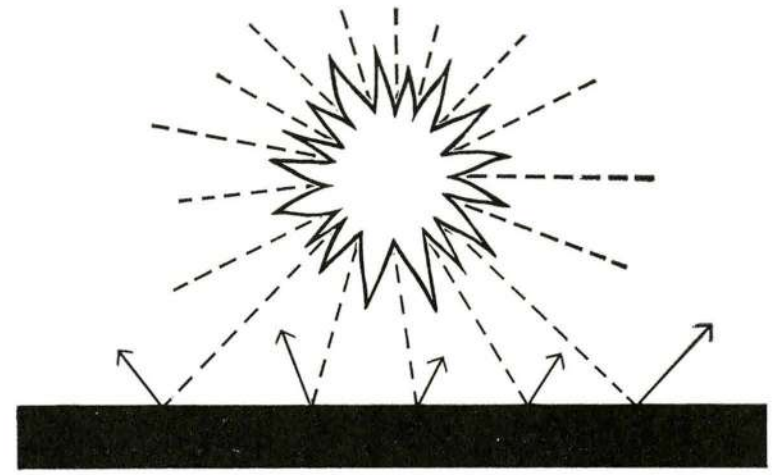
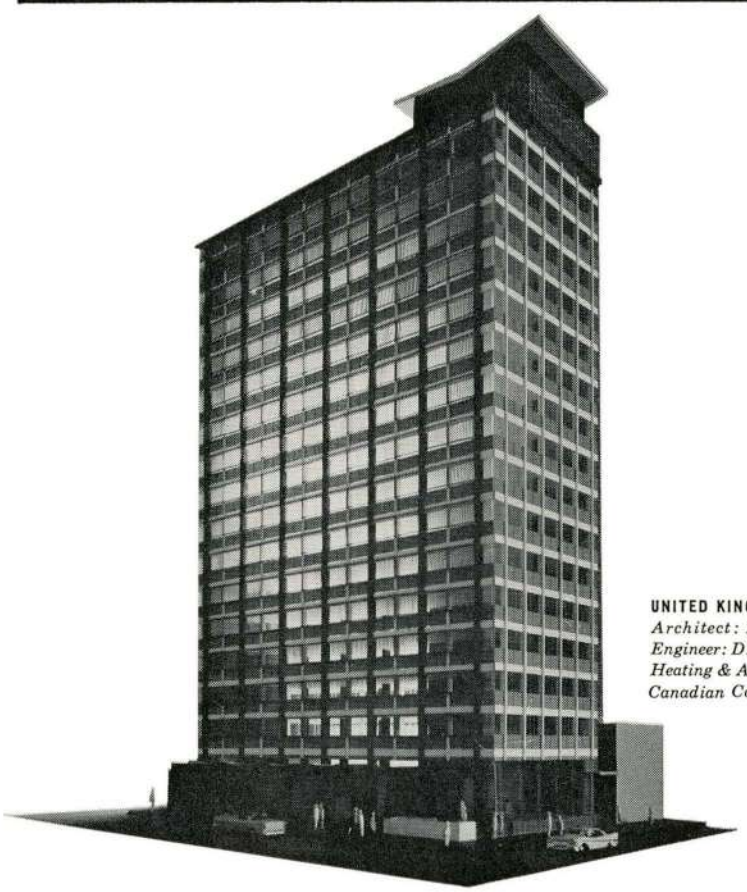
ROYAL ARCHITECTURAL INSTITUTE OF CANADA JOURNAL

NOVEMBER 1960

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

INSTITUT ROYAL D'ARCHITECTURE DU CANADA





UNITED KINGDOM BUILDING, VANCOUVER
Architect: Douglas C. Simpson, Vancouver
Engineer: D.W. Thomson & Co. Ltd., Vancouver
Heating & Air Conditioning Contractor:
Canadian Comstock Co. Ltd., North Vancouver

HOW TO OUTWIT THE SUN... AND COOL A BUILDING

A Trane *zoned* heating and cooling system is used in this handsome new Vancouver building. It automatically supplies just the right proportion of tempered air, to maintain an ideal climate—heated air in winter, cooled air in summer. Sun deflecting louvres are used to obtain greater economy of operation —and to "outwit" the sun! Result? The staff enjoys a year-round perfect working climate.

Discover the advantages of TRANE heating and air conditioning in your new or present building. For perfect climate every hour of the day, contact your local TRANE office. ■

TPJ6Q-1

TRANE COMPANY OF CANADA, LIMITED, TORONTO 14
Manufacturers of equipment for air conditioning, heating and ventilating.

TRANE

① *New Medical Wing (opened in 1959)* ② *New Surgical Wing (opened 1955)*

The finest outlook a modern hospital can have

The Royal Victoria Hospital overlooks the city of Montreal from a beautiful setting on famous Mount Royal. Opened on 2nd January 1894, it is closely affiliated with McGill University as a teaching hospital and has a long and outstanding record of public service to the community in general.

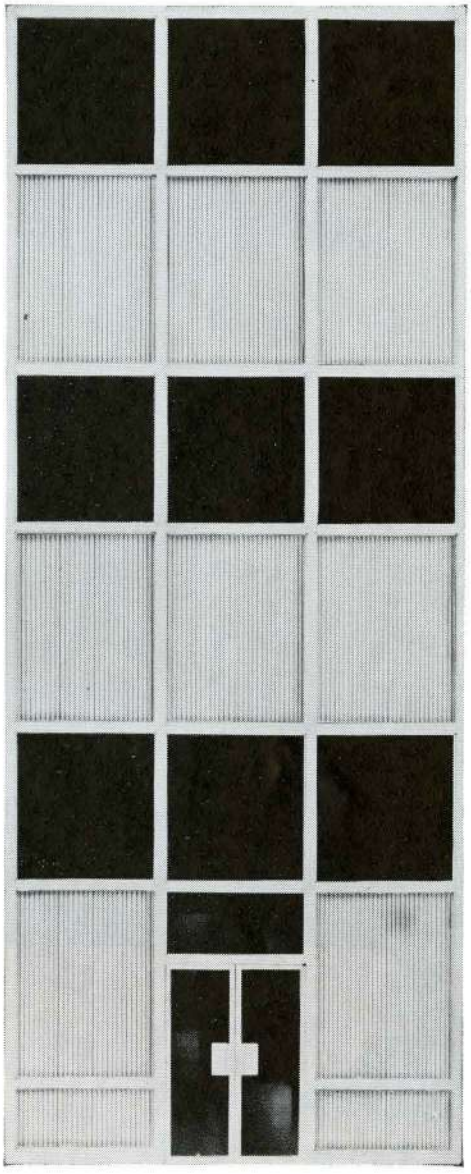
Recent expansion and renovation programmes have extended the facilities that the Royal Victoria Hospital offers to the public. The addition of two new wings, designed by architects Barott, Marshall, Merrett & Barott, of Montreal, has increased the total number of beds available in the hospital to 1017.

Both modern wings, highlighted in the above illustration, feature high quality CLERK windows, designed and fabricated in Canada to perform smoothly and efficiently for the life of the building.

CLERK WINDOWS LIMITED

MONTREAL TORONTO

Flexalum
Verticals
draw like drapes,
tilt like blinds



Flexalum

louvred window coverings match architectural trends in style and practicality

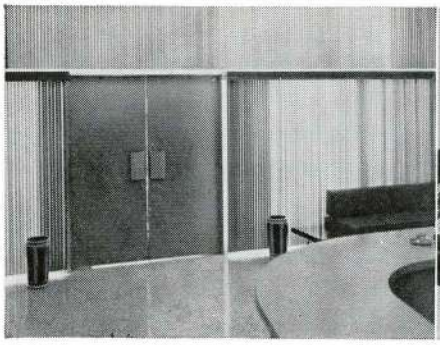
For years, the louvred blind principle pioneered by Flexalum, has been the most practical form of interior window covering for commercial applications. So that style would keep pace with practicality, Flexalum has developed new directions in louvred treatments. On this page are just a few examples of how Flexalum Verticals combine handsome, contemporary appearance with the utility of venetian blinds.

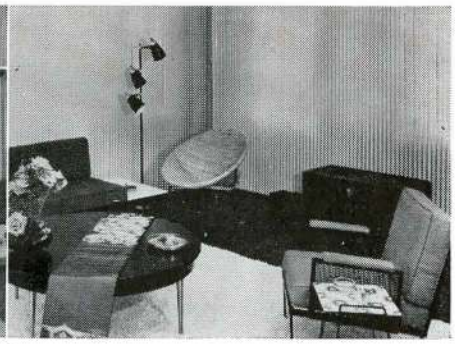
Flexalum

Above: Drawn like draperies, tilted like blinds, Flexalum Verticals let the architect follow through the broad sweep of upright structural lines with matching window decoration.

Centre: Unmatched for light control, ease of operation and long, trouble-free life, Flexalum Verticals here provide soft light while removing that "glassed in" feeling from the entrance lobby of a commercial building.

Right: Flexalum Verticals dress up a reception area with drape-like attractiveness. Available in a large selection of both gloss and mat finishes, in plain shades and tasteful contemporary patterns.

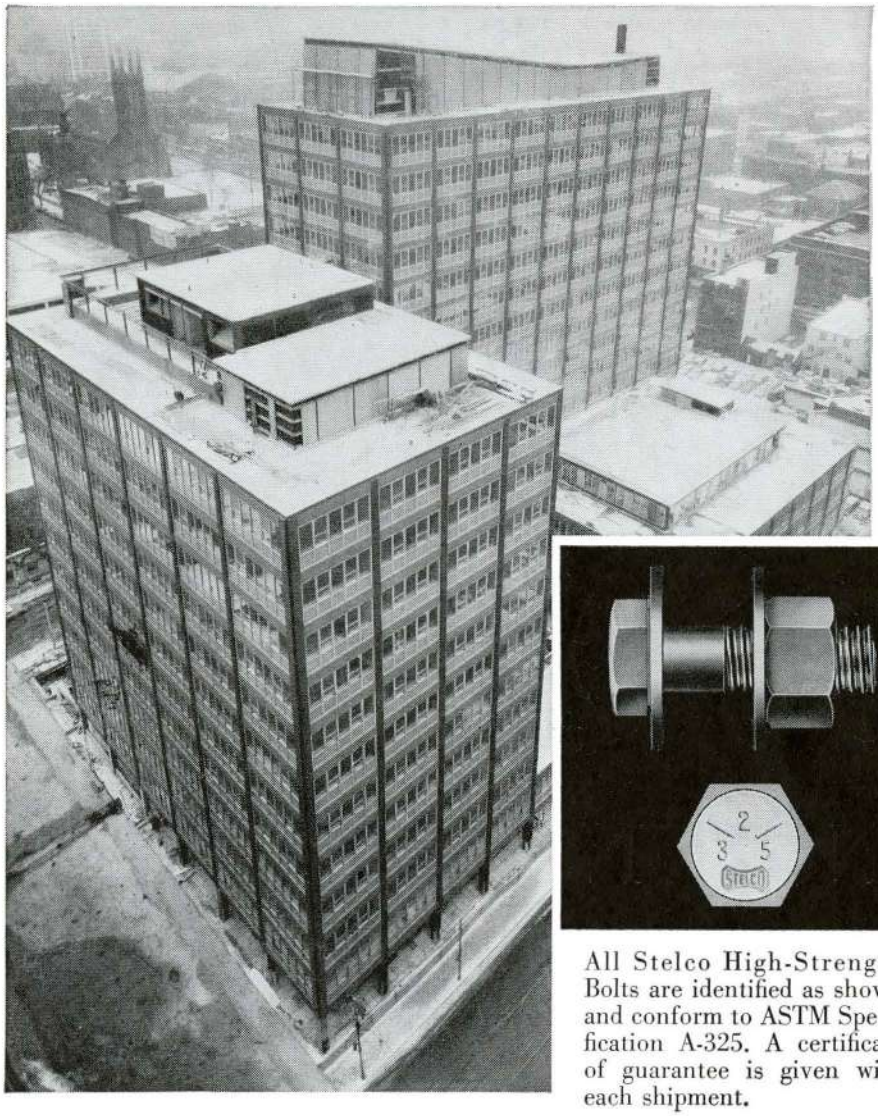




For further information about the latest trends in louvred window coverings, write to Hunter Douglas Ltd., 9500 St. Lawrence Blvd., Montreal.

BOLTED BEAM AND COLUMN CONNECTIONS

In Modern Downtown Office Building



All Stelco High-Strength Bolts are identified as shown and conform to ASTM Specification A-325. A certificate of guarantee is given with each shipment.

MACKENZIE BUILDING, TORONTO, ONTARIO

OWNERS: Dept. of Public Works, Ottawa, Building Construction Branch, *E. A. Gardner, Chief Architect.*

ARCHITECTS: Shore & Moffat, Toronto.

GENERAL CONTRACTORS: Redfern Construction Company, Limited, Toronto.

STEEL FABRICATORS and ERECTORS: Frankel Steel Construction Limited, Toronto.

High-strength bolting and welding were employed to erect the steel framework of this modern Canadian Government Building which houses a Post Office and other Federal Offices.

29,245 Stelco High-Strength Bolts were used in the building shown here. Present regulations require one bolt for one rivet, but a 2-man crew with an air wrench and a holding wrench can install 3 bolts in the same time it takes a heavily equipped 4-man riveting crew to install 2 rivets. Stelco High-Strength Bolts are stronger than rivets in both tension and shear. Bolting has important advantages in almost any structural job, but, as bolts are installed cold and with relative quiet, this method is particularly desirable in built-up areas, and in school and hospital zones.

STELCO **HIGH-STRENGTH BOLTS**

THE STEEL COMPANY OF CANADA, LIMITED

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J. C. Pratt & Co. Limited, St. John's, Newfoundland.

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This distinguished floor of Amtico Renaissance® Vinyl is inspired by aristocratic Italian Renaissance marble designs. Other unique Amtico designs include Travertine, Delft, Textura, Celestial, Stardust, Terrazzo and Marbleized.

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(Please attach coupon to your business card or letterhead.)

Footcandle Calculation Table - Point By Point Method

Horizontal Distance from Axis of Light Source–Feet

Height of Light Source Above Surface – Feet.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20	22	24	26	28	30	35	40	50
2	0° 25 000	27° 17 850	45° 8 850	56° 4 275	63° 2 245	68° 1 298	71° 802	74° 528	76° 355	78° 255	79° 190	80° 142	81° 113	81° 090	82° 070	82° 058	83° 048	84° 038	84° 025	85° 020	85° 015	86° 013	86° 008	86° 007	87° 004	87° 000	87° 000
3	0° 11 110	18° 9 500	34° 6 400	45° 3 933	53° 2 400	59° 1 522	63° 1 000	67° 680	69° 477	72° 356	73° 264	75° 205	76° 161	77° 126	78° 100	79° 084	80° 070	81° 050	81° 036	82° 027	83° 021	83° 016	84° 012	84° 011	85° 007	86°	87° 002
4																											86° 003
5																											84° 004
6																											83° 005
7	0°0' 2 041	8° 1 980	16° 1 814	23° 1 585	30° 1 336	36° 1 100	41° 893	45° 722	49° 583	52° 473	55° 385	58° 316	60° 261			65° 154	66° 131	69° 097	71° 074	72° 057	74° 045	75° 036	76° 029	77° 024	79° 016	80° 010	82° 006
8	0°0' 1 563	7° 1 527	14° 1 427	21° 1 283	27° 1 118	32° 953	37° 800	41° 666	45° 552	48° 458	51° 381	54° 318	56° 267	58° 225	60° 191	62° 163	63° 140	66° 105	68° 080	70° 063	72° 050	73° 040	74° 032	75° 026	77° 018	79° 012	81° 007
9	0°0' 1 235	6° 1 212	13° 1 148	18° 1 054	24° 943	29° 825	34° 711	38° 607	42° 515	45° 437	48° 370	51° 314	53°	55° 228	57° 196	59° 168	61° 146	63° 110	66° 085	68° 067	69° 053	71° 043	72° 035	73° 029	76° 019	77° 013	80° 008
10	0°0' 1 000	5°43' 985	11° 943	17° 879	22° 801	27° 716	31° 631	35° 550	39° 476	42° 411	48° 354	48° 30		52° 227	54° 196	56° 171	58° 149	61° 115	63° 089	66° 071	67° 057	69° 046	70° 038	72° 032	74° 021	76° 014	79° 008
11	0°0' 826	5°12' 816	10° 787	15° 742	20° 686	24° 623	29° 559	32° 496	36° 437	39° 383	42° 335	4			52° 195	54° 171	56° 150	59° 117	61° 092	63° 074	65° 060	67° 049	69° 040	70° 034	73° 023	75° 015	78° 009
12	0°0' 694	4°46' 687	9° 668	14° 634	18° 593	23° 546	27° 497	30° 448	34° 400	37° 356	40° 315	4			49° 191	51° 169	53° 150	56° 119	59° 094	61° 076	63° 063	65° 051	67° 043	68° 036	71° 024	73° 017	77° 009
13	0°0' 592	4°24' 587	9° 571	13° 547	17° 517	21° 481	25° 447	28° 404	32° 366	35° 329	38° 295	40 26		09	47° 187	49° 166	51° 148	54° 119	57° 096	59° 078	62° 064	63° 053	65° 044	67° 037	70° 025	72° 017	76° 010
14	0°0' 510	4°5 506	8° 495	12° 477	16° 454	20° 426	23° 396	27° 365	30° 334	33° 304	36° 27	38° 248		43° 201	45° 180	47° 162	49° 146	52° 118	55° 096	58° 079	60° 065	62° 054	63° 046	65° 039	68° 026	71° 018	75° 011
15	0°0' 444	3°49' 442	8° 433	11° 419	15° 401	18° 380	22° 356	25° 331	28° 305	31° 280	34			3° 174	45° 157	47° 142	50° 117	53° 096	56° 079	58° 066	60° 055	62° 047	63° 040	67° 027	69° 019	73° 011
16	0°0' 391	3°35' 388	7° 382	11° 371	14° 357	17° 339	21° 321	24° 300	27° 280	29° 259	32			67	43° 152	45° 138	48° 115	51° 095	54° 080	56° 067	58° 056	60° 048	62° 041	66° 028	68° 020	72° 012
17	0°0' 346	3°22' 344	7° 339	10° 331	13° 319	16° 306	19° 290	22° 274	25° 256	28° 239	30				41° 146	43° 134	47° 112	50° 094	52° 079	55° 069	57° 057	59° 048	60° 042	64° 029	67° 021	71° 012
18	0°0' 309	3°11' 307	6° 303	9° 297	13° 287	16° 276	18° 264	21° 250	24° 236	27° 221	29				40° 140	42° 129	45° 109	48° 092	51° 079	53° 067	55° 057	57° 049	59° 042	63° 030	66° 021	70° 012
19	0°0' 277	3°1' 276	6° 273	9° 267	12° 260	15° 251	18° 240	20° 229	23° 217	25° 205	28			5° 145	38° 134	40° 124	43° 106	46° 090	49° 077	52° 066	54° 057	56° 049	58° 042	62° 030	65° 022	69° 013
20	0°0' 250	2°51' 249	5°43' 246	9° 242	11° 236	14° 228	17° 219	19° 210	22° 200	24° 190	27			5° 137	37° 128	39° 119	42° 103	45° 088	48° 076	50° 066	52° 057	54° 049	56° 043	60° 030	63° 022	68° 013
21	0°0' 227	2°44' 226	5°26' 224	8° 220	11° 215	13° 210	16° 201	18° 194	21° 185	23° 176	25			4° 131	36° 122	37° 114	41° 099	44° 086	46° 075	49° 065	51° 056	53° 049	55° 043	59° 031	62° 023	67° 014
22	0°0' 207	2°36' 206	5°10' 205	8° 201	10° 196	13° 192	15° 185	18° 179	20° 171	22° 164	25			8° 124	34° 114	36° 109	39° 096	42° 084	45° 073	47° 064	50° 056	52° 049	54° 043	58° 031	61° 023	66° 014
23	0°0' 189	2°29' 189	4°58' 187	7° 184	10° 181	12° 176	15° 171	17° 165	19° 159	21° 153	24			1° 118	33° 111	35° 105	38° 092	41° 081	44° 071	46° 063	49° 055	51° 049	53° 043	57° 031	60° 023	65° 014
24			45'	7° 170	10° 166	12° 163	14° 158	16° 154	18° 148	21° 143	23			0° 112	32° 106	34° 100	37° 089	40° 079	43° 070	45° 061	47° 054	49° 048	51° 042	56° 031	59° 024	64° 014
	0°0'				9° 154	11° 151	14° 147	16° 143	18° 138	20° 133	22			9° 106	31° 101	33° 096	36° 088	39° 076	41° 068	44° 060	46° 053	48° 047	50° 042	55° 031	58° 024	63° 015
					8° 133	10° 130	12° 128	15° 124	17° 121	18° 117	20			7° 096	29° 092	31° 087	34° 079	37° 071	39° 064	42° 057	44° 051	46° 046	48° 041	52° 031	56° 024	62° 015
	0°0' 111	1°54' 111		5°43' 109		9° 107	11° 105	13° 103	15° 100	17° 098	18			5° 083	27° 080	28° 077	31° 070	34° 064	36° 058	39° 053	41° 048	43° 043	45° 039	49° 031	53° 024	59° 015
	0°0'	1°43'		5°12' 091		9° 089	10° 087	12° 086	14° 084	15° 082	17			5° 072	24° 069	26° 067	29° 062	31° 058	34° 053	36° 049	38° 045	40° 041	42° 037	47° 030	50° 024	57° 015
36	0°0' 077		3°11' 077	4°46' 076		8° 075	9° 074	11° 073	13° 072	14° 070	16			1° 062	23° 061	24° 059	27° 055	29° 052	31° 048	34° 044	36° 041	38° 038	40° 035	44° 029	48° 023	54° 015
40	0°0' 063	1°26 062	2°52' 062	4°17' 062	5	7° 061	9° 060	10° 060	11° 059	13° 058	14			0° 053	21° 051	22° 050	24° 047	27° 045	29° 042	31° 039	33° 037	35° 034	37° 032	41° 027	45° 022	51° 015
45	0°0'	1°16'	2°33'	3°49'	5	6°	8°	9°	10°	11°	13			7°	18°	20°	22°	24°	26°	28°	30°	32°	34°	38°	42°	48° 013
50	0°0' 040																								39° 022	45° 019	45° 013
55	0°0' 033	1° 033																					023	29° 022	33° 020	36° 018	42° 013
60	0°0' 028	0°57' 028	1°5 028																		022	23° 021	25° 021	27° 020	30° 018	34° 016	40° 013
70	0°0' 020	0°9' 020	1°5																			20° 017	22° 016	23° 016	27° 015	30° 013	36° 011

look what's happening to candlepower...

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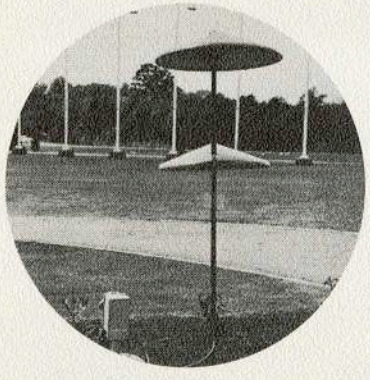
Northern Electric

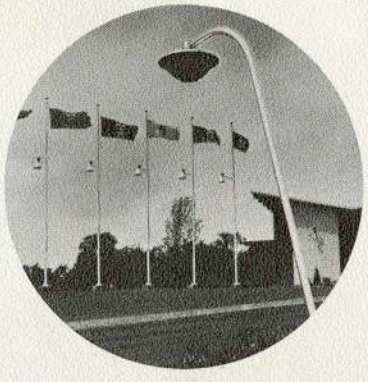
for a complete lighting service!

EXHIBIT BUILDING, The Thousand Islands, Ontario.

Architect H. H. ROBERTS, M.R.A.I.C., Westport, Ontario.
General Contractor TOWER COMPANY LIMITED, Montreal, Quebec.
Electrical Contractor G. COLIGAN, Prescott, Ontario.

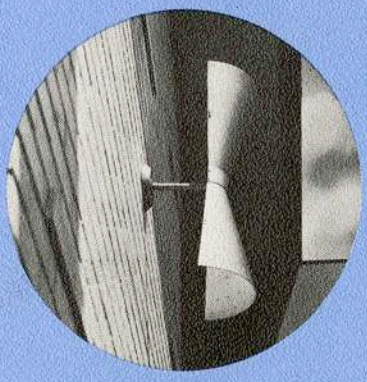
The Exhibit Building at the new Hill Island Development at the Thousand Islands, Ontario is part of a 350-acre resort area which is presently being developed by International Resort Facilities Limited. As part of the initial development, the Exhibit Building and its lighting indicate the modern concept that will be applied throughout the area. An interesting variety of lighting equipment is used to illuminate this building and surrounding area, with each unit selected to provide the *right* light at the *right* place and to complement each other. All of the lighting equipment, including lamps, was supplied through the Northern Electric lighting service. The products of many leading illumination manufacturers are conveniently available from Northern Electric and our lighting specialists will gladly assist you in the planning of efficient indoor and outdoor lighting systems.

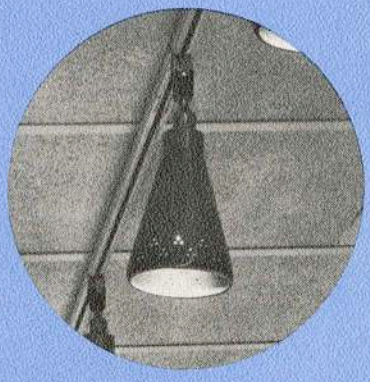




The interior of the building is complemented by colourful "super hi-lite" units suspended from the ceiling. In another section, a modern, flexible lighting system is provided through the use of lighting duct and cone-shaped fixtures containing reflector spotlights.

The exterior of the building is strikingly illuminated with sodium floodlights and large twin cone fixtures. Twin cone fixtures mounted on aluminium flagpoles illuminate the flags and the immediate approach to the building. Decorative luminaires and standards are used to illuminate walkways and landscaped areas.





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A single call to your nearest Northern Electric office will give you immediate access to information on the technical aspects and availability of the products of most of the leading illumination manufacturers.

Use the **NORTHERN ELECTRIC** ***LIGHTING SERVICE***

— our lighting specialists will be pleased to assist in the planning of any interior or exterior lighting layout.

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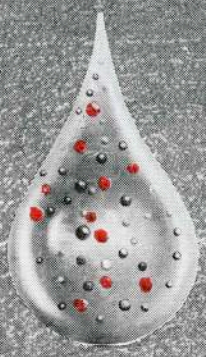


DAREX AEA

AIR ENTRAINING AGENT

on the job at Red Rock Falls

Answering the expanding North's demands for more power Ontario Hydro will bring Red Rock Falls generating station into service this year. The dam, powerhouse and spillway of single base line construction required approximately 97,000 yards of concrete.

Greater concrete durability was obtained by the even dispersion of air bubbles throughout the mix. This practice increased resistance to freezing and thawing, reduced water content and measurably improved workability. DAREX AEA by Dewey and Almy was the air entraining admixture used in concreting operations.

Because the existing ready-mix batching plant was too small for the large form area involved, a retarding admixture was used to delay the set of the concrete. DARATARD by Dewey and Almy was used to prolong the plastic condition of the concrete mix. Both Dewey and Almy materials were supplied and serviced by Construction Chemicals Limited, 88 Eglinton Avenue East, Toronto 12, Ontario.

W.R. GRACE & CO. OF CANADA LTD.
DEWEY AND ALMY CHEMICAL DIVISION
255 Lafleur Avenue, LaSalle, Quebec

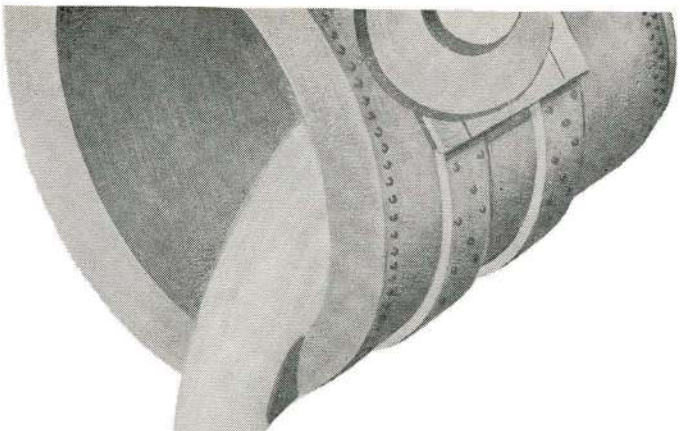
DEWEY AND ALMY ADMIXTURES

designed to fit particular concrete needs

DAREX AEA provides controlled air entrainment, greater durability

WRDA reduces water content, increasing concrete strength

DARATARD gives controlled retardation of initial set



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HAGER HINGES OF #302 STAINLESS STEEL
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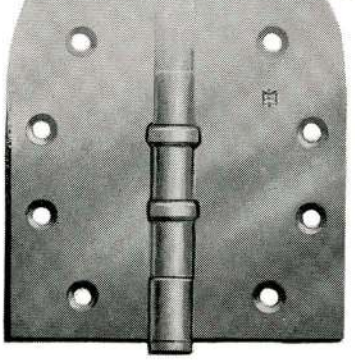
When the finest possible quality is indicated, specify all butt hinges in HAGER #302 STAINLESS STEEL.



all Hager Hinges available in AISI type-302 Stainless Steel (chrome-nickel); also AISI type-430 or other types, when specified.

Its initial higher cost is justified!

- 2 times the strength of hot rolled Carbon Steel (tensile strength 80,000 psi).
- No discoloration. Hygienic! Easy to keep clean. Hager AISI type-302 Stainless Steel looks new years after lesser metals have badly discolored and corroded.
- No corrosion. Type-302 is homogeneous, dense, austenitic type stainless (hardenable by cold working), hi-chrome nickel steel; no plating or protective coating to peel off; its own natural surface beauty is eternal; scratching will not lay a foundation for corrosion.
- Less frictional wear. Hager Stainless Steel hinges swing smoothly, silently, forever.
- Lustrous, low-reflective beauty. Universally used in the architectural field.

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Fire Hose Cabinets by Wilson & Cousins

• Specially designed and finished to match the interior trim
• Engineered to meet every requirement

at the

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This is just one of the many fine buildings in which Wilson & Cousins Hose Cabinets are used to enhance rather than detract from a beautiful interior design. We invite you to review the many attractive styles and finishes available to you through Wilson & Cousins. Or, if you prefer, enquire regarding the building of cabinets to your personal design. (We are now doing this for a number of Canadian Architects). A note on your letterhead will receive our immediate attention.

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Canada's oldest and largest manufacturers of Fire Protection and Safety Equipment

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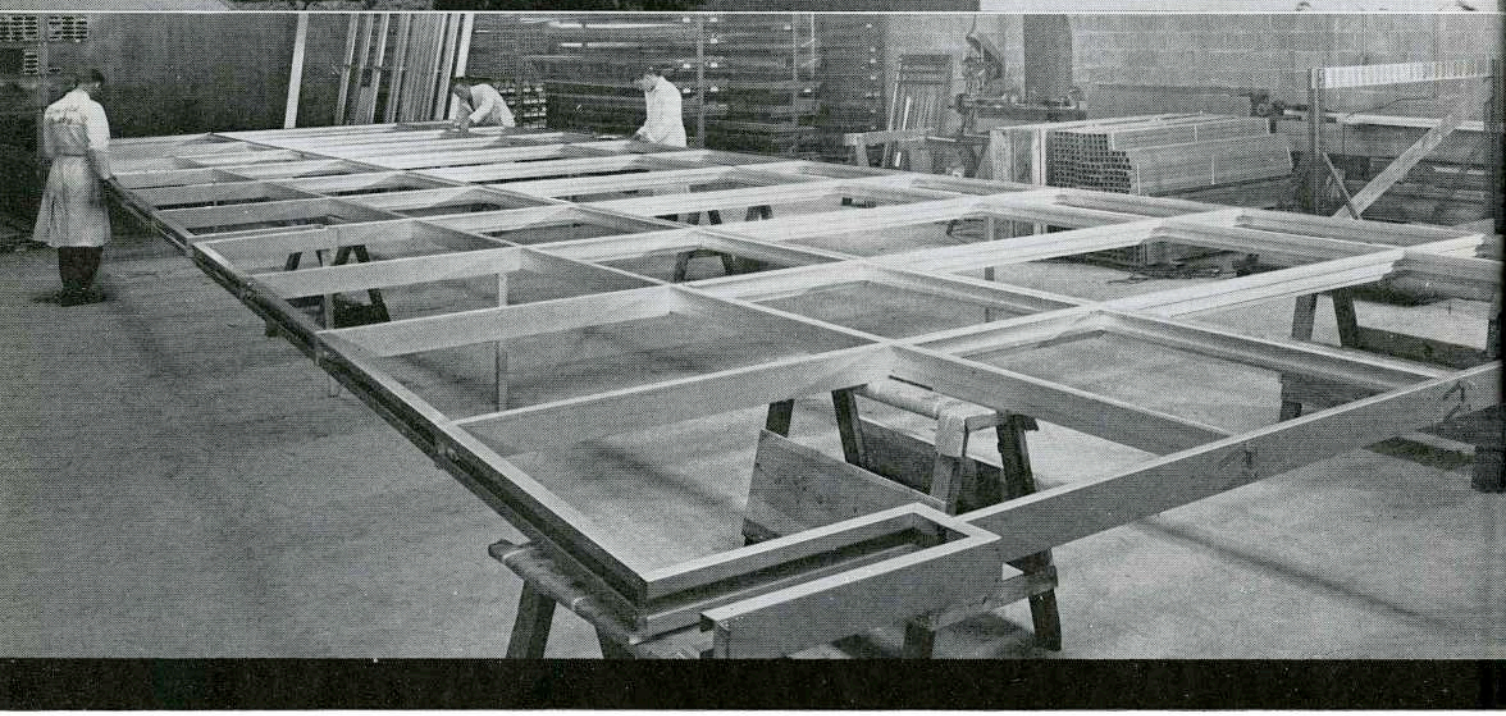

TOP: PALM SPRINGS SPA **William F. Cody, Wexler & Harrison, Phillip Koenig** BOTTOM: PREFABRICATION OF SAFEWAY STOREFRONT FOR DOUBLE GLAZED, SEALED UNITS

SOUTH BAY BANK **Craig Ellwood, Designer**

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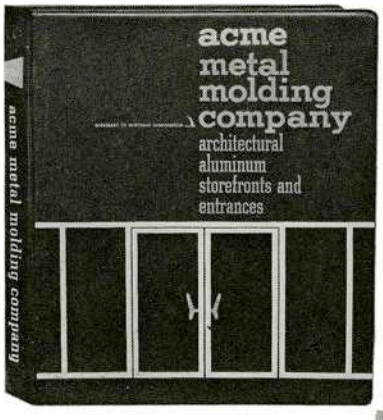

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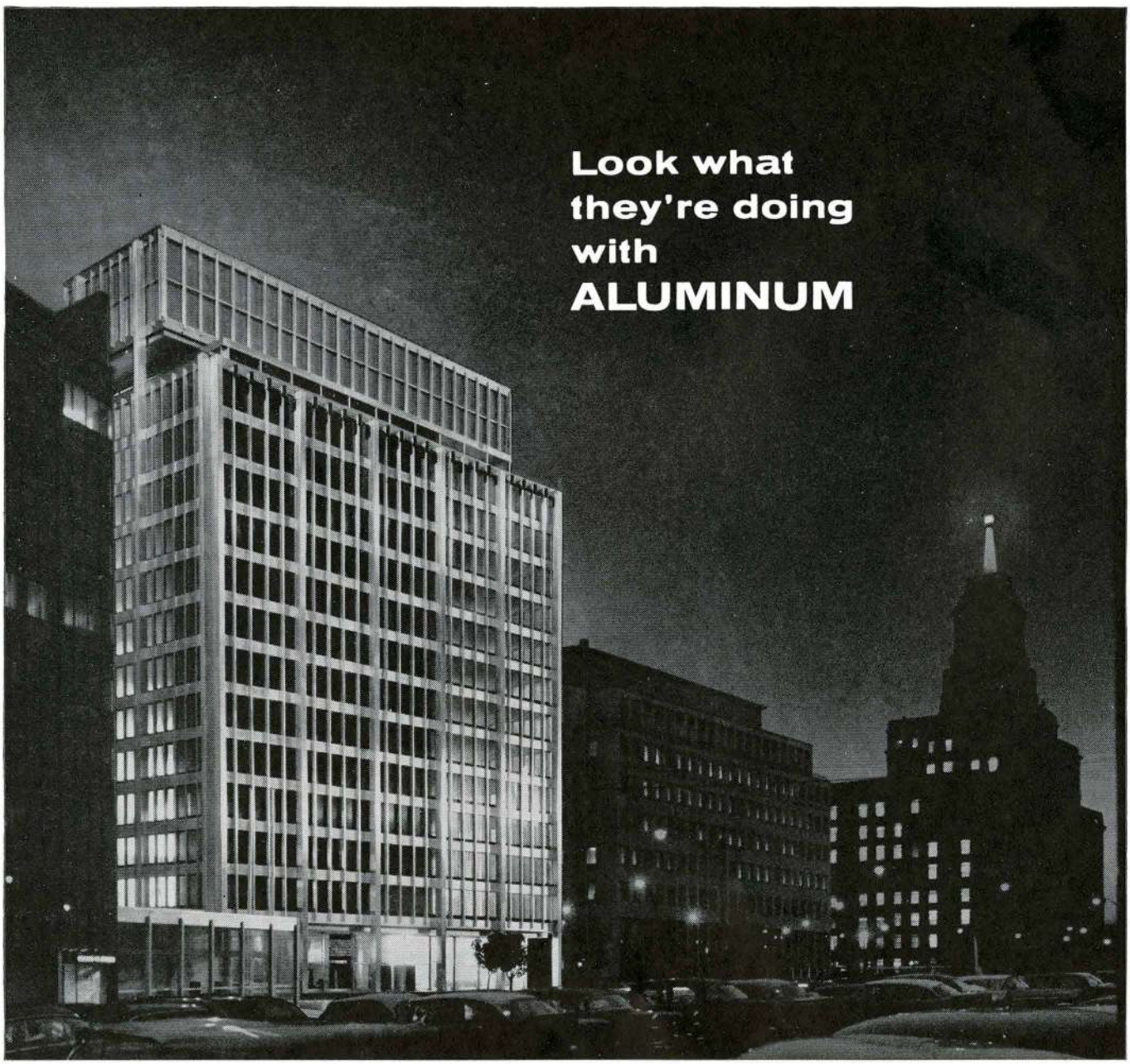

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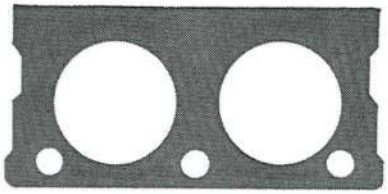

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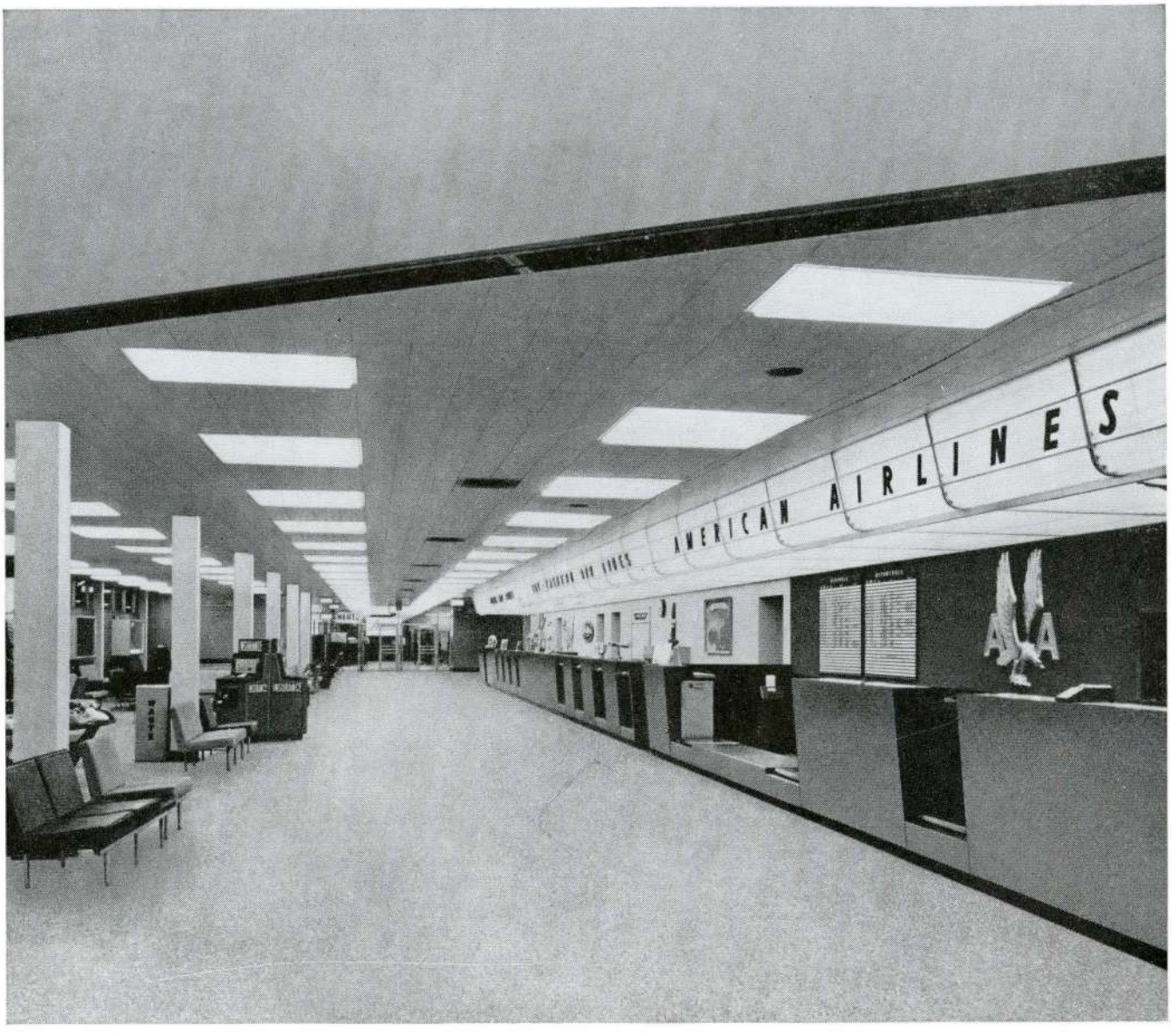

