day Hugh Ferrisses concerned neither with substance nor reality. Technique appears more important than achievement. Our intellectual level is low and our involvement less. It has been far easier for us in ostrich-like fashion to concern ourselves with such aesthetic niceties as how materials enjoin one with another rather than the problem of how groups of buildings or indeed human beings themselves may be enjoined.

#### *Architect an artist first and foremost*

At this point it is necessary for me to state emphatically my belief that the architect is first and foremost an artist, but an artist of a very special kind. As artists we have been insufficiently self-reliant — too dependent upon the painters and sculptors, from the Cubists, to the de Stijl, to the Abstract Expressionists, and not dependent enough on basic research and analysis. The result has been a giddy plurality of options, confusion, and disorder. Our constant pursuit of style has resulted in "Potemkin Villages" — those false-fronted houses built by Gregory Potemkin in 18th Century Russia to impress Catherine the Great.

Some architects who have not followed the painter have tended to hero-worship the structural engineer; at least they do so in the view of Pier Luigi Nervi: "... because such gymnastics bring them a little closer to the dominant theme of our time: science and advanced technology, but this is not really their world; theirs is a world of people and their environment."<sup>4</sup>

The pseudo-scientist architects appear to define human beings like the American space scientist, as "the cheapest mass-produced servo-mechanism as yet available for operating an otherwise completely automatic machine." The design of human settlements or Ekistics and environmental design are more dependent upon the biological sciences than on any branch of technology or on the natural sciences, and certainly independent of orthodoxy in the other arts. Nonetheless, we ought with Jacques Barzun deplore any of the current statements to

the effect that architecture is the *first* of the behavioural sciences.<sup>5</sup> The only sure base for the profession lies in the store of special skills and knowledge which it assembles for dealing with the particular problems assigned to it by society.

Architects are today living on the stock of traditional knowledge and skills built up by the efforts of our predecessors. We are, of course, adding to this stock very gradually — from daily practice in the tradition of craft development. But in a scientific society, craft processes are too slow. We are living both on borrowed capital and on borrowed time. We must re-think what architecture is, and not what architecture was! We must identify the forces and methods that are presently changing architecture. May I suggest that in doing so we will realize that architecture is but a part of a multi-discipline concept involving total environmental design and ought to be taught as such in colleges whose nature, then, would be that of a college of environmental design. In such an institution, all designers whether architects, landscape architects or planners would be taught together without any anticipation of the professional distinctions which so regrettably come later in life.

It was Kant who proposed that education should not be for the present but for the future betterment of society. If this is so, then immediate needs ought to be subordinated to the longer range objectives of *the better society*. Technique and technology must then be flexible enough to adjust to changing social aspirations. The present emphasis on "how" where it occurs in either School or Practice ought to give way to a quest for "why". We must avoid the creation of yet further disciplines, such as that of the Urban Designer, who appears at Harvard at least, to be taking over the responsibility of the design of group building from the architect, leaving the architect with the aesthetic and technical co-ordination of individual buildings. Is there not some hope that we may recapture the major share of this responsibility?

That the *teaching* of architecture makes architecture possible is beyond dispute. But the architect should abandon his concern with drawing, leaving it to the architectural technologist. Polytechnical schools in the European tradition will give us our draughting resource in the immediate future — at least until such time as the picture-making computer is our principal machine for drawing. The

phenomenon of dozens of *university* trained men, dedicating their lives to an altar, in the form of a draughting table is a kind of votive offering, a kind of human sacrifice that total society can ill afford. We will, incidentally, create a resource of happier and better adjusted architectural technicians through polytechnics than through universities. The architect will thus be left with the decision-making task more appropriately his — the decision-making task and the role of leadership in the rebuilding of cities.

Fundamental research and studies in the social sciences, including geography and economics, will tell us what is needed in the building of our cities — in the new science of human settlements. Architecture is not a subject such as physics, chemistry, history or economics; it is a practice, or, as I have suggested, like medicine, architecture rests upon the use of knowledge provided by an extremely wide range of fundamental subjects.

We architects appear singularly lacking in that kind of wisdom defined by Confucius where "a wise man is one who is free of four things — foregone conclusions, arbitrary predeterminations, obstinacy, and egoism." If these precepts are indeed those for the adjudication of wisdom, then few of our architectural hierarchy are wise. Obstinacy and egoism often stand in the way of making the concessions necessary in the design of buildings side by side. We are singularly uncooperative in our relationship with each other in the face of the common good.

#### *Include teaching and practicing members in partnerships*

It is with considerable hesitation, if not trepidation, that I now broach a subject which is but rarely openly discussed, that of the relationship of the teaching to the practicing architect. Unlike other professions where the dialogue between teacher and practitioner is firmly established, our profession remains pathetically naive. There must be a more meaningful participation by the practitioner in the academic program and in daily teaching in the schools. It isn't enough for an architect to simply expose the students to a collection of 35 mm kodachromes of his latest work on the pretext that this is instruction. That we are all guilty of this is common knowledge, but part of the blame lies with the schools. Conversely, the role of the educator-architect in daily



practice is admittedly both rare and insecure. He ought to be invited into active partnership with the practitioner, but at the same time, he cannot assume that he can work independently of their practical expertise. Let us candidly admit there is too often a hidden tension between the teaching architect and the practicing architect. In varying degrees this condition prevails in most of those metropolitan areas fortunate enough to possess schools of architecture. In order that a more meaningful and constructive relationship may exist, we ought first to admit the existence of these problems, to analyse them, and then set about finding a solution by way of encouragement of partnerships including both teaching and practicing members.

All too often architectural schools reject the most brilliant of students, not necessarily talented in design, but who have leadership potential and skill in administration. I have recently met the presidents of two large corporations both of whom were, in second year, rejected by architectural schools in our country and both of whom would have lent lustre to the practice of architecture, perhaps not in design, but most certainly in conveying authority to the general public and bringing vast organizational skill to the complex task we face. Similarly, in giving advice to an outstanding young scholar who was recently thinking of entering the architectural profession, I felt it necessary to caution him that his very scholastic brilliance and versatility might be suspect in architectural practice rather than being fully appreciated. Fortunately for us, he has elected to pursue architecture in spite of these present failings of our profession.

#### *Reintegrated system of education needed*

The question I put to you is this: Have we not allowed the complexities of practice to force a vertical development in our organization of skills rather than a horizontal organization? Have we not failed to recognize that no engineer other than the structural is fully trained or even partially trained in understanding the application of his role to human habitation? Every office must retrain the engineer, except the structural designer, to consider his vocation in terms of shelter, architecture and human needs. Do we not need, therefore, a reintegrated system of education where each discipline would at certain points be inter-related, allowing the possibility later on of an easier change-over from one discipline or spec-

ialization to another? We appear misled by the statistical claim that somewhat more than 70% of the architects of this country are engaged, as the major share of their time, in the actual design of buildings. The fact that only a minority do design, whether the office be a large firm or a small one, is known to everyone in this audience. Often the design process is, in fact, delegated to the most able recent graduate rather than assumed as a matter of immediate concern for a principal. Early in practice I was warned by one of our best known architects that the ultimate success of any architectural practice (and by that I do not mean purely material success) — that the ultimate success of that practice depended upon the continuing responsibility of a senior principal in the design process. Immediately upon delegation of design responsibility there develops a deterioration in the standard of work.

Earlier this year, speaking at the Annual Assembly of the RAIC and in discussing the role of the computer in contemporary architectural practice, I was thoroughly misunderstood by way of intent. It was assumed that the computer would replace man as the decision maker. The computer, as anyone who has studied such machines will realize, is simply another tool to speed up the decision-making process. Surely we ought to enlist any means available on the basis of Alfred Whitehead's profound observation that civilization advances "by extending the number of important operations we can perform without thinking about them." The architect who rejects the computer fails to recognize that the slide-rule is but a simple form of computer.

As professionals, the ultimate justification of professionalism is to serve architecture, *not* architects. Leadership, authority and excellence very obviously cannot be legislated. The authority of the architect, his status and his client relationship are direct functions of his expertise as an individual and as a member of his profession. Too often we architects seek the protective coloration of legislated ethics. Unlike morals, ethics bring man-made change. I suspect that ethics are merely a form of collective bargaining at the professional level. In the process of sanctifying the ethics of the profession of architecture, we often continue the destruction of the art of architecture. Our allegiance is clearly, first to the *art* of architecture and secondly to the *profession* of archi-

ture. Inevitably conflict does occur in practice but in the main these loyalties are very fortunately compatible. Our most valued possession is the term "Architecture". This is at least one part of our existence of which we need not fear extinction. The term "Architect" or "Architecture" is more often than not, the first article we protect on gaining legal status and the one we most jealously guard having achieved it.

#### *Incorporate practices*

Of even greater consequence in our inability to come to terms with contemporary practice is *our failure to recognize the need for the incorporation of our practices*. While other and competitive professions are permitted by provincial legislation to incorporate we are inhibited from doing so by our own lack of realism. Never directly, but often by inference, the curious argument is put forward that ethics are the monopoly of those who practice in an unlimited liability manner. Were such a notion to be put forward to the client, most of whom are members of corporations, their alarm would not be surprising. We have failed, I am sure, to note any lesser degree of "professionalism" or ethical standards among our business friends than in the traditional professions. One might just as easily express the view that a continuing sense of responsibility is as often to be found, if not more often found, in those firms whose basic structure is itself of a continuing nature and whose organizational structure is likely to encourage continuity of practice. Surely, corporate practice is not only desirable but in due course, inevitable. The question of incorporation is even more pertinent to that of the smaller practice than the larger one. *The larger practice can take internal steps to indirect incorporation as most larger firms in Canada have already done*, to sustain their financial viability. But the smaller firm is, in many instances, unable economically to do so. Present forms of practice do not merely inhibit further extensions of professional influence but do, in fact, tend to threaten the very survival of architectural practice itself. The Royal Australian Institute of Architects has recently accepted as do many of the United States, corporate practice as a logical and ethical form of architectural professionalism. The question is wholly pertinent since it allows the easier establishment of joint ventures and consortia



for the practice of urbanism on a larger scale. Your association can once more be the boldest in our country, were you to seek legislation to permit incorporation within your borders. Not only would you have an economic and strategic relationship with competitive professions within the province itself, but you would show the essential leadership required elsewhere in Canada. May I conjecture that within ten years every province in Canada will have followed. Such corporations can easily be protected from unwarranted intrusion by non-professionals by the simple technique of ensuring that voting majority stock will always be in the hands of architects.

#### *Stricter fee agreement control*

Good architecture can but rarely be achieved on a reduced fee basis. The architect's economic position and his ability to make a reasonable living are fundamental issues; reduced fees, however, are the wrong answer. Strict control over fee agreements through the necessity of every agreement being filed with one's registration board, and properly notarized, will minimize this unscrupulous practice by those who believe that architecture at any price is legitimate. The concept of building up a practice on the basis of reduced fees is an intolerable one, somewhat reminiscent of the old Yankee adage, "A man gets on, gets honour, gets honest." There is no declension in architecture for 'ON, HONOUR, HONEST'. In our profession there are some who seem to believe that all prostitutes have hearts of gold.

While I have been speaking of somewhat pragmatic and material issues, what, may I ask, is our attitude on some of the larger — the vital issues facing the community? What is our official position as a profession on issues of a general cultural and socio-economic concern? What is our position on so vital an issue as that of representation by population? What connection has this, with architecture you may ask, and indeed, is there a connection? Why should a professional institute become a political forum? The issue, as fundamental to democracy, transcends politics: our cities are under-represented in virtually every legislature in North America; our cities obtain an unfair disposition of the tax dollar, hence vital urban needs are compromised; the

health of our cities is of utmost concern to architects, where indeed most practice. Thus the appearance and organization of our cities is affected. We certainly are not politicians, but we *are* experts — experts on cities and on urbanism; and our society, now so reliant on experts, must look to us for intelligent dispassionate leadership.

What, for example, is our position as a profession on increasing governmental support of the arts? We should be first to recognize the almost total absence of a Medici-like elite, the need for alternative sources of art patronage. We have heard all too often the assertion that our residential, if not our total environment, is largely the work of investment interests aided by assessment-seeking administrations. This premise imputes major responsibility for our impoverished environment to the favoured aversion of the intellectual, *the economic force*. The anti-urbanism of our literary and philosophic tradition finds too easy comfort in associating the evils of the contemporary city with either capitalism or late industrial technology. The controlling influences in our society now, as in the past, are a function of *all* the values of our mass and often meaningless culture. The power of the economic force is but one aspect of the process of growth effecting the city in its unstructured randomness and patterned disorderliness. Investment interests and municipal administrations insofar as they direct our total environment are the consequence of our moral and cultural toleration. The contemporary environment, like the historic one, is a faithful mirror of our culture. In a manner of speaking, we are getting just what we deserve.

#### *Achieve mastery over social forces*

The architect through training and awareness should be as knowledgeable of economic influences as he must be of the other factors. Let us not be as slow in achieving mastery over the social forces at work as our immediate predecessors were in assuming mastery of the technical realities of the last century. Architectural practice has been a comparative late-comer to the fields of fundamental research and technical inquiry; industrialized building has had less brains and less money put into it until quite recently than most other more advanced industries; the physical and biological sciences, particularly the biological sciences are, as I have stated,

only now being regarded as coming within the architect's approach and understanding and the relevant social sciences are still in the pioneer stage.

A scientific method as applied to structures, to building materials, and now to programs of building has great relevance; but as yet the identifiable results are few.

Today, it is abundantly clear that architecture cannot be achieved without a sophisticated building organization behind it. Unlike the health professions, we in the design professions are not required to reach a vast audience. It has been suggested that in our nation of twenty million people there are in fact no more than 10,000 clients, potential and actual. These are the decision-makers those in power who will retain us, whether they act in public or private sectors. I suspect that the number of potential clients in Canada is vastly less than this — (at least if one is to judge by the frequency with which one runs into the rest of you). With so relatively small an audience surely we can, as a profession take heart, and in deep conviction of our social responsibility and professional solidarity there will issue an urban architecture of quality from our sense of high purpose.

All of this critical self-analysis does, I think, serve a useful purpose. Unlike Lot's wife, we can survive self-contemplation; there is restorative value in professional self-analysis, but analysis without action is of little consequence. The Greek architect Doxiadis counsels that the architect ". . . must become a scientist, carry out research, create a system of thought, devise a program of action and carry out proper schemes of organization in government, in industry, in production, in design. He must be a builder."

We will have the sooner *obtained our objective* and *carried authority* when Doxiadis replaces Le Corbusier as a principal theorist; when content is a higher virtue than form; when articulation of volumes is of lesser consequence than articulate ideas; when every school of architecture is rebuilt to shrink drafting rooms to half their present size and their space taken by seminar rooms; when graphics are increasingly displaced by words and words interwoven with action; when the drafting stool is replaced by the public platform — for after all, is not the drafting stool a peculiar perch from which to direct the battle for ideas and for renewal?



*Abandon neutrality for engagement*

My earlier paper contended that for us, as architects, order is a valued human goal having obvious connections with happiness, welfare, fulfillment and satisfaction. As a corollary, it is inconceivable for the architect to take flight, intellectually or spiritually from the urban imperialism of the City, despite its anti-creative and anti-architectural climate. Rather, we must abandon neutrality for engagement, inaction for action, detachment for involvement, in full unity of theory and practice. This is our urban-nexus, our bond with humanity. We must avoid the digressions of proto-architecture of fashion and of small scale. Let us be tolerant, but above all, utterly discriminating in our judgment of each new aesthetic.

In our present thinking, the isolated virtuoso building is invariably adjudged "more significant" than the larger scale project no matter how valiant the attempt to solve the task required. Our premier awards, whether Massey Medals or AIA honour awards tend to be more concerned with the individual building (our Potemkin villages) while the group buildings appear to have a lesser chance of premiation. The problem may be — that the value judgments required for collective architecture either are not sufficiently defined or are not the same as those criteria used in a search for a new Ronchamps or another Barcelona pavilion. Doubtless God is in the detail, but what irony to think that He may not be recognized in the larger scale! It would seem very nearly impossible in the various awards for the group to compete with the single building. When we, ourselves, fail to give due recognition to our work on the more complex scale, we can hardly criticize the general public for the same failing. But are not those architects who are working at the larger scale, with groups of buildings, the forerunners of the higher purpose of architecture — architecture as a social art? Recall how Rockefeller Center was satirized in its own time, because of its detailing, its false use of stone — now, we recognize it as one of the forerunners of good urban design and ignore the relative unimportance of its detailing.

The more temple-like the building apparently, the greater regard by its architectural votaries. Yes, Barcelona Pavilion, Ronchamps and even Fallingwater, are temples of architecture rather

than buildings for everyday life. Perhaps to paraphrase Mark Twain's observation when the controversy over Wagner's music was at its height, that 'he understood the music to be better than it sounded' — perhaps much of our present work is really better than it looks or works.

But I doubt it! In the turbulent inventiveness of the present, it would appear that far too many of our designers are working for the approbation of their colleagues, rather than for a higher social purpose. Is self-expression to be greater than the collective will to the better life? We architects have proceeded too much on hunches and too little on the sciences, behavioural or natural. Our theory has been frail.

What I termed then — "*micro-architecture*" — the architecture of the individual building — must inevitably give way to new scales of thought and practice. The architecture of the future, in today's terms a "*macro-architecture*", one concerned not only with individual building, but its relationship to the street, to groups of buildings, super block, the community and, in due course, the total environment. To accomplish so encompassing and dedicated an obligation demands redefinition of professional practice as a prelude to a yet further redefinition of the form of the environment itself. We can be heartened by the analysis of our profession presently being undertaken by our own Institute. This is the initial step, but without the concern for authority expressed by Vitruvius, we will lack the ability to implement our plans.

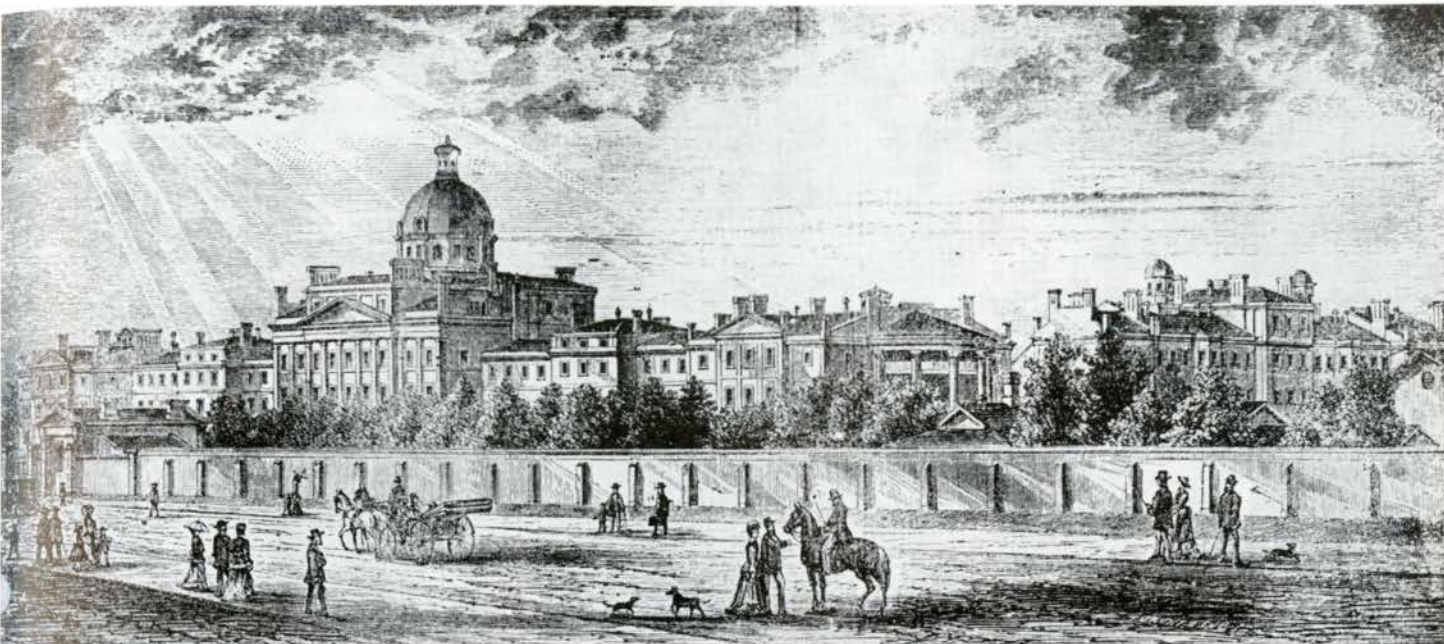
Authority, our dictionary tells us, is "moral or legal supremacy: the right to command or to give an ultimate decision — a derived or delegated power or authorization. Authority is the power to influence the conduct and actions of others, the power over the opinion of others, authoritative opinion and intellectual influence."

A consummate authority can only be compounded out of responsible social attitude and a total concern. An instruction even older than that of Vitruvius was that of the prophet—Isaiah (61:4) "And they shall build the old wastes, they shall raise of the former desolations and they shall repair the waste cities, the desolations of many generations."

*Footnotes*

- 1 Walter Gropius upon receiving the Honorary Degree, Doctor of Humane Letters, Columbia University, March, 1961 — from the *Architectural Record*, June, 1961, page 149.
- 2 Jan C. Rowan — Editor, *Progressive Architecture*, November, 1963.
- 3 "The Intellectual versus the City" — Morton and Lucia White. Harvard M.I.T. Press, Cambridge, Mass., 1962, page 234.
- 4 "Pier Luigi Nervi" — by Ada L. Huxtable, Braziller, New York.
- 5 "Science, the Glorious Entertainment" — by Jacques Barzun, University of Toronto Press, 1962.





Globe and Mail

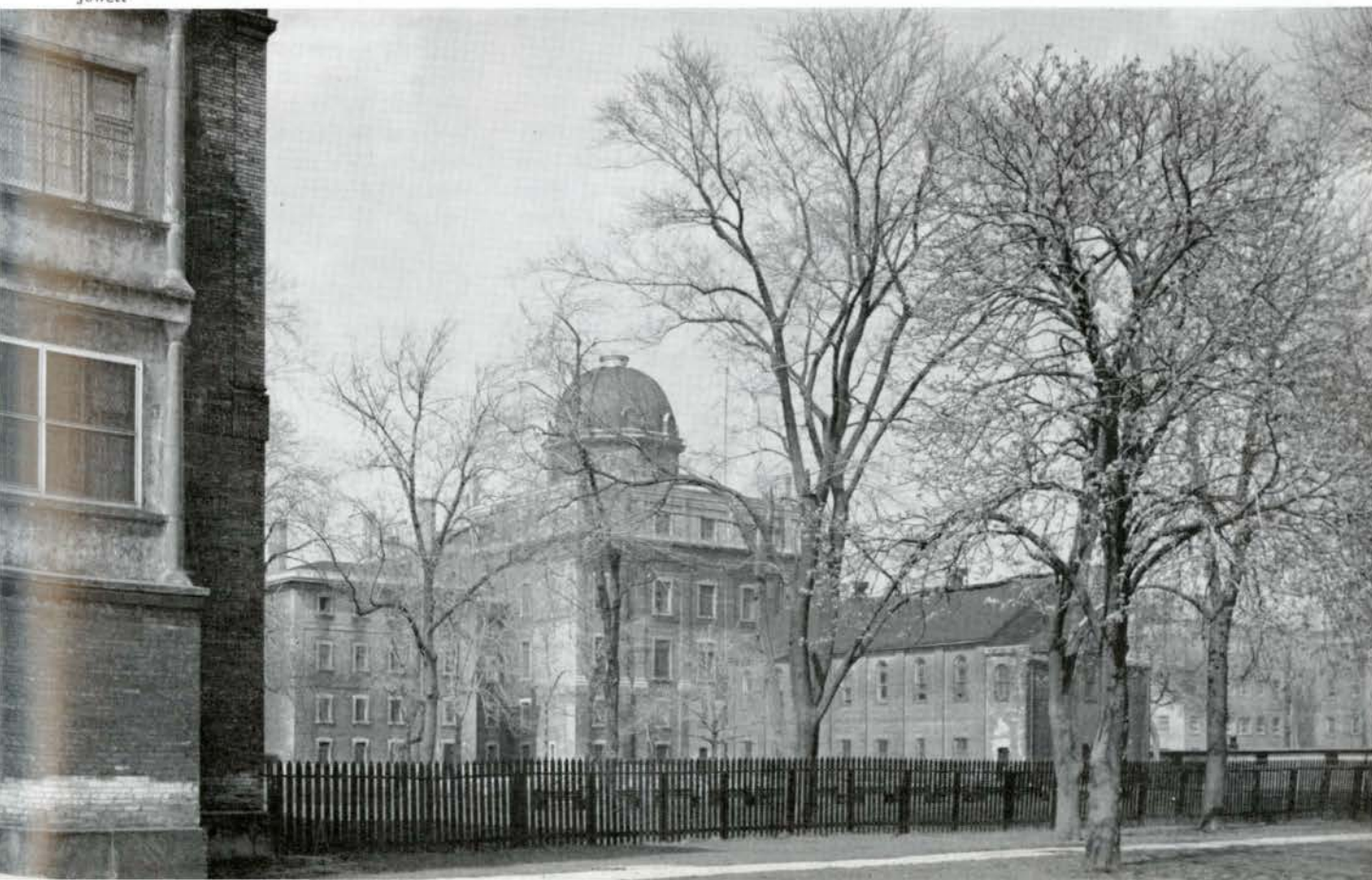
**ASYLUM FOR THE INSANE, TORONTO.**  
*(From a photograph by Hunter & Co. (late Ewing & Co.), 39 and 41 King-street West, Toronto.)*

## An Enormous Building for its Time

Mental Asylum (1846), 999 Queen St. W., Toronto, John Howard, Architect

*A rear view of the Asylum, 1965*

Jowett





Almost hidden from the busy thoroughfare of Queen Street West in Toronto is a large institutional building, which because of its simple classic stylism predating Victorian architecture, might pass unnoticed as a grime covered building of the early Twentieth Century. Its very appearance has had some bearing on its continued use, for the very stylistic Toronto General Hospital, constructed six years later was demolished 44 years ago.

A modern visitor viewing this enormous building from the rear is precipitously carried back to a drab quiet world from which, he is very thankful, we have emerged.

From the viewpoint of 1965, it appears to be a great achievement for a province with less than half a million population to construct the third largest institution of its kind in North America. And the Provincial Lunatic Asylum was built when the population of Toronto was less than 20,000.

Such an attainment would have appeared visionary at the beginning of the Nineteenth Century. In the early eighteen hundreds in Toronto, criminals, debtors and the insane, were confined in the same civic jail with the province assuming no responsibility for the care of the insane. The original jail in Toronto was a clapboard covered squared log building surrounded with a high stockade of pointed logs. The inmates were fed bread and water and slept on straw upon a wood floor a few inches above grade. Debtors received preferred treatment; the insane the worst. Imprisonment for debt, although it had fallen off sharply by 1848, was not abolished by statute until 1859.

There were no other places but jails to house the mentally ill, although in a few cases kindhearted townspeople took them in to their homes and were paid for their keep. Magistrates and grand juries continually protested against confining the insane in jails, particularly when there was no exercise yard, but nothing was done about it. Finally in 1830 an act was passed by the Legislature which was probably the first in Ontario that faced

up to the problem of caring for mental patients. It was not until nine years later, however, that funds were voted for the building.

The cornerstone of the new hospital was laid in 1846. Two years later the mental patients who had been confined in a disused masonry jail, and then in the empty Legislature Buildings on Front Street West. They were hurriedly moved into the new building when, with the burning of the Quebec Parliament Building, the Ontario Legislative building were required for the government of the United Provinces.

The copper plate deposited under the cornerstone of the new building reads, "This cornerstone of the first building in Western Canada for the reception of insane and lunatic persons. . . ." The connotations of words change with time. Lunatic, idiot, insane, were impressive medical terms in 1846, and the use of these words in past records does not necessarily suggest less compassion or respect for those confined than other words used today. Perhaps most of the blame for the previous neglect of the mentally ill can be laid to organization and taxation, and early settlements had lacked both to a great degree. When the Province, with its impersonal sources of revenue, assumed the responsibility, we may assume there was no complaint concerning the construction of an expensive modern building, and the appointment of qualified doctors and a large staff.

John G. Howard, the architect, had made an extensive tour of mental hospitals in the USA, and he had patterned his building on the asylum in Worcester, Mass. Howard, Toronto's first resident architect, found it necessary to be a part time drawing master at Upper Canada College for 23 years, and Toronto's first city surveyor for ten. Obviously his practice was not large and he will probably be remembered for his part in providing Toronto's largest park, and for his design of General Brock's Monument, occupying the commanding location on Queenston Heights. It is indicative of his understanding of the problem of mental illness that he provided normal size windows for his building, although in his new jail, (1840) the windows were very small. Although not a doctor, his American tour and his discussions with the staffs of many hospitals had given him an insight into the care of patients which many doctors of the time did not possess.

Howard was selected as architect by competition. His design was for a four storey,

584 foot long building from east to west, facing Queen Street. North-south wings, behind the main building, were included at each end at the rear. However, funds were not available for the complete structure and only the main building was erected.

The building was faced with white brick, with high limestone base to ground floor window sills, and with stone cornice and trim. It had a pitched roof and a large dome capping the central, tower, part of the building. This "white brick" was also used for many other contemporary buildings, including St James Cathedral, (1850) and the Toronto Normal School, (1852-1964). The size was  $9\frac{1}{8}" \times 2\frac{5}{8}" \times 4\frac{1}{2}"$ , with  $\frac{1}{4}"$  joints. The back-up brick was slightly smaller. The stone came from Thorold, Ontario. The roofing was tin, laid 5 inches to the weather. In the newspaper accounts of the opening of the building it was mentioned that the bright tin on the dome could be seen as far away as Oakville, twenty miles distant. Tin was the universal sheet metal and, of course, was more fire resistant than wood shingles.

The 30-foot diameter room under the dome was for the 20-foot circular water tank, for domestic water and heating. After climbing winding stairs from the chapel floor to this tank room, the tourist walked along the five foot passage to a staircase overhanging the open tank. At the centre of the room the stair became a spiral around a suspended newel post, and led to a small covered observation platform on the roof of the dome. The interior of the dome was neatly plastered, and had a wood wainscotting to the height of the window stools, where many carved initials may still be seen. This theatrical device was, no doubt, a crowning thrill for visitors to Toronto.

*(A photograph of the staircase appeared in the September 1964 Journal, page 13)*

Howard appears to have deliberately designed his building without a basement, knowing that such a large area below grade would eventually be used for patients. He placed his ground floor a few feet below ground level, and used it all for service, except for a few prison-like cells for violent patients. There were three typical floors above this ground floor. The tower portion had an additional floor for three separate chapels. The sexes were divided, with the men on the west side of the tower and the women on the east side. Much of the tower section was for administration.



The weakness of the plan by modern standards are the 110-foot long corridor day rooms. The 14-foot width does not permit treatment for small groups, as no isolation or segregation is possible. These day rooms were lighted from the south side, only, with a few windows in courts between sleeping wards. There were large semi-circular verandas at the ends of these corridor day rooms. Each floor had twenty small wards 10 x 12 feet in size.

Although some of the joist spans for lounges and dining rooms were fairly large, due to the fire hazard, each bedroom was separated by masonry which, of course, was a bearing wall through to grade. All the joists were 3" x 12" at 15" oc, and were parallel to the long dimension of the building except across the corridor day rooms. All floors were 7/8" tongue and groove, laid diagonally in some cases. This floor laying was obviously not done until the plastering was completed. There was also a sub floor between the joists, on 1 3/4" x 1 1/8" nailers, five inches below the tops of the joists.

Howard's building was one of the first on the continent to have hot and cold running water. Plumbing was fairly new at that time and the architect's specification explained in detail how each item was to be made, for plumbing fixtures were constructed, rather than merely purchased and installed. The new indoor plumbing was intended to supplement the old, so there were privies on the grounds and pots in bedrooms.

Water closets were made of wood, with "Ree's patent water closet apparatus". Iron basins were lined with "the new earthenware composition". Hot and cold water cisterns, lined with milled lead were to be supplied. The hot water pipes passing through them were to be plated with tin. Shower baths and douches had painted tin linings and lead floors. Baths and sinks were specified to be of cast iron, and wastes were to have metal bell traps. Ten water closets, and eight baths, sinks and cisterns were specified for this large building.

Two clock turrets on the roof were specified to have black painted faces and gilded lead numerals. Lightning rods were included and bell and signal wires are mentioned.

The circular water tank mentioned above, is still in place. It is 5'4" high and is constructed of 14" x 21" x 24" boiler plate, all rivetted together, and holds 12,000 gallons.

Many metals are specified, including copper lining for stone cornice gutters,

tin for roofing and for down pipes, zinc for ventilation tubes, cast iron, wrought iron and lead.

Less than a page of the specification is devoted to the "warming apparatus", but the architect says, "The apparatus to be used is that invented by A. M. Perkins, of the City of London, England . . .", so that he is describing rather than specifying. It was to be used with either coal or coke. It is mentioned that a separate furnace is to be used for each floor of pipe. These "furnaces" were located on the ground floor, and the hot water heating pipes were carried around the perimeter of the building on all floors.

Gas for lighting was installed in 1855, with open flame jets in about ten locations on each floor of each half the building. This lighting must have been supplemented with kerosene lamps which came into use in Toronto in 1855.

Later, in 1865, when John Howard retired, a new architect, Kivas Tully of Toronto, was appointed for the east and west wings of the building. As would be expected, Mr. Tully had some planning ideas of his own and modified Howard's original plan for the wings. The most important of these changes was the separation of the new wings from the main building with a 30-foot passage on the ground floor, with iron plate doors to block the wings in case of fire. These wings were for the more violent patients (called "third class" on the plans), and had 24 small bedchambers six feet by twelve feet in size, and with one large dormitory. Each addition had its own dining and sitting rooms and, open veranda, at the south end, on each floor.

While we would like to say that Howard's building was a complete success, the annual superintendent's reports mention many alterations and improvements that became necessary within a few years. There were no professional mechanical engineers, and mechanical services were still experimental. Perhaps no architect of the time could have done much better. The shiny tin roof which could be seen from Oakville was replaced with slate as early as 1857. This new slate roof leaked from the start; possibly because of the multiplicity of breaks and variations in the roof.

In 1853 the cause of the foul air on the Ground Floor and elsewhere was at last revealed. Upon tearing up the floor it was found there was a foreign material beneath the joists, from three to five feet in depth in some locations, particularly

under kitchens and laundries. Rank fungus hung from the decaying wood joists, and the flooring and the room base above were rotting. Several hundred cartloads of this stinking refuse were removed. Investigation revealed that drain pipe, for a length of twenty-two feet had been omitted. For thirteen years the sink and laundry waste had spread around the foundations beneath the ground floor joists, instead of being carried to Lake Ontario.

Howard had also neglected to ventilate his foundations, so at this time all of the 80 compartments below the Ground Floor were inter-ventilated, and vents were also provided from this area to the exterior, above grade.

From the beginning, it was apparent that the building ventilation was inadequate, particularly in winter, when rooms became filled with smoke instead of clean air. Howard's ventilation was described by the superintendent in 1854 as, "manifestly absurd . . . and an idea not unworthy of a lunatic asylum". It ignored the basic principle of draft. A fire on the Ground Floor was supposed to exhaust air entering the chimney sixty feet above. This error was corrected.

The foul air, of course, was worse in the toilet rooms as the closet bowls were not properly vented. In 1863 the venting of the water closets was accomplished by constructing wood burning ventilating ovens in the attic. The collected vents from all the fixtures entered the ovens by two pipes; one below the grate, the other above. Smoke and exhausted air left the oven by a single smoke flue into a chimney. This system was later used by Kivas Tully in the wings.

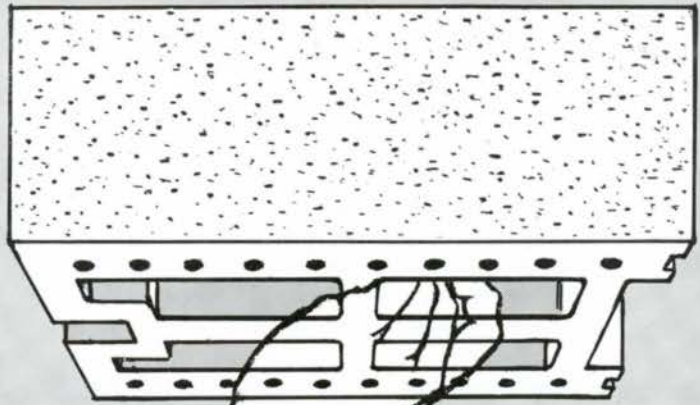
It was necessary to make these four oven rooms fire resisting and over fifty tons of limestone, 3" thick, and 18" x 36" in size, were placed upon wood floors on wood joists. This installation may still be seen, with the tile vent pipes travelling along the attic floor and crossing the face of doorways.

In 1877 a visitors' entrance, from grade to first floor, was erected, and in 1878 it was recommended that the pumping station on the lake be abandoned, as dirty water from the building sewer was being drawn into the building.

At this juncture we may leave the historic building of Ontario's first mental hospital without continuing a recital of the subsequent renovations, alterations and additions that have been made in the past 87 years in the effort to bring this old building up to modern hospital standards.



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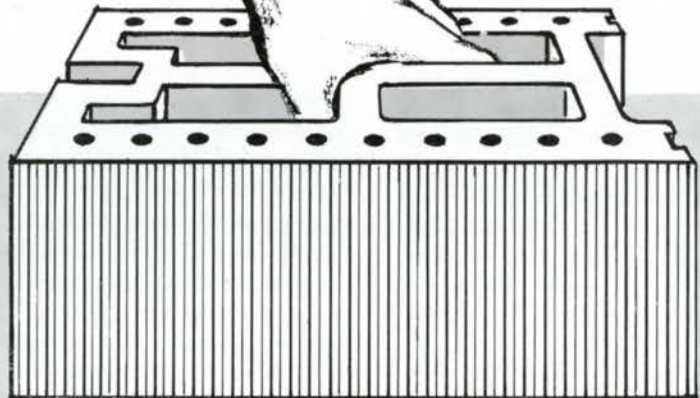
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Further information may be obtained from Director of Community Planning, Department of Municipal Affairs, Johnston Building, Halifax, Nova Scotia.

"The Saskatchewan Technical Institute, Moose Jaw, requires an architect to assist with instruction in a two year post-high school course in Architectural Technology. The minimum salary for this position is \$7,400 per year, which progresses to a present maximum of \$9,300. Any architect who is interested in a teaching career can get the details by writing directly to the principal of that institution." Saskatchewan Technical Institute, Department of Education, Sask. St. and Sixth Ave. N.W., Moose Jaw.

Diplomaed Engineer in Architecture presently working for an architectural studio in Dusseldorf and preparing for a Doctor's degree in Architecture at the Technical University of Aachen, is interested in obtaining a position in Canada. Write Dietmar Hoppe, 4 Dusseldorf-Oberkassel, Glucksburger Str 27, Germany.

Jean Jacques Saintard cherche emploi chez un architecte à Montréal. Il y arrivera le trois juillet. Il est à l'École

Spéciale d'Architecture à Paris. Reponse M. Jean Jacques, Ecole Spéciale d'Architecture, 254, Bd Raspail, Paris 14e, France.

Design Architect required by Bregmann and Hamann, having considerable experience and talent in the field of urban and commercial master planning, combined with the ability to follow up in the detail development of architectural components. Bregmann and Hamann, Architects and Engineers, 130 Bloor St. W., Toronto.

#### THE PETER BAROTT AWARDS — FOR EXCELLENCE IN BUILDING PRODUCT LITERATURE

The Canadian Joint Committee on Construction Materials of the Royal Architectural Institute of Canada, the Canadian Construction Association and the Association of Consulting Engineers of Canada announced the renaming of its Annual Awards for Excellence in Build-

ing Product Literature to "The Peter Barott Awards".

In renaming the Awards, the Committee pays tribute to the late Peter T. M. Barott, FRAIC, Montreal, who was one of the charter members of the Committee, and the first chairman of the awards committee. In addition, Mr Barott served as the Chairman of the first Awards Jury in 1962.

"The Peter Barott Awards" are designed to recognize outstanding product literature and advertising directed to architects, consulting engineers and the construction industry.

"The 1965 Peter Barott Awards" for Excellence in Building Product Literature closed the week of May 24th. The winning entries were on display at the Annual Assembly of the Royal Architectural Institute of Canada, June 9-12th, Queen Elizabeth, Montreal. The presentation of the Awards took place at a special luncheon held on June 11th in conjunction with the Assembly.

#### RAIC FOUNDATION / LA FONDATION DE L'IRAC

The RAIC Foundation, established in 1964, enables Fellows, members and friends of the RAIC to make gifts and bequests on a tax-exempt basis towards the Institute's program of scholarship and research. A suggested legal form of bequest for those who desire to bequeath to the Foundation funds for the creation of scholarships or for the furtherance of any of the Foundation's activities is given below. Donation cheques payable to the RAIC Foundation should be forwarded to Mr. Maurice G. Holdham, Executive Secretary-Treasurer of the RAIC Foundation, Suite 1101, 75 Albert Street, Ottawa 4, who will be pleased to provide additional information if desired.

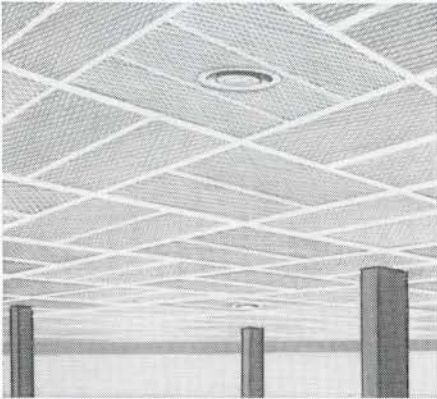
"I GIVE, DEVISE AND BEQUEATH to the Royal Architectural Institute of Canada Foundation to further the general objects of the Foundation (or any other specific purposes, for example: "for the purpose of providing one or more scholarships to be known as the John Doe Scholarships to be given at the discretion of the Foundation to the student who obtains the highest average in the second year of an architectural course at any University School of Architecture in Canada") the sum of ..... and I declare that the receipt of the person who professes to be Executive Secretary-Treasurer for the time being of the Foundation shall be a sufficient discharge therefor.

La Fondation de l'IRAC, établie en 1964, permet aux agrégés, aux membres et aux amis de l'IRAC de faire des dons et des legs libres d'impôt comme contribution au programme de recherches et de bourses d'études de l'Institut. Ceux qui désirent léguer des fonds à la Fondation pour la création de bourses d'études ou pour la réalisation de l'un quelconque des objets de l'Institut trouveront ci-après une formule recommandée à cette fin. Dans le cas de dons, on est prié d'établir les chèques à l'ordre de la Fondation de l'IRAC, et de les faire parvenir à M. Maurice G. Holdham, secrétaire-trésorier administratif de la Fondation, suite 1101, 75 rue Albert, Ottawa 4. M. Holdham sera toujours heureux de fournir de plus amples renseignements à ceux qui pourront désirer en obtenir.

JE DONNE ET LEGUE à la Fondation de l'Institut royal d'architecture du Canada aux fins d'aider à la réalisation des objets de la Fondation (ou à certaines fins précises, par exemple "aux fins d'établir une ou plusieurs bourses d'études à désigner sous le nom de "Bourses d'études . . ." et à décerner, à la discrétion de la Fondation, à l'élève qui aura obtenu la plus haute moyenne en deuxième année d'un cours d'architecture dans une école d'architecture du Canada) la somme de ..... et je déclare qu'un reçu signé par la personne déclarant exercer alors les fonctions de secrétaire-trésorier administratif de la Fondation constituera une quittance suffisante en l'espèce."

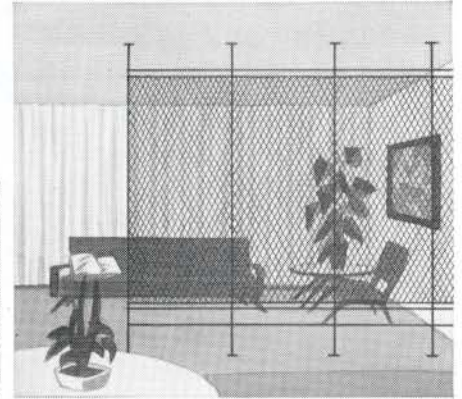
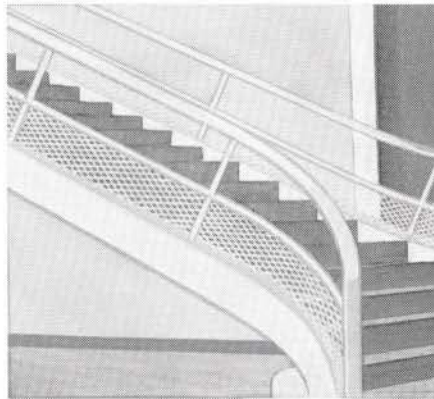


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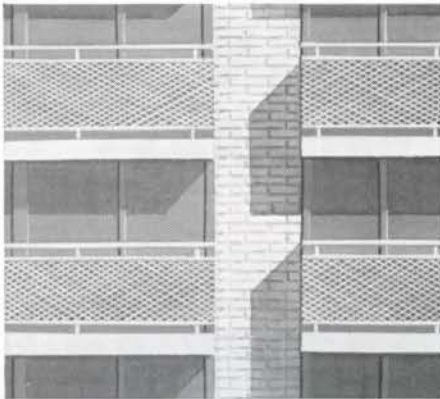
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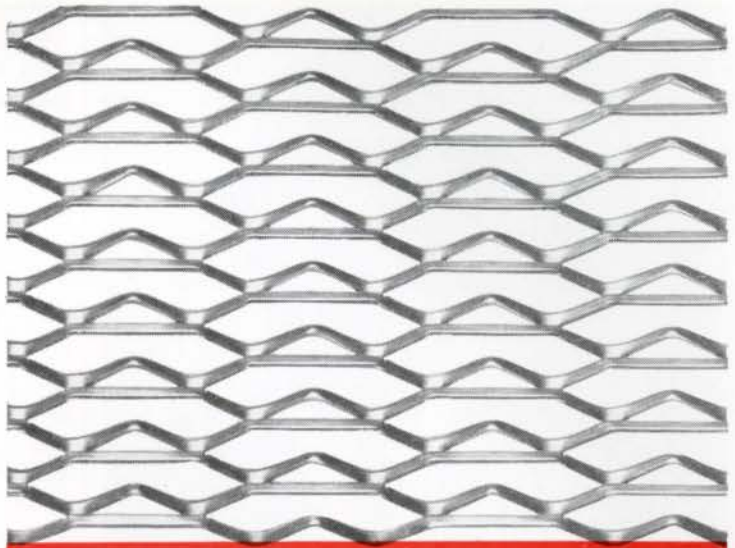


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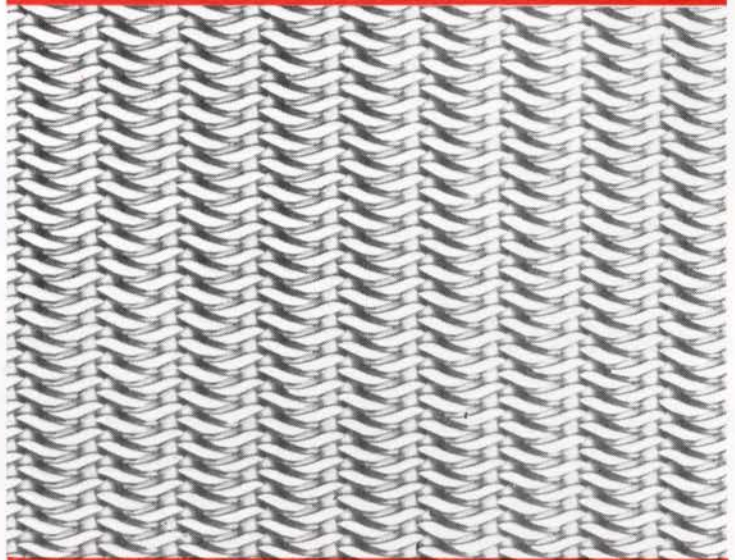


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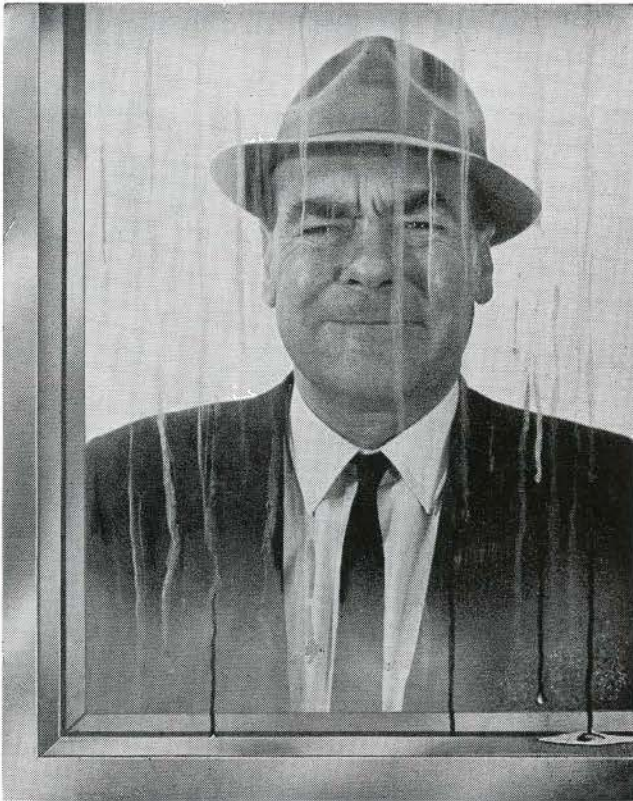
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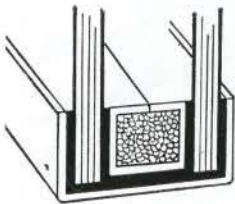




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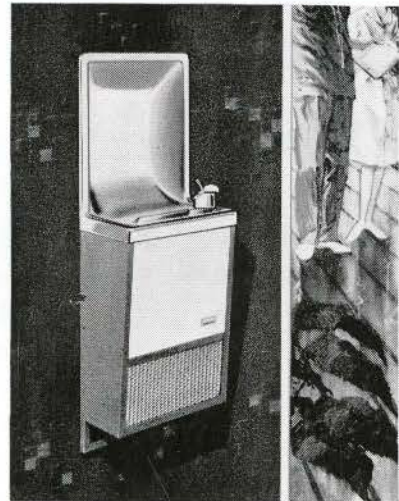
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# Industry

## NEW PRODUCTS

A new ceiling system for laminar flow air distribution in clean room applications developed by the Multi-Vent Division of Pyle-National. Permits complete control of air over entire ceiling, concentrates higher air quantities when or where required. *Pyle-National (Canada) Ltd., 2560 South Sheridan Way, Clarkson, Ont.*

(Circle Reply Card Item 1)

Two-ply glass, called Twi-Lite. Contains an amber plastic interlay which absorbs solar energy, thus substantially reducing sun heat and eliminating glare. *Amerada Glass Corporation, 3301 S. Prairie Ave, Chicago, Ill.*

(Circle Reply Card Item 2)

Beaver II, new model line of low cost, gas-fired, hot water boilers in sizes ranging from 2,000,000 to 3,000,000 Btu/hr. Line of 18 models designed for heating systems in small schools, motels, restaurants, etc. *Cleaver-Brooks of Canada Ltd., P.O. Box 458, Stratford, Ont.*

(Circle Reply Card Item 3)

Wrought Iron Distributing Co. is now importing and stocking Genuine Wrought Iron Bars to meet an increasing demand for the material. Grade "C" Iron B.S.S. 51-1939, the most suitable for use architecturally is being stocked now under the name of "Widco". Stock will be increased with demand. *Wrought Iron Distributing Co., 881A Jane St., Toronto 9.*

(Circle Reply Card Item 4)

Designed for use where versatility and flexibility are required in office layout, DOMTAR No. 100 Rail Height Partition System. Totally demountable, can be dismantled and erected quickly. *Domtar Construction Materials Ltd., Suite 2210, 1 Place Ville Marie, Montreal 2.*

(Circle Reply Card Item 5)

New unit ventilator with a unique air control concept for ceiling applications in schools developed by Modine Manufacturing Co, Racine, Wis., distributed in Canada by Sarco Canada Ltd. *Sarco Canada Ltd, Agincourt, Ont.*

(Circle Reply Card Item 6)

A precast concrete pedestal with reinforced steel is the highlight of the new Model 30 drinking fountain manufactured by Haws Drinking Faucet Company. Has stainless steel receptor and a modern angle-stream bubbler activated by a chrome plated brass, vandal-proof push-button on the side of the pedestal. *Haws Drinking Faucet Co., Berkeley, Calif.*

(Circle Reply Card Item 7)

DorWalSeries 1800, a new sliding glass door which uses four single glazed panels in thermally separated frames. Designed for quality residential and apartment installations. Double frames separated by a wood thermal barrier mounted in a timber frame, provides protection against heat loss and condensation. *Daycan Limited, 20 Brydon Drive, Rexdale, Ont.*

(Circle Reply Card Item 8)

Macmillan, Bloedel and Powell River have announced full scale production of their new k3 Particleboard, the result of new developments including the graduated particle process. Offers high dimensional stability, smooth grain free surface and excellent machineability. Available in Western Canada only. *MacMillan, Bloedel and Powell River Ltd., P.O. Box 340, Vancouver.*

(Circle Reply Card Item 9)

## NEW LITERATURE

A new data sheet from Canadian Johns-Manville Co. Ltd. on an acoustical product, J-M No. 61 Sound Absorbing Element. Sandwich construction, comprises an asbestos membrane faced on each side with a felted mineral fibre blanket. *Canadian Johns-Manville Co. Ltd., Port Credit, Ontario.*

(Circle Reply Card Item 10)

Bulletin M-P10/64, Metal Pan Acoustical System illustrating metal perforation patterns available, including recently released patterns. Sound absorption coefficients and architectural specifications are shown. *Holmes Foundry Ltd, 1110A Wilson Avenue, Downsview, Ont.*

(Circle Reply Card Item 11)

New Richards-Wilcox illustrated rolling door catalog, covering complete range of rolling steel and rolling aluminum doors. Gives complete specifications, technical details and clearances. *Richards-Wilcox Company, P.O. Box 3060, Terminal "A", London, Ont.*

(Circle Reply Card Item 12)

"Shape Design Manual", 88 page illustrated hard covered book published by Aluminum Company of Canada (Alcan). Contents include consideration of such subjects as selection of alloys, assembly methods and permissible tolerances. *Aluminum Co. of Canada Ltd, 1 Place Ville-Marie, Montreal.*

(Circle Reply Card Item 13)

Literature on temperature control possibilities offered by Danfoss Type R.A. thermostatic radiator valves. *Danfoss Manufacturing Co., Ltd., 1230 Lakeshore Rd. E., Port Credit, Ont.*

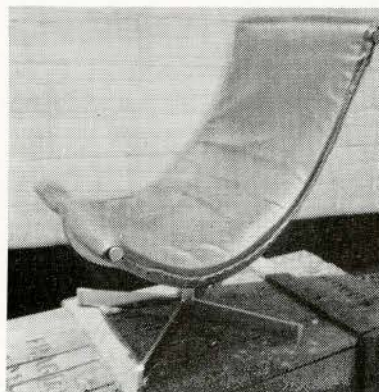
(Circle Reply Card Item 14)

Sargent Hardware of Canada Limited announces publication of its 1965 Condensed Catalog of architectural builder's hardware. Sixteen pages, describing full line of Sargent hardware products including new items. *Sargent Hardware of Canada Ltd., Peterborough, Ont.*

(Circle Reply Card Item 15)

Catalog V264e giving information about Landert Automatic Drives for Swing Doors. *Holms Automatic Door Unit Co., 177 Glen Crescent, London, Ont.*

(Circle Reply Card Item 16)

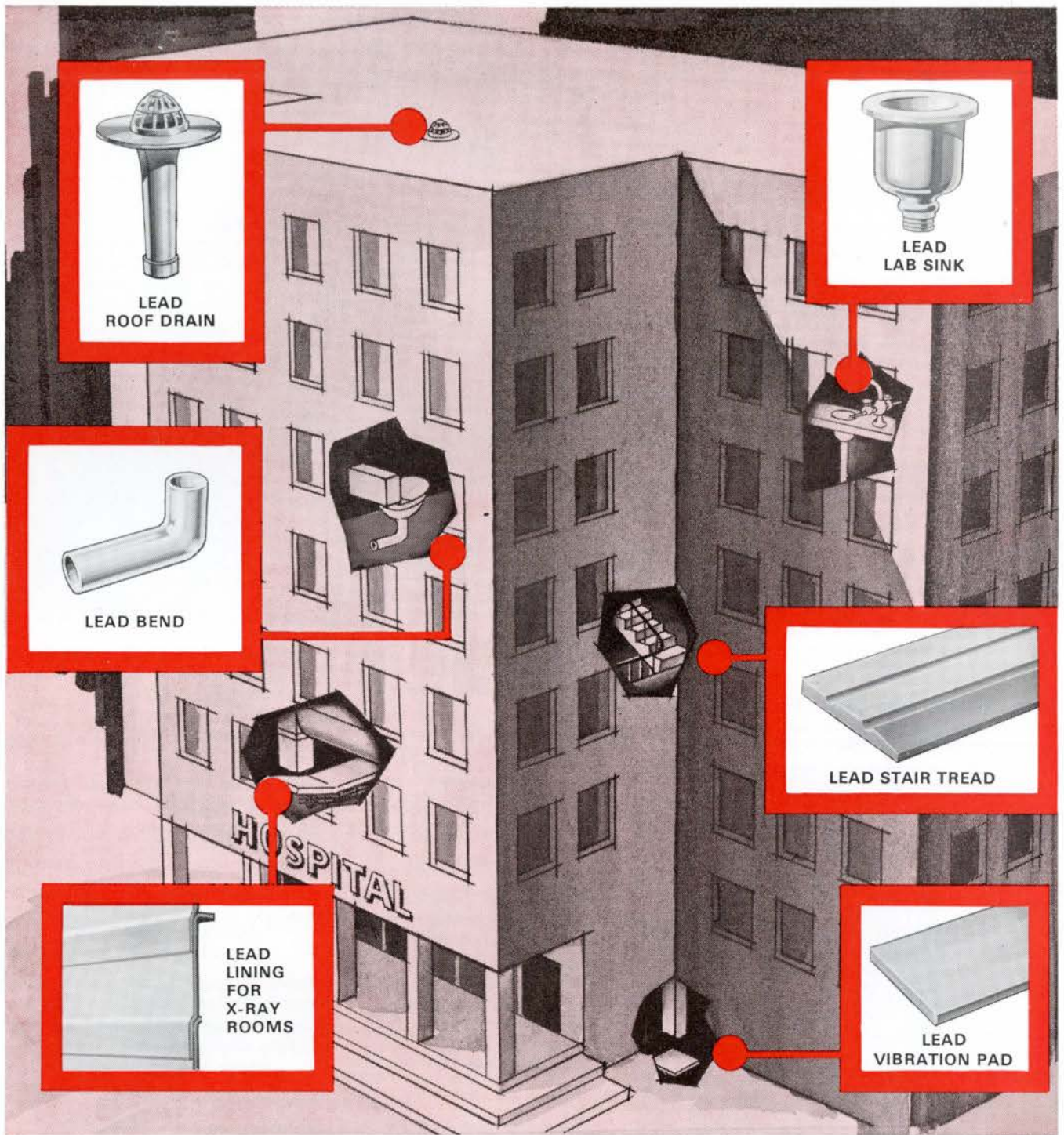


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# Technical Column

Edited by Douglas Lee

## Soil Cement for Paved Areas

by Everett Munro and Dennis Temple

*Messrs Munro and Temple are Technical Engineering representatives for the St Lawrence Cement Company.*

### What is Soil Cement?

Soil cement is an intimate mixture of soil and portland cement compacted while in a moist condition. It is usually 6" thick and surfaced with a bituminous, hot mix 1½" thick or ¾" of one of the newer dense graded bituminous hot mixes.

### History

The first roads were done at the turn of the century by farmers using farming equipment to mix cement with soil.

In the thirties tests were refined and a scientific foundation was laid for the growth of soil cement. It is a credit to these pioneers that the many early roads are still in daily satisfactory use. This is because soil cement gains strength with age and matched the increasing loads from the era of the Model T to today's commercial traffic.

Over a hundred million square yards of soil cement base are built annually in North America. This is equal to 9000 miles of road. Now Soil Cement exceeds concrete in roadbuilding.

Soil cement was first used in Western Canada in 1958. In spite of the extreme cold and freezing cycles of the prairies that area has become a leader in soil cement volume on the continent.

The fastest growing use of soil cement is for concrete pavement subbases. One recent contract was for 83 miles of road. Other uses are for reservoir linings and one such job was a million square yards. It has been used locally for shopping plazas, parking areas, rebuilding roads, new roads, concrete pavement base, drive in theatres, underground parking and subdivision paving.

### What is "Soil" in Soil Cement?

Soil is usually a granular material ranging from fine dirty sands to high quality

granulars such as crusher run limestone or screening. The most common materials are fine sands of low commercial value, existing road bases and quality granulars. In some areas heavy clays are used because granulars are expensive. Higher quality soils require less cement. Therefore the choice of materials becomes a matter of economics.

### What Mixture is Used?

Soils are tested to determine maximum density with optimum moisture according to ASTM D558-44 "Soil Cement Moisture Density Test". They are further tested to determine cement requirements by freeze/thaw and wet/dry tests according to ASTM Designations D559-44 and D560-44. Recently several thousand tests were co-related which led to a short test for sandy soils. This short test based on a sieve analysis and 7 day strength of approximately 300 p.s.i. was developed by the Portland Cement Association. This short test is now widely used and most laboratories can do this work with a minimum of sieving and moisture density equipment.

### Typical Mixes

Typical mixes for a fine soil and a graded granular would be:

	Fine Soil	Granular
Optimum moisture	12%	5%
Maximum density	110 lbs. ft. <sup>3</sup>	135 lbs. ft. <sup>3</sup>
Cement content (% by weight)	9%	4%
pounds per square yard)	45 lbs.	20 lbs.

### Job Requirements

The optimum moisture, maximum density and cement requirements as deter-

mined by lab tests become job control requirements.

### Construction Methods

There are two construction methods:

1. Mixed-in-place.
2. Central plant mixed—in this case cement soil and water are correctly proportioned, mixed and delivered to the job in dump trucks where it is spread and compacted.

The mixed-in-place method is common with the rebuilding of old roads and all areas where the granular material is in place. Sometimes granulars are imported and spread for in-place stabilizing. The use of central plant mixing is becoming more popular and now most work is done by this method. It is ideal for parking areas where granulars have to be imported.

### Equipment Requirements

The only pieces of equipment not usually owned by a paving contractor are a special rototiller and a cement spreader. A typical list of equipment for a mixed in place job would be as follows: Grader, Scarifier, Cement Spreader, Road Rototiller, 2 or 3 water trucks, Pneumatic and steel rollers or—a pan type vibrator compactor, a bituminous spray truck.

### Preparation and Construction

For the mixed in place method the material on the site may be found suitable but in some cases granular material is brought in and laid down to a depth of 7 to 8". In either case the area is then shaped and graded. The job is ready to start and proceeds as follows:

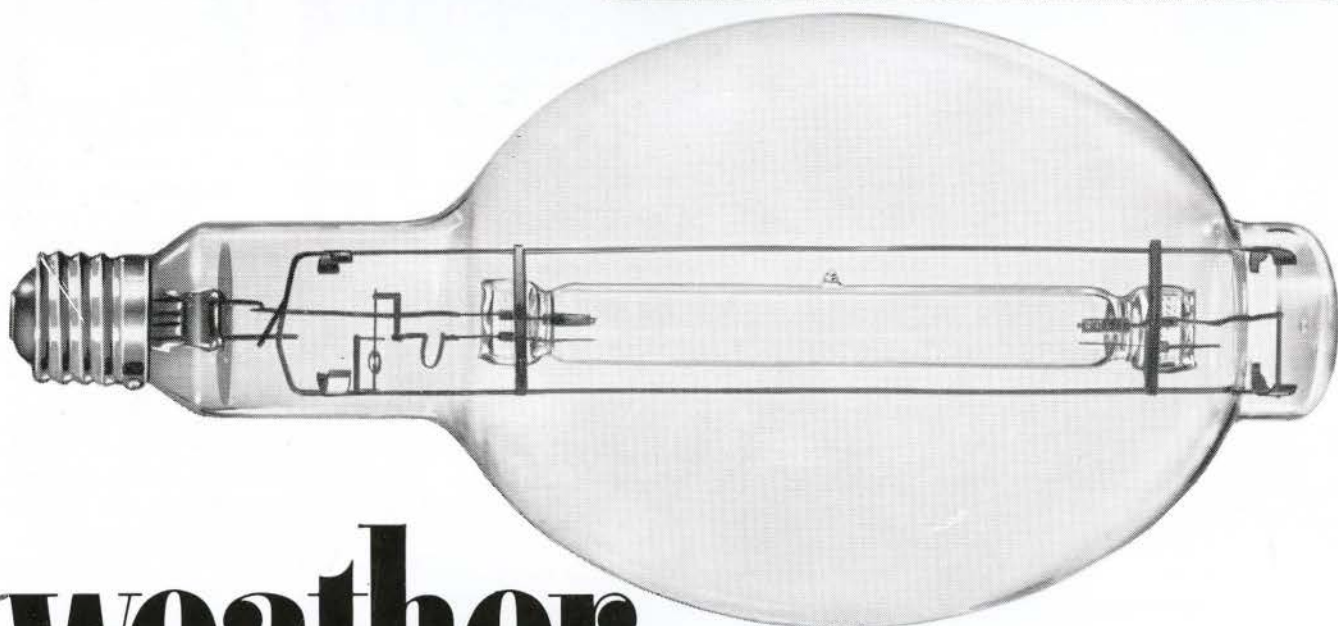
1. Spread Cement.
  2. Mix with a rototiller.
  3. Add moisture.
  4. Remix.
  5. Compact.
  6. Seal with a bituminous spray.
  7. Surface with a bituminous hot mix.
- Items number 1 to 5 are to be done in 5 hours. Number 6 the same day and number 7 a few days later.

### Job Control

The cement spreader is adjusted and checked to make sure the correct amount of cement is spread as determined by laboratory soil tests. This is checked on the job by running the spreader over a square yard of canvas and weighing the cement collected.

Moisture is tested by conventional methods. However an experienced soils technician can determine the optimum





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moisture by a simple hand squeeze method. In this test a representative sample is squeezed in the fist. This cast should be able to be broken in two without crumbling or being plastic. This enables him to make quick adjustments while construction is in process.

Density of the compacted mixture is checked by the sand cone method according to ASSHO designation T-147.

It is important that the contractor cooperate with the inspector to see that the 3 key requirements of density, moisture and cement content are met and that the operations are done in the required time. Timing is very important to obtain good quality and incidentally the contractor profits because his equipment is kept busy.

#### *Design and Specifications*

Unlike conventional road designs, soil cement has developed in an era of sophisticated pavement and soil test methods. Load, deflection, subbase pressure tests and field performance show that inch for inch soil cement is twice as strong as the highest quality granular base. Consequently 6" of soil cement is usually used instead of 12" of granular.

The minimum specifications for a job may be as follows: "Soil Cement shall be constructed, 6" thick, to the lines and grades on the plans."

This specification has been used for many jobs. However it may be desirable to specify details of construction and suggested specifications can be obtained from The Portland Cement Association.

#### *Costs*

The cost per square yard of a job may be broken down into component parts as follows:

—Imported granular	\$ .30
—Cement (35 lbs. per yd <sup>2</sup> )	.45
—Processing	.25
—Sealing	.05
—Surfacing	.65
<b>Total</b>	<b>\$ 1.70</b>

If in place material is used exclusively the cost would be \$1.40. These figures are a rough example and may easily be adapted to local prices. This figure shows a saving of 40 to 80c when compared to conventional paving methods.

#### *Technical Information and Assistance*

Architects interested in obtaining further information or who wish to analyse or evaluate specific projects for soil cement construction may contact their local Portland Cement Association representative or the local cement producer.

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taxpayers  
80% of  
glass wall  
costs**



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When you evaluate all factors, walls built of genuine clay brick offer true long-range economy as well as unlimited design flexibility, additional

interior space for education and unparalleled safety for life and property. A recent study\* shows comparative total costs of glass walls to be 4.96 times greater than clay brick and tile cavity walls. (The study also offers advice on use of the architect and provides an accurate analysis of stock plans.)

You pay taxes every year, not just once. One way to keep school taxes in line is to build schools with genuine clay brick walls.

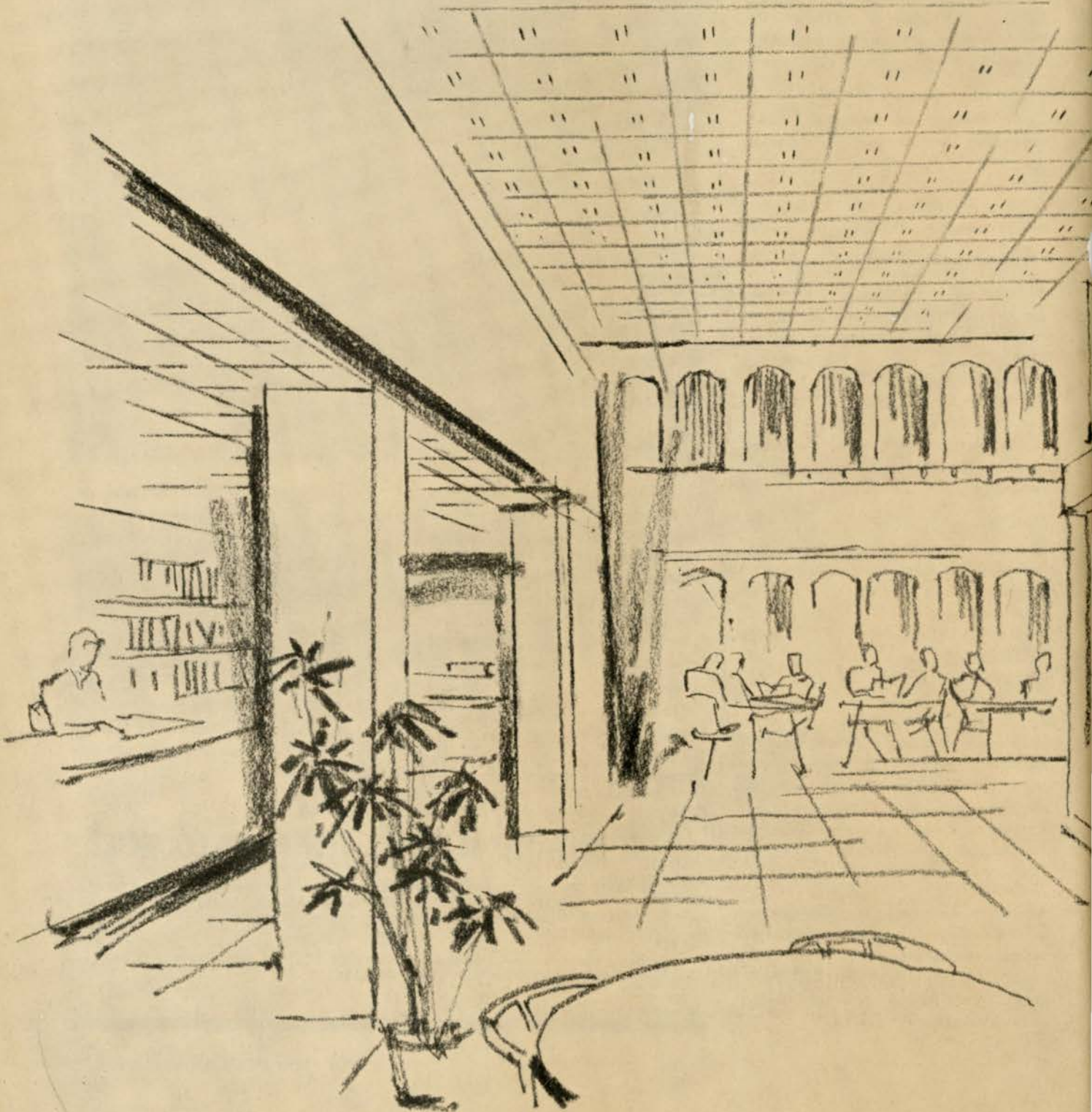
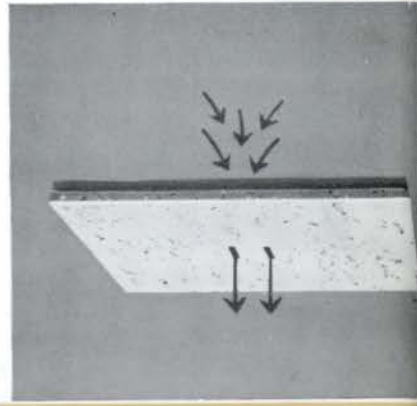
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—from season to season.

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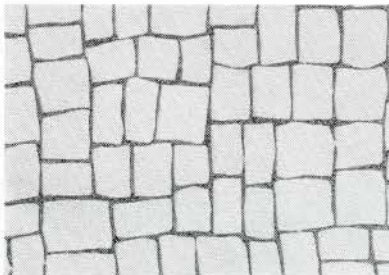
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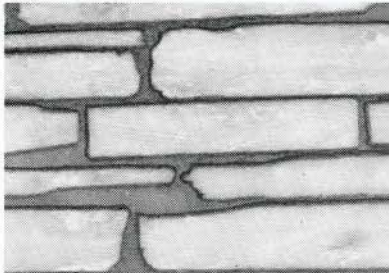
\*T.M. Reg. in Canada



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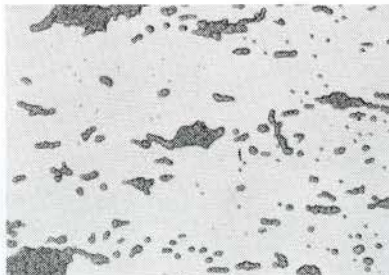
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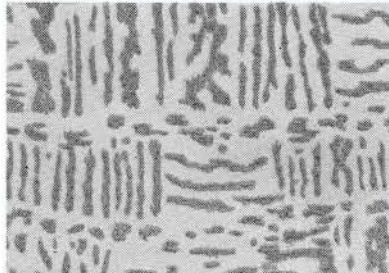
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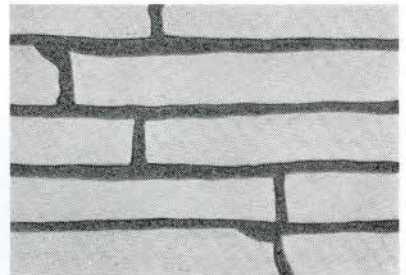
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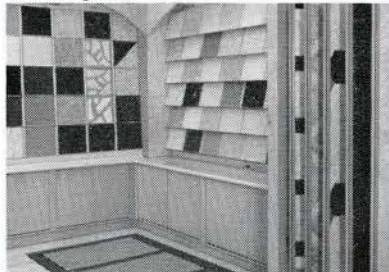
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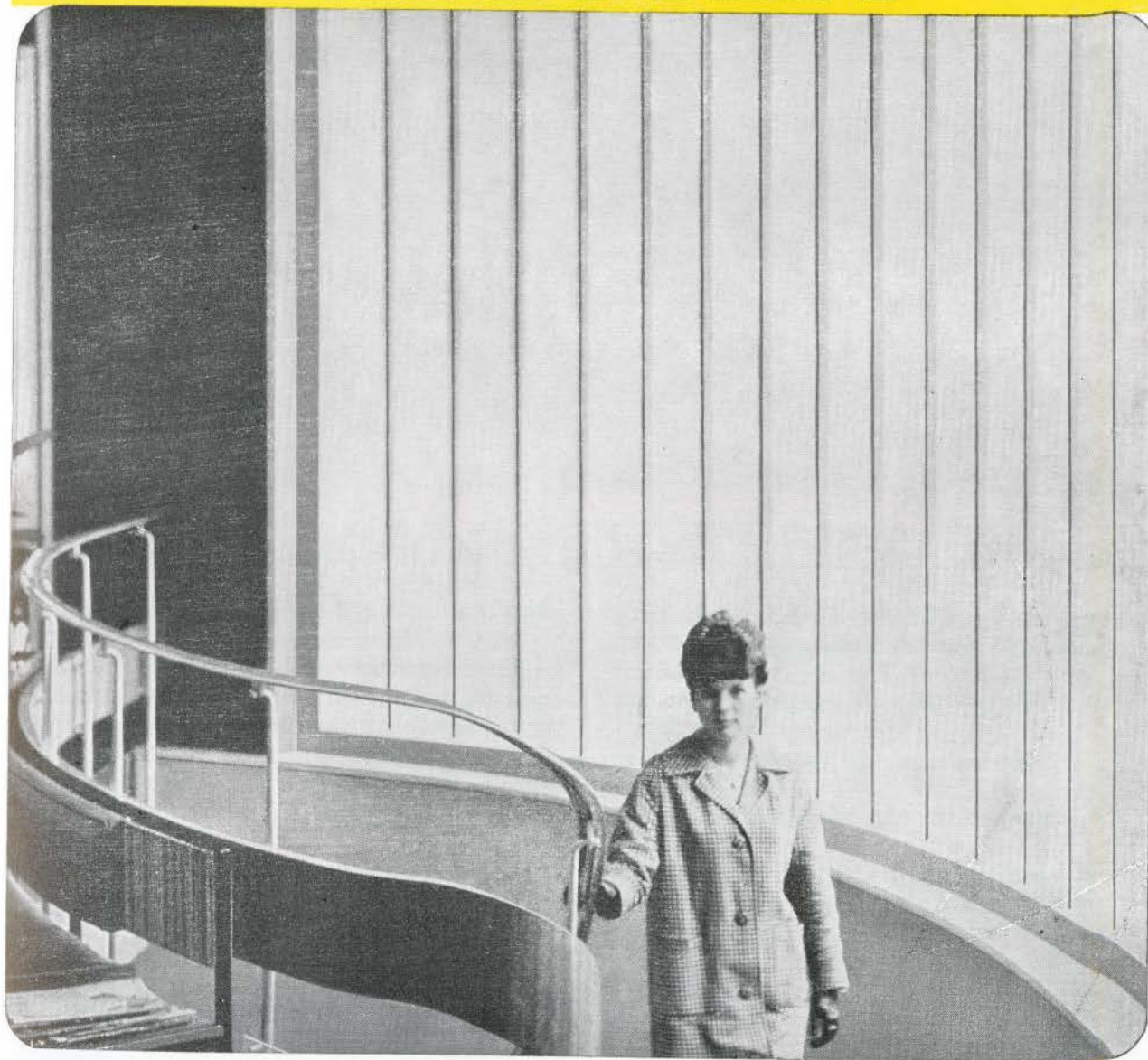
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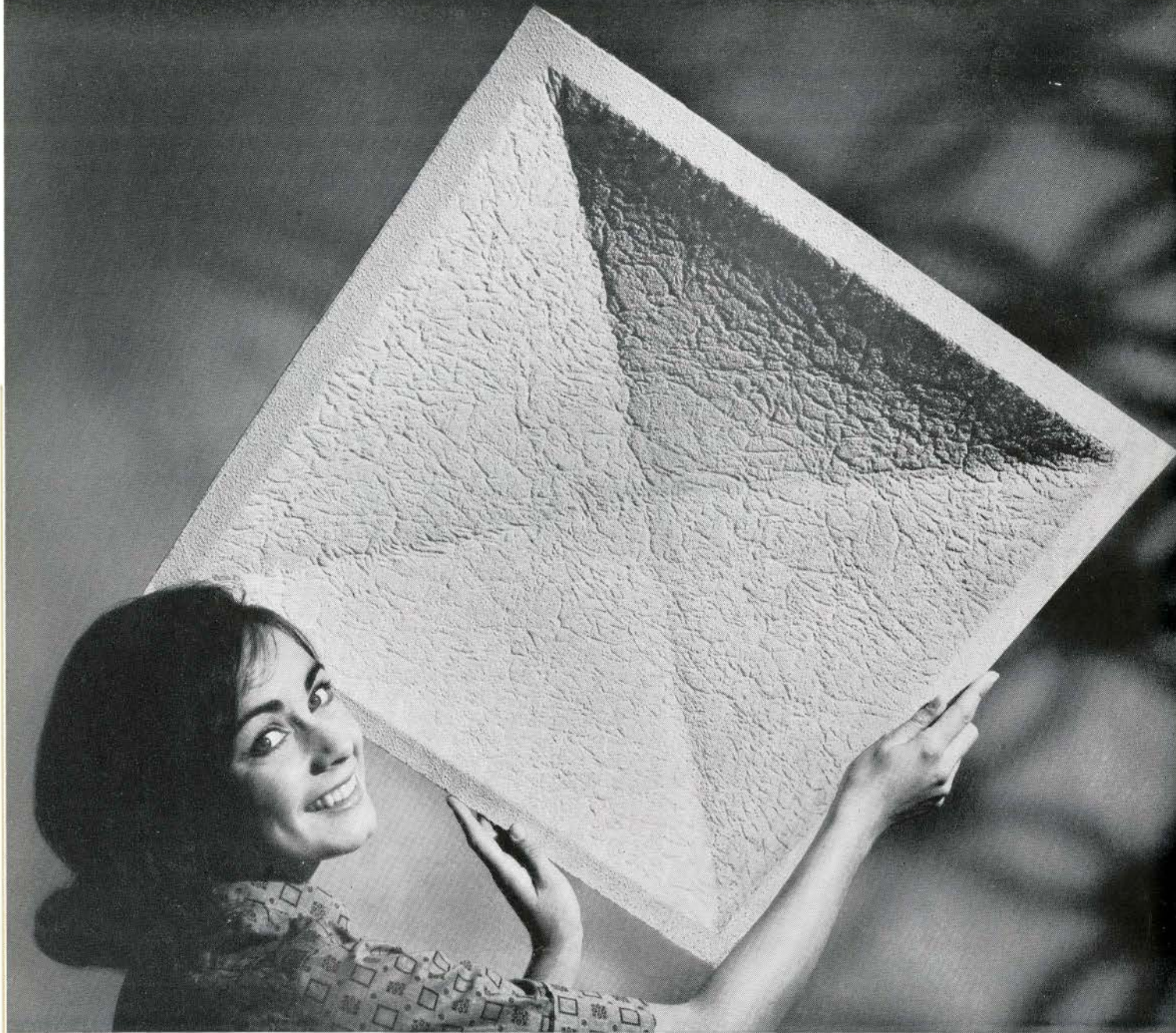
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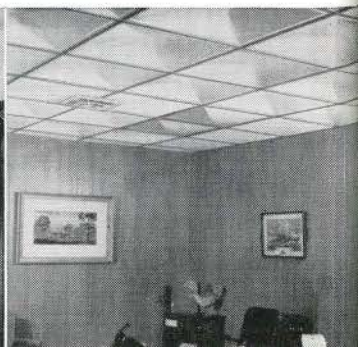
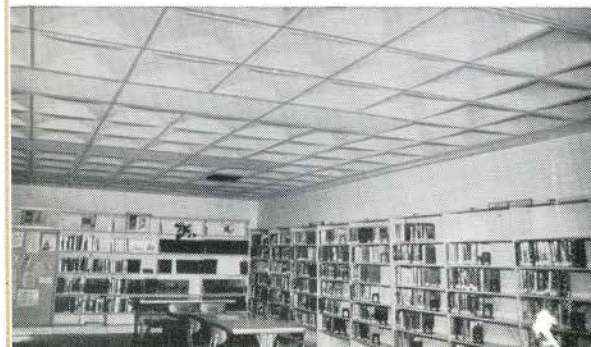


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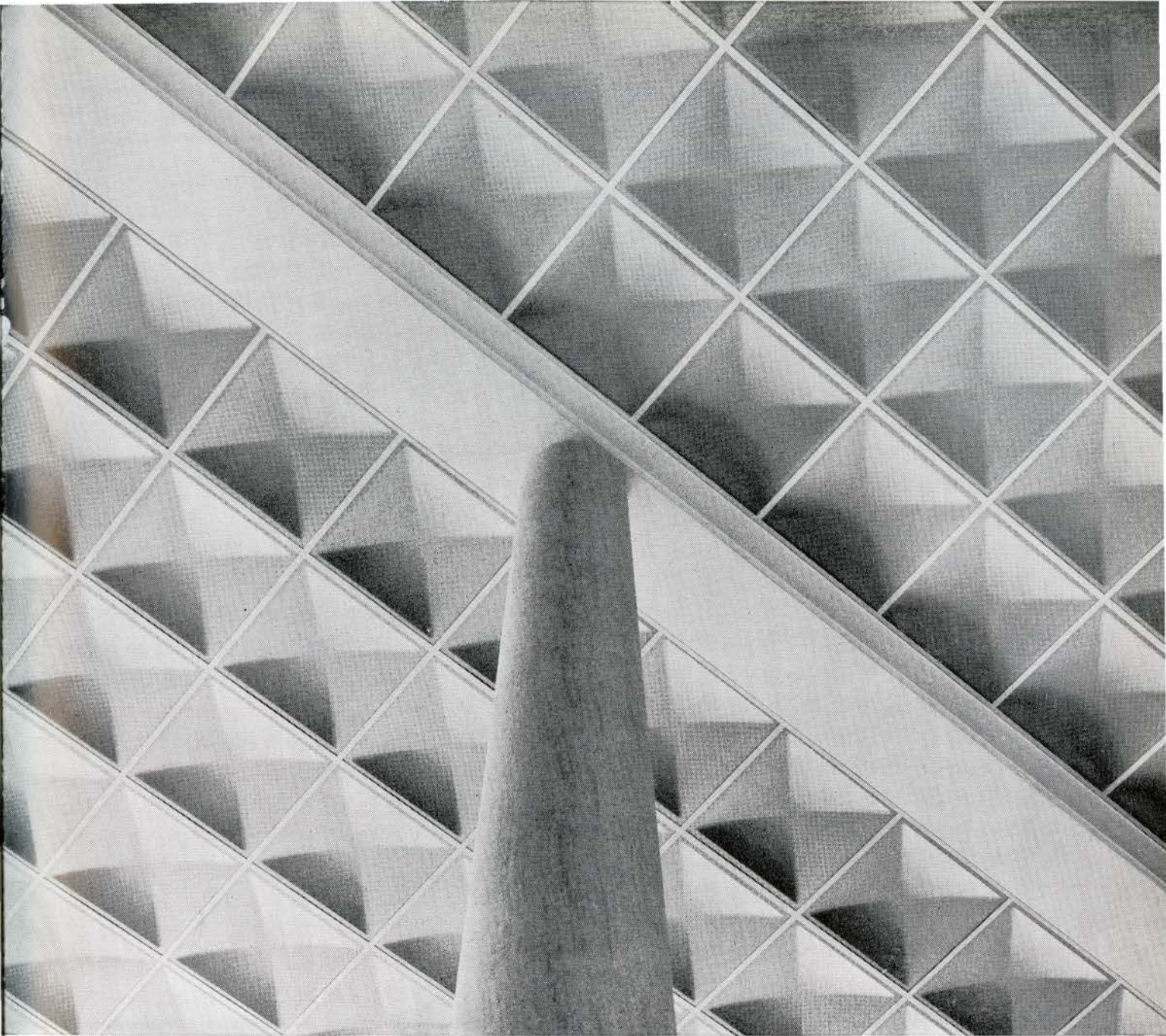
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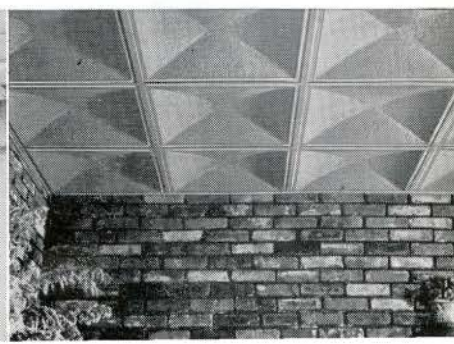


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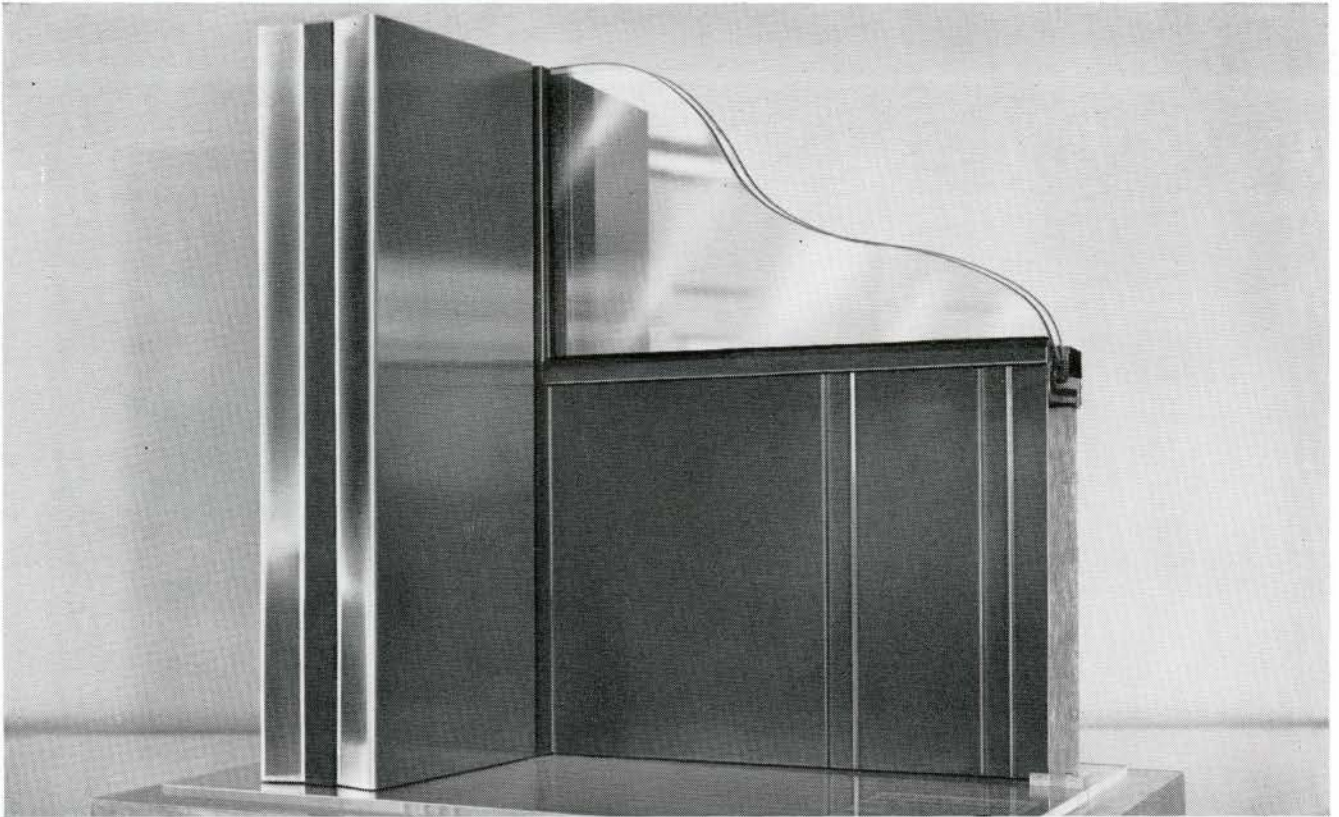
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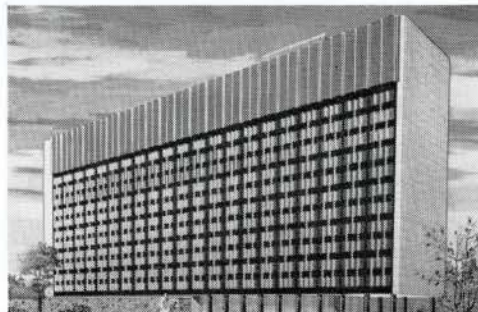
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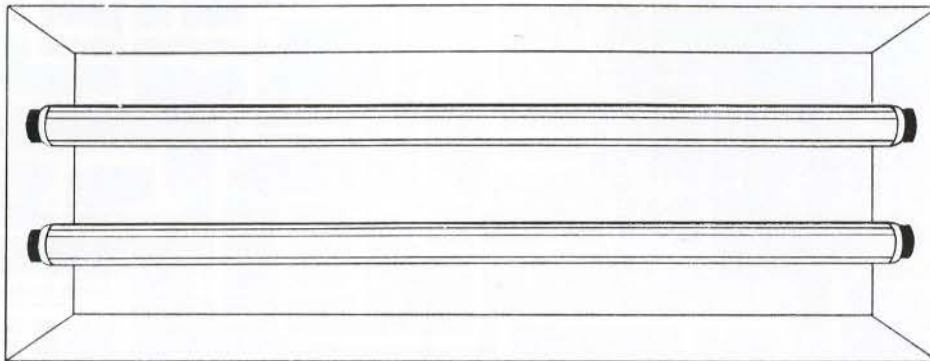
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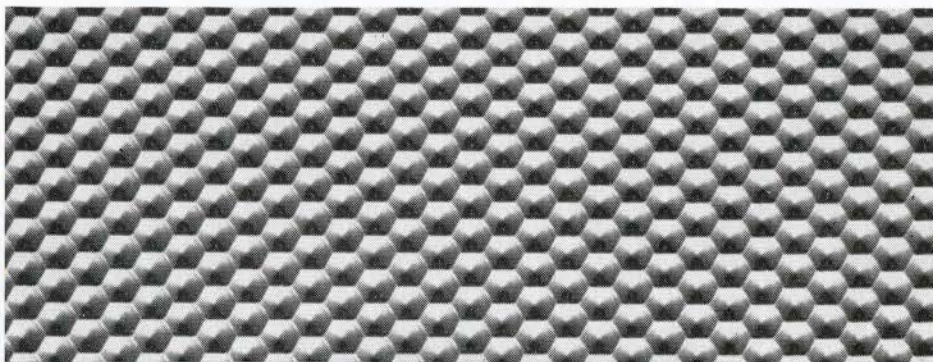
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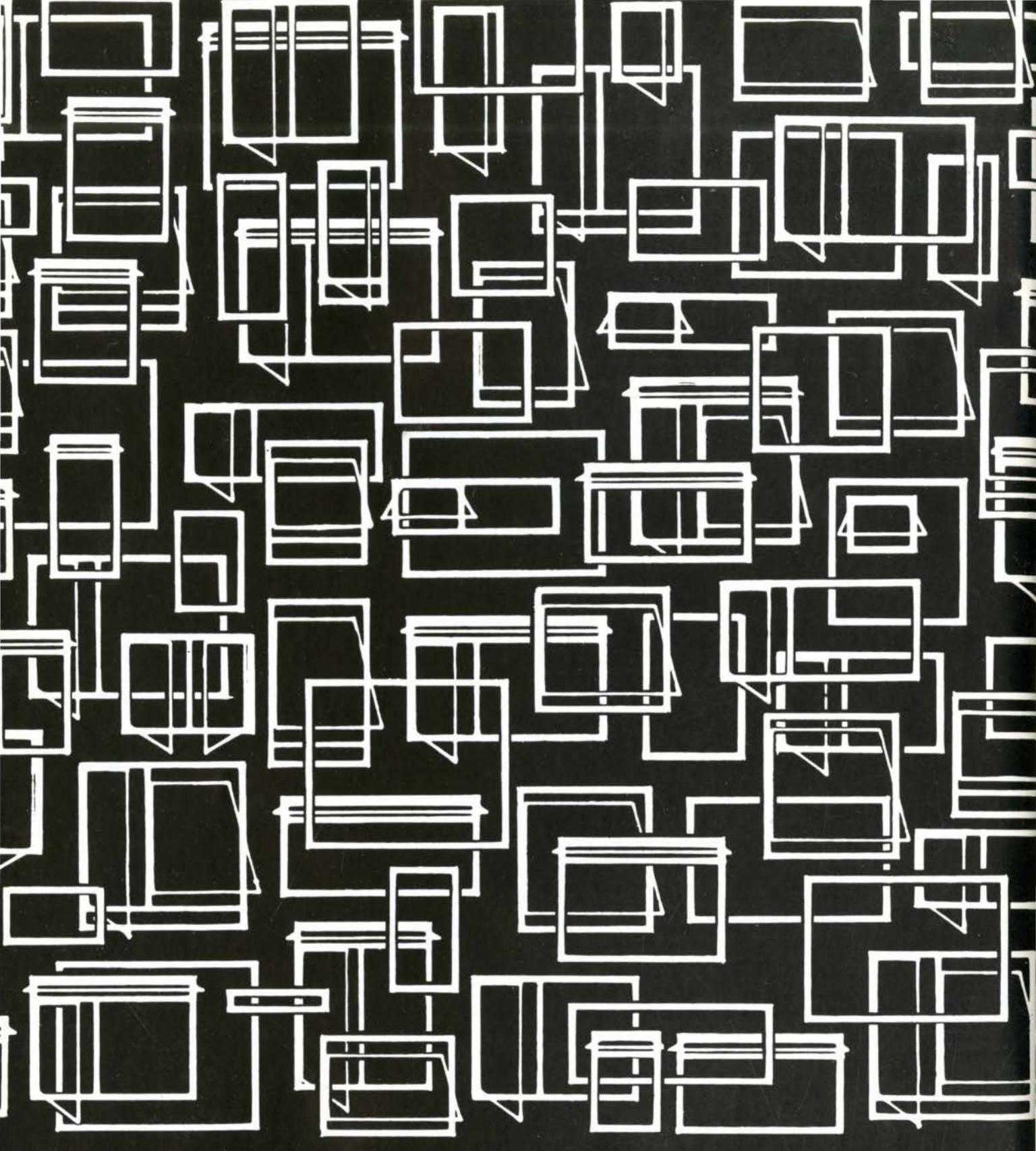
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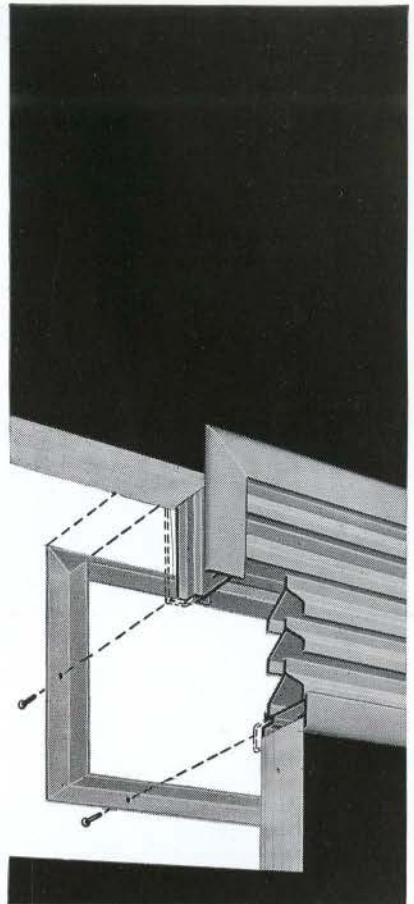
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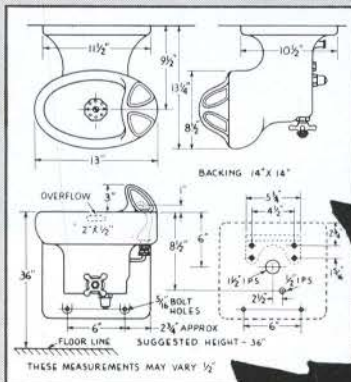
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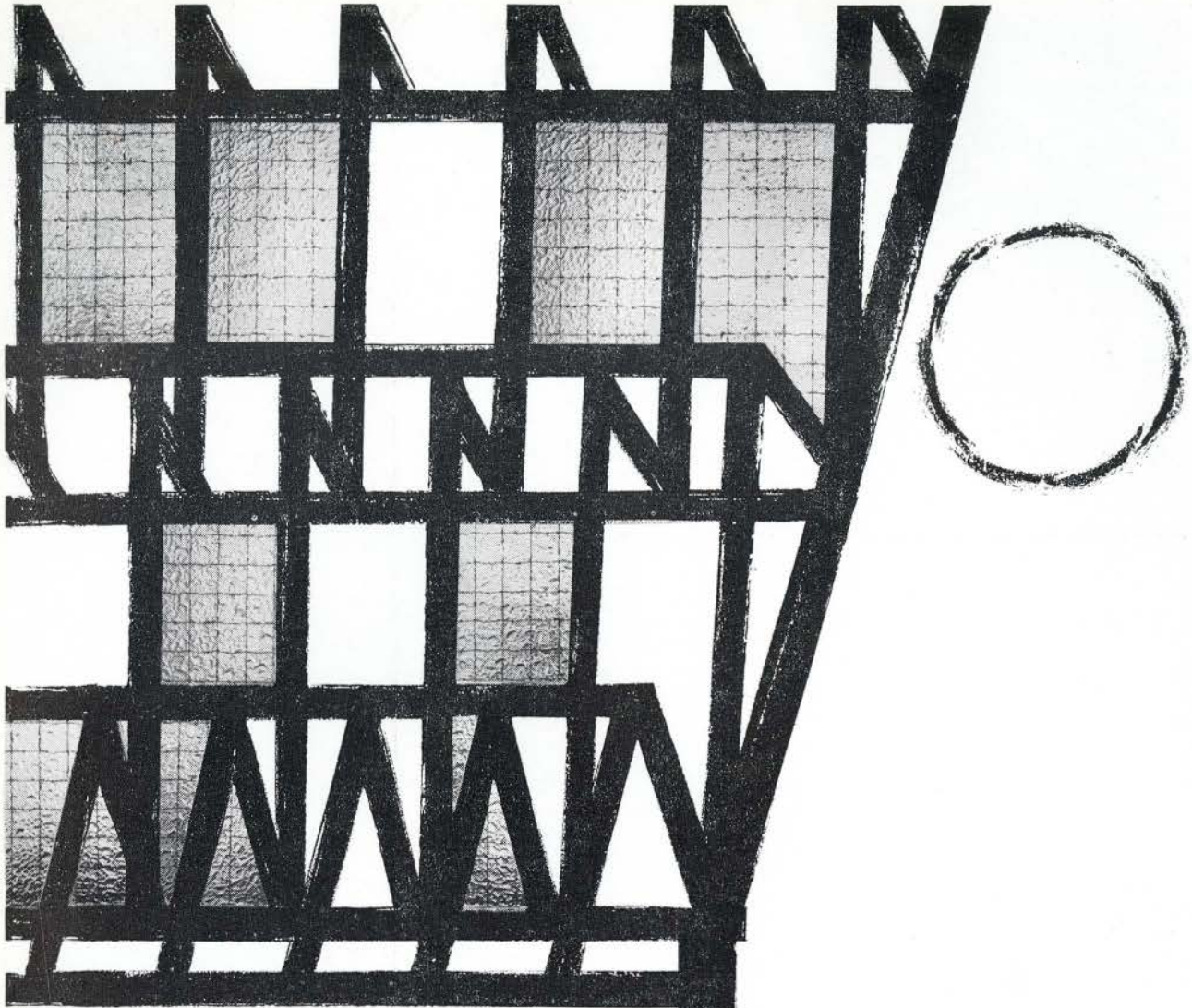
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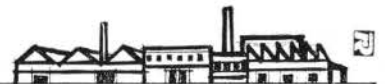
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