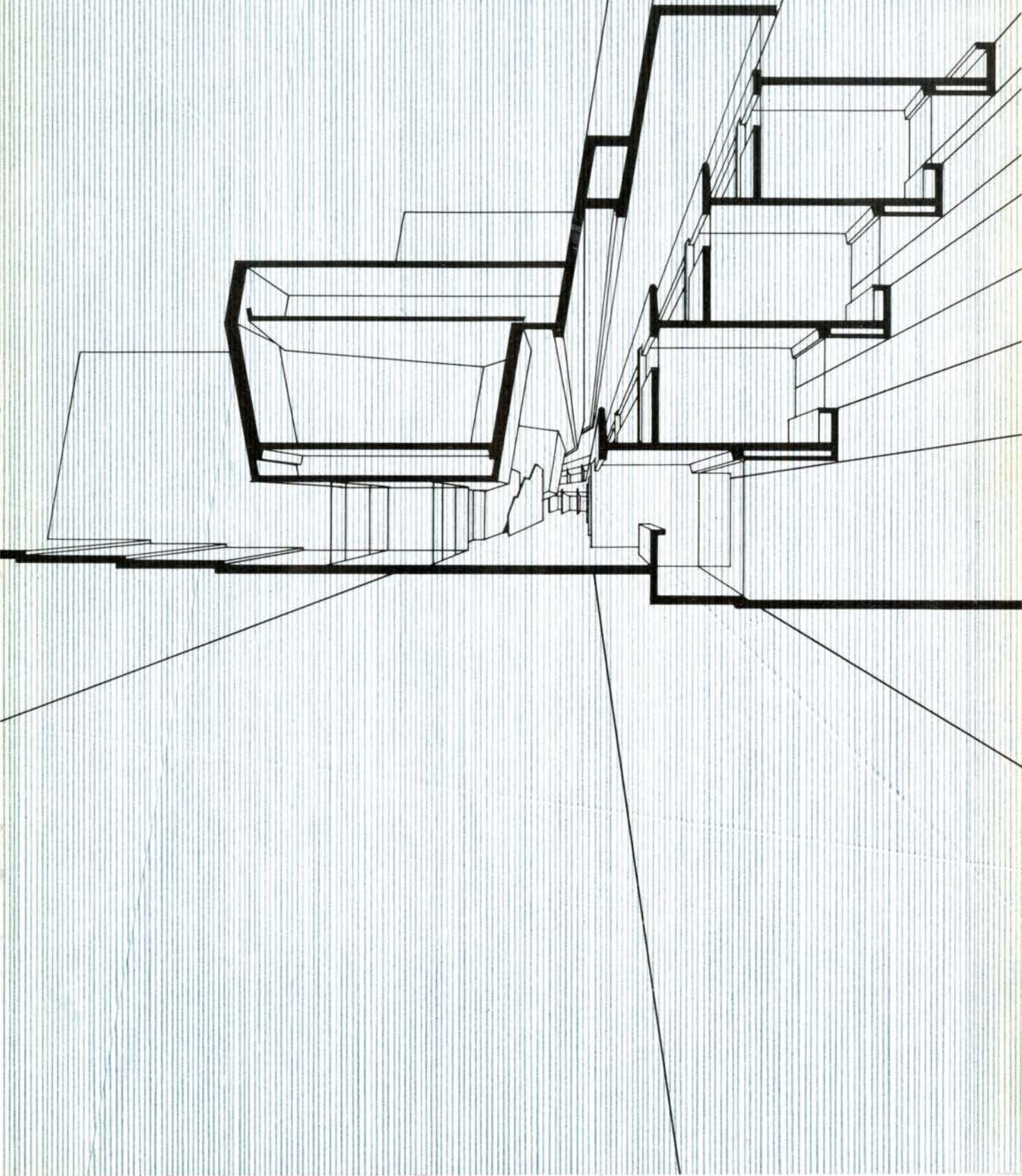


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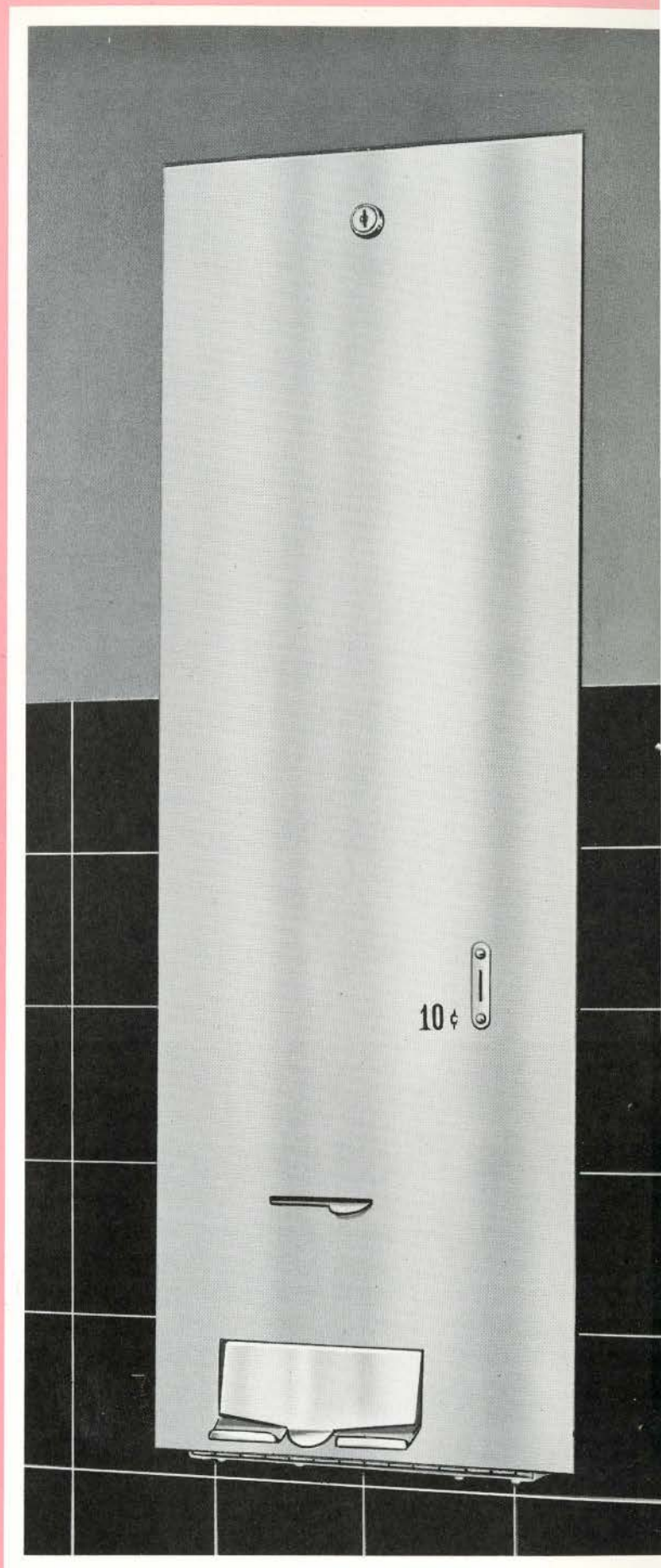
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# JOURNAL RAIC - L'IRAC

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## Cover

Shows a section through the humanities building in the new Scarborough College.

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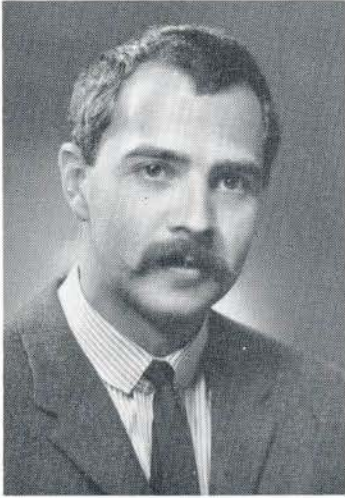
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# Institute News



## JEAN-GUY THÉORÊT

La médaille de bronze de l'Institut Royal accordée à l'étudiant qui s'est classé le premier à la fin de ses études d'architecture a été décernée cette année à M. Jean-Guy Théorêt est né à Montréal où il a fait ses études secondaires au Collège du Mont St-Louis. Il est maintenant stagiaire chez l'architecte et urbaniste André Blouin.

## SCHOOL ARCHITECTURE

Plans have been announced for a major exhibition of school architecture in Toronto, February 5 and 6, 1965.

The exhibition will be part of The Canadian Education Showplace, an event for school administrators. Educators from all provinces are expected to view the exhibition, the organization of which is being carried out by a committee of architects and educators. Architect members are F. J. K. Nicol, of the Ontario Department of Education (Chairman); Gordon S. Adamson, and Irving D. Boigon, both of Toronto. The RAIC has examined and approved the regulations governing the exhibition. All entries will be screened by Mr. Nicol's committee prior to the exhibition, which will be in the Queen Elizabeth Building in Toronto's Exhibition Park.

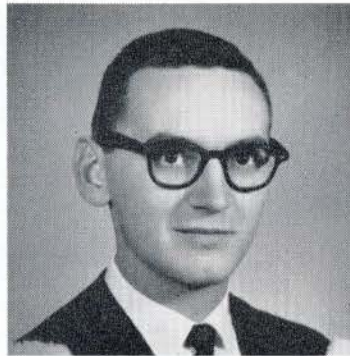
## THREE COMPETITIONS

The Canadian Housing Design Council is offering awards in two separate competitions. One for detached single family houses, the other for all forms of multiple housing. Judging will be in two stages: on a regional basis and by the Awards jury. Enquiries to: The Canadian Housing Design Council, Ottawa, Ont. Closing date: Sept. 12, 1964.

Pierre S. Guertin, 28, of Hull, Que., was pronounced the winner of the \$2,500 scholarship granted biennially by the College of Fellows of The Royal Architectural Institute of Canada. The announcement was made by Herbert H. G. Moody, Chancellor of the College, at the annual dinner of the Institute in St. Andrews, NB, on Saturday, June 20.

Mr. Guertin, a 1963 graduate of McGill University's School of Architecture, plans to use the scholarship for study in Paris during the coming year. He graduated from the University of Ottawa with his B.A. degree in 1958.

During his studies at McGill, Mr. Guertin was awarded a travelling scholarship in 1961-62 by Central Mortgage and Housing Corporation, and again in 1962-63. On graduation with honors in architecture, he was awarded the Hugh McLennan Memorial Travelling Scholarship, the Lieutenant-Governor's Gold



Medal for highest standing in the final year, and The Royal Architectural Institute of Canada Medal.

For the past year, Mr. Guertin has been a member of the town planning and architectural firm of Fiset and Deschamps in Quebec City.

## ERRATUM

The editors regret that through a misreading of the manuscript, an error occurred in Professor Shadbolt's article on the Cornwallis Centre redevelopment scheme for Halifax in the May Journal. The error appeared in the first sentence, third paragraph of page 49, and should have read: "Perhaps the *least* successful aspect of the scheme is the uphill side of it along Brunswick Street. (Not the *most* successful)."

According to a study by Hugo Brunt, stores of a similar nature tend to group together because competition is good for business. This 'togetherness' reaches a

peak in the juxtaposition of two large department stores in the Yorkdale Shopping Plaza in Toronto, and it can also be noted on the cover of our last RAIC issue. There, pink dots stand for supermarkets and it can be seen that few supermarkets live alone; they seem to require companionship as much as people do, and breed other supermarkets from this intimacy so that in time whole families of supermarkets inhabit the same shopping area.

The RAIC editors regret that insufficient mention was made in our last issue of Hugo Brunt's studies. It was on the base of these studies that the idea for the cover illustration was erected.

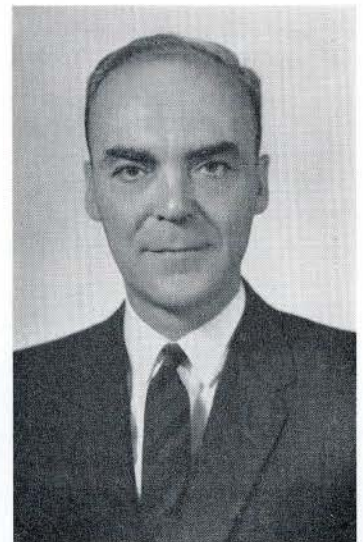
## NEW SECRETARY

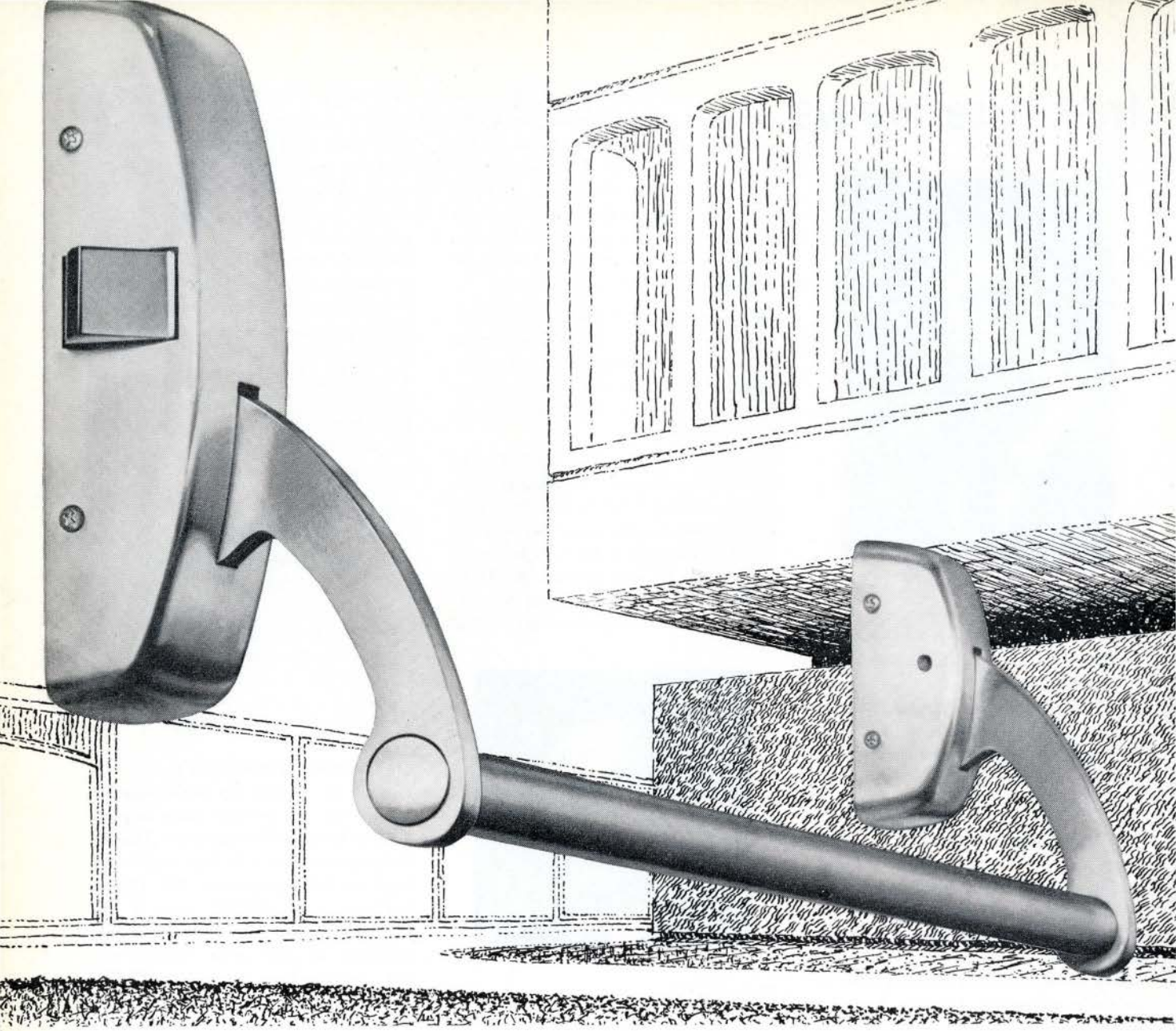
Harold Cole has left the position he held as Executive Secretary of the Manitoba Association of Architects. The new Executive Secretary is Mrs. Nora Jackman, who comes to the association from Manitoba Hydro. Mrs. Jackman is also recording secretary of the Association of Administrative Assistants or Private Secretaries, Winnipeg Branch.

## NEW CMHC PRESIDENT

Herbert W. Hignett has been named to succeed the late Stewart Bates as president of Central Mortgage and Housing Corporation, and is the first engineer to head this Crown company. Mr. Hignett has been with CMHC since it was formed and had been appointed vice-president last year on the retirement of P.S. Secord. Prior to joining CMHC Mr. Hignett lived in Winnipeg.

To succeed Mr. Hignett as vice-president the Prime Minister appointed Jean Lupin, executive director of CMHC since November, 1963.





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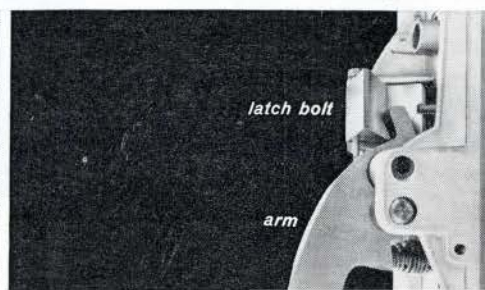
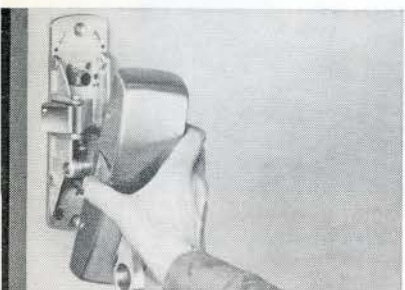
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**PRACTICE NOTES**

Mark / Musselman / McIntyre / Architects, of Brantford, announce the opening of a Toronto office at 51 Prince Arthur Avenue. Architect in charge of the Toronto office is Lawrence W. Combe, B.Arch., MRAIC. Tel. 925-7752.

Joseph Baker, BA (hons) Arch MRAIC announces the relocation of his practice at 1509 Sherbrooke Street West, Montreal 25. Tel: 937-9236.

W. J. Carter MRAIC, P Eng and W. A. Fraser MRAIC, ARIBA, ARIAS announce the formation of the firm of Carter-Fraser, architects (formerly Pennington and Carter). J. G. Hreno MRAIC is an associate. The firm is located at 302 Morris Building, Windsor, Ont. Tel: 256-1881.

Architect in private practice wishes to become associate with progressive architectural firm. Replies to Box 119.

Position vacant for graduate or registered architect in Hamilton, Ontario office, to assume responsibility for design and office management. There are excellent long term prospects for this permanent position. Applicants please apply Box Number 118.

**THE RAIC FOUNDATION**

A brief but highly significant event occurred during the recent Annual Assembly at St. Andrews, NB, when the charter meeting took place to establish The Royal Architectural Institute of Canada Foundation, on authority of the Secretary of State, Ottawa.

The significance of this Foundation is that it enables Fellows, Members and friends of the RAIC to make gifts and bequests on a tax-exempt basis toward the Institute's program of scholarships and research.

The Foundation's purpose is stated as follows:

"to hold, manage and administer the property of the Corporation for such charitable purposes as may seem expedient from time to time to the board of directors of the Corporation within the scope of the following more particular objects:

- (a) to provide bursaries, scholarships and fellowships to Canadian Architects or Canadian Architectural Students and Canadian Schools of Architecture;
- (b) to provide equipment or teaching aids for forwarding the education of such architects or students in architecture;
- (c) to promote and increase knowledge,

skill and proficiency in the profession of architecture in Canada and to assist in the establishment and maintenance of classes, schools, exhibitions or lectures in, and promote public appreciation of architecture and the allied arts and sciences, in Canada, and to assist in the construction or maintenance of buildings or parts of buildings in Canada to be used for the furtherance of these objects;

- (d) to solicit, acquire, accept or receive gifts, donations, bequests, or sub-

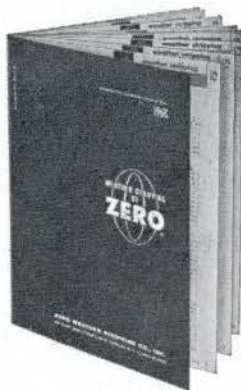
scriptions of money, or other real or personal property, whether they be unconditional or subject to special conditions consistent with the above objects;

- (e) to provide grants in aid of research by Canadians or to undertake research in Canada in the field of architecture and in allied arts and sciences."

The Chairman immediately acknowledged two generous cheques as gifts to the Foundation, from Messrs. R. C. Betts and L. E. Shore.

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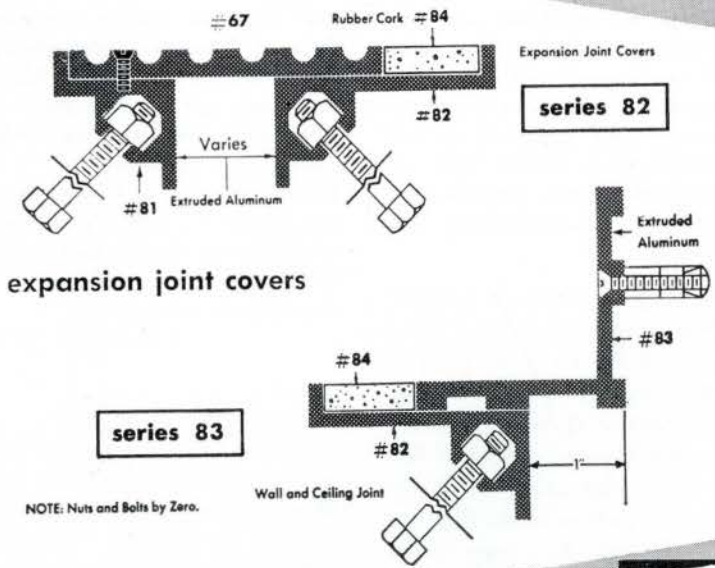
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## ROBERT SCHOFIELD MORRIS

With the death of 'Bill' Morris on June 5th, the profession of architecture in Canada has lost a stalwart member. With his partners he conducted a large practice; nevertheless he was never too busy to undertake work for his profession, as is witnessed by his unselfish service to his Provincial Association and to the Royal Architectural Institute of Canada, in both of which organizations he had served as president and with distinction.

Even at the time of his death he was an earnest member of a committee re-assessing the role of the architectural profession in Canada, a subject close to his heart, and for the solution of which he believed there were no short cuts to gaining and retaining the confidence of the public, that such could be done only by integrity and professional competence. His interest too in architectural education had been one of long standing and his thoughts on the matter were recently committed to paper in a document in which he outlined the problems of the profession and their relationship to such education. He subscribed fervently to the doctrine that "No professional man can evade the obligation to contribute to the advancement of his group. His own knowledge is part of a common fund, built up over the centuries, an inheritance which he freely shares, but to which he is obligated to add.

He was well aware of the change that is in the air in professional practice and suggested that the profession must face up to it as soon as possible. The problem as he saw it was one of adhering to the old relationship of client/architect/contractor, or such departure as was thought necessary to include other arrangements with our late twentieth century growths within the building and financial world.

Above all, he believed that the architect must remain a professional man in the highest sense of the word, one who was dedicated to service to society and above the commercial level of the market place. The two watch words of professionalism were, in his opinion, competence and integrity, and regardless of the direction in which the profession might move, these first principles must be maintained. He posed the question as to whether the schools should influence the profession or the profession should influence the schools and suggested that both of these were possibilities and that each must

assist and complement the other. Although engaged in a large practice with a large, diversified staff, he nonetheless recognized the role of the small office and was prepared to accept the principle of variety in architectural practice. In the case of both large and small offices, he was emphatic in his belief that the architect's role, to be successful, should encompass all the elements of service to which he has been traditionally committed.

In all his work, professional and personal, there was no pretense about him. One knew where one stood with him. The work of his firm could be described as conservative, based on sound traditional principles and those who disagreed with him or criticized him failed completely to deflect him.

He was one of only two Canadians ever to win the Gold Medal of the Royal Institute of British Architects, not only a great honor to him personally, but to his partners also and even, to some extent, to the whole profession in Canada. His committee work for the profession was a continuing process over the years. His services were always in demand because he operated on the principle that in proportion as one loved the truth, one would be anxious to know what made others think as they did. He seemed to suspect that the pertinacity of belief exhibited by them arose from their perception of something he had not perceived and so was able to supplement that portion of the truth discovered by him with the portion discovered by them. This unusual ability sprang from his uprightness of character, his wisdom in council and his firmness in action, all of which attributes won for him the confidence of his fellows.

It is as true today as it ever was that the true stature of a man is measured by his character and by that yard-stick Robert Schofield Morris loomed large.

He will be greatly missed.

*Forsey Page (F) Toronto*

## PETER LEITCH RULE

Peter Leitch Rule, 51, Calgary architect, formerly of Edmonton, died Saturday, May 2nd, of a heart attack while holidaying near Nelson, B.C. His funeral was held at Christ Church in Calgary.

Born and educated in Edmonton where he graduated as a gold medalist in architecture in 1939, Mr. Rule was a member of the firm of Rule, Wynn & Ruel Associates of Calgary and Edmonton. He became a partner in the firm following

graduation, leaving for several years during the Second World War to work in the field of munitions for the British and Canadian Governments.

In 1945 he opened the firm's Calgary office and headed operations there.

Mr. Rule was made a Fellow of the Institute in 1963. He was also a member of the Engineering Institute of Canada.

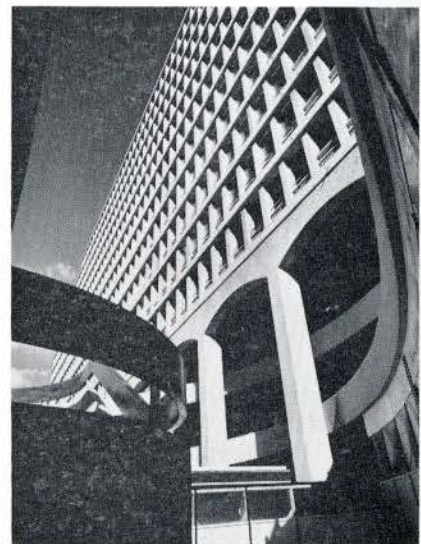
An ardent golfer and horse racing fan, Mr. Rule was a star at football and hockey during his youth. He was a long time director of the Stampede Football Club  
*George Wilord, Calgary*

## HARRY BARRATT

Harry Barratt, who died June 10th, at the age of sixty-six years was a graduate of the University of Manitoba and winner of the Gold Medal in his graduation year, 1924. Registered with the Institute December, 1957, he served as a member of the Examining Board for many years and was always most willing to coach architectural students. Acted as Secretary to the Vancouver Chapter in 1939, then served overseas in World War II. Was a great sailor and held membership in the Royal Vancouver Yacht Club for thirty-four years.

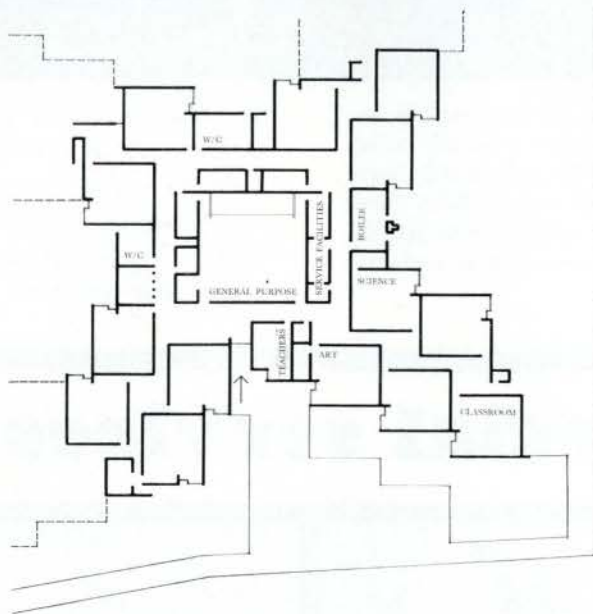
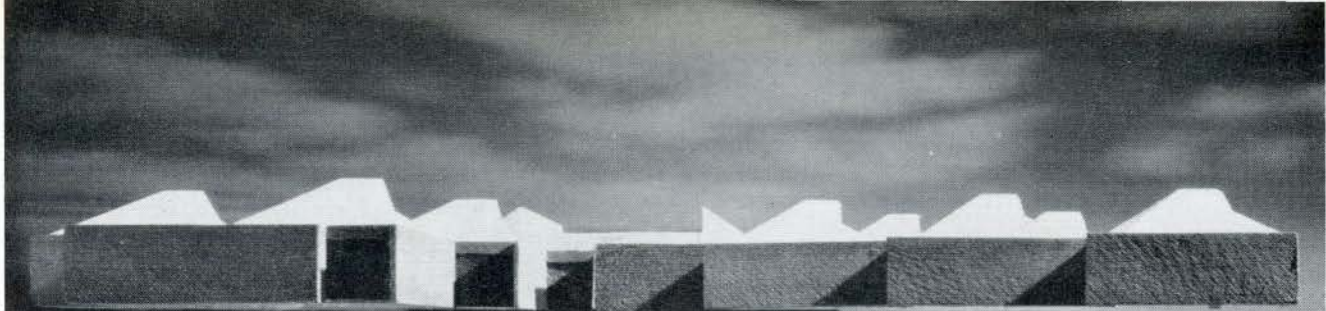
Over the years, he was associated with C. B. K. Van Norman, W. Knoppe and Percy Underwood. Also, Townley & Matheson and Thompson, Berwick, Pratt & Partners.

*Harold Cole, Winnipeg*



This picture of the Colonnade in Toronto won the award as Best Architectural Photograph for the Anso of Canada competition. Photographer was Hugh Robertson of Panda Associates. Judges were Toni Venti, of New York; Peter Croydon of Toronto and Roy Cattel, also of Toronto.



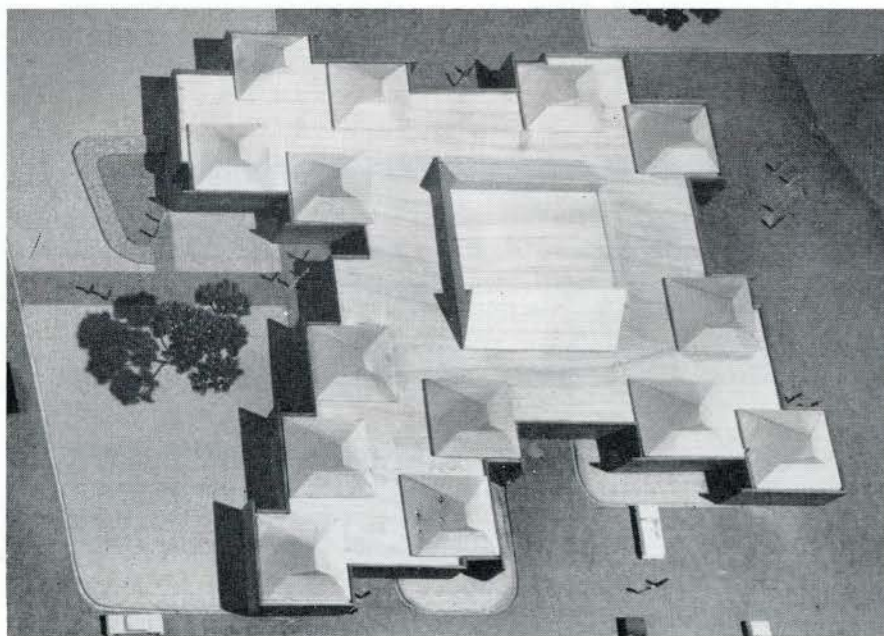
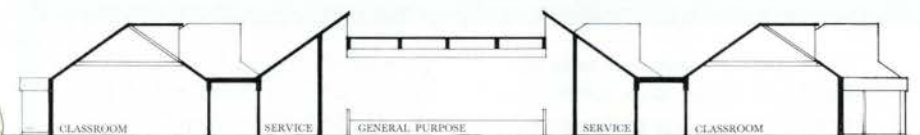
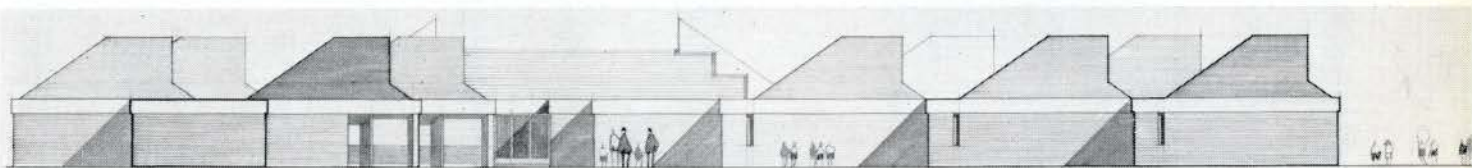


## Features

BELLMERE PUBLIC SCHOOL,  
SCARBOROUGH, ONTARIO

An important feature of this ten room school is that it is on a residential scale. Psychologists have found that children take considerable time to adjust from a home environment to an institutional, such as in some older schools. This school is like a cluster of modern suburban houses. The interior too is homelike; with no long passages down which a principal car peer. Instead, the short passages terminate in 'crush' spaces outside each classroom where the children can gather as necessary.

Classroom illumination is from north skylights set high under the gables, so that



space where the window would normally be is available for blackboards, and the children are not distracted by events outside. The one conventional window in each classroom is designed to be replaced by a door leading to a patio immediately outside each individual classroom where open-air instruction may some day be performed. The principal's office does not form the nucleus of the school, but is set to one side and instead a large general purpose room forms the centre. Quite a large 'crush' space has been left outside the principal's door, probably so that malefactors can line up six deep to be chastised—some things just don't change. Also, it will be possible to add classrooms one at a time rather than adding wings of six or ten.

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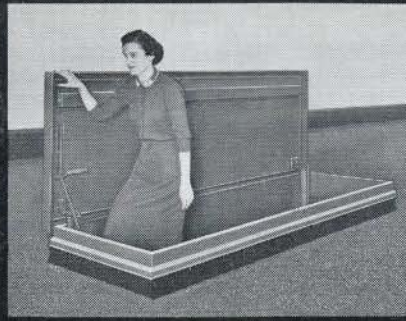
ELECTRICAL/ JACK CHISVIN AND ASSOC.

STRUCTURAL/ NORBERT SEETHALER

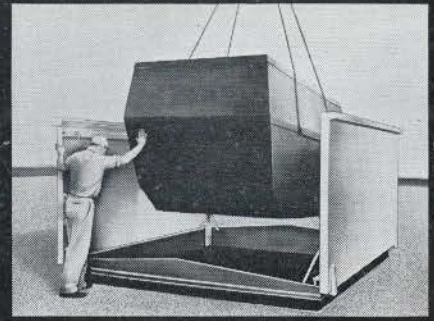
LANDSCAPE ARCHITECT/ MICHAEL HOUGH



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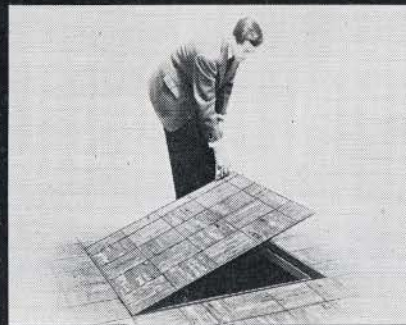


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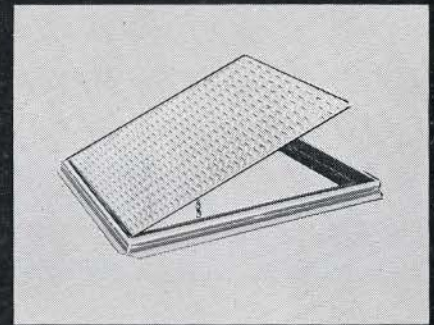
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The Type "T" door that matches the floor! Finest door made for access through floor area covered by composition tile. Made of *aluminum* with specially designed hinges and built-in torsion bars for easy operation.



Aluminum diamond pattern plate Type "K" floor door with all operating features of Type "T" door including concealed hinges, torsion bars, automatic locking at 90° opening and neoprene "quiet" cushion around frame.



The demands of today's architecture have brought about radical changes in the design and construction of doors for horizontal access. To serve the architect in his practical approach to access problems, the Bilco Company has pioneered the application of built-in springs for effortless operation and the use of new materials for lifelong, trouble-free service. Wherever horizontal access is required, a Bilco product will do the job better.



DOORS FOR SPECIAL SERVICES

THE BILCO COMPANY, DEPARTMENT

NEW HAVEN 5, CONNECTICUT

## TRAVELLING EXHIBITION OF HISTORIC ARCHITECTURE

This exhibition, organized by the Royal Architectural Institute of Canada in co-operation with the Department of Northern Affairs and National Resources, is a photographic inventory of historic buildings still in existence or of which we have a record.



The exhibition, which was opened by the Minister of Northern Affairs and National Resources, Hon Arthur Laing, on June 11, is the result of several years work by the RAIC Committee on the Preservation of Historic Building. Exhibition design was by Paul Arthur and Associates of Ottawa.

The show comprises 166 photographs mounted on 4' by 4' double-faced panels. The proposed itinerary is:

1964—June 12-August 16: The National Gallery of Canada, Ottawa. September 1-October 18: Fathers of Confederation Memorial Art Gallery, Charlottetown. October 28-November 11: New Brunswick Museum, Saint John. November 20-December 6: Alberta College of Art, Calgary. December 18-January 3: Brandon, Manitoba.

1965—January 15-January 31: Glenhurst Arts Council, Brantford. February 12-February 28: Art Gallery of Greater Victoria, Victoria, B.C. March 12-March 28: Willistead Art Gallery, Windsor. April 9-April 25: Agnes Etherington Gallery, Queen's Univ., Kingston. May 7-May 23: Saskatoon Art Centre.

In addition to the Minister, and the Director of the Gallery, Dr Charles Comfort, the gathering was addressed by the chairman of the RAIC Committee on the Preservation of Historic Building, Dr Eric Arthur (F), who expressed the hope that the committee would be assisted to continue its work. Dr Arthur said, in part:

What is shown in photograph and draw-

ing is the result of several years work by the Royal Architectural Institute's Committee on "The Preservation of Historic Buildings in Canada". The title is almost impossible to live up to, because the RAIC is in no position to preserve, but can only induce others to record old buildings by photograph, measured drawing and documentation. When a valu-

able old building seems in imminent danger of meeting the wrecker the RAIC writes letters, waits on owners with impressive deputations and endeavours to influence the press and radio.

If all these efforts seem on the point of failing, the RAIC influences the Minister of Northern Affairs through his Historic Sites and Monuments division to put a plaque on the building with appropriate pomp and ceremony.

This has not been a particularly fruitful approach, but the mere fact of the application gives adequate local publicity and creates an aura about the building that often proves irresistible.

It was three years ago that the RAIC recommended to the Historic Sites division that the Centenary of Confederation would be an appropriate occasion for the preparation of an inventory of our historic buildings—especially those that combined historical association with architectural merit. It found a ready ear in Mr. Jack Herbert with whom it has worked ever since. Since then the RAIC and the Division have been of mutual assistance in working out the machinery for such an undertaking as the inventory. A start has been made on the monumental task at Niagara-on-the-Lake, and this exhibition may be regarded as a small first step toward an overall inventory for all of Canada.

Concluding, Dr Arthur said: I speak for my Committee, and, I am sure, for the Council of the RAIC when I suggest that we could assist the Minister with his

inventory if we were to regard this exhibition as the first of a series. Successive exhibitions could make a valuable contribution if they were limited to the architecture of specific regions. Each has a character of its own, and each would bring home to the people of a region the importance of their heritage, and the urgent need to preserve it.

*The exhibition in Ottawa*

U.B.C.

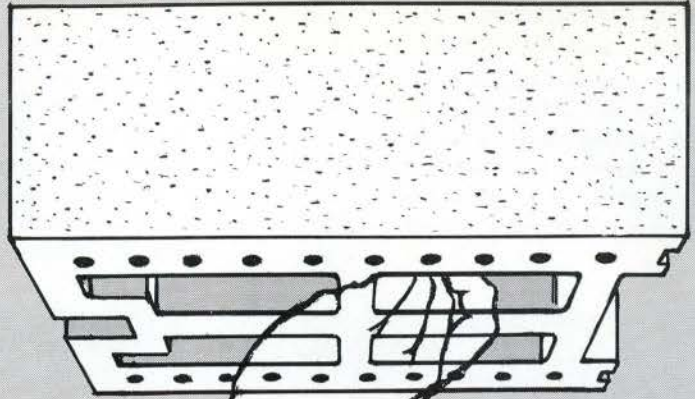
## STUDENT UNION BUILDING ARCHITECTURAL COMPETITION

The results of Stage 1 adjudication, for which seventy schemes were submitted, are announced as follows: *Four finalists to compete in Stage 2, each receiving a premium of \$2,500:* Kenneth R. Snider, Winnipeg; Ron J. Thom and John Andrews, Toronto; P. N. Thornton, Asbjorn Gathe and R. M. Garrett, Vancouver; Frank P. Tofin and Robert W. Baxter, Richmond, B.C.

*Two Honourable Mentions were awarded, each carrying a premium of \$500:* Peter Dobush, William Stewart and David Bourke, Montreal; Robert Erwin Osler, Toronto.

The competition was adjudicated by: Professor James A. Murray, Toronto; William W. Wurster, San Francisco, Cal.; Professor Henry Elder, Vancouver; Warren Kennedy, Vancouver (non-voting); Dean Feltham, Vancouver (non-voting). The Student Union Building, Theatre, Conference Centre and Religious Centre has been provisionally estimated at \$4.5 million. Seventy architects or firms of architects from all parts of Canada submitted sets of drawings. Nine weeks were allowed to competitors to produce their designs. The four finalists have not been placed in order of merit but are listed alphabetically. They will be given a briefing which takes into account the lessons learned in the first stage. The final result will be announced in the fall of 1964, date to be announced.

VELOUR-TEX  
INTERIOR FINISH

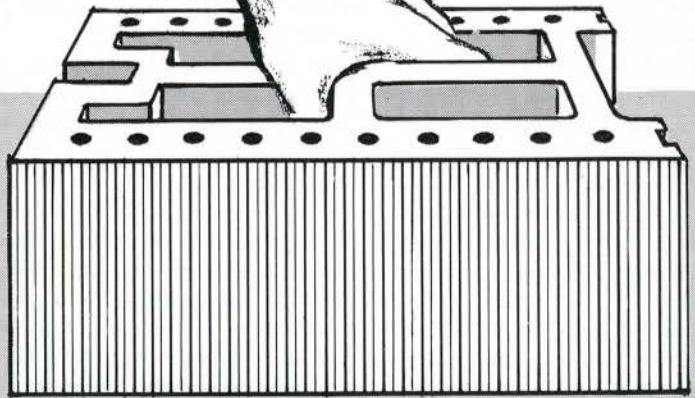
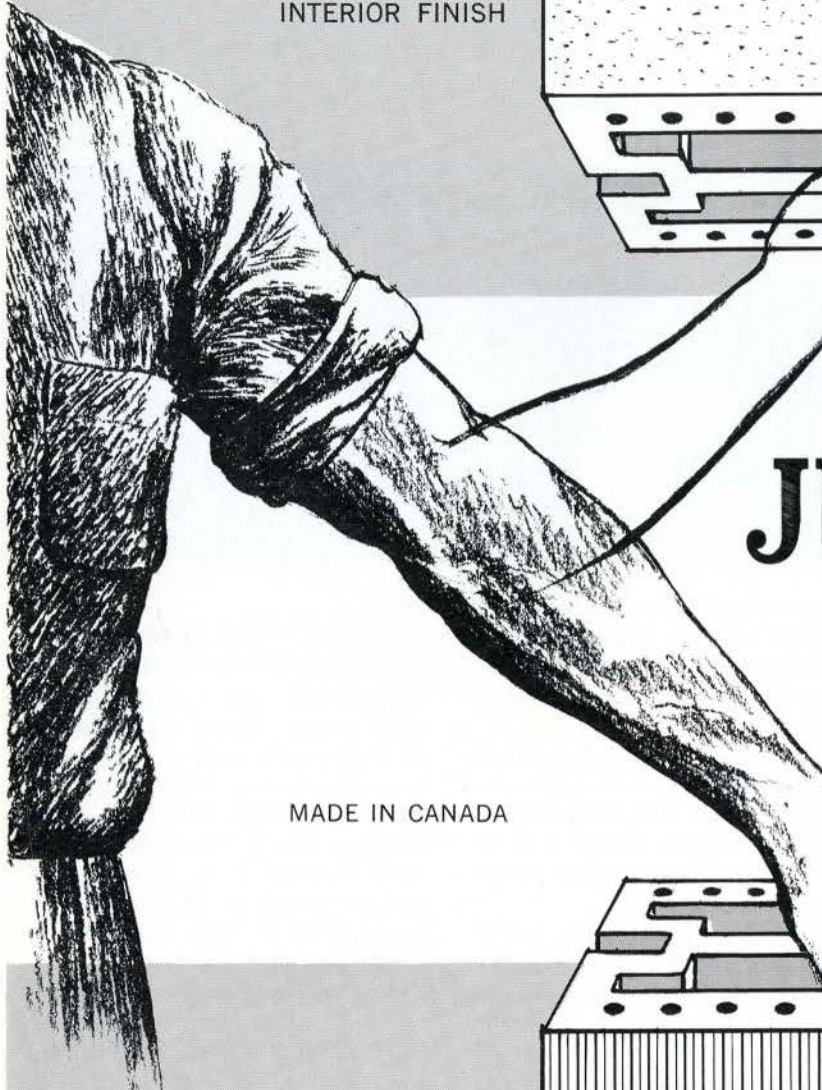


# NATCO JUMBO JR.

THE "DOUBLE-DUTY"  
LOAD BEARING  
STRUCTURAL CLAY TILE

FOR SINGLE WALL  
CONSTRUCTION

MADE IN CANADA



RUG-TEX  
EXTERIOR FINISH

Jumbo Jr. clay tiles provide architects and builders with a new look in masonry wall construction. Units come in a pleasing Terra Cotta shade and are designed to give superior quality in strength, durability and dimensional stability. Nominal face dimension  $5\frac{1}{2}'' \times 12''$ . Nominal wall thickness 2'', 4'', 6'', 8'', 10'', 12''.

THE COMPLETE LINE OF STRUCTURAL CLAY TILE

## NATCO·CLAY·PRODUCTS·LIMITED

Plant: Aldershot Sub P.O. Burlington, Ontario.

Offices: 55 Eglinton Ave. East, Toronto 12, Ontario.

# 1964 Product Literature Awards by CJC

In the third year of the Annual Awards Program, the Jury takes note of both the increasing number of entrants, up to 89 this year in all categories, and the rising quality of their submissions. From these factors alone, the Jury concludes that the Awards Program is continuing to have a salutary effect and therefore merits continued support and effort.

Entries were distributed as follows:

Class 1, Catalogues 31; Class 2, Brochures and Leaflets 33; Class 3, Installation and Maintenance Manuals 2; Class 4, Samples 6; Class 5, Publication Advertising 17. Total number of entries 89.

It should be noted that the two newest categories, Class 3, Installation and Maintenance Manuals, and Class 4, Samples, were just introduced this year and also had the fewest number of entries. In spite of this, the Jury concludes that this broadening of categories is worthwhile and should be continued. The Jury recommends that increased publicity and promotion be given to these categories to encourage further entrants for next year's program.

The results of the judging are summarized below:

	Awards	Honourable Mention
Class 1 — Catalogues	6	9
Class 2 — Brochures and Leaflets	9	12
Class 3 — Installation and Maintenance Manuals	—	—
Class 4 — Samples	2	1
Class 5 — Publication Advertising	6	2
	—	—
Total	23	24

A most successful presentation by Toronto members of the Jury of critiques of the winning entries, using color slides, was held on June 9th to give advertising, sales promotion, and graphics design personnel an opportunity to hear discussion and ask questions about desired qualities in building product literature. This Seminar was followed by the dinner sponsored by the Joint Committee for the winning entrants, at which time awards were presented by the Presidents of the three sponsoring organizations.

The Jury's comments on each entry will be sent directly to the individual or firm who submitted the entry. In assessing all entries, the Jury has continued to be guided by the Joint Committee's "Guide to the Preparation of Effective Product Literature". It is only in the category of "Publication Advertising" of a message or reminder type that the guide is perhaps less applicable. As stated before, although the quality of catalogues and brochures is steadily improving, the following observations and criticism could be made of numerous entries:

1. Excessively large two inch binder being used for insufficient data or material.
2. Non-standard size binders still being used (i.e. not 8½" x 11".)
3. Three-ring punching often omitted from brochures.

4. Very little reference to such standards as Canadian Government Specifications Board, Canadian Standards Association, and American Society for Testing Materials.
5. Much product literature exhibits over-design and excessive cost on unnecessary color work, especially when it does not improve readability.
6. Some criticism was levelled at excessive reduction of copy-size and excessive use of colored backgrounds that could make difficult office reproduction by photo copiers.
7. Omission of RAIC/AIA file numbers, publication dates, revision dates.

A general observation from this year's entries may be of interest to manufacturers and their product associations. In this "waste-paper age", far too much expense is being lavished on elaborate brochures of merely a promotional or reminder advertising nature, none of which are being retained for filing according to the architect and engineer members of the Jury.

In regard to next year's program, the Jury is of the opinion that some clarification of the brochures series, which are more of a promotional nature than product literature, should be made. This class of entry, strictly speaking, does not fall into the category of publication advertising nor does it always fall into the other class of brochures and leaflets. Another kind of entry that the Jury found some difficulty in classifying is that of reference manuals. The Jury recommends that the Committee consider some clarification in the category description for this 1965 program in these two general areas.

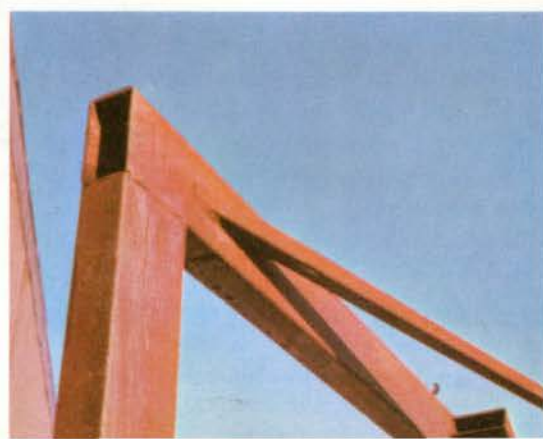
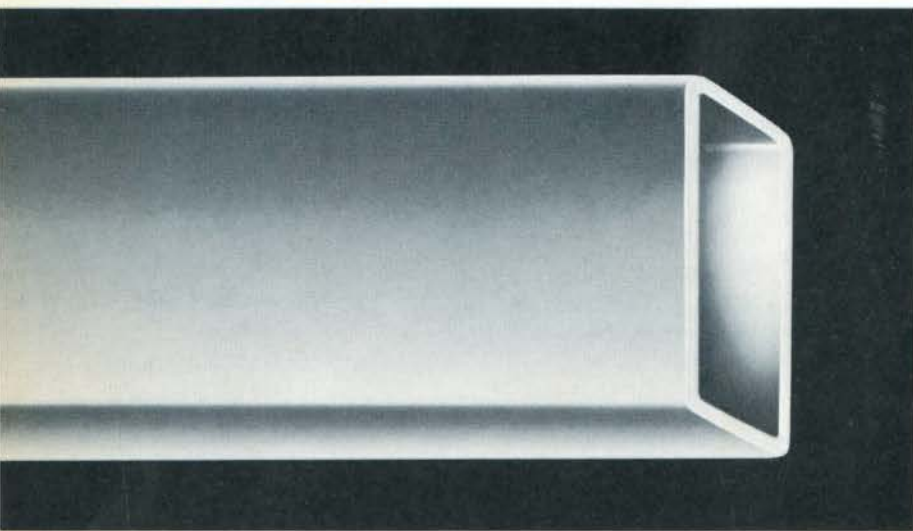
The Jury, on behalf of the Canadian Joint Committee on Construction Materials, acknowledges with thanks the support of all entrants to the '64 Awards Program and congratulates entrants and award winners alike for the excellence of their submissions. Again on behalf of the Joint Committee, your Chairman also wishes to acknowledge and thank all members of the Jury and Mr Walter Bowker, Editor of the RAIC Journal, whose good offices in arranging for receipt of entries, classifying them in the numerous arrangements concerning the judging contributed so much to this year's successful '64 Awards.

Respectfully submitted,

Gordon R. Arnott, MRAIC, Chairman.



Jury examines 90 entries in 1964 Awards for Excellence in Building Product Literature conducted by Canadian Joint Committee on Construction Materials. L. to r.: Professor Stanley R. Kent, MRAIC, School of Architecture, University of Toronto; Robert Halsall, MEIC, P. Eng., ACEC, Toronto; André Tessier, MRAIC, Québec City; Gordon R. Arnott, MRAIC, Chairman, Regina; W. A. Gibson, MRAIC, Assistant Chief Architect, Federal Department of Public Works, Ottawa; and A. McDonald Robertson, Heggie Advertising, Toronto Chapter Association of Industrial Advertisers.





*Think of the scope of steel...*



## Everywhere you look...uses for Hollow Structural Sections!

Everywhere you look there are examples of a new look . . . structural sections with a pleasing external appearance that blend with design when exposed.

Stelco Hollow Structural Sections have a higher strength-to-weight ratio, in both compression or torsion load-bearing applications, than conventional solid sections. The small width-to-thickness ratios and lack of unsupported edges preclude local buckling and allow full use to be made of the actual cross-sectional area. H.S. Sections support larger loads or can be used in longer unsupported lengths than solid sections. Square and rectangular shapes simplify fastening methods, and lend themselves to joints of neatly finished appearance.

Stelco manufactures Hollow Structural Sections on a mill which continuously forms and welds high carbon steel strip to a variety of round, square and rectangular sections conforming to A.S.T.M. Specification A-36.

For full details write for this brochure to Stelco's Advertising Department, Wilcox Street, Hamilton, Ontario.



**HOLLOW  
STRUCTURAL  
SECTIONS**



THE STEEL COMPANY OF CANADA, LIMITED Hamilton/Montreal  
A Canadian-owned company with sales offices across Canada,  
and representatives in principal overseas markets.



A dinner was given for the award winners by the Canadian Joint Committee on Construction Materials in Toronto on June 9th. Present were representatives of the three sponsoring bodies of the Joint Committee, with C. O. P. Klotz presiding as chairman. The presentation of certificates to the award winners was a duty shared by delegates from the Joint Committee's sponsoring organizations: Dr. F. Bruce Brown, President of the RAIC; Donald K. Jupp, President of the Canadian Construction Association; R. V. Anderson, a Director of the Association of Consulting Engineers, who represented the President of that association. The dinner was preceded by an exhibition of the award winning models and by a color slide-showing of their important features. Three members of the jury: Professor Stanley Kent, Robert Halsall and A. McDonald Robertson took turns delivering the comments of the Jury on the winning entries during the slide show. The slide show and reception following were sponsored by the Journal of the Royal Architectural Institute of Canada.

## AWARDS OF MERIT

### CLASS 1 CATALOGUES

(aa—advertising agency; d—graphic designer;  
c—consultant or editor)

Comments of the Jury in Italics

AMERICAN-STANDARD PRODUCTS (CANADA) LIMITED, "Engineered Products" (d—American-Standard Products (Canada) Ltd.) . . . . "Very well and conveniently organized technical catalogue with orderly arrangement of tables; catalogues are numbered but should also be dated; no RAIC/AIA file number on cover but topics included on spine is good feature; an extremely clean, well-organized presentation which is easy to read and use."

ARBORITE COMPANY—DIVISION OF DOTMAR CONSTRUCTION MATERIALS LTD., "Arborite Decorative Laminates" (d—Frost-Fernandez Associates, Ltd., Scarborough) . . . . "A good catalogue but the size of type selected is too small for adequate clarity; the combination of colors is not as good as the remainder of the graphic presentation; an RAIC/AIA file number should also be on the face of the catalogue; no index; perhaps "explanation" page is supposed to serve this purpose but it is not positive enough."

ATLAS STEELS COMPANY, Division of Rio Algom Mines Limited, "Stainless Steel", (d—Frost-Fernandez Associates Ltd.) . . . . "Cover noting product is good; new section, complete with index for Data Sheets, desirable; related data section appears to contain useful "construction" information; fold out pages are undesirable; finishes are described in words but illustrations or more samples would help; although glazing units described are stainless steel they do not belong in this binder and could be used as a separate folder; it is questionable if such a large binder or elaborate presentation is justified; design and use of color is good but it is felt that the section divider tabs have a tendency to "bury" the type-setting as the pages shift; might have been more functional if the type-setting had been on the outside edge."

MINNESOTA MINING AND MANUFACTURING OF CANADA LIMITED, "Adhesives, Sealants, Coatings", (d—Frost-Fernandez Associates Ltd., Scarborough) . . . . "An excellent production, well laid out with an interesting use of line drawings to illustrate product applications; pages are coded but undated; individual pages are overdesigned with excessive white spaces; size of binder excessive."

ROYALMETAL CORPORATION LIMITED, "Lounge Furniture"; "Decor Furniture"; "Factory Shelving & Seating", (aa—Stone & Hand Limited, Toronto), (d—Art Associates, Davenport, Ont.) . . . . "An elaborate catalogue with essential information clearly presented; should be punched for ring binder; photos not credited or identified; should have RAIC/AIA file number on front cover; good overall layout on all three presentations; excellent use of color photography to present product image."

J. A. WILSON LIGHTING LTD., "Lighting", (aa—Ronalds-Reynolds & Co.), (d—Ian Nicholl), (c—C. G. Shepherd, Shepherd Design Associates, Don Mills) . . . . "An attractive catalogue with good typography; price guide serves also as useful catalogue summary; sections of catalogue very good; no RAIC/AIA file number on cover; name alone on spine does not identify product; interesting and unusual use of embossing on cover should leave a physical recognition factor in the hands of the user."

### CLASS 2

#### Brochures and Leaflets

ALUMINUM COMPANY OF CANADA, LIMITED, "Aluminum Railings", (d—Frank Lipare, The Gazette Printing Company, Montreal) . . . . "Excellent technical data, illustrations and typography; index good; sources not too clearly set out; good functional use of color; varnished cover stock a good feature; no RAIC/AIA file number; should be punched for ring binder."

C/S CONSTRUCTION SPECIALTIES LIMITED, "Louvers in Extruded Aluminum", (aa—Thomas F. Clark Advertising, Summit, N.J.) (d—owner's staff) . . . . "Overall design clean and well executed; perhaps having white page numbers on the black thumb tabs might have increased legibility for quick reference; only one RAIC/AIA file number, in wrong place and too small; not punched for cataloguing; good use of color, drawings and details; specification notes, design data, fitments, colors and finishes very good."

CANADIAN ELECTRIC BOX & STAMPINGS LTD., "CEB Lighting", (d—Kingsley Owen, Puma Limited, Toronto), (c—Leonard Hurst, Puma Limited) . . . . "Excellent outline specifications; test data well illustrated but lacks qualification of authorized test agency; fits into a catalogue properly; should have second RAIC/AIA file number. Photograph has incomplete credit line. Color coding excellent."

CANADIAN ELECTRIC BOX & STAMPINGS LTD., "List Prices for Fluorescent Fixtures", (d—Kingsley Owen, Puma Limited) (c—Leonard Hurst, Puma Limited) . . . . "Good color coding and the short technical specifications are excellent in form but lack sufficient detail to be a full brochure; it is so complete it could easily be made into a full technical brochure; fits into a catalogue, most complete for the purpose; though it is realized the color combination is tied in with the other company literature it is felt that the green is just a little dark or the black numerals on the charts are a little small for good legibility; should have second RAIC/AIA file number."

CANADIAN INDUSTRIES LIMITED, "Darvic Rigid Polyvinyl Chloride Sheet", (aa—Southam Specialized Marketing Services), . . . . "Short, very good and complete; should have second RAIC/AIA file number; excellent use of color and typography; data short and clear; specifications and notes excellent; well laid out."

CHUBB-MOSLER AND TAYLOR SAFES LTD., "Stainless Steel Entrances", (d—Frost-Fernandez Associates, Ltd.) . . . . "Very good presentation of product and short specifications; excellent in technical respects; should be punched for ring binder; type size could be larger."

TERRAZZO, TILE & MARBLE ASSOCIATION OF CANADA, "Cost Comparison Guide, Floors", (d—Frost-Fernandez Associates Ltd.) . . . . "Excellent sliding scale format; best guide on the market; scope of comparison excellent; fits catalogue well; too many type faces; would be better confined to two, particularly the Roman italics in reverse black; left hand notes a bit disconcerting; should have date for reference to cost."

P. W. GARDINER & SON LIMITED, "Gardbond Doors" available in French and English, (d—Frost-Fernandez Associates, Scarborough) . . . . "Excellent specifications and notes; good use of color; excellent typography and illustrations; should have second RAIC/AIA file number; should be punched for cataloguing."

STEEL COMPANY OF CANADA, LIMITED, "Stelcoat & Colourbond Zinc Coated Steel Sheets", (d—J. Grant McCallum, Burlington) . . . . "More a reference manual than a brochure but very complete and well prepared; easy to read and use; contains much useful data which could be edited and grouped together for reference purposes; good choice of colors; alphabetical index would be better placed on first page."

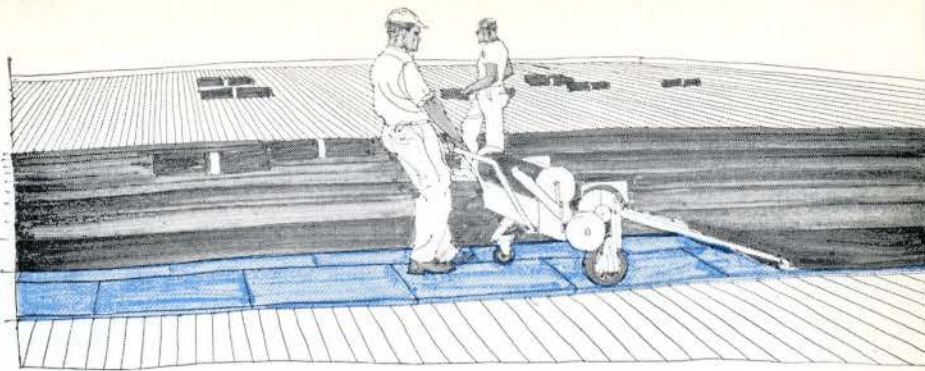


closed cell construction, is water-resistant and does not need vapour barriers. Since it is unaffected by water or water vapour, Roofmate FR maintains a permanently low "K" factor leading to lifetime insulating effectiveness. Furthermore, because it stays permanently dry, it eliminates a major cause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

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

#### The Coated Base Sheet System

In the final analysis, it is the complete compatibility of Roofmate FR with the Coated Base Sheet System which produces the permanence and superiority in the finished roof. They complement each other so



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

perfectly that the finished roof has literally no weakness. Yet the cost factor is competitive with present pricing structures.

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

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

#### Interesting Technical Data

The following interesting technical data on Roofmate FR, support these contentions.

- Because of its closed cell construction, Roofmate FR maintains a permanently low K factor of 0.23 (BTU/hr.-sq. ft.-°F)
- The excellent impact resistance is evidenced by the density of 2.5 lbs./cu. ft. average.
- A compressive strength of 30.0 psi. at 5% deflection.
- Water resistance properties show capillarity at zero, and

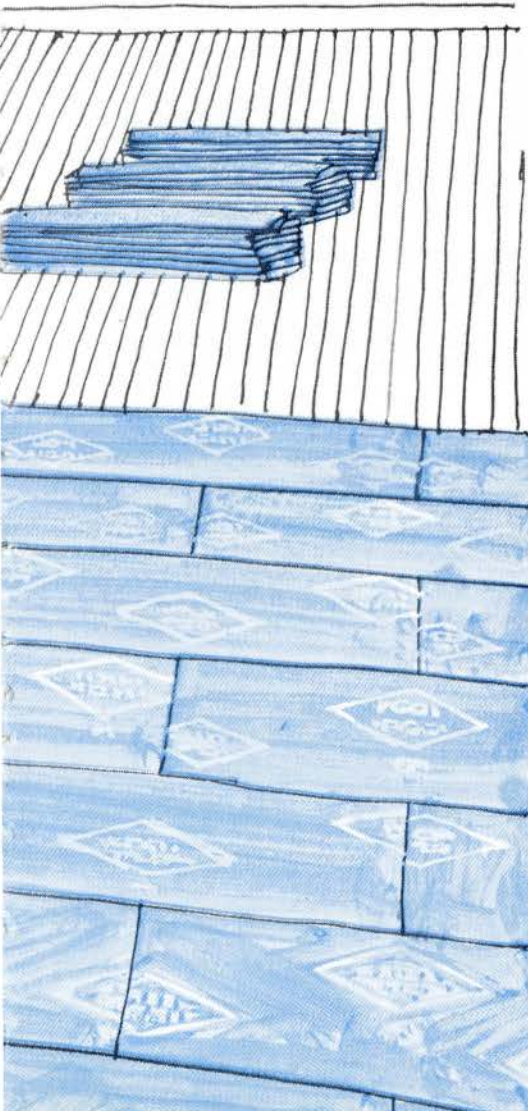
water vapour transmission (perms) at less than 1.0. • Roofmate FR can be bonded directly to *any* conventional poured concrete pre-cast panel, poured gypsum, wood or metal decks. • Product is conveniently taped in bundles of approximately 100 board feet weighing approximately 25 lbs. • The "C", "R", and "U" values of Roofmate FR are superior to those of conventional insulation. • Roofmate FR is made in Canada from Canadian raw materials.

#### Overall Advantages and Summary

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

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

**\*Registered Trademark**



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

## CLASS 4

### Samples

ABITIBI POWER & PAPER COMPANY LIMITED, "Ding, Ding, Ding", (aa—Cockfield, Brown & Company Limited), (d—O. K. Schenk) . . . . "Good sample presentation of a new product; inclusion of more data and a specification sheet would be helpful; a well thought out, attention-getting packaging presentation with a good display of the product; the label on the sample could have larger type for greater legibility; the toy is an intriguing tie-in to the end use of the product."

ARBORITE COMPANY, Division of DOMTAR Construction Materials Ltd., LaSalle, Que., "Decorative Laminate — Stick-on Samples" . . . . "An excellent presentation; the manufacturer has developed an extremely unique package and an excellent method of dealing with this type of product sample; the removable samples are an excellent feature; the re-order card is most helpful; perhaps the third to last re-order card could be of a separate color to "flash" the need for re-ordering re-order cards; the sample package has high utility value to architects and interior designers."

## CLASS 5

### Publication Advertising

ATLAS STEELS COMPANY, "Series", (aa—Ronalds-Reynolds & Company), (d—R. Amadeo) . . . . "In the opinion of the judges these are good advertisements — attention getting, with informative illustrations. These illustrations, along with the headings, force the reader to pursue into the text. This copy tells the story well. Particular note was paid to the clever manner of working the architect designer credits into the text."

BEER PRECAST CONCRETE LIMITED, "Series", (aa—Wm. Stapleton Advertising & Design, Don Mills), (d—Wolfgang Letzin) . . . . "In these advertisements good layout design has been used to portray comprehension of the product flexibility. The MO-SAI Precast Shadow Wall advertisement was judged the most effective of the group submitted. It was felt that these advertisements portrayed an excellent use of graphics."

CARRIER AIR CONDITIONING (CANADA) LIMITED, "Series", (aa—Ronalds-Reynolds & Company), d—Ronalds-Reynolds) . . . . "This series of advertisements was considered excellent. Each advertisement carrying a single direct message with strong product name registration. The judges liked the direction of the reader to the architect and the consulting engineer. It was noted that the design of this advertisement series made them applicable to many facets of industry influences, not only the professional reader."

DOMTAR CONSTRUCTION MATERIALS LTD., (aa—Goodis, Goldberg, Soren Limited, Toronto) . . . . "The complete judging panel was unanimous in their opinion that this is a top drawer example of how an ordinary every day product can be animated graphically to deliver a strong sales message. Well executed photography and brief, direct to the point copy, are the elements that made this series warrant an award." (Cooksville-LaPrairie Clay Brick.)

LCN CLOSERS OF CANADA LIMITED, "Series", (aa—Stone & Hand Limited, Port Credit), (d—Bomac) . . . . "In the judges' opinion this series of ads has made a very good use of photography. The application details were appreciated and form an integral part of the advertisement's attention-getting values in contrast to the photography. The judges did comment that perhaps the two elements might have been tied together better than through the use of the Benday Arrow. Perhaps the half-tone itself could have been used through extending to the left to serve more simply the purpose of the arrow."

LAKE ONTARIO PORTLAND CEMENT CO. LTD., "Series", (aa—James Lovick Limited, Toronto), (d—Allen K. Cupples) . . . . "In the judges' opinion this is a good series of advertisements selling a difficult product to advantage. Excellent use of product tie-in with trademark helps to gain reader attention. The series has good follow through from ad to ad to make its sales points. Its light-hearted touch is appealing in contrast to much of today's product advertising."

## HONOURABLE MENTION

### CLASS 1

#### Catalogues

ALUMINUM COMPANY OF CANADA, LIMITED, "Alcan Architectural Aluminum", (aa—Marketing Design Ltd., Montreal), (d—H. Kornberg, Montreal), (c—H. Kornberg) . . . . "A small collection of handsome and small brochures in an unnecessarily large binder; a two inch binder is unnecessary for twenty sheets; the presentation is a bit gaudy and the fold-out pages are awkward."

ANTHES STEEL PRODUCTS (1962) LIMITED, "Anthes All-spans", (d—C. F. A. Marketing Services, Hamilton), (c—Anthes Steel Products) . . . . "A good technical catalogue with clear and orderly tables; the graphic design lacks unity and the sketches are not of the same standard as other graphic work; the catalogue should carry the date of publication and be punched for binding in office manuals or with other catalogues."

ARCHITECTURAL WOODWORK INSTITUTE, "Quality Standards Illustrated", (e—Acme Sash & Door Company Ltd., Paul DuVal, President, Winnipeg.) . . . . "A good and useful technical woodworking manual which fills a real need; the typography and illustration, although clear are stodgy and could be improved."

BLUMCRAFT OF PITTSBURGH, "Aluminum and Wood Railings, Screens, Catalogue M-64" . . . . "A well printed catalogue with very good drawings; the information is a little too compact for general distribution and there is no guide to assist in selection; a simple index to the variety of designs would be desirable and a loose leaf format might be considered."

ENGINEERING PRODUCTS OF CANADA LIMITED, "Solar-pane & Solarstop", (d and c—Frost-Fernandez Associates Ltd., Scarborough) . . . . "The catalogue does not yet contain much material but their presentation of what is shown is good and an introduction letter says new products are being developed; a description of the company and its products would be useful; dimensions or scale should be added to the details and the inserts should be added. A tabbed divider would be useful."

MECHANICAL DRY WALL (EASTERN) LIMITED, "Architects Manual" (d and c—Frost-Fernandez Associates Ltd., Scarborough) . . . . "A most elegant binder, which gives the company prestige but takes up valuable shelf space as the material could be in a folder; there is no description of the company organization or its address; the pages are not dated so revisions cannot be contemplated; the information is clear and well presented."

PRATT & LAMBERT INC., "Architectural Specification Manual" . . . . "A good readable specification manual; plastic ring binding reduces bulk and facilitates handling but presents a problem when photocopies of a sheet are required; the layout and typography are stodgy and text-book like in appearance. Color would add interest to the pages."

SCARFE AND COMPANY LIMITED, "Maintenance Paints", (aa—Richard N. Melzer Advertising (Canada) Limited, Toronto) . . . . "The catalogue information is well indexed, complete, clear and simply presented; the graphics of the loose leaf pages could be improved and made uniform; color chip folders in pockets are an expedient but not a convenient way of getting them into the catalogue. Each loose leaf sheet should be dated and a RAIC/AIA file number shown; both sides of the pages could be used to reduce the bulk."

THE STEEL COMPANY OF CANADA, LIMITED, "Stelco Construction Materials Catalogue", (d—J. Grant McCallum, Burlington) . . . . "The general arrangement is excellent although the use of color and page layout is not outstanding; reliance on color and rules is not sufficient for good continuity; the pages should be dated and the sections tabbed; the information is complete and compact."

## CLASS 2

### Brochures and Leaflets

ALLIED CHEMICAL CANADA, LTD., "Barrett Building Materials", (c—R. E. Balfour, Supervisor, Sales Service Allied Chemical) . . . . "A complete and clear brochure with technical data and sources well set out; the typography is 'jumpy' and the use of color could be improved upon; the second RAIC/AIA file number is missing."

BEER PRECAST CONCRETE LIMITED, "Architectural and Structural Prestressed Concrete", (aa—Wm. Stapleton, Don Mills) . . . . "A promotional or reminder brochure which carries the message very well for the product; excellent photos and use of color; a credit to the structural engineers on projects illustrated would be desirable."

BELCANA GLASS LIMITED, "Enamelled Glass" (aa—Publicity Dept., Glaverbel, Belgium), (d—Glaverbel), . . . . "The data and use of color is good but the specifications could be better; RAIC/AIA file numbers should be shown and credit should be given to the architects and engineers on projects illustrated; the folder should be punched for a three ring binder."

C/S CONSTRUCTION SPECIALTIES LTD., "Refacing Systems" (aa—Thomas F. Clark Advertising, Summit, N.J.), (d—owner's staff) . . . . "An attractive brochure with excellent use of color. The specification data is inadequate and the details too small. The RAIC/AIA file number should be larger and the brochure punched for binding in a catalogue."

# Rubberline

changeable letter signs



## OUTLAST FELT

For eye-catching directories and bulletins to keep visitors on the track, use new Rubberline. Only Rubberline boards have a unique, horizontally-grooved rubber molding with a neat satin surface. Adjust a precision-formed, plastic letters with a single dovetail tab, snap-in, stay firm, align automatically, yet are easily adjusted for fast composition. Rubberline comes in five attractive colors and two types — indoor and outdoor. Rubberline outlasts felt boards and costs no more. Eight sizes of handsome letters from 3/8" to 2 1/4" are available. Large or small, there's a Rubberline sign to suit your needs.

Rubberline is available from leading office, hardware and building materials suppliers; sign and stamp & stencil companies.



## SUPERSIGN COMPANY LIMITED

3008 DANFORTH AVENUE, TORONTO 13, ONTARIO. Telephone: OX. 9-7171

"Makers of Di-sign die-raised aluminum signs"



Maritime Telegraph & Telephone Co., Ltd., Halifax, N.S.

SPECIFY

ATLAS ASBESTOS Turnall

"Turnall"-WALL

Trafford Tile



"Turnall"-WALL has been designed to provide moderately priced dry wall construction for Industrial and Commercial buildings. "Turnall"-WALL comprises a selection of time-proven "Turnall" asbestos-cement Building Materials — an air space and a core of continuous rigid insulation material. Write for Catalogue.

Corrugated Board (4" pitch)



ATLAS ASBESTOS

COMPANY

Division of Bell Asbestos Mines, Ltd.

MONTREAL  
TORONTO  
EDMONTON  
VANCOUVER

M-12

C/S CONSTRUCTION SPECIALTIES LTD., "Octalinear Grilles — Sun Controls — Decorative Screens — Refacings", (aa—Thomas F. Clark, Summit, N.J.), (d—owner's staff) . . . "Excellent photographs and use of color; installation details could be improved; the RAIC/AIA file number should be shown and the brochure punched for three ring binder."

FRANKI OF CANADA LIMITED, "Set of Leaflets" (aa—Industrial Advertising Agency Ltd., Montreal), (d—Upton Co. Ltd., Montreal) . . . "This entry has the appearance of technical publication advertising or data sheets but they are complete and carry the messages of cased installations very well. The typography could be improved; too many type faces have been used."

P. W. GARDINER & SON LIMITED, "Diamond Jubilee Doors", (d and c—Frost-Fernandez Associates Ltd., Scarborough) . . . This entry is part of a larger brochure and should be punched for ring binder; the illustrations and use of color are good and the technical data excellent. The publication of a French edition is commended."

MAPLE LEAF CERAMICS OF CANADA LIMITED, "Brochure" (aa—Jean Le Siege et Associates Inc., Montreal), (d—Arnott, Rogers, Batten Ltd., Montreal), (c—Alliance Press Limited, Montreal), . . . "Although a little crowded this is a useful brochure; the bilingual format and use of color are very good; specification data should be added and the RAIC/AIA file numbers placed in the correct position."

ONTARIO HYDRO, "Electric Heating", (d—Southam Printing Co., Toronto), (c—Betty Amos, Editor—Ontario Hydro) . . . "The mounted presentation does not conform to submission requirements; the entry is really not a product brochure but technical case studies of Electric Heating installations; the folder should have the second RAIC/AIA file number and be punched for cataloguing."

E. L. SAUNDER LUMBER CO. LIMITED, "Elswood Exotic Plywood", (aa—Foster Advertising Limited, Vancouver), (d—J. H. Thorp, Vancouver) . . . "A good descriptive brochure although technical data is incomplete; since estimated prices are given, all the dates should be included; the size should be 8 1/2 x 11 for proper filing and the brochure should be punched for binding."

SIKA CHEMICAL CORPORATION, "Colmac Protective Coating", (aa—Lang-Lawrence Agency, Morristown, N.J.), (d—Wm. H. Lawrence, Morristown, N.J.) . . . "A good brochure with good test data and use of color; a suggested specification would be helpful and pages one and two could be condensed to eliminate an awkward fold out."

THE STEEL COMPANY OF CANADA, LIMITED, "Hollow Structural Tubing", (d—J. Grant McCallum, Burlington, Ont.) . . . "A good presentation, complete and easy to read; excellent product illustration and specification tables; application illustrations are poor; brochure should be punched for binding."

CLASS 4

Samples

JOHNSON RUBBER COMPANY, "Architect's Selector Kit", . . . "A good layout for carton and packaging but the product samples could be better identified by a code number and color on all samples; the decorator color names are not adequately identified. The enclosed brochure would be better in a pocket on the inside lid of the box rather than packed loose; Canadian distributors should be named."

CLASS 5

Publication Advertising

DOMTAR CONSTRUCTION MATERIALS LTD., "Series" (aa—Goodis, Goldberg, Soren Limited, Toronto) . . . "The jury awarded these advertisements "Honourable Mention" as they felt they were well designed to allow for easy reading of lengthy copy and still have stopping power through their choice of illustrations and the overall layout of the elements in the advertisements. They did feel though that the advertisements are well presented to reach the home-building market but not too well oriented for a professional audience."

THE MASTER BUILDERS COMPANY LIMITED, "Masterplate" and "Pozzolith" Series, (aa—Ronalds-Reynolds & Co., Toronto), (d—George Pastic) . . . "The Awards Jury felt that this company warranted a definite "Honourable Mention". They all agreed that the advertiser obviously knows the value of good photography. They felt that there was good continuity in the series but believed the single photograph advertisements were more effective than those with multiple illustrations. It was also felt that the logo type and the reference to the Master Builders field service is a little over-powering and that the advertisements could be improved if this were adjusted."

# steel speeds construction

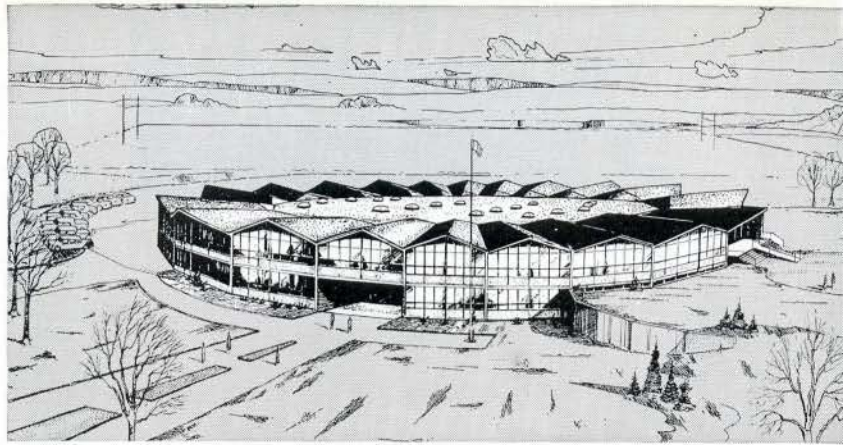
When evaluating framing materials bear in mind all the advantages of steel. Steel goes up fast, gives an early return on invested capital and reduces interest charges on construction loans. Lightweight steel framing keeps foundation costs down and the strength of the material permits large column-free areas for maximum usable floor space. These are some of the many advantages that steel construction practice offers the builder.

Dominion Bridge maintain design, fabrication and erection facilities in most of the major cities. Their Sales and Engineering Departments are always available for discussion, and to assist in any way they can.

166

STRUCTURAL DIVISION  
**DOMINION BRIDGE**

16 PLANTS COAST TO COAST

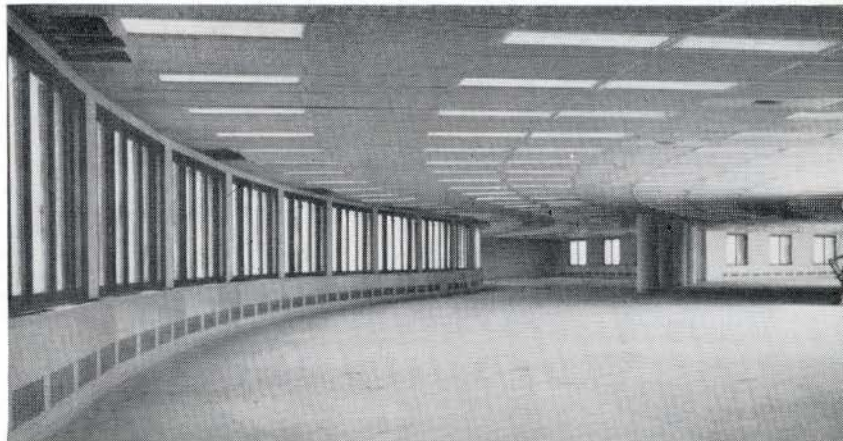


**Brule Street School**

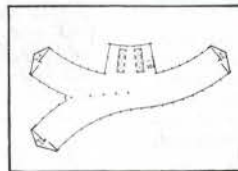
Dartmouth School Commission, Nova Scotia  
Architects: J. Philip Dumaresq & Associates  
Contractors: Blunden Supplies Limited

## **school in the round**

Not unique anymore but interesting and efficient. This school is a 20-sided structure, approximately 196 feet in diameter. A gymnasium occupies the core to the full height of the building, and two floors of classrooms are located on the perimeter. A 9-foot corridor on each floor provides access between the classrooms and the gymnasium.



Saskatchewan Power Corporation, Regina  
Architect: Joseph Pettick  
Consultants: C. C. Parker, Whittaker & Co. Ltd.



## **"Y" shaped with flowing curves**

Structural steel was chosen to frame this unusual building in Regina. Thirteen floors each with column-free areas 270 ft. x 42 ft. provide wide open spaces for the efficient layout of offices. Twenty-three hundred (2300) tons were erected on schedule. A.36 is used for the beams and bracing and A.7 for the columns. Photograph shows one of the 13 floors. Note the flow of the wall line and the vast open area so easily obtained with steel construction.

SHEETROCK Drywall Systems go up fast. After  
floor and ceiling runners are anchored, 1-inch  
SHEETROCK Coreboard is screw-attached.  
SHEETROCK\* Wallboard is laminated to each side.



## of C.G.C. Partition Systems

in one apartment,  
specify for another

Architects of Quebec City's Belvedere Apartments were so pleased with performance of SHEETROCK Drywall Systems and RED TOP\* Plaster products that they specified them for the larger Sillery Plaza project.

SHEETROCK Drywall Systems were specified because of their sound attenuation and fire resistance ratings. Party and corridor walls in the two buildings are SHEETROCK Double-Solid Partitions. Interior dividing walls are SHEETROCK 2-Inch Solid or Semi-Solid. Light weight, speedy erection, and the benefit of immediate decoration not only reduced over-all structural costs, but also resulted in substantial material and labour savings to the owners.

RED TOP Plasters went into both jobs, too. RED TOP Hardwall Plaster, IVORY\* Finishing Lime, and RED TOP Gauging Plaster were specified for columns, elevator shaft walls, stairwells and foyers, and all exterior walls and ceilings. Since reinforced concrete was the basic construction, ceiling slabs were plastered with BONDCRETE\* Plaster and finished with IVORY Lime putty coat.

John Dollard, The Man from C.G.C. on these projects, worked closely with architects and trades to develop cost-saving techniques.



**See The Man from C.G.C.**  
—your Architect Service or  
Sales Representative—about  
the design and cost-saving po-  
tentials of C.G.C. Partition  
Systems. Ask him, too, for ad-  
vice and information on any  
product or systems problem.  
You'll find him ready, willing,  
and very able. Phone or write.

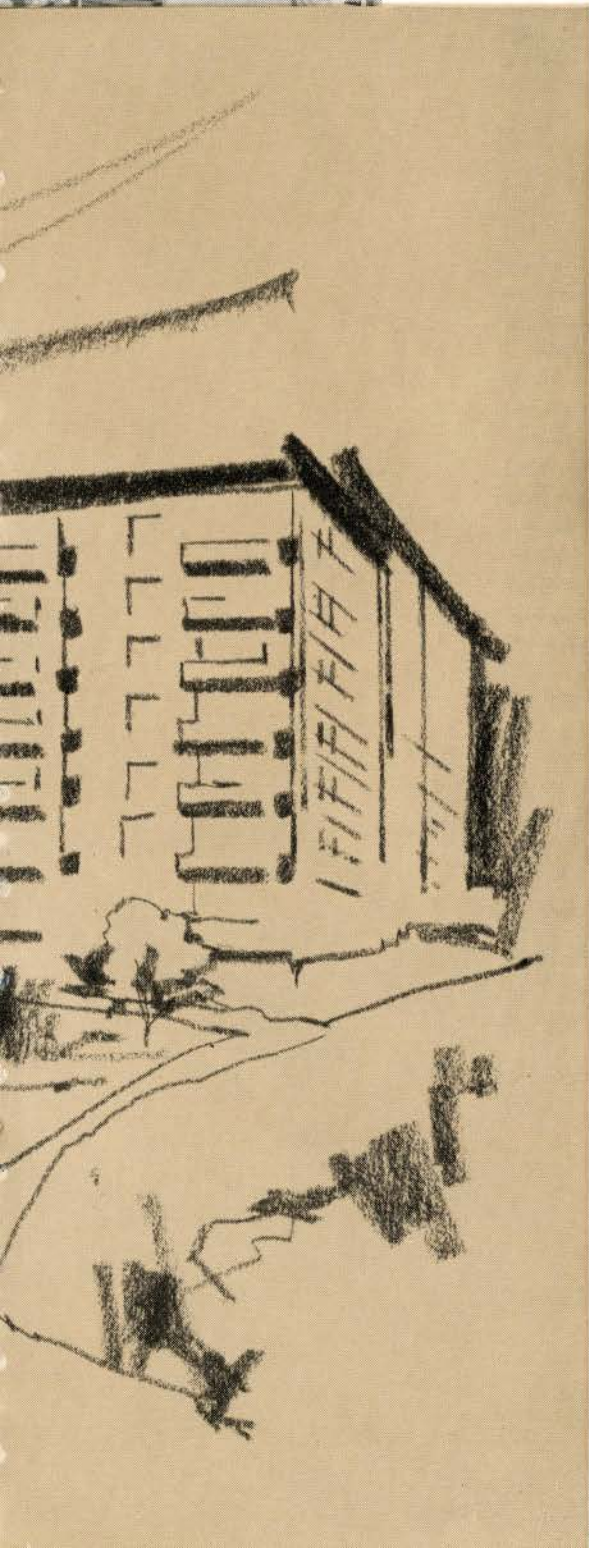


# CANADIAN GYPSUM COMPANY, LTD.

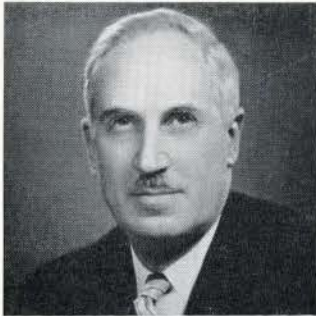
THE GREATEST NAME IN BUILDING

Dept. RAJ-43, 790 Bay Street, Toronto 2, Ontario

TORONTO • MONTREAL • OTTAWA • QUEBEC



# New RAIC Officers



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Dr. F. Bruce Brown, senior partner in the Toronto architectural firm of Brown, Brisley and Brown, was elected President of The Royal Architectural Institute of Canada at its Annual Assembly in St. Andrews, NB. Dr. Brown was inducted into office at the closing dinner on Saturday, June 20, by the retiring President, John Lovatt Davies of Vancouver.

Other executive members elected were Gérard Venne, Québec, vice-president; Charles Fowler, Halifax, honorary secretary; and James W. Strutt, Ottawa, honorary treasurer.

Born and educated in Toronto, Dr. Brown served in the First World War with the 85th battery, Canadian Expeditionary Forces in Siberia. He was an honor graduate of the University of Toronto in 1923, with the degree of Bachelor of Architecture, and was a recipient of the Architectural Guild Medal. Among the various degrees and awards conferred on Dr. Brown are the Ontario Government French Travelling Scholarship, a diploma from the Fontainebleau School of Fine Arts in France, a Research Fellowship from the University of Toronto, Master of Architecture degree from the University of Toronto, and Doctor of Laws honoris causa, from McMaster University.

Dr. Brown has been active in both the Ontario Association of Architects and The Royal Architectural Institute of Canada from many years, notably in the affairs of the RAIC Journal as Chairman of its Editorial Board and of the Journal Committee. He has been an Ontario representative to the RAIC Council since 1952, and was elected a Fellow of the RAIC in 1953. He served as Honorary Treasurer and Honorary Secretary of the Institute prior to his election as Vice-President in 1962.

The son of an architect himself, Dr. Brown has as one of his partners his son Douglas R. Brown.

1 *Dr. F. Bruce Brown*

2 *John Lovatt Davies*

3 *Gérard Venne*

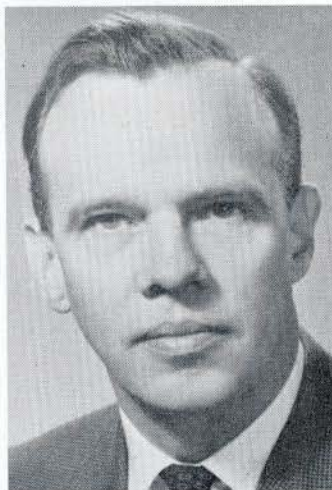
4 *Charles Fowler*

5 *James W. Strutt*

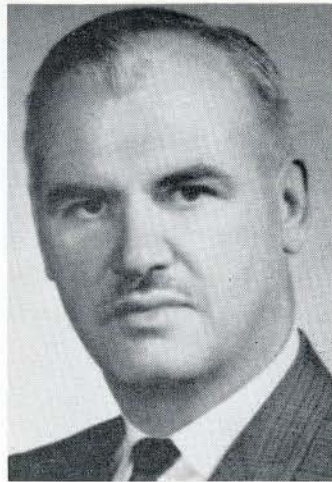
# College of Fellows Convocation



*Gilles Marchand*



*Loren Arthur Oxley*



*Thomas Albert Groves*

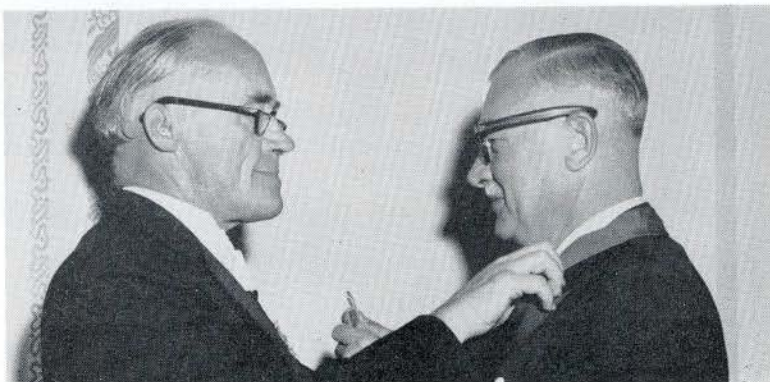


*Isadore Coop*



*Robert William Siddall*

*Five new Fellows were elected to the College of Fellows at the annual Convocation held at the 57th annual RAIC Assembly in Saint Andrews, NB on June 20.*



*Harland Steele, right, being invested by H H G Moody with the medallion of office of the Chancellor of the College of Fellows.*

Mr. Oxley, a member of the Ontario Association of Architects since 1949, is a member of the architectural firm Somerville, McMurrich and Oxley of Toronto. Mr. Oxley was Chairman of the OAA Toronto Chapter, a member of the Advisory Committee on Planning, Historic Buildings and Nominating Committee, and was a member of the RAIC Journal Editorial Board. He is now Chairman of the RAIC Journal Committee.

Mr. Siddall has practiced in Vancouver and in 1951 moved to Victoria. In 1961 he established his present firm R. W. Siddall Associates. Mr. Siddall has served the Architectural Institute of British Columbia as a council member, vice-president and president, and he has been a member of the Planning Advisory Boards of Victoria and Oak Bay. He has served on the board of directors of the Victoria Art Gallery and as president of the Gyro Club of Victoria.

Mr. Coop is a member of the Architectural firm of Blankstein, Coop, Gilmour and Hanna of Winnipeg. He has served as a member of Council, Vice-President and President of the Manitoba Association of Architects, and as a member of the RAIC Council and various Institute Committees. He is a member of the Building Codes Committee of the Metropolitan Corporation of Greater Winnipeg and of the Community Planning Association of Canada.

Mr. Groves joined the architectural firm of Martland and Aberdeen upon graduation and became a partner in 1962. He is now a partner in the firm of Aberdeen Groves Hodgson of Edmonton. He has served the Alberta Association of Architects for a number of years in various capacities — as Chairman of the Edmonton Chapter, Council Member, Treasurer, Honorary Secretary, First Vice-President, and as President in 1961. He was Chairman of the Banff Session in 1957. Mr. Groves was on the RAIC Council from 1956 to 1962.

Mr. Marchand has worked with the architectural firm of David and David of Montreal, and in 1954 was registered as a member of the Province of Quebec Association of Architects, forming the firm of Longpre and Marchand. Mr. Marchand has served actively on Committees and on Council of the PQAA, of which he was Vice-President and now is serving as President. Also he has served for six years as a Professor on Architectural Design with the Ecole d'Architecture de Montreal.



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## The 57th Assembly

Although there have been larger attendances at conventions, for interest and enjoyment; for good speakers and stimulating seminars and discussions, the 57th Annual Assembly at St Andrews, NB, was one of the most successful in years, and great credit is due the host committee. The election of the new Institute officers, the new Fellows, the address of the Prime Minister and a pictorial record of the Assembly appear in this issue. Comments by Harry Mayerovitch on the Seminars and discussions will be published in the August issue.



*Chorus lines at the welcoming reception (1), l to r, Mesdames Disher, Jonsson, Siemers, Chatwin, Robertson; (3) Messrs Disher, Cullum, Bauld, Siemers, Harrington, Chatwin, Myles, Vaughan, Jonsson; (2) two of the distinguished guests photographed after their investiture as Honorary Fellows, Sir Robert Matthew, PRIBA, the keynote speaker, and the Prime Minister, Rt Hon Lester B. Pearson, speaker at the annual dinner.*

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At the welcoming reception given by the Architectural Associations of New Brunswick, Nova Scotia and Newfoundland:

(4) Mrs W. B. Guihan and President Guihan of the Newfoundland Association; Mr and Mrs R. C. Betts, Montreal; Mr and Mrs Frank Noseworthy, St John's.

(5) Gerald Gaudet, President of the New Brunswick Association; Allan Duffus, Halifax; Mrs Tom Bauld, Halifax, and H. P. J. Roy, Moncton, chairman of the host committee.

(6) Dean and Mrs John Russell, Winnipeg and Mr and Mrs Eric Thrift, Ottawa.

(7) Staff group: Fred Price, RAIC Executive Director; Gordon Ricketts, Secretary of the RIBA; Maurice Holdam, RAIC Executive Secretary and Walter Bowker, Editor, RAIC Journal.

(8) College of Fellows Convocation: Chief Marshall D. G. W. McRae, leading the recessional, followed by the two newly invested Honorary Fellows, Prime Minister Pearson and Sir Robert Matthew.

(9) A. B. Leman, Toronto; Mrs Keith Graham, Halifax; Bernard Wood, Edmonton; Mrs Leman; Keith Graham and W. J. Ryan, St John's.

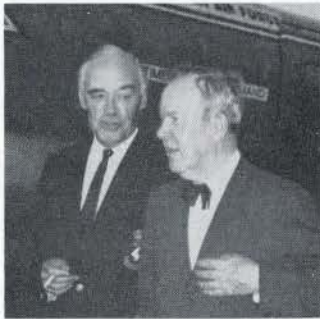




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(1) The Allied Arts Medal for 1964 presented to Claude Roussel, sculptor, of Moncton (right) by Gerard Venne, newly elected RAIC vice president.

(2) J. A. Langford, Chief Architect, Federal Department of Public Works, Retiring President John L. Davies, and Sir Robert Matthew.

(3) H. H. G. Moody, Winnipeg, retiring Chancellor of the College of Fellows, was among those greeting Prime Minister Pearson on his arrival at the Assembly by helicopter.

(4) Folk singer at the shore dinner entertain Henri Mercier, Montreal, and Mr and Mrs Paul Trepanier, Granby.

(5) The new President, Dr F. Bruce Brown, making a presentation to the retiring President, John L. Davies, at the Annual Dinner.

(6) W. G. Leithead, Vancouver; Douglas Shadbolt, head of the School of Architecture, Nova Scotia Technical College and organizer of the Assembly Seminars, and W. J. Ryan of St John's.

# The Prime Minister's speech at the Assembly

I am delighted to join you in closing what I gather has been a most successful 57th annual assembly. I am impressed by the general theme of your discussions, "The Architect in a Changing World". My own theme recently has been, "The Politician in a Changing Canada", on which there has been less unanimity of purpose and opinion than there may have been in your own discussions.

Despite my happy association over the years with some eminent architects, I bring to you tonight an enormous lack of knowledge of your profession. I have some inexpert personal preferences and opinions about what is pleasing to the eye, and I refuse to accept the assumption that novelty is synonymous with progress. On the other hand, I reject the old-fashioned idea that you can't make a prayer out of concrete. Le Corbusier's Dominican monastery near Lyons in France is eloquent evidence to the contrary.

This Institute provides an excellent example of the useful collaboration and understanding possible between our English-speaking and French-speaking citizens. In that respect, it is like many others of our national organizations in Canada. In another respect, however, your Institute has a unique quality, for architecture itself is an important link between our two Canadian cultures. Each of you speaks in your own language, but all of you share a third language which is that of your profession.

Like music, architecture is a common language throughout the world. And we need all the universal languages we can get.

If I am not too knowledgeable about your profession, I *do* appreciate its growing importance to our society and to our nation. I know that its problems are also increasing — and altering — as our national society changes.

Parallels between the problems faced by your Institute and those of government were mentioned recently in your "Journal", in an article entitled, "An Appraisal of the Canadian Situation", by Mr. P. M. Keenleyside. I found his article interesting and timely. He wrote:

"Our national organization" — (he was discussing your Institute) — "reflects to a certain degree, the problems that any government in Ottawa has with its citizens and their prejudices and geographic condition . . ."

I might say that if the degree of that reflection is very great you have my sympathy.

Mr. Keenleyside goes on to define the prejudices, as he sees them, which prevail in Canada's five or six main geographic regions. I shall not repeat his analysis here for fear it is quoted as my own, but I confess he shows a refreshing perception and candor. His article then deals with some of the factors — other than what he calls regional prejudices — which complicate the work of your Institute. He suggests:

"Perhaps the size of Canada and its apparently fractured interests doesn't make any difference in forming a consistent policy in the profession. There may be other factors that are more significant . . ."

and he mentions three:

- The variability of provincial architects' Acts.
- The variability of educational opportunities — and I presume he would include in this the variability of educational standards.
- The size of your provincial associations.

I can only imagine the problems faced by your profession in its efforts, through this Institute, to encourage or develop unification in the profession on a Canada-wide basis. I suspect, however, that some of those problems arise because of our federal system of government; have, in fact, the same derivation as some problems faced by the federal government, when it attempts to deal with certain all-Canadian needs which, in our Constitution, were assigned to and remain matters coming under, and in some cases exclusively under, provincial jurisdiction. The relationship of parts to the whole — and the need to bring unity to the whole without interfering with the functional needs and values of the parts — is a problem of government as well as of architecture.

Your problems, of course, cannot be divorced from the nation's.

If you are to make your art's maximum — and rightful — contribution to our national development, to our national insight and to our national pride; if you are to remind us of our limitations and enshrine the richness and diversity of our future existence in cities which will have

balance and even beauty, you have a right to enjoy the highest national standards and to be concerned over any barrier to your achievement of them.

The responsibility for achieving this is yours. It is for you — joined by other professions and at every opportunity — to press upon the public, your communities and on all levels of government in our nation, the growing and urgent importance of high and sustained standards in every facet of our national life. This means, among other things, equal opportunities for all our people and provinces in our federal society in reaching and maintaining similar standards of living. There can be no other foundation for national unity.

It is also your duty, as it is that of us all, as we seek greater material well-being and security, to adhere to truth, to grace and to beauty; to nourish the roots of our cultures. In this I hope you will follow your vision wherever it leads; and in serving that vision, serve the nation and its future.

Architecture — like government — can get inspiration from the past without prejudicing its contribution, and indeed its obligation, to the future. It is no betrayal of the past; indeed, it is the best way to honour the past by relating it to the needs of the present and adapting it to the promise of the future.

It was Montesquieu, who argued in the 18th century that national character derived primarily from geography and climate. If that is so, then today architecture may well have a greater responsibility for national character than any other profession has. For today, as our population moves more and more to urban centres, it is buildings which make our geography — and even their air-conditioning which makes our climate. Buildings, in other words, are coming more and more to constitute our total physical setting. As never before, they condition our mass habits and our collective thinking; they determine to an unprecedented degree our approach to our daily work, our feelings toward other people and even the way we live in our homes and in our land.

In these changes, the architect finds himself facing new and different problems than his predecessors in earlier generations. Today the opening of new public and private buildings is not an event, it is a routine. They go up on a mass production basis. This makes new demands on architects and affects the nature of the services they render. I suspect that

it complicates the architects' desire, in Le Corbusier's words, to "marry the poetic and the functional"; especially as the architect today has to concern himself with the collective as well as the individual aspect of his work; even more with design for living than with the design of a building. Today, as the Italian critic, Bruno Zevi, puts it, "architecture is environment, the stage on which our lives unfold".

I know that up to a point this has always been the case but now, surely, more so than ever. For this, the community and the nation can be grateful. It can best show its gratitude by giving the architect a chance to do his best work as a planner. There will be unprecedented opportunity for this as we celebrate the Centennial of our Confederation.

It is estimated that two hundred and fifty million dollars of public funds will be made available for this commemoration.

Much of this will go into structures which architects and builders will, I hope, be permitted to make worthy of the occasion.

But a time of celebration is a time for house-cleaning as well as housebuilding. So I hope that communities in Canada — under the direction of architects and planners — will have a chance to remove some of the blights and mistakes of the past as well as produce inspiration and beauty for the future.

The art of building is, of all the major arts, the one we, of the general public, know least about.

Perhaps there is a natural reluctance on the part of architects to make themselves apostles of their art; to spread the love of architecture to the general public. Unfortunately this limitation exists at a time when the influence of architecture on that public's lives is, as I have said, greater than at any previous time.

Why then do we not know more about your work and ideas and ideals; your frustrations and difficulties?

My question, of course, may only show a layman's lack of expert knowledge but it has been promoted by articles such as a recent one in a Toronto newspaper which read:

*"Architects shun plain talk —*

*"Reluctance to discuss plans for role in Housing indicated in coolness towards parley.*

*"Ontario architects, who will have a good deal to do with shaping the environment of millions of future Canadians, do not want to talk about this task."*

Whether this kind of criticism is warranted or not, it is true that in your profession, as in mine, there is an increasing responsibility to meet today's challenging — and sometimes frightening — demands for full and easily understood communication.

One phase of the dramatic change in the role of architecture in our rapidly-changing society derives from the vast increase in the number of public buildings and public projects. This has brought about an ever-expanding interdependence — quantitatively, at any rate — between your profession and government.

Today's relations between architects and government take a variety of forms. They do not support, I hope, the view held by some that government and architects are natural enemies.

That belief was held most staunchly by Frank Lloyd Wright, who was, I suppose, the most widely-influential 20th Century architect.

Mr. Wright put his cynicism about government in these terms:

"Culture, given time, will catch up and assert itself in spite of reaction. Not by way of Government can we find encouragement or any help. No, we can have nothing by way of official Government until the thing is at least ten years in the past. I know of nothing more silly than to expect 'Government' to solve our advanced problems for us. If we have no ideas, how can Government have any?"

The complaint is understandable, but not entirely valid. Government may have a multitude of advanced ideas but, in a democracy, they cannot act on them unless they are, or can be made, acceptable to the people. It is the making of a good idea acceptable that is one of the hardest tasks, but perhaps the most important task, of leadership.

To wait until an idea held by the mass of the people is forced on government for action is the easy line of least resistance — but it often results in nothing being done at all.

What is required is a close and constructive relationship between good ideas outside government and timely and effective action inside government.

A few years ago, as an example, your Institute, with the co-operation of the Central Mortgage and Housing Corporation — and a federal government grant of \$30,000 — undertook a three-man survey of the design of the residential environment in Canada. You produced

a report which included a number of recommendations for action. They led to the formation of the Canadian Council on Urban and Regional Research. The recommendations of your report have had a very significant effect on the design professions in Canada. Surely this is an example of how government can encourage ideas on which action can be taken with public acceptance.

There is also a close and continuing association between your Institute and many government departments and agencies . . .

There remains, however, an even more comprehensive and far-reaching area in which your profession and governments at all levels might well unite. I am thinking of a concentrated program to develop for our nation a code for improved appearance of our cities and our country. Such a program could, I believe, unite professions such as yours with provincial and municipal planners, Chambers of Commerce, the Federation of Mayors and Municipalities, town and community planning representatives — many others, lay and professional — in a great crusade against visual blight.

This kind of co-operation between your profession and government could lead to the kind of action which would give tomorrow's Canada reason to proclaim with pride, "This our fathers did for us." Those were John Ruskin's words as he pleaded for your profession many years ago to take the long view and look ahead. They apply even more significantly, I believe, to my own profession of politics. So may I conclude with repeating them though I am sure you know them well.

*" . . . generally, the farther off we place our aim, and the less we desire to be ourselves the witnesses of what we have laboured for, the more wide and rich will be the measure of our success . . . It is the far sight, the quiet and confident patience, that, above all other attributes, separate man from man, and near him to his Maker and there is no action nor art whose majesty we may not measure by this test. Therefore, when we build, let us think that we build for ever. Let it not be for present delight, nor for present use alone; let it be such work as our descendants will thank us for, and let us think, as we lay stone on stone, that a time is to come when those stones will be held sacred because our hands have touched them, and that men will say as they look upon the labour and wrought substance of them, 'See! This our fathers did for us' ."*

# Centre City Living/Bruce Anderson/McGill University/First Prize

## STATEMENT

In designing housing for a thesis project, one is confronted with the problem of what kind of environment should be created. It seems that in North America, there is a great lack of what I would call "centre city living". In reaction against the implications of suburban sprawl and the inhuman barrack-like apartment projects, my object has been to create a good living environment within the city.

I believe architects should give people a "choice" of their environment, and in pursuing such a scheme, I have tried to fill the void that exists, by creating a dense urban environment, well integrated with work, play and thought, and catering to a wide range of people; single, married and elderly. This environment should appeal to middle income bracket families.

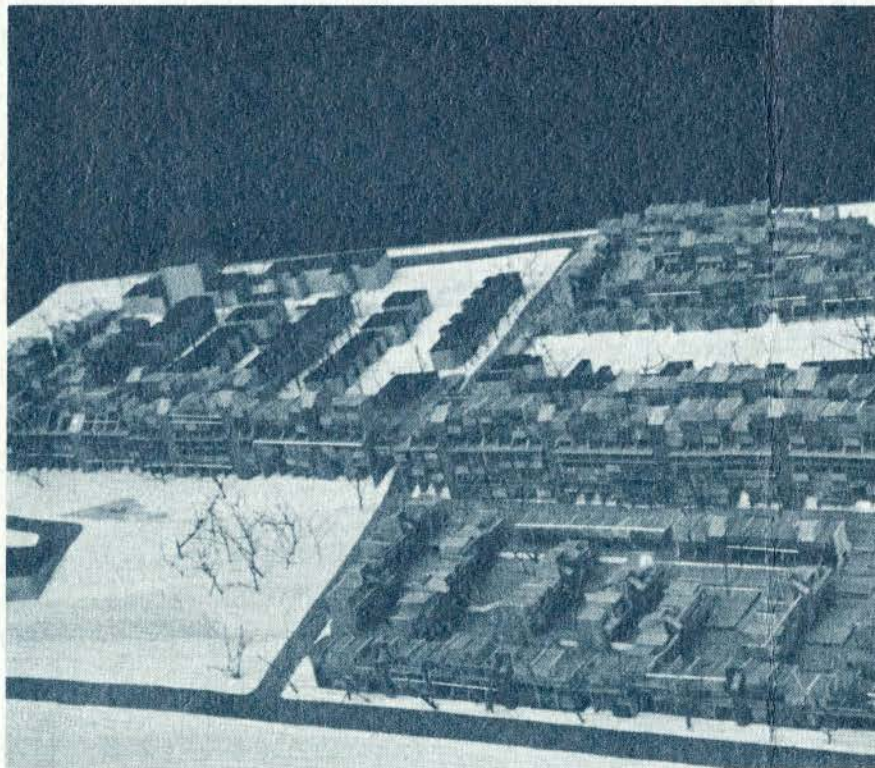
The following factors, I felt, were of major importance in the design of housing: advantages of a good city living environment as seen from the successfully rehabilitated older areas in American cities; integrated accommodation for families, bachelors and others; wide choice of dwelling units; integration of commerce and living.

Initially the object of the problem was to rejuvenate a desirable but deteriorating residential area by providing: dwellings; services and good environment.

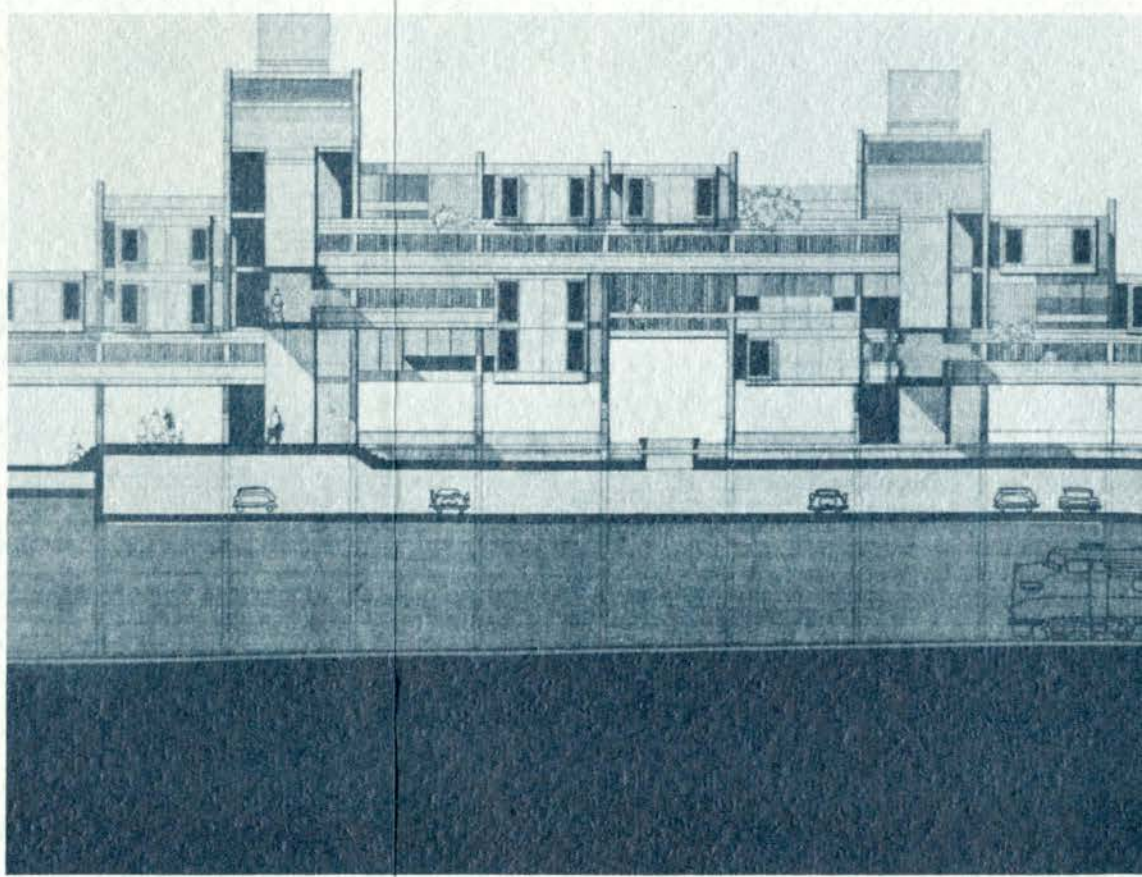
Through research, it was established that the components of a good environment were: privacy; noise protection; accessibility and ease of movement; healthful living conditions; neighbourhood contacts; and human interest.

The development area was established within the context of a real problem, taking into account low land costs, the desirable location and all the existing physical constraints.

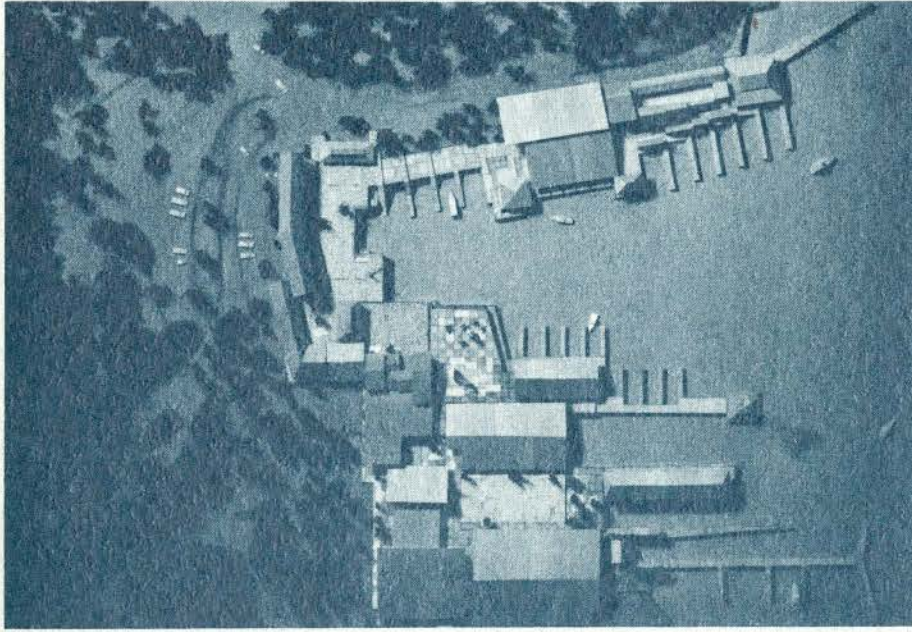
*Bruce Anderson*



PROPOSED PLAN



## Second Prize/Fishing Village Brian Bancroft/U of M



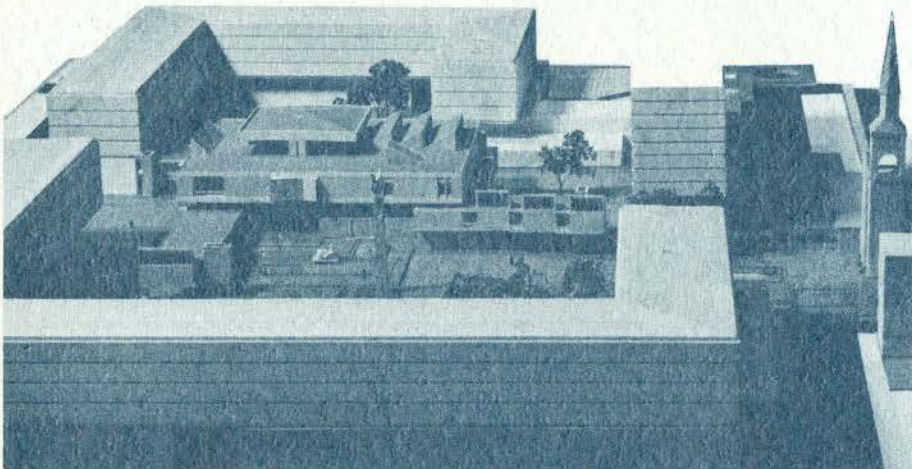
This urban renewal problem was an ambitious undertaking to be carried through as a single-handed project. Mr. Anderson is to be congratulated not only for his masterly solution of a complex problem, but on his evident capacity for sustained hard work. The jury was much impressed by the sculptural quality, interesting textural pattern and pleasing scale of the design. It preserves the essential and individual character of the 19th century street scene of this section of Montreal, in a completely contemporary design that avoids the sterility too often apparent in such large scale projects.

The jury had to look very closely for flaws but felt that more emphasis might have been given to spaces that were free from the linear restriction of the railway lines, and that the detailed planning of the dwelling units would need revision to meet the rigid requirements of developers. These are minor criticisms that would be corrected when the developer faces the harsh reality of square foot rental areas.

The jury was fully satisfied that this student has all of those qualities which will enable him to take full advantage of the opportunity for further study and research offered by the award of the scholarship.

### SECOND PRIZE

## Third Prize/Art Gallery Richard Henriquez/U of M



The subject of this thesis, a complete community for a fishing population in northern Manitoba, was perhaps an unfortunate choice, but both the report and the drawings showed scholarly study in a hitherto neglected field. The presentation was brilliantly executed and the jury was impressed by the planning and grouping of very simple buildings. The superb draftsmanship is particularly notable. The drawings have a luminous quality that places them in the first rank of graphic art.

### THIRD PRIZE

An Art Gallery and development of an urban square in Winnipeg formed the subject of this thesis. It was a well studied and thoroughly competent solution of a problem which showed good planning, excellent siting in relation to streets, good separation of vehicular and pedestrian traffic. The integration of existing buildings into the overall scheme was particularly happy. The draftsmanship was superb and the jury found it hard to pick a flaw in this well developed project.

## Pilkington Scholarship 1964

The jury entrusted with selection of the best work submitted for the Pilkington Travelling Scholarship and Architectural Award 'is faced with a formidable task. It is not a question of judging the solutions to a set problem with a fixed set of conditions as is the case in the usual architectural competition, but of attempting to assess the capability and potential of the student from the report and drawings submitted. The subjects selected for thesis problems by the students covered a very wide range and the jury found that the high standard reached in previous years has been maintained or even improved. The jury was unanimous in the opinion that the competition between students and indirectly between the University Schools of Architecture fostered by the Pilkington Awards has been of inestimable value to the schools and to the profession. It was also the expressed opinion of the jury that the conditions now in force which leave the choice of subject matter open to the student best further the objective of the competition.

Submissions in all cases showed an intensive study of the selected problem and the solutions were logical, imaginative and well presented. After a careful study, the jury without disagreement, selected three as being outstanding. Placing these in order of merit was a more difficult task; any one of the three might reasonably have been given the first award and the entrants are to be congratulated on the very high standard achieved.

It was only after a detailed analysis of the merits and weaknesses of each submission had been made that the jury was able to reach an unanimous decision.

The jury wishes on behalf of the University Schools of Architecture and the profession to thank the sponsor, Pilkington Glass Limited, for its valued contribution to Architectural Education.

Members of the jury were: Neil M. Stewart, professional advisor for Pilkington Glass Limited; Guy Desbarats, representing McGill University; Isadore Coop, for University of Manitoba; Jerome Markson, for University of Toronto, and Paul Trepanier, representing L'École d'Architecture de Montreal.



## Massey

## Medals

## Finalists

Announcement of the 95 finalists in the 1964 Massey Medals for Architecture Competition was made today by Dean John A. Russell of the University of Manitoba, committee chairman for The Royal Architectural Institute of Canada.

The selection was made from 424 buildings entered from coast to coast, a record high total in the triennial competition for the prized medals which symbolize excellence among Canadian architects.

The final stage takes place in the Fall. The presentations will be made on October 29 at the National Gallery of Canada, Ottawa, by the chairman of the Massey Foundation, Rt. Hon. Vincent Massey, C.H. Mr. Massey will then officially open the exhibition of award winning designs, which will later tour Canada's major art galleries.

Three distinguished architects form the selection jury. Gordon S. Adamson, FRAIC, is head of a large Toronto firm. Lawrence B. Anderson, AIA, is head of the Department of Architecture at the Massachusetts Institute of Technology, Cambridge, Mass. Douglas Shadbolt, MRAIC, is director of the School of Architecture at the Nova Scotia Technical College, Halifax.

*Affleck, Desbarats, Dimakopoulos, Lebensold, Michaud, Sise*—Montreal, La Grande Salle, Place des Arts. *Affleck, Desbarats, Dimakopoulos, Lebensold, Sise*—Montreal, Church of St. Gerard Majella; Tifereth Jerusalem Synagogue; Parkview Apartments; Norman Wade, Office & Warehouse Building. *LeMoynes, Edwards, Shine and Charles Elliott Trudeau*—Montreal, McGill University Laboratories and Dormitories. *Bland, LeMoynes, Edwards, Shine*—Montreal, Northern Electric Research and Development Labs; Sanitary Refuse Collectors Reduction Plant. *Rosen, Caruso, Vecsei, Montreal, Fraternity House McGill. St-Gelais, Tremblay & Tremblay*—Jonquière, Eglise et Presbytère. *Desgagné & Coté*—Chicoutimi, Eglise Notre Dame de Fatima. *André Blouin*—Montreal, Maison Provinciale des Pères Blancs Missionnaires d'Afrique. *Blanche van Ginkel*—Montreal, Foot Bridge in Bowring Park. *Hart Massey*—Ottawa, House in Rockcliffe, Ontario. *T. V. Murray*—Ottawa, Nepean Fire Hall & Health Unit. *G. E. Bemis*—Sampan Tavern Restaurant. *Jerome Markson*—Toronto, Residence Alteration; Residence Alteration & Addition; Cottage, Lake Simcoe; Group Health Centre. *Irving Grossman*—Toronto, Pavilions for Toronto Islands; Houzer Residence, Ottawa. *Jack Klein & Henry Sears*—Toronto, Oakdale Manor; Don Valley Woods Phase I. *James A. Murray & Henry*

*Fliess*—Toronto, Eastdale Vocational School. *Fairfield and DuBois*—Toronto, Oxford University Press; Central Technical School Art Centre. *McBain and Corneil*—Toronto, Township of Toronto Central Library. *Marani, Morris & Allan*—Toronto, Better Living Centre, CNE. *Rounthwaite & Associates*—Toronto, Sault Ste Marie Air Terminal. *Mandel Sprachman*—Toronto, Scarborough Fire Hall No. 8. *Shore & Moffat and Partners*—Toronto, West Haldimand Hospital. *Somerville, McMurrich and Oxley*—Toronto, MacGregor College Chapel, Nigeria. *Raymond Moriyama*—Toronto, Metropolitan Toronto Parks Comfort Stations. *Webb Zerafa Menkes*—Toronto, Lothian Mews, Toronto. *John B. Parkin Associates*—Toronto, Power Plant Toronto International Airport; Saint Mark's Presbyterian Church; H. J. Heinz Co. of Canada Ltd. Factory Expansion; Thomas J. Lipton Ltd.; Aeroquay, Passenger Terminal; Sifto Salt Mill and Warehouse; Control Tower, Toronto Airport; Administration Building, Airport; Ontario Regional Headquarters Bldg. Imperial Oil Ltd.; Don Mills Collegiate Institute and Junior High School. *Jackson, Ypes & Associates*—Willowdale, Hillsdale Public School. *Manfred J. May*—North Bay, Notre Dame de la Paix Church. *John Lingwood*—Kitchener, Carmel Church of New Jerusalem. *D. G. Hallford*—Oakville, Esquesing Municipal Office. *James Secord & Saul Herzog*—St. Catharines, Bandstand Victoria Park. *Radoslav Zuk*—Winnipeg, Ukrainian Catholic Church of the Holy Family; Ukrainian Catholic Church of St. Michael Tyndall. *Waisman, Ross, Blankstein, Coop, Gillmor, Hanna, Associates*—Winnipeg, Britannia House Office Bldg. *Smith, Carter, Searle Associates*—Winnipeg, Administration Bldg., Manitoba Telephone System; Monarch Life Assurance Co. *Libling Michener and Associates*—Winnipeg, Grosvenor House; St. Eugene Church; Faculty of Education Bldg. U. of Manitoba; St. Paul's College High School. *Etienne J. Gaboury*—St. Boniface, St. Norbert Collegiate; St. Boniface Health Unit; Canadian Holy Martyr's Church; Architects Studio. *Clifford Wiens*—Regina, Menonite Brethren Church; Lakeshore Residence. *Izumi, Arnett and Sugiyama*—Regina, Sunset Pavilion. *Wensley & Rand*—Edmonton, Floyd McColl Residence; Dental Building. *J. A. Cawston and Associates*—Calgary, Glenmore Park Auxiliary Hospital. *Thompson, Berwick, Pratt & Partners*—Vancouver, Forrest Residence; John Grinnell Residence; Commissary Kitchen; Central Heating Plant Addition UBC; Crown Life Insurance Co.; Massey College, U. of Toronto. *Fred Thornton Hollingsworth Barry Vance Downs*—North Vancouver, Rayer Residence. *Fred Thornton Hollingsworth*—Vancouver, Maltby Residence; Berkeley Private Hospital; Pullan Studio. *Underwood, McKinley, Cameron*—Vancouver, Lions Gate Hospital; Office Building for Royal Bank. *Rhone & Iredale*—Vancouver, Grouse Mountain Chalet; Tourist Lookout; Dad Cookie Company Ltd. *Roger Kemble*—Vancouver, Stuart MacDonald Residence; David West Residence. *Hamish W. F. McIntyre, Vancouver, John R. Croll Residence. Hartley, Barnes, Aaraj*—Kelowna, Riviera Villa Apartment. *McCarter, Nairne & Partners*—Vancouver, C. G. Brown Memorial Pool. *Richard B. Archambault, J. Blair MacDonald, Barry V. Downs, Vancouver, Ladner Pioneer Library. Blair MacDonald and Barry Downs*—Vancouver, Residence, Mr. & Mrs. William Chow. *Ian Davidson*—Vancouver, Country Residence Bowen Island. *Arthur Erickson*—Vancouver, Danto Residence. *Toby, Russell & Buckwell*—Vancouver, Iona Island Sewage Treatment Plant. *Gardiner, Thornton, Gathe & Associates*—Vancouver, Good Shepherd Convent and Saint Euphrasia's School.

# What's To Become Of Architecture?

By Russell Lynes

*This thoughtful and perceptive article appeared in the June issue of Harper's Magazine just prior to the RAIC Assembly at St. Andrews NB, where it aroused great interest and attention among those participating in the discussions on the assembly theme, The Architect in a Changing World. Harper's very kindly gave us special permission to re-publish the article in this issue. Mr. Lyons is Managing Editor of Harper's Magazine.*

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Late in February of this year Union College, whose gray-and-white Greek Revival buildings look down over the city of Schenectady in upstate New York, held a convocation to celebrate an architect. Architects are rarely thus honoured; live ones never.

The college had a special reason to remember a Frenchman named Joseph Jacques Ramée and to be especially pleased with him and with itself. Just a century and a half ago in 1814 its president, Dr. Eliphalet Nott, had had the foresight (and good luck) to commission

Ramée to make a "whole plan including a disposition of all the buildings and grounds" for a new campus for Union College. His elegant drawings—for a sort of Pantheon with a sweeping colonnade behind it and dignified, pilastered dormitories and classroom buildings set symmetrically to flank it beyond vast sweeps of lawn—laid out the first planned campus in America. Ramée not only imposed his will and his delight upon the landscape; he set an example that many other colleges in subsequent years took to heart. He taught them how to create an environment.

There is a lesson in Ramée still, and it is not a pleasant one. He is a reminder of the disagreeable fact that architects are not what they once were, no matter how talented. If Union College, or any other institution, were to celebrate some years hence the architecture of today, who would be the hero? There wouldn't be one. It would have to celebrate a committee, not a man, and not just one committee but a basketful of committees. It would have to celebrate a committee of architects (we call it a firm), a committee of engineers (because the intricacies of much modern construction are not within the mastery of most architects), possibly a committee of chemists (who concocted the materials with which the buildings were built), a committee of interior designers, a committee of acoustical experts, a committee of site planners, and finally that ultimate of all committees in grandeur and influence, the college's Board of Trustees, which approved of the designs concocted by all those other committees.

I find it rather saddening to think that the future of architecture is in the hands of committees (though of course much of its past has been committee-ridden). I like to think of architecture not just as "the most complex of the arts," as Geoffrey Scott has accurately called it, but as the most humane of the arts in which a single individual's passion for order and delight speak in terms that are meant to be (though they often are not) permanent. I like to think of the architect as the master builder—part carpenter, part mason, part engineer, and large part artist, visionary, and molder of abstract ideas into concrete structures.

I like, in other words, the romantic version of the architect, romantic at least partly because it has acquired the patina of time. I like to think of the architect as knowing the trade of every one of his craftsmen better than each one knows it himself. I like to think of the architect dreaming with a pencil on the back of an envelope, sketching the first inspired lines that will ultimately become a monument to the spirit of his age. I suspect that a great many architects like to think of themselves in these same ways—as artist-generals in command of buildertroops, sweeping themselves and their hordes into the annals of art. It is a pleasant picture; it's a pity it is so inaccurate. Ours is an age of committees, of course, and if architecture has very often in its long history been subjected to committee decisions (certainly the architectural committee for the Acropolis made a mess of the site plan), there is no reason why architecture should escape the prevailing and what we are sometimes pleased to call the democratic way (sometimes the buck-passing way) of doing things. It has become almost impossible for any man to exert himself or his influence today in any manner except through a committee. Either he has to be on a committee to get something done or he has to submit his work or his idea to a committee before anything will be done about it. The poet is the creature of the editorial board, and his verse will not be printed unless an editorial committee approves it. The painter is the creature of a jury which does or does not smile upon his work and give it a chance to be exhibited. There scarcely exists anymore a man in a position of influence who does not consult a committee before he makes a decision or who does not either ask for a committee's support or yield to a committee opinion. There are a number of factors that have made architecture more and more of a committee product (I hesitate to say art), and some of them are structural and some are social. Technology has changed the nature of construction almost totally since the steel salesmen from Eastern rolling mills sold the Chicago architects of the 1890s on the idea that frames for buildings might be built of structural steel and that there were other ways of holding up tall structures than with masonry walls. It

was social and financial pressures that had got the architects interested in tall buildings. "The tall commercial building arose from the pressure of land values, the land values from the pressure of population, the pressure of population from external pressure," said the architect Louis Sullivan in *The Autobiography of an Idea*. These pressures caused the mechanical engineers to invent the elevator, and they also caused the steel companies, which with the new Bessemer process were already making steel members for bridges, to see the financial possibilities in the skyscraper.

"As a rule," said Sullivan, "inventions—which are truly solutions—are not arrived at quickly. They may seem to appear suddenly, but the groundwork has usually been long in preparing. It is the essence of this philosophy that man's needs are balanced by his powers. That as his needs increase the powers increase. . . ."

In a sense the more inventions have responded to social pressures and have provided the solutions to social needs, the more the function of the architect has become that of providing a shell to protect the inventions, to encase them, to protect them from the weather; his problem has become more and more how to accommodate machines rather than how to accommodate men. Until a very few years ago the architect was called upon to design spaces that could be warmed in winter with merely a stove or fireplace and yet be healthily ventilated; these same spaces had to be cool in summer. He was expected to design means of getting from one floor to another with a minimum of effort and a maximum of elegance. Today it is machines that perform these functions, that accommodate man, that make his life easier, that heat him, carry him up what used to be stairs, cool him, light his way, rest his bones. It is machines and laboratories that make the materials with which the architect must work—the steel and glass, the aluminum modules, the window frames. The architect has become less of a coordinator of skills, less a master builder, and more a coordinator of technologies.

Ideally, the solution of so many of his practical problems by the machine and the laboratory should free the architect to explore and exploit his art, to give

wings to his imagination and breadth and boldness to his stroke. In the hands of those architects who are also artists (men like LeCorbusier and the late Eero Saarinen and Frank Lloyd Wright), with a social as well as a visual imagination, this has been so; but there are not many of them. The machine has a tendency to over-fascinate. On the one hand it has dictated an aesthetic dogma of frozen purity (Mumford says the dogma has produced "air-conditioned ice palaces for Virginal Snow Queens"), exemplified in its dying form by those ubiquitous glass boxes that make Park Avenue in New York look like a ditch in a glacier. On the other hand the new technology of construction has led to fantasy for fantasy's sake like the ridiculous theme building at the Los Angeles airport or the concrete claws that clutch at the sky over the New York World's Fair.

"The temptation to let the machine have its way increases with the perfection of machinery," said Professor Edgar Wind, the art historian, in *Harper's* in February. "This explains," he said, "why modern buildings are either superb or miserable. . . . The architecture of our age is indeed like an airplane or a racing car. The only alternative to perfection is disaster."

But there are pressures other than technological or mechanical that complicate the problems of today's architect and will complicate the problems of tomorrow's architect even more. They are pressures of the kind that Sullivan meant when he said that inventions are answers to pressures, solutions not beginnings. In a way, the world has passed the architect by, as it passed the fresco painter and the stainer of glass by, and the wood carver and the stone cutter. The architect has become an anachronism in our society.

This sounds severe; I do not mean it to be. But what function does the architect really perform, except a slightly ornamental one, in our society? Doxiadis, the Greek architect and planner, says that "out of 20 per cent (of building in the world) that may be influenced by architects, it is only perhaps 2 per cent of the total architectural creation that is completely controlled by architects."

Here in America it is said that only about 12 per cent of building is designed by

architects; the rest is run up by contractors and builders, sometimes passing on a few contemporary architectural clichés, sometimes not, just as they did a century and a little more ago before the profession of architecture had established itself in America. It is a harsh comment on the profession of architecture that it has been able to establish so little public confidence in the century since the American Institute of Architects was founded. If the contractor-builder stands in relation to architectural progress about where the barber-surgeon stood at one time in relation to medical progress, it is fair to say that the architect is still today regarded by most people as practicing a harmless but expensive brand of plastic surgery. He is a face-lifter, a high-class beautician. The complexities of society have come to be too much for the architect, or perhaps it would be fairer to say that society makes demands on him which it has never made before and which he has not, generally, thought it was his business to bother with. The individual, isolated building; the palace set in lovely gardens; the elegant museum filled with treasures; the great railroad terminal, a lacework of steel and glass enclosed in magnificent columns; the little spire that reached toward God or the great one that reached toward Mammon—these were the true business of the architect. It was his function to clothe the spirit in a garb suitable to its importance, equal to the premium an age and a society put upon it. To twist an old metaphor, it was his function to freeze the music of his time for posterity to look upon with awe.

It was not his function to solve the problems of masses of people, though he went as far as solving them somehow for a few dozen or even a few hundred families in apartment buildings. It was not his business to fight for open spaces in crowded cities, to worry about the slums behind the broad avenues, the blight of neighborhoods. He was concerned with architecture—the art and science of building. He was concerned with permanence, not with the threat of obsolescence. It was enough of a paradox that he had to be both dreamer and realist, "a practical man in whose hands a pencil produces aesthetic magic which is at the same time warm, watertight, and convenient." It

was enough for him to be the aesthetic conscience of the few without having to worry about the tawdriness created for the many.

For the most part this is still true of the architect of today, and one can scarcely blame him. It is enough to throw all of one's talents into the creation of a single object, into its refinement, its majesty, its utility, its style, without having to worry about its social consciences or whether it contributes to the general environment. I find myself shaking my head in disbelief when I remember that two very distinguished architects, two deans of great architectural schools, gave their talents and their names to the building of the Pan Am Building that towers above the Grand Central station in New York, a home and a magnet for fifty thousand people a day in what is already the most congested area of the city. Why? How can it be? But it is, and other equally distinguished architectural firms are crowding still more buildings into the same area. It was the decision of committees to build these buildings, of course, and not even so astute an architectural critic as Edgar Kaufmann, Jr., could find a villain when he undertook to write an article about the Pan Am Building for *Harper's Magazine*. Where all decisions are made by committees, there are no villains. There are also, however, no heroes. But something is happening to architecture that will inevitably change the nature of the profession, and the profession is aware (rather grudgingly, I think) of this. Two years ago the American Institute of Architects held a conference in New York on "Aesthetic Responsibility." The theme of the conference was "Who is Responsible for Ugliness?" The answer, of course, was that everybody except architects is responsible for ugliness and that architects ought to do something about it. (Bad architects, to be sure, more responsible for ugliness than anyone. As Doxiadis has said, "How often do we fail to realize that no planning at all is better than bad planning." But that is aside from my point.)

The importance of the conference was a more or less official declaration by the architects of their need to be concerned with more than individual buildings for individual clients. They put themselves

on record as having a responsibility for environment as well as for structure and they made it clear that they recognized that environment does not stop at the edge of the piece of land on which they are building, any more than the environment of Ramée's Union College stopped at the fences of his campus. This is not the only, and probably not the first, time that the architects have declared their public responsibility, but (and I almost hesitate to say it) it is the first time in my knowledge that they have had a *committee* on aesthetic responsibility!

More and more the architect finds that he must, if he is to establish the importance of his profession in the public mind, move not as an individual but as one of a group. He cannot single-handed make any considerable impression on the environment and less and less can he afford to be merely the creator of individual gems to be put in tawdry settings. That is not to say that he must forego his function as an artist and become merely a functionary, a committeeman, a name on a letterhead registering his disapproval of aesthetic sin and his advocacy of plastic virtue. But he will have to become engaged intimately and doggedly in the larger problems of the environment. His horizon must move from the edge of the lot to the rim of the landscape. His concern must be not alone with buildings in which people do things—sleep, study, shop, play games, eat, carouse, meditate, relax, pray, putter—it must be with how they move from one place to another, how they change their minds about what constitutes the good life, how values and standards of pleasure and necessity change from one decade to another.

The architect must concern himself not only with building but with destruction, with the value of impermanence as well as of permanence. He must be willing to recognize not only that the population with which he is dealing is a highly mobile kind of animal—there are in our society fewer and fewer truly permanent residents anywhere—but that buildings themselves must be, if not mobile, at least extremely malleable. He must know that permanence of structure is not necessarily a virtue, and can be a menace. He must, in other words, be as much social scientist as engineer, as much designer as transpor-

tation expert, as much visionary as practical planner. He must, in other words, be more than a man; he must be a committee.

Nearly everyone who has presumed to forecast the future of design and structure has almost invariably (perhaps inevitably) been wrong. The city of the future never looks like anyone's dream of Utopia, any more than the campus of Union College followed precisely M. Ramée's notion of what it would look like, and M. Ramée would, I believe, be pleased that it hasn't. I cannot think that he was a man who would not have been excited by changes and developments in style and structure. He preceded the nineteenth-century romanticized portrait of the architect as dreamer-artist and creator of illusions many of them about himself). He dealt not only with buildings but with an environment. He lived in a time when it was possible for the artist-architect-builder-planner to be a committee unto himself. It was a time when statesmen, like Jefferson, could be architects; printers, like Franklin, be scientists; painters, like Fulton, be inventors of steamboats. It was a time when an architect's patron could know his own mind, secure in the knowledge that any truly educated man could know very nearly all there was to know of the arts and science. The poet Lorca said that the public which demands the traditional in architecture forgets that old houses are created not by architects but by time. A great deal of the past of American architecture has depended on trying to create or recreate old houses, on trying to adapt ancient styles to modern life. But it is too late, and we are too grown-up for that now.

Of one thing about the future of architecture I think we can be sure. It will be far more complex than the complex art Geoffrey Scott thought it was. Architecture will not be merely a marriage of art and science producing styles that reconcile the demands of each. Architecture will not create merely buildings but places, not just structures but environments. Architecture will not cease to be what it has been considered, a noble branch of the arts, but it must become in our infinitely complex, rambunctious and optimistic society an equally noble branch of statesmanship.

# Banff Session '64

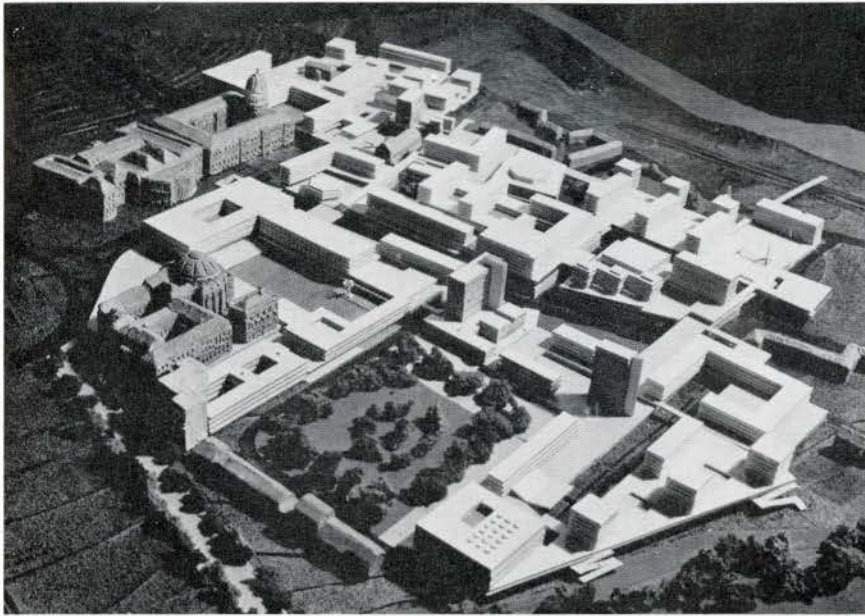
Elsewhere in this issue we reprint an article from Harper's Magazine by Russell Lyons about architects today which begins by saying that if someone wanted to put up a statue to the architect planner of the contemporary university he would have to dedicate it to a committee, not an individual, because the modern

lecture on Old Campuses; the Campus Landscape and the Universities of the Future. The Journal was pleased to be able to contribute three of the principle speakers, W. N. Greer, of Shore, Moffat and Partners, Toronto, speaking on York University, and E. M. Brookes, P Eng, Director of Planning, Waterloo University, both of whom dealt with the planning of the new university, Mr Greer from the architect-planner's point of view and Mr Brookes from that of the university administrator; and R. David Bourke, of Dobush, Stewart and Bourke, Montreal, who spoke on new architecture in the existing university with the McGill campus in Montreal as his example.

Events such as Banff Session '64 can be recorded in any number of ways; the problem is to select the one of greatest interest and value to those who could not be there. We therefore present in detail three projects only—two major new universities, Simon Fraser at Vancouver, and York at Toronto and one smaller institution of great design interest, Scarborough College, a "satellite" of the University of Toronto. We asked Dr Thomas Howarth, FRAIC, Director, University of Toronto School of Architecture, to summarize the chief lessons from the Session. From the tape of the summation address given by Mr Creighton we took the points upon which he placed the greatest emphasis.

A distinguished visitor from abroad, and one who contributed immensely to the program on a variety of topics, was Prof. Percy Johnson-Marshall, FRIBA, who organized a school of city and regional planning and a planning research centre at the University of Edinburgh in 1959.

In addition to Messrs Greer, Bourke and Brookes, and Prof. Johnson-Marshall, the principal speakers and their topics included Dr Howarth (university of the future); Arthur Erickson, Vancouver (Simon Fraser); Douglas Gillmor, Winnipeg (Manitoba); J. E. Robinson, Boston, and Douglas Wilkinson, Winnipeg (landscaping the campus); James Langford, Ottawa (universality in education and, separately one evening, Regina campus); John Andrews, Michael Hough and Robert Anderson, Toronto (jointly on Scarboro). The task of launching Session '64 and setting the philosophical tone and intellectual level for the 64 architects, planners, engineers, educators and administrators present was undertaken by Prof. Henry Elder, head of the School of Architecture, University of British Columbia.



*University of Edinburgh comprehensive development area. Planning consultant/Percy Johnson-Marshall, FRIBA.*

## Campus Architecture

new university is the creation not of one person but of a group, or even a number of groups, and not all working together or at the same time. The very magnitude of the university development program as it has developed across Canada and the urgent need for new or enlarged facilities has presented the architectural profession with a tremendous challenge. As Dr Thomas Howarth (F) says in his comments on the next page, a more appropriate subject than campus planning for Banff Session '64 would have been difficult to find.

Banff Session '64, like its predecessors, was held at the Banff School of Fine Arts and, like its predecessors, went on continuously from Sunday afternoon to Thursday night with brief interruptions for sleeping, skiing, swims in the outdoor hot springs and for supplies and maintenance. Sponsors were the Alberta Association of Architects and the RAIC, and the chairman of the Session Committee was J. H. Donahue of Edmonton. The moderator was Thomas Creighton, FAIA, former editor of *Progressive Architecture*.

The program was in four major parts, Planning the New Campus; New Archi-

## Comments

by Doctor Howarth, FRAIC

Almost overnight the Canadian university has become a major patron of the architectural profession; many architects are directly involved in university building, many more wish to be, and all are appraising critically the rapidly changing situation. A more appropriate topic for Session '64, therefore, would have been difficult to find.

It is doubtful whether any field of architectural endeavour in Canada has had and will have such a profound effect upon our profession; the sudden demand for large scale and long term planning has caught the architect ill prepared. By and large he has concentrated upon the individual, prestige building — as our existing campuses and city streets clearly demonstrate — he has not taken kindly to group or team work in which some sacrifice of independence and the acceptance of a degree of design control may be essential to the common good. To meet this situation new professional groupings have emerged and formal and informal consortia have been arranged; the old order is changing and new tensions are evident as the various groups act and interact.

Then again, the university "client" is peculiarly demanding, since, as a rule, the users are highly intelligent and often well-travelled and discerning people. Presidents, boards of governors, administrators and academic staff are sometimes better informed than the architect on the latest developments in a particular field — committees are sent overseas and throughout the USA to study specific aspects of university administration, planning and building design. There is now a free flow of information between administrators about building materials, costs, functional efficiency, maintenance problems, professional fees and so forth. Most universities have a staff of engineers and occasionally architects who check drawings and carry out some form of supervision for the client. In the design stage, the architect is likely to be called upon to justify — if he can — some cherished feature or questionable plan arrangement. It is

surprising how ineffectual the jargon of the art critic — "the hierarchy of spaces", "the interpenetration of planes" etc. — becomes when exposed to the cool, rather cynical examination of a committee of academics, businessmen and university administrators, the tools of whose trade may well be semantics, finance and politics. There can be no doubt that the architect is now required to give a very good account of himself. The university primarily demands a logical, intelligent approach to planning and building; it is supremely conscious of its role in society and at last is becoming aware of its responsibility for setting high standards of environmental and physical design. The architect will appreciate, however, that confidence must be firmly established and strengthened if the profession is to play its full part in future development. As a major public enterprise the university must be certain that its physical plant works well, is reasonably economical to build and to maintain, and that those using it may do so with pleasure and convenience.

Session '64 set itself the task of exploring all the problems relative to the building of university communities — communities in which the spaces between buildings, as Sir Hugh Casson reminded us a decade ago, are as important as the buildings themselves; where the vehicular traffic flow, the parking of cars, the movement of pedestrians and protection against extremes of climate, and many other factors, complicate still further an already complicated problem. Campus design is undoubtedly a team job, and one of the architect's prime functions — whether or not he assumes the role of coordinator — is to ensure that the human element is never forgotten. We are, or we should be, creating an environment for learning in which the beauty of nature and man-made things conspire together to elevate the spirit and widen intellectual horizons.

Although the architect may be concerned with an individual campus, or even with an individual building upon a campus,

it is necessary for us to keep in mind continually the universality of the educational problems. In my own presentation at the end of the Seminar, "Universities of the Future", I placed considerable emphasis upon international co-operation and on national and regional planning in the educational field. With the Jodrell Bank radio telescope used by the USA, Russia and Britain as an example, it was possible to demonstrate that costly and imaginative scientific instruments and laboratories could provide a means of bringing together scholars of different nationalities and with widely differing ideologies. It would seem, therefore, that we may anticipate the future establishment of great international centres of learning, not only in the physical sciences but in the humanities and social sciences also. Health, nutrition, population growth and space research are a few of the international problems that might already be studied in such centres.

In the last five years or so the Province of Ontario alone, with a population of little more than six million, has seen the establishment of five universities — Carleton, York, Trent, Laurentian and Brock; the University of Toronto has planned two satellites — Scarborough and Erindale — which will almost inevitably become independent — and all the established universities — McMaster, Ottawa, Western, Queens and Toronto — have ambitious expansion programs. Yet there is no overall academic concept of what facilities should be provided, where special centres should be, and how developments in Ontario will affect, or may be related to the national need.

Very soon we must have a national plan for higher education, which will, perhaps be followed by a supra-national program for the North American continent related, one would hope, to world needs.

Many advances in teaching techniques and mechanical aids may be expected in the universities of the future. Closed circuit TV is already with us (and Scarborough has been designed to take advantage of this) but we will soon have recorded TV; economical color TV; three dimensional TV and no doubt

eventually dematerialisation and materialisation techniques and a time-machine for teaching history!

If we based our construction programmes upon known statistics and projections, and assumed that traditional teaching methods only would be used, the future problem would seem insoluble. There are four million students in the USA now. By 1970 there will be 7,000,000 and by 1975 there will be 8,500,000. In eight years — from 1964 to 1972 — it is estimated that capital expenditure on campus development and construction in the USA will be \$19 billion dollars and the building program is already well behind schedule. For the academic and administrator this implies either reducing standards or, alternatively limiting enrolment, devising more effective selection methods, developing experimental teaching techniques — home teaching by TV for example — accelerating or concentrating courses, and all-year-round operation. For the architect a pooling of knowledge and skills, a selfless dedication to research in rapid and economic structural systems, and a more general acceptance of modular and prefabricated unit structures. Urgently needed are more flexible buildings that will provide the maximum internal freedom for adaptation to changing needs. Multi-purpose buildings and laboratories are required now because departments expand or contract much more quickly than hitherto as emphasis moves from one discipline or area of study to another. For example, in recent years we have seen the extraordinary development of a number of new subjects, such as atomic physics, electronics, computer science, and aerophysics. On the other hand in the medical sciences, emphasis has shifted quite dramatically from anatomy to the biological and bio-chemical areas.

One of our great problems professionally is our adherence to conventional methods, and more seriously, to conventional thinking. In company with our professional colleagues in other fields, we are inundated with technical literature. We have the greatest difficulty in keeping abreast of developments, and despite

the efforts of building research centres at home and abroad, comparatively few architects find it possible to take advantage of known technical advances, much less do original research themselves.

Our Schools of Architecture are now revising their curricula and course content and moving more actively into the fields of graduate research and planning. It is, perhaps, to the next generation that we must look for the imagination, tenacity and dedication that will be necessary to resolve many of these problems, a generation that will either master the computer and all that it implies or call a halt to scientific and technological research until existing information and knowledge can be assimilated and put to practical use. The architect-planner of the university of the future and, indeed, of the town and city community, may well emerge as a new kind of universalist, the man described some years ago by Patrick Horsbrough as an "omnitect".

Seminar '64 ended with a freely ranging discussion in which, finally, everyone seemed to agree that the fundamental questions still remained unanswered, and will probably be so until the end of time. What should be the real objective of education?—where are we going?—and why, indeed, are we here?

\* \* \*

In the strange disquiet that always follows the rapid fading of Banff's environmental magic as the guests depart, one felt that despite the undoubted success of Session '64, the really important people had not been with us. This highly significant performance should have been played before a participating audience of politicians, presidents, chairmen and members of boards of governors — those powerful form-givers of our educational structure. The stage should have been set, perhaps, with the cunning and skill of a Hamlet, yet, no doubt, other opportunities will present themselves.

*Dr Howarth is Director of the school of Architecture, University of Toronto, advisor to the Board of Governors of York University and architect-planner for Laurentian University.*

## Summation

by Thomas Creighton, FAIA

Moderator

First, I believe that the totally new campuses that are being developed today must explore totally new educational and architectural concepts; not imitate the old. This would seem to be an obvious proposition, but we have seen and heard the nostalgia which all of us who are designing campuses meet continuously for the Oxford, the Cambridge, the Harvard, the McGill, Clowder, Mayback and all of these wonderful traditions which have produced things which we identify as campuses, and which give us a sense of university. We have also, however seen several stimulating possibilities in Scarborough and in Simon Fraser University, and I say that a new campus today with the exciting new possibilities in education which exist cannot be planned nostalgically. As the older universities expand the new sections of these universities should be divorced from the old portions with the relationships established by the treatment of the landscape. I feel very strongly that in instance after instance we have seen futile attempts to continue in new buildings a revered architectural tradition. The university in many ways is like a city. In a city we revere and we want to preserve and we love the old portions of that city but we don't want to let them inhibit us in building new centres in new parts of the city. I think a respect for the old is to let it sit there and say wasn't that wonderful—not to attempt to imitate it today. New universities and new portions of older universities should be treated as urban spaces, not retreats from the world. The university is the centre of the student's world for somewhere between three and five years; the years of his entire cultural understanding—and the development of his cultural understanding during that formative period. I don't think that a university is any longer an ivory tower retreat. It is a time of maturing and growing into a dynamic world—a world which we know is becoming an urban world.

A university in addition to being a type of urban space itself must be an integral part of a larger urban area and thus planned. The university should become

an integral part of the development of the city and a very necessary part of the development of any major city, either as a part of re-development and regrowth in an older city or as part of an essential core of a new town once that town reaches a certain size. I don't think that a university can really exist and prosper and serve the function that it should in an isolated place, hoping that it will draw to it and grow up around itself a town of some kind. This just does not happen; it has to be planned. Towns that grow up around universities when they are not planned are almost inevitably bad towns with bad situations which do not assist either the growth of the area around the university or the university itself.

A university must respect and be planned to its climate and to its physical situation. It would seem obvious but it is a precept which is too often ignored and it is a precept which is sometimes even argued against because we can do so many things technologically today — what difference does climate make. I think that man can change many aspects of his physical situation but it will be a long time before he changes hot and cold weather and rain-fall, snowfall, fog and wind.

In thinking back on the week's discussions, and resulting almost inevitably from these precepts, certain directions in design are indicated and I hope that they are not limiting, that they rather open up possibilities. I certainly do not intend to state them as rules; these are things that seem to me important directions that we should explore. First a university plan must be flexible not only in relationship of spaces to one another but in the spaces themselves. Designing flexibility is anathema to the architect. We hate it. It seems to indicate indecision. It doesn't give us an opportunity for imaginative and personal and creative solutions to specific problems.

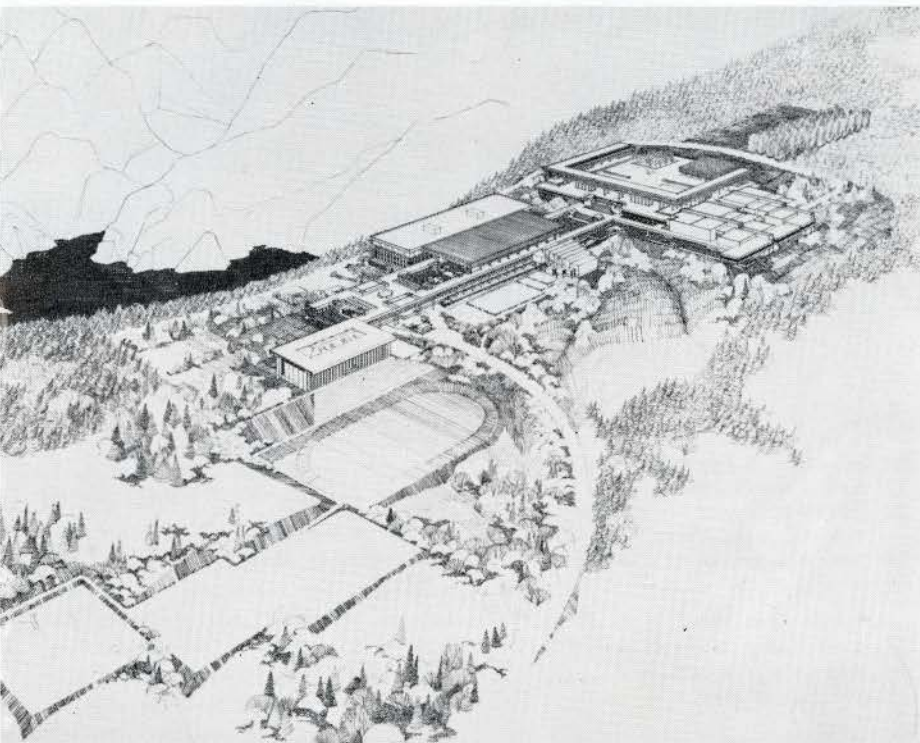
Another direction I think which we have to recognize is that a university should be conceived as a large structure. One large structure or at best several related large structures—not a galaxy of small special purpose buildings. Greater unity, greater

flexibility, greater adaptability to climate changes are possible in unified rather than a fragmented building design. This certainly need not preclude useable and intensely used outdoorspaces. In other words this might be put that a university in addition to being in many ways a city is in many ways also a building. A third design direction which I think must be explored is that an imaginative architect can find new creative satisfactions to replace the older apparently universally desired ones. For instance the campus—and I think we have seen several instances of replacements of the campus purpose and the campus satisfaction. Johnson-Marshall's upper level—Erickson's Mall—Andrews' great galleries which are so handsomely illustrated in his drawings and so forth. I don't know what subject we can find for the apparent desire for a central focal point such as a library but I am sure with imagination this nostalgia can be met.

A fourth possible direction in design is that new ways must be found to break the large university. One hesitates to use the word campus at this point to break up the large university into component parts. The old way of course was to separate it into buildings or quadrangles based on departments. Erickson in his tri-parti plan suggests a totally different way of breaking up a large university situation. This breaking up or breaking down of a university to functional rather than departmental segments must be done I think first of all to reduce scale which in the rapidly growing universities can grow indefinitely and secondly to separate the old from the new rather than letting the old spread forever. Thus by function, by size and by time I think a new series of relationships have to be found. Again I say these precepts and these indicated design exploratory directions are by no means laid down as rules; they are conclusions that have come to me as a result of this week's activities. I am sure, I hope, that others have come to different conclusions and I suggest now that if you wish we might think about these ideas.



# Simon Fraser University, Burnaby, BC



Design Co-ordinators & Planners/Erickson, Massey  
Central Mall and Transportation Centre/Architects/Erickson,  
Massey  
Library/Architect/Robert Harrison  
Academic Quadrangle/Architect/Zoltan Kiss  
Science Complex/Architects/Rhone and Iredale  
Theatre and Gymnasium/Architects/Duncan S. McNab,  
Harry Lee, David C. Logan

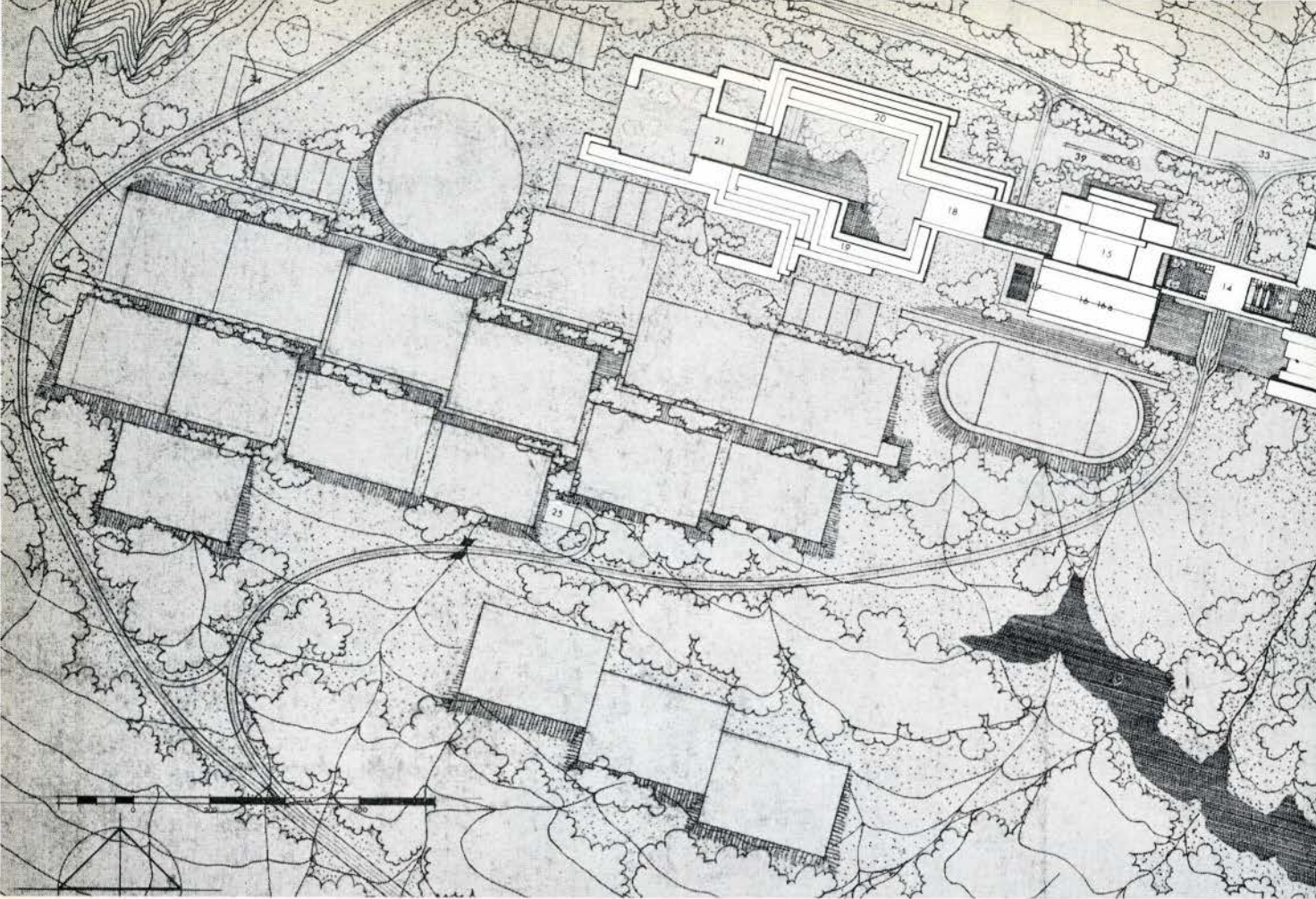
## THE CONCEPT

Dr. J. B. MacDonald arrived in July, 1962, as the new President of the University of British Columbia. He immediately began a study of the needs of higher education in the province, and on January 28, 1963, he submitted his *Higher Education in British Columbia: A Plan For the Future* to the Minister of Education, the Honourable Mr. L. R. Peterson. One of Dr. MacDonald's recommendations was that the B.C. government establish another provincial university in the Lower Mainland area. He pointed out that 1965 would bring the beginning of a very large increase in the number of students eligible to enter universities.

The B.C. government acted with unprecedented speed. In less than two months a new Universities Act, including the establishment of Simon Fraser University, received assent. The Chancellor, Dr. G. M. Shrum (co-chairman of the B.C. Hydro and Power Authority, and former Dean of Graduate Studies and Head of Physics at U.B.C.) was appointed on May 9th. His job — almost impossible — was to find a site, have the buildings designed and built, and see that there was a desirable academic program and faculty by September, 1965. Together with his Board of Governors, he appointed as President, Dr. P. D. McTaggart-Cowan, then Director of the Meteorological Service of Canada. Dr. McTaggart-Cowan, a Rhodes Scholar from U.B.C., with a distinguished career as a physicist, meteorologist, and administrator, took up his appointment at Simon Fraser in January, 1964.

In the summer of 1963, the government accepted Dr. Shrum's recommendation that the University be built on top of Burnaby Mountain seven miles east of the centre of Vancouver. The 1200 acre site, donated by the Municipality of Burnaby, is magnificent. It commands incomparable views of Indian Arm, (coastal inlet) the mountains, the Fraser Valley, and Vancouver city and its harbour. It is close to the main highways and freeways, and it is near the centre of a very rapidly growing population.

In the competition to find an architectural plan to fit the site, over seventy entries were submitted, but the international panel of judges was unanimous in its first choice, that of Erickson and Massey. Their plan, which is now being



LEGEND

- 1 EAST GATE
- 2 ADMINISTRATIVE BUILDING
- 3 THE ACADEMIC QUAD
- 4 FACULTY OFFICES
- 5 MULTI-PURPOSE CLASSROOMS
- 6 LABORATORIES AND SCIENCE CLASSROOMS
- 7 STUDENT CAFETERIA
- 8 FACULTY CAFETERIA
- 9 THE MALL
- 10 THE COVERED MALL
- 11 LIBRARY
- 12 SMALL THEATRE
- 13 LARGE THEATRE
- 14 TRANSPORTATION CENTRE AND MAIN ENTRANCE STAIRS
- 15 STUDENT UNION
- 16 WOMEN'S GYMNASIUM
- 16a MEN'S GYMNASIUM
- 17 SWIMMING POOLS—INDOOR AND OUTDOOR
- 18 COMMON BLOCK AND COMMISSARY

- 19 MEN'S RESIDENCE
- 20 WOMEN'S RESIDENCE
- 21 RESIDENCE LOUNGES
- 22 AREA FOR FACULTY CLUB AND FACULTY RESIDENCES
- 23 AREA FOR PRESIDENT'S HOUSE
- 25 SPORTS FIELD HOUSE

LANDSCAPE FEATURES

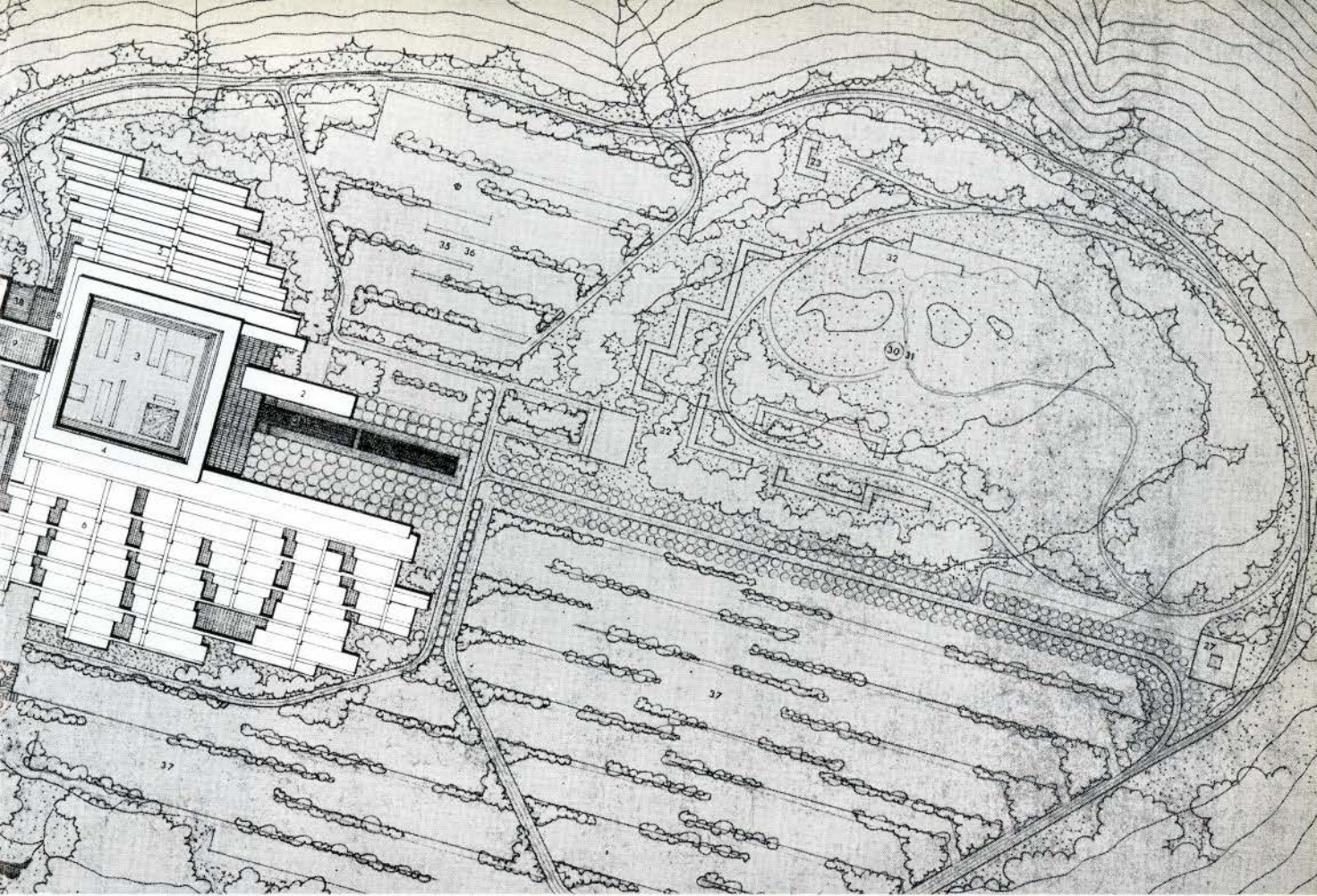
- 27 MONUMENT TO SIMON FRAZER AND EAST LOOKOUT
- 28 REFLECTING POOL
- 29 LAGOON
- 30 WATER TOWER
- 31 CONSOLIDATED ANTENNAE
- 32 SUMMIT LOOKOUT AND RESERVOIR
- 33 CENTAL LOOKOUT
- 34 WEST LOOKOUT

PARKING

- 35 FACULTY
- 36 STAFF
- 37 STUDENT
- 39 VISITORS

carried out, called for an extremely compact campus that took every advantage of the site. The campus is built around a partially covered pedestrian mall running along the brow of the mountain. The mall is, in fact, a bridge between two knolls, and the main road into the University runs under it. The space under the "bridge" also provides underground parking for some eight to nine hundred cars.

The University will be built in three phases, the first to accommodate 2,000 students (by 1965), the second to accommodate about 7000 (by 1970) and the final one to accommodate 18,000. Even when the plan is fully developed, however, all the buildings will be within a very short walking distance of one another, and students should be able to



go from any part of the building complex to any other without going in the rain. The contracts for the six buildings comprising the complex, to be finished by July, 1965, have been let and construction is under way. With equipment, they will cost approximately \$16,000,000. They include the Academic Quadrangle, the Library, the Science Complex, the Theatre, the Gymnasium, and the Mall. The later phases of construction can all be added to the existing framework without interfering with the operation of the campus in any way. As just one example of the architects' use of the site, the design of the science complex bears examination. By building the laboratories and large lecture theatres down the slope of the mountain, they have been able to use the existing grade for the

slope of the lecture seating. Expensive excavation or construction is unnecessary. The classrooms and laboratories are built in terraces down the mountain, so that laboratories that do not need daylight (optics, for example) will be underground, while classrooms will all enjoy the magnificent views from the campus. The Theatre, which will also be used as a large lecture hall, provides every kind of stage. Its proscenium arch is mounted on rollers. When it is rolled back, bleachers can be lowered from the side walls to provide an arena stage. The Gymnasium will be largely a teaching facility for the Faculty of Education. It includes an indoor swimming pool and an indoor diving pool. On one side, it opens into the Mall; on the other it opens to a series of terraced playing

fields. The slope to each terrace will be such that the bleachers can be built directly on the ground. Its experimentation begins with its acceptance of the trimester academic year. Under this system, the University will offer three semesters of sixteen weeks in each calendar year. Each semester will be complete in itself, with its own registration period and its own examinations. Students will not be forced to attend all year. Many of them will no doubt continue to attend from September till May. Others, however, will attend all year and complete their first degrees more rapidly than is normal. Some may choose to attend one semester one year, two another, three another. The financial advantages in the greater use of the Library, classrooms, labora-



tories, etc., of the trimester system are obvious, but the academic advantages are perhaps even greater. Both students and faculty enjoy a much greater flexibility in their activities than a traditional academic year permits. Members of faculty will lecture in only two of the three semesters in any one year, but they will be able to take the time for research in the Fall and Winter semesters, as well as in the Summer. (It must be remembered that many research libraries are now overcrowded in the summer and that many members of faculty would prefer to visit other institutions when they are in operation and their opposite numbers are on campus.) If a faculty member chooses to lecture for three semesters in a calendar year, he will then be entitled to an eight month period free from lectures, provided he returns for a final semester of lectures, making four terms out of six.

Students benefit academically and economically from all year operation. It is easier for them to work their way through college if they do not all appear on the labour market at the same time. Some industries have offered to keep jobs permanently for students, on the understanding that the University will rotate students through the job at various times of the year. Students who are anxious to finish and capable of finishing their first degrees in less than the recently "traditional" four years will be able to enter graduate work or employment earlier. Since most original work in the sciences is done by relatively young men and women, it is important not to delay their entry into research longer than is necessary.

The University will encourage research from the beginning, but it is also determined to see that good teaching is recognized. The prime function of the lecture is not to transmit information. It is to show students how to learn for themselves and show them the ways in which original thinkers themselves tackle problems. Consequently, the University will make every possible use of audio-visual aids and new methods of teaching. It is designed so that there are very large lecture theatres in which all students can profit from hearing the best and most original lecturers. The lecture theatres will be equipped with radio-microphones, back-projectors, etc., and many of the key lectures will be tape-recorded so that students who have been forced to miss a lecture can hear it in the library. In addition to the large lectures, however,

each student will take part each week in a number of small seminars, tutorial groups, and problem sessions. Most of the classrooms in the Academic Quadrangle hold only fifteen students. The buildings are designed, in other words, so that every student will enjoy the personal contact and encouragement of the small group as well as the benefits of the carefully prepared large lecture. He may attend fewer lectures than is traditional in Canada, but each will be vital.

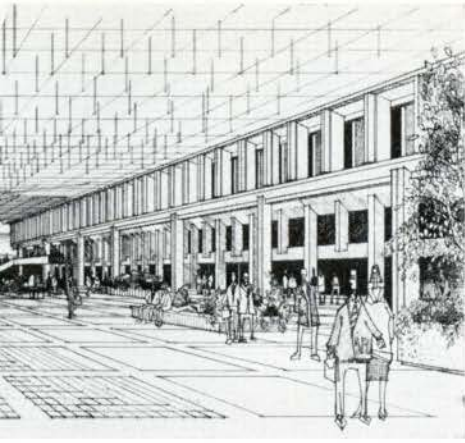
One of the chief reasons for founding Simon Fraser University was the increasing number of students seeking university entrance in B.C. Consequently, Simon Fraser is planning its courses so that it will offer those subjects in which there is high enrolment at U.B.C. By careful choice of areas of specialization, it will complement the offerings at U.B.C. In this way, the province will provide a better total educational system. Simon Fraser will begin in September, 1965, with three faculties: Arts, Science, and Education. In Arts it will offer Economics and Commerce, English, Geography, History, Modern Languages (French, German, Russian, Spanish), Philosophy, Psychology and a combined department of Political Science, Sociology and Anthropology. In the Faculty of Science it will begin with departments of Biological Sciences, Chemistry, Mathematics and Physics. In Education, it will prepare elementary and secondary teachers. In 1965 it will offer first and second year courses. Third year courses will be added in May, 1966, and fourth year courses in January, 1967.

Members of faculty are now being appointed. The details of courses and programs, teaching methods and facilities, the library, laboratories, and the hundreds of other parts of a modern university, advance every day. When Simon Fraser opens in just over a year, it will be one of the most exciting universities — academically and architecturally — in Canada.

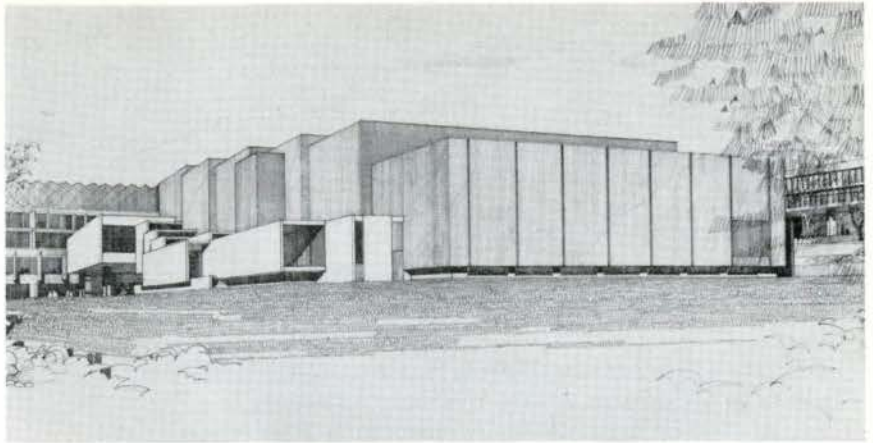
R. J. Baker  
Academic Planner

- 1 The Mall
- 2 Theatre
- 3 Transportation centre
- 4 Library
- 5 Gymnasium
- 6 Academic Quadrangle

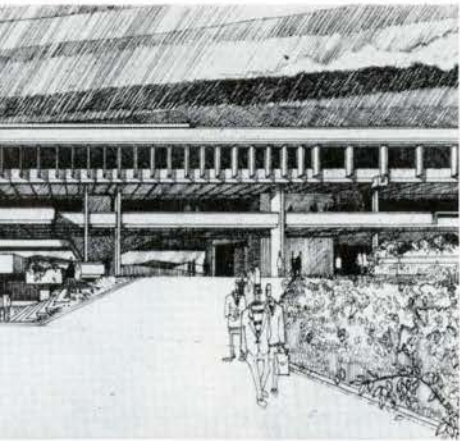




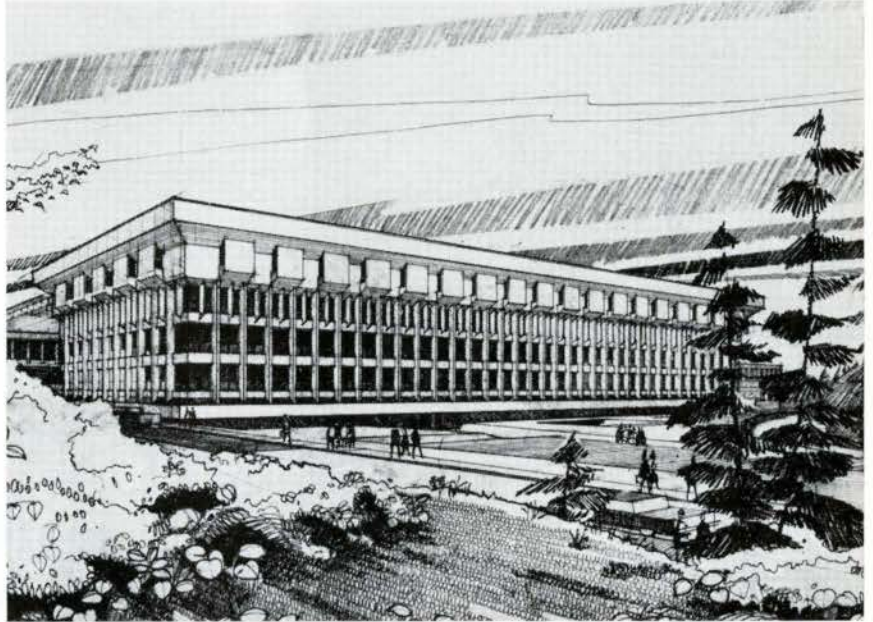
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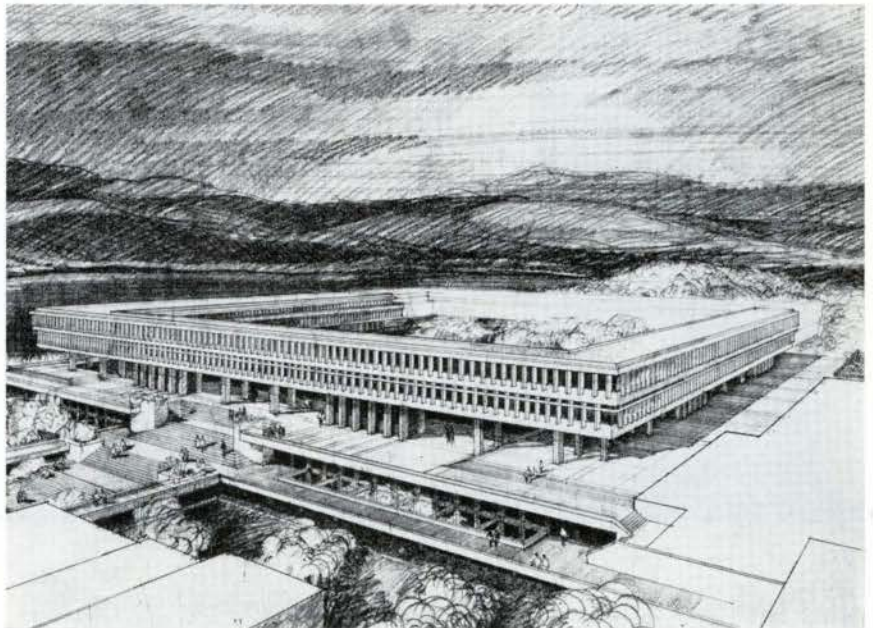


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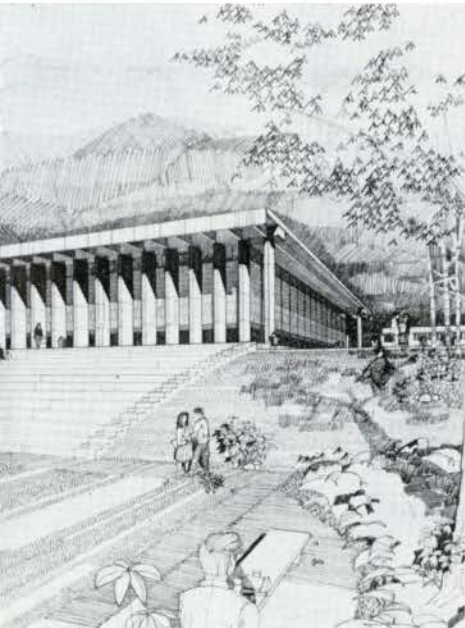


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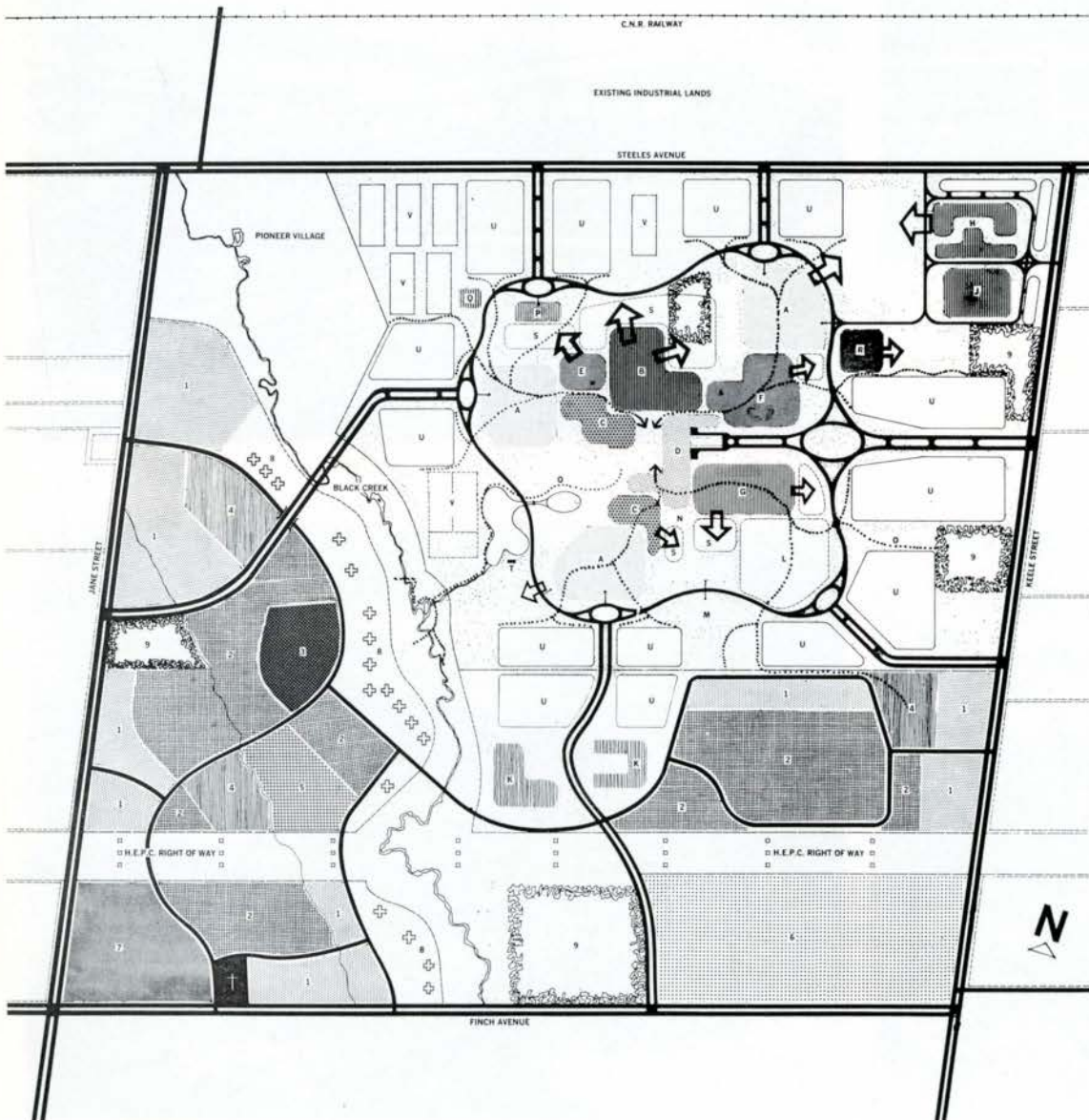


6



# York University, Toronto

University Planners, Architects & Consulting Engineers  
Gordon S. Adamson & Associates, Architects  
John B. Parkin Associates, Architects & Engineers  
Shore & Moffat and Partners, Architects & Engineers

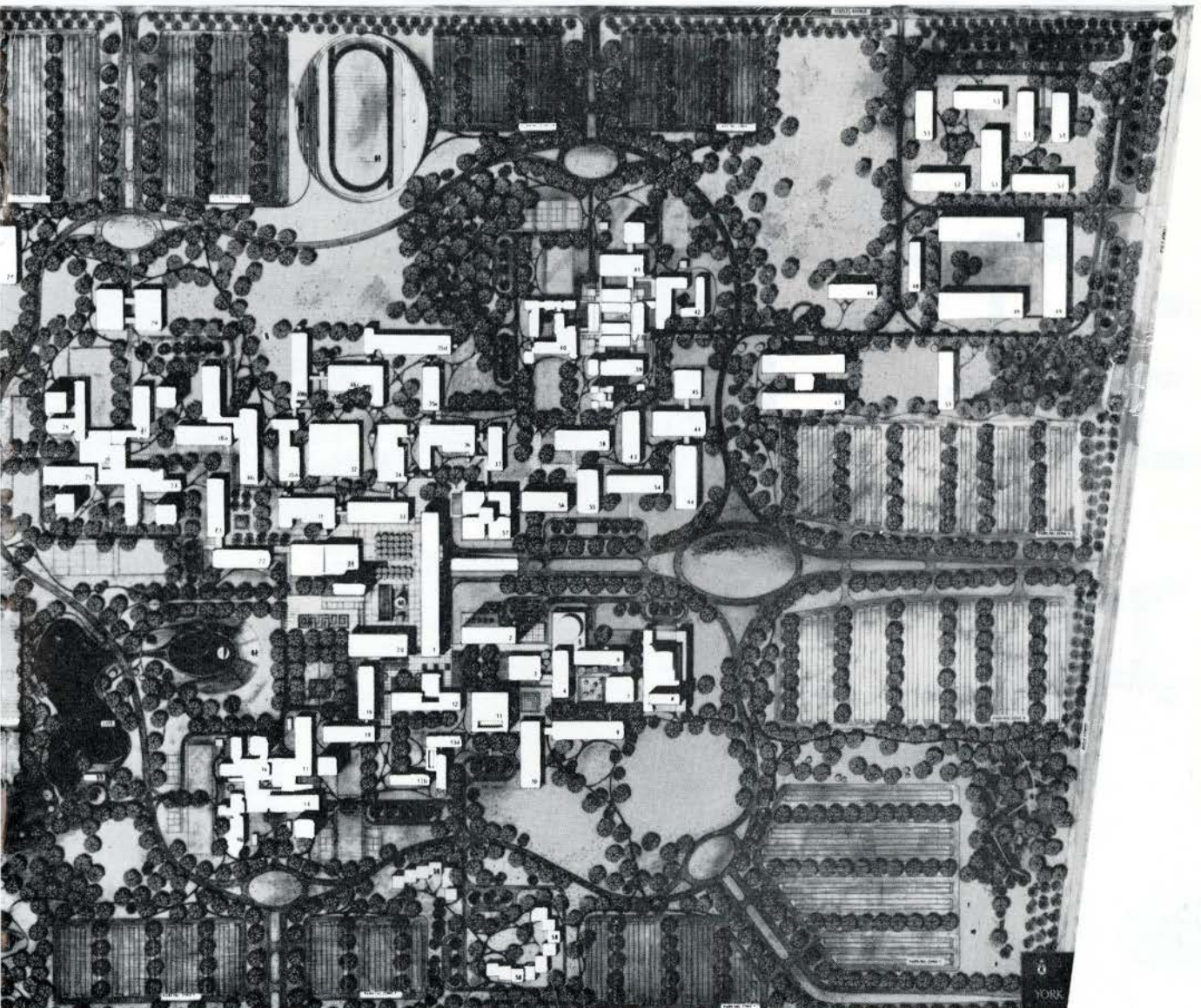


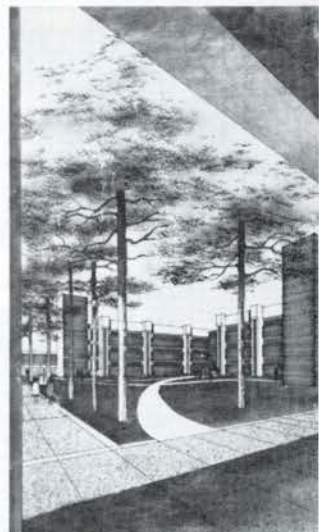
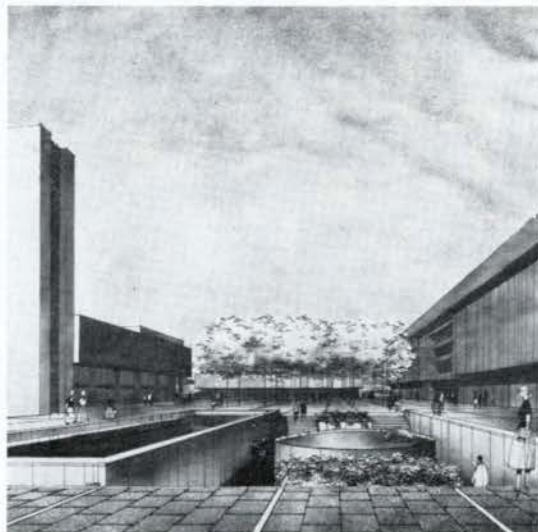
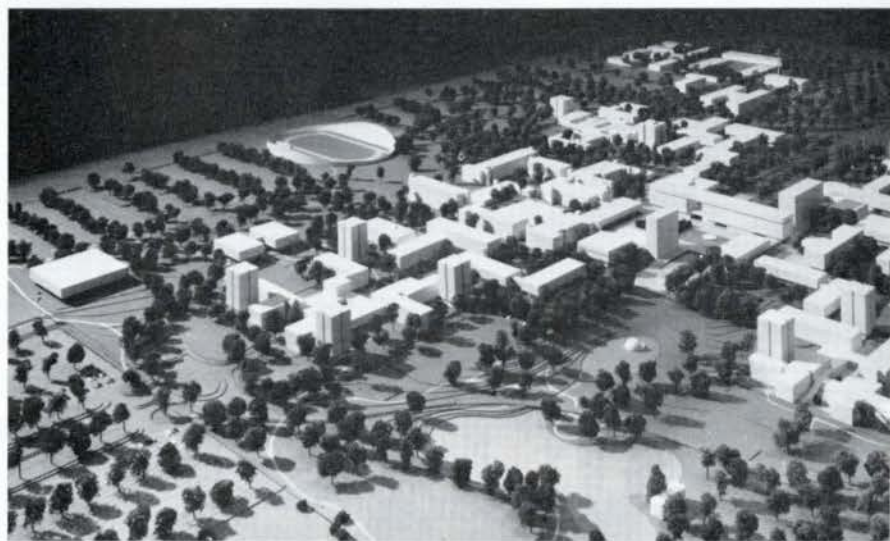
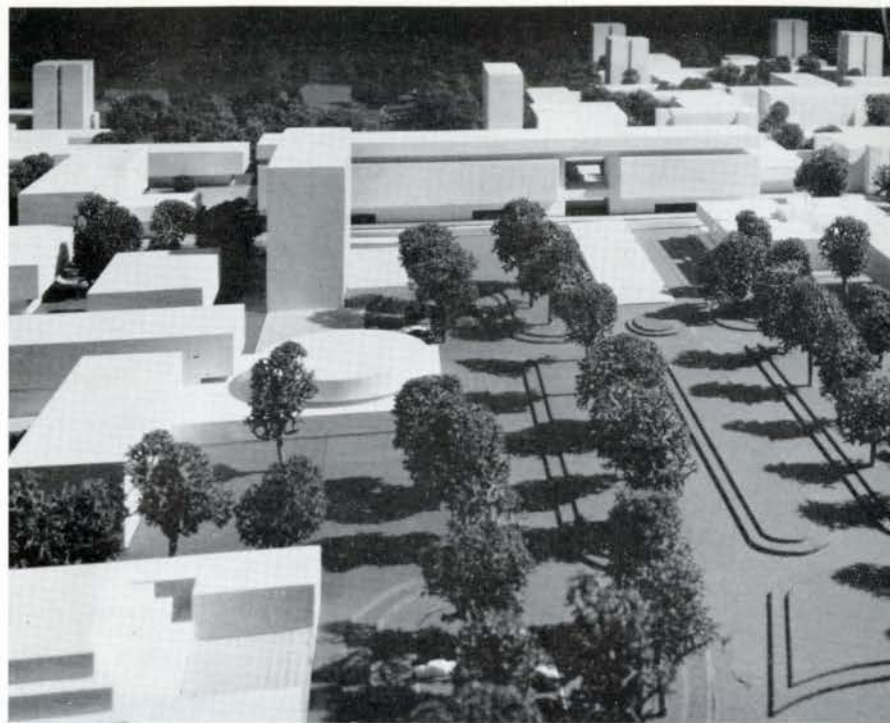
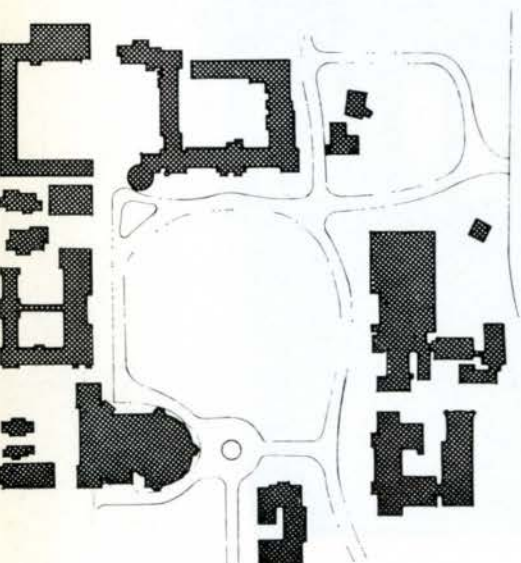
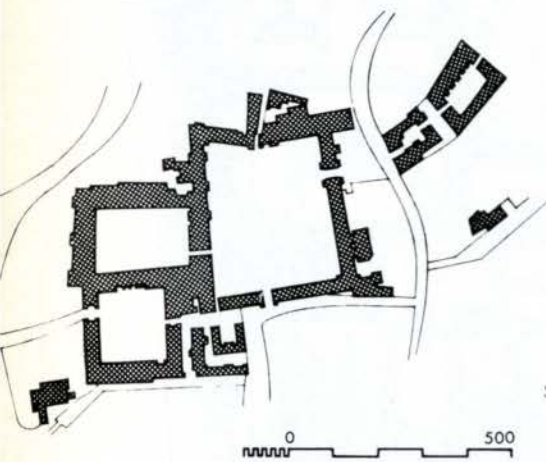
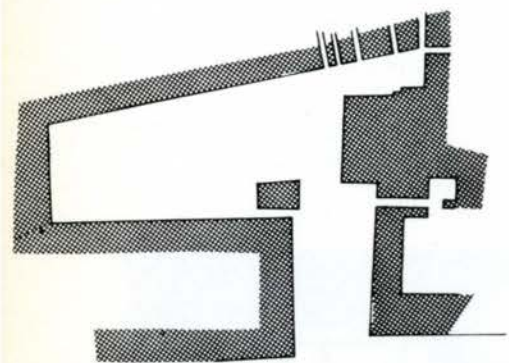
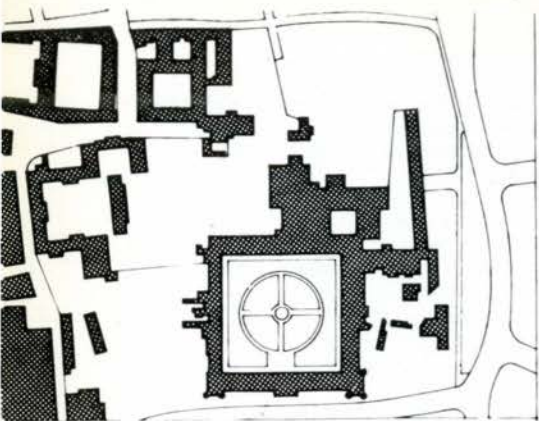
CONCESSION BLOCK STUDY

- 1 MEDIUM DENSITY HOUSING
- 2 SINGLE FAMILY HOUSING
- 3 JUNIOR HIGH SCHOOL
- 4 PUBLIC SCHOOL
- 5 PARKS PLAYGROUND
- 6 PROPOSED PLAYGROUND
- 7 FUTURE COMMERCIAL DEVELOPMENT
- 8 HIGH RISE HOUSING
- 9 EXISTING FOREST
- A COLLEGE
- B SCIENCE
- C PROFESSIONAL SCHOOL
- D HUMANITIES AND SOCIAL SCIENCES
- E ENGINEERING
- F MEDICINE
- G FINE ARTS
- H ALLIED INSTITUTES
- J PHYSICAL PLANT, GARAGE
- K COMMERCIAL DEVELOPMENT
- L FUTURE COLLEGE
- M MARRIED STUDENT'S HOUSING
- N GRADUATE HOUSING
- O PEDESTRIAN PATH
- P PHYSICAL EDUCATION
- Q ARENA
- R TEACHING HOSPITAL
- S FUTURE EXPANSION

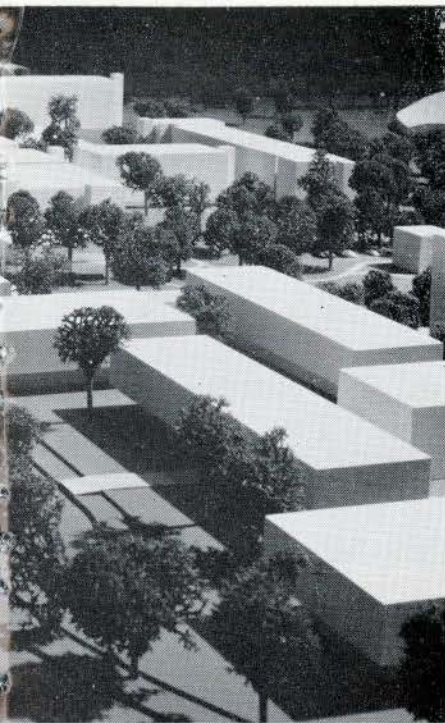
LEGEND

- 1 HUMANITIES AND SOCIAL SCIENCE
- 2 ADMINISTRATION
- 3 SCHOOL OF ART
- 4 SCHOOL OF MUSIC
- 5 TEACHING THEATRE
- 6 ART GALLERY
- 7 MUSEUM
- 8 AUDITORIUM
- 9 COMMUNICATIONS CENTRE
- 10 CONTINUING EDUCATION AND CONFERENCE CENTRE
- 11 UNIVERSITY CENTRE
- 12 SCHOOL OF ENVIRONMENTAL DESIGN
- 13 GRADUATE HOUSING
- 14-17 COLLEGE
- 18 COMMERCE AND FINANCE
- 19 SCHOOL OF ADMINISTRATIVE STUDIES
- 20 HUMANITIES AND SOCIAL SCIENCE LECTURE HALL
- 21 CENTRAL LIBRARY
- 22 SCHOOL OF LIBRARY SCIENCE
- 23 SCHOOL OF EDUCATION
- 24-27 COLLEGE
- 28 ARENA
- 29 PHYSICAL EDUCATION AND RECREATION CENTRE
- 30 ENGINEERING SCIENCE
- 31 PHYSICS
- 32 SCIENCE LIBRARY
- 33 PHYSICAL SCIENCE LECTURE HALL
- 34 CHEMISTRY
- 35 GRADUATE SCIENCE CENTRE
- 36 BIOLOGY
- 37 LIFE SCIENCE LECTURE HALL
- 38 COLLEGE OF PHARMACY
- 39-42 COLLEGE
- 43 SCHOOL OF NURSING
- 44 SCHOOL OF MEDICINE
- 45 MEDICAL LIBRARY
- 46 NURSES' RESIDENCE
- 47 TEACHING HOSPITAL
- 48 GREENHOUSE
- 49 PHYSICAL PLANT GARAGE AND WORKSHOPS
- 50 CENTRAL FOOD SERVICE
- 51 CENTRAL SERVICES
- 52 UNIVERSITY PRESS
- 53 ALLIED INSTITUTES
- 54 SCHOOL OF DENTISTRY
- 55 SCHOOL OF SOCIAL WORK
- 56 SCHOOL OF LAW
- 57 BEHAVIOURAL SCIENCE
- 58 MARRIED STUDENT'S HOUSING
- 59 PRESIDENT'S HOUSE









## FROM THE UPACE REPORT

The York University Master plan is not a working drawing setting out in precise detail the location and dimension of every part of the campus; rather it should be regarded as a planning framework. The specific requirements of the University in five years' time will undoubtedly differ from present estimates. The physical form of the campus will continue to evolve over the years of its construction; the final university plan will not be determined until the last structure is built. Only the guidance of well chosen principles will ensure orderly growth and the ultimate usefulness and beauty the university has reason to expect.

In 1962 The Province of Ontario gave York University 474 acres of farmland in the Municipality of North York, south-west of Keele Street and Steeles Avenue. Although the site touches the north-west boundary of Metropolitan Toronto, it lies near the potential centre of a vast suburban region.

Erosion has marked this slope, and an eroded gully penetrates the site from the south-west corner. Scattered trees and the rougher terrain make this corner of the site especially attractive. Its existing character should be maintained.

Of a total of 15,000 students the university expects by 1980, 12,000 undergraduates will be enrolled in colleges. The average size of the 12 colleges will be 1,000 students. Ultimately about fifteen per cent of the undergraduates will be in residence, the rest will be day students, commuting to the university by private or public transportation. All these students will make some use of the recreational, dining and academic facilities of the college. The first and second year students will receive most of their instruction at the college; the third and fourth (and some fifth) year students will use the college primarily as a base for dining, study and extracurricular activities.

In addition to the regular academic buildings there will be: library buildings (three), lecture hall buildings (three), computer centre, graduate science laboratories, auditorium, communications centre, evening college, museum, art gallery, physical plant buildings, social & recreational centre, hospital complex, arena, stadium, athletic centre, housing for married students, graduate residences, university press, various allied institutions.

The ten minute break between lectures determines the maximum distance between facilities. In this time a person

can walk on the level about one-half mile. If the time required for incidental activities, such as putting on a coat or lighting a cigarette, as well as the time required for climbing stairs is considered, it becomes apparent that this distance must be shortened wherever possible.

In order to eliminate any conflict between students on foot and service vehicles the university proposed that the campus be developed around a central pedestrian zone. The creation of this zone requires a rational circulation system, and the design of building without "front" and "back". Pedestrians and vehicles will approach these buildings from opposite sides; the public "face" will be turned away from the centre of the campus.

From the University's statement, UPACE feels that York differs fundamentally from existing Canadian and American universities in its college system. The colleges will be essential elements of the University's structure. To the planners it seems important to express this role of the colleges and hence the essential individuality of the university in the Plan itself. On the other hand, the need for variety in the organization and appearance of individual colleges, as well as the fact that they may not be built for some years, makes their central location undesirable, though it would be a means of emphasizing their importance to the university. The colleges are to be grouped in clusters of four colleges and one food service unit. Each cluster therefore includes four academic units, four residential units, four dining hall/servery units and one food service unit. Close to each college in the cluster should be tennis courts and an open area for informal athletics. As the plan evolved the college clusters were moved further away from the core because they were occupying land required for other central academic facilities. Also, their students required close access to parking. The ideal position has been found at the outer ends of the system of quadrangles where the college clusters reflect at small scale the overall organization of the University around its central square.

The entrance roads, after having carried most of the traffic entering the university directly to convenient parking area, join a two lane ring road which encircles the central area of the campus. The ring road will carry only service traffic and visitors. It is designed as a pleasantly winding low speed road from which visitors can see and appreciate the campus. Inside the

- 1 *Christ Church, Oxford*
- 2 *St. Mark's Square, Venice*
- 3 *Trinity College, Cambridge*
- 4 *University of Toronto, front campus*
- 5,6 *Master model*
- 7 *Centre square*
- 8 *Biology complex*

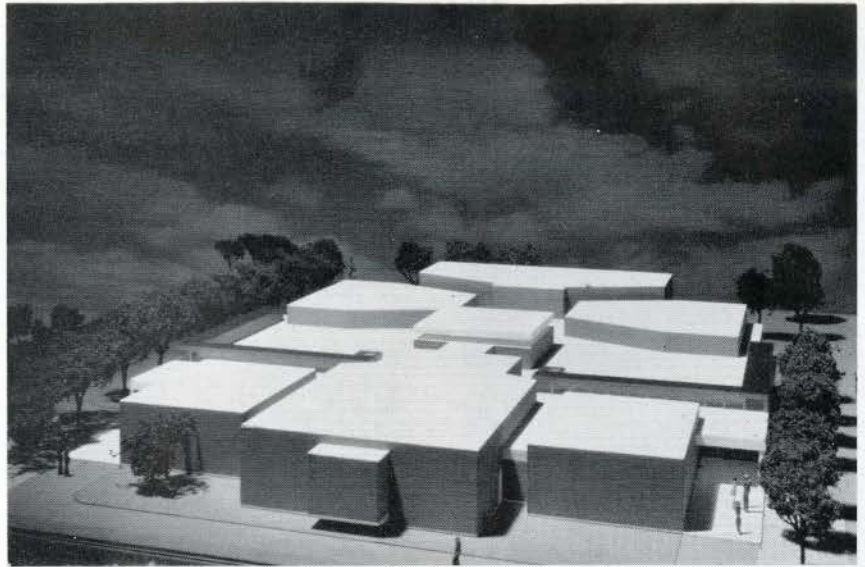
ring road are the intensively used, closely connected academic facilities, auditorium and athletic centre, with a limited number of adjacent parking spaces. On the land outside the ring road are athletic facilities, a teaching hospital, the university press, allied institutes, and the central kitchen and physical plant.

A cluster of four colleges is located in each quadrant except the south-east where space is reserved for a future cluster, when the university's population exceeds 15,000. The clusters are adjacent to the parking and open land beyond the ring road. UPACE proposes that each college should be an integral architectural unit composed of academic facilities and administrative offices, dining hall, common rooms, residences and principal's house. Sports areas for informal games, and tennis courts, are provided adjacent to each college.

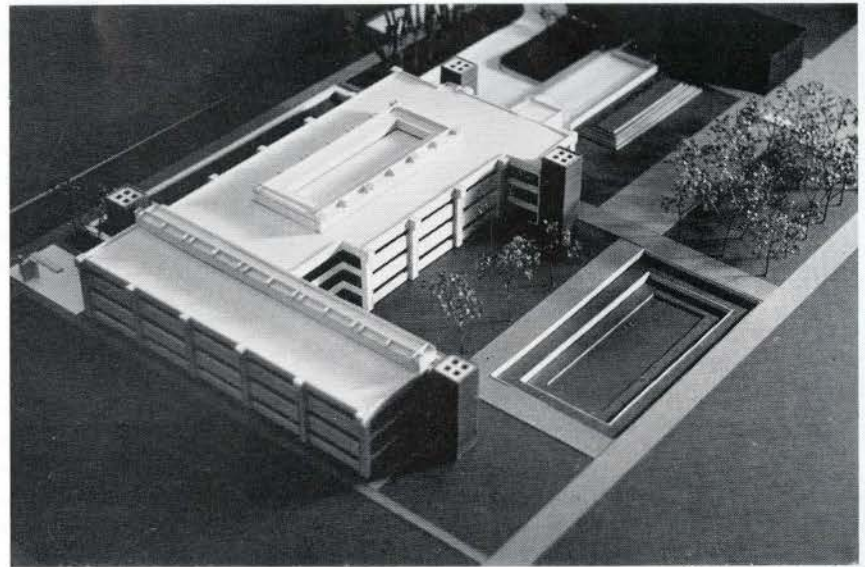
The teaching theatre, auditorium, dental clinic, behavioural sciences clinic, university centre and administration building all require direct public access and some adjacent parking. These buildings have been so located that they may be approached directly from the north-east entrance road from Keele Street. While available for general university use this entrance road will provide public access to these buildings and also vehicular access to the central square for distinguished visitors on ceremonial occasions. From this road and by means of a long ramp, processions may rise to the level of the central square. These processions will pass under the long social sciences and humanities building which stands along the east side of the square symbolically linking the arts and the sciences.

#### CONCLUSION

The organization of traffic, spaces and buildings has been designed to promote the fundamental aims of the university. The simple, orderly framework of the Master Plan makes it the easily comprehended and flexible instrument that the university requires.

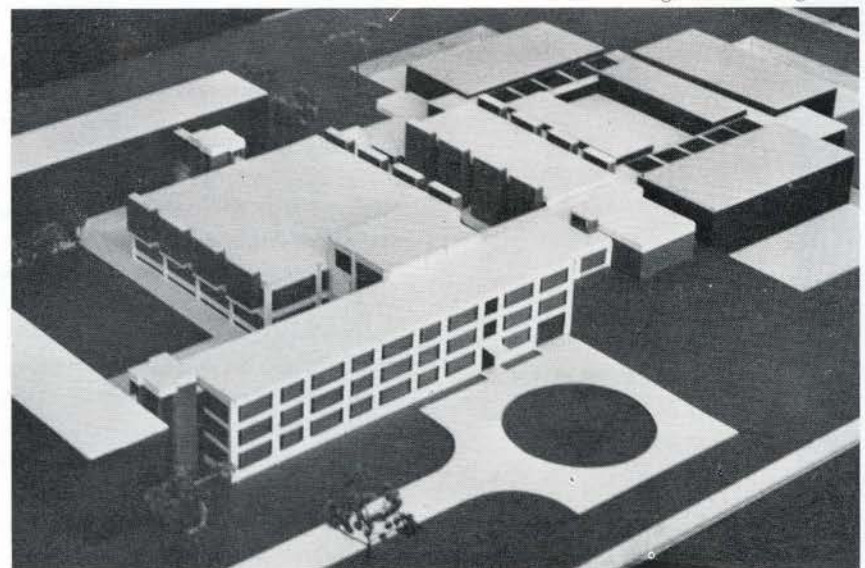


*Life Science Lecture Hall*



*Science Complex*

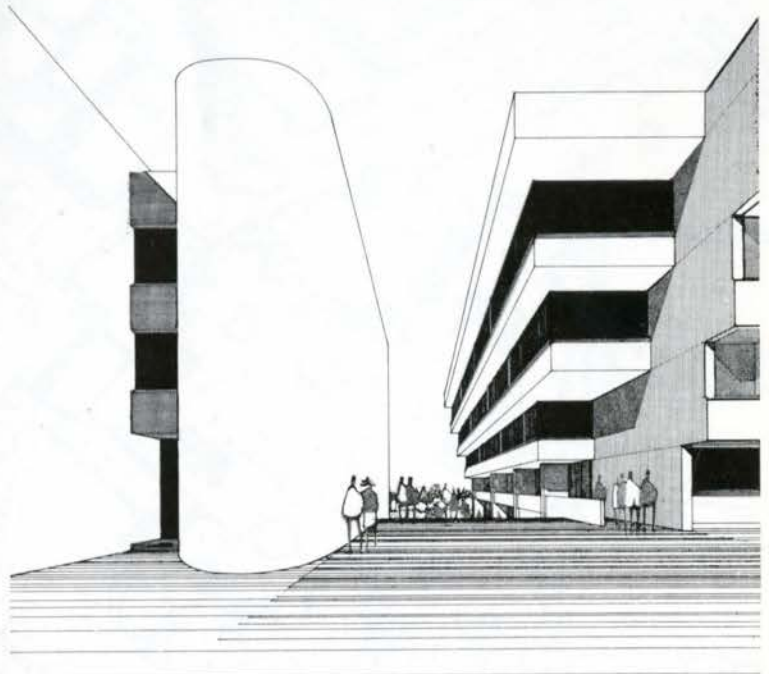
*College A & Dining Hall*



*photos by Panda*

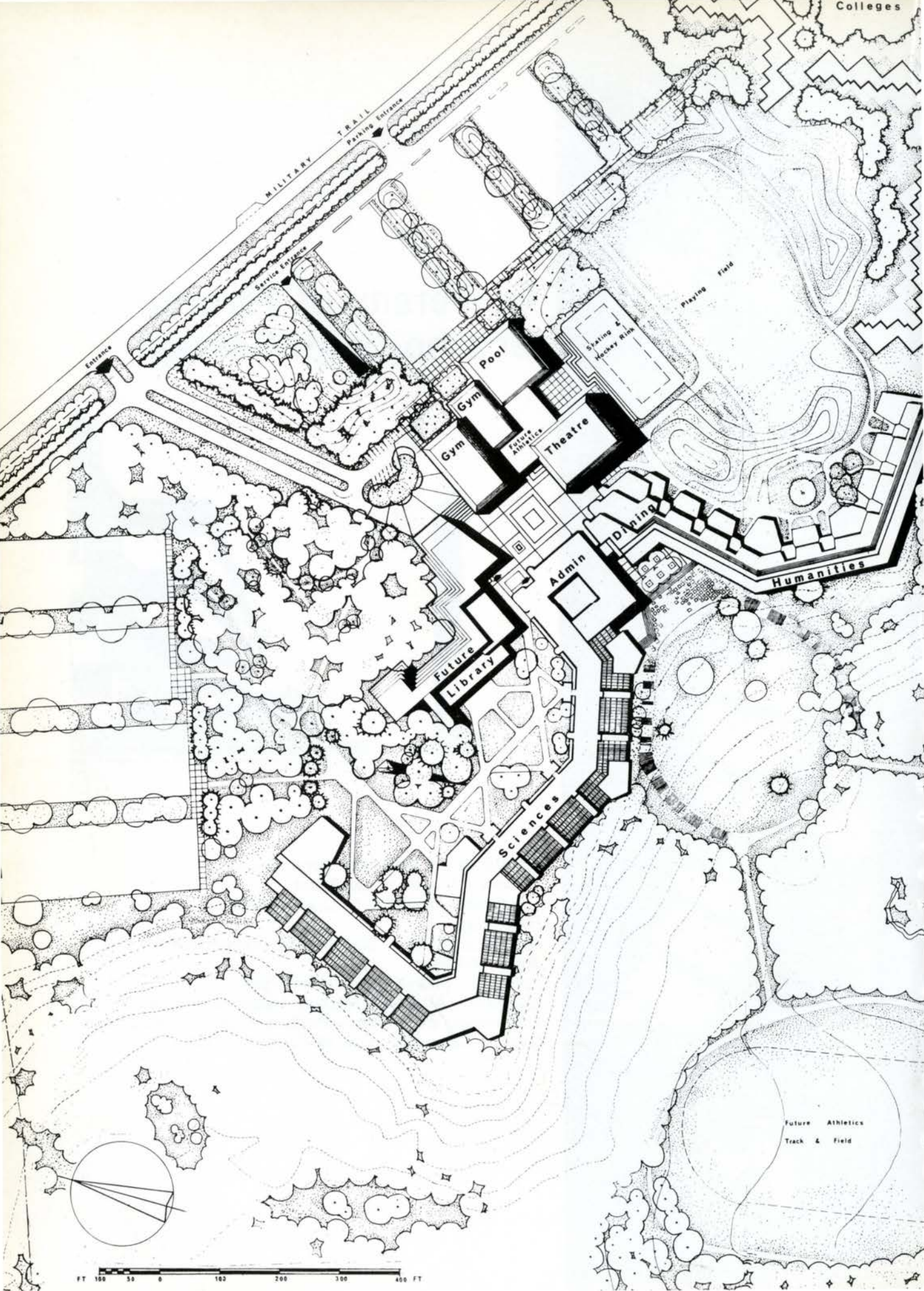


# University of Toronto Scarborough College



*Main Entrance*

Co-ordinating Architect/John Andrews  
Planner/Michael Hugo-Brunt  
Landscape Architect/Michael Hough  
First Stage  
Architects/Page & Steele in association with  
John Andrews  
Partner in Charge/Robert Anderson  
Landscape Architect/Michael Hough and Associates  
Engineering Consultants/Ewbank Pillar and Associates  
General Contractor/E G M Cape Co 1956 Ltd



Entrance

Service Entrance

MILITARY TRAIL

Parking Entrance

Pool

Gym

Gym

Future Athletics

Theatre

Playing Field

Dining

Admin

Humanities

Library

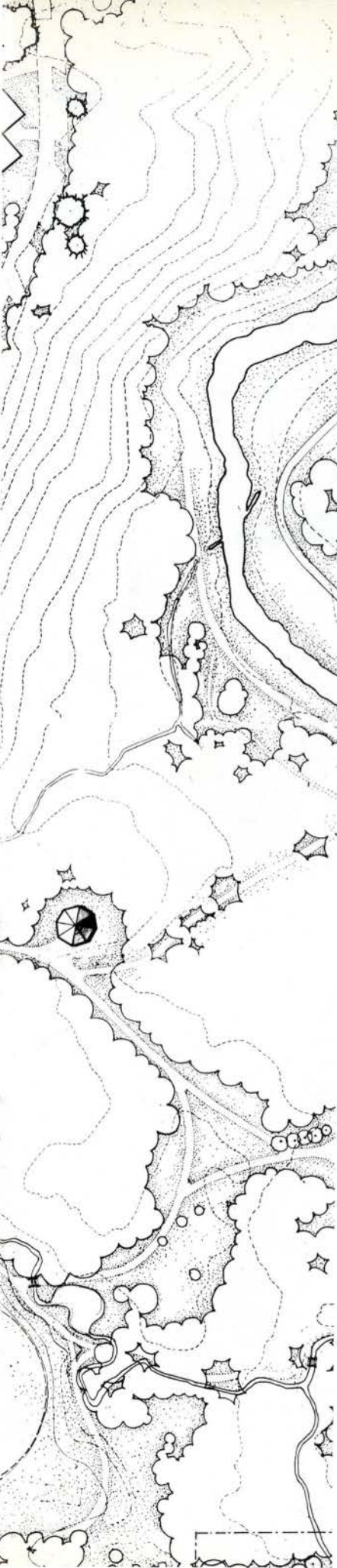
Future

Sciences

Future Athletics  
Track & Field



FT 150 30 0 100 200 300 400 FT



## EDUCATIONAL PHILOSOPHY

The provision of instruction on campuses far removed from the St. George (main) campus has a long and honourable history at the University of Toronto. To the extent that the old Ontario Agricultural College was the University's Faculty of Agriculture, the record may be said to extend as far back as 1887, when, under the terms of affiliation, the University began to grant degrees to students at Guelph. The Trinity College campus was on Queen Street from 1904 until 1925. There has been a summer forestry camp near Dorset since 1944, and from January 1946 to May 1949 the Faculty of Applied Science and Engineering had a separate campus for first and second year students at Ajax, Ontario.

In September 1965 Scarborough College will accept up to 500 students. The planned maximum enrolment of 5,000 will probably be reached by 1972-73.

The subjects to be offered are drawn from the General Course and the General Course in Science, but certain subjects for which there are normally low enrolments have been omitted.

Initially, the college will, in the subjects it offers, follow the curriculum of the St. George campus, but will be free to modify courses and to set its own examinations, subject to the concurrence of the Council of the Faculty of Arts and Science.

Any Scarborough College student with B standing or better in his first year may transfer to the second year of certain Honour courses on the St. George campus. The General Course in Science at the college will also make students eligible to apply for admission to Dentistry (with BSc.) and to Medicine (with 1st year standing). Graduates with appropriate standing will also be eligible to apply for admission to the School of Graduate Studies.

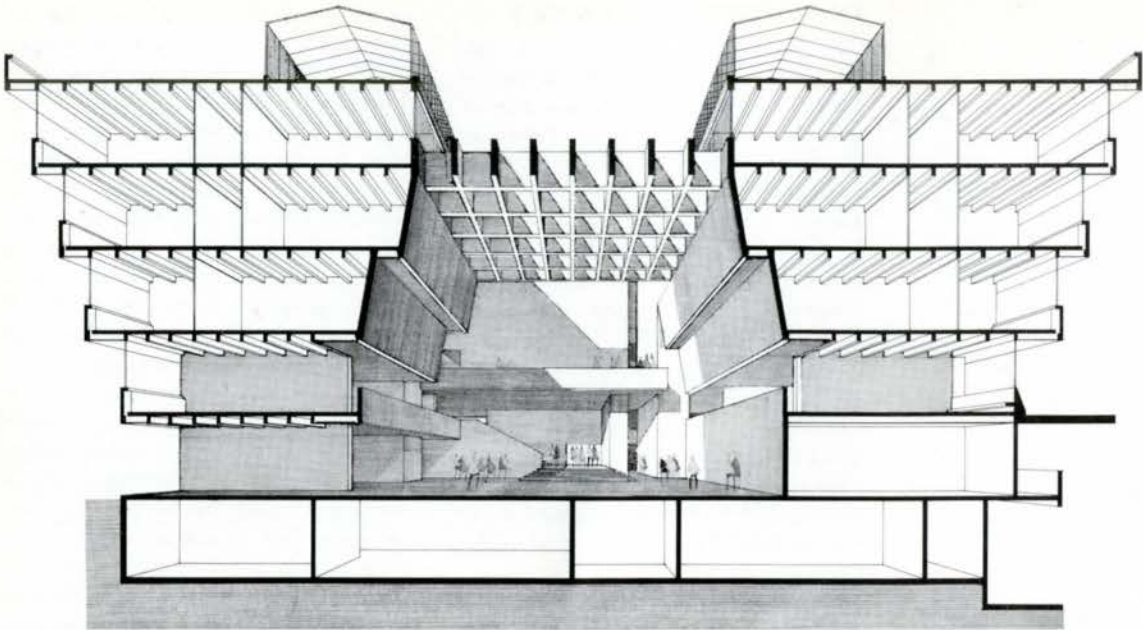
The curriculum consists of 24 subjects including certain special one-year courses to complete the General Science curriculum. The total number of courses offered is 116. In the General Course concentration will be immediately available in 8 subjects: English, Economics, French, Geography, History, Mathematics, Philosophy and Psychology. All the basic science requirements of the General Course in Science have been met, but a few options have been omitted. The expansion of the curriculum will be the responsibility of the colleges themselves.

A nucleus staff of 12-15 has been appointed for the year prior to the opening of the College. They will divide their time between teaching on the St. George campus and completing the basic planning for the opening of the College. Their numbers will of course be considerably augmented by September 1965. The college will have as its primary emphasis the development of an academic curriculum in the General Course and the General Course in Science. To this end no Departments are contemplated initially. In the early years the Divisions of Humanities, Social Sciences and Science will be the centres around which the integrated curriculum will be developed. Later as the staff increases in size it will be able to determine its own unique departmental structure. These developments will be paralleled by the provision of adequate teaching aids. Thus a language laboratory for the combined use of language departments is an obvious necessity together with full facilities in lecture theatres for slide and film projection and for closed circuit television. It is expected that the use of television will begin with provision for demonstrations in Science and will expand to lecture presentations and eventually to broadcast television services. Since not all learning occurs in the lecture room or laboratory there will be provision for reading rooms, carrels in the library, and common rooms, as well as space for the enjoyment of music and art.

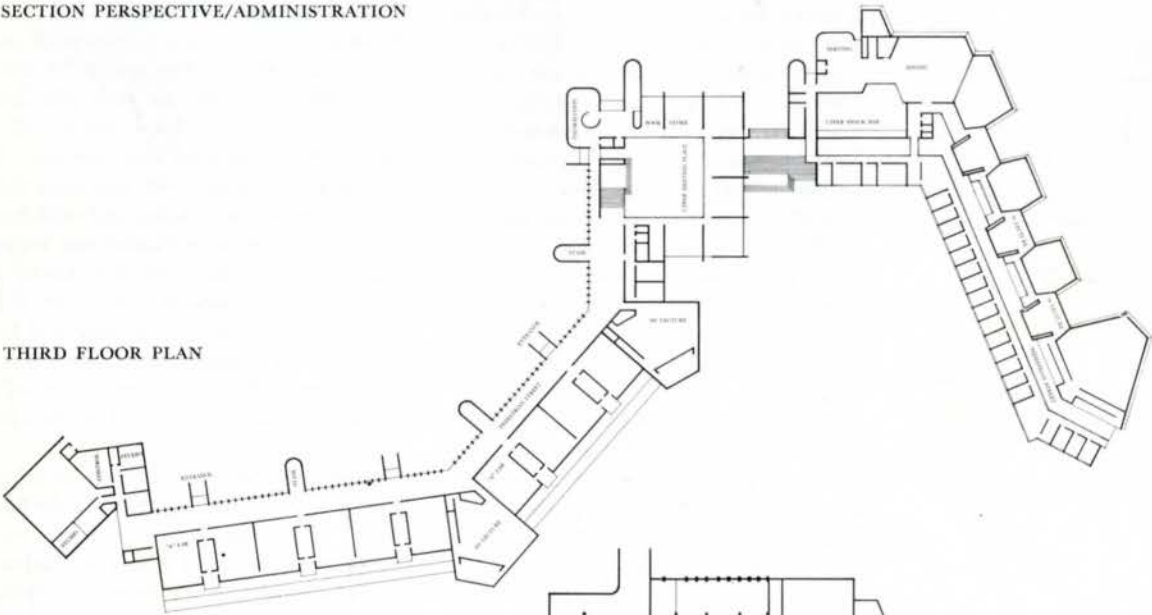
Scarborough College will begin evening (Extension) teaching in September 1964. With the co-operation of the Scarborough Board of Education Extension classes will be held in a newly built Collegiate Institute where ten courses leading to the B.A. degree will be offered. This work is closely co-ordinated with the offerings of the Division of Extension on the St. George campus.

The emphasis of the athletic programme for Scarborough College will be on participation of the maximum number of students, although it should be noted that as fully qualified undergraduates of the University, Scarborough students will be eligible for intercollegiate athletic teams. Playing fields for soccer, outdoor hockey rinks, tennis courts, etc. will be provided and gymnasia, a swimming pool and theatre are planned for a later phase of the development.

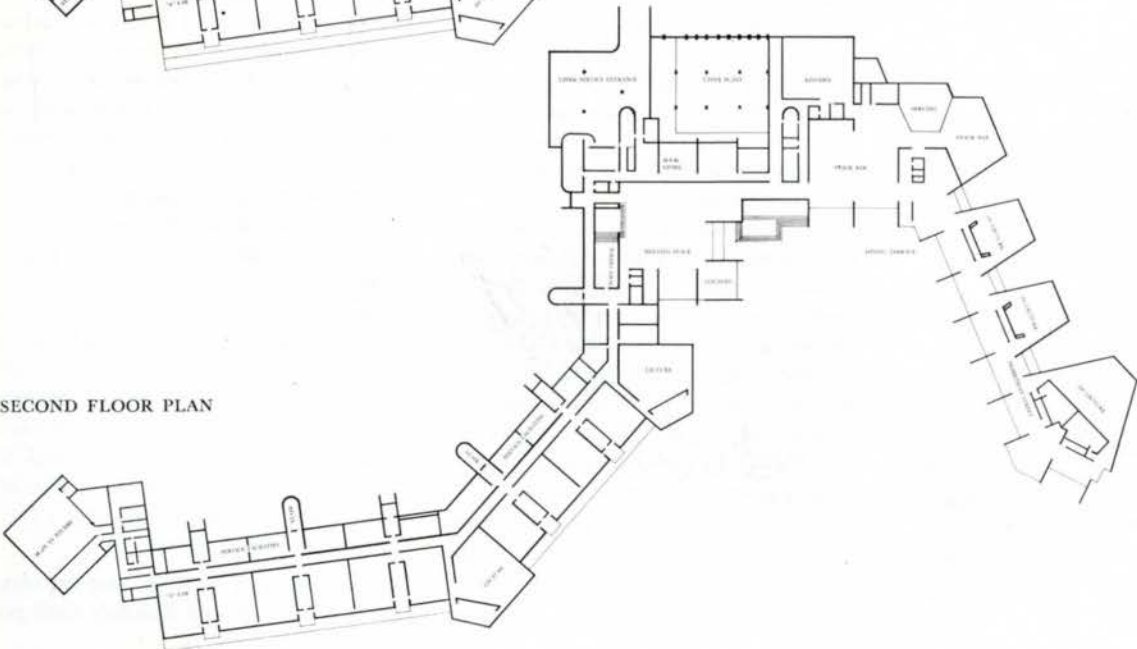
*D. C. Williams, PhD. is vice-president for Scarborough and Erindale Colleges, University of Toronto.*



SECTION PERSPECTIVE/ADMINISTRATION



THIRD FLOOR PLAN



SECOND FLOOR PLAN

## DESIGN PHILOSOPHY

The Modern academic programme as established for Scarborough, geared to contemporary teaching methods and techniques such as television, could not best be served by established design concepts based on traditional teaching philosophy. Therefore the initial building phase establishes the character of the college as an entity and designates the identity of each part in such a way that subsequent expansion will neither alter this character nor interfere with the academic learning process. The buildings form the central academic space, a dignified, formal hub of college activity and all buildings can be entered from this space and be extended outward, beyond it. In this way, academic life remains inviolate during the various phases of building and the construction is in no way restricted by the teaching function.

The extremes of climate during the academic year in Toronto made it necessary to reject the established college concept of scattered buildings. It generated a solution incorporating climate controlled access within the campus in addition to an outdoor circulation pattern. As a result, all functions are interconnected by a climate controlled "pedestrian street" having its climax in the "meeting place", the coming together of all major horizontal movement. All activities involving large numbers of people are related to the "pedestrian street", the life giving artery of the campus.

The science building has a particular growth relationship of one chemistry laboratory, 2 physics laboratories, 2 graduate laboratories and one office laboratory, as indicated in the programme. The administration building is built complete in the first stage, being partially used as library for this initial phase, and contains within it the heart from which the pedestrian arteries extend into the campus. All servicing and mechanical services emanate from this centre point.

There are four basic materials being used: In situ concrete, quarry tile, natural wood and glass, the concrete having a rugged texture on the outside where exposed to sun, wind and rain and smooth on the inside where juxtaposed to people, and is being used to its maximum potential in terms of the structure shaping the space and making the architecture

*John Andrews*

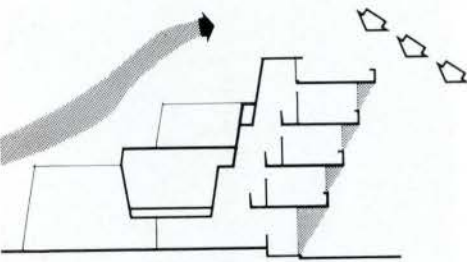
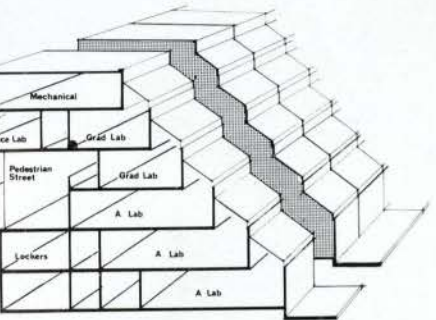
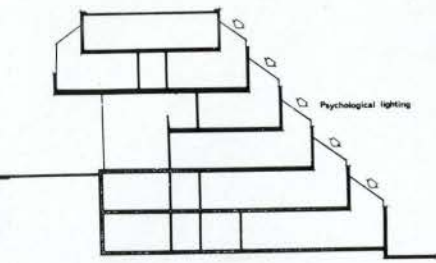
## SITE FEATURES

The Scarborough College site adjoins both sides of Highland Creek in a community consisting of five residential neighbourhoods planned to accommodate 24,600 people. The neighbourhood densities will vary from 14.5 to 34.4 persons per acre and their populations will range from 5,600 to 3,800 persons. Approximately, 500 students out of a total of 5,000 will come from the Scarborough area. The site lies in the south-west corner of this unit and includes a future regional shopping centre on the corner of Morrish and Ellesmere Roads. A small shopping centre will develop at the junction of Military Trail and Ellesmere Road, and a new Institutional zone will replace existing gravel pits and yards in the north. A highway commercial area is anticipated in the immediate north-west.

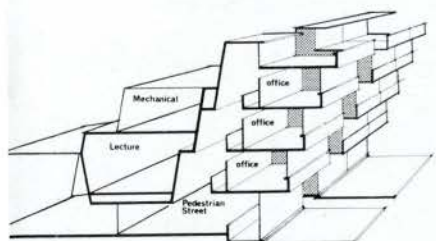
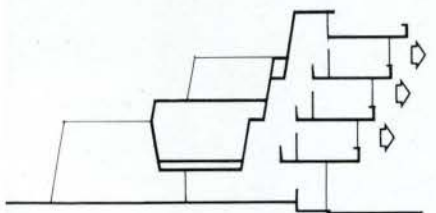
The Consultants were confronted with severe site limitations which arose from the Scarborough Township Zoning By-law. This created two zones viz., an Institutional zone on the high ground to the north and north-east, and, an open space zone to the south and south-west. The solution, therefore, was dependent upon accepting the limited building site as well as the preservation of the open space amenity. The lineal solution preserved the continuity of the Highland Creek Conservation area and accorded with the aims of the Metropolitan and Region Conservation Authority. Open space will only be used for active or passive recreation.

All peripheral roads will be improved in the future Metro Plan. At present a bus route terminates on Kingston Road and Highway 2 at a point 4,200 ft from the College. This could deliver 196 persons per hour at a peak period, although the situation will improve with the opening up of the Danforth-Bloor Subway and its associated bus routes. Nevertheless, students and staff will be dependent upon automobiles. Provision has, therefore, been made for 2,625 parking spaces i.e., a ratio of 1 space for every 2 students. It is estimated that 12.4 acres of parking will be needed. The site consists of 202 acres of which 47 acres constitute the institutional zone; 28 acres are unusable being within a "hurricane Hazel" flood area while a further 57 acres of ravines forest and bush are unbuildable.

*Michael Hugo Brunt*



Wind Control Sun Control



Unit Growth

## USE OF THE SITE

In the development of the site certain basic principles were adopted which controlled design solutions.

The peculiar climatic conditions of Southern Canada demand a close integration between the interior spaces of buildings and the exterior spaces of the campus. Thus pedestrian movement is related to summer and winter usage. During cold months all movement from one part of the campus to the other may take place under cover by means of the pedestrian street. During warmer months the exterior spaces allow free and convenient movement between buildings.

The site is conceived as an important academic facility for teaching and field research. The heavily wooded slopes and valley lands are unsuitable for building but form ideal field research areas for botany, zoology, climatology and related sciences. The path system through these areas is designed to preserve them for such use by restricting major pedestrian traffic to definite routes. Pedestrian and vehicular traffic must have separate but interdependent circulation patterns. Cars penetrate into the campus only at the periphery, leaving the main campus spaces free for pedestrians. Parking lots have been separated from each other by wide bands of green space to minimize the impact of large asphalt surfaces and shiny metal on a rural landscape. They are arranged so that the largest parking lots are located nearest to the main entrance.

The main entrance road and court are visually separated from parking lots and will be used by students and visitors entering the academic space which forms the heart of the campus. A service entrance off the peripheral parking road ramps down to the underground service area under the academic space.

Since the outdoor spaces play a very large part in creating the sense of place and enduring quality of a campus, an environment must be created that will satisfy the spiritual and physical needs of the student and encourage the healthy development of his mind and body. There are, then, places for noise and sociability, for quiet relaxation, for solitude, for dignified and formal activity, for sports and active recreation. The character of spaces ranges from the informal shaded quality of a woodland glade to the formal and urban quality of the meeting-place. *Michael Hough*

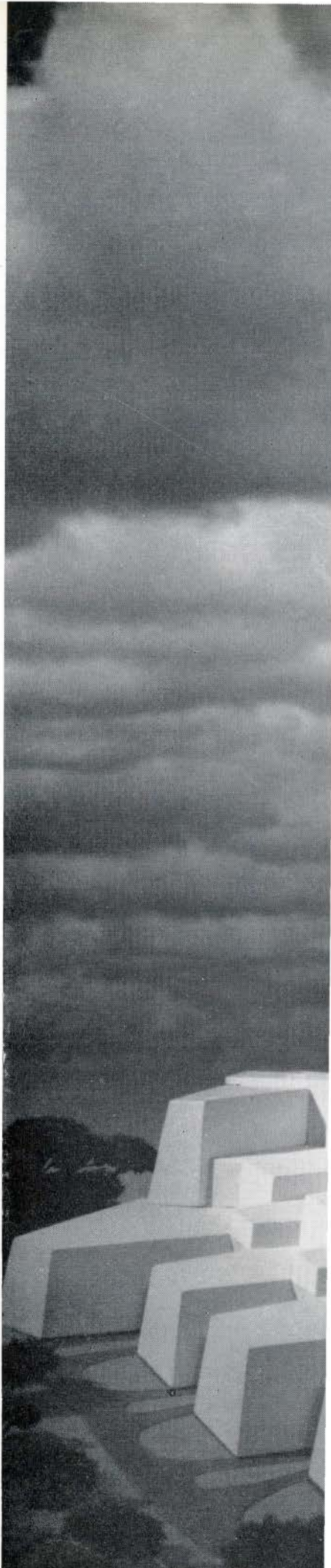
## PROJECT ORDER

Upon the approval of the master plan, the project architects were appointed in November 1963 and commenced at once to work with the co-ordinating architect John Andrews to further develop the physical concept of the College into a valid and realisable structure, and to work with the academic planning group to determine a precise programme for the space and functions, in the building.

The contract procedure adopted contains no unusual elements but in total constitutes a powerful organized method of confronting the problems of this operation. The work on the site was split into four main parts; first, site preparation including roads, parking areas, sewers, primary utilities and the bulk excavation of 100,000 cubic yards of earth, second foundations and retaining walls, third, the superstructure and fourth the finishing and equipping of the buildings. The contract for the first phase was let early in May. All aspects of the programme have been placed on a C.P.M. schedule from design to the completion of the work, and a firm of management consultants, Stevenson and Kellogg Ltd., appointed to set this up and supervise its running. The General Contractor has been appointed from an invited list on the basis of a fixed fee proposal, his previous record, his capacity to perform the work and the personnel he can make available for this project. The appointment was made in late June and work is now underway on the foundations and retaining walls.

It is anticipated that the superstructure work will commence early in September with the first teaching to take place one year later.

This method of procedure is ensuring the maximum amount of time available for the development of design and academic requirements. It is allowing work to go ahead on the site, with the advantage of the best construction weather. At the same time by tendering all sub contracts a very high proportion of the work is let competitively, with an adequate measure of control being present to ensure that standards are maintained and the budget adhered to. It is, in the writers view, beyond debate that for this type of project the discipline of time and economy well judged are not inimical to the highest standards of architecture. *Robert Anderson*





# Technical Column

Edited by Douglas H. Lee

## Asphalt Paving

by Norman W. McLeod

*This is the second of a three-part article by Norman W. McLeod, BSc, MSc, ScD. Doctor McLeod is asphalt consultant with Imperial Oil Limited.*

### BASIC PRINCIPLES OF DESIGN FOR ASPHALT PAVING MIXTURES

Both hot-mix and cold-mix asphalt pavements may be used for parking areas, driveways, etc. However, because of the prevalence of hot-mix plants in almost every large community in Canada, the better control that usually exists in the production of hot-mix, and the hard firm surface ready for immediate use that is provided as soon as well compacted hot-mix has cooled to atmospheric temperature, only hot-mix pavements of the dense graded type will be considered here.

It is assumed that hard, clean, angular, well graded aggregates of good quality are being used in all cases, and that the asphalt binder is 150/200, 85/100, or 60/70 penetration paving asphalts. In each of the various parts of Canada, it will be found that one or two of these are the most common grades of asphalt being used locally.

The design of dense graded hot-mix asphalt concrete requires answers to each of two basic questions:

1. In what proportions should the coarse and fine aggregates be blended?
2. What is the optimum asphalt content to be used with this aggregate blend?

Solutions to these two fundamental questions will be developed in this section.

Because they reflect experience with the availability of local aggregates, and with the pavement performance these aggregates provide, it is recommended that the specifications of the local city engineer's department, and of the provincial department of highways be consulted when drafting specifications for hot-mix asphalt concrete pavements for shopping plazas, driveways, etc., in any area. Additional useful information is provided by Tables 4 and 5, which contain the specifications of

The Asphalt Institute and of the American Society for Testing and Materials respectively, for dense graded asphalt concrete. Because the grading bands are somewhat wider, and a smaller percentage passing the No. 200 sieve is permitted, the ASTM specifications of Table 5 are a more useful guide for the design of paving mixtures made with aggregates available in most regions in Canada.

In Tables 4 and 5, the mixes containing the larger maximum particle sizes are normally used for base courses, while those with smaller maximum particle sizes are usually selected for surface courses. From Table 5 for example, mixture number III might be selected for a base course and mixture number V for the surface or wearing course.

In addition to the grading requirements of Tables 4 and 5, the paving mixtures selected should satisfy the Marshall test criteria of Table 6. The following comments explain the significance of each of the items in Table 6.

The number of compaction blows, 75 or 50, refers to the compactive effort employed to prepare test specimens of paving mixture in the laboratory. The compactive effort selected should provide test briquettes in the laboratory having the same density that is ultimately expected for the paving mixture under traffic.

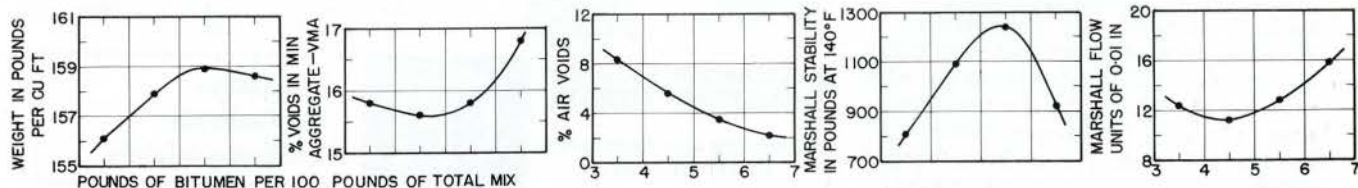
The Marshall stability and flow index values are intended to ensure that the asphalt pavement will have adequate strength for the wheel loads and traffic volume anticipated.

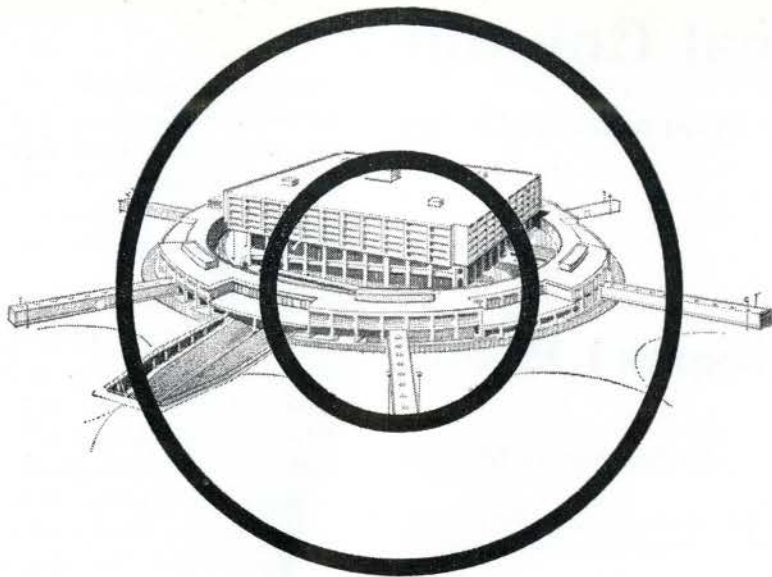
Air voids and voids in the mineral aggregates (VMA) are expressed as per cent of the volume of a compacted paving mixture.

Air voids are defined as the small pockets of air between the asphalt coated aggregate particles in a compacted paving mixture. If through poor design and too much asphalt, a paving mixture is eventually compacted by traffic to an air voids content of 0 to 1 per cent, flushing or bleeding is likely to have occurred due to part of the asphalt binder being squeezed out of the mix onto the surface of the pavement. These flushed or bleeding surfaces are slippery when wet. An air voids requirement of 2 to 5 per cent provides protection against the possibility of a pavement flushing or bleeding.

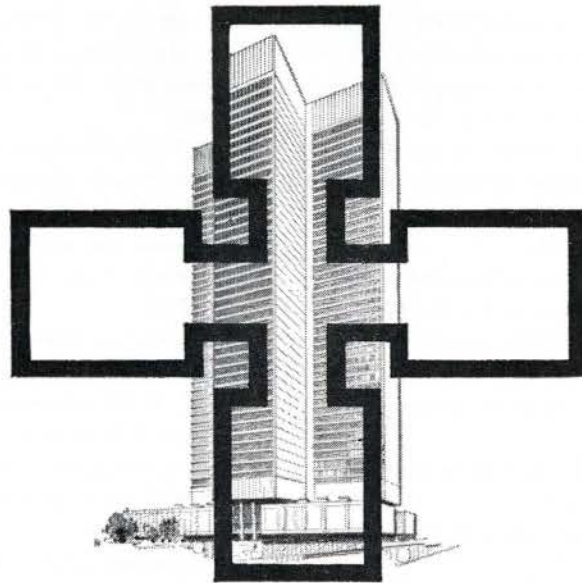
On the other hand, voids in the mineral aggregate (VMA) can be used to avoid pavements that are seriously under-asphalted, and therefore ravel and wear away rapidly under traffic. VMA represents the total intergranular void space between the aggregate particles in a compacted paving mixture, and is evaluated by subtracting the volume occupied by the aggregate from the volume of the compacted paving mixture, where the volume occupied by the aggregates is based on its ASTM bulk specific gravity. VMA is the only space or room in a thoroughly compacted paving mixture that is available for the 2 to 5 per cent

FIGURE 5





**Problem:** Enclose these shapes in curtain wall

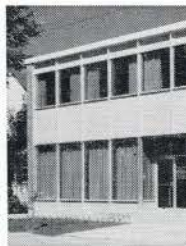


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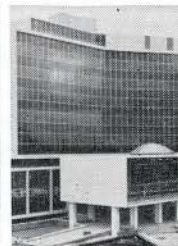
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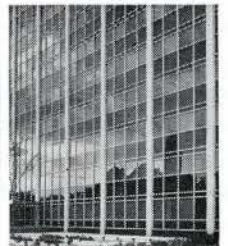
C-I-L House, Montreal  
Architects: Greenspoon,  
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Gen. Contractors:  
Anglin-Norcross Corp.  
Ltd.



Caisse Populaire,  
Kapuskasing, Ont.  
Architect: Morris G.  
Sauriol Services  
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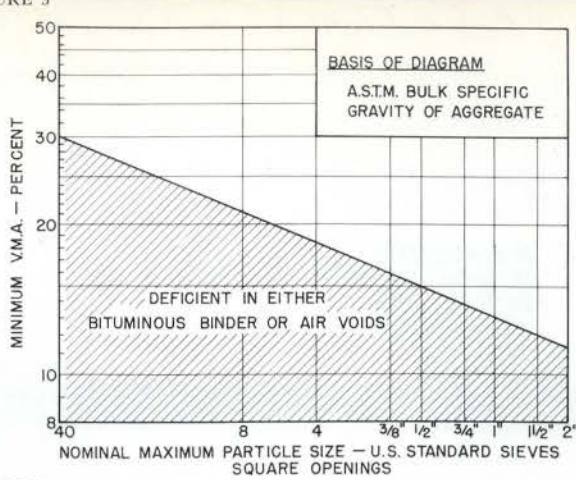


FIGURE 3

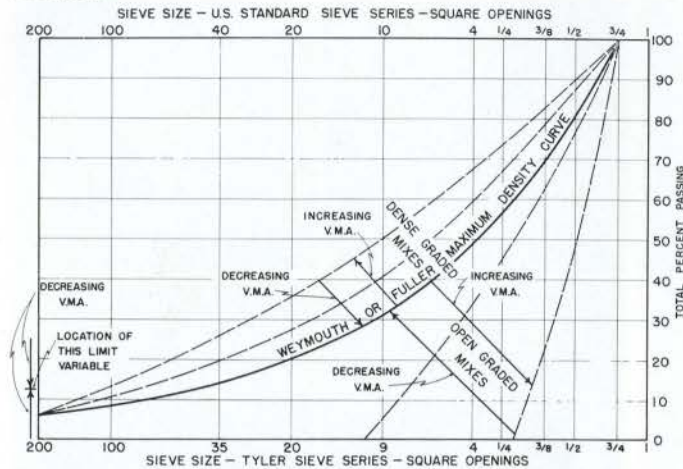


TABLE 4 COMPOSITION OF DENSE GRADED ASPHALT CONCRETE (The Asphalt Institute)

Mix No.	IVa	IVb	IVc	IVd
Use	Surface	Surface	Surface or Base	Base
Compacted Depth Recommended for Individual Courses	3/4" 1 1/2"	1"-2"	1 1/2"-3"	2 1/2"-4"
Sieve Sizes (Square Openings)	Percent Passing By Weight			
1 1/2"				100
1"			100	80-100
3/4"		100	80-100	70-90
1/2"	100	80-100	—	—
3/8"	80-100	70-90	60-80	55-75
#4	55-75	50-70	48-65	45-62
#3	35-50	35-50	35-50	35-50
#30	18-29	18-29	19-30	19-30
#50	13-23	13-23	13-23	13-23
#100	8-16	8-16	7-15	7-15
#200	4-10	4-10	0-8	0-8

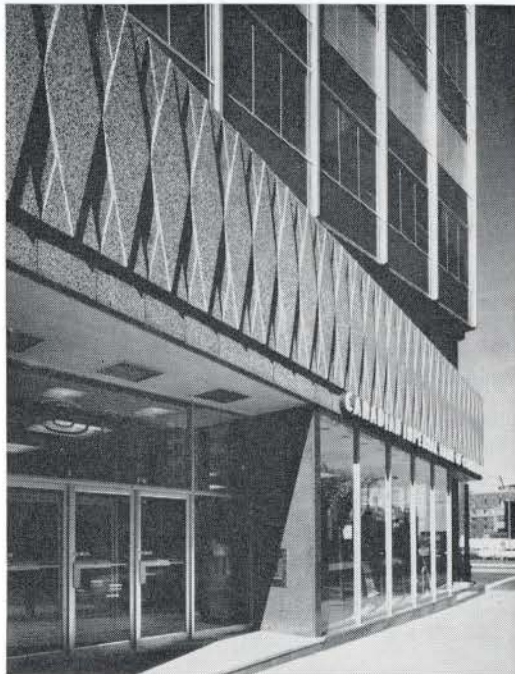
Normal asphalt content 3.5-7.0% by weight of total mix. Upper limit may be raised when using absorptive aggregate.

Type IV Mixes are recommended for all applications, i.e. for asphalt paving courses for all traffic classifications.

Traffic Limitations: None.

Surface Texture: Medium to fine.

Aggregate Required: Sound, angular crushed stone, crushed gravel, crushed slag and fine aggregate.



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General Contractor: David Bloom Inc.  
Panels by: Toronto Cast Stone

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air voids needed for protection against flushing or bleeding, plus the volume of asphalt required for a durable pavement.

As illustrated by Figure 3, when the VMA value is too low, the paving mixture is inevitably deficient in either asphalt binder, or air voids, or both. The diagonal line in Figure 3 indicates that the minimum VMA value to be specified for a paving mixture depends upon the nominal maximum particle size of the aggregate. For example, when the nominal maximum particle size is 1/2 inch, Figure 3 indicates that the minimum VMA value to be specified is 15 per cent of the volume of the thoroughly compacted paving mixture.

Analyses of asphalt pavement samples from every province in

TABLE 5 COMPOSITION OF ASPHALT CONCRETE PAVING MIXTURES (ASTM Designation D 1663)

Mixture No.	I	II	III	IV	V	VI
Nominal Maximum Size of Aggregate	2"	1 1/2"	1"	3/4"	1/2"	3/8"
Sieve Size (U.S. Standard Sieve Series)	Grading of Total Aggregate (Course, plus fine, plus filler if required) Per Cent by Weight Passing Each Sieve					
2 1/2"	100	—	—	—	—	—
2"	90-100	100	—	—	—	—
1 1/2"	—	90-100	100	—	—	—
1"	60-80	—	90-100	100	—	—
3/4"	—	60-80	—	90-100	100	—
1/2"	35-65	—	60-80	—	90-100	100
3/8"	—	—	—	60-80	—	90-100
#4	15-50	20-55	25-60	35-65	45-70	60-80
#8	10-40	10-40	15-45	20-50	25-55	35-65
#16	—	—	—	—	—	—
#30	—	—	—	—	—	—
#50	2-15	2-16	3-18	3-20	5-20	6-25
#100	—	—	—	—	—	—
#200	0-4	0-5	1-7	2-8	2-9	2-10
Asphalt Cement Per Cent by Weight of Total Mixture	3 1/2-7 1/2	3 1/2-8	4-8 1/2	4-9	4 1/2-9 1/2	5-10

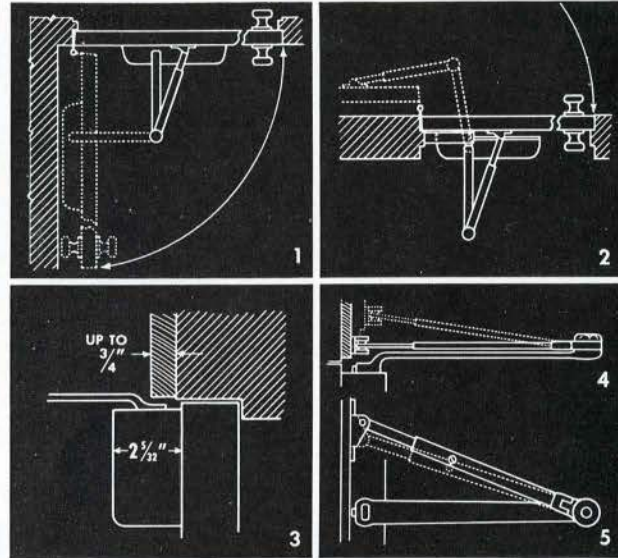
TABLE 6. Marshall Test Design Requirements for Dense Graded Asphalt Concrete for Driveways, Parking Areas, Playgrounds, etc.

Traffic Category	Parking Areas and Driveways				Playgrounds, Tennis Courts, etc.	
	Passenger Cars		Heavy Trucks		Min.	Max.
No. of Compaction Blows Each End of Specimen	50		75			
Test Property	Min.	Max.	Min.	Max.	Min.	Max.
Marshall Stability lbs. at 140°F	900	—	1200	—	500	—
Flow Index units of 0.01 inch	8	16	8	16	10	18
% Voids in Mineral Aggregate (VMA)	See Fig. 3	—	See Fig. 3	—	See Fig. 3	—
% Air Voids	2	4	3	5	2	4

NOTES:

- 1 Laboratory compactive effort should duplicate the maximum density anticipated in the pavement under traffic.
- 2 The portion of the asphalt cement lost by absorption into the aggregate particles must be allowed for when calculating % Air Voids.
- 3 % Voids in the Mineral Aggregate (V.M.A.) is to be calculated on the basis of the A.S.T.M. bulk specific gravity of the aggregate.

Nave to narthex:  
St. Gerard Majella Church & Presbytery,  
St. Jean, Quebec.  
Affleck, Desbarats, Dimakopoulos, Lebensold, Sise;  
Architects



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Canada have shown that in general the VMA values of paving mixtures being laid in this country are too low. For this reason, many asphalt pavements are not providing the years of satisfactory service of which they are potentially capable. Our most critical asphalt paving mixture design problem therefore, is how to open up the aggregate to achieve the minimum VMA values indicated by Figure 3. The answer to this problem is illustrated by Figure 4.

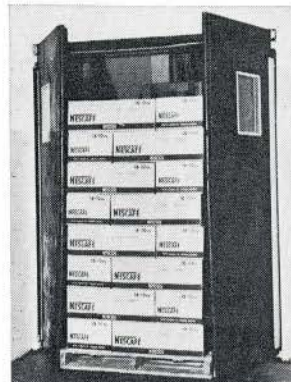
The solid line in Figure 3 is the Weymouth or Fuller theoretical grading curve for  $\frac{3}{4}$  inch maximum particle size that provides maximum aggregate density, and therefore minimum VMA. The grading of the aggregate in many paving concretes in Canada approximates the Weymouth curve, and this accounts for the much too low VMA values so often observed. As illustrated by Figure 4, it only requires that the grading curve for the aggregate be deliberately made to deviate away from the Weymouth curve. For any given maximum particle size, the greater this deviation the higher the VMA values become, provided the amount passing the No. 200 sieve does not exceed that indicated by the Weymouth or Fuller curve. To achieve this deviation it is ordinarily necessary to change only the proportions in which the coarse and fine aggregates are blended. By increasing the proportion of fine aggregate, the grading curve for the total aggregate is made to deviate to the left of the Weymouth curve, and vice versa.

As pointed out earlier, one of the basic questions of paving mixture design concerns the proportions in which the coarse and fine aggregates should blend. Aggregates must be proportioned to satisfy the minimum VMA requirements of Figure 3, in addition to the grading band, for example Table 3 or Table 4, specified for the particular paving mixture to be used. Another important factor to be considered when designing or evaluating an asphalt paving mixture, is that every aggregate particle has some capillary porosity into which a portion of the asphalt binder is absorbed. For aggregates in use across Canada at the present time, this loss of asphalt by absorption into the aggregate ranges from about 0.2 to 1.7 per cent of the weight of the dry aggregate. The performance of a paving mixture depends on its "effective asphalt content", which is the portion of the total asphalt binder that forms the coating on the *outside* of the aggregate particles. The "effective asphalt content" is equal to the total asphalt content of a paving mixture minus the amount of asphalt lost by absorption into the particles of aggregate. The total asphalt content of a paving mixture may appear to be normal, but if a relatively high percentage of asphalt is lost by absorption into the aggregate particles, the paving mixture will perform in service like an underasphalted or lean mix.

In addition, if the quantity of asphalt lost by absorption is neglected, a serious error in the air voids value can occur. The size of the error in air voids will be approximately one per cent for every one-half per cent asphalt by weight absorbed by the aggregate. Consequently, the amount of asphalt binder lost by absorption into the aggregate should always be determined when designing or analysing asphalt paving mixtures. Rice's vacuum saturation method can be employed for this purpose. The second major objective of paving mixture design is selecting the optimum asphalt content. After the Marshall test data

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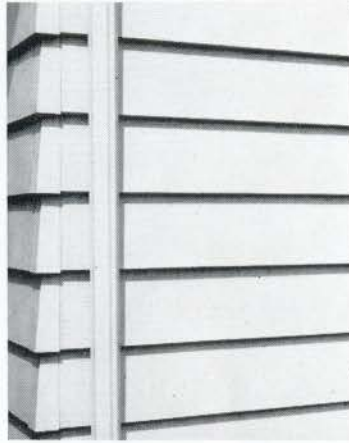
have been obtained for a paving mixture that is being designed in the laboratory, they are plotted as illustrated by Figure 5. The optimum asphalt content is obtained by averaging the asphalt contents corresponding to the peak of the density curve, 5.5 per cent, the peak of the stability curve, 5.4 per cent, and 4 per cent air voids, 5.25 per cent. Averaging these three values gives 5.38 per cent by weight of total mix as the optimum asphalt content for this particular paving mixture.

Assuming that good quality aggregates and a suitable grade of asphalt cement are being employed, the paving mixture has been designed when the proportions in which the coarse and fine aggregates must be blended to satisfy the gradation and minimum VMA requirements of the paving mixture have been established, when the asphalt absorption of this aggregate blend has been determined, and when the optimum asphalt content to use with this aggregate blend has been selected.

It must always be remembered however, that the samples of aggregates sent from the field to the laboratory for mix design, may not have been truly representative. Consequently, as soon as the mixing plant is in normal operation, a sample of the paving mixture should be obtained and analysed for asphalt content, sieve analysis of the recovered aggregate, Marshall stability, flow index, VMA, and air voids. If the values obtained are substantially different from those initially determined in the laboratory, or if the mix being produced fails to satisfy the specifications in any respect, the mix should be redesigned employing representative samples of the aggregates actually being used. This design becomes the final job-mix formula.

# Industry

## NEW PRODUCTS



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Zinc coated steel. Edited proceedings of the first Canadian seminar, Toronto, Nov 27, 1963. *Canadian Electrolytic Zinc Limited.*



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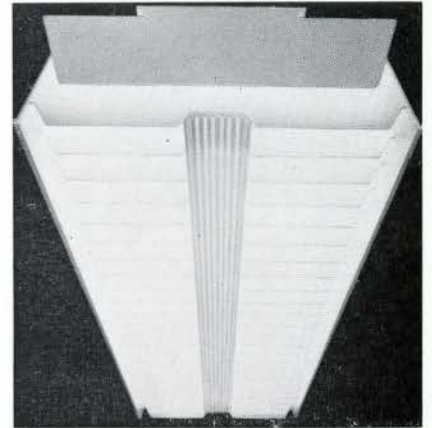
### LITERATURE

New steel specification CSA Std G40.12-1964 for general purpose structural steel. *The Algoma Steel Corporation, Ltd., Sault Ste. Marie, Ont.*

Fountainline display fountains. *Josam Products Ltd., 130 Bermondsey Rd., Toronto 16.*

Industrial dust collectors catalogue also

calculator for planning dust control systems. Enclose \$1.00 for calculator. *Torit Manufacturing Co.* Canadian representative: *L. Fryer Industrial Machinery Co., PO Box 162, Don Mills, Ont.* Reps. in other major cities.



Fluorescent fixture finder. Bulletin P64-1F, March 1, 1964, CSA approved. *C&M Products Ltd., 124 Crockford Blvd., Scarborough, Ont.*

Plumbing catalogue PB-22. Lists 311 products. Line drawings, engineering data and roughing-in specifications where necessary. *Mueller Ltd., Sarnia, Ont.*

Condensation control with Seculate. *Chemical Concentrates, 130 Laird Drive, Toronto 17. 421-8595.*

Architectural and engineering handbook on modern methods of dock design. *Hi-Lo Equipment (Canada) Ltd., 4242 Dundas St. W., Toronto 18. 239-7766.*

A study of nine important factors governing high quality concrete. Publication P-36. *The Master Builders Company Ltd., Toronto 15.*

Revisions to Housing Standards, Canada, 1963 have been issued by the Associate Committee on the National Building Code and are designated "March 1964, Final Series". Copies are obtainable from any local CMHC office.

The Sculptural Programs of Chartres Cathedral by Adolf Katzenellenbogen, 1964. 151 pages W. W. Norton & Co. Inc., New York. \$2.50.

Literature on Herman Nelson Unit Ventilator. Bulletins Nos. 600-A16 and ASA-311. *American Air Filter of Canada Ltd., 400 Stinson Blvd., Montreal 9.*

The Future of Old Neighbourhoods by Bernard J. Frieden. 209 pages. General Publishing Co. Ltd., 200 Adelaide St. W., Toronto 1. 1964. \$8.25.

Modern Architectural Setting of the Liturgy. Papers read at conference held at Liverpool, Sept. 1962. 31 pages. The Camelot Press Ltd., London. 1964. \$3.50. Man's Struggle for Shelter in an Urbanizing World by Charles Abrams. 307 pages. MIT Press. 1964. \$8.75.

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Galt Collegiate, Galt, Ontario.  
Architects: Page & Steele.  
Engineers: Farkas Barron Jablonsky

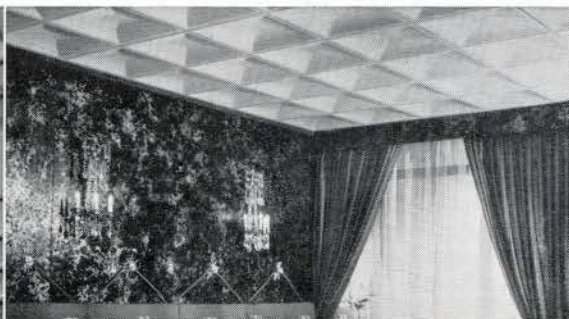
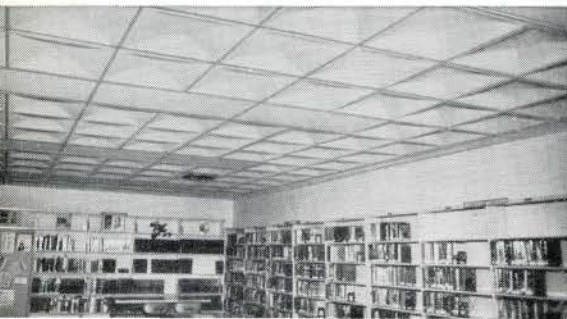


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# Nouvelles Provinciales

par Jean Gareau

L'Université de Montréal annonce la création d'une Ecole d'architecture qui aura le rang d'école constituante, et la nomination de M. Guy DESBARATS, FIRAC, comme premier doyen et directeur des études.

Cette décision du Conseil des gouverneurs de l'Université, conformément à la recommandation de la Commission des études, fait suite au rapport du Comité d'étude constitué par le gouvernement du Québec sur l'enseignement dans les écoles d'architecture de Montréal et de Québec. Le nouveau doyen, M. Desbarats, qui a acquis une réputation considérable comme architecte, a accepté également la direction des études pour la période nécessaire à l'organisation de l'Ecole.

Né à Montréal, il a fait ses études au Collège Sainte-Marie, a étudié le génie pendant 2 ans à McGill et a obtenu son titre de bachelier en architecture à l'Ecole d'architecture de McGill en 1948. Il s'est mérité plusieurs prix et la médaille de l'Institut Royal d'Architecture du Canada.

Il a exercé sa profession pendant 4 ans avec les architectes Abra, Balharrie & Shore d'Ottawa, puis s'est mérité une bourse de recherches sur l'habitation, de la Société centrale d'Hypothèque et du Logement. Il a enseigné à McGill pendant 5 ans, a développé le laboratoire de recherches en construction à l'Ecole d'architecture de McGill et il a également participé à des expériences de laboratoire chez Howard T. Fisher de Chicago et à l'Institut polytechnique de Virginie.

Il a fondé un bureau avec la collaboration de Raymond T. Affleck en 1953, et il est co-associé de la société Affleck, Desbarats, Dimakopoulos, Lebensold, Sise, établie en 1954.

M. Desbarats a fait partie de plusieurs comités, dont un Comité consultatif de la Commission de la Capitale Nationale, un Comité consultatif (en architecture)

de l'Université Laval, et il a siégé aux comités de l'Association des Architectes de la province de Québec. Il a été élu agrégé de l'Institut Royal d'Architecture du Canada. Il a été avisé à l'occasion de concours en architecture. Il est également l'auteur de plusieurs conférences et articles de revues, et a souvent participé à des émissions de radio et de télévision. L'ECOLE N'EST PLUS. VIVE L'ECOLE!

Le Ministère de l'Education s'est défait par le moyen constitutionnel et laborieux d'un Comité d'étude sur l'enseignement de la responsabilité de ces organismes vivants et turbulents que sont les Ecoles d'Architecture. Celles-ci sont abolies. Les Universités Laval et de Montréal annoncent dans le même temps la création de deux Ecoles constituantes ayant le statut de faculté, la première sous l'égide d'un directeur, la seconde sous celle d'un doyen qui siégeront ainsi au Conseil universitaire et à la Commission des études. Les titulaires de ces postes seront MM. Noël Mainguy à Québec et Guy Desbarats à Montréal. Le Comité provisoire qui a recommandé ces nominations à la Commission des études des universités doit poursuivre son mandat jusqu'à la fin de cette année en assurant les relations nécessaires entre le Gouvernement et le Conseil des gouverneurs des Universités. Les nouvelles Ecoles dont la composition du corps professoral et le programme des études seront connus en temps utile dispenseront leur enseignement dès septembre prochain. Elles seront logées dans les immeubles des anciennes Ecoles, rue du Mont-Carmel à Québec, rue Saint-Urbain à Montréal dont le Gouvernement cèdera l'usage aux Universités aussi longtemps qu'ils serviront à loger les nouvelles Ecoles. Les immeubles dont les frais d'entretien seront assumés entre-temps par les Universités seront remis au Gouvernement aussitôt que les institutions seront en mesure de loger leur Ecole sur le Campus.

Les nouveaux directeurs pour être d'accord avec les recommandations du rapport du Comité d'étude et tout particulièrement le programme académique, n'en considèrent pas moins l'ensemble comme des suggestions, comme des in-

struments de travail vis-à-vis desquels ils entendent conserver toute la liberté inhérente à leurs fonctions qui les rendent responsables vis-à-vis de la Commission des études universitaires. M. Desbarats s'estime un évolutionnaire alors que M. Mainguy remarque justement les commentaires flatteurs du Comité d'étude sur l'esprit de son école dont les premiers finissants ne seront diplômés qu'à la fin de la prochaine année académique. Dans ces circonstances, l'étape de transition ne devrait ni être de même durée ni viser les mêmes objectifs.

Dans l'une et l'autre Ecole, l'enseignement visera tout particulièrement à préparer l'étudiant à la pratique professionnelle actuelle et prévisible dont l'évolution rapide sous les pressions de facteurs sociologiques aussi nombreux que complexes ne cesse de préoccuper les éducateurs les plus avertis comme en a témoigné le récent congrès de l'IRAC à Saint Andrews. Le doyen de l'Ecole de Montréal entend même mettre l'accent sur les conditions de travail des grandes associations professionnelles.

Quant au renouveau d'esprit dont il est si souvent question, on admet généralement que les ateliers de composition sont immédiatement les plus accessibles.

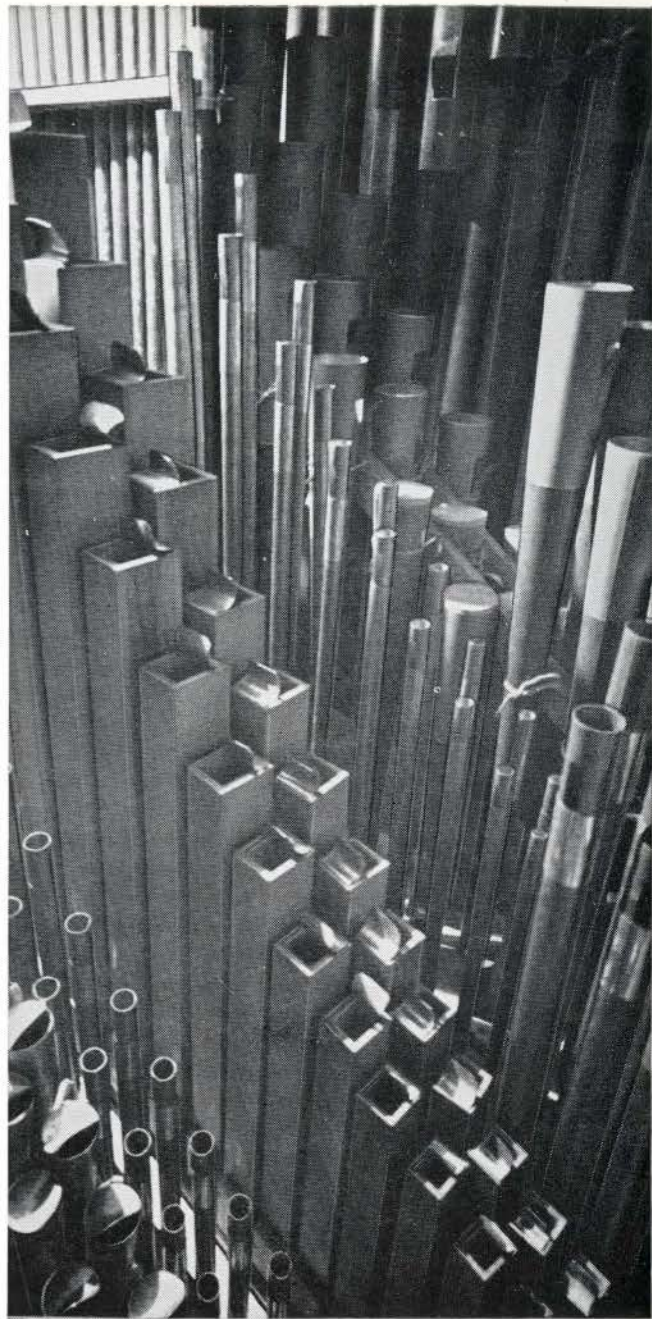
Des architectes du Québec et de l'étranger ont été pressentis. Il est déjà apparent qu'il faudra du moins à Montréal se plier à quelques concessions quant à la langue d'échange pour jouir à fond des ressources intellectuelles de ce continent. Pour ailleurs, les Ecoles seront appelées à assumer un rôle intellectuel en mettant à la disposition des pays en voie de développement notamment dans le monde francophone, l'apport de leurs connaissances.

Les nouveaux directeurs ont tous deux l'intention d'entreprendre des échanges qui permettront au corps enseignant régulier et invité de professer à l'occasion dans l'une ou l'autre Ecole.

Il ne reste plus maintenant qu'à rappeler ce mot de Pascal à ceux qui ont attendu un dieu et auxquels le titre de cette chronique veut suggérer qu'ils ont un roi: "Le temps ne respecte pas ce que l'on fait sans lui".



(Architects: Pentland and Baker)



## How the precise control of supplementary electric heating keeps this magnificent pipe organ in tune

**Changing temperatures mean an out-of-tune pipe organ. This dissonant situation isn't a worry at the Glenview Presbyterian Church in Toronto. But it could have been.**

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remarkable how well this instrument has kept in tune during the recent severe winter despite the variations in temperature in the church."

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# Provincial News

## OAA REGISTRATION BOARD CHANGES RULING ON FIRM NAMES

The Registration Board of the Ontario Association of Architects on May 9th repealed regulation 48b concerning firm names and substitute the following:

"48(b) The firm name of a partnership shall contain only the names of partners composing the partnership and shall not include the words "associates", "partners", "consultants", "company" or any other anonymous designation. The firm name need not include the names of all partners. If by reason of death or retirement from the partnership the name requires to be changed to comply with this Regulation the change shall be made within a period of two years from the death or retirement. This Regulation comes into force on the first day of September, 1965.

"Notwithstanding the foregoing the firm name of a partnership which was registered with the Secretary on the first day of January, 1964, may continued to be used but only so long as the said firm name is not changed or altered in any way and provided that the said firm name so registered included the surname of a partner of the firm."

The following were admitted to membership in the Ontario Association of Architects at a meeting of the registration board held on May 29th.

*Thomas E. Brown*, BArch, 1557 Kenmuir Avenue, Port Credit, Ont.; *A. J. Capling*, BArch, Apt. 14, 1160 Meadowlands Drive, Ottawa; *Frederick E. Davis*, BArch, 1050 Beaver Hall Hill, Montreal 1; *Leslie Fekete*, DiplArch, 261 St. Germain Avenue, Toronto 12; *Mortimer D. Gross*, BArch, Suite 22, 5810 Cote St. Luc Rd., Montreal; *Wm. Kachmaryk*, BArch, 178 Millwood Road, Toronto 7; *M. S. Kwan*, BArch, 4882 Fulton Avenue, Montreal 26; *J. A. Langford*, BArch, Chief Architect, Department of Public Works, Ottawa 8; *Donald J. Nichol*, BArch, 91 Hazelton Avenue, Toronto 5; *Michael Prodanou*, BArch, 90 Hancock Street, Cambridge, Mass.; *Alan G. Sherriff*, BArch, 1046 Homeric Drive, Cooksville, Ont.; *Allan Spevack*, BArch, Suite 22, 5810 Cote St. Luc Rd., Montreal; *Donald*

*N. Wilson*, BArch, 1176 Lakeshore Highway East, Oakville, Ont.

At the same meeting the following was restored to membership in the Association: *Raymond Skelly*, DipArch, ARIBA, Apt. 508, 276 St. George Street, Toronto 5.

## ARCHITECT

required by  
Sask. Dept. of Public Works,  
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**REQUIREMENTS:** Eligibility for registration as an Architect in the Province of Saskatchewan. Preferably some experience in the design of schools, hospitals, office buildings or similar structures. This is professional architectural work in a small architectural and engineering branch. Responsible for design of new or alterations to existing provincial buildings. This position has considerable scope for individual opportunity and expression.

**APPLICATIONS:** Forms and further information may be obtained from Public Service Commission, Legislative Building, Regina, Saskatchewan and submitted for early consideration. Please refer to File No. c/c 7702.

## Letters

Editor RAIC Journal

I have read Mr. Russell's letter and couldn't agree with him more, particularly as regards imported decibel figures. Not only do American testing labs appear to differ from our own at N.R.C. but they are all different amongst themselves, which must lead to widely divergent test results. Surely it must be almost impossible for an Architect to logically resolve the meaning of some of the figures that he is presented with.

I do agree that the Sound Transmission Class is by far the best criterion available, and do further agree that partition manufacturers who are selling their goods in Canada should produce N.R.C. tests to back up their claims. A sound test at N.R.C. costs very little in relation to the available partition market in Canada. We feel that the sooner the Architectural profession makes this mandatory the sooner the air will be cleared in this whole matter.

*C. F. Gross, P. Eng.*

Editor RAIC Journal

I read with special interest, in your June issue, John Russell's letter concerning

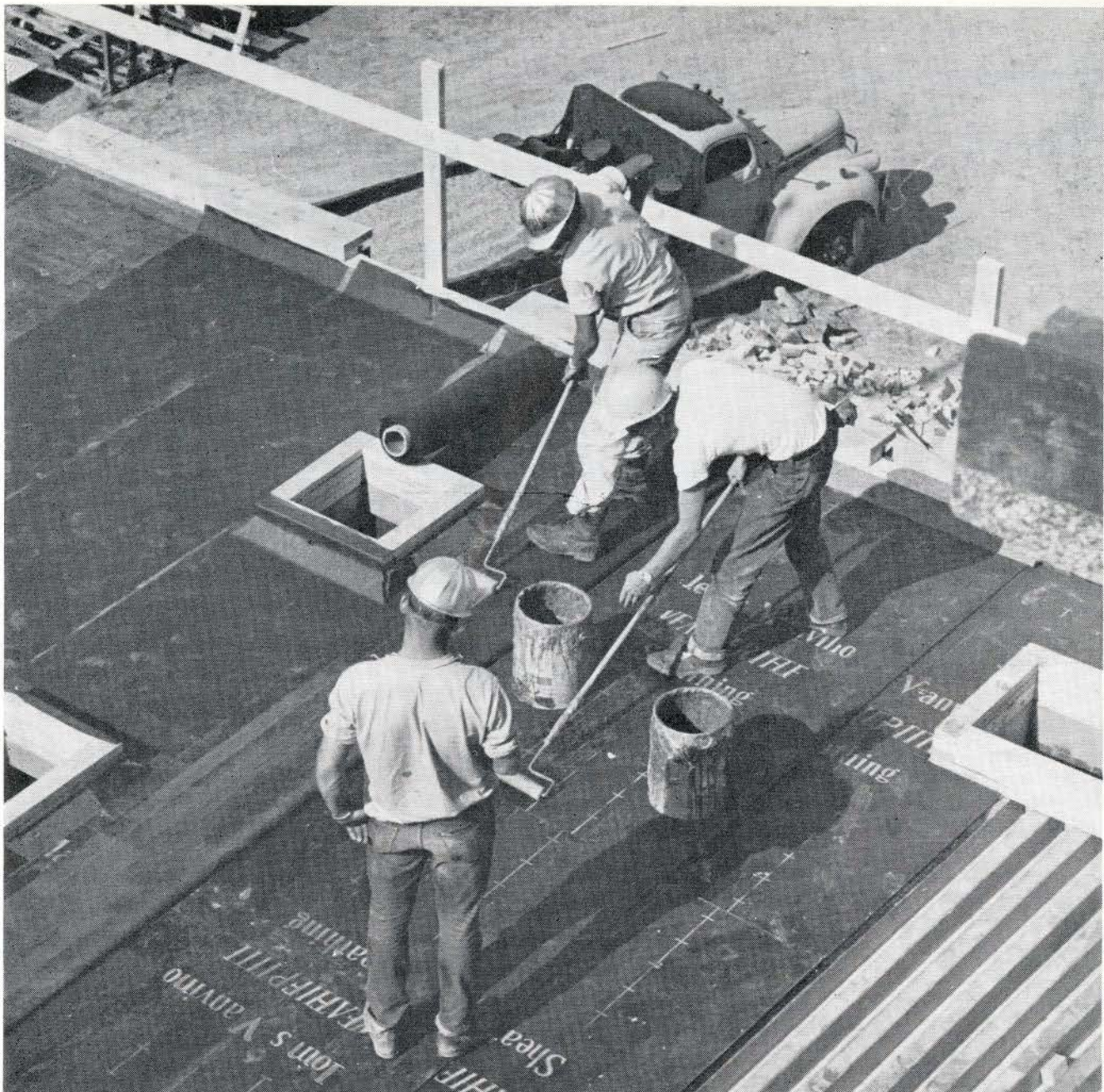
sound insulation tests. It was naturally pleasant to learn of his high regard for our test procedures at the National Research Council. At the same time, as one of the developers of the ASTM test method, I cannot admit that the only way to get comparable test results is to have all tests done at one laboratory.

We work very hard, in standards committees, to ensure that test results are a function of the test specimen only, and not of the tester. In sound insulation we are still struggling toward this goal, but are close enough that tests done in full conformance with ASTM E90-61T will produce the same answers, within a decibel or so, for the same specimen tested in any qualified laboratory.

My advice to the architect assessing sound insulation claims is therefore as follows: (1) Make sure that the test method conformed fully, without exception, to the recommended practice ASTM E90-61T; (2) Make sure that the test data were obtained on a reasonable facsimile, including especially the details of assembly and installation, of the product being considered. The only way to be sure about these matters is to see a copy of the actual test report; writers of trade literature, who are usually poets rather than engineers, sometimes have a tendency to romanticize things of this sort. In our experience, many of the arguments about insulation data are traceable to vagueness or ambiguity in the architect's original specification. Perhaps it would be a useful project for someone to prepare model specifications for the more common sound insulation requirements. These would not only take care of the ordinary problems, with which the architect evidently hesitates to bother his acoustical consultant, but would also encourage manufacturers to furnish the kind of information needed to solve the problems.

The most troublesome detail, which is rarely spelled out properly, is the meaning of whatever single figure is given; often it is labelled simply "transmission loss" or "decibel rating", or some equally imprecise term. Even the qualification "average" is insufficient unless the test frequencies are specified, I am glad to see Mr. Russell's support of the "Sound Transmission Class", since this quantity is carefully defined in the ASTM document. It has been widely accepted in the United States, and is gradually coming into use here.

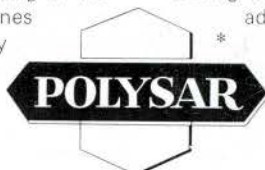
*T. D. Northwood,*  
*National Research Council, Ottawa.*



## Butyl membranes: the most important roofing advance since bitumen

A roof is a roof, or has been for the past 6,000 years. Now POLYSAR\* Butyl membranes promise to make life more comfortable for those who live under them . . . and a lot less complicated for people who build them. Roofs made of POLYSAR Butyl membranes will stand up to anything—sun, wind, rain, hail, snow, and ice. Even boiling water won't penetrate. (A Butyl membrane roof has successfully withstood 15 years of weathering in the south western United States). POLYSAR Butyl membranes will accommodate movement in the roof deck, and stay flexible from  $-65^{\circ}\text{F}$  to  $+200^{\circ}\text{F}$ . In fact this versatile new material has an important role to play

wherever resistance to weather and water is essential. It can be cut to fit irregular shapes, can be joined permanently with cold adhesives, and can be applied in temperatures as low as  $-20^{\circ}\text{F}$ . Maintenance is simple, like patching a tube, and for remote construction sites, freight savings can be substantial. Butyl membranes weigh less than one tenth that of conventional built up roofing and the only equipment needed for application is an adhesive roller and shears. For further information, or a visit from a POLYSAR technical representative, write: Marketing Division, Polymer Corporation Limited, Sarnia, Ontario, Canada.



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### NEW PRODUCTS

"Solitaire" knobs for drawers and cupboard doors. Six finishes and a special new twist-proof feature called "T-LOK". Washington Steel Division, Ekco Products Company (Canada) Ltd., 376 Birchmount Road, Scarborough, Ont.

Extra-wide Fiberglas reinforced plastic sheet in continuous 100-ft. rolls called Excelite XC 3 for industrial applications such as loading-dock canopies, sidewalk and plaza roofing, monitor and clerestory glazing. Price: 79c. sq. ft. Graham Products, Inglewood, Ont.

Caulking compound named "Construction Sealant". Cold and heat resistant. Will spread at 35 degrees below zero. Chemical Materials Section, Canadian General Electric Co. Ltd., 940 Lansdowne Ave., Toronto 4.

Outside trim to match new "Exiter" exit bolts.

Solar clock. Direct reading instrument with provision for all adjustments such as latitude, time zone etc. Graceful and ornamental stands 18" high with 15" dia. crescents. Price \$90. *The Solar Clock Company, 69 Kipling Ave. South, Toronto. EM 3-8036.*

AggreTex, an inorganic non-cementitious coating for exterior application. Hylon, a semi-gloss, elastomeric, thermo-plastic coating for interior and exterior applications. *Desco International Association.*

### LITERATURE

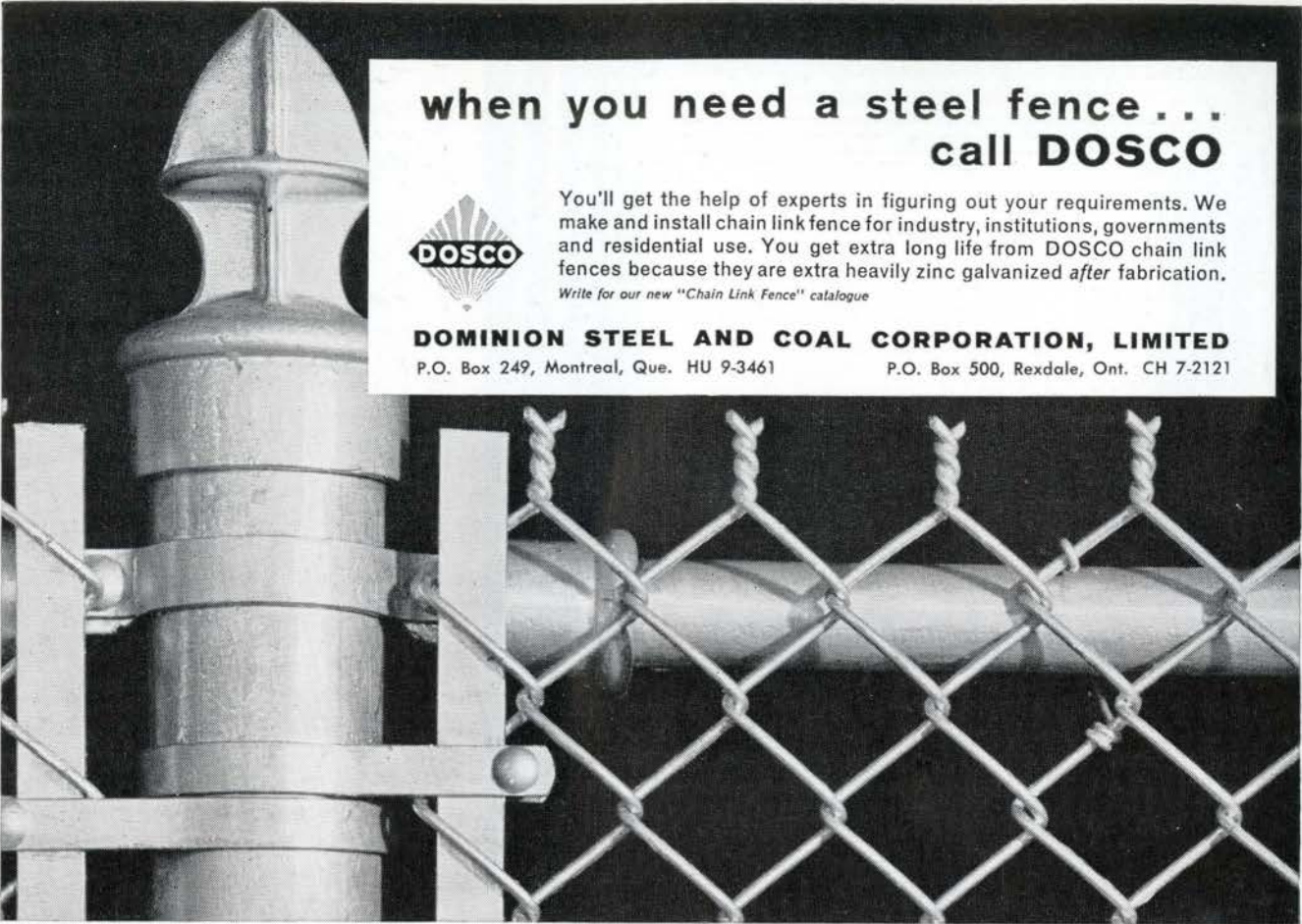
Modern Architecture Detailing, Vol. I. Edited by Konrad Gatz. 300 pages. Cdn. agents Burns & MacEachern Ltd., Don Mills, Ont. 1964. \$18.75.

Detailed window drawing and specifications for residential, commercial buildings and apartments. Accepted by CMHC based on CGSBS for 63-GP-3 and 63-GP-2. *Sheffield Aluminum Ltd., Box 216, Burlington, Ont.*

Rucotred stair treads for use with Terrazzo or concrete. Made of pure Polyvinyl chloride and will last life of stair. Fast colours. *Paisley Products of Canada Ltd., 36 Upton Rd., Scarborough, Ont.*

Fire Behaviour and Sprinklers by Norman F. Thompson. National Fire Protection Association, Boston, 1964. 168 pages. \$3.95.

Lyon Catalogue No. 100-M, complete new 92 page purchasing guide. Includes complete specifications and "product in use" photographs. *Lyon Metal Products, Inc., Box 425, Terminal "A", Toronto.*



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