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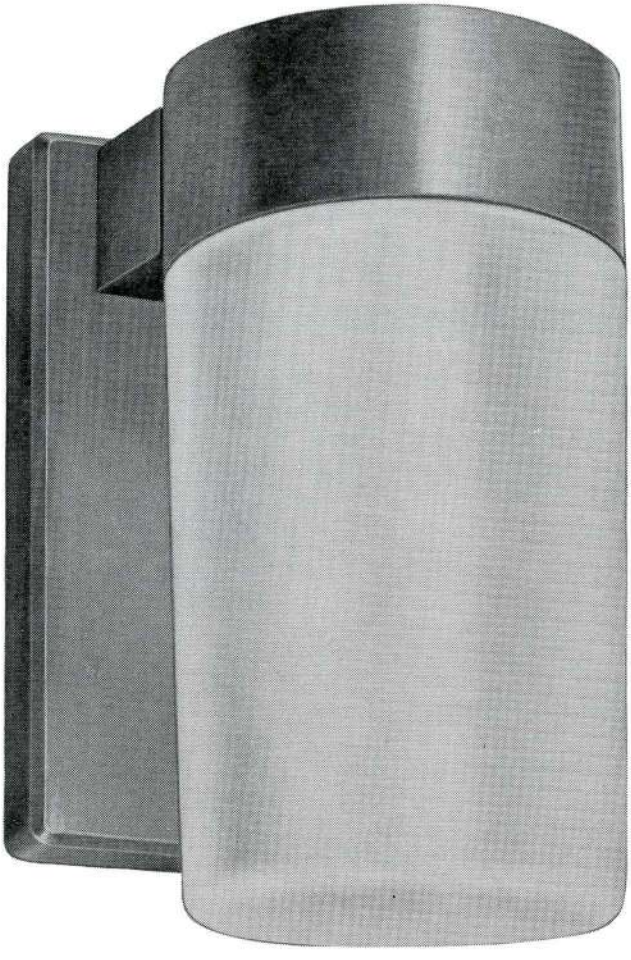

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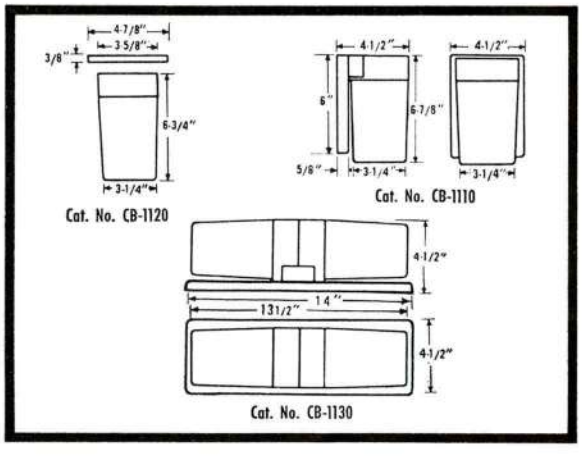

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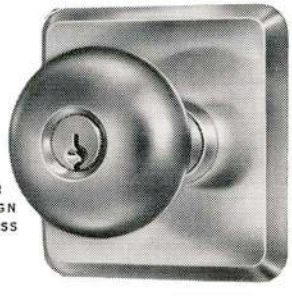

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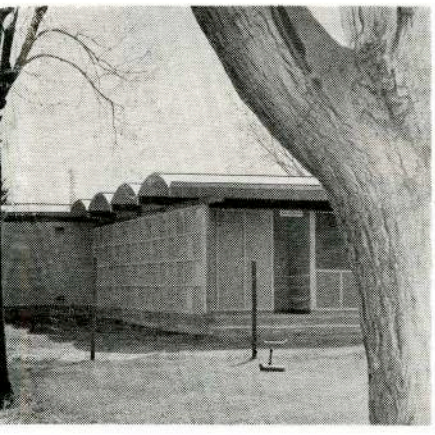

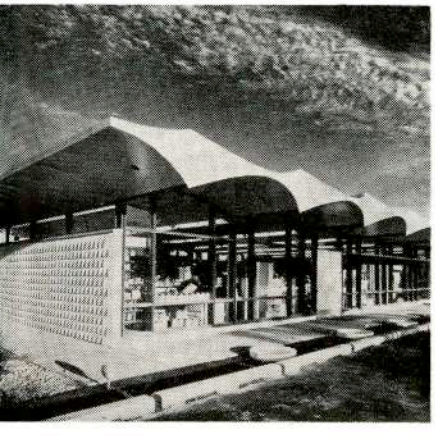

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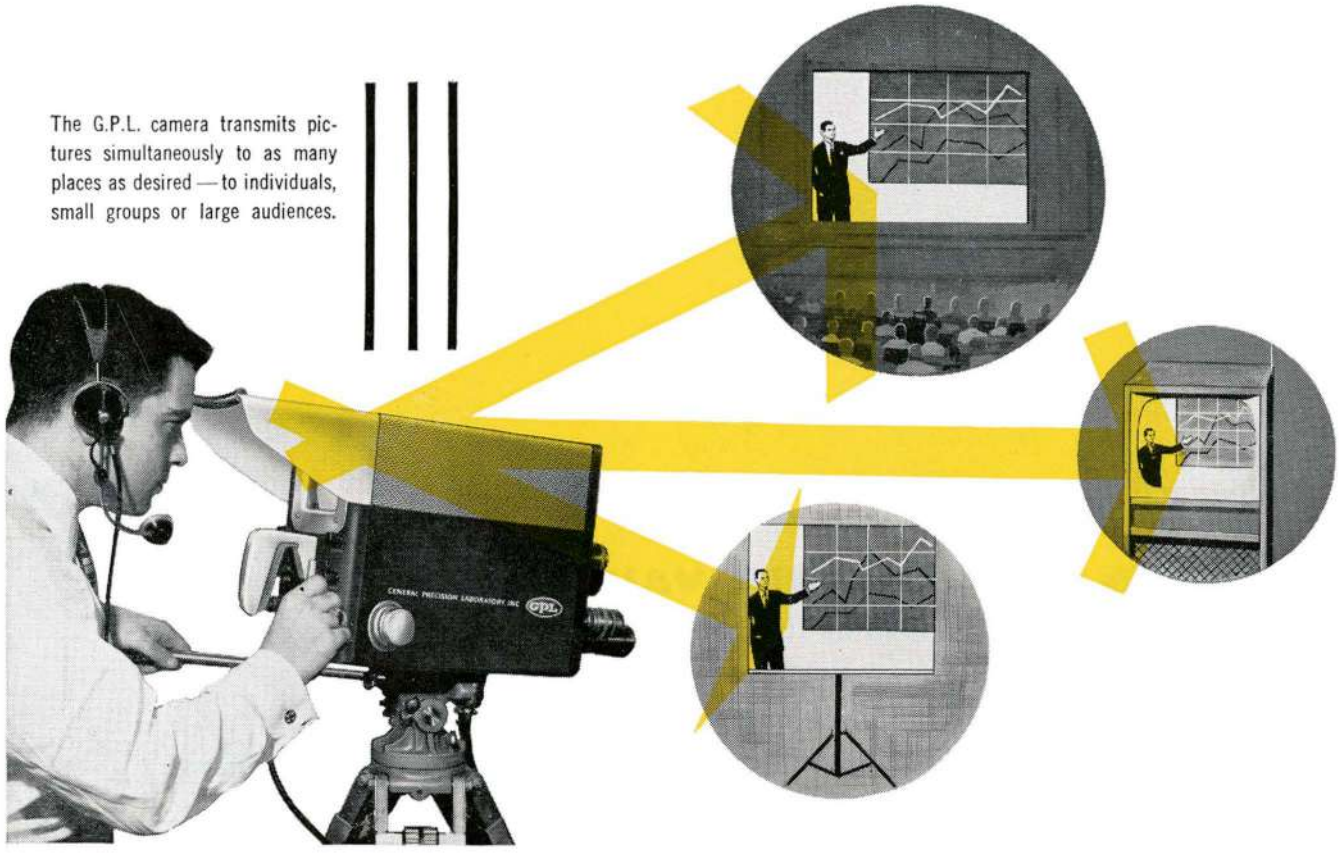

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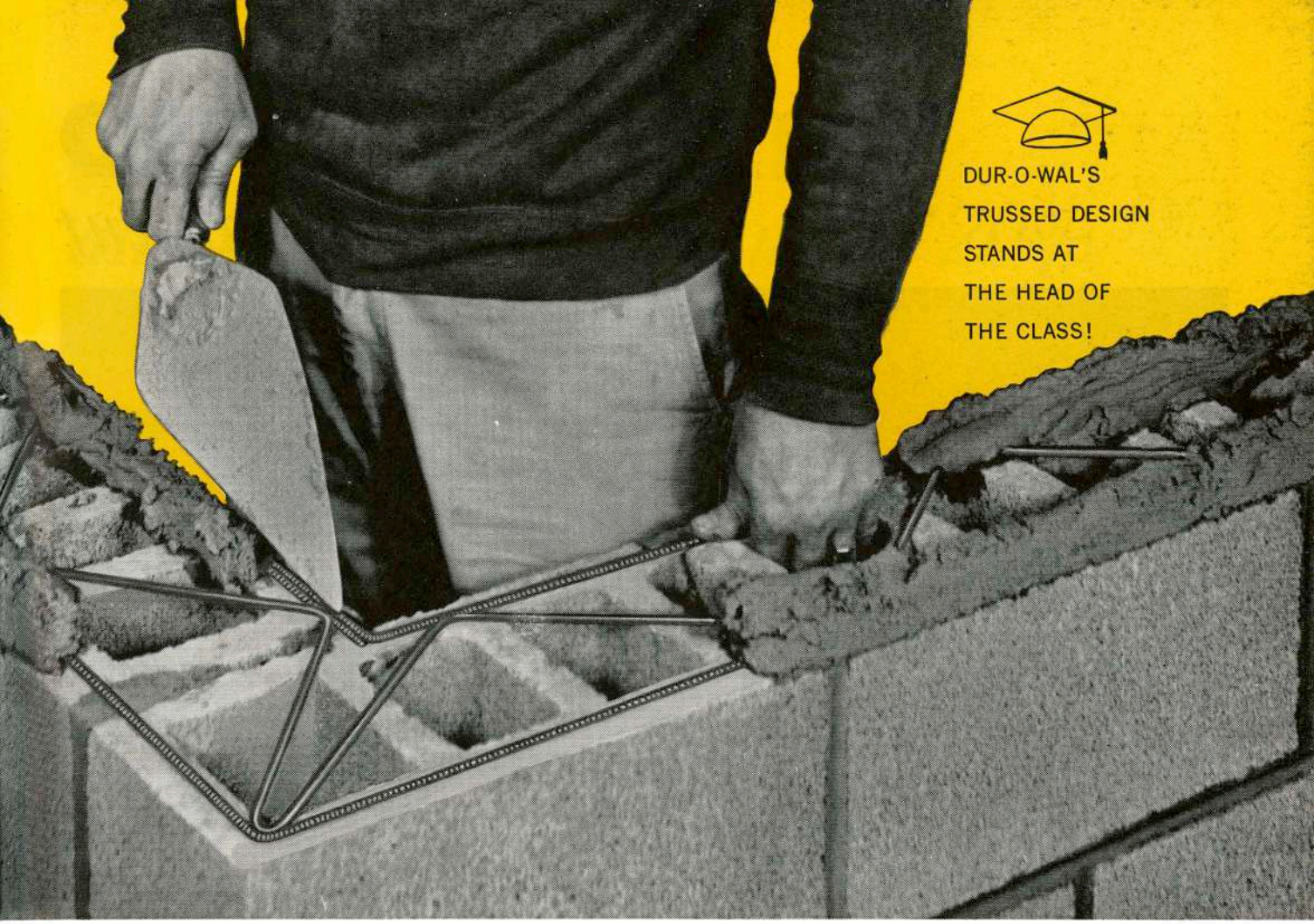

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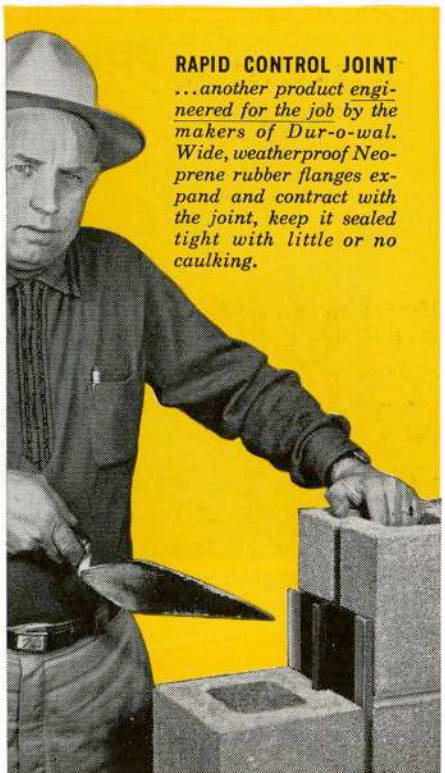

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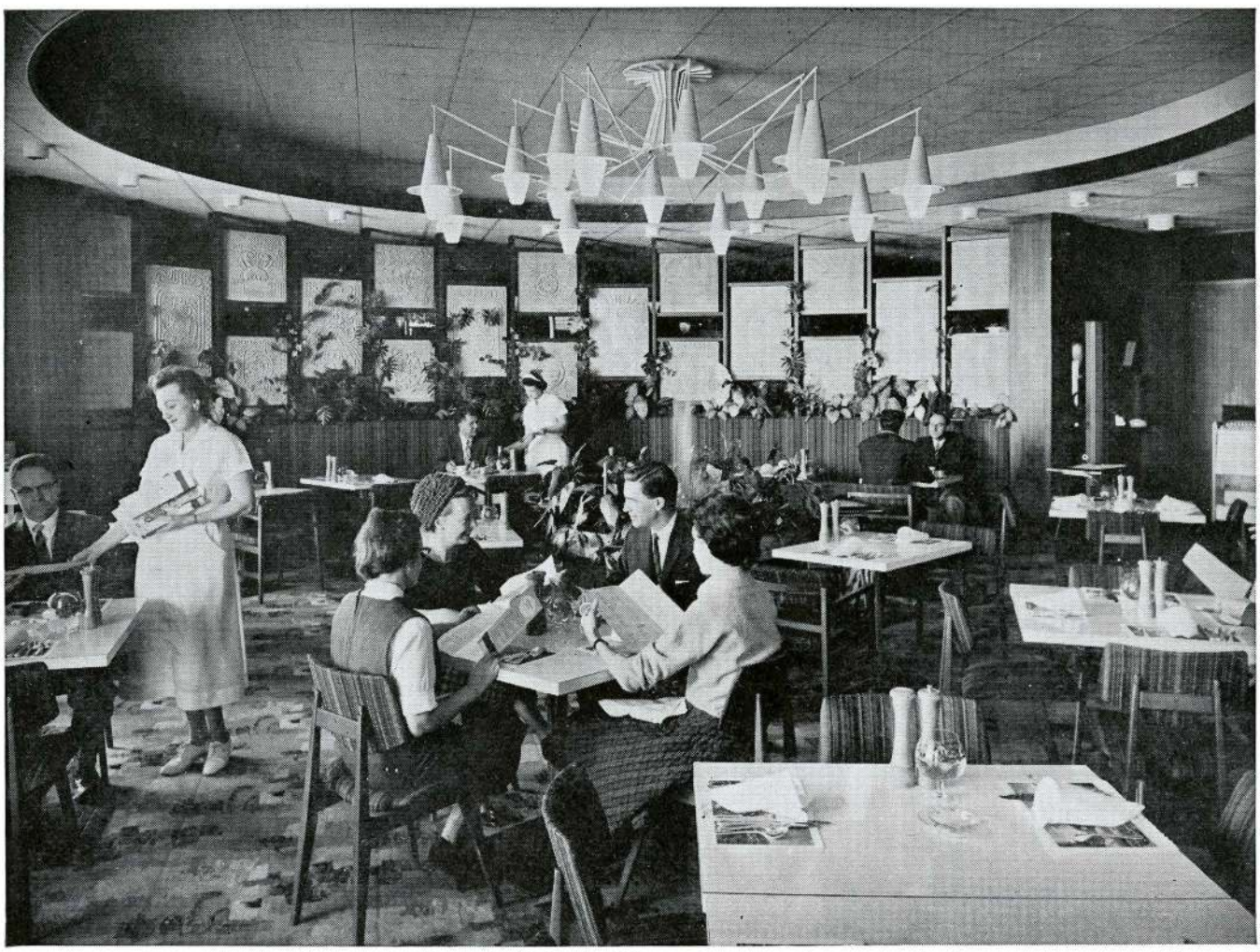
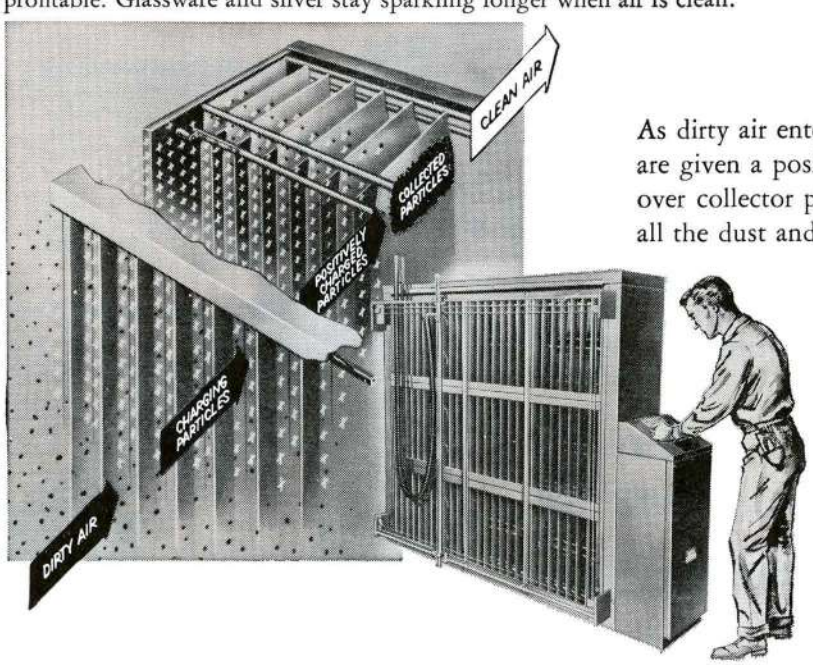


THE MENU AND AIR are always enjoyable at the Eldorado. Happy customers always come back . . . repeat business is the most profitable. Glassware and silver stay sparkling longer when air is clean.



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air-conditioning costs up to 20%

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Mr. Dan Renix, co-owner, states: "Honeywell's Electronic Air Cleaner system is wonderful. Honeywell told us the system and controls were designed to clear the air of smoke, and reduce heating and refrigeration costs. It has come up to our expectations in every way."

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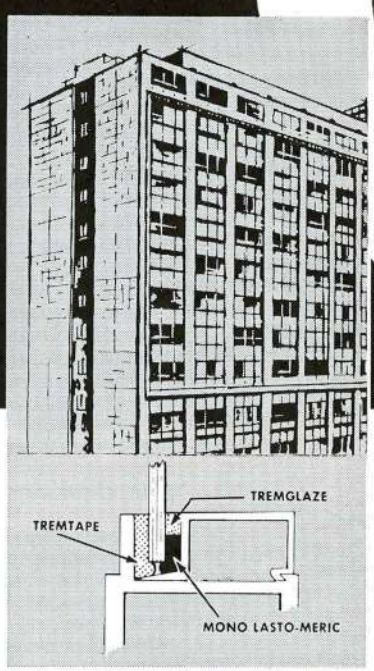

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Office Building

LOCATION: Boston, Massachusetts
ARCHITECT: Perry, Shaw, Hepburn and Dean — Boston, Massachusetts
GENERAL CONTRACTOR: Turner Construction Company — Boston, Massachusetts
PANELS & SASH FABRICATOR: H. H. Robertson — Pittsburgh, Pennsylvania
GLASS AND GLAZING: Empire Plate and Window Glass — Cambridge, Massachusetts
CAULKING: Brisk Waterproofing—Boston, Mass.

TREMCO MONO LASTO-MERIC® has this important basic superiority over conventional sealants; it is formulated with Tremco-developed and Tremco-manufactured pure 100% liquid polymer. Conventional sealants require the use of ingredients that will migrate or disappear in time, thus lowering sealant life and efficiency. The desired requirements of exceptional adhesion and enduring elasticity are *inherent* and *permanent* parts of the Tremco basic polymer.

Tremco 1-Part 100% Liquid Polymer supplies the difference that assures absolute weathertightness for controlled joints, expansion joints and conventional caulking joints. Ask your TREMCO Man for a Mono Lasto-Meric data sheet or write: The Tremco Manufacturing Company (Canada) Limited, Leaside, Toronto, Ontario.

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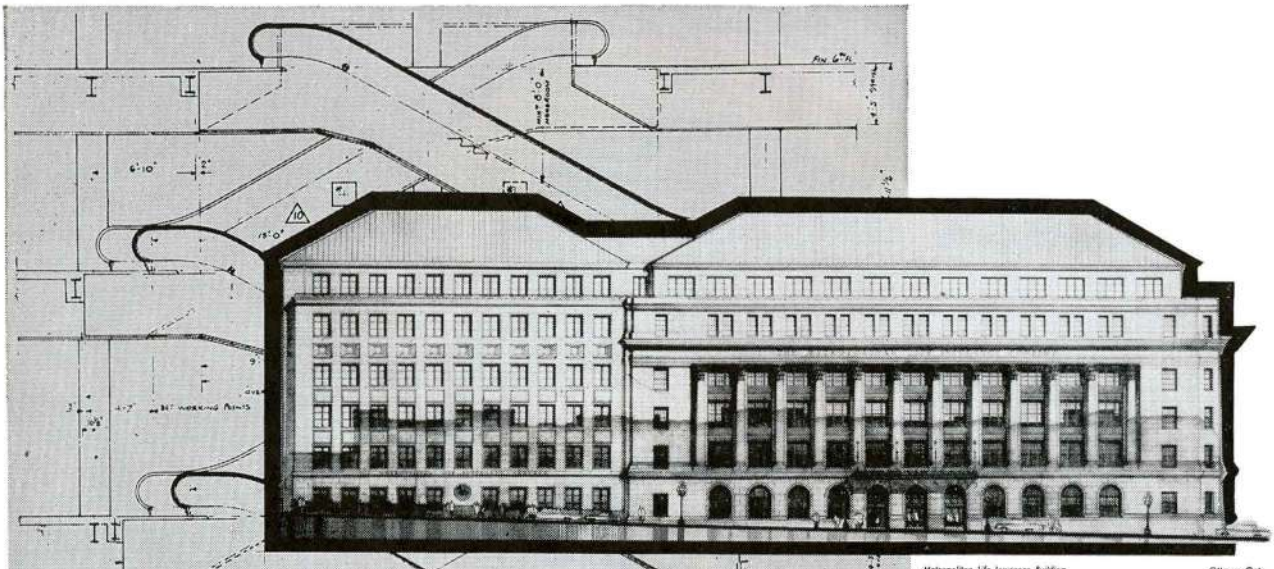

Metropolitan Life Insurance Building, Ottawa, Ont.
Architect — Marani & Morris
General Contractors — Robertson-Fuller

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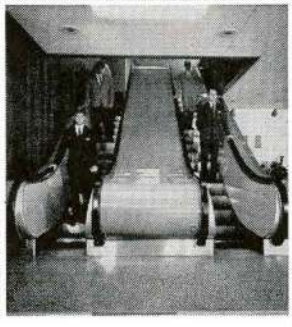

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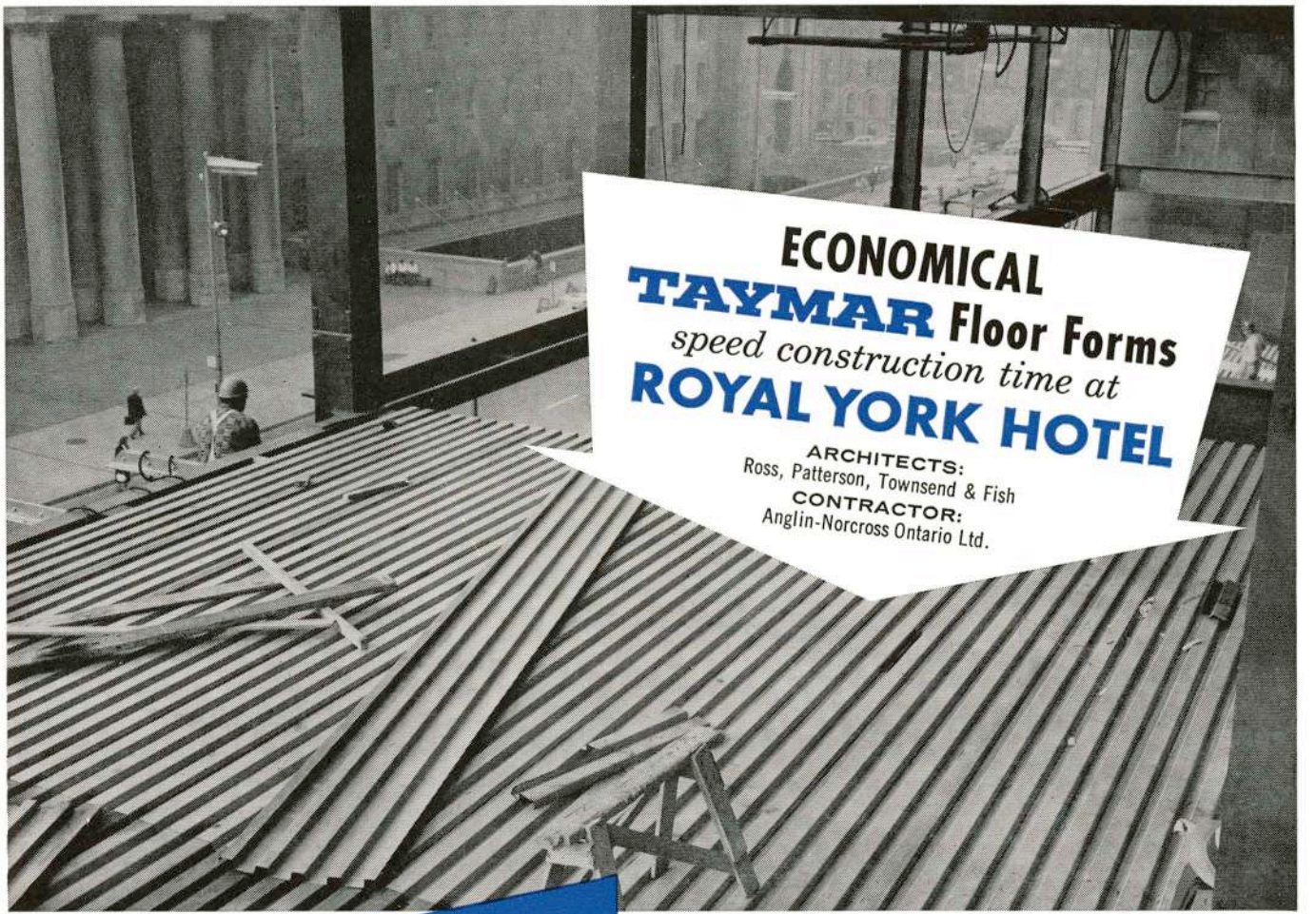

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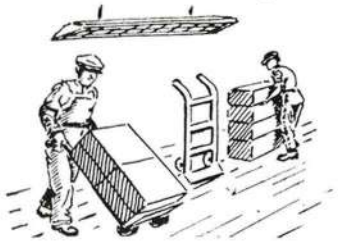

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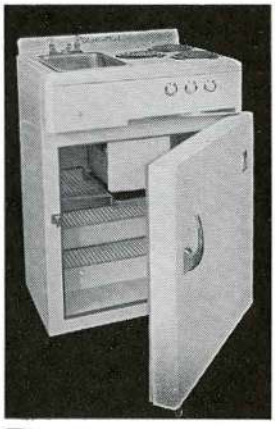

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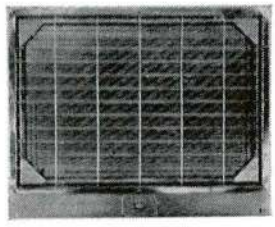

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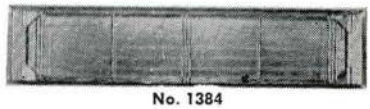

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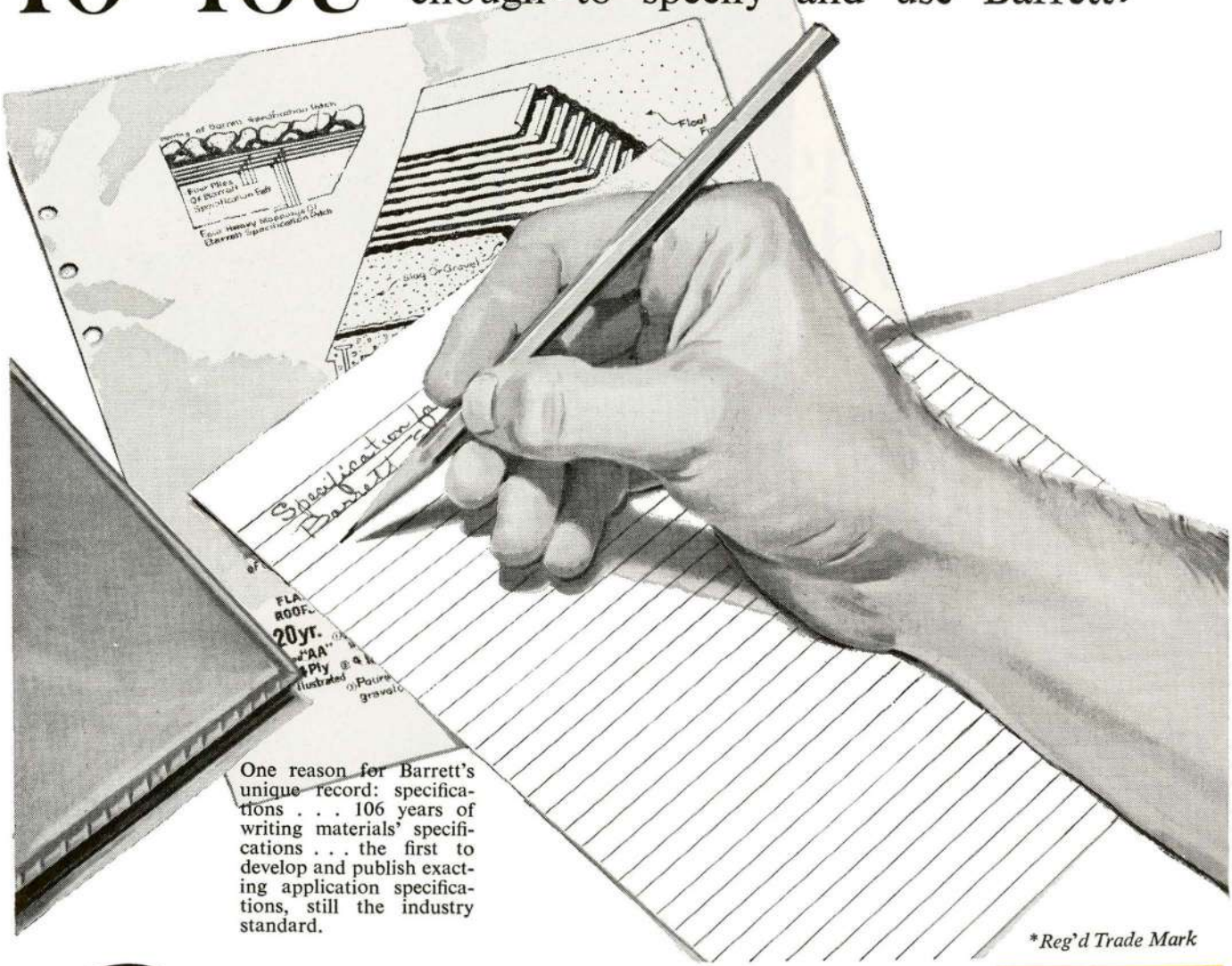

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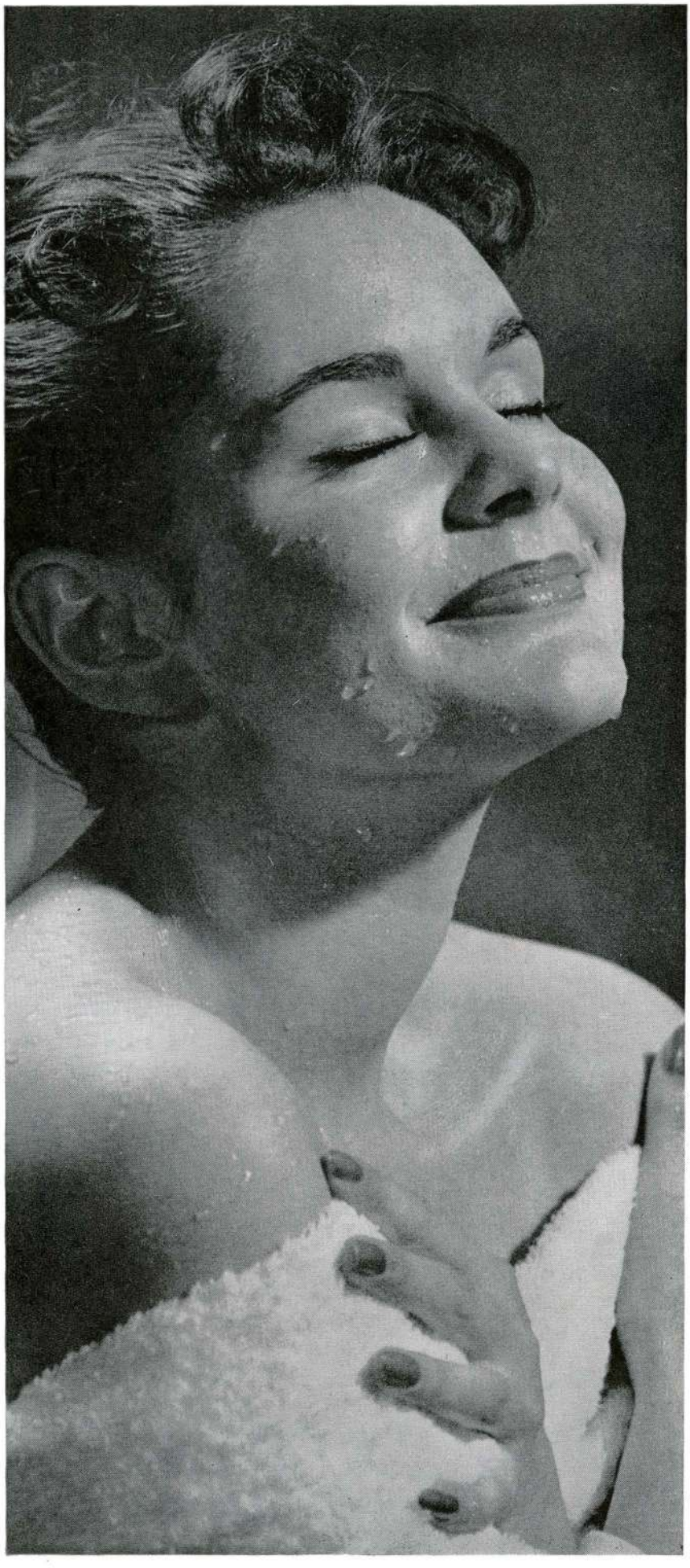

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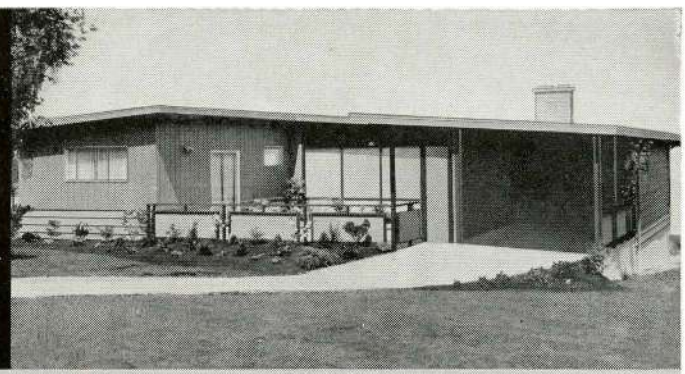

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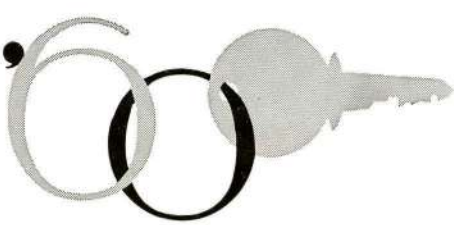

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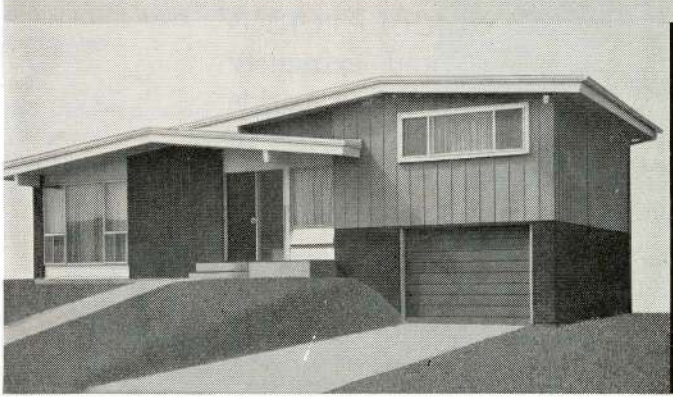

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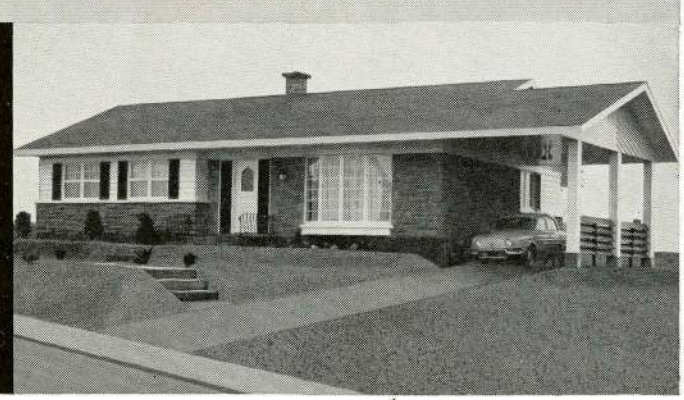

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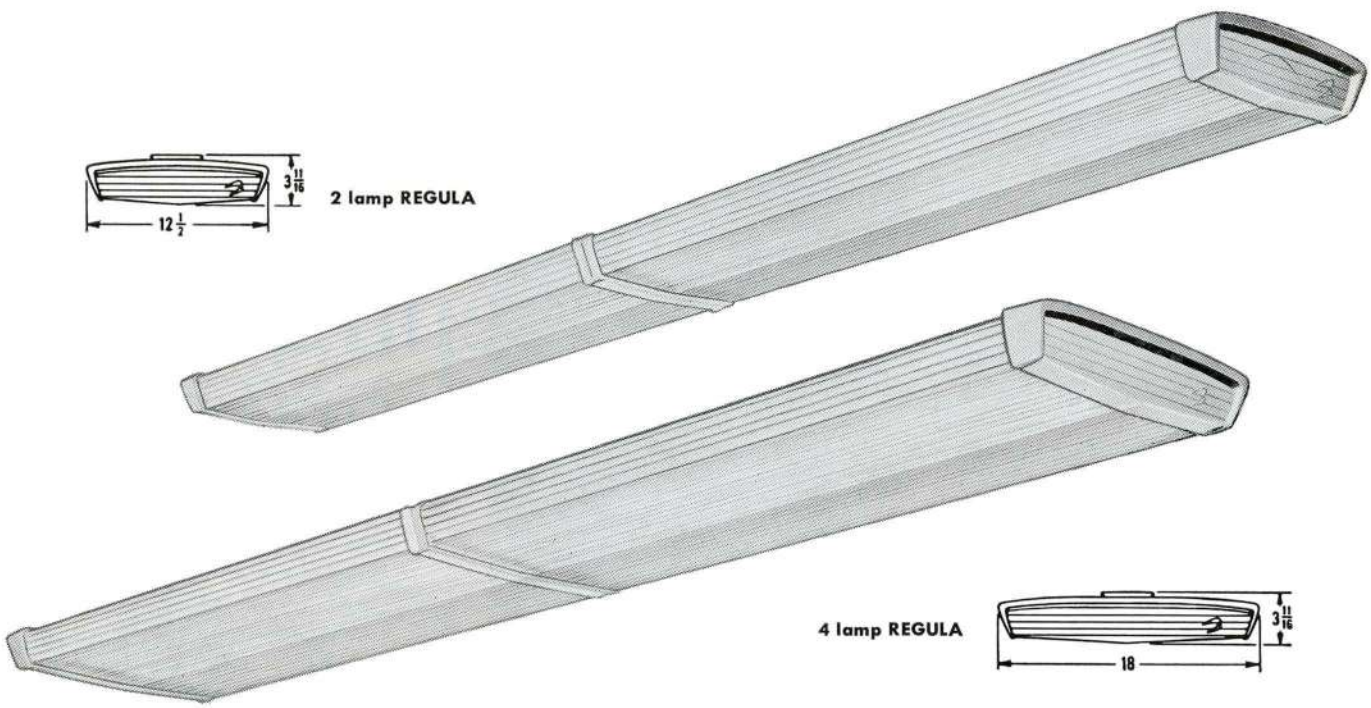

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Below: Section of nickel stainless steel spandrel panel of new Union Carbide Building. Panel was formed, coated with emlon acrylic paint and polished by Moffats Ltd.

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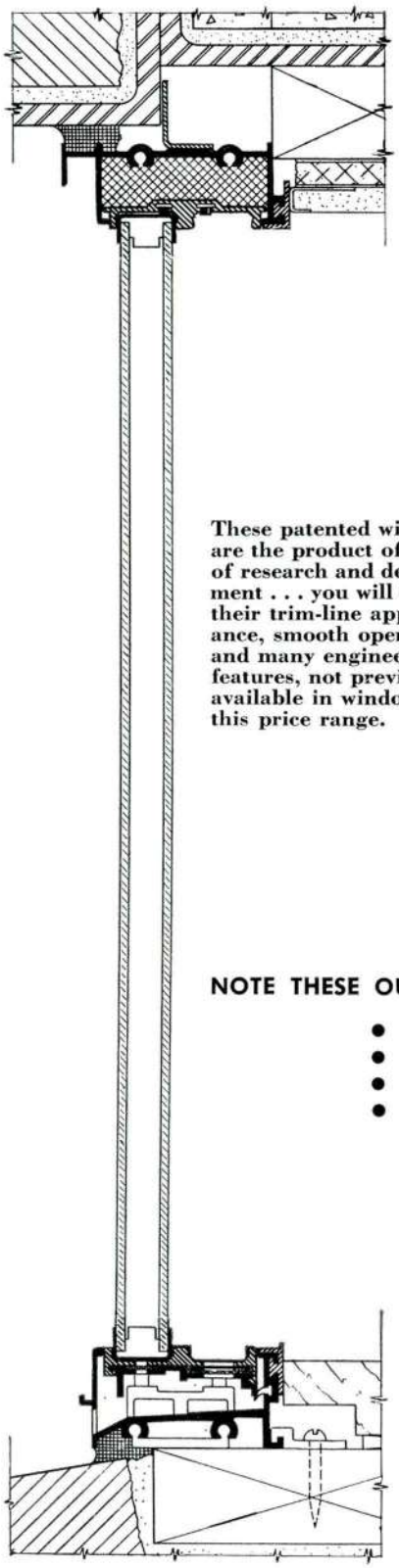

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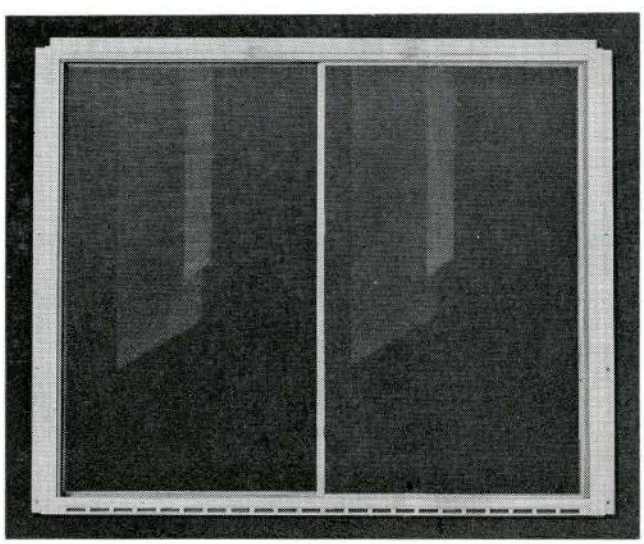

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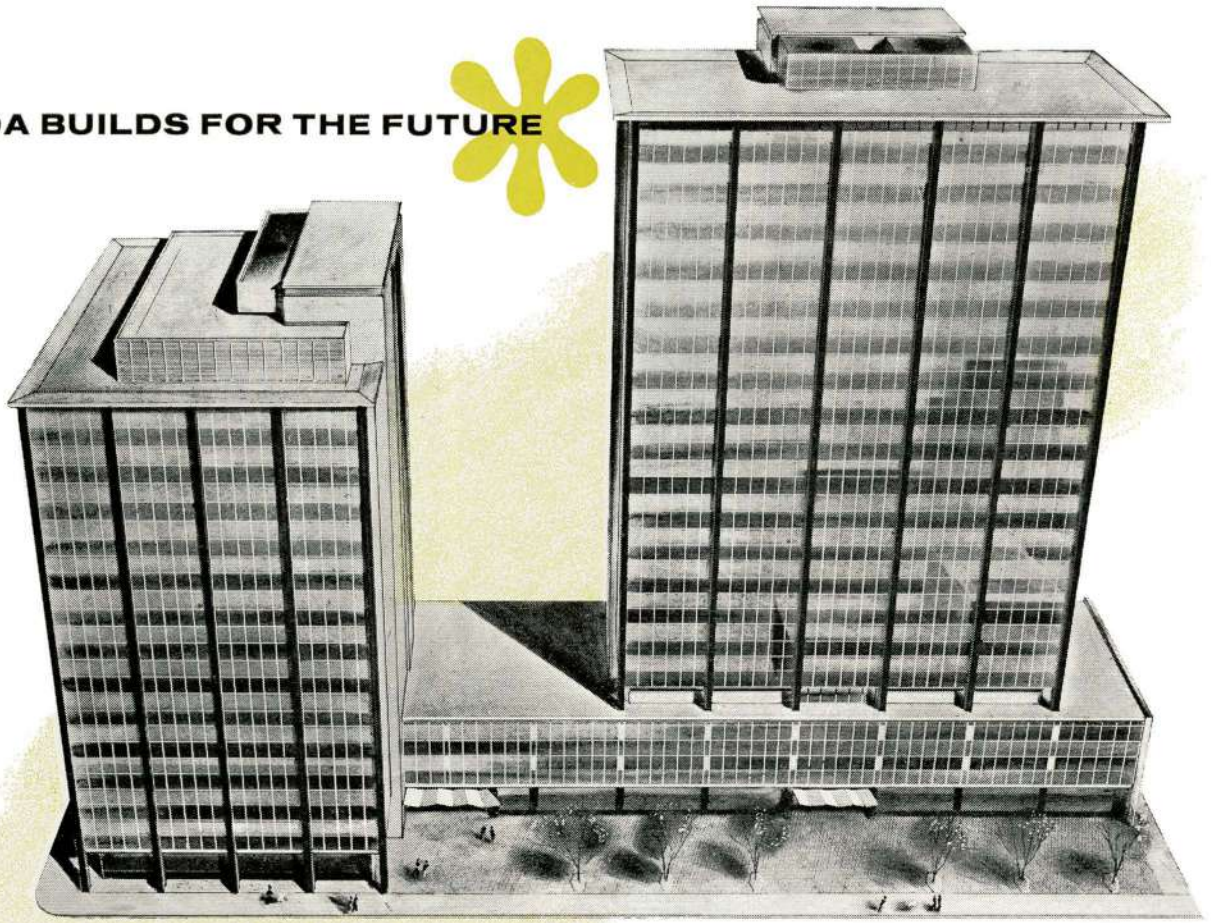

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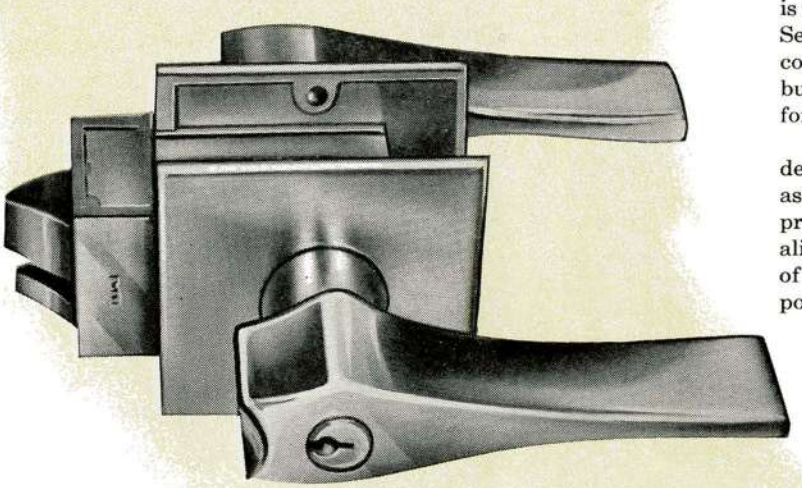

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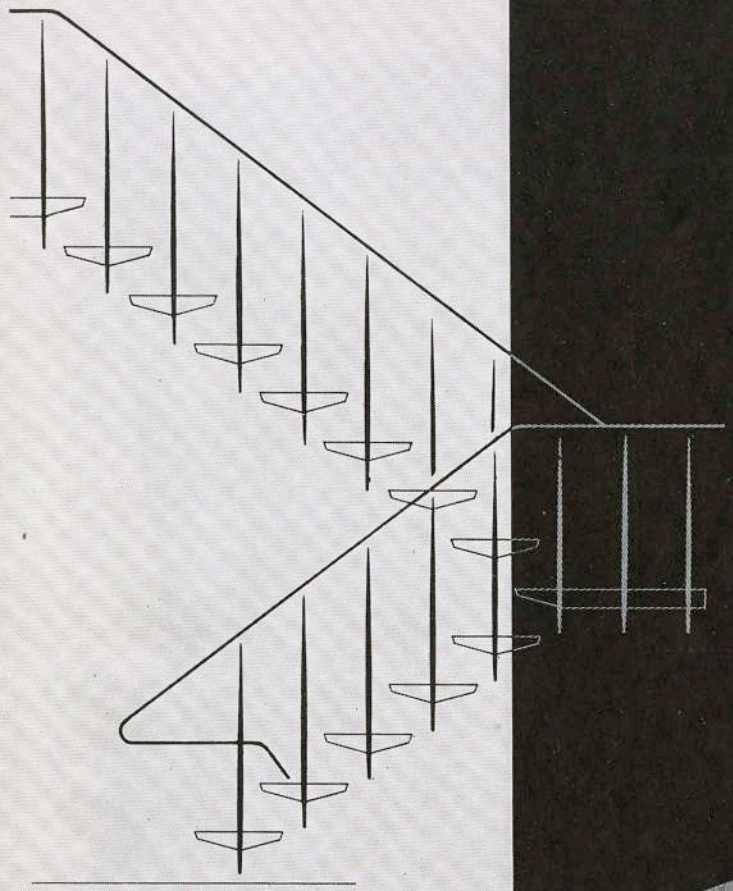

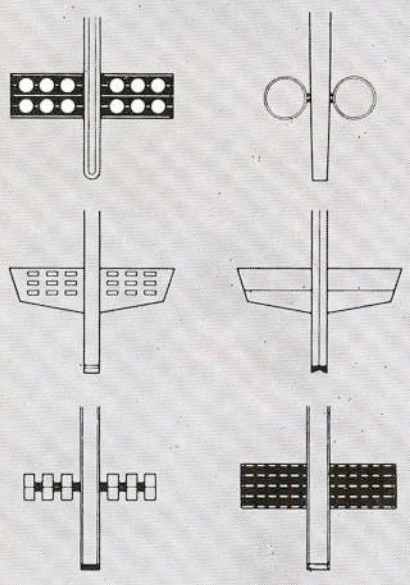

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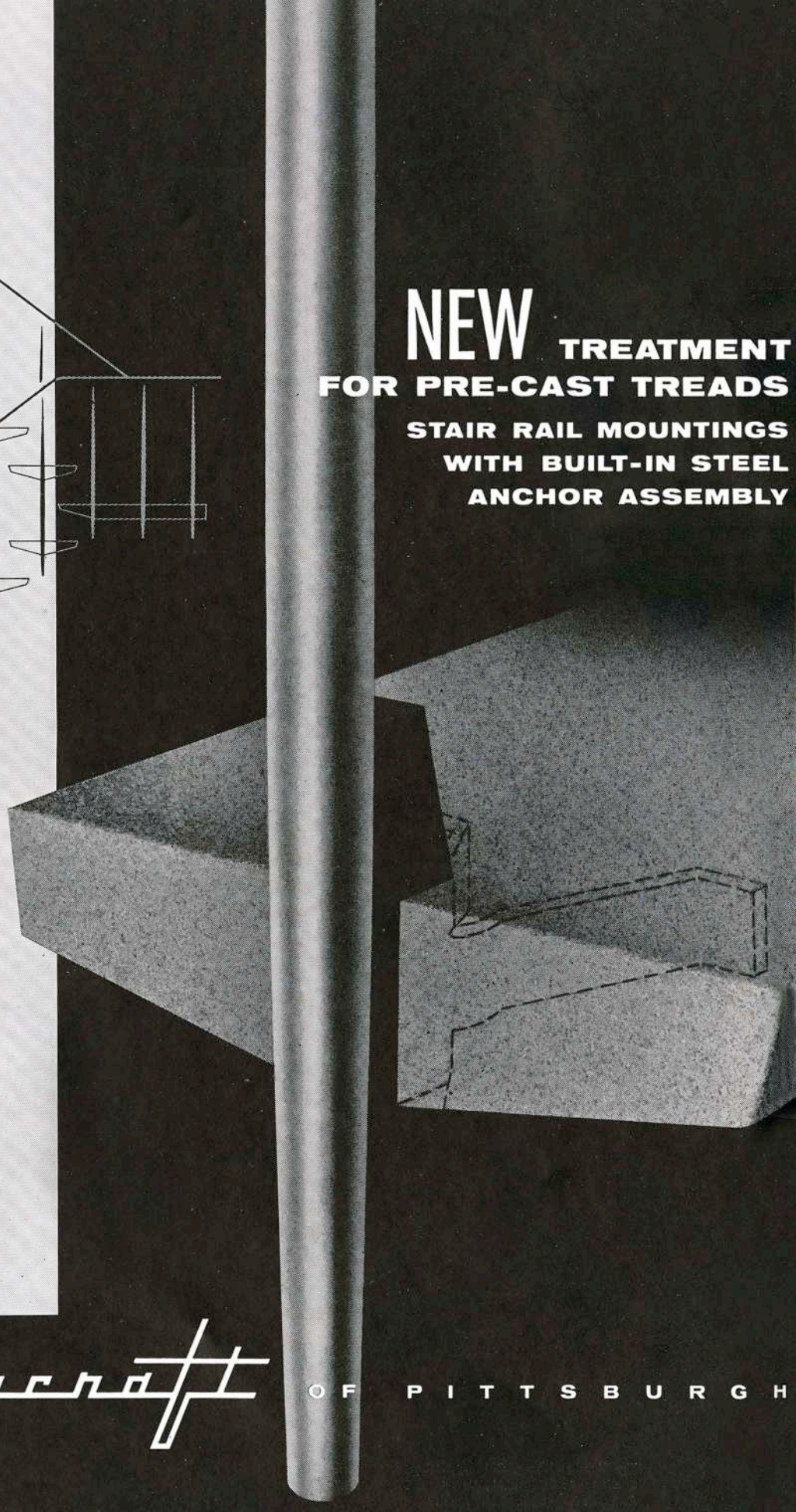

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Conformity and Individuality

We have always regretted, and have it on our conscience as a teacher, that foreign students of a certain maturity in age and experience, have so soon toed the line to whatever architectural idiom was fashionable at the moment at the School. And so as not to spare our feelings in this confession, we can think of students, now graduates as widely separated in national origin as Hong Kong, Latvia, Sweden, England, the Bahamas, Columbia, Bermuda, Scotland, Germany, Czechoslovakia, Hungary, Albania, and Japan. These students were not children. The majority had reached years of discretion in the countries of their birth, and, yet, when they appeared as undergraduates in the first or senior years, their approach to architectural design was no different from that of a student whose artistic background was bounded by a decade and a half in Penetanguishene.

As a former president of a provincial handicraft guild, we have been discouraged to find that all our efforts to foster and develop the talents of a dozen ethnic groups in the Metropolitan centre of Toronto came to nothing. The two handicraft shops that we know in Toronto and Montreal show merchandize that is little different from what they showed twenty years ago. One third of the population of Toronto are now newcomers, with all the culture of Europe as their background, but their influence on our culture, through handicraft, is negligible compared with that of our long neglected neighbours the Eskimos.

The case of the foreign student in architecture is no less serious though it may, sometimes, be explained. Difficulty of language, frequent shortage of funds and a desire to please when examinations of unknown difficulty loom ahead may be the unhappy cause of what is, otherwise, an inexplicable conformity. Much more serious is conformity in the profession. Looking at any metropolitan city in Canada, one would hardly believe that we are now members of an RAIC that includes in its membership architects from almost every country in Europe, and not a few from Asia. We are not criticizing them for their retirement behind successive walls of glass or nice round pebbles – we merely ask why? The Canadian schools of architecture cannot be blamed for the conformity of men who graduated from far off places as different as London or Hong Kong. Must one be a Yamasaki, a Gropius, or an Eliel Saarinen to rise above the national product, and give to one's buildings a quality that, in their cases, is American, but tinged, indelibly, with the culture of Japan, Germany or Finland. Historically, we think of the perhaps baneful influence, but an influence nevertheless, of the German and Flemish craftsmen who descended on England in the reign of the first James. The amazing thing is that they were able to leave so decided a mark on the architecture of their time without publicity of any kind. How sweeping a movement it might have been with the assistance of the RIBA Journal, one prefers not to think.

We may be left with the uncomfortable conclusion that, just as digests, the movies and television are responsible for the deadly levelling of taste in the North American public, so the architectural magazines tend to keep the architectural profession down to a level of conformity which only the intellectual giants of our time can rise above. We know less about the arts of music and painting, but the architectural historians of the future will wonder what Canada did to the bright young newcomers who come here from every corner of the habitable globe in the years following the war.

Conformisme et Individualite

Nous avons toujours regrette, – et à titre de professeur, trouvé inquiétant, – de voir avec quel empressement les étudiants étrangers se rallient aux conceptions architecturales en vogue à l'Ecole. Je songe à des élèves, aujourd'hui diplômés, d'origines très diverses: Hong Kong, Lettonie, Suède, Angleterre, Iles Bahamas, Colombie, Bermudes, Ecosse, Allemagne, Tchécoslovaquie, Hongrie, Albanie et Japon. A remarquer que ce n'étaient pas des enfants, car la plupart étaient déjà adultes avant de quitter leur pays natal. On n'en a pas moins constaté qu'une fois inscrits chez nous, soit dans les premières, soit dans les dernières années du cours, leurs idées sur l'architecture ne se distinguaient pas, par exemple, de celles d'un élève élevé à Penetanguishene.

Nous avons présidé, à une certaine époque, une société provinciale d'artisanat. Or tous nos efforts auprès d'une douzaine de groupes ethniques de la région métropolitaine de Toronto pour développer et encourager les talents se sont soldés par un échec décourageant. Nous connaissons, à Toronto et à Montréal, deux boutiques d'oeuvres artisanales. Or leur marchandise est à peu près la même qu'il y a vingt ans. Un tiers des Torontois d'aujourd'hui sont des néo-Canadiens, héritiers du partimoine culturel de toute l'Europe. D'où vient que leur influence sur notre culture soit négligeable, dans le domaine artisanal, comparativement à l'apport de nos voisins trop longtemps négligés, les Esquimaux?

Non moins grave est le conformisme de l'étudiant étranger en architecture, même s'il s'explique partiellement par les difficultés de langage, par le manque d'argent dans bien des cas, et par le souci de ne pas compromettre les résultats d'examens d'un degré de difficulté inconnu? Mais ce qui est beaucoup plus troublant, c'est le conformisme au niveau même de la profession. A regarder n'importe quelle grande ville du Canada, on a peine à croire que l'IRAC compte aujourd'hui parmi ses membres des architectes originaires de presque tous les pays d'Europe, et nombre de représentants de l'Asie. S'ils aiment à s'abriter derrière des séries de murs de verre ou de cailloutage, c'est leur affaire, mais qu'il nous soit permis de nous demander pourquoi. On ne saurait imputer aux écoles d'architecture canadiennes le conformisme de diplômés de Londres ou de Hong Kong. Faut-il être un Yamasaki, un Gropius ou un Eliel Saarinen pour s'élever au-dessus de la médiocrité nationale et pour atteindre à un style qui, dans leur cas, est américain, mais porte l'empreinte ineffaçable de la culture japonaise, allemande ou finlandaise? Qu'on songe à l'influence, peut-être néfaste, mais effective, des artisans allemands et flamands qui envahirent l'Angleterre sous le règne de Jacques 1er. On s'étonne qu'ils aient pu, sans le concours d'aucune publicité, laisser une empreinte aussi profonde sur l'architecture de leur époque. Mieux vaut ne pas imaginer ce qu'eût été leur influence s'ils avaient eu à leur disposition la revue de l'Institut britannique d'architecture.

De même que les "digests", le cinéma et la télévision sont à l'origine du triste nivellement des goûts en Amérique du Nord, peut-être serons-nous forcés de conclure que les revues d'architecture tendent à créer chez les architectes un climat de conformisme tel que seuls les grands hommes de l'heure peuvent s'en dégager. Nous ne saurions dire si la situation est la même en musique et en peinture, mais en architecture, les historiens de l'avenir auront peine à s'expliquer ce qu'il advint, au Canada, de tous ces jeunes architectes si pleins de promesses qui, dans les années qui suivirent la guerre, vinrent s'établir chez nous.

E.R.A.

FROM THE EXECUTIVE DIRECTOR'S DESK

URBAN RENEWAL

THE WORDS "URBAN RENEWAL" are only beginning to achieve popular expression in our Canadian vocabulary. Urban renewal, as we all must know, embraces not just redevelopment but the repair, rehabilitation and improvement of structures. It means the whole process by which the older parts of urban areas adapt themselves to changing systems.

Among politicians and government officials, planners and architects in the United States, urban renewal is a familiar concept. To our American friends these are household words. Nearly 500 American communities, large and small, have more than 800 urban renewal projects underway. In Canada the Federal Government has helped some 30 major cities to examine their renewal needs.

I venture to suggest that, during the sixties urban renewal will be recognized as an important instrument to make our over-crowded, traffic-ridden cities better places to live and work in.

The authors of the RAIC Residential Environment Report at paragraph 178 suggest: "The overwhelming impact of our residential environments must always be of older ones, not withstanding the rate at which we are creating new dwellings. In these older areas there is much to be done to enhance the whole quality and livability for millions of citizens . . . Some of these areas appear to be municipally abandoned; they can be left to wither only at great public cost."

RAIC President, Harland Steele, developed this theme in his address to the Vancouver Rotary Club October 11 and counselled: "Urban centres are not doomed; they are the nerve centres of our national economy. To allow them to deteriorate is to prepare for disaster . . . In some of the major Canadian cities this problem has reached or soon will reach a stage when only imaginative solutions are likely to have much hope of success."

United States President-elect Kennedy, during the recent campaign, told a Pittsburg audience "that the national government should give a long-term commitment to urban renewal in place of the present year to year approach . . . so cities can make long-term plans with the assurance that aid will not be suddenly cut off". His assumption of the Presidency guarantees that Washington will accelerate its emphasis on urban renewal.

Evidence that the Ottawa Government is also very conscious of the problem came from an address by the Hon. David Walker, Minister of Public Works, to the recent annual convention of the Canadian Association of Real Estate Boards. Mr Walker said: "Urban renewal studies provide the factual base for programs which, all together, might constitute the greatest forward step in city building in Canada's history."

It is obvious that the decaying, unkempt hearts of our great Canadian cities have the sympathy of all men. But sympathy and understanding is hardly enough. The real problem appears to lie in the difficulty of achieving effective joint action between levels of government, and finding a way to finance the municipal share of the urban renewal bill.

The welfare of the nation and its citizens cannot permit important urban renewal measures to be long deferred.

RENOVATION URBAINE

L'EXPRESSION "RENOVATION URBAINE" ne fait que commencer, au Canada, à faire partie du vocabulaire courant. Comme chacun sait, cette expression embrasse non seulement le réaménagement, mais la réparation, la réadaptation et l'amélioration des bâtiments. Elle désigne tout le processus par lequel les vieux quartiers des zones urbaines s'adaptent à l'évolution des conditions de vie.

Chez nos voisins du Sud, politiciens et fonctionnaires de l'Etat, urbanistes et architectes parlent couramment de rénovation urbaine. Dans près de 500 agglomérations américaines, grandes et petites, au delà de 800 programmes de rénovation urbaine sont actuellement en voie d'exécution. Au Canada, le gouvernement fédéral a aidé jusqu'ici environ 30 grandes villes à dresser le tableau de leurs besoins au chapitre de la rénovation.

J'oserais prédire que, au cours des années 60, on en viendra à reconnaître que la rénovation urbaine a un rôle important à jouer si l'on veut faire de nos villes surpeuplées et engorgées de voitures des lieux où il fera bon vivre et travailler.

Voici ce que disent, au paragraphe 178, les auteurs du Rapport de l'IRAC sur les Conditions de l'habitation: "C'est dans nos vieux quartiers que les conditions actuelles de l'habitation produisent le gros de leurs conséquences, quel que soit le rythme auquel nous en ajoutons de nouveaux. Il y a beaucoup à faire dans ces vieux quartiers pour rehausser le niveau et le genre d'existence de millions de nos concitoyens. Certaines de ces zones semblent abandonnées des autorités; leur abandon ne peut que coûter très cher au public".

Dans le discours qu'il prononçait le 11 octobre devant le club Rotary de Vancouver, le Président de l'IRAC, M. Harland Steele, développait ce thème. "Les centres urbains, déclarait-il, ne sont pas condamnés: ils sont les centres nerveux de notre économie nationale. Les laisser aller à l'abandon, c'est aller au devant de la catastrophe . . . Dans quelques unes des grandes villes du Canada, le problème a atteint ou est à la veille d'atteindre une telle ampleur que seuls les grands moyens auront quelque chance de succés".

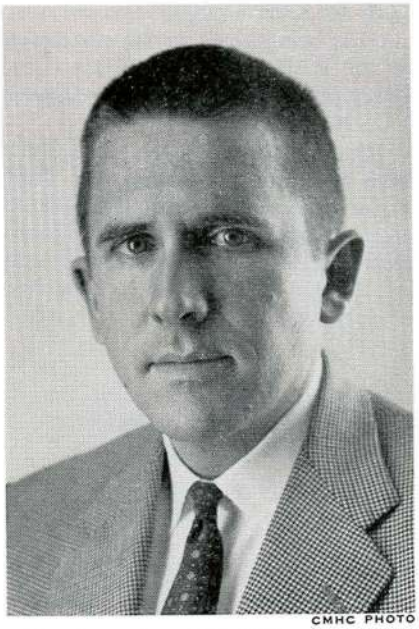
M. Kennedy, président élu des Etats-Unis, déclarait à Pittsburg au cours de la récente campagne: "Le gouvernement central devrait, en matière de rénovation urbaine, remplacer les subventions annuelles par des engagements à long terme . . . afin que les villes puissent adopter des programmes à longue échéance sans craindre de se voir privées tout à coup de secours financiers". Son élection à la présidence promet d'entraîner, de la part de Washington, une aide accrue à la rénovation urbaine.

Le gouvernement d'Ottawa, de son côté, s'intéresse beaucoup à la question, si l'on en juge par le discours prononcé au récent congrès de l'Association canadienne des chambres d'agents d'immeuble par l'honorable David Walker, ministre des Travaux publics. "Les données concrètes recueillies au cours des enquêtes sur les besoins de rénovation urbaine, déclarait M. Walker, sont à la base de programmes qui, considérés globalement, représenteront peut-être la plus grande avance jamais réalisée au Canada dans le domaine de la construction urbaine".

Sans doute le délabrement et l'état d'abandon du coeur de nos grandes villes éveillent-ils la sympathie de tous, mais sympathie et compréhension ne suffisent pas. Le noeud du problème, semble-t-il, c'est de coordonner efficacement l'action des divers niveaux de gouvernement, et de trouver le moyen, pour les municipalités, d'acquitter leur part des frais de rénovation.

Le bien de la nation et des citoyens qui la composent exigent qu'on cesse de remettre à plus tard les grands travaux de rénovation urbaine.

Institute News



CMHC PHOTO

RAIC Appoints Administrator to Implement Residential Report

The President RAIC, Mr Harland Steele, has announced the appointment for one year of Edmund David Fox, 33, of Ottawa, as an administrator at RAIC Headquarters to be responsible for liaison activities in the Institute's program to implement the Report of the Committee of Inquiry into the Design of the Residential Environment.

Mr Steele expressed appreciation for the cooperation of Central Mortgage and Housing Corporation in loaning the services of Mr Fox for the coming year. Mr Fox, who has been a Corporation employee for more than ten years, temporarily leaves the post of Public Housing Officer, Urban Renewal and Public Housing Division.

Mr Fox is an American citizen who was born in England where his father was attached to the United States Embassy. He served in the United States Army during the War and afterwards studied at Carleton University, where he received a degree of Bachelor of Arts with a Certificate in Public Administration.

Since joining the Corporation, Mr Fox has served in various capacities and joined the Urban Renewal and Public Housing Division in 1957. From March, 1956 to March, 1957, he was granted leave of absence from the Corporation to serve as Assistant Secretary of the Royal Commission on Broadcasting.

"The architect and the building community" 1961 Assembly theme

Following a meeting of the 1961 Assembly Host Committee at Quebec City last October 25, the President, Mr Steele, announced that the theme of the Assembly to be held at the Chateau Frontenac next May is "The Architect and the Building Community".

Arrangements are being made to provide simultaneous translation for the inaugural session to be held on Thursday, May 18, as well as the Annual General Meeting and the morning seminar program slated for Friday, May 19th. Special arrangements are being made for an architectural tour of Quebec City and environs on Friday afternoon, May 19th. The College of Fellows Convocation will be held Saturday afternoon, May 20.

It is expected that an announcement concerning special speakers for the Quebec City Assembly will be made early in December, following a second meeting of the Host Committee December 8th.

Dates for the Assembly are Wednesday to Saturday, May 17 to 20 and the Convention Hotel is the Chateau Frontenac. Canadian architects have not met at Quebec City since 1951.

NEXT ISSUE
Airport Buildings
Housing Design Council Awards
Stainless Steel Exhibit

Mexican Architectural Exhibit to be Presented to RAIC

Arrangements have been completed between the RAIC and the Embassy of Mexico at Ottawa for the presentation to the Institute by the National College of Architects and the Association of Mexican Architects of a special exhibit entitled "4,000 Years of Mexican Architecture". The presentation will be made on Tuesday, December 6th, at the National Museum in Ottawa by His Excellency Rafael de la Colina, Ambassador of Mexico, and will be received on behalf of the Institute by Mr Harland Steele, President RAIC. The exhibition will be on display for two weeks from December 6th.

The Mexican exhibition has been prepared to commemorate the 50th Anniversary of the Mexican Revolution. Similar exhibits, consisting of photographs, plans and charts, are being presented to other architectural societies throughout the world.

1961 Assembly Host Committee Meets in Quebec City

The first meeting of the 1961 RAIC Assembly Host Committee was held in the Cercle Universitaire in Quebec City on October 25th. Members of the Committee, with officers of the RAIC and PQAA are (standing, left to right) Gabriel Desmeules (F), (Public Relations); Paul-Emile Samson (Ladies); Roland Dupere (Tours); Jacques Tisseur, Executive Secretary, PQAA; (seated, left to right) André Tessier (Registration); Francis J. Nobbs (F), Montreal, member of PQAA Council; Robbins Elliott, Ottawa, RAIC Executive Director; Harland Steele (F), Toronto, RAIC President; Gerard Venne (F) 1961 Assembly Host Committee Chairman; Germain Chabot (Entertainment); Peter Barott, Montreal, member of PQAA Council. Not shown are Fernand Caron (Catering); Philippe Côté, (Seminars); Gilles Côté (Accommodation); and Fred Walker (Guests).

W. B. EDWARDS REG'D

Jury Appointed for Massey Medals Competition in 1961

The President of the Royal Architectural Institute of Canada has announced that the 1961 Massey Medals for Architecture competition, the fifth in a series inaugurated in 1950, will take place during the autumn of 1961. Presentation of gold and silver medals by His Excellency the Governor-General will take place in Ottawa at a formal ceremony in the National Gallery, Thursday, November 2, of next year.

Award-winning entries will remain on exhibition at the National Gallery for three weeks, after which they will be despatched on nation-wide tour for display during 1962 at art galleries in major centres from coast to coast.

The purpose of the competition is to give recognition to outstanding examples of Canadian achievement in the field of architecture and thus to give encouragement to the members of the architectural profession, and promote public interest in architecture.

The 1958 Gold Medal winner was the Stratford Festival Theatre designed by the Toronto architectural firm of Rounthwaite & Fairfield. Massey Medals for Architecture competitions have been held in 1950, 1952, 1955, and 1958. In 1958 Canadian architects submitted 398 mounts comprising 158 entries from 76 firms.

The 1961 three-man jury for the Massey Medals competition has been announced to include Pietro Belluschi, FAIA, of Boston, Mass. who is Dean of the School of Architecture and Planning at the Massachusetts Institute of Technology. Design critic at Yale University for a term, Mr Belluschi was appointed an adviser to the State Department on the design of foreign buildings in 1953. He is a consultant to the Secretary of the Air Force on the new Air Academy and a member of the Board of Consultants for the Lincoln Centre for the Performing Arts in New York City, and has been commissioned to design the Juilliard School of Music. Mr Belluschi is a member of the Board of Trustees of the Boston Museum of Fine Arts and was elected a Fellow of the American Academy of Arts and Sciences in 1952. The second member of the Jury is Peter Thornton, FRAIC, who secured his professional training at the Architectural Association School of Architecture in London and established a partnership in the firm Gardiner, Thornton, Gathe of Vancouver. His firm has been awarded two medals in the Massey Medals for Architecture competitions and several honorable mentions. Major projects for which his firm is responsible are St Paul's Hospital, Burnaby Hospital, St Anthony's Church, St Thomas More College Chapel, University of Saskatchewan, St Paul's College, University of Manitoba, St Mark's College, University of British Columbia, and the Benedictine Abbey of Seminary of Christ the King, Mission, BC.

The third member of the 1961 Jury is John Bland, FRAIC, former Honorary Secretary of the Royal Institute and a member of the Montreal architectural firm of Bland, Lemoyne, and Edwards. Prof Bland graduated in architecture from McGill University in 1933 and received a diploma from the Architectural Association School of London in 1937. A former chairman of the RAIC Massey Medals Committee, he has been very prominent in Institute activities, and has done much to stimulate interest in housing and town planning. Prof Bland is the Director of the School of Architecture, McGill University, and a past president of the Province of Quebec Association of Architects.

Architecture Abroad Committee Convenes in Ottawa

After an interval of several months, the Advisory Committee on Architecture Abroad of the Department of External Affairs met in Ottawa on Monday, November 21 to discuss a lengthy agenda. New RAIC members on the Committee are President Harland Steele, of Toronto, and H. H. G. Moody, of Winnipeg, replacing Past President Maurice Payette, and John L. Davies, respectively. The third RAIC member of the Committee is H. Gordon Hughes, of Ottawa.

Canadian Tariff Board to Review Duty on Architects' Plans

The Tariff Board of Canada announced recently a decision to conduct a public hearing at Ottawa February 13, 1961, to receive proposals concerning the wording of tariff items, the rates of duty, and the method of determining the value for duty purposes of engineers' and architects' plans, drawings, and blueprints.

The Tariff Board decision resulted from a reference by the Minister of Finance in July 1960 when the Tariff Board was asked to make a study and report under Section IV(2) of the Tariff Board Act Items 180(e) and 180(f) and the method of determining the value for duty purposes of the goods specified in these items.

The Duty on Plans Committee of the RAIC, under the chairmanship of Leonard Shore, of Shore & Moffat, Toronto, has had the matter under study for several months and consideration is being given to the submission by the RAIC of a brief to the Tariff Board prior to the deadline of January 13, 1961.

The provincial associations have been informed concerning the Tariff Board action, and their views with respect to the existing duty paid on architects' plans imported into Canada and the method of computing the amount of duty payable, have been requested.

RAIC-CCA Joint Committee on Building Materials to Sponsor Sales Training Seminar Jan. 9

A Sub-Committee of the RAIC-CCA Joint Committee on Building Materials, under the direction of Dr Thomas Howarth, Director, School of Architecture, University of Toronto, is engaged in organizing the first of a series of sales training seminars designed to acquaint the building materials industry and members of the architectural profession with changing techniques and developments in new materials.

The first seminar will be held on Monday and Tuesday, January 9 and 10 at the Guild Inn in Scarborough, Ontario, and the keynote speaker will be Robert Legget, Director, Division of Building Research, National Research Council, Ottawa. The first day of the Conference will consist of speakers representing the respective viewpoints of architecture and the building products industry, and the second day will be devoted to panels and discussions. Decision has been made to devote one panel discussion to product literature, samples, costs, and display centres; the second panel to be devoted to a consideration of research standards, specifications, testing, and codes.

The evening of January 9 will be given over to informal discussion. Total registration at the January Conference will be limited to about 60 delegates.

It is expected that the members of the RAIC-CCA Joint Committee will be meeting in Toronto at the Royal York on Saturday, January 21. The Committee reports progress on the production of a film directory listing films and film slides produced by producers holding membership in the Manufacturers and Suppliers Section of The Canadian Construction Association. The RAIC Section of the Joint Committee is engaged in the development of a draft brochure to be titled "Guide to the Preparation of Product Literature". Both the film directory and the "Guide" will be circulated to the RAIC membership and to the manufacturers and suppliers during coming weeks.

President RAIC Addresses Annual Meeting Saskatchewan Association

SASKATOON STAR-PHEONIX PHOTO

Mr Harland Steele (centre) with Mr George Kerr (left), Past President, and Mr Joseph Pettick (right), newly elected President of the SAA.

The 49th Annual General Assembly of the Saskatchewan Association of Architects was held in Saskatoon, October 14th and 15th. Highlight of the meeting was the attendance of Mr Harland Steele, President of the RAIC. Mr Steele addressed the Assembly on matters on which the RAIC is working in conjunction with the provincial associations. These include implementation of the report submitted to the RAIC Assembly in Winnipeg last June by the Committee of Inquiry into the Design of the Residential Environment. The Saskatchewan architects passed a resolution giving support to the RAIC's efforts to raise funds to implement the 32 recommendations contained in the report and to provide working committees. Mr Steele also outlined the role of the local architects in the preservation of historical buildings, a project which has received the support of the Canada Council. He also mentioned the 1961 Annual Assembly of the RAIC was being held in Quebec City this coming June. All Canadian architects are being asked to participate in the Annual Massey Medal Competition which will take place in the new National Art Gallery recently completed in Ottawa.

Mr Steele forecast that Canada will double its population in the next 40 years. Volume of construction will be of the extent of a complete re-building of Canadian buildings during the same span of time. The construction industry was the largest industry in Canada — seven billion dollars last year — larger than agriculture, manufacturing, and defense.

Discussion was held on possible changes to the Act and By-laws by which the architectural profession may provide better services to the public. Committee reports included a report on the setting up of the bid depository system to permit fair tendering practices.

Mr G. Handegord of the National Research Council presented a paper on the "Effects of Research on Building Design". He outlined the work and aims of this division and the services which are available through it to the construction industry in general. This division conducts research suited to our varied Canadian climatic and geographical conditions, and is therefore of more value than material available through research sources outside of Canada.

The Saskatchewan Association of Architects provides a $150 scholarship to the School of Architecture of the University of Manitoba to be awarded to a Saskatchewan student studying architecture. This year the scholarship was awarded to Mr Norbert Hamy, of Fort Qu'Appelle.

New officers elected were: President, Joseph Pettick, Regina; First Vice-President, G. Berry, Saskatoon; Second Vice-President, H. Larson, Regina; Hon. Sec. Treas., G. R. Forrester, Saskatoon; Council Members, J. C. Webster, Saskatoon; G. R. Arnott, Regina; G. H. Kerr, (ex officio); A. H. Douglas, University Representative.

Alberta

The AAA has raised its annual grant to the Edmonton Art Gallery and the Calgary Allied Arts, to $50.00 respectively.

During his visit to the AAA, Mr Harland Steele, President of the RAIC, accompanied by Mr Howard Bouey, Alberta member of the RAIC Council, were received by Premier Manning when they discussed the position of the architect in Alberta.

Temporary licences have been issued to the following: D. G. McKinstry, Montreal, project: CBC TV Studio and transmitter buildings (Edmonton), Associate, H. J. Slawek; B. T. Arling, Saskatoon, project: West Can Plastic Industries Ltd (Okotoks) Associate, G. Beatson.

The Executive of the Edmonton Chapter announces the following programme for the following winter season. The proposed topics of the meetings will be as follows:

1. Implications of Space
2. Gamesmanship, Annual Meeting
3. The Architect in Court
4. City Planning
5. The Architect and Allied Arts

At a recent election of the Calgary Chapter the following Executive was elected: Past President, J. Cawston; President, G. Parsons; Vice-President, Ted Raines; Secretary-Treasurer, C. Bell; Allied Arts Representative, Morris Sunderland; Public Relations, Dave Russell; Nominations, Jack Clayton.

British Columbia

Fifteen fifth year students at the University of British Columbia School of Architecture and three senior articled students were guests of the Vancouver Chapter at its September meeting. Student design projects were exhibited and an interesting and lively panel discussion entitled "Professional Responsibility" was held following the business meeting. Ron Nairne moderated the panel which consisted of Keith Davison, Warnett Kennedy and three students. This was the second event arranged by the Chapter.

Friends and colleagues of Ron Thom, partner in the firm of Thompson, Berwick and Pratt, offer him their hearty congratulations. Ron's design for the Graduate College at the University of Toronto was recently selected by the Massey Foundation, sponsors of a limited competition for the project and donor of the eventual building. Ron Thom and Arthur Erickson of Vancouver and Carmen Corneil and John C. Parkin of Toronto were invited last March to compete as individual architects and have since gone through a two-stage competition for the design of this important addition to the University of Toronto campus.

Congratulations also to two Vancouver architects, Geoffrey Massey and Ken Gardner, second and third prize winners in the Red Deer, Alberta, Recreation Centre competition.

The AIBC Annual Meeting will be held in Victoria, December 2nd and 3rd. Mr Paul Seibert, Vice President of the Central Association of Seattle, will

be a guest speaker. The Central Association is representative of downtown Seattle business leaders and is one of the "action" groups existing in many large US cities which, from all reports, have accomplished substantial improvements in dealing with problems of physical development in urban areas.

The AIBC sponsored seminar entitled "Better Schools – Or More of the Same" held on October 11th in conjunction with the annual meeting of the B.C. School Trustees Association was in some ways a disappointment to the architects. John Woodworth of Kelowna and John Wade of Victoria spoke for the profession. Mr Wade particularly urged an immediate and searching examination of the aims and methods of education toward finding out what form the "enclosure" for the educational process ought to take. The architect cannot design school buildings to reflect necessary and fundamental changes in education unless and until such reforms become realities. Unfortunately, during much of the panel discussion and the comments from the floor which followed, basic issues seemed to be obscured by a number of immediate practical problems, such as glare control, structural performance, visual aids, flexibility, new materials, etc., which while perfectly valid and urgent are nevertheless marginal to the central issue. As John Wade put it: "Where is education going?" – and as a corollary question: "What physical environment are we to provide for it?" Justifiably or not it would seem that other people are looking to the architects to provide this direction. The word "research" cropped up frequently and the consensus of opinion was that basic research into the methods and aims of education was a matter of urgency and perhaps should involve architects, educators, and other interested authorities. The discussion was certainly lively and provocative, if not as basic and forward-looking as the architects might have wished. But a step has been taken. School trustees have been exposed to and perhaps a little shaken by the concern of the architects. In the week following this discussion the AIBC formally indicated their willingness to work with educators, trustees and government toward setting in motion some form of research into the long range problems of school design. At present this investigation will consist of an appraisal of the performance of existing schools and will undoubtedly be a useful guide to the future. Thus it may open the door to "better schools" and not merely "more of the same".

C. A. Tiers

Quebec

The traditional fall reception of the PQAA in honor of its past presidents and new members took place on November 7th. Chaired by President Henri Mercier and attended by 14 past presidents, 36 newly admitted members and 40 other architects, the dinner was followed by a special general meeting. The purpose of the meeting was to consider and ratify amended By-laws 48 to 64 on election of officers. Up to this year, members at large had their say in picking the officers of the Association. Now, under the new by-laws adopted on November 7th, the membership will elect a Council of fifteen members who will meet on the day preceding the annual convention to choose among themselves a president, two vice-presidents, a secretary and a treasurer. Eligibility to these various offices will not be conditional upon past service as a councillor or officer, as was suggested by the Professional Practice Committee and Council. The general meeting decided that all 15 councillors elected will be eligible for any of the five offices.

Architect – supplier liaison: An address by Randolph Betts

The most important single factor in the relations between architects and manufacturers and suppliers in the building industry is mutual confidence between the architect and the representative, Randolph C. Betts, Honorary Treasurer of the RAIC, told the manufacturers division of the Montreal Builders Exchange at a dinner meeting on September 21st.

Mr Betts' address took the form of a series of questions and answers, and covered the problems of liaison between suppliers and architects; salesmen's calls; ethics and procedures in the business relations between suppliers and contractors; the effect of the cost of marketing new products on construction cost generally; and the problem of the "or equal" in specifying materials.

On the question of greater assistance by manufacturers to schools of architecture, etc., Mr Betts felt that first class technical lecturers on products would be welcome, but added that most students would profit from visits to manufacturers' plants. Manufacturers exhibitions were also of great importance.

In conclusion, Mr Betts spoke of the co-operation of the profession with manufacturers and suppliers on a national basis. "First", he said, "the only official and recognized publication in Canada which is issued by the architects and which is read by every single one of them is the magazine published every month in Toronto and edited exclusively by the paid employees of the architects, 'The *Journal* of the Royal Architectural Institute of Canada'. Many of your firms support the *Journal* with advertising. I assure you from first hand knowledge that your support is appreciated. For the last eighteen months the *Journal* has been devoting much more space to discussion and articles directed towards products and their use. Manufacturers and suppliers enquiries, letters or comments would be appreciated and will receive prompt attention.

"Finally" said Mr Betts, "for those of you not yet familiar with this subject, I want to introduce to you the newly formed RAIC/CCA Joint Committee on Building Materials." The Joint Committee is modelled after the similar organization in the United States known as the Producers Council and founded in 1921 by the American Institute of Architects in affiliation with United States manufacturers. Mr Betts outlined the progress the Joint Committee had made so far and stressed the importance and value of this program to both the manufacturers and the architectural profession.

Montreal Study Group

The first dinner meeting of the 1960-61 session was held on 18th October, under the chairmanship of Jean-Louis Lalonde, when two members of the PQAA, who are on the staff of the Montreal City Planning Department, were invited to open a discussion on "The Montreal Master Plan".

Mr Aimé Desautels began by distinguishing between "master plans" which are little more than academic exercises in applied Zippatone, betraying little knowledge of the people who actually live in the areas, and the plan he and Mr Legault were concerned with, namely one conceived with reference to the practical possibilities of implementation, and guided by a deeply rooted affection for the way of life of the present inhabitants.

The main practical difficulty of preparing any plan for Montreal was the legal procedure in force for expropriating private property. Powers of homologation are easily abused and widely resented, and as a result, the Provincial Government had been prevailed upon last year to curtail municipal powers, whereby if homologated property is not expropriated within five years, the homologation ceases to be effective. Since property thus freed might not be susceptible to further homologation for very many years, it was imperative that

the municipal authorities, guided by their planning advisers, should only homologate property which they know they could afford to expropriate within the period allowed.

Mr Guy Legault exhibited the 1944 plan, and pointed out that although it might not be as graphically impressive or as grandiose as some plans he had seen, it had the merit of having been implemented in almost every detail during the intervening 16 years. He drew attention to the difficulties of achieving proper zoning, which had required about 500 regulations (or to be more precise, as Mr Desautels later observed, about 50 regulations and 450 amendments), and said that in his view, the main problem was to teach people to understand the full implications of regional planning, which was no longer based simply on the functions of streets.

Mr Pothier asked the speakers to explain what the differences were between Montreal and other cities, since these differences seemed to him the key to the problem. Mr Legault questioned this view; he thought it more important to discover first of all what constituted a city. But Mr Desautels, whilst agreeing with the chairman that the subject was too vast to be answered fully in a single reply, responded by enunciating, with great force and beauty of expression, what Montreal meant to him — its mountain, its lively streets, its animated balcony life, and all the various characteristics which a city with two languages and hence two personalities must possess. He asked in turn the question: are we to plan for those who have remained faithful to the city, or is our aim to entice back those who despaired of it, and abandoned it for the suburbs? Are we even simply to plan for motorists driving through?

In answer to Mr Mayerovitch, who challenged Mr Desautels' initial antithesis between a master plan which is idealistic but impractical, and a plan conceived only within the limits of immediate political implementation, the latter remarked that in his opinion the 1944 plan was produced far too early, since the zoning system had not been properly established, nor laws been made to enforce them, and hence that a new plan might now be opportune.

Mr John Pratt, MP, observed that more could be done if only architects took a more active part in politics. As a young man he had once prepared a master plan which was immediately filed away and forgotten. Now he was on the executive committee of the Advisory Committee on Planning, but he was not there as an architect, but as mayor of Dorval.

Mr Desautels agreed with Mr Pratt that politics was the key to the implementation and hence affected the conception of any plan. Moreover, in reply to a request from Mr Miron that master plans should be published, he pointed out that even this depended on the sanction of an elected Executive Committee.

The Chairman then opportunely remarked that since, for practical reasons, it was evidently impossible for the City's development policy to be fully known, it would be extremely helpful if a group independent of City Hall, such as ourselves perhaps, were to publish a plan of their own. The municipal authorities could then profit from any criticisms levelled against it, whilst incorporating approved recommendations into their own schemes. The controversy we were witnessing during the present elections, when the merits of a subway were being argued without any reference to the objective assessment of the optimum public requirements, was evidence of the urgent need for impartial study. *Peter Collins*

Forest Products Week Address

Addressing a dinner sponsored by a Metro-Toronto Committee in observation of National Forest Products Week in October, at which he represented the architectural profession, Paul Pentland listed what he considered to be the three main stumbling blocks to the increased use of wood in building construction. The first was the increasing acceptance of synthetics and metals in the once exclusive fields of wood where, he felt, wood has lost the initiative to an effective selling campaign by producers of synthetics and metals. The second problem was with legislating building authorities. "These bodies must be made to see the woods and the trees, and I submit that your industry can be the means of bringing this about, and are the ones who must do so.

"The third stumbling block", said Mr Pentland "is the architect's unawareness of your product's potential. I submit that we should be made aware by you, and that we have the ability to develop this potential if you will, in addition, assist us in and indeed prevent us from not using your product or its application improperly."

Reynolds Memorial Award

The American Institute of Architects has announced that nominations will be accepted up until December 12th, 1960, for the 5th Annual $25,000 international R. S. Reynolds Memorial Award conferred each year on an architect who has designed a significant work of architecture using aluminum creatively.

To be eligible, the building should have been completed between January 1st, 1958, and January 1st, 1961, although the AIA jury may consider earlier work if it desires.

An architect in any country may be nominated by anyone, including himself or his firm. The nomination of members of the RAIC has been approved by the Institute's Executive Committee. Nominations should include the architect's name and address, name and location of the structure and the date completed, and the name and address of the nominator, and should be sent to The Reynolds Award, AIA, 1735 New York Avenue, NW, Washington 6.

The Award, which may be given for any type of structure, was established four years ago by the directors of Reynolds Metals Company in memory of the firm's founder, the late R. S. Reynolds, and is administered by the AIA. The 1960 Award was conferred upon Prof Jean Tschumi, Swiss architect, for the Nestlé's International Headquarters Building in Vevey, Switzerland.

REGISTRATIONS

Province of Quebec Assn of Architects

December 10, 1959

Pressman, David I., B.Arch. (McGill); 5607 Clanranald St, Montréal 29, P.Q.

January 7, 1960

Avramovitch, Aza, Diplome d'Architecture, (U. de Genève); 20 Robie St, Halifax, N.S.

Cuthbert, Jack A., B.Arch. (U. of Man); 965 Lipton St, Winnipeg 3, Man.

Déry, Jean, ADBA (Ecole d'Arch. de Montréal); 165 Rue de la Touraine, Québec, P.Q. (André Robitaille)

Leclerc, Eugène, ADBA (Ecole d'Arch. de Montréal); 2123 Avenue Maplewood, Montréal 26, P.Q. (Jean-Paul Jolicoeur)

Rafael, Howard, B.Arch. (McGill); 3000 Goyer St, Montréal 26, P.Q. (John H. R. Bird)

February 8, 1960

Blair, Robert F., ADBA (Ecole d'Arch. de Montréal); 10,363 Place Fleury, Montréal, P.Q. (Paul H. Lapointe)

Bleyer, Stephen, B.Arch. (McGill); 6032 Mountain Sights Avenue, Montréal 29, P.Q. (Bleyer & Charlap)

Monette, Marcel, ADBA (Ecole d'Arch. de Montréal); C.P. 598, Bourlamaque, P.Q.

Miller, Jerry I., B.Arch. (McGill); 6335 Mountain Sights Avenue, Montréal 29, P.Q. (Affleck, Desbarats, Dimakopoulous, Lebensold, Sise)

March 7, 1960

Eber, George F., MOAA, (Palatine Joseph University, Budapest); Suite 969, Sun Life Bldg, Montréal, P.Q. (Parkin & Parkin)

Villemure, Roger, ADBA (Ecole d'Arch. de Montréal); 458 rue des Volontaires, Trois-Rivières, P.Q.

April 4, 1960

Folch-Ribas, Jacques E., DESA (Paris); 3545 University, Montréal 2, P.Q. (Claude Beaulieu).

St-Onge, Andre, ADBA (Ecole d'Arch. de Montréal); 5605 Rue Gatineau, App. 7, Montréal 26, P.Q. (Brassard & Warren)

May 2, 1960

Greenberg, Charles B., B.Arch. (U. of Man.); 380 Elgin St, Ottawa, Ont.

June 8, 1960

Brodeur, Jean-Guy, ADBA (Ecole d'Arch. de Montréal); 2065 rue Girouard, St-Hyacinthe, P.Q. (Adrien Berthiaume).

Chaloux, Jean-Marc, ADBA (Ecole d'Arch. de Montréal); 551 Avenue Leroux, St-Jerome, P.Q. (Nicolas & Lévesque)

Menkes, René, B.Arch (McGill); 9-B Dorval Avenue, Dorval, P.Q. (Bland, Edwards, LeMoyne)

July 5, 1960

Bourgeau, Pierre, ADBA (Ecole d'Arch. de Montréal); 21 Chemin Bellingham, Montréal, P.Q. (Cité de Montréal)

Coulombe, Jean, ADBA (Ecole d'Arch. de Montréal); 637 Chemin Ste-Foy, Quebec, P.Q. (Maurice Bouchard)

Delorme, Jacques, B.Arch. (McGill); 1206 Rue Dominion, App. 3, Sherbrooke, P.Q. (Delorme & Demers)

Dorval, Charles, ADBA (Ecole d'Arch. de Montréal); 181 Rue St-Joseph, Lauzon, P.Q. (Fiset & Deschamps)

Edwards, Gordon B., B.Arch. (McGill); c/o Rother, Bland, Trudeau, 2290 St Matthew, Montreal 25, P.Q.

Gauvin, Michel, ADBA (Ecole d'Arch. de Montréal); 5892 Rue Landry, Montreal, P.Q. (Hydro, Québec)

Guy, Jean-Eudes, B.Arch. (McGill); M.Sc. (Columbia University); 3100 Trafalgar Avenue, Montreal, P.Q. (Barott, Marshall, Merrett & Barott)

Hein, Ralph O., 21 Sunny Acres, Baie d'Urfe, P.Q. (Erwin Bamberger)

Kotansky, William, B.Arch. (McGill); 3360 Cote St Catherine Rd, Apt 12, Montreal, P.Q. (Reuben Fisher)

Perron, Julien, 940 Rue Rochon, Ville St-Laurent, P.Q. (Perron & Perron)

Vaughan, Colin D., 500 Avenue Road, Apt 107, Toronto. (Peter Dickinson)

Sankey, Lloyd Philip, B.Arch. (McGill); Dominion Square Bldg, Room 410, Montreal 2, P.Q. (Affleck, Desbarats, Dimakopoulous, Lebensold, Sise)

August 1, 1960

Akitt, Alan D., B.Arch. (U. of Man); 119 Collier St, Toronto 5, Ont. (John B. Parkin)

Caspari, Peter, MOAA, 102 Eglinton Avenue East, Toronto 12, Ont.

Faucher, Louis, ADBA (Ecole d'Arch. de Montréal); 1582 rue Durham, Sherbrooke, P.Q. (Alphonse Bélanger)

Gagnon, Conrad, ADBA (Ecole d'Arch. de Montréal); 351 rue London, Sherbrooke, P.Q. (Audet, Tremblay, & Audet)

Guite, Rodrigue C., ADBA (Ecole d'Arch. de Montréal); 148 rue St-Germain, Rimouski, P.Q.

Lavigne, Herbert, ADBA (Ecole d'Arch. de Montréal); 154 rue Roy, App. 4, Ville Lemoyne, P.Q. (Travaux Publics (Gouvernement fédéral)

Raby, J. Y. Marcel, B.Arch. (McGill); 6843 rue Delanaudiere, Montreal 35, P.Q. (Bernard Depatie)

Roman, Predrag K., Dip. (U. of Zagreb); 8034 Kildare Road, Montreal 29.

Rubinger, Morton, B.Arch. (McGill); 5692 Clanranald Avenue, Montreal, P.Q. (Arthur Mogilesky)

Tornay, Edgar, B.Arch. (McGill); 3241 Forest Hill Avenue, Montreal, P.Q. (Durnford, Bolton, Chadwick & Ellwood)

Williams, Richard, 1910 Yonge Street, Toronto, Ontario. (Peter Dickinson)

October 3, 1960

Beaudoin, Jean, ADBA (Ecole d'Arch. de Montréal); 148 rue Saint-Germain, Rimouski, P.Q. (Jean Michaud)

Champagne, Roland Jr, ADBA (Ecole d'Arch. de Montréal); 710 Marie-Victorin, Tracy, P.Q. (Cité de Montréal)

Welchner, Matthias, B.Arch. (McGill); 1000 Pratt Avenue, Apt 708, Outremount, P.Q. (Lawson, Betts & Cash)

Announcements

W. W. Rankin, B.Arch, has moved his practice from 2201 Kingston Road, Scarborough, Ontario, to Box 100, Pickering, Ontario, where he would be pleased to receive manufacturers' literature, etc.

Jack Klein and Henry Sears have moved their practice from 71 Yorkville Avenue to 34 Prince Arthur Avenue, Toronto 5.

Ross A. Lort announces the admission to full partnership of his son, William R. Lort. The firm will practise under the name of Lort and Lort at 1909 West Broadway, Vancouver.

Letter to the Editor

Editor, RAIC *Journal:*

With the recent acceptance of my son, William R. Lort, into the Institute I propose to take him into full partnership under the name and style of Lort & Lort.

Looking through my archives recently to refresh my memory as to the antecedents of the firm I find that Samuel Maclure was in partnership as an architect with Chas. H. Clow in New Westminster in 1891 and in 1892 with Richard J. Sharp: later still with Edwin Sait, and in 1897 with J. E. Parr, whom I well remember. These partnerships were all on the Mainland. By 1897 Maclure was also maintaining an office in Victoria under his own name. Early in the century he established partnership (on the Mainland only) with the late Cecil Croker Fox. Maclure never had a partner on Vancouver Island.

I was Chief Draughtsman in the Victoria office until I went overseas in the First War, and after Fox was killed Maclure wrote to me in France offering me the Vancouver partnership which I accepted on my discharge in 1919. Contrary to general belief I was never in partnership with the late H. H. Simmonds but we enjoyed a most amicable relationship working alone when it suited us, and sharing general expenses.

Bill will be carrying on in an office with a record of 69 years of architectural practice which is probably one of the longest in the Province.

Ross A. Lort, Vancouver

Ottawa Oddity

The house at 136 Guiges Street is in the tradition of the Lowertown, Ottawa, small dwelling: 24 foot frontage, window-and-door on the ground floor, window-and-door-to-balcony on the second floor, a population explosion going on within.

Number 136 is rather special, however, and for reasons other than its discreet use of ornament. It is totally clad in galvanized iron. Pediment, parapet, gazebo, window frames — no part, save the stoop and the sash, exposes any material to the weather except sheet metal. Some of the cladding (the false stone, the quoins) was marketed commercially, but most of it was devised by a resident family of tinsmiths who brought their work home with them.

Except for four — find them — ornaments that have fallen off, the exterior is altogether sound. The tinsmiths' fancy stands as a monument to their medium, and their triumph over it.

Stanley White, Ottawa

136 Guiges Street, Ottawa

PHOTO MALAK

Les plans types d'écoles fournis gratuitement aux commissions scolaires par le Département de l'instruction publique ont fait l'objet d'études et de démarches de la part de l'AAPQ depuis près de dix ans. De nouveau le 14 octobre dernier un effort a été tenté de ce côté. Le président de l'Association, M. Henri Mercier, a écrit à l'honorable Paul Gérin-Lajoie pour solliciter une entrevue dans le but de lui exposer nos vues en matière de construction d'écoles dans la province et lui a adressé en même temps le mémoire rédigé par notre Comité des plans d'écoles sous la direction de son président, M. Paul-O. Trépanier. Entre autres suggestions, le mémoire propose 1. que le Département, en collaboration avec l'AAPQ, établisse des normes de construction et les revise périodiquement; 2. que le Département abandonne cette pratique de fournir des plans, quel que soit le nombre de classes, et exige des commissions scolaires le recours aux services des architectes, et 3. qu'il y ait rencontre annuelle des représentants de l'IP et des délégués de l'AAPQ en vue d'ajuster les normes et les coûts maxima aux conditions actuelles de l'économie. M. le Ministre a répondu à la lettre de notre président et s'est dit prêt à recevoir notre délégation.

L'Union internationale des architectes tiendra son 6e congrès du 3 au 7 juillet 1961 au Royal Festival Hall de Londres, sous le patronage du RIBA. Le thème du congrès: "Nouvelles techniques et nouveaux matériaux—leur influence sur l'architecture." Les professeurs Henry Russell Hitchcock des Etats-Unis, Pier Luigi Nervi d'Italie et Jerzy Hryniewiecki de Pologne y prononceront des conférences. Même si l'IRAC ne fait pas partie de l'UIA, les architectes canadiens sont les bienvenus à titre d'observateurs. Trois expositions et des excursions figurent au programme. L'inscription au congrès doit se faire avant le 1er janvier au coût de 18t. Des copies du programme provisoire (en français) sont disponibles au Secrétariat de l'AAPQ. Il peut être intéressant de noter que l'UIA poursuit au moins deux buts: 1. promouvoir l'échange d'idées et d'expériences sur des questions architecturales et professionnelles et 2. permettre la rencontre d'architectes de tous les pays et, en augmentant leurs connaissances sur la façon de penser et d'agir de leurs collègues, éliminer ainsi la mésentente qui pourrait exister entre nations de cultures différentes.

A la suggestion du conseiller Gilles Marchand, le Conseil de l'AAPQ a adopté récemment la résolution suivante et l'a transmise au Ministre des travaux publics de la Province:

"Attendu que l'Association des Architectes de la Province de Québec a pour but, entre autres, de rehausser le rôle esthétique, scientifique et pratique de la profession d'architecte vis-à-vis du public;

"Attendu que le rôle de l'architecte est essentiel dans la conception et l'exécution de travaux publics tels que ponts, tunnels, viaducs, autoroutes, barrages, etc., pour la sauvegarde de l'esthétique dans notre Province;

"Notre Association recommande fortement au Gouvernement de la Province d'étudier l'importante question de retenir les services d'architectes conseils dans la préparation des plans pour tous les travaux publics qu'il compte réaliser tels que ponts, tunnels, viaducs, autoroutes, barrages et édifices connexes."

Dans une allocution prononcée dernièrement devant la section des manufacturiers de la Chambre de construction de Montréal, M. Randolph Betts affirmait que le facteur le plus important dans les rapports entre les architectes et les fabricants ou fournisseurs de matériaux c'est la confiance mutuelle. Au chapitre d'une aide accrue des manufacturiers aux écoles d'architecture, il a exprimé l'avis qu'on verrait d'un bon oeil des techniciens de premier plan donner des conférences sur les matériaux de constructions, mais il a ajouté que la plupart des étudiants tireraient profit de visites industrielles à l'usine même.

De concert avec l'Association of Consulting Engineers of Canada et la Chambre de Construction de Montréal, l'AAPQ a prêté son concours au Comité consultatif du Centre d'apprentissage de Montréal qui, les 2, 3 et 4 novembre, a présenté une exposition de matériaux de construction. Le mur-écran a pris la vedette et a fait le sujet d'une discussion-forum à laquelle ont participé, entre autres, les architectes américains W. Dudley Hunt, Jr. et Roy Allen. C'est un départ qui augure bien l'avenir. Les représentants de l'AAPQ. MM. Edouard W. Tremblay et Guy Desbarats méritent des félicitations.

L'assemblée générale du 7 novembre au Windsor en a décidé ainsi: c'est le Conseil qui élira désormais les dignitaires. Les quinze candidats qui auront recueilli le plus de voix à l'élection annuelle se réuniront à huis-clos la veille du congrès pour choisir parmi eux et par scrutin secret le président, les deux vice-présidents, le secrétaire et le trésorier honoraires. Les restrictions concernant l'éligibilité à la présidence et aux autres postes de l'Exécutif que le Comité de pratique professionnelle et le Conseil avaient suggérées n'ont pas reçu l'approbation de l'assemblée: les quinze sont éligibles aux cinq postes.

J. Tisseur

"THE ROLE OF THE ARCHITECT IN CANADA'S BIGGEST INDUSTRY": AN ADDRESS BY THE PRESIDENT RAIC TO THE VANCOUVER ROTARY CLUB

You will not be surprised if I talk for a while today about architecture, and emphasize several relevant points about the construction industry in relation to the future of this country. Specifically, I intend to develop the basic theme that "Canada will be duplicated in the next 40 years". In other words, a second Canada will be built by the end of the century. As the result of this building prospect, changes are in store for the shape of our cities.

Huge areas of farm land will be transformed when these billions of dollars are spent and these millions of dwellings built. The cities and towns of Canada are spreading out over new ground at a rate of nearly 100 square miles a year. Of that new urban territory, about 70 square miles a year becomes residential. After only a couple of decades Canadians will have consumed as much land as all our ancestors took up for towns since Champlain built his habitation more than 300 years ago.

In drawing your attention to the vast building program that lies ahead I suggest that architects can be essential to the process.

Buildings are produced in this highly mechanized age in Canada by co-operation of many independent agencies. The importance of a building is accepted as a matter of course. For the advancement of our western civilization we should have more good building – well planned, soundly constructed, economical and aesthetically satisfying to both occupants and casual observers. These same qualities in our buildings are necessary for the good of the economy; but for a prosperous economy a *quantity* of building is essential. There should be a sufficient number of workers in all branches of the building field. Moreover, all branches of the building field must co-operate to produce buildings worthy of our time, and at reasonable costs. For a healthy economy competition must be free, and if building is to continue to receive a large share of the consumer's dollar, it must keep pace with other goods by offering maximum value.

To accomplish these objectives – an adequate supply of good buildings, sufficient labor supply, and reasonable building costs – leaders in the building field should co-operate with their components of the whole construction industry, which includes heavy construction, railway construction, and highway construction, as well as buildings, to promote wise measures for the general good, and to prevent unwise legislative and administrative acts affecting construction.

Most people are unaware that construction is the single biggest industry in the country today – bigger than farming, bigger than automobile production, bigger even than defence. Last year it topped seven billion. Within the next decade we are expecting to spend the staggering sum of 80 billion dollars on construction – more than the worth of all the existing buildings in the nation; and as I have already said, within 40 years we will have to duplicate every single building in Canada to house a population which will nearly double in that time.

Today, in mid-twentieth century Canada, we have moved into the age of architecture. The architect is the leader of Canada's building team. He is the "master builder", the man who "forms plans and designs . . . draws up specifications for buildings and supervises their construction. The architect's responsibility is to see to it that we live, work, play, and worship in a well planned, satisfying and productive physical framework.

The basic principles of architecture have remained unchanged since antiquity, but the ways of building, the needs of modern life, and the scale on which building must be planned, have changed to a degree which has vastly broadened the architect's practice and the knowledge which he must assimilate in order to practise architecture.

Architecture is no longer just a single building, but complexity of buildings, designs of neighbourhoods, and a planning and re-development of whole communities. The nature of the client too has changed. Where once it was a single person, today it is often a board, a committee, or even a syndicate, which might involve a combination of developer, banker, and group of investors.

The Royal Architectural Institute of Canada, recognizing that the outstanding aspect of current development in Canada is the growth of her cities, proposed in 1959 to the Federal Government, that a special committee from the profession make a study of the design of the residential environment in Canada, to find out how the architectural profession might contribute more effectively to the improvement of the quality of the design and layout of our residential areas. As you might expect, this visual survey of our major cities, which took place during the fall and winter of 1959-60, could not help extending its terms of reference to include more than just suburban areas. The Committee of Inquiry submitted a report to Central Mortgage and Housing Corporation in June of this year and the profession is now in the process of acting, in co-operation with many other organizations, to implement the 32 recommendations contained in the report. Among the organizations interested in seeing that the recommendations result in concrete action are the Canadian Federation of Mayors and Municipalities, National House Builders Association, Canadian Association of Real Estate Boards, Town Planning Institute of Canada, Canadian Society of Landscape Architects, Community Planning Association, and others.

The architects of Canada have no intention of allowing the residential environment report to join many dozen other reports on library shelves while we wistfully hope that something may come of the recommendations. We have decided that, if central administrative machinery is to be established to translate the report into practical

benefit, the profession should finance the cost of one year's operations, and a financial appeal has been made to our members across Canada. The response has been very satisfying.

What are the really significant recommendations? They cover a very broad field. To choose at random from among the 32 recommendations a few examples, we are asking the Provincial governments to identify areas of irreplaceable agricultural land, to make economic analyses of regions undergoing fastest urbanization, to study the impact of major roads on adjoining private properties, to determine costs involved in putting electrical distribution systems underground, and to provide powers for municipalities to acquire land beyond their borders. Central Mortgage and Housing Corporation are requested to review appraisal procedures to provide more inducement to build quality into housing, to encourage more variety in dwelling types and combinations, to survey operating costs of housing, to build pilot projects, and provide leadership in examining the feasibility of establishing an Urban Affairs Institute in Canada.

We have been struck by the uniformly strong support given the Institute by interested citizens, newspapers and periodicals, and other organizations, not only in Canada, but also in the United States and the United Kingdom. A British reviewer of the report has suggested "The architects have stepped in to point a direction which, however broadly stated, provides a solidly constructive program. It appears not to invite a vast system of government subsidy, but rather to suggest an over-riding system of controls which would ensure consistency as opposed to standardization; advice and guidance rather than bureaucratic direction".

We who practise architecture are hopeful that the report will commend itself to many Canadians who have not yet had an opportunity to study it. The report is noteworthy in that it suggests the co-operation within the building industry is bound to improve the welfare and development of the country as a whole.

It is now clear that the trend toward a predominantly urbanized society is here to stay. Urban centres are not doomed; they are the nerve centres of our national economy. To allow them to deteriorate is to prepare for disaster. The city is the centre which brings together labor, finance and raw materials with which to produce the goods which nurture the national economy, and the city must be treated as a geographic, social and political base for national economic planning.

The Federal Government has long been in the business of assisting cities in the solutions of their problems, many of which are inter-Provincial in their character. In addition, the Federal Government has always had an obligation to promote the general welfare by ensuring a healthy living environment for its citizens, almost two-thirds of whom live in cities.

To meet the needs of the cities for improved housing, community facilities and public projects such as sewage treatment, water supply, renewal of slums and deteriorated areas, the Federal Government has set up a vast array of activities and programs. The United States faces problems identical to our own. A New York Congressman has introduced a bill in the House of Representatives proposing the establishment of a Department of Urban Affairs to assemble under one roof all the relevant federal functions and offices now in existence. This will permit for the first time a consistent and co-ordinated approach to this ever increasing problem of urban needs.

Planners and officials in Canada should give careful consideration to creating in Ottawa a Department that would co-ordinate the activities of the Department of Public Works, the Airport Construction Division of the Department of Transport, Defence Construction Limited, Central Mortgage and Housing Corporation, etc. A first tentative step in this direction will be made should an Institute of Urban Studies be brought into being.

Before I terminate my remarks I would like to suggest that the issue of urban renewal is one that will require considerably greater attention in Canada than it has received so far. Urban renewal embraces not just redevelopment, but the repair, rehabilitation and improvement of structures. It means the whole process by which the older parts of urban areas adapt themselves to changing circumstances. It is the process of keeping up to date whole districts and preventing a slip to a condition of blight.

Prosperity and a high average standard of living are not sufficient cure for slums and blight. The past ten years have shown that. The estimate must be more deliberate and specific.

In some of the larger Canadian cities the problem has reached, or soon will reach, a stage when only imaginative solutions are likely to have much hope of success.

Obviously, with the tremendous building job to be carried out during the balance of this century, there must be the closest collaboration between architects and contractors, engineers, suppliers, planners, realtors, and municipal officials. I know that we should keep reminding ourselves that, as professionals, we are primarily serving our clients, but we are also serving the community at large.

I believe there is growing evidence of an interest on the part of architects in all parts of Canada in the orderly development and improvement of the communities in which they reside. This is shown in the presentation of the report to which I have already referred. It is also indicated in the action the Institute has taken, during the past year, to establish a Special Committee on the Preservation of Historic Buildings to formulate a national inventory of Canadian buildings considered to possess architectural and historic merit. In this task we are collaborating closely with the Department of Northern Affairs and National Resources.

In conclusion, I would like to express my appreciation to you, Mr President, and to the members of your club for having the opportunity to come among you today and say something about the profession of which I am proud to be a member.

The O'Keefe Centre for the Performing Arts

Toronto

BY EARLE C. MORGAN AND FORSEY PAGE

IF any architect feels envious of an auditorium commission such as O'Keefe's let his envy be for the satisfaction of doing an unusual and interesting job, one that may come only once in a lifetime, if ever, but not for the commission profit because the time required bears little relation to the time required for the usual buildings done by architects.

The commission was given to Earle C. Morgan early in March of 1956, with the appointment of Page & Steele as joint architects coming within the following two weeks. The building was open to the public October 1, 1960, which means that four and one-half years of the two architectural firms' time has been devoted, to a large extent, to this project.

By the Fall of 1956 work had progressed beyond the preliminary stage and it was decided that a separate office should be established specifically for this project. This separate office was maintained until after the main contract, for the superstructure, was let in March of 1958. A site office was established with the letting of the contract and, for nearly a year, consisted of a staff of six architectural, three structural, three mechanical and two electrical employees. During the second year of construction this on-the-site staff gradually decreased but even during the last six months there was a site architect and one assistant on the job full time.

The demolition contract for existing buildings on the site was let during the Autumn of 1957 for completion by the end of the year and by September, 1957, working drawings had progressed to the point where it was practical to let an excavation contract by tender to the Pigott Construction Company. This contract subsequently was extended to include some foundation work.

Tenders were called for the superstructure early in 1958 and the contract awarded to Anglin-Norcross (Ontario) Limited, on March 8th, 1958, with a completion date set for the Fall of 1959. The general strike of that year eliminated any possibility of such an early completion date, and missing an Autumn opening in one year meant that the opening had to be postponed to the following year because of the theatre seasons. As it happened, the full extra year was required and, without tremendous effort, even that date would not have been met.

The owners' original concept was a civic centre on the two properties north and south of Front Street from the

Architects
Earle C. Morgan and Page & Steele
Toronto

Consultants

Structural
M. S. Yolles & Associates, Toronto

Mechanical
G. Granek & Associates, Toronto

Electrical
Jack Chisvin & Associates, Toronto

Acoustical
V. L. Henderson, Toronto

Interior Decorating
T. Eaton Company
Robert Simpson Company

General Contractors
Anglin-Norcross (Ontario) Ltd
Toronto

Esplanade to Wellington Street, with an auditorium, concert hall, legitimate theatre, exhibition space, as much open park space as possible and a large office building to help defray the cost of operating an auditorium. The so-called "tight money" situation changed these plans and it was decided to do only one building, which would include a large auditorium, a small legitimate theatre and enough exhibition space to attract conventions and exhibitors similar to the Colosseum Building in New York.

The next problem was to decide whether this single building should be placed north or south of Front Street. The property south of Front Street is a little larger and has the added advantage of a slope of some nine feet from north to south, which allows a floor under the auditorium, largely at grade level. We proceeded with intensive studies for the development of the south property, but our studies soon showed that the requirements were a little too much for that property and undoubtedly would exceed the budget set by the owners. Gradually the exhibition space dwindled to elimination and after several months more of study the small, separate legitimate theatre had to be abandoned, mostly because of cost but also because it was crowding other essential elements in the building.

The loss of the legitimate theatre was a staggering blow and we made a serious attempt to make the large auditorium as flexible as possible, but we know this can never be completely successful. We have facilities for cutting out the rear half of the orchestra seats but, without being able to bring in the side walls and lowering the ceiling, this will not make it an ideal legitimate theatre.

All architecture beyond a one-man office is a matter of team work and this building must have had one of the largest teams ever employed on a building in Canada. The owners, in their earnest desire to provide the best, required and provided United States consultants to cooperate with our Canadian consultants for acoustics and mechanical engineering, and provided stage and stage lighting consultants, also from the United States. We provided the architectural consultant in the firm of Eggers & Higgins of New York at the beginning of the job, when the concept was a civic centre, but the need for this consultant diminished with the scheme. We are none the less grateful to Mr Ted Young, the present head of that firm, who is himself a University of Toronto graduate.

It should be clear that this whole scheme and its requirements was fluid for a long time and that should explain the two-year period from the beginning of sketch drawings to the letting of the main contract. More than one full year was devoted to studies and to the actual examination of such buildings as the Royal Festival Hall, London; The State Opera House, Vienna; the Ford Auditorium, Detroit; Severance Hall, Cleveland; the Shakespeare Memorial Theatre, Stratford-on-Avon, England, and numerous others, before working drawings were started. The amount of crumpled and discarded paper on this job has been staggering, but it has been an experience that none of us would have missed and, if the building is successful, the satisfaction will more than make up for all the time, trouble, frustration and expense involved.

The statistics of the building and articles by consultants can be found in other places in this issue. This is an attempt to give our fellow architects some idea of our problems in the design of a building as complex as this. The Queen Elizabeth Building at the Canadian National Exhibition provided some useful experience, but the difference in seating capacity, from 1,200 to 3,200, presented problems of sight-lines, distance from the stage, acoustic requirements, sound amplification, etc., not previously encountered. In the O'Keefe Centre every seat has an unobstructed view and no seat in the house is further from the stage than 124 feet.

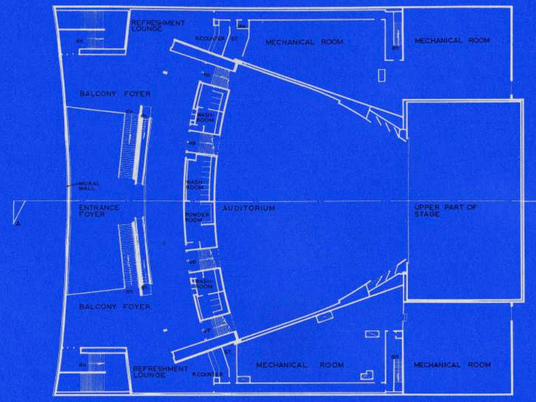
The seats themselves are patterned after those of the Royal Festival Hall, as is also the very liberal area devoted to main foyer, mezzanine foyer, side lounges and lower level main lounge. This vast circulation space should come as a pleasant surprise to Toronto theatre goers, who have not enjoyed that luxury in the past.

The selection of materials for a building intended to last for a long time is in itself a serious problem. The elimination of the smoke producing steam engines on the nearby main line railway, together with the City's determination to curtail smoke nuisances, generally encouraged the use of the Alabama limestone exterior. The owners' preference for bronze trim, doors, cladding, etc., and their intention to see that doors and trim are kept in a bright condition, influenced the choice of that timeless material. Our acoustic consultants were firm in their opinion that there is no substitute for wood for auditorium walls and although the fireproofing of that material, in a manner that would not reduce its acoustic properties nor mar its natural wood finish, presented a new set of problems, nevertheless these problems were overcome after exhaustive experiments.

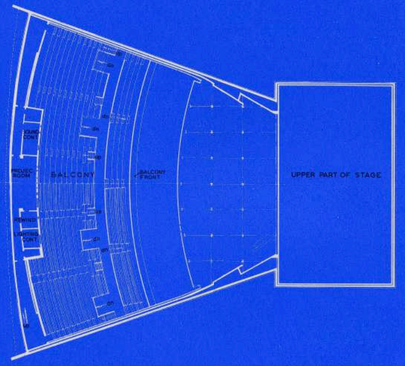
Admirers of beautiful marble, and that includes most people, will appreciate the wide use of that enduring material and the skill with which it has been matched. All the marble was selected personally in the quarries in the mountains of Carrarra, Italy, the very quarries that were worked by the Romans 2000 years ago and to which Michaelangelo journied to select blocks of marble for his famous sculpture which is still the pride of Florence and Rome.

THE O'KEEFE CENTRE FOR THE PERFORMING ARTS, TORONTO

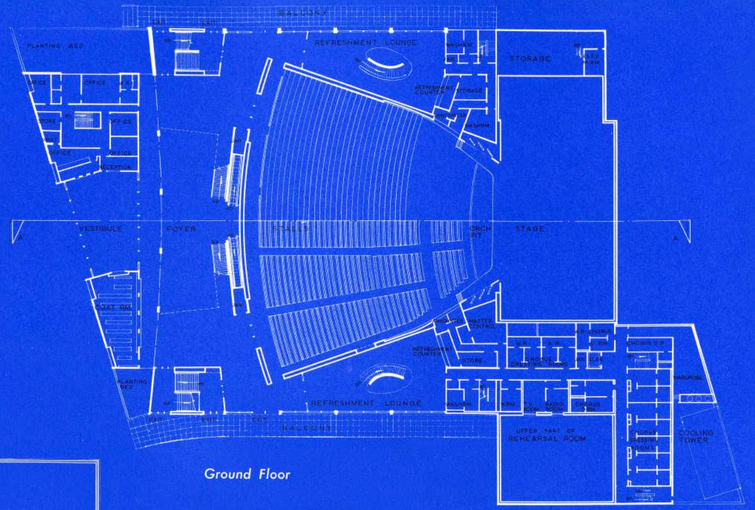
Architects, Earle C. Morgan and Page & Steele



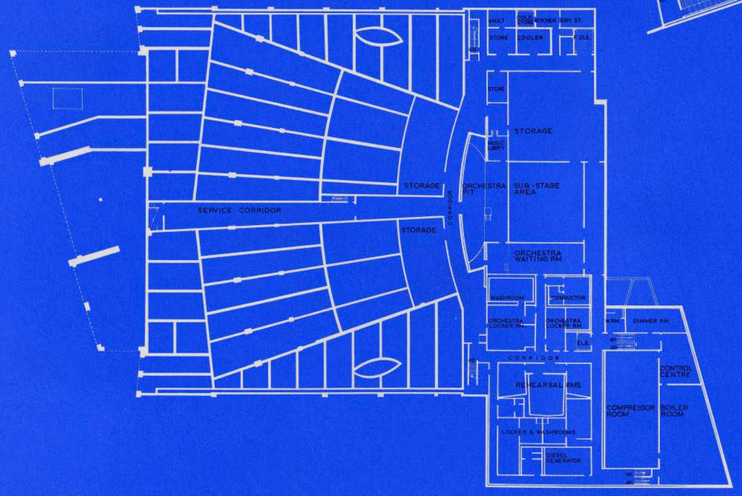
Balcony Foyer



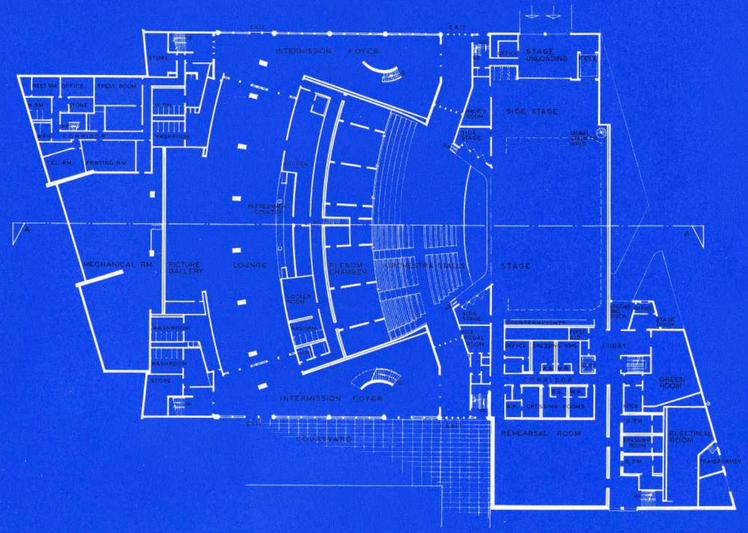
Balcony



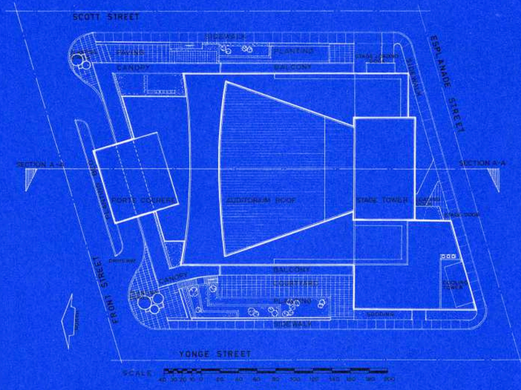
Ground Floor



Basement

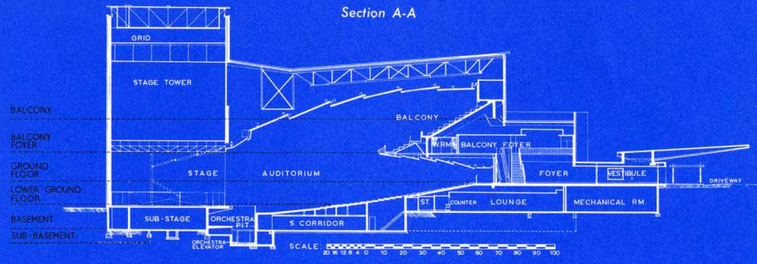


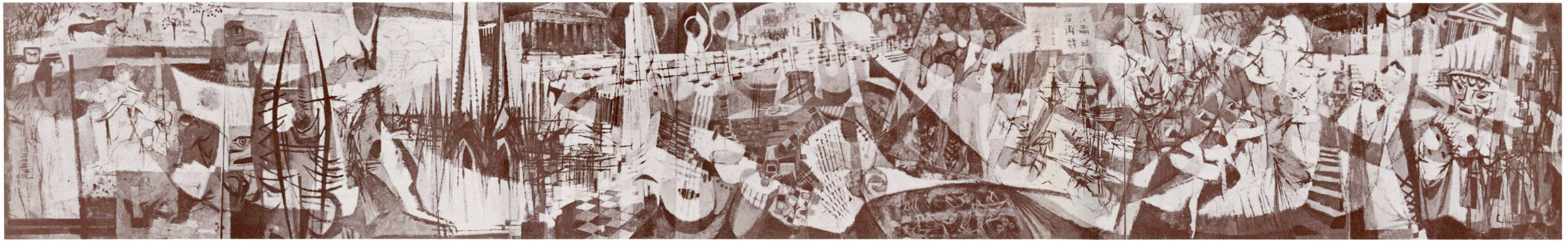
Lower Ground Floor



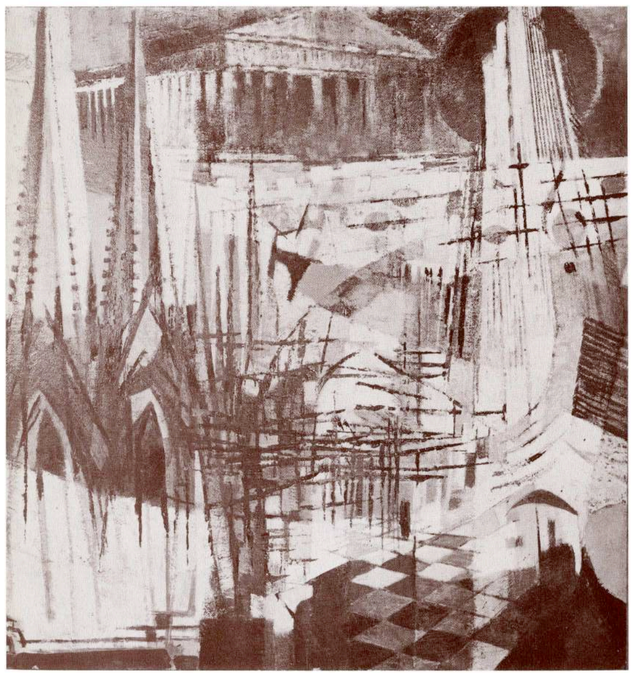
Site Plan

Section A-A

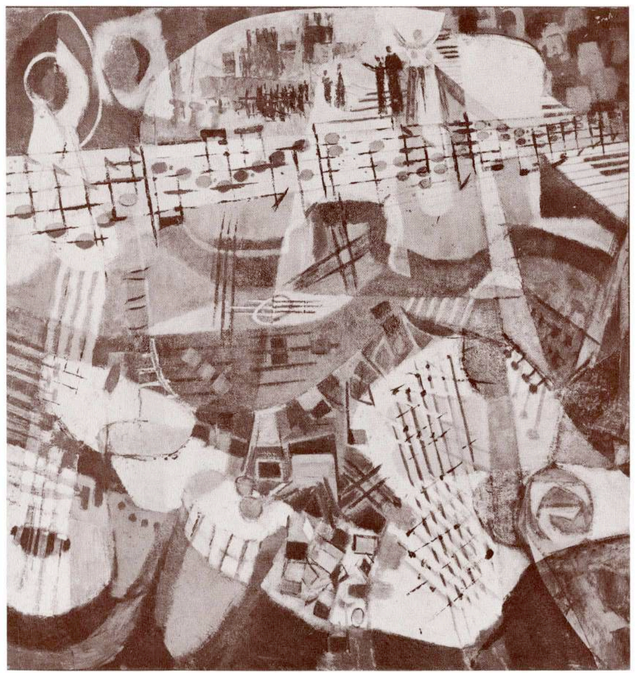




DETAIL OF 'ARCHITECTURE'



DETAIL OF 'MUSIC'



DETAIL OF 'DRAMA'

THE SEVEN LIVELY ARTS

The mural by R. York Wilson, RCA, OSA, in the O'Keefe Centre for the Performing Arts. The work, 15 feet by 100 feet, is in dry pigment in vinyl acetate on a cement on metal lath base.

The subject is in seven sections, from left to right:

PAINTING	Four periods: Lascaux, Altamira and other caves; Egyptian; Renaissance religious and, for the present day, a non-figurative painting.
SCULPTURE	Showing early Hittite bas-relief; classical Venus de Milo; a sphinx; a totem pole and a contemporary non-figurative welded steel piece.
ARCHITECTURE	Begins with the Parthenon; a large area of Gothic shapes; an interior of no particular period and a sky-scraper of today.
MUSIC	Drums for the early musical form; various wind and string instrument shapes; a bar of music from a well-known opera and a scene from Wagner.
LITERATURE	Symbolically man and woman represent the largest area; a sailing ship for adventure and travel; the equestrian battle indicates conquest; a Chinese proverb typifying the oriental contribution and the abstract shapes relating to abstract thought.
DANCE	War and sun worship dances, symbolic of the earliest dance forms; an Indonesian dancer representing the orient and the corps de ballet of Swan Lake for the nearly contemporary dance.
DRAMA	The Oedipus Rex masks, symbolical of early drama; a religious parade represents the medieval period and Hamlet is the most contemporary form shown.

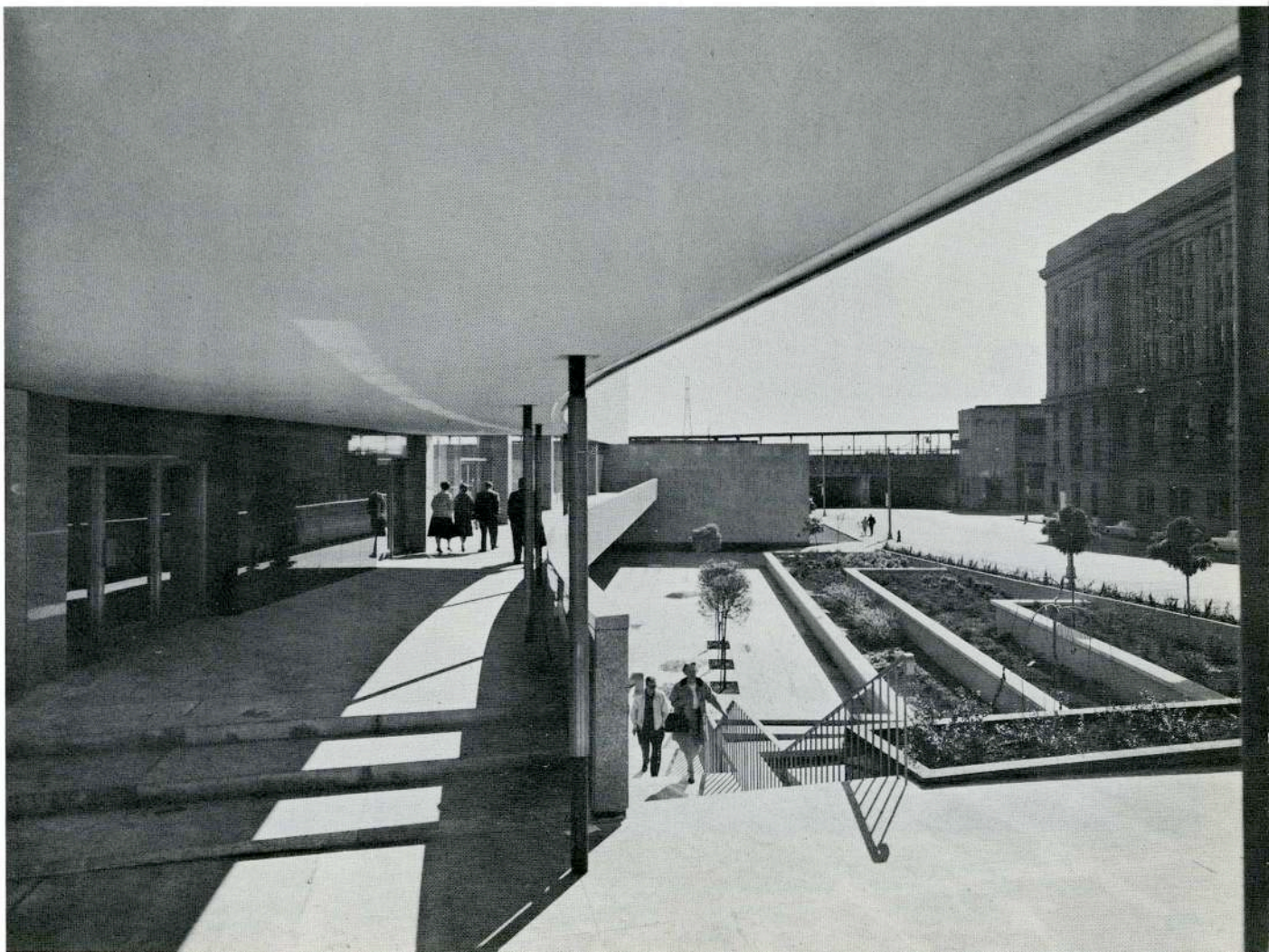
View looking towards main entrance from the North West

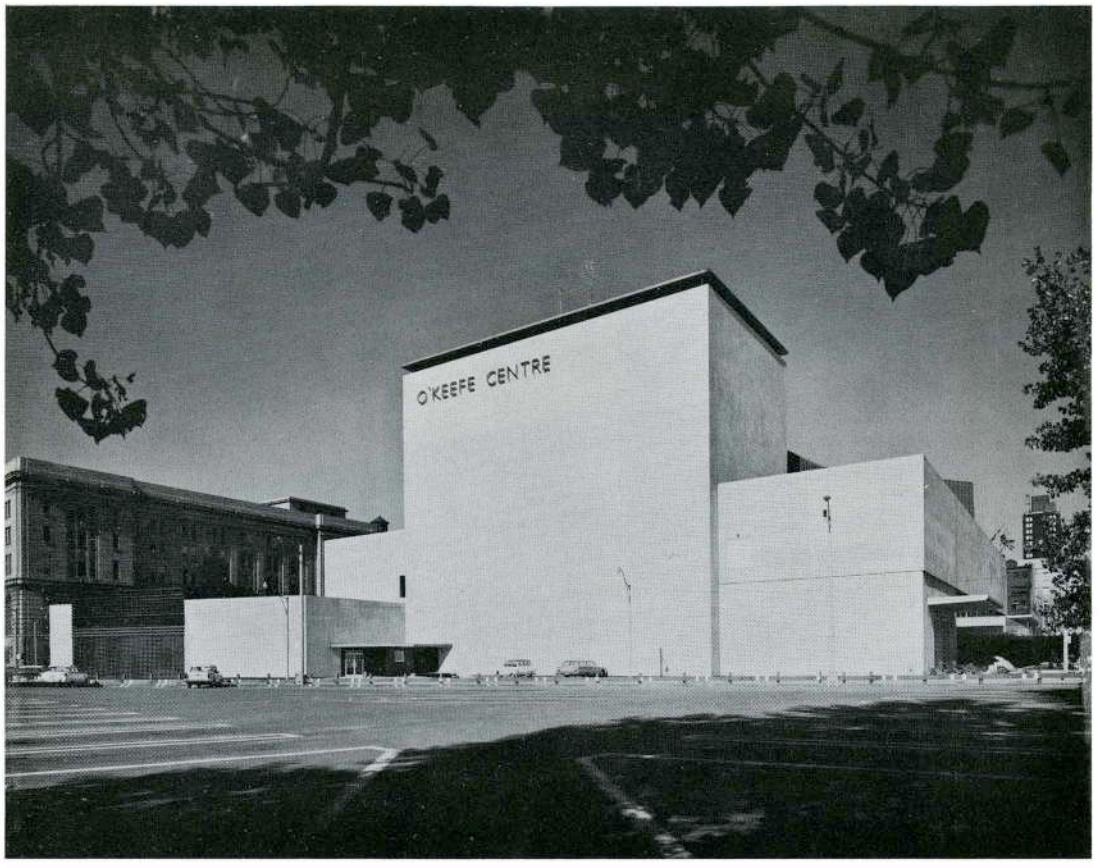
Auditorium, view towards stage showing orchestra stalls and ceiling of balcony above

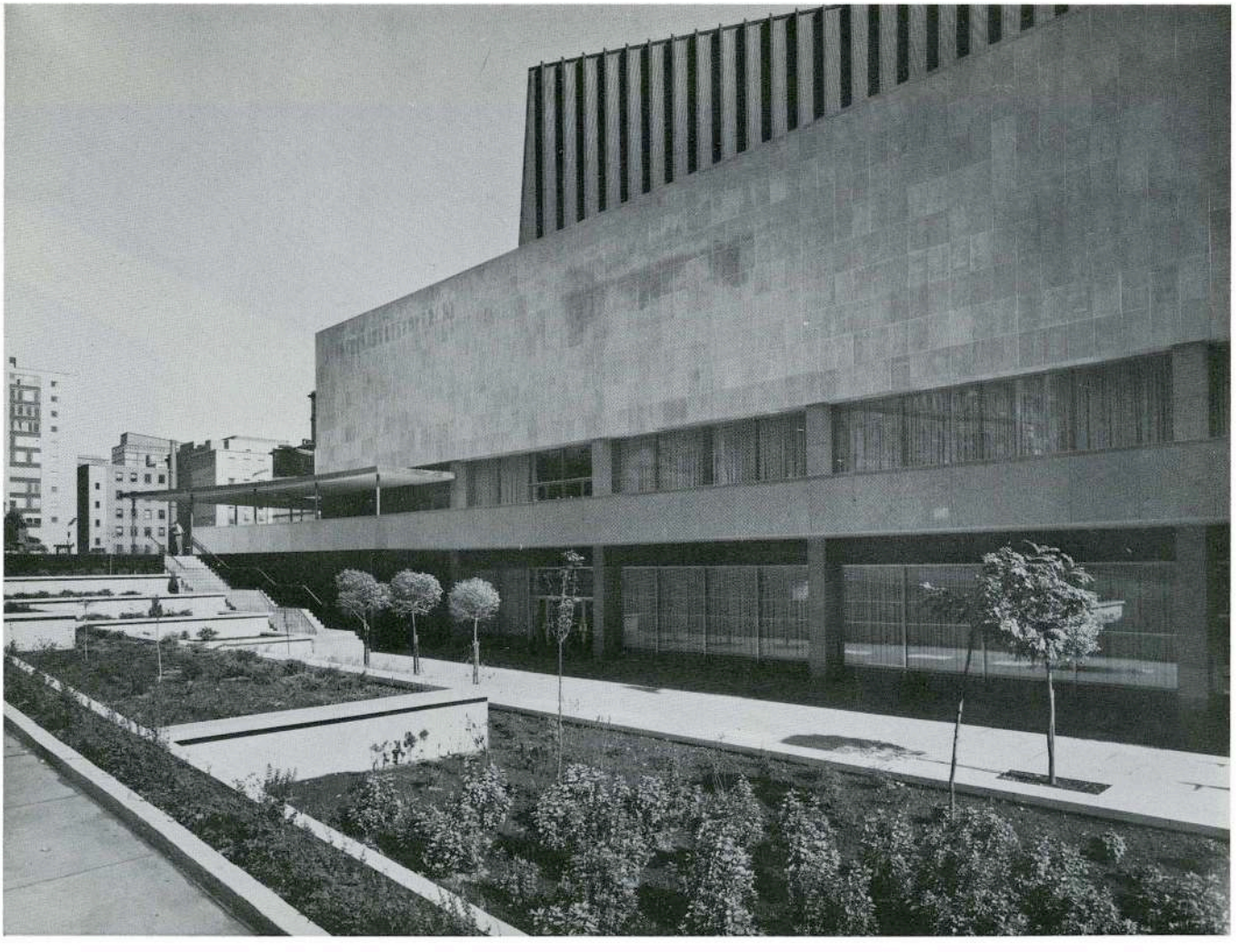
Left: view of West Court

View of entrance and East Court from the North East and Front Street in the foreground

View of external balcony and West Court from North; Yonge Street on the right




O'KEEFE CENTRE



Top left: view of stage tower from the South showing stage door entrance lower left

Bottom left: general view of West Court and external balcony from the South West

Below: entrance foyer, view from top of stairs at balcony foyer level showing mural and vaulted ceiling

Right: detail at head of escalator, balcony foyer level, looking down to main foyer. The matched pattern of Loredo Chiaro marble of the South wall of the balcony foyer can be seen upper right above the lounge banquettes


AISLES 4 - 5

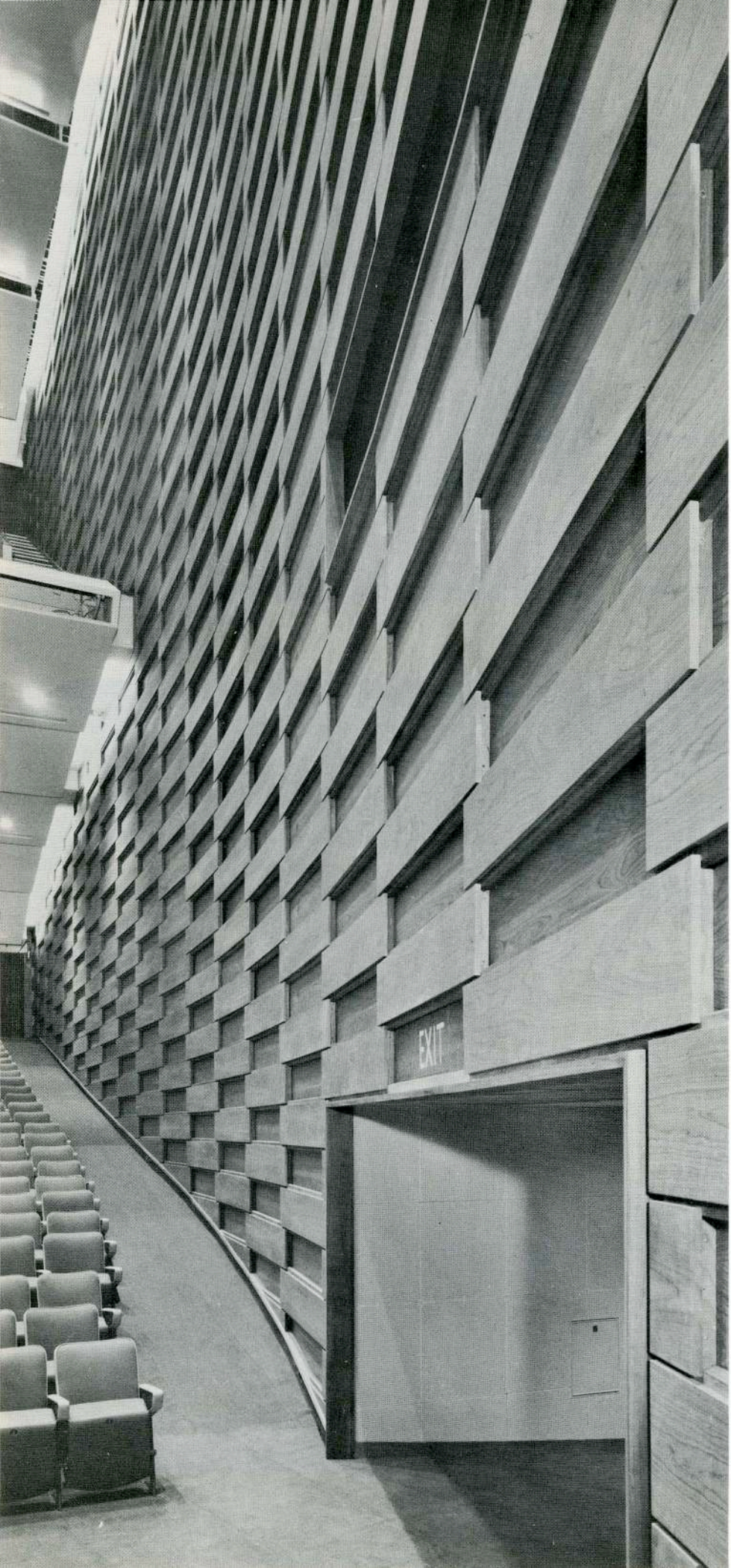
Extreme left: detail of vomitory staircase from balcony foyer to balcony proper showing acoustically treated bronze faced doors with contrasting marble

Left: entrance foyer showing cantilevered granite stairs, white marble winged walls, escalator and balcony foyer above

Below left: refreshment lounge in lower ground floor, showing refreshment counter right and picture gallery left

Below: West intermission foyer on lower ground floor showing curved walls supporting cantilevered granite stairs to main floor

Right: West intermission foyer on lower ground floor showing curved walls supporting cantilevered granite stairs to main floor



Acoustics

BY V. L. HENDERSON, P.ENG

The acoustic properties of a modern auditorium have been largely determined by the time the architect first places his pencil to paper. Decisions involving site, budget, capacity, and type of programming have as great an effect on the final acoustical results as any decisions that will be made later. From this point onward the acoustical environment develops from a series of compromises involving architectural consideration of layout and proportion, materials of construction and finish, mechanical equipment, and facilities, etc. For example, if acoustical conditions were the sole consideration, such noisy equipment as that associated with air conditioning and ventilation would be eliminated entirely, and the patrons could smother or freeze, depending on the season. This of course leads to a ridiculous situation, since it represents an outrage of one or more of the human senses and functions. So a compromise is accepted, where air conditioning and ventilation is specified with limitations on permissible noise.

For the O'Keefe Centre the owner defined the site, the budget, the range of use and the seating capacity. The architects developed around this definition a structure with due regard for architectural merit, struc-

Left: detail of side wall showing cherrywood movable acoustical panels. The view is from stage right and shows also the front stalls exit and side wall cove lighting

tural simplicity, space for services and acoustical requirements. With each decision relating to any of these factors the range of further possibilities was narrowed. It is obvious then that the acoustical environment is not the result of the unilateral decision of any one person, at any one time, but the co-ordinated effort of the team, composed of the owner, the architects, and all the consultants. This team worked together from the beginning and it is only through the co-operation of all, that Mr Kodaras and I, as acoustical consultants, have been able to obtain the overall result which is the acoustics of O'Keefe Centre.

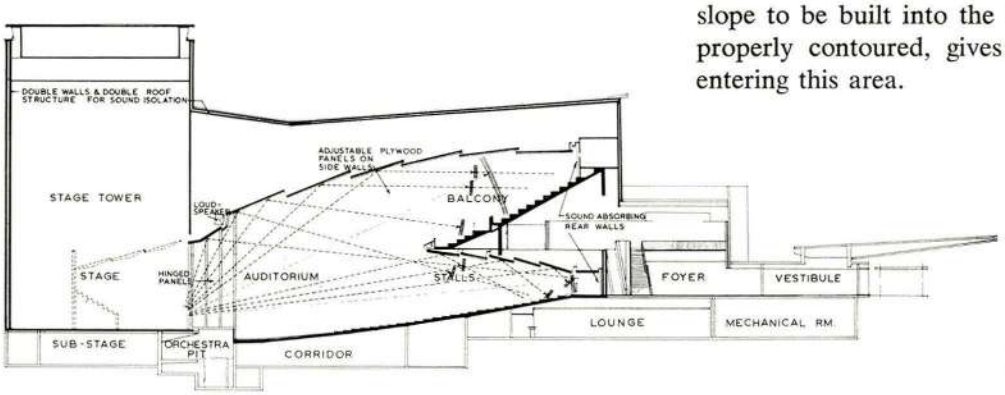


Figure 1

Since sound decreases at least six decibels with each doubling of distance from the source, compact seating arrangements to reduce the distance over which sound must be projected are indicated. A fan shaped space with a substantial balcony will accomplish this. In fact, the maximum distance from the proscenium to the farthest of the 3250 seats in O'Keefe is less than 130 feet.

Sight or hearing lines also warrant careful consideration, since high frequency sounds do not diffract around substantial objects such as heads. Therefore the sharply ramped floor is of marked importance in providing good acoustics.

Not all of the sound energy which reaches the listener does so directly. Much of the sound energy generated on the stage must be reflected from the ceiling or side walls before it can reach the listener and, by judicious shaping of the surfaces, the sound waves can be directed towards the areas where they will do the most good; that is in general, the areas farthest from the source. Figures 1 and 2 show typical reflections from the ceiling panels and side walls.

In addition to reflecting the sound into the regions farthest from the source, the reflected sound must follow the direct sound quite closely in time or it will register as an echo. Scrutiny of Figure 1 shows that for areas near the rear of the auditorium, both in the stalls and in the gallery, the maximum time differential for the direct and reflected paths is only a few milliseconds.

The balcony opening is quite high in order that the sound will have free access to the under-balcony areas, and to permit sound reflected from the ceiling panel, just forward of the proscenium, and from the auditorium loud speakers, to reach the farthest seat. This wide opening has the added advantage that it permits an appreciable slope to be built into the balcony ceiling which, when properly contoured, gives good control of the sound entering this area.

The side walls are constructed of cherry plywood over concrete block, in a waffle pattern. This pattern carries the movable absorbing panels, which will be discussed later, and provides some diffusion of the reflected sound.

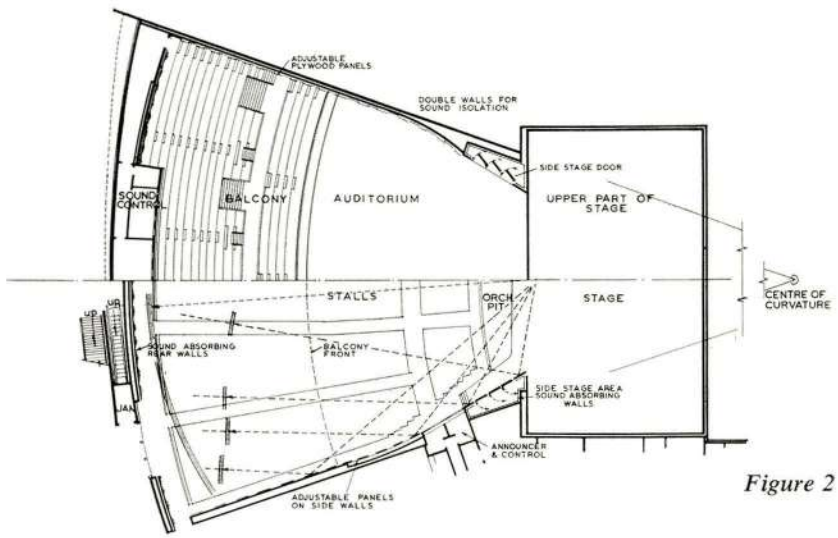


Figure 2

The rear wall is highly absorbent because sound reflected from it to a listener would be subject to long delays relative to the direct sound. A number of precautions such as placing the centre of curvature well outside the front wall of the stage, and undulating the surface of protective wooden slats, were taken to insure that no image of the source would be produced in the auditorium.

In addition to the first reflections considered here, there are many succeeding reflections to which the sound waves are subjected. These reflections produce the phenomenon of reverberation and give character to sound heard indoors.

For clarity and precision as required in speech, quick decay of the sound or short reverberation is indicated, but for continuity and fluidity of musical tone a longer reverberation is desirable. In O'Keefe Centre bookings will vary all the way from symphony concerts to commentaries on ladies' fashions, and nothing less than a range of reverberant conditions can do justice to all.

To this end the architects have provided approximately 2500 square feet of side wall area which can be varied progressively from hard resonant reflective cherry wood panelling, to rock wool with a perforated plywood cover.

Modern techniques of public speaking and certain phases of musical production having been built around the mental and physical support of a microphone stand, and the volume of the auditorium being 700,000 cubic feet, it seemed expedient to supply a sound amplification system as part of the permanent theatre equipment.

This system includes approximately 40 microphone outlets in the stage area and 60 distributed elsewhere in the building. Each microphone outlet is connected to Master Control where the signals are amplified and distributed to one of three radio control booths, Sound Control, or to the system of 100 loud speakers located in public and back-stage areas. At the front of the stage are three trick microphone stands which, from controls at the stage manager's station, can be raised or lowered from below floor level to head height.

The radio booths are available for broadcasters who have audio programs originating in the Centre, and each is provided with an announce booth and wire line facilities.

Sound Control is an area set aside at the rear of the balcony where an operator with "golden ears" will "mix" up to 21 microphone signals and adjust the overall frequency characteristics of the signal fed to the auditorium loud speakers, which are mounted above the proscenium arch and the first ceiling splay.

Provision has been made to convert the auditorium system to three channel stereophonic sound by the simple addition of components, if this should become desirable.

Communication throughout the production area is provided by an intercommunication set with control by the stage manager; and telephone communication is provided by both a house system and numerous Bell Telephone extensions.

Inherent in the location of the site at the corner of Yonge and Front Streets is a noise and vibration problem caused by the trains to the south, the subway to the northwest, and truck traffic on four sides. Extensive investigation of vibration at the site and observations in existing buildings adjacent to the subway showed that the vibration would not be a problem with the deep and heavy foundation which the structure required, and that noise would be adequately screened by double isolated walls.

To this end the walls of the stagehouse and that portion of the auditorium which projects above the surrounding service area are double, with an air space between. Wherever it was necessary, for structural reasons, to couple the walls together, it was done through vibration and sound isolation connections.

The roof also is double. It is formed of two relatively light layers of preformed concrete planks isolated one from the other. The two layers of planks are structurally different so that the natural frequency of one differs from that of the other. Thus while one layer may be relatively transparent for sounds of a given frequency, the other will be relatively opaque at that frequency.

Where the auditorium is surrounded by service areas, two walls are inherent in the structure. The service areas provide the isolation between the walls, except at floor level where the floors with the walls form an extremely stiff barrier, through which the transmission is very small indeed.

Because it is possible to use the auditorium and the lower foyer simultaneously, but with different programs, they are isolated one from the other by two concrete slabs, separated by a fiberglass blanket.

Inside the Centre, mechanical equipment is probably the chief source of noise. As far as possible the heavy equipment has been segregated at the south end, well away from the public areas. Air handling fans have been concentrated in three areas close to the auditorium from which they are separated by double walls. All fans, motors, pumps, etc. are effectively isolated from their supports to insure that mechanical vibration will not enter the structure. Air ducts are lined with acoustical absorption to prevent mechanical or air noise from being transmitted from the fans into public areas.

Virtually all ceilings in both public and service areas are treated with sound absorbing material, while the lounges and the foyer are carpeted. Thus noise due to occupation is kept to a minimum, and heavy metal-clad doors with effective seals around all edges insure that the residual sound does not reach the interior of the auditorium.

Within the auditorium rigid specifications of permissible noise level insure a quiet environment, while carpet on the aisles and in front of the seats eliminates most traffic noises.

Basically an auditorium has been provided free from interfering noises, and shaped to permit sounds from the stage to reach the patrons directly. Reflected sound has been controlled in direction and in duration, for speech and music to be heard under advantageous conditions.

Mechanical

BY G. GRANEK

It was determined that flexibility, in response to varying demands, had to be keynote for our design considerations. The building is a multi-purpose centre which will look after roadshows, ballet, opera, lectures, concerts, movies, TV and other uses. Since some of the areas, or even only parts of the auditorium, may be in use when other areas are empty, quick response to the varying thermal load had to be embodied in the design concept. To meet the requirements of great flexibility it was decided to use separate air handling units for each major zone. Ease of maintenance and noise and vibration isolation suggested concentrating the mechanical equipment in as few areas as possible, and as remote as possible from important occupied areas such as the auditorium and the stage. On the other hand, consideration of first cost suggested the location of air handling units as close as possible to the area supplied, and to the outside air source, to keep the supply air, fresh air and exhaust air ducts to a minimum length. As a compromise, three fan rooms were arrived at: two rooms at the east and west of the auditorium respectively and one at the north, containing all the air handling equipment for the building.

Cooling for the building, with the exception of the administrative or office wing, is provided by chilled water supplied by two 450 ton capacity hermetically sealed centrifugal compressors. These machines can be operated independently or in parallel. Should one of these compressors be out of order during a peak load performance day, cooling for the auditorium alone can be provided by shutting off chilled water supply to the fan coil units serving other areas. Chilled water is conveyed to the air handling units from three pumps located in the basement compressor room. The cooling tower is winterized, using a steam coil in the base pan, thus refrigeration can be provided even during marginal weather, in the Spring and Autumn seasons, when sub-freezing weather can occur in the morning or at night while outside temperatures may reach 55 or 65 during the day time. The back stage dressing rooms with their very high lighting and people loads require a large air supply volume. They are served by supply plenums forcing air through perforated metal ceiling pans. Straight line diffusers located above mirrors and makeup lights serve as return air grilles. A high velocity, double duct system looks after the varying thermal demands of these areas, with individual room thermostats controlling mixing dampers in attenuator boxes for each separate area.

Since the office wing will be in operation at times, and for long periods, when the rest of the building is closed, an independent air conditioning system was provided, consisting of a 15 HP radial, direct expansion, compressor with a low speed motor and an air handling system with room control by reheat supplemented by wall fin radiation.

Air conditioning for the rest of the building is handled by four independent air handling systems – each consisting of a return (relief) air fan, fresh air plenum with three reheat coils in series, mixing plenum, electrostatic filters, cooling coil, humidifiers, reheat coil for each zone, and a supply fan.

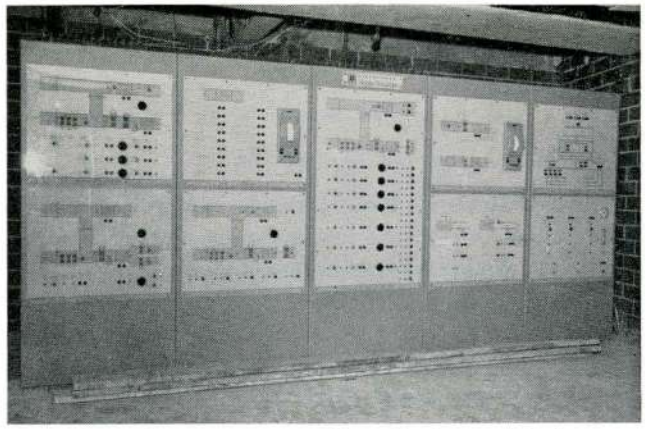
The auditorium is divided into three separate seating areas; the balcony, rear stalls below the balcony, and the orchestra stalls. For intimate shows the front portion of the auditorium can be divided off by a curtain. Three separate air handling systems serve these areas of the auditorium. Air distribution for the balcony and the rear stalls respectively is broken up into two zones each, in order to make allowance for the variation in height between sloping ceilings and sloping seats. The theory of air circulation adopted for the auditorium was to supply air from ceiling diffusers above and behind the audience, parallel to the ceiling plane, until the air loses most of its kinetic energy, drops, and slowly returns across peoples' faces back up to the return air openings located behind supply diffusers. This air pattern accomplishes two goals: it supplies air into the breathing zone across the faces of the audience without causing drafts along the most sensitive portions of the anatomy, necks and ankles, and it returns smoke laden air upward. The conventional method of using the return air plenum under seats in theatres was adopted for the orchestra stalls. Since smoking will not be allowed in this area and the throw of air to the orchestra stalls being abnormally high, the air supply pattern at seating level would be unpredictable.

Location and the type of air diffusers used in public areas required considerable study to suit the requirements of proper air distribution as well as aesthetics. In most instances, straight line diffusers of the aspirating type were selected. Due to the curved contours of some of the ceilings, special manufacturing methods had to be requested, followed up by special indexing and field assembly, in order to obtain the desired co-linear appearance of the frames and the blades of the diffusers. Individual sections are mitred and matched to present a uniform appearance. In some instances field cutting and measuring was required. Air supply and return requirements in the side lounges are very large. To avoid having the ceiling appear too "busy" special combination supply-return straight line diffusers were designed using the front portion of the diffusers for the supply and the rear portion for the return.

Due to the close proximity of the building to the railway tracks, and downtown and highway traffic, good filtration was considered very important. All air conditioning supply units are equipped with electronic filters with a minimum efficiency of 98%. These filters are equipped with a semi-automatic washing cycle with motorized moving washers and adhesive applicators. After filters are provided to prevent any of the moisture, remaining on cells after wash down cycle, from being transmitted into the ducts.

Due to the strict requirements for noise control within auditorium, stage and other important areas, great care had to be exercised in the design of all systems, the distribution media, the selection of the equipment, and the components. All ducts and high velocities are kept at the acceptable minimum. Velocity through apparatus is kept to 500 feet per minute maximum. Fans, pumps and other equipment were selected for quiet operation, rugged construction and are mounted on concrete inertia slabs supported on 95-98% efficient spring isolators. All motors are of special silent "design" reducing magnetic hum bearing noises and other nuisance noise generated to the absolute minimum. All check valves are of the radial spring type, thus reducing water hammer to a minimum.

To air condition the stage presented the following problems: a tower of 60 ft by 100 ft area by 100 ft high encloses a maximum acting area of about 60 x 40 ft. With the asbestos curtain closed, due to the pressurization of the auditorium, it is essential to equalize this pressure on the stage side of the curtain in order to offset tendency for the curtain to billow and possibly suffer damage. Back drops and curtains may be of such flimsy material that the slightest air motion may cause undesirable movement of the material. No perforations can occur on the stage floor because of the possible use for ballet or dancing. The thermal load on the stage may vary from a single occupant in near darkness, to a full opera company acting in front of stage lighting up to 90 watts per square foot of stage floor areas (the latter requirements set up by the owner's request to provide for future color TV productions). Noise control is even more critical than in the auditorium. After many discussions with the architects and the stage consultants, permission was obtained to requisition five vertical avenues below the gridiron. Borrowing from experience gained in air conditioned studios the following system was designed. Trunk supply ducts running around the perimeter of the stage tower supply five parallel branches of ductwork running at the gridiron each with its own volume control dampers, remotely controlled from a small panel at the stage floor level. Branch ducts in turn serve air outlet boxes suspended from flexible hose ducts dropping through the gridiron. These flexible hose ducts are counterweighted and suspended by special guy wires, and can be raised or lowered at will from the fly gallery panel. Air outlets will be through boxes equipped with motorized dampers, allowing volume control as well as changes in direction of air pattern to suit back drops and scenery changes. A central control panel on the stage will allow control of air direction in 54 different sub-areas on the stage. Return air will be carried at high level, along perimeter walls of the stage tower. Although the flexible ducts can be raised out of sight and left suspended high above the proscenium, it may be necessary to disconnect portions of stage ductwork to suit rigging for a particular show. For this reason, all branch ductwork extending across the stage is of bolted construction, allowing disassembly and storage of sections of ductwork. To prevent downdraft from the 100 ft stage tower wall to spill into the orchestra seats, extended wall fin radiation is placed along the backstage wall.



Supervisory data centre, at which all air conditioning controls can be registered and re-set.

Since the use of wall thermostats was objectionable to the architects, return air sensing devices located in concealed locations are used throughout the building. In the engineer's office, a central graphic control panel acts as a nerve centre for the whole building. Remote indicating pilot lights show when motors are operating. Temperature indication can be achieved for 130 different points. Thirteen miles of thermocouple wiring from the panel to the thermocouples, generally located in return air ducts, allows instantaneous checking on temperatures. Thermocouple settings can be altered from this panel simply by turning a knob; 35,000 feet of special cable alters these temperature settings. Graphic representation of the different systems allows an easy visual check for the operating engineer.

To prevent downdraft created by large glass panels in offices and side lounges, extended wall fin, protected by special bronze enclosures, are located between window mullions. Vestibules and side entrances are heated from recessed, cabinet unit heaters.

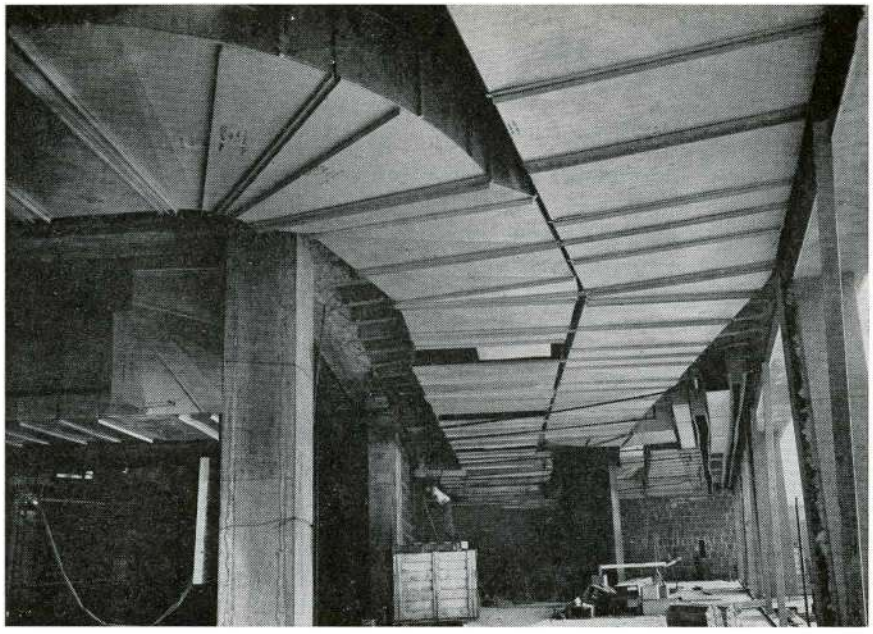
In air conditioned areas, heating is a part of the air handling systems. Steam to coils is supplied from three low pressure internally fired, fire tube boilers, equipped with forced draft rotary cup burners. Three chimneys, terminating above the low roof section, are concealed behind a steel enclosure.

Snowmelting systems for ramps and entrances to this building, using buried wrought iron pipes, ensure easy access in the winter time.

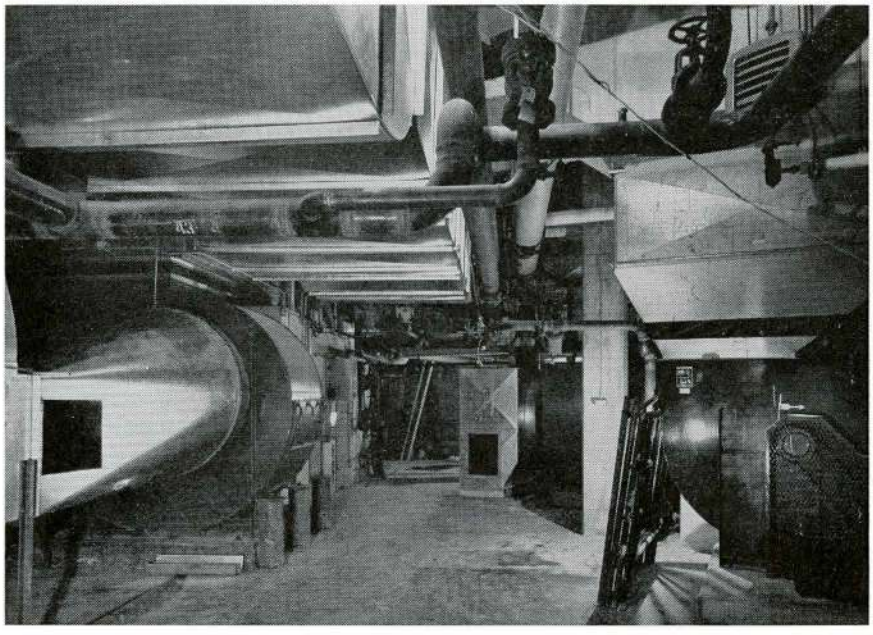
To reduce noise to a minimum, special quiet flush valves were selected for water closets and shock absorbers were installed in water feeds to all fixtures. All fixtures are wall-hung type for easy maintenance. Public washrooms have concealed flush valves with recessed pushbutton control for water closets. Urinal tanks and soap tanks are located in pipe spaces or janitor's closets, with concealed piping serving fixtures.

The sanitary drainage is split. All backstage drainage enters the suction side of the City Sewage Pumping Station on Scott Street. In order to avoid having washroom facilities for the public front stage area dependent on motor driven sewage pumps, permission was obtained for the sewer to empty into a Metro trunk sewer under the centre of Front Street.

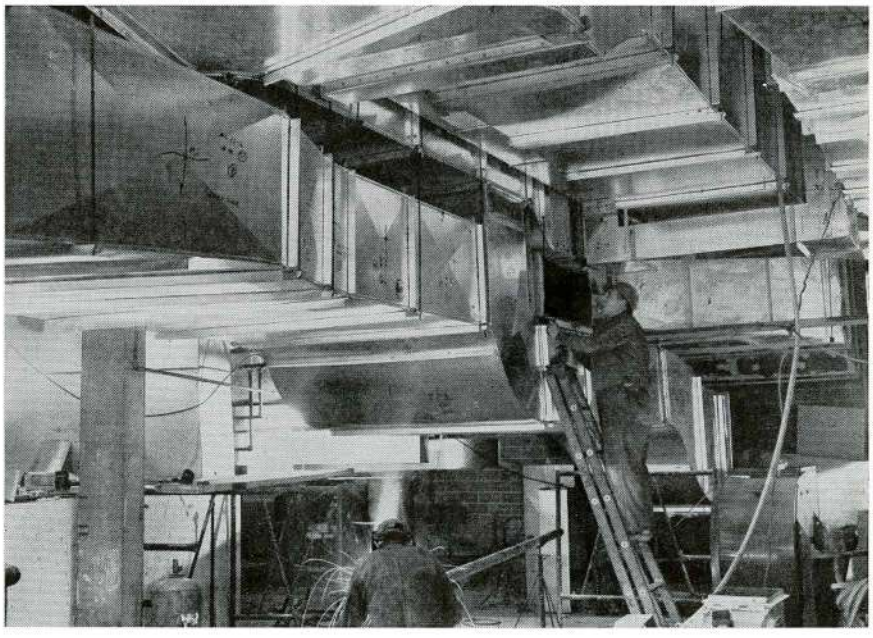
Duct work in west lower ground floor side lounge



A typical mechanical room installation



Duct work installation



Structural

BY M. S. YOLLES

Structurally, the building is divided into three parts: (1) the front house area containing the auditorium proper; (2) the backstage area consisting of the stage tower, the west wing for dressing and rehearsal rooms, and the side stage to the east; and (3) the boiler room area, located to the southwest of the backstage area. (See figures 1 & 2).

Four main factors governed the structural design: (1) soil condition; (2) functional and aesthetic requirements; (3) mechanical, electrical and acoustical requirements; and (4) unusual architectural features, such as the main entrance canopy and the structural Granox stairs.

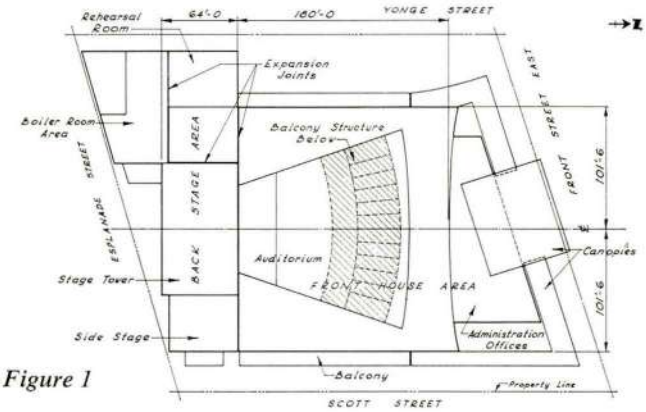


Figure 1

The soil over the entire site consisted of fill to a depth of approximately 16 feet. Immediately below the fill characteristic Dundas shale was encountered. In the front house area, the lower ground floor is approximately 12 feet above the shale. Here caissons, founded on shale, were employed to support the structure. Incidentally, for the historically-minded, it is interesting to note that the original shore line of Lake Ontario ran through the northerly part of the building. In the process of excavating caissons a number of well-preserved timber piles were encountered which formerly supported wharves. In the backstage area and boiler room, the basements extended into the shale and as a result footings on rock were used. The basement floors in these areas were below the watertable, so that structural slabs were used to resist uplift pressure. These were waterproofed with metallic waterproofing. All mechanical services below the basement slabs were carried in waterproofed trenches. Foundation walls were metallic waterproofed on their interior faces.

Among the functional requirements in the front house area were a large covered entrance free of columns, adequate foyer areas, a wedge-shaped auditorium area seating 2,100 persons on the ground floor and a balcony seating 1,030, both free of columns, as well as various ancillaries, such as mechanical rooms, washrooms, stairs, etc. These areas, of course, required air conditioning. Acoustically, the interior of the auditorium was to be designed in such a way as to allow for adjustments, which would provide satisfactory sound ranging from the single voice to the performance of an opera. In addition, the skin and roof of the auditorium had to be designed to prevent the intrusion of exterior sound, particularly from a concentration of railway lines 100 feet to the south of the site.

The structural system chosen to achieve cover for the entrance area was to employ reinforced concrete ribs and slabs cantilevering 52 feet from their supporting girder over the entrance. Ribs were 78″ deep at the support tapering to 12″ at the free end. (See Figure 2). A complex system of cambering was built into the forms for this canopy, because, due to the nature of support for the ribs, the anticipated deflection of the free end of each rib was different varying from 4″ to 6½″. The foyer areas, which in most cases are free of columns, are framed in reinforced concrete. Flat slabs were used where the spans were moderate and shallow concrete joists were used for greater spans. The maximum depth of joists was 17″ for those spanning a distance of 38 feet at the main foyer roof. This type of framing was adopted to allow the maximum depth for the extensive mechanical ducting within limited floor to floor heights and because of its proven economy.

The roof structure over the auditorium had to be of the form required by the Architects, to be free of columns, to interfere as little as possible with the passage of mechanical services and cat walks and, finally, had to support the rather heavy double roof slab required for acoustical purposes. Extensive studies were made of various framing possibilities which would incorporate the above requirements, including thin shell concrete and folded plate concrete, but it was determined that the conventional solution of a structural steel truss system was the most desirable, both functionally and economically. The double roof slabs consist of an inner skin of shallow heavyweight precast concrete slabs (low frequency, high mass) and an outer skin of deep lightweight precast concrete channel slabs (high frequency, small mass). The skins are separated by insulation pads and shims. The roof slabs are supported on secondary steel trusses or steel purlins which in turn are supported on trusses framed as shown in Figure 2. The other ancillary areas of the front house are framed in reinforced concrete, primarily flat slabs.

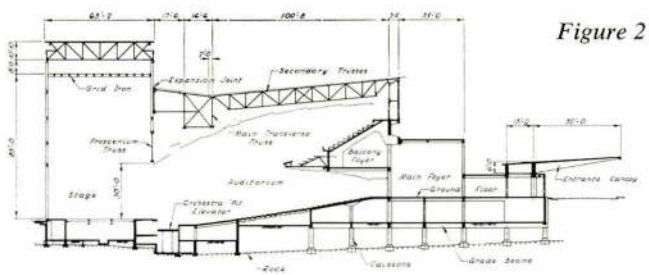
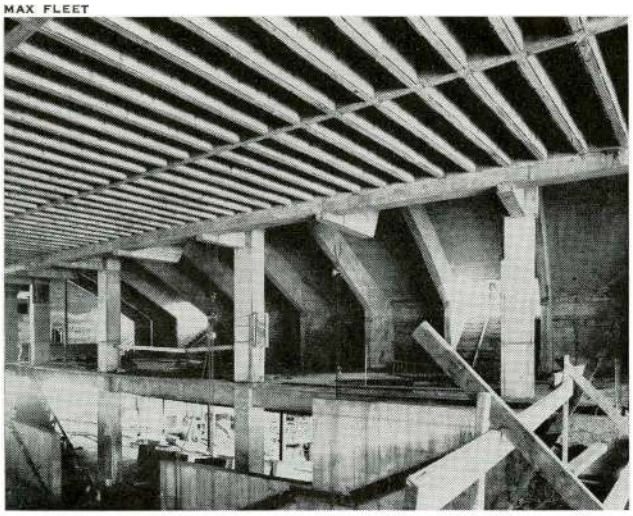


Figure 2

The balcony structure is the most interesting structural feature in the building. The conventional structure used for a balcony such as the one in the O'Keefe Auditorium would consist of a main structural steel truss spanning the approximately 160 feet across the back of the auditorium and supporting a secondary system of sloped cantilevered trusses or beams. Furthermore, in order to gain sufficient depth for the main girder, it would be located back a considerable distance from the leading edge of the balcony. Because of this and because of the necessity to properly locate lateral bracing for the truss, considerable amounts of area are lost in the space made up by the inclined balcony slab and the balcony foyer slab. (See Figure 3). As this important area was required

MAX FLEET



View showing the interior of the balcony box girders. Note the stiffening ribs, vomitories and supporting columns along the north.

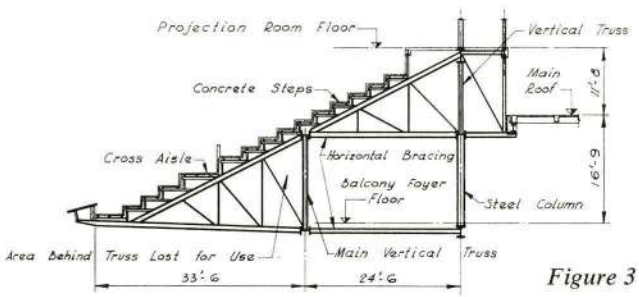
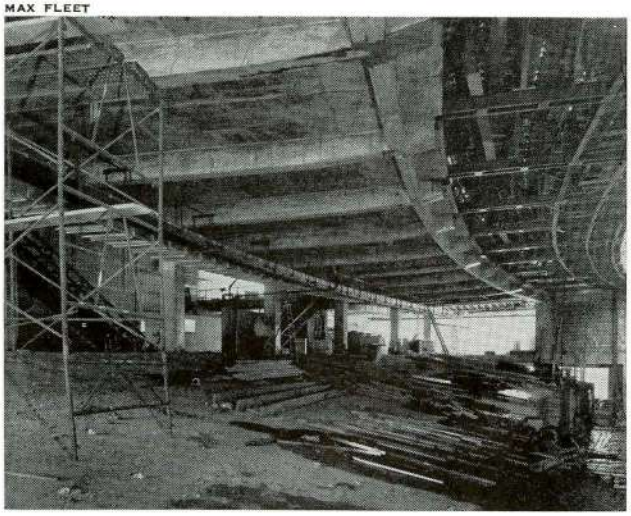


Figure 3

MAX FLEET



View showing the underside of the balcony box girder from the auditorium floor. Note the structural steel cantilevered brackets.

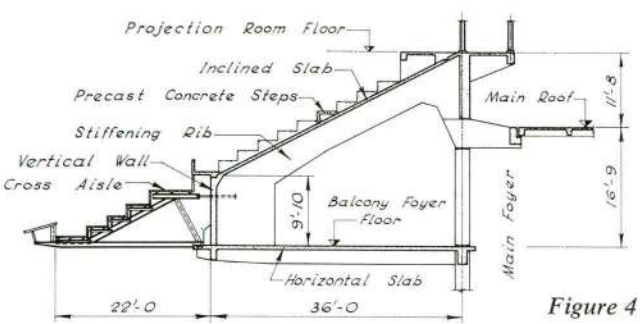


Figure 4

for washrooms and other facilities, the conventional approach proved unsatisfactory. It was concluded that a giant reinforced concrete open box girder spanning the 160 feet, which would increase the amount of usable space, would prove to be the most desirable solution, if such a girder could be made to work. Such a solution was complicated by the large vomitories opening onto the balcony at specific locations. Calculations proved that the proposed solution was feasible.

The girder consists of the inclined slab of the upper part of the balcony and the horizontal slab of the balcony foyer below, which are made to act together by the insertion of a vertical wall along the balcony cross aisle at the south. (See Figure 4). At the north, the box girder is open and the inclined and horizontal slabs are supported on reinforced concrete columns, whose upper extensions carry the structural steel trusses of the auditorium roof. The girder is curved on plan, to conform to the curve of the balcony, and is closed and supported at its ends by heavily reinforced concrete walls. Each wall in turn is supported by two columns, so that the entire balcony structure, with the exception of the columns along the north, is supported by only four columns. The system of slabs making up the girder is stiffened with ribs at approximately 12-foot intervals, the spacing being dictated by the location of vomitories and the spacing of the columns at the northerly edge of the balcony. The portion of the balcony to the south of the box girder is supported by a series of cantilevered structural steel triangular frames. Steel was used here in order to reduce dead load. The horizontal slab of the box girder forms the tension zone of the system and is heavily reinforced. A large amount of inclined reinforcement is also used in portions of the vertical and inclined slabs and in the end walls to resist the very large shear forces. The seating steps of the balcony are formed of lightweight precast concrete. Calculations indicated that the deflection of the box girder would be in the order of $1\frac{1}{4}$ inches at midspan. Measured deflection at the point was $\frac{3}{4}$ inches, which indicates that the system is somewhat stiffer than predicted.

It is believed that the use of an open box girder of this magnitude is a unique solution to the problem of supporting a balcony. Though structural calculation and construction are comparatively difficult, it is felt that the advantage gained in being able to use considerably more floor area within the balcony warrants this type of framing in similar structures in the future.

The backstage area basement and stage slabs are of reinforced concrete, principally flat slab construction. The stage tower, extending 104 feet above the stage floor, is framed in structural steel and for sound insulation purposes is of double wall construction. A grid from which scenery is flown is suspended from the 10-foot deep roof trusses.

The stairs in the main foyer leading up to the balcony foyer and those in the side lounge are composed of polished Granox with a structural steel plate core. They are fabricated in units consisting of a tread and a riser. The units are cantilevered from reinforced concrete walls; the connection to the wall is by bolting to plates cast into the wall. The individual units are made to act together structurally by welding of the core plates at the junction of the riser and tread.

Electrical

BY JACK CHISVIN

If ever the opportunity for using light as a building element existed, it did so in the construction of the O'Keefe Centre. The designers were able to use light to paint and draw with, to apply it in its static form as well as to utilize light in motion in the design of the stage lighting. Here there was a true collaboration between architect and engineer in enlisting the force of light in the service of architecture. The design of the lighting not only provides the necessary illumination for the visual tasks to be accomplished but determines the entire architectural configuration of the space and controls the important psychological effects by its color and atmosphere. Light was used to create mood. It is beyond the scope of this article to deal with the entire electrical installation and all the lighting in the whole building; let us rather examine the design of the lighting in the main foyer, the stage lighting and the exterior lighting.

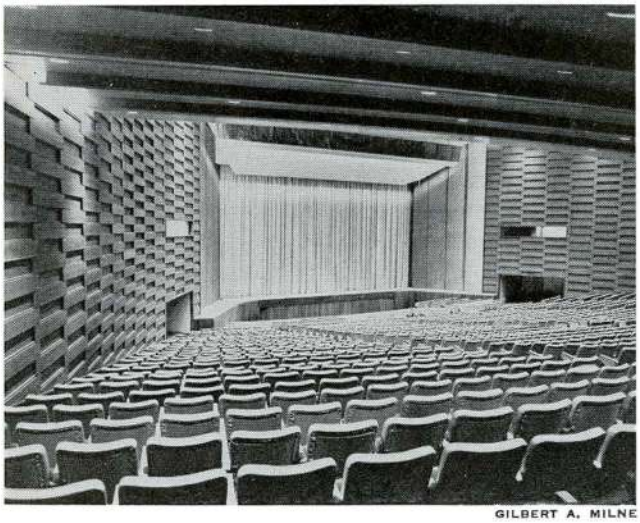
In the main foyer it was necessary that the lighting give us a clear and vivid impression of the space, and that preferably the sources should be concealed. Concealing the source of the main lighting was accomplished by integrating the architecture and the lighting. The high ceiling consists of a series of plastered barrelled vaults and these vaults are utilized to support and conceal the lighting sources. A continuous bronze lighting fixture runs along the intersection of each section of vaults, and in these bronze fixtures fluorescent lamps are mounted end to end. A small percentage of the light output of the fluorescent lamps filters through an albalite glass lens on the underside of the fixture, however, the greater part of the light of the lamps is directed into the vault and in turn is reflected down to the floor, thus the vaults in fact, become a total luminous source.

The ceiling for all intents constitutes an indirect method of lighting; however lighting of this type leaves something to be desired. The effect is rather flat and what is missing is the enlivening sunbeam, the supplementary component of direct light. To effect some sparkle and glitter, recessed down lights are employed to supplement the lighting from the luminous ceiling. In order to achieve the harmonies of intensity and avoid discord due to the harsh contrasts between the indirect lighting component and the direct down light, the recessed incandescent units are fitted with lenses, which have charcoaled risers, thus making them a direct source which, when seen from the normal viewing angle, are of very low brightness. To further reduce sharp color contrasts in mixing fluorescent and incandescent sources, the fluorescent tubes are all warm white, which comes closest to reproducing the colors of the incandescent lamps.

York Wilson's by now famous mural of the Seven Lively Arts covers one entire wall of the main foyer. It was imperative that this mural be highly but uniformly illuminated so that the bold colors would be reproduced as the artist envisioned them. The fixtures for illuminating the mural are concealed in a ceiling cove at the point of intersection between the ceiling and the wall. The lighting consists of PAR-38 lamps on 8″ centres. These lamps are alternatively 150 watt floods, 150 watt spots and 300 watt spots with each lamp carefully aimed and directed so that it covers a prescribed area of the mural. It is interesting to note that to adequately light the mural requires 30 KW of power, which is equivalent to the total power demand for approximately 10 normal residences. The necessary exit lights and other directional lights in the main foyer, as well as throughout the entire building, are specially detailed and designed so that they subtly and inconspicuously become a part of the architecture.

The design of the stage lighting was perhaps the most challenging aspect of all the lighting in the theatre. Although the designers were not required to light a particular show, it was necessary that the facilities of the stage lighting be such that it would be possible to light

House lighting illustrating high intensity illumination over the seating area with low brightness sources.



GILBERT A. MILNE

Stage lighting remote operating console and pre-set panel (Mr J. Fuller, stage electrician at the controls).

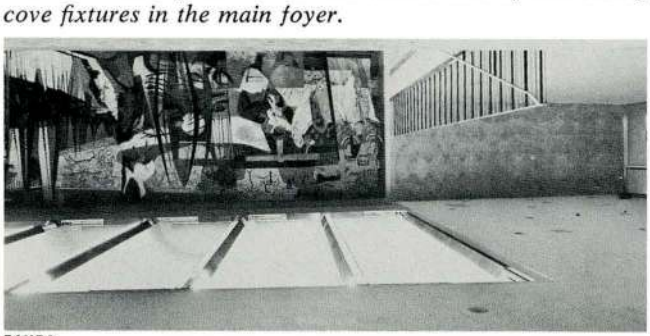
GILBERT A. MILNE

each show and every show ranging from soloist to full symphony orchestra, from intimate theatre to grand opera, from ballet to television productions. Stage lighting underlines the literary and portraying side of any performance, it enriches and deepens the work of the artists involved, and offers a spectacle that should never fail to find an appreciative audience. The success of stage lighting techniques depends not only on the proper selection and location of lighting instruments, but, to a great deal, on the method of control of these instruments. The O'Keefe Centre is equipped with two fully independent systems of stage lighting control. One system employs silicon control rectifier circuits to effect the light dimming and the other system employs motorized auto-transformer circuits. The first system is used principally for the production of dramatic theatre, whereas the second system is used for the performing of orchestras or soloists.

The silicon control rectifier dimming system was selected partly because of its instantaneous response. In a dramatic production a scene could reach a point of climax and if the response of the lighting effect were not fast enough to support the performing actor, it could very well destroy the entire mood and characterization established by the actor. The silicon control rectifier dimmer will operate in twenty cycles which is one-third of a second. The only real limitation to the speed of the change in light is the time of filament decay of the large incandescent lamp.

This light control system has four main elements: the dimmer rack, the stage patch panel, the remote control console and the scene pre-set panels. The main dimmer rack is located in a substage area and contains 48 5-KW circuits and 48 2.5 KW circuits having a total capacity of 360 KW. The dimming circuits are run to a patch panel located on stage right. 540 individual lighting loads are also wired to the patch panel, where it is possible to patch or cross-connect any one or any group of the lighting loads into any one dimming circuit. The dimming circuits are activated or adjusted in intensity from a control console remotely located in a booth at the rear of the balcony. The operator at this console has a full view of the stage and, in the event of any light failure or deficiency occurring during a performance, can instantly make the necessary adjustments. Adjacent to the control console are two pre-set panels containing ten scene pre-set controls for each of the 96 dimming circuits. This enables the operator to remain at least ten light cues ahead of the performance at all times. Using the cue sheet as a guide the operator sets up the pre-sets in advance, singly or in groups, and then switches or fades in the proper sequence as required. This board provides 960 x 960 possible combinations of light settings. Thus the most complex light changes become a simple matter to accomplish. Together with the possibilities of cross-connecting or patching the different lighting instruments into the different dimming circuits, the flexibility of this entire light dimming control system is virtually unlimited.

Another view of the mural and installation of the ceiling cove fixtures in the main foyer.



PANDA

The auto transformer dimmers are motorized and are remotely operated by pre-set controls. The controls for these dimmers are located at the stage manager's position on stage, in the lighting control booth and in the movie projection booth. The capacity of this system is 175 KW. The house lights and the stage lighting used for concerts are controlled by the auto transformer dimmer system. Auto transformers were selected because of the possible long time range in controlling the lights from full on to blackout, which is most desirable for such an application. The motors driving the auto transformers are geared to 14 seconds for full range travel. In order to avoid duplicating lighting instruments used for dramatic lighting, which may also be used for concert lighting, certain designated instruments are wired through transfer switches, which permits their being controlled by either the silicon control rectifier dimmer system or the auto transformer dimmer system, depending on the type of stage presentation.

The theatre is equipped with a full complement of stage lighting units. In addition to conventional border lights, etc., located over the acting area on the stage, the design of the auditorium provides vertical wall slots, horizontal ceiling slots and enclosures in the balcony front for housing and concealing all the stage lighting units, so that during a performance the source of light is actually completely out of the view of the audience. High intensity carbon arc spotlights are located in the projection booth at the rear of the balcony. The footlights are the disappearing type and may be taken out of use without becoming a permanent obstruction on the stage apron.

The illumination around and on the exterior of the building is designed to create the feeling of gaiety and festivity which is usually associated with a theatrical performance, and is such that the approaching audience will be enveloped in excitement and be prepared for things to come once they enter the theatre itself. Most of the light sources used for floodlighting the building facades and entrances are incandescent, since in field tests incandescent proved to provide the best quality of light and gave the best color rendition of the bronze and marble building materials. The canopies leading to the main entrance are edge lit with a fluorescent fixture of special design and, when viewed from some distance, seem to direct you to the entrance and point out "This is it, this is the O'Keefe Centre".

The O'Keefe Centre

BY HERBERT WHITTAKER
Drama Critic of The Globe and Mail

Much of the great excitement attending the opening of the O'Keefe Centre was certainly because a new theatre – not a cinema, not a community hall – is such a rarity on the Canadian scene.

There have been Robert Fairfield's remarkable concrete tent at Stratford, the two Jubilee Auditoriums in Alberta and the Queen Elizabeth Theatre in Vancouver, but before them was a very long stretch of time in which no theatres were built in this land. It was such a long stretch that the wonder is that architects remembered how to build them.

To be frank, there was a rumor that the architects had forgotten. It probably sprang from seeing so many new school auditoriums, complete with windows even on the stage, with tiny dressing rooms, no storage space, high prosceniums and hardwood floors. They suggested that the modern architect wasted no time observing theatres.

It was a sad combination of circumstances which cut off the demands for new theatres four decades ago. The popularity of motion pictures, especially when they learned to talk; the radio, the increase in freight rates – all combined to put the legitimate theatre out of the touring business here.

It was a remarkable achievement that Toronto, of all the cities in the country, managed to remain a theatre-town for touring attractions, even after it lost all of its houses except the Royal Alexandra. Between that distinguished building and the Little Theatres (which are not theatres so much as basements, school halls or old churches) the ancient art of theatre was kept in practise.

When the novelty of radio, motion pictures and finally television wore off, it was perceived that they were not substitutes for legitimate theatre. They were, in fact, each interesting in their own way, but it was quite a different way.

So the need for theatres was felt throughout the land again. And so the architects have turned their attention to the problem: What is a theatre?

The answer is not easy. To some people, a theatre is the temple of a very ancient art. To others, it is a box-office surrounded by guesswork. To others again, it is a symbol of gaiety and enchantment. To a few, it is a public house of culture. And to many Canadians, it is simply a public house.

It all depends on your experience. Plainly, somebody who has never been in one is apt to suspect it of being a sinful palace of exhibitionism. On the other hand, those who were exposed to theatre at a tender age have the most glowing impressions.

Perhaps the most vivid image of a theatre is that of the high-galleried, gilt-and-crimson buildings which are the pride of so many European capitals. Here the audience hangs over the actor in dangerous expectancy, and the empathy runs high. No flick of the actor's eyebrow is missed, no stage whisper but sends chills up and down those spines so perilously perched on hard seats. The cheaper the seats, of course, the more dizzying the heights, the greater the discomfort involved.

To the Canadian architect who hasn't been hypnotized in one of these heavenly hell-holes at an early age, or at all, such conditions of viewing are naturally appalling. He is the product of a democracy, and a well-to-do one, at that. There must be room and comfort for everybody. The only difference between the most expensive seat in the house and the cheapest is that the latter will be further back. But the sightlines, even there, will be perfect. And there will, naturally, be no posts.

Moreover, there will be lobby-space, preferably with a mural, with marble, broadloom and soft pleasant lighting like the O'Keefe Centre.

Here you get one answer to the question: What is a theatre? A theatre is a place of light and beauty, in which there is room for all, a place one can approach with anticipation, preferably in one's best clothes. And when that anticipation is sharpened by the promise of a big

musical spectacle like My Fair Lady, it would seem that the architects of the O'Keefe Centre had hit it off perfectly and that the sponsors had got their $12,000,000 worth.

However, there is not just one answer to the question, as we have noted. Theatres have always come in different sizes, for different purposes. In fact, in London, at one time, it was possible to be sure of seeing a certain kind of play going to a certain theatre. If you wanted Shakespeare, you went to the Lyceum, if drawing-room comedy, Wyndham's, if it were to be spectacle, the Theatre Royal, Drury Lane.

It is still possible to follow this system in Paris and other European capitals.

No theatre suits all purposes. And without dimming one iota the glory of the theatre which this issue celebrates, we would like to hint that there is still work for architects to do in the new-old line of building theatres.

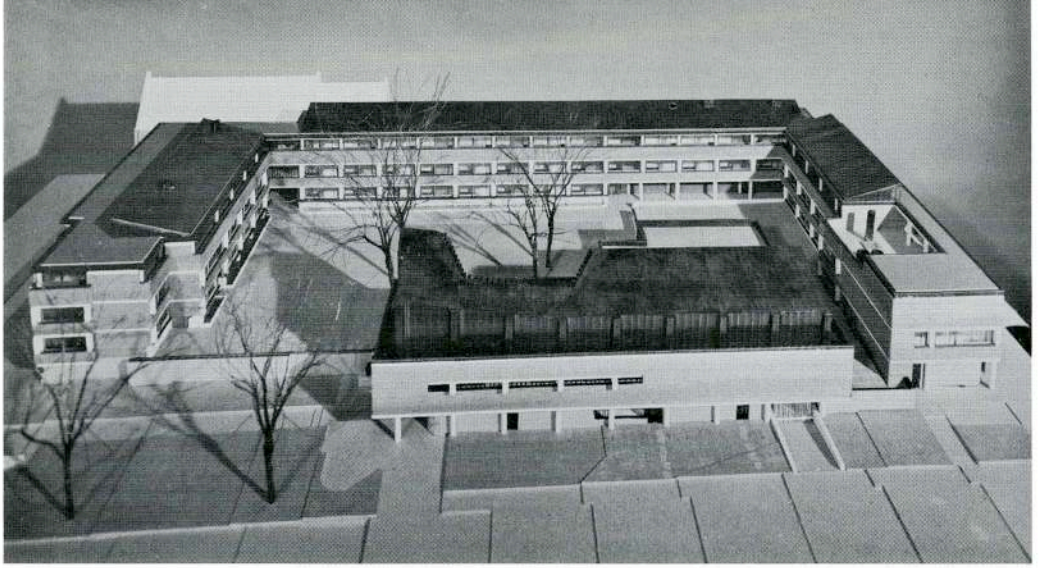
The generous, luxurious, comfortable Centre is in the tradition of Drury Lane – more so than we yet know. Because touring shows are self-sufficient, suspicious and so independent, we have yet to learn its true acoustical properties, or enjoy its full stage. I imagine the Metropolitan Opera, which comes from a home slightly larger than the Centre's 3,200 accommodation and needs no microphones, will satisfy us on both counts. Certainly the Royal Ballet will show us how spacious the new stage is.

When it comes to the theatre's less flamboyant charms though, we will not expect the Centre to turn itself into a jewel-box, no matter how accommodating it might wish to be. For "straight" plays involving no more than seven or eight people – and it is amazing how most of the greatest plays in the world have casts no bigger than that – we will be glad that we still have the Royal Alexandra, which is so much admired by the long line of distinguished actors who have played there.

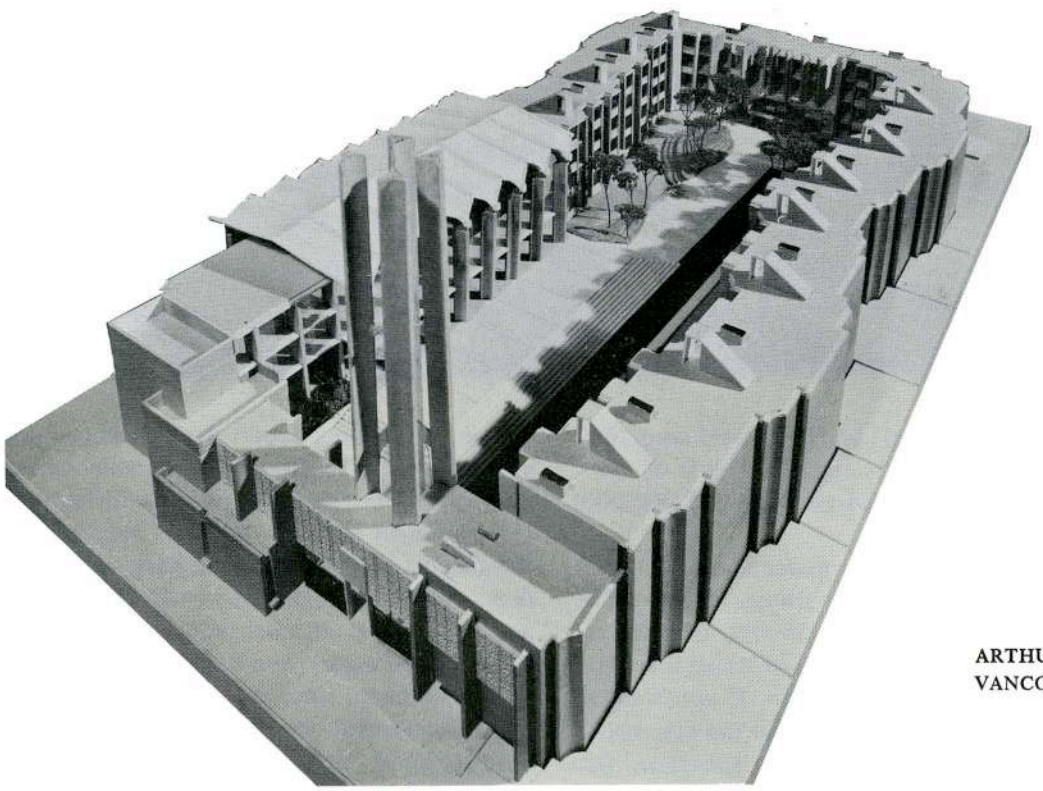
But although, since the opening of the O'Keefe, the Royal Alexandra has started to talk about itself as an intimate house, these two theatres do not fully meet the demand of a maturing metropolis.

Toronto needs several more theatres, of varying sizes. It needs an 800-seat home for the company now squeezed into the narrow, dull confines of the Crest Theatre. It needs several theatres of about half that size to house the really intimate plays and the tiny revues, for which Canadians have a penchant. Of course, the need for such a small, intimate theatre was recommended to the owner and architects of the O'Keefe, and one was included in the original concept of the Centre, but, reportedly, the additional costs made it prohibitive.

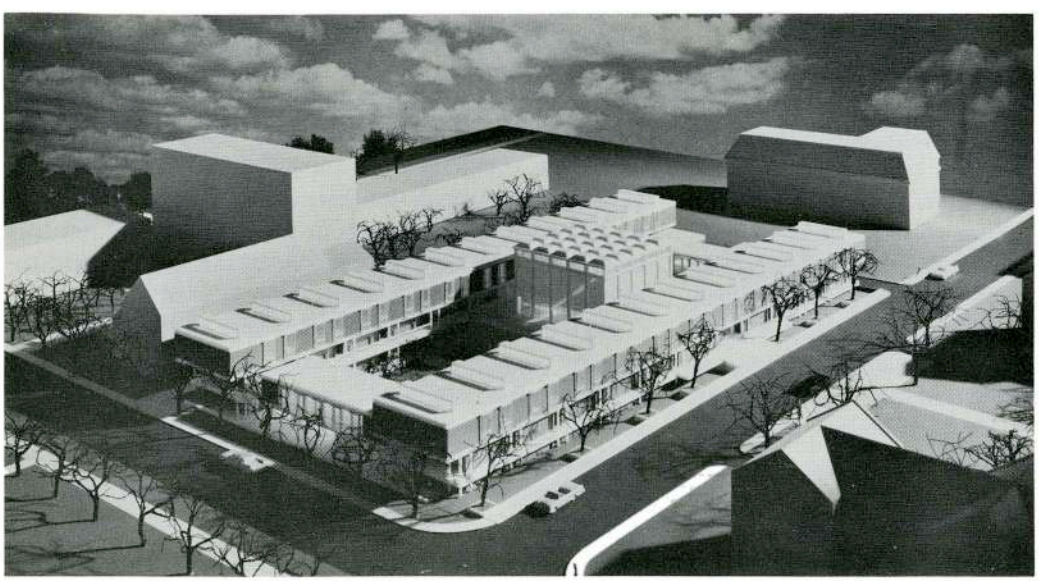
So there is work for architects here still. A visit to the theatre once a month, at least, can be accounted as research which might well prove very valuable. The only way to find out what a theatre is involves a first-hand knowledge of acting, of drama, of staging and of the rare empathy possible between the players and the audience.



CARMEN CORNEIL
TORONTO



ARTHUR ERICKSON
VANCOUVER



JOHN C. PARKIN
TORONTO

MASSEY COLLEGE COMPETITION

WHEN ONE THINKS of the many thousands whose lives have been enriched in Toronto by institutions like Massey Hall, Hart House, and Upper Canada College, one realizes our debt to the Massey family. The most recent generous gift of the Massey Foundation is Massey College in the University of Toronto, and it is of interest to us as architects, not only for its merits as a building, but for the means by which the design was achieved.

The search for an outstanding design by competition is not a new one in Toronto. Indeed, one can go back to 1842 when Mr Howard won a competition for the Bank of British North America. From there on in the century, we have contests for buildings as diverse as the Crystal Palace, Old St Paul's on Bloor Street, the Metropolitan Church, the Board of Trade and the Confederation Life buildings. More recently, successful competitions were held for Knox College, the main public library and the University Club.

It is, therefore, in keeping with a venerable tradition that the Foundation sought a design for Massey College by means of a limited competition.

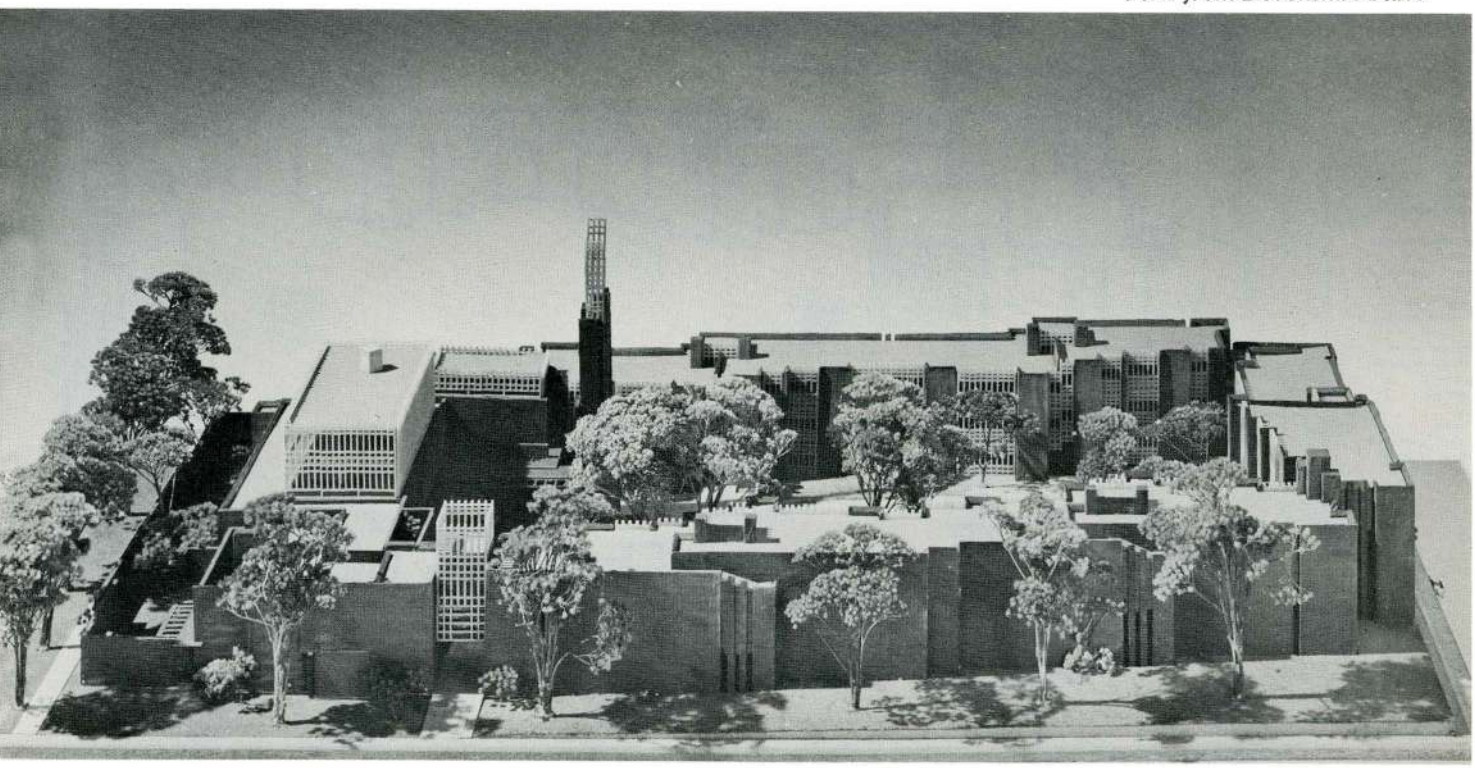
Mr Massey outlined the idea behind Massey College in a letter offering the gift last December – "The purpose of the institution would not be simply to house a group of graduate students but to select the best men available and to form a distinguished collegiate community."

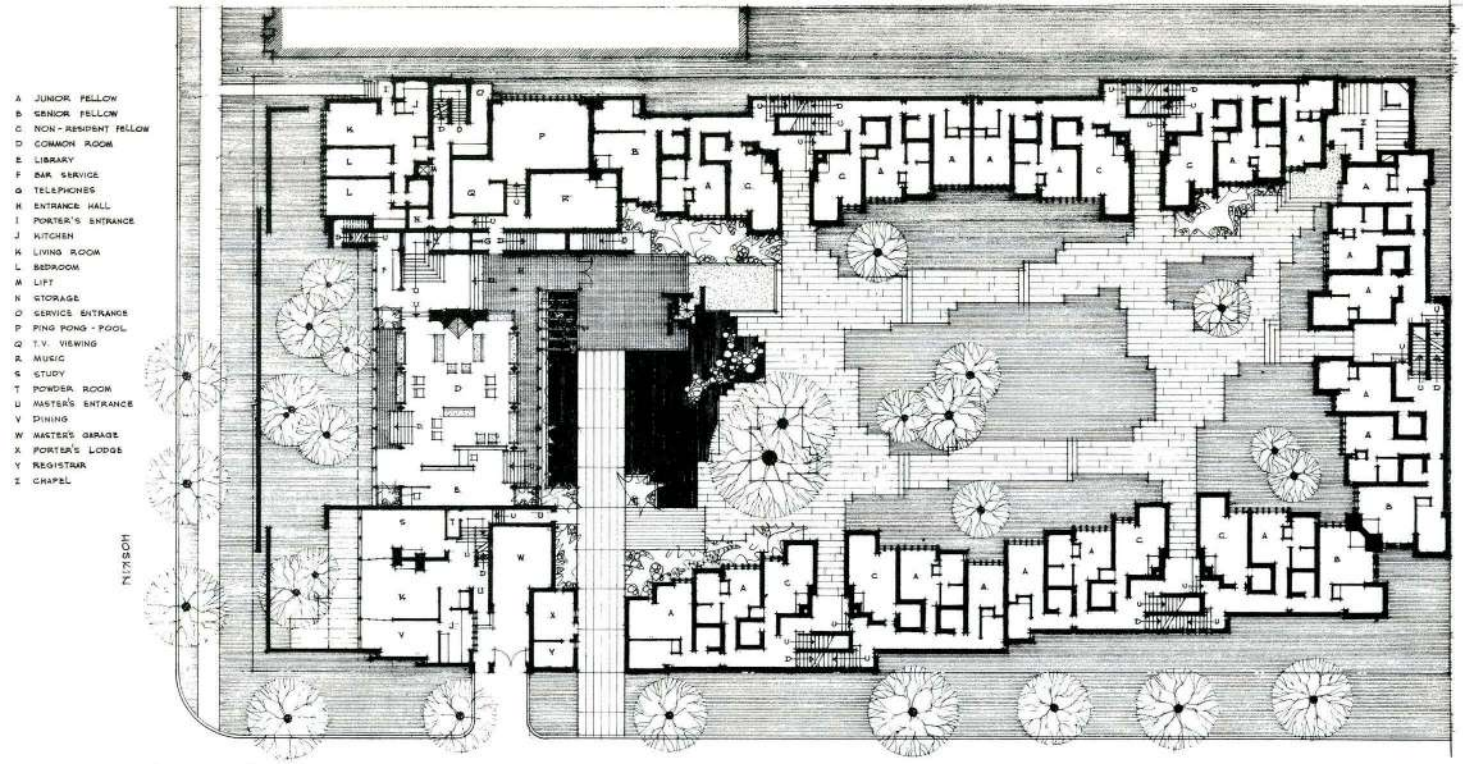
In his offer, Mr Massey also said: "The project we have in mind is prompted by the growing importance of the body of graduate students of the University, and we have been considering what might be done to give them fitting living accommodation and a sense of their common purpose and the responsibilities which, by reason of their advanced work, will rest upon them. We have come to the conclusion that our object can best be achieved by the establishment of an institution whose membership would be drawn from those graduate students of special promise, and that its organization – we would call it a college – should be such as to minister to the life of its members in every way. The students should represent a reasonable balance between the liberal arts and the sciences."

The problem set the competitors was to design a building to provide study and living accommodation for sixty-eight men graduates, as well as rooms for fifteen senior Fellows who will be members of the University faculty, a residence for the Master of the College, a dining hall, reading, library and common room facilities.

The site for the College was bounded to the east by Devonshire Place, south by Hoskin Avenue, north by St Hilda's College and west by Newman Hall Chapel. The lot was three hundred feet by one hundred and fifty feet with its longest dimension on Devonshire Place, a relatively quiet street by comparison with Hoskin – except on the occasion of important football games in the nearby arena.

View from Devonshire Place





Ground Floor Plan

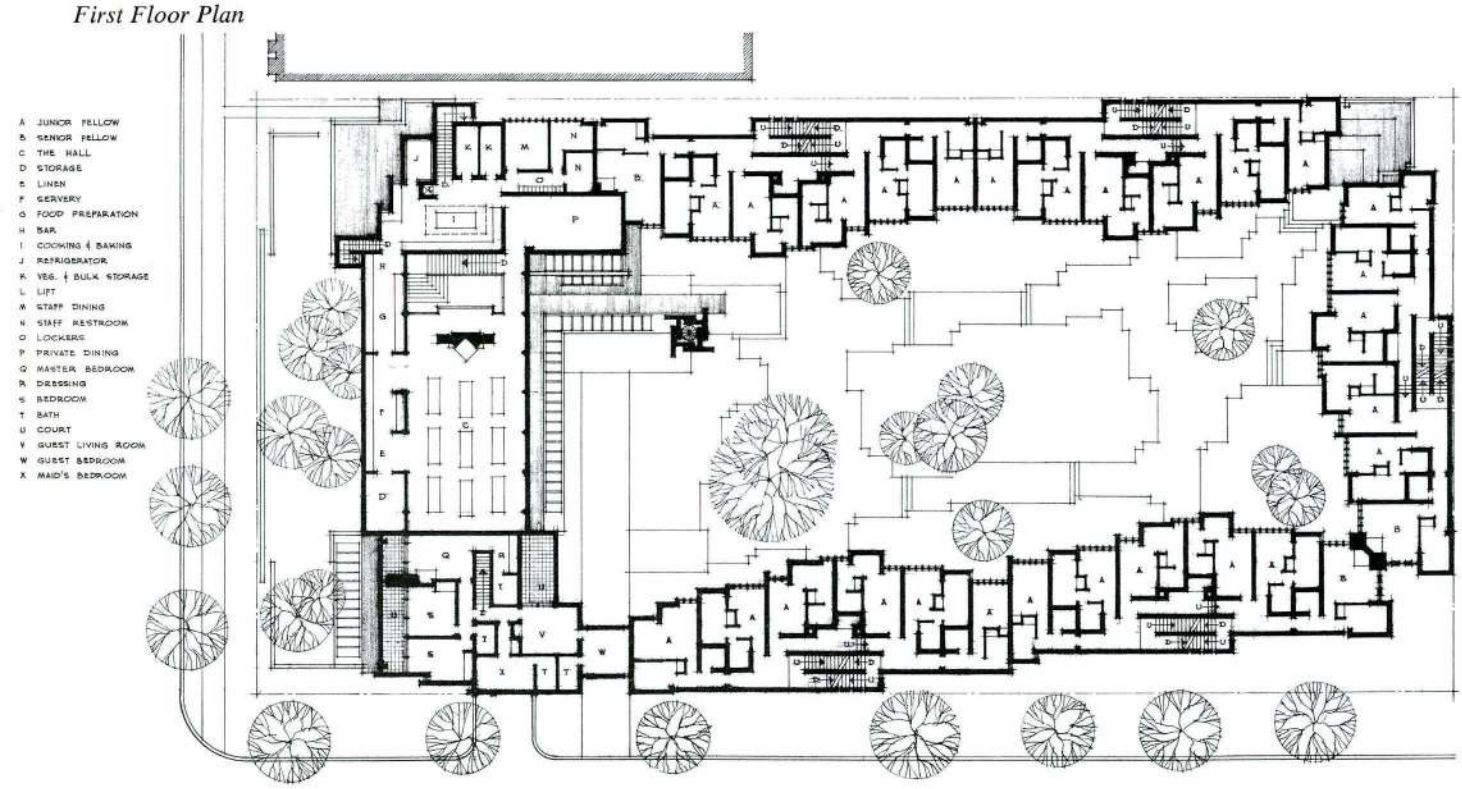
All four designs turn their backs on the madding crowd, and look inward on landscaped courts of which, regrettably, we have so little experience in Toronto. Mr Thom's scheme, in particular, is walled as effectively as Avila, and, to the delightful landscaping of the court, he has the added features of a tower and a reflecting pool, probably the only reflecting pool in Canada that will not be marred by cigarette packets and general litter.

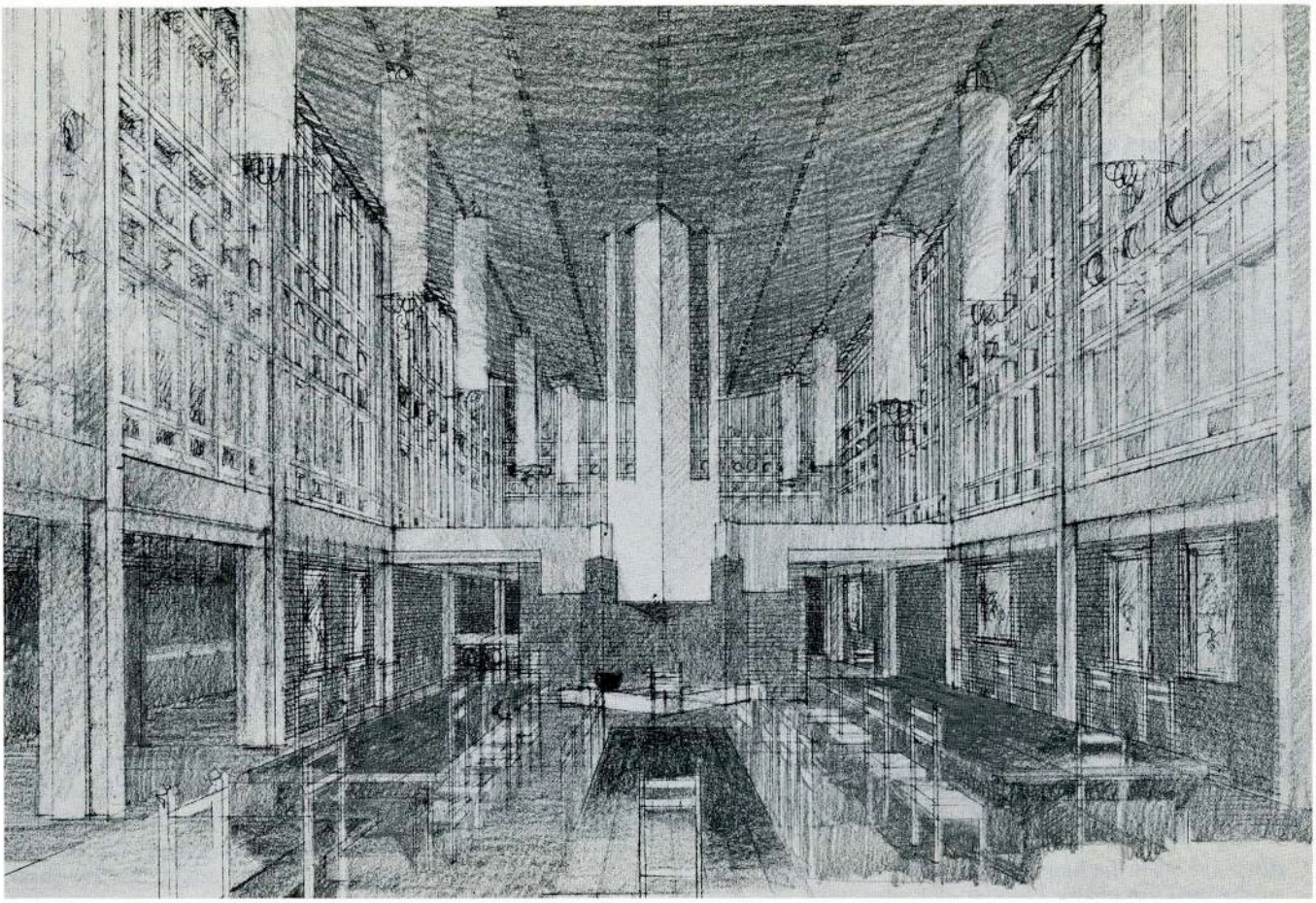
The Massey Foundation is to be congratulated on its courage to hold a competition, and, on the outstanding design which it produced. The competition was in two stages with the following competitors – Mr Carmen Corneil, Mr Arthur Erickson, Mr John C. Parkin and Mr Ronald Thom. The hearty congratulations of the *Journal* go to Mr Thom of Thompson, Berwick & Pratt, Vancouver, for his brilliant solution to the problem.

Trustees of the Foundation of which the Rt Hon. Vincent Massey C.H. is chairman are Messrs Raymond, Lionel, Hart and Geoffrey Massey and Mr Wilmot Broughall.

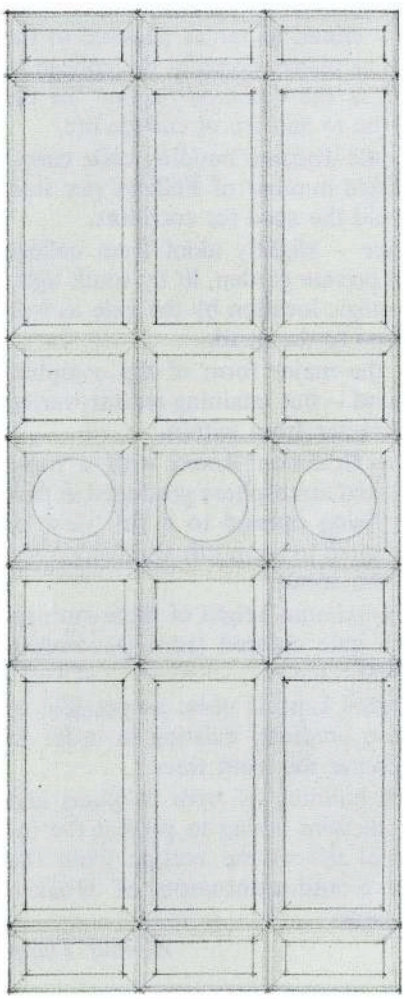
E.R.A.

First Floor Plan

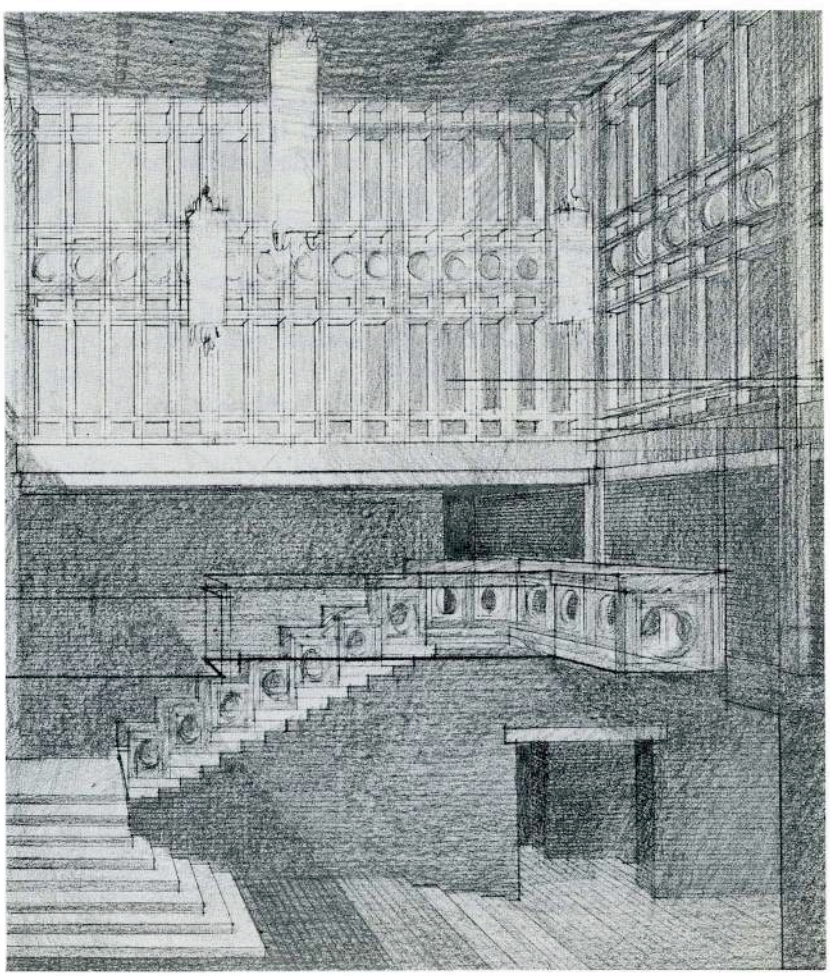


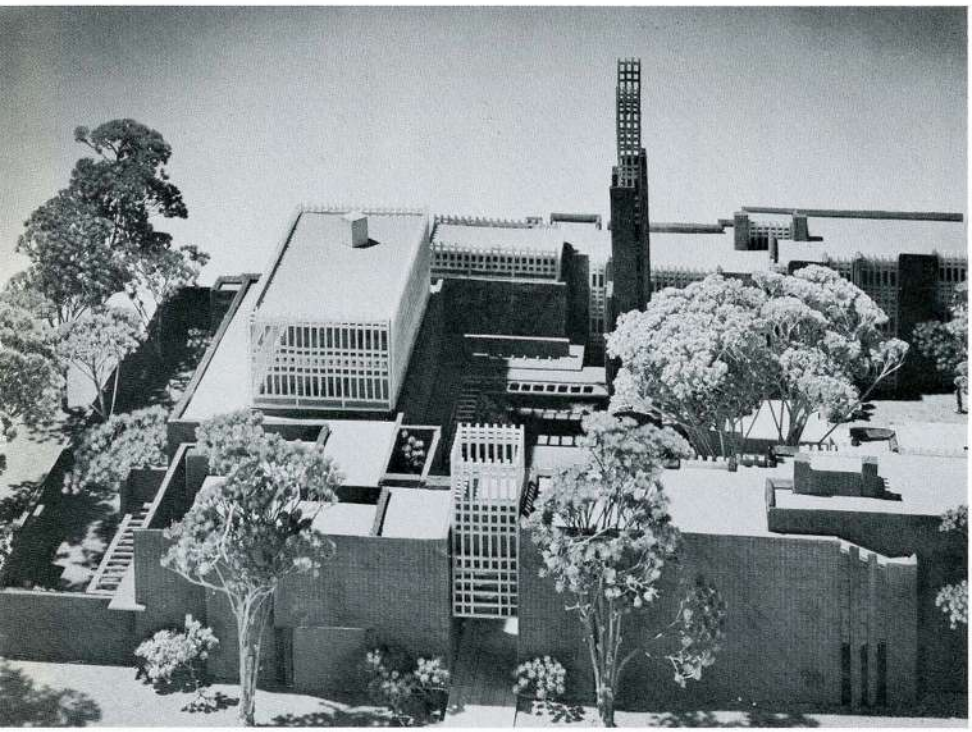


The Hall



Stairs to Hall





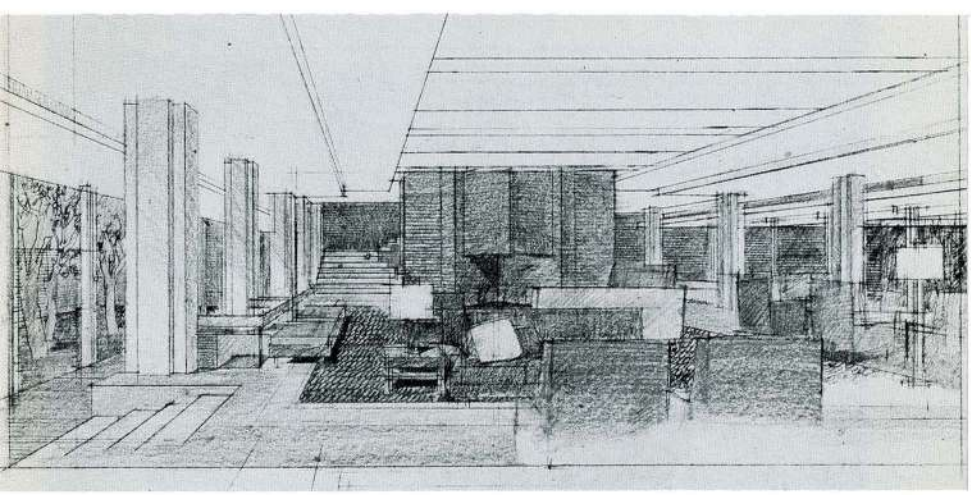
Birds-eye view looking west into the quadrangle. The entrance on Devonshire Place is also seen, with the Master's quarters in the lower left of the photograph.

This building should be capable of being seen in many ways, and of unfolding itself by degrees – probably never completely.

It represents, to the student within, a condensed piece of the world that must accommodate all his changing moods and attitudes. It should be as many things as possible to as many people as possible.

It is understood that the diversity of academic relationships undertaken within this building must be complemented by a corresponding diversity of space and interior paraphernalia. The over organization of elements would tend to endanger the natural growth expected of the life of such a college.

The Common Room



Architectural Comments

Planning configurations of the residences follow a regular system, to avoid disorganized and chaotic form. The historical function of this kind of college has been respected by an effort to re-state in today's forms the qualities conducive to this special form of academic life.

Fellows' rooms have a quality in common but are varied widely one from another. Living rooms and sleeping areas are more fully integrated than previously. This makes for a richer interior space while at the same time conserving the overall area.

A limited architectural vocabulary has been deliberately made common to the building as a whole. Individual parts are expressed by varying this vocabulary.

The drawings best express the concrete screens of the hall and the dormitories. It has been practically impossible to represent the concrete screens at this scale on the model and it must therefore be viewed as an expedient diagram.

In re-planning the College the following features were thought to be important and are retained:

The Quad as a quad – closed as far as possible to the outside – viewed from as many rooms of the college as possible – and used as the common "room" in the middle – carrying all the to and fro of college life.

Stairs that conform to the Toronto building code carrying the fewest practicable number of Fellows per stair in such a way as to avoid the need for corridors.

The Master's Residence – slightly aloof from college activity – with its own private garden, lit by south light, while still having a strategic location by the gate as well as an internal connection to the quad.

The Hall revealed as the major form of the complex, with light from all around – but retaining an introverted character from within.

The Common Room with a more relaxed atmosphere produced in part by being opened to a full view of the quad to the north and the garden to the south.

A maximum height of three storeys.

The gate entered from Devonshire Street.

Grades kept as close as possible to those presently existing in order to preserve the main trees.

The building by both its plans and its sections acting to protect the internal life of the college from the noise and confusion of Hoskin Avenue.

Ronald Thom

CANADIAN
BUILDING DIGEST

DIVISION OF BUILDING RESEARCH • NATIONAL RESEARCH COUNCIL CANADA

Fire and the Design of Buildings

by J. H. McGuire

UDC 699.81

Fire is one of the major hazards to life and property in buildings. Regulations in respect of fire safety therefore constitute a major part of every building bylaw. These regulations naturally influence the design of almost every building. Good building codes are based on the best information available, but since they must be written as minimum regulations, they inevitably contain compromises and some features that are almost arbitrary. The careful designer will not be satisfied with merely meeting minimum regulations but will wish to base his design on first principles. In this way he can hope to achieve fire safety as an intrinsic characteristic of his design and not something superimposed upon it and possibly conflicting with it. When this is done, the designer will almost invariably find that his design meets requirements such as those in the National Building Code of Canada and in various building bylaws. It is the purpose of this note to outline and to discuss these basic principles of building design in respect of fire safety.

The starting point in a design that is to be safe from fire must be a consideration of the risks to human life and property. These will depend on such factors as the probability of a fire outbreak and the proportions to which a fire in a building is to be allowed to develop. The probability of fire may be assessed, to a degree, from an examination of the statistical reports issued annually by the Dominion Fire Commissioner. In a very crude way, the probability may also be estimated from a consideration of the special risks that may be involved in the actual use of the projected building. The concept of determining in advance the extent to which a fire will develop before it is controlled or extinguished may appear to be unorthodox but, in fact, the design of the building, together with the availability of fire-fighting resources, will regulate this development within remarkably close limits.

The likelihood of fire and the extent to which it will spread will give an immediate assessment of the over-all property risk. An assessment of the life risk is not so simple but may be approximately formulated by considering whether the prescribed hypothetical boundaries of the fire will cut off the escape routes of the occupants of various parts of the building. It must be remembered that areas unaffected by the fire proper may well become dangerous as a result of the migration of smoke and must therefore be evacuated. Life safety in the immediate vicinity of the origin of a fire often involves a time factor and it is not possible to discuss this question quantitatively. Nevertheless, where time is important it can be said that suitable choices of wall, floor, and ceiling lining materials and the adoption of automatic detection techniques almost invariably reduce life risk.

Fire-Resisting Compartments

The feature that plays the greatest part in reducing the over-all fire risk in a building is the extent to which fire-resisting construction is used to divide a building into fire-resisting compartments that will contain a fire and prevent its propagating to neighbouring compartments. The effect of such construction on property loss is that direct damage is confined to the property in the compartment in which the fire originates. A similar argument applies to life safety and although occupants of compartments remote from a fire may have smoke problems there is every likelihood that no lives will be lost in these areas. The conditions in the

immediate vicinity of a fire will, of course, be substantially unchanged but the number of people involved is smaller and there is some likelihood that they will become aware of the fire before being trapped.

One of the best examples of a building which is suitably compartmented and thus can protect most of its occupants under difficult conditions is the Empire State Building. In 1945 an aircraft hit the 78th and 79th stories and a severe fire involving large quantities of gasoline broke out. Despite the severity of the fire, there were no casualties among the many occupants of the floors both above and below the fire area. This record contrasts sharply with those of a number of hotels which have been involved in fires in the present century. A typical example is the Winecoff Hotel fire of 1946 which accounted for 119 deaths.

The size of a compartment should be based on the life and property risk principles already discussed and their application is illustrated by the following specialized examples. A fire-resistant safe in which jewellery is stored may be taken as a limiting case of a compartment from various points of view. The likelihood of fire originating in the safe is remote and the object of the fire-resistant construction is to protect high value property from fire in neighbouring compartments.

The argument for confining a paint spray booth by fire-resistant construction is almost exactly the converse. The value of the materials within the compartment is small but the likelihood of fire substantial. The primary object of the fire-resistant construction in this case is thus to protect property and lives in adjacent compartments.

Where life and property risks are low, compartments may be large and the question arises as to what upper limit should be set. This is still a matter of dispute but a popular concept is that the linear dimensions of a compartment should not exceed twice the maximum effective range of the average fire hose which is of the order 60 to 120 feet.

The enclosed stairwell, serving as an escape route from a multi-story building, is a special case of a fire-resisting compartment which involves additional problems, particularly where smoke is concerned.

The fire resistance requirement of an element of structure constituting part of a fire-resisting compartment is commonly assessed in terms of the fire load (combustible content per unit area) to be expected in the class of building envisaged and suitable assessments are listed in building codes. It is most important that a fire-resisting compartment should be completely enclosed and hence care must be taken to ensure that duct openings and doorways are closed in the event of a fire. In general, fusible links will perform this function sufficiently quickly to ensure that the fire is contained within the compartment. Where it is also desired to restrict the spread of lethal smoke during the early stages, however, automatic release of doors and dampers is necessary. This can be effected by using small solenoid electro-mechanical, instead of purely mechanical, catches to hold doors and dampers open and arranging for a fast-acting fire-detector system to disconnect the power to these solenoids in the event of a fire.

Where only life safety is to be considered the concept of the fire-resisting compartment might possibly be modified and poorer elements of structure chosen which will only perform their various functions for a period sufficient to enable all the occupants of the building to escape. Such an approach must be given careful thought for it can only be valid where adequate warning can be expected from detection and alarm systems and where it is known that the response to an alarm will be the complete evacuation of the building. Special provisions may be necessary where there are infant, senile, or restrained occupants.

Large Uncompartmented Areas

Modern production techniques are more and more frequently requiring large uncompartmented areas, of which the large single-story automobile factory is a common example. Disastrous fires both on this continent and in Europe have illustrated that such circumstances can give rise to very large monetary losses as a result of fire. Where combustible contents cannot be eliminated, there is no perfectly satisfactory solution to the problem. A number of steps can be taken, however, to alleviate the problem. The most obvious measure is to reduce to a minimum the quantity of combustible material in the building. Particular attention should be paid to the roofing materials for in several of the multi-million dollar losses to date flammable roof

lining and cladding materials have played a substantial part in creating conditions that have made effective fire fighting impossible.

Another rewarding complementary approach is to arrange for automatic ventilating and curtaining of the building on the outbreak of a fire. The various effects of these measures are at the moment not fully understood and are currently being investigated by a number of organizations throughout the world. Venting alone, i.e. the opening of holes in the roof, might well increase the rate of spread of fire throughout the building, but it can render a great service by improving the visibility in the region of the fire to allow effective fire fighting. It is still desirable that structural members should have some measure of fire resistance, although some relaxations might result from the findings of investigations currently being undertaken.

Wall Linings and Furnishings

The fire problem in a building must be approached in a number of ways not the least of which is the consideration of limiting the likelihood and the initial rate of development of a fire. A discussion of possible sources of ignition is not included in this note but careful attention must be paid to such factors as heating and electrical systems and the possibility of introducing into the building materials that are capable of igniting spontaneously, e.g. paint rags or fibre-insulation board stored in bulk.

It can be said, qualitatively, that the choice and treatment of furnishings and linings will in general influence the likelihood of the development of a fire from a small igniting source and also the rate of spread of the fire. So many other factors are involved, however, that quantitative statements are not at the moment possible. Methods of rating materials in sequence of merit are available, e.g. the ASTM fire hazard test, and appear to be valid. The limit of their application, however, is, in general, relative.

Nevertheless one particular component of a building, a corridor, merits special attention as it often plays the most substantial part in spreading a fire in a building and yet it is almost unique in that it has very few furnishings. It can thus be designed so as to be unable, of itself, to sustain and propagate a fire. Small-scale fire tests have indicated that a corridor will not of itself sustain and propagate a fully developed fire if a composite spread of flame index relating to the wall, ceiling and floor linings is lower than a certain limiting value. The index is derived from the ASTM flame spread rating for the lining materials and if these are W, C, and F respectively for the wall, ceiling, and floor, the criterion is that $C + 2W + F/2$ must be less than 75.

Exits and Escape Routes

The general concept of the provision of adequate escape routes and exits in a building is sufficiently fundamental as not to need developing here. To reduce the likelihood of fire developing in the escape route itself, it is desirable that the flame spread ratings of the wall, floor and ceiling lining materials should at least meet the requirement given in the previous section and in the case of escape stairwells it is generally accepted that the linings should be virtually incombustible.

Stairwells should constitute totally enclosed fire-resisting compartments and care should be taken to ensure that the doors leading to them are closed in the event of a fire. Where the maximum protection against smoke is desired, access to the stairwell should, at all levels, be via an area maintained at atmospheric pressure by direct communication with the outside atmosphere. Such an arrangement ensures that the slight pressure differences created by fire in a building will not directly give rise to high smoke densities in the stairwell. Most authorities on the subject of escapeways recommend that alternative routes should be available and thus in multi-story buildings the provision of more than one escape stairwell is advisable.

Application of the above principles will ensure a high degree of safety for occupants of areas somewhat removed from the fire. The problem of evacuating the occupants of the compartment of origin of the fire who, by virtue of room divisions, may not be immediately aware of the fire is not so readily solved. Their chances of escape can only be high if a fast-acting fire-detector and alarm system is installed or, of course, if each individual room has an alternative exit direct to the exterior.

Fire Protection Systems

The structural design of a building can set an upper limit to the magnitude of the loss of property and life to be expected under

circumstances associated with the average fire. Substantial additional reductions in both losses can usually be achieved by installing automatic fire-detection equipment. The primary function of such systems should be to notify the occupants and the fire department of the occurrence of fire.

It is also desirable that the system should close the doors to the area of origin of the fire (whether the doors be fire-resistant or not), various other appropriate doors, such as those to stairwells, and fire-resisting doors bounding the compartment involved. Closure of most of the doors can actually be effected by conventional door closers and the only essential function of the fire-protection system in this respect would be to release the electro-magnetic door latches which should be used in place of the more conventional mechanical devices to hold a door open. Various ducts and other gaps in fire-resisting partitions should be adequately sealed by fire dampers and other closures following the operation of the detection system. Most commercially available fire-detection systems sense temperature, temperature rise or smoke and the choice of system will depend on the nature of the fire to be expected.

The further protection provided by automatic fire fighting is often desirable and in some circumstances there can be almost certain guarantee that the fire will be completely extinguished. This is particularly true with specialized risks such as flammable liquids in unoccupied enclosures. An appropriate combination here would be an infra-red detection system and a CO_2 flood extinguishing system.

Automatic sprinklers constitute a very convenient combined detection and fire fighting system and, despite their slowness in operation, years of experience have shown them to be remarkably effective. It is customary merely to require a sprinkler head to discharge water, sound a local alarm and alert the fire department, but it is desirable that it should perform more of the functions suggested previously.

Conclusions

This note has discussed basic principles of design with reference only to conditions created by a fire within a building. There are corresponding hazards associated with the spread of fire from one building to another. These are extremely important since their neglect in the past has led to some of the most serious large-scale conflagrations. The separation of buildings in order to minimize this danger is therefore another important part of building regulations. This subject is naturally a prominent feature in the National Building Code of Canada. Designers who are concerned with the separation of buildings will find available in the literature some useful publications. The Division of Building Research will gladly assist with inquiries in relation to this aspect of fire-safe design. The Division has an active program of research in the fire field, and is steadily adding to publications such as this note, which are being made available to provide basic information for the use of designers with the objective of reducing fire losses in Canada.

This is one of a series of publications being produced by the Division of Building Research of the National Research Council as a contribution toward better building in Canada. The Division has issued many publications describing the work carried out in the several fields of research for which it is responsible. A list of these publications and additional copies of this Building Digest can be obtained by writing to the Publications Section, Division of Building Research, National Research Council, Ottawa, Canada.

Viewpoint

"Do you think that a general arts course, before proceeding with specific architectural training, is a necessary prerequisite to architectural education?"

Part 1 (this issue)
Comments by V. Milic, W. G. Raymore and Murray G. Ross.
Part 2 (to be published in December)
Comments by Pierre Morency and W. S. Goulding.

NO. THE GENERAL ARTS COURSE should not precede the specific architectural training. It should be integrated and started simultaneously. One should not discourage young enthusiasts – more of us will be needed in the future.

The given question suggests that the newly enrolled student would have to postpone the happy moment of having the first peek into the labyrinth of our profession. He has tackled his thirteen grades, so he was told, to become prepared for the academic study of his fancy. The first term at the university could have an encouraging impact. It could, however, prove to be the "fourteenth" grade – are thirteen not enough?

Throughout the professional life the general education and the professional training are inseparable and subject to steady improvements. The students must be exposed to this pattern from the very first day.

Instead of rigidly dividing the architectural education into two components, preference should be given to the well timed curriculum which embraces supplementary subjects in general arts, in particular those which were insufficiently dealt with at high school level. Such subjects would be a prerequisite for the relevant parts of the curriculum only.

This integrated course under the roof of the school of architecture might be assessed with the following in view: The students are enjoying an early gratifying feeling of pre-professional integrity. From the first day they will be able to hear about the subject which is their prime objective: Architecture. This might also have some benefits for those who enrolled on an instant impulse.

The lecturers on general arts subjects, permanent guests at the school from other departments, could establish a closer contact with a group of students, if such group has a common aim.

Under full control of the school such curriculum would be more flexible to meet ever changing demands. It is expected that high school standards will rise steadily in response to persistent criticism. It will be easy to trim or substitute these supplementary subjects within the course.

Be it by introducing the general arts course, as the question suggests, or integrating its subjects into the existing curriculum of the school of architecture, the length of studies will probably be extended in years to come. In any case, students should not be prevented from exercising their imagination at the drafting board in the very beginning of their studies. How else could they later use the familiar phrase "Worse than a first-year design", when indulging in constructive criticism?

V. Milic, Toronto

I ASSUME THAT THE QUESTION is concerned with the desirability of dividing the present five-year courses into pre-architectural and professional segments, probably on a two-year: three-year basis. There can hardly be any question of the desirability of the liberal arts studies – the humanities – since the schools of architecture in Canada are in general agreement on the need in this area, although each may develop the idea in a different fashion. The University of British Columbia School of Architecture has this last year instituted a three year: three year division beyond Junior Matriculation, the first period to be taken in the Faculty of Arts and Science. The Ecole d'Architecture de Montreal has for some time required a B.A. degree for entrance. The remaining schools, (McGill, Manitoba, Toronto), have five year courses beyond Honour Matriculation, in which the humanities – English, mathematics, science, history, economics, aesthetics, sociology, history of art, philosophy – and the professional studies, march together throughout the course. The question, therefore, resolves itself into this: shall we have a sharp division into pre-professional Arts and Science, followed by the architectural concentration, or shall we interlace five years of professional education with the humanities?

There are evident advantages in the divided arrangement of liberal arts followed by the professional architectural course. Those who enter the course and experience a change of heart by the end of the pre-architectural period may still receive academic credits that they have earned toward an Arts degree, or could, it is assumed in some cases, turn to other fields without loss. It must be pointed out, however, that most of those who may decide against architecture by the end of the Arts period will do so without having come seriously to grips with architecture, an experience that comes in substantial form in the following professional course. Students fail in the university architectural school for two reasons: first, they are not university material, even though they have the entrance requirements; second, they fail because they lack the aptitudes that are peculiar to architects. The first group – those who are poor scholars – will fail in the pre-professional period; the second group – those who will not achieve the minimum competence as architectural students – will fail in the second architectural period. In short, the knowledge of whether he will be a successful student of architecture is denied the individual until a later period in the divided course.

In favour of the 3:3 or 2:3 arrangement, one must record that it may help to solve or ameliorate a recurrent problem in the usual five-year course, namely, how to persuade the student to give reasonable attention to the non-professional subjects in the face of the strong compulsion to work himself out in Architectural Design.

For the retention of the conventional arrangement of five years in which the professional courses and the humanities are intermingled, it may be argued, not unreasonably, that the students' interests and abilities unfold in both fields of study at about the same rate, and that each illuminates the other. There is certainly evidence of the value of parallel teaching: we know at Toronto that the Third Year course given to architectural students in the classical theories of Aesthetics by a member of the Department of Philosophy of University College strikes sparks from the students, filled as they are with the credos of Mies, Wright, or Le Corbusier. This

trial of intellectual strength with a mature mind would be impossible if it were experienced in a pre-professional period, probably becoming a plodding exercise to which the student could contribute little.

There is, moreover, some reason to suppose that architectural designers – or architects, if you will – mature over a period of time, and the longer the period the better. Five years of wrestling with the imponderables of the architectural aesthetic and the myriad and bewildering problems of technology should place these problems in a better perspective than the force-feeding of a three-year professional period. One of the difficult things for even educators to realise is that *time* is an essential factor in the educative process, regardless of how admirable the course appears on paper, and how eloquent the lecturer.

Finally, it is inevitable that in the increase of the liberal arts studies to two years at least, a corresponding reduction will take place in the time allotted to the professional architectural period following. This is simple arithmetic, and is likely to be achieved by dropping some of the "practical" work which, it is sometimes alleged, may be learned after graduation. Such a proposal is a matter of concern for those who realise that as matters now stand in many of the provinces, there is no pre-registration examination following graduation, and the new graduate may apply for registration two years after being dubbed B.Arch. Any proposal to reduce the time spent on professional studies in the university adds strength to the belief held by some – and expressed in the Winnipeg Assembly seminars – that an extension of time and further examination is needed subsequent to university graduation and before registration is granted.

Post scriptum: Perhaps the individual who framed the question was thinking of six or seven years for architectural education!

W. G. Raymore

EVERY PARENT WHO HAS MORE THAN one child knows that children and young people differ greatly in their interests and in their capacity to learn. It is appropriate in a democracy that there should be variety in university education; that a university student should be free to follow that course which is most likely to develop his unique potentialities. For some, this will mean moving from high school into a professional school of architecture or dentistry or pharmacy; and for some, it will mean a programme of general education prior to professional study. I would not want to insist on any rigid programme, either for an individual or for an institution. But this should not prevent one from stating that which is best for the majority of students and universities. For me, there is no question but that the individual, the profession, and the country suffer because of early and narrow specialization at university.

Surely what we need first of all is men with mature sense of values, men of conviction, men who understand themselves, the society of which they are members, and the world in which they live. John Stuart Mill made this point precisely when he said: "Men are men before they are lawyers or physicians or manufacturers, and if you make them capable and sensible men, they will make themselves capable and sensible lawyers or physicians." And the same, I may add, holds true for architects. We already have far too many professional technicians for whom the chief end in life appears to be the cutting of a hole in a mountain, or in a tooth, or in an abdomen.

Any individual or any profession that is to serve effectively in the present decade should have some understanding of human nature, of society, and of the universe. Without this, one's vision is narrowed, one's horizons limited, one's capacities dulled. In my view, professional education should be preceded by a broad programme of general and liberal education. Let me repeat what I said recently about liberal education:

"The aim of a liberal education is quite simply to liberate. We all grow up in relatively narrow situations compared with the range of human life and thought around the world, or the variety of patterns that the history of mankind presents. We tend, therefore, unless pains are taken to provide otherwise, to be 'parochial', in one sense or another. In the last century this was bad enough; in today's world it is fatal. A liberal education is an education so designed as to bring the student out from his parochial thoughts, feelings, and attachments into the wide, free life of all mankind at all times and places, in its best and highest manifestations. Without losing a viewpoint of his own or loyalties of his own, the liberally educated student sees himself in relation to the whole human enterprise, in which he must, in any case, cooperate."

Such an education requires a setting and a program which is directed to this end. There are some who suggest that this content can be fed into a professional programme – a course in philosophy here, a course in English there, and so on. In my experience, this does not work, and for the following reasons:

First, professional schools always seem to be confronted with the need to add professional content and subjects to the curriculum, as knowledge in a particular professional field expands. Because each professional school has its own definite professional bias, it is the liberal arts subjects which tend to be treated as less important or to be crowded out entirely.

Secondly, professional schools tend to select from "Arts and Science" subjects those most closely related to their own field. For example, pharmacy tends to require science subjects, architecture to require subjects in the humanities, etcetera, with the result that there are usually very few "broadening" subjects – the pharmacists get very little philosophy, the architects very little psychology.

Third, the primary loyalties and relationships of students in a professional school are directed to members of the teaching staff of the professional school. The inevitable result is that professional courses and concerns tend to become much more important than "liberal arts" subjects that are taught by people from another faculty and whom the students seldom see outside of the classroom.

For the above reasons, I do not believe that small innoculations of "liberal arts" in professional schools ever "take" effectively. If architects are to be educated people in the fullest sense, the profession will encourage students to take two or three years of general and liberal education prior to whatever is required in the way of professional training.

Murray G. Ross, Toronto

Progress of the RAIC Committee on the Preservation of Historic Buildings

A Synopsis of the Committee's Report, with an Introduction by the President RAIC

A resolution presented to the Annual General Meeting at the 52nd RAIC Assembly in Windsor, Ontario, May 29th, 1959 led to the formation by the RAIC of the Special Committee on the Preservation of Historic Buildings. Within the short space of fifteen months an RAIC Committee has demonstrated that a vigorous program, backed with funds, can furnish a useful public service.

Anyone attempting to assess the value derived from the RAIC forming a special committee to establish a national inventory of historic buildings in Canada may read the words of the Prime Minister, who told the 1960 Assembly at Winnipeg: "The work being done by the Committee on the Preservation of Historic Buildings deserves the commendation, support, and encouragement of Canadians everywhere. You have given a wonderful lead if you have done nothing else than to have set up this Committee presently in operation. You have been making a contribution not only to the present but to Canadians in future generations."

Dr Eric Arthur, Chairman of the RAIC Committee on the Preservation of Historic Buildings, has furnished a written report on the work carried out by his Committee since it was formed in 1959. This report shows an awareness of the magnitude of the task confronting the Committee in compiling a national inventory for Canada. Without the enthusiastic co-operation of the Federal Department of Northern Affairs and the Public Archives, the project could not effectively be maintained.

As the project develops there will be an opportunity for every interested architect to play a part. The importance of this was underlined by a recommendation in the report of the RAIC Committee of Inquiry which advocated fostering among members of the profession the special skills of reconstruction and rehabilitation.

The Committee must first determine the store of buildings in all provinces which merit preservation, record these structures by photograph or measured drawings, and finally ensure that an aroused public introduces enabling legislation at the local level to ensure that buildings worth preserving do not casually disappear.

If the Committee perseveres in its nation-wide program over the next ten years, it seems likely a National Trust for all Canada will ultimately evolve.

Harland Steele
President, RAIC

THE COMMITTEE WAS FORMED at the 52nd Annual Assembly, when a resolution was passed that the Canada Council be asked to provide funds to (a) ascertain and document the efforts being made in all provinces in Canada to preserve and record old buildings through the efforts of private or public bodies, and the legislation under which they function; (b) make an inventory of the buildings in Canada that are of outstanding architectural merit; and (c) publish an illustrated inventory.

Dr E. R. Arthur of the School of Architecture, University of Toronto, was appointed Chairman and fourteen members, representative of the various regions of Canada and selected for their interest and special talents in the field of architectural conservancy, were asked to serve: W. W. Alward, Saint John; C. A. Fowler, Halifax; Edouard Fiset, Quebec; John Bland and A. T. Galt Durnford, Montreal; Hart Massey, Ottawa; W. S. Goulding and B. Napier Simpson, Toronto; A. W. Wallace, Hamilton; John A. Russell, Winnipeg; G. H. MacDonald, Edmonton; Raymond O. Harrison and J. Calder Peeps, Vancouver.

Mr Norman Melnick, a Toronto lawyer who has made a study of legislation on the subject *(Journal,* October 1959, page 359), was asked to serve as Secretary.

On February 22nd, 1960, the Canada Council approved the RAIC's application for a grant of $3,500 to enable the Committee to start its task of carrying a national inventory of buildings of architectural and historic merit. In April the close co-operation of Federal authorities was assured as a result of a meeting in Ottawa between the Chairman, Dr W. K. Lamb, the Dominion Archivist and National Librarian, and Mr J. D. Herbert, Chief of Historic Sites Division of the Department of Northern Affairs and National Resources. The meeting recognized that the compilation of a national inventory would best be achieved through effective liaison between the architectural profession and the appropriate agencies and departments of the Federal Government. The services of the RAIC Committee would be resorted to for professional opinions about the architectural merit of certain buildings which are referred to the Historic Sites Division for consideration as buildings worthy of preservation. (To date, the Federal authorities have asked the Committee to give its professional opinion on sixteen historic buildings. The work in their own localities of Messrs. Fiset, Massey, Alward and Fowler was of particular value in the preparation of the Committee's report to the Department.) It was felt that the first task for the national inventory team would be to record by photographs, then to follow up with measured plans of buildings and finally to proceed with a program of restoration and preservation through co-operation of public bodies, private organizations and individuals. It was agreed that the inventory should commence with a test survey of the City of Kingston.

On April 12th, the Committee met and decided that the categories of buildings with which the proposed national inventory would be concerned would be as follows:

(1) Buildings of architectural interest which are still existing and intact.
(2) Buildings which, although visually damaged by unsympathetic alterations or additions, are nevertheless capable of restoration either physically or "on paper", that is by photography or measured drawings.
(3) Townscapes, or collections of buildings which illustrate the identification of urban space.
(4) The Committee is not concerned with buildings which are so engulfed by alterations and additions that no evidence remains of their former beauty or historic occupancy.

It was agreed that the inventory should deal with buildings which, although not of outstanding architectural quality, are non-the-less important historically. As to the temporal span of the inventory, the Committee felt that the survey should concentrate on buildings up to the nineteen hundreds with the objective of illustrating "the evolution of taste over the centuries". In one respect, no temporal span can be set, as the task of preservation is a continuing one and will of necessity include buildings after 1900.

The Kingston test survey was begun by Dr Arthur at the end of April when he visited the city and held discussions with Mr Logan Gallaher, a Kingston architect; Mr Muirhead, the city planner and Mrs Angus, who represents the local committee concerned with the preservation of historic buildings in Kingston. Dr Arthur inspected many of the more outstanding buildings of the city and secured a large number of photographs. The committee has, subsequently, obtained copies of measured drawings, made by students of the School of Architecture of the University of Toronto, of several buildings in the city and the drawings have been sent to Dr Lamb for deposit with the Dominion Archives. At present, however, the Kingston survey is incomplete as none of the interior details of any of the buildings have been photographed or recorded in any way.

In addition to Kingston the Committee has concentrated on the City of Saint John, NB. Mr Arthur Wallace, the member from Hamilton, has provided a number of excellent photographs which he took many years ago of buildings in Saint John. These were sent to Mr W. W. Alward, the Committee member in Saint John, who has painstakingly located all the buildings recorded in the photographs and made a report on those which are still standing. He also provided names of present owners and a detailed architectural appraisal of each building.

On May 30th the Secretary sent the members of the Committee an outline of the nature of the assistance which it is hoped to receive from all members in the task of preparing the national inventory. Generally, it was hoped that each member would assume responsibility for making tentative lists of all buildings of significance in his own locality and for making direct contact with individuals and private and public agencies and associations in their localities which are known to be concerned with the problem of architectural recording or preservation. The members were asked to forward lists, photographs and other data to the Secretary for screening by the Committee, who would select the most interesting of the architectural cases and make arrangements to have them photographed professionally. Specifically each member was asked to lend his assistance along the following lines:

(1) Enquire from the provincial secretary as to the existence of any provincial legislation designed to protect, preserve and acquire in the public interest buildings of architectural and historic value.
(2) Write to persons and associations in each province asking them to co-operate with the Committee on the preparation of the national inventory.
(3) Refer to the Secretary all information, photographs and documents which the member himself has obtained as the result of his own interest in the field.

The response to the Secretary's letter was disappointing and he has since undertaken the task of writing provincial secretaries, etc., and the leads gained will be referred to the local member of the Committee for follow-up.

In the latter part of June, Mr Melnick, Dr Lamb, Mr Herbert and Mr Robbins Elliott, RAIC Executive Director, met in Ottawa to clarify the exact nature and extent of the co-operation between the Federal departments and the RAIC as well as to report the progress of the Committee to date. Dr Lamb proposed that the records of the inventory be deposited with the Dominion Archives in Ottawa, where fireproof accommodation, professional filing and general care are ideal. He also offered to ask each of the provincial archivists for assistance in the preparation of the inventory and suggested that the facilities of the National Film Board be used in the task of photographing the buildings. In view of the fact that the Province of Quebec holds the richest single store of early buildings, it was decided that a meeting should be arranged in Quebec City with Mr Edouard Fiset and members and officials of the Quebec Historic Sites and Monuments Commission and other agencies concerned with the preservation of historic buildings. Mr Herbert generously offered the financial assistance of his Historic Sites Division to further the work of the Committee next year.

The Quebec meeting was held August 20th, the Chairman, Mr W. S. Goulding, and the Secretary joining Mr Robbins Elliott for meetings arranged in advance by Mr Herbert and a member of his staff, Mr Jack Richardson, with individuals and officials of agencies concerned with the problem of historic preservation. The Committee met Mr Jean-Paul Morisset at the provincial museum together with Mr Gabriel Desmeules, Major Guimond and Mr Richardson. The Committee learned that a great deal already has been recorded in the Province of Quebec by Mr Morisset, who is continuing the work begun by his father, but he is hindered by lack of funds and sufficient staff. The Committee urged that some basis of co-operation between it and various officials in Quebec be established as an essential pre-requisite to the completion of the national inventory. The members then visited the Maillou House in St Louis Street, which has recently been acquired by the Dominion Government and restored under the direction of Mr Gabriel Desmeules (October 1959 *Journal,* page 358).

Some months ago it became apparent that the role of the Committee could not be confined to that of preparing a national inventory alone. Some of the auxiliary roles

which the Committee has been called upon to fulfil and which, it is felt, are bound to increase in number are:

(1) As already mentioned, the departments of Mr Herbert and Dr Lamb have found the services of the Committee useful as a professional advisory body.

(2) The test survey of the City of Kingston. It was suggested that a brochure on Kingston be published in the near future, a suggestion no doubt prompted by the approaching centennial of Canadian confederation and by the fact that Kingston was once the capital of Canada. The Committee intends to co-operate to the best of its ability in this regard but feels that the brochure on Kingston, to be worthwhile, must not only be a collection of photographs of exterior and interior architectural detail and plans and measured drawings together with architectural and historic data, but must include a qualitive examination of the items in the inventory, followed by a marking of those buildings which the Committee considers worthy of preservation. The Committee Chairman has enunciated the principle that beauty or architectural merit, to give it another name, must be considered an essential element in the intention to preserve or even to record. A social history of the Canadian people is demonstrated in a beautiful old farmhouse more than in a battlefield or in an undistinguished house occupied for a time by an eminent citizen. *It is how people lived in Canada in the 17th, 18th and 19th centuries, as demonstrated by their domestic arrangements and their furnishings, that is the real stuff of social history; and it is these buildings that should be recorded and preserved and, in special cases, restored for posterity.* Such a principle reflects a new and vital attitude towards preservation and the Committee feels that it has the support of both Dr Lamb and Mr Herbert.

From its very beginning the Committee has received appeals from various individuals and associations throughout Canada for assistance in saving an historic building, such as a town hall, a post office or a venerable house for demolition, unsympathetic alteration, neglect or public indifference. Examples of this type of appeal are the old post office building in St Georges Square in Guelph; the town hall at Prescott and St Lawrence Hall, Toronto. In each case the Committee has done what it could to assist individuals and organizations to preserve the buildings.

The Chairman has recently urged that the next step in the inventory be a concentration on the Maritimes and in particular the City of Saint John, NB, and St John's, Newfoundland. It is planned to visit the area with a photographer in the near future.

The Committee was pleased recently to receive from its Manitoba member, Mr John A. Russell, a copy of "Manitoba Essays" containing an article by Milton Osborne on "The Architectural Heritage, Manitoba".

Remarks and Observations

With the co-operation of the joint committees of the Department of Northern Affairs and National Resources and the Dominion Archives and the RAIC, the preparation of a national inventory is assured to be carried out on the highest level of scholarship and professional skill. The Guelph affair was an excellent example of the practical achievements possible by the combined committees. They can work swiftly. They command power and influence and have recourse to funds. The Committee could, therefore, acquire a reputation as the national committee for the preservation of historic buildings. There still must be met the tremendous obstacle of communication. There are many organizations and agencies throughout Canada which fulfil a part-time and casual role in the preservation of historic buildings, but there is a lack of any co-operative organized effort among them; no individual or body seems to be aware of any of the other agencies within a given province, which are trying to achieve the same results. The Committee has learned that even Departments of provincial governments are, unofficially, aiding the restoration and protection of threatened buildings. There are, however, few instances of any officially recognized bodies. The province of Quebec has an amazing number of organizations generally interested in the recording or preservation of their particularly rich heritage of buildings, but there is no co-ordinating body and many of their efforts are duplicated. This Committee appreciates that, in an effort to co-ordinate all the organizations existing in Canada, a great deal of work must be done in the field of publicity for the role of the Committee. This entails a virtual flood of correspondence by the Secretary, a task for which this Committee at present is unprepared. The services of a full-time stenographer would be essential.

The Committee will, likely, never meet as a national committee, but it is attempting to prove its national character, its sincerity and lack of prejudice by close correspondence with its members and by providing them with minutes of all meetings.

One of the most effective methods of accelerating the progress of the Committee's work has been found to be short visits by the Chairman or perhaps one or two of the other Committee members to other cities where they meet locally interested individuals and groups, and where their co-operation and assistance can be organized to further the Committee's work. These personal visits also are essential to bind all the Committee members and to preserve its national character. The Committee strongly urges that funds be made available to enable an exchange of members from Ontario and Quebec to attend Committee meetings held alternatively in Ontario and Quebec.

The Committee is struck by the surprising degree of encouragement and commendation which it is receiving. This would suggest that the timing for the project is excellent. The number of auxiliary tasks which the Committee has already been called on to perform is a certain indication of the vitality of its work.

The Committee must be prepared to help local groups to check local needs and resources and to bring in as many people as possible to work out the future of critical buildings threatened with demolition. Local Chambers of Commerce and municipal planning boards are often blind to the need for remembering the past. They see their responsibility only in terms of attracting new wealth and power and making their community an efficient working place. They have little or no sense of the past, its process of growth in the present. They usually have no proper notion of town building in the present. This Committee will have to be prepared to sell preservation.

"THE IMAGE OF THE CITY" by Prof. Kevin Lynch. Published by S. J. Reginald Saunders and Company Limited. Price $6.50.

This is the first public evaluation of research, financed by the Rockefeller Foundation and undertaken by a group at the joint centre for Urban and Regional studies of the Massachusetts Institute of Technology and Harvard University. His book consists of five chapters, three appendices and a bibliography. There are also photographic illustrations, plans and marginal diagrams. The bibliography also serves as a textual reference. It deals with "the look of cities and whether this look is of any importance, and whether it can be changed". The publishers are optimistic and they assure the reader that "Architects, Planners and especially City-dwellers themselves will want to read this book".

The author analyses the image of the environment and records that no Amercian city is of consistently fine quality, probably, because its inhabitants lack environmental appreciation. He attempts, therefore, to evaluate urban visual quality by analysing the mental image of the city in the minds of its citizens. The clarity of the urban environment affects the spectator and he defines this as the "legibility of the cityscape". Legibility is essential in the city, if its citizens are to find their way about it. This quality which physical form has of evoking a strong image or visibility in the observer's mind, Professor Lynch designates "imagability". What procedure, therefore, should the planner adopt when creating an environment which would be easy for the spectator to identify in part or to relate to the whole? In order to answer this it was essential to evaluate the significance of imagability. A sample analysis was therefore made of central areas in Boston, Jersey City and Los Angeles, each of which measured 4 square miles. Trained observers visited, assessed and mapped what they deemed to be the strengths or weaknesses of the "imagability". They also interviewed inhabitants and induced them to describe, as well as sketch their areas, and to this end thirty people were interviewed in Boston and fifteen in the other cities. Both methods were apparently successful for projecting the probable public image of the city, although field analysis by the specialist had a tendency to neglect minor elements which were of importance for vehicles, as well as the status of districts.

In the first sample a central section of the Boston peninsula was chosen because of its age, its historical associations and somewhat unusual European flavour. Not unexpectedly, most citizens identified the landmarks and commented on the character. Many did not know all areas, some were only aware of their own districts, while others were confused by elements, e.g., paths and roads. Inhabitants, in the second sample, felt that Jersey City was "a place" on the edge of something else and the investigators found the lack of images resulted in sparse description so that building or lot use became essential to identification. They concluded that there was low imagability even for established residents. Los Angeles citizens symbolised their city as an endless sprawl characterised by vehicular traffic and the roads. Here the relative age of developments assumed importance where images were lacking. Certain features of imagability coincided in all three samples. Space and breadth of view were enjoyed by inhabitants as was planting, water, the class or status district and the age of development, and the research teams discovered that most citizens had a consistent group image, although there were local differences in all samples. Some features were clearly recognizable to the inhabitants, while others had an individual imagability, e.g., particular buildings. Those images having the greatest significance stimulated an overall reaction. It became apparent that there was a "public" as well as an "individual" imagability. The research team concluded that all city images contained confusions, floating points, weak boundaries, isolations, beaks in continuity, ambiguities and areas lacking character or differentiation. These results were then examined and it then became possible to evaluate the necessary features of an imaginable cityscape. Professor Lynch concluded that the city is a multi-purpose organization in which form should be somewhat non-committal, and plastic for its purpose, if citizens are to acknowledge it. When recognizable features crystallize out in the surveys these should be acknowledged in the planning process. Strong images should be preserved and new ones developed, providing that the city always retains its identity as a whole. Imaginable components of large scale are rare, but conscious design can create such forms. Naturally, this implies image organization on a metropolitan scale if legibility is to result. Town design should, however, be associated with the creation of a critical and attentive audience if a well organized, poetic and symbolic environment is to result.

The three appendices evaluate individual reference systems, image formation, the role of form and some of the disadvantages of imagability. Many observations are drawn from secondary sources but are sympathetically eclectised. Examples are also included of detailed surveys of Beacon Hill and Scolleys Square in Boston where features such as steep streets, doorways, sidewalks, bow windows, ornamental ironwork, sub districts, landmarks and commercial uses are identified.

The author concludes by speculating on future objectives for investigation such as the differences in the public imagability for urban communities of different size or nationality, the effect of redevelopment and the role of citizen education. The present research does not convince the reader that it has really advanced planning techniques, for similar public interviews and specialist surveys have been undertaken before during the analytical planning process. Paradoxically, planners of distinction and recognized artistic sensibility often reject such findings because they prefer to rely on their own intuition. Unfortunately few habitants can evaluate their city or its future needs and the research appears to confirm the limitations in their perspective. The concept of "imagability" will aid some planners and it is to be hoped that they will be induced to depart from the confines of their offices in order to investigate imagability. The research also confirms some teaching techniques in planning and architecture, and, perhaps, it is here it will have the greatest impact. Professor Lynch's analysis of "The City Image and its elements" provides some information which could be developed in the preliminary training of planners.

Much in *The Image of the City* will be approved, although many readers will be disappointed with the preliminary results, but in all fairness it should be remembered that this introductory volume is only the first of a series and it is dependent on research still in progress. This book, therefore, has all the limitations which might be expected from such an analysis, it is speculative, fragmentary, and, as Professor Lynch, himself, points out, at times, presumptuous.

Michael Hugo-Brunt, Toronto

Editorial Comment on RAIC Residential Environment Report

MEGALOPOLIS OR BUST: Extract of a review by Elizabeth Kilbourn in the October issue of *The Canadian Forum*.

"Towns and civilization are two words for nearly one thing. To build cities and live in them properly is the great business of large associations of men," wrote W. R. Lethaby.

As long as men have built towns and lived in them, that is, as long as civilization has existed there has always been a creative tension between the dynamism of the city and the stability of the country. There is now a possibility that this will no longer exist. The twentieth century has seen increasingly the ancient distinction between urban and rural weaken and vanish. A vast and growing area now exists in which city and country inextricably meet and intermingle.

In Canada, two billion dollars is being spent annually to turn pasture into permastone. The creation of suburbia, a metropolitan limbo which is neither city nor country, has raised considerable doubt as to its sociological healthiness. But there is no doubt in my mind that visually the result is frequently chaotic, monotonous, and generally depressing. The Royal Architectural Institute of Canada recently published the Report of the Committee of Inquiry which it instituted to investigate the design of the residential environment. Two of the three-man committee rank among Canada's finest architects. C. E. Pratt of Vancouver is responsible with his associates for the handsome award-winning B.C. Electric building and some of the fine houses which have helped to provide the west coast with a beautiful and indigenous style of domestic architecture. John C. Parkin's advent on the Toronto scene has brought to it qualities of integrity, intelligence and, frequently, excitement which it had not possessed in abundance before.

The Report makes abundantly clear that the problem of providing housing for Canadians is acute. "Whatever centre we live in, we are challenged to bequeath to our sons and daughters twice the city we inherited." In other words, if the present trend continues, in the next twenty-five years we will put up as many houses as we have since Champlain built Port Royal in 1604 until the present. We are in the throes of an emergency – one that we share with all other nations, but which is even more acute in Canada with its very high birth rate and accelerated pace of urbanization. Europe and Asia public administrations have developed large-scale projects to cope with this problem. One of the major planks in the new Democratic party platform is a promise to undertake vast projects to create a living environment worthy of its citizens.

Perhaps here is the key to any inadequacy we may feel about the RAIC Report. Its title – and the fact that its Committee members are architects – suggests that it may be possible to deal with the residential environment as a separate problem, when in fact the whole concept of the city requires rethinking. This is again part of the even broader problem of conservation of our natural resources of land and water. The Report is fully conscious of this, and the implications of its recommendations inevitably take the problem far beyond the relatively simple problem of housing. It is, in fact, more than a problem of residential environment. What is at stake is our total living environment.

Meanwhile the orchards and hayfields disappear before the contractors' mechanical monsters and up go endless rows of three-bedroom bungalows financed by an NHA loan. How much regard is given to safe school routes for children or intelligently planned green belts and civic areas? Who cares whether all families are not necessarily computed of the statistical average of

two adults and two and one-half children? Who cares that the monotonous red brick cubes do not permit either variation in the type of family that inhabits them or visual and spatial variation and handsome design?

The Report indicates certain areas which could receive fairly immediate attention. The nation, it points out, should be concerned with unique sections of the country which it could "make it worthwhile for the growing city to detour and the specialist farmer to maintain." And here the peach orchards and vineyards between Hamilton and Vineland are specifically mentioned. Historic buildings should be identified and maintained. Residential areas should have adequate access to, but be protected from, major transportation routes. Plans for parkland, future hospitals and schools, transportation, and the many facilities which make urban life convenient and satisfying, must be drawn up and implemented before the residential areas are built instead of trailing like camp followers behind the unsightly and inconvenient sprawl of small scale surveys and subdivisions.

Le Corbusier, the greatest thinker and architect of the twentieth century to concern himself with the problem of life in an urban context, once wrote: "Taking possession of space is the first gesture of living things, of men and animals, of plants and clouds – the occupation of space is the first proof of existence. Architecture is specifically dependent on space, bound to the necessity of controlling it." Whether we are to take possession of the space we and millions of other Canadians will inhabit in the next few years in a rational, harmonious manner, whether we will control it effectively and beautifully or in an ugly, shapeless, and chaotic way is still to be seen. But in the Report of the Committee of Inquiry of the RAIC we have a guide and a handbook to ways and means of a pleasing and prevailing excellence.

Montreal Star

The next two generations, barring major change in the present outlook, are going to see residential construction accompanying population growth and rising living standards that will in sum about double present urban areas. Looking at our cities as they are, exhibiting the results of so many past mistakes, one must commend the thought of the Royal Architectural Institute of trying to prevent comparable shortsightedness, through the survey recently completed on Design of the Residential Environment.

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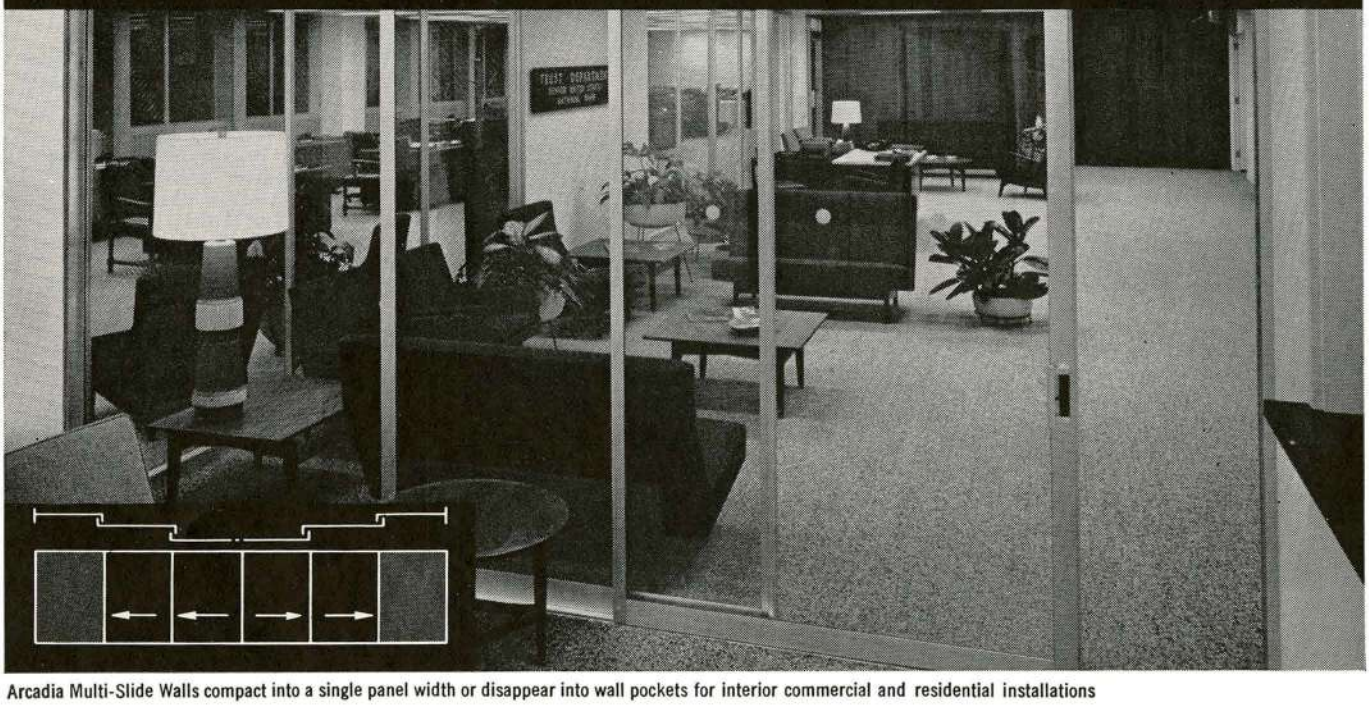

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COMING EVENTS

December 2-3, 1960
Annual General Meeting
Architectural Institute of British Columbia
Empress Hotel, Victoria

December 6-19, 1960
Presentation, followed by two weeks exhibition of Mexican Architectural Exhibit
National Museum, Ottawa

December 7, 1960
PQAA Seminar on the Design of the Residential Environment
Queen Elizabeth Hotel
Montreal, P.Q.

January 14, 1961
Annual Meeting
Manitoba Association of Architects
Fort Garry Hotel, Winnipeg

January 27-28, 1961
Annual Meeting
Alberta Association of Architects
Macdonald Hotel, Edmonton

January 27-28, 1961
Annual Meeting
Prov. Quebec Assn of Architects
Lac Beauport Inn, Quebec

February 9-11, 1961
Annual Meeting
Ontario Association of Architects
Royal York Hotel, Toronto

Spring of 1961
Celebration in Honor of Founders of Modern Architecture, Gropius, Le Corbusier, van der Rohe, Wright
Columbia School of Architecture, New York

May 17-20, 1961
RAIC 54th Annual Assembly
Chateau Frontenac, Quebec

July 3-7, 1961
VIth Congress
International Union of Architects
London, Eng. (Registrations, RIBA)

August 30-September 2, 1961
Conference on Shell Structures
Civil Engineering Dept, Technical University, Delft, Netherlands

INDUSTRY

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The production of a new Starfire "Junior" complete pre-fab fireplace unit for gas, coal and wood is announced by Continue-Flo Heating Products, Ltd, Hamilton. Constructed of heavy gauge steel with brass trim, the new Starfire can be used as a free standing unit or set into any type of wall, and connects easily to an existing chimney or furnace flue or any type of approved pre-fab chimney.

New Line of Centrifugal Fans

A completely new and advanced wheel design is featured in an exclusive line of arifoil bladed centrifugal fans now available from American-Standard Products (Canada) Ltd, 1201 Dupont Street, Toronto 4. The new Series 116 features an exclusive low velocity radial rim wheel design for general ventilation and industrial processes. Available in 15 sizes in both single-and double-inlet designs, the new Series 116 is qualified to carry the AMCA Certified Rating Seal for the full range of sizes, Class I through Class III.

The new fans are recommended for use in supply and exhaust systems for ventilation and industrial processes; in air-conditioning installations of conventional low velocity, high velocity or double-duct systems; in industrial air-conditioning systems; in heavy duty industrial systems; and in ventilation of tunnels for vehicular, pedestrial and railroad traffic.

◇

New Masterplate Bulletin

Master Builders Company, Toronto 15, have issued a new 24-page bulletin (MP-4d.) containing photos and diagrams, specification information and installation procedures for "Masterplate" concrete flooring.

◇

Dodge Vinyl Tile

Dodge have introduced a new vinyl tile, the Siboney.

The manufacturers claim that the tile combines the desirable properties of a vinyl surface and has wide application in institutional and commercial establishments as well as residential.

It is available in 16 patterns in all standard tile sizes. Further details and samples may be obtained from Dodge Cork Company, Inc., Lancaster, Pa.

Canadian Hot Dip Galvanizers

The Consolidated Mining and Smelting Company of Canada Limited, in cooperation with hot dip galvanizers from coast to coast, have compiled a directory of Canadian firms engaged in custom and production galvanizing. Reference to this directory will allow engineers, architects, specification writers and metal fabricators to select the galvanizing facility best able to meet immediate production requirements. Please write to: Sales Development, The Consolidated Mining & Smelting Co. of Canada Ltd, 215 St James Street West, Montreal, Quebec.

Sectional Overhead Doors

Richards-Wilcox Canadian Co. Limited has recently published a new Sectional Overhead Door Catalogue designed to enable architects and engineers to select the most suitable door in combination with the best hardware. Six types of doors and ten types of hardware represent sixty style combinations. Each of these combinations is available in any size up to the limits as outlined and all specifications and required clearances are readily obtainable from the catalogue.

The new catalogue is available from the Company at London, Ontario.

Electronic Control Panels

Transistors have replaced vacuum tubes in the entire line of Honeywell electronic temperature-control panels.

The panel's new transistorized amplifier is electrically and physically matched — in size, shape and connections — to the old vacuum-tube amplifier, making possible "plug-in" replacement on older panels.

For further information, please write to Honeywell Controls Limited, Toronto 17, Ontario.

◇

Flexboard Brochure

Canadian Johns-Manville Co. Limited announce publication of a brochure on asbestos Flexboard. The fully-illustrated publication presents and explains the many uses and advantages of J-M Flexboard. A completely new section is devoted to the use of Flexboard in construction and modernization of commercial and institutional buildings.

Other information includes specifications and directions for the use of pre-primed Flexboard. Copies of the brochure (FLX-15A) may be obtained from Canadian Johns-Manville Co. Limited, 565 Lakeshore Rd. E., Port Credit, Ont.

◇

Pedlar Metal Lath Handbook

The Pedlar People Limited have published a new Metal Lath technical hand book, designed especially for architects.

The new book contains 17 technical bulletins on the various applications of metal lath and plastering accessories. This publication is available by writing to The Pedlar People Limited, 519 Simcoe Street South, Oshawa, Ontario, attention the Building Materials Division.

◇

The Photometric by Wakefield

Wakefield announces the "Photometric", a completely new injection-molded refracting luminaire.

The injection-molded refractor, available in styrene or acrylic, is designed to control the brightness in the direct glare zone with extremely high efficiency. Suitable for on-ceiling and suspension mounting, the photometric features complete flexibility in mounting; accessories can be mounted at any position along the length of the four foot or one-piece eight foot housing.

For specification data and price information write Wakefield Lighting Limited, London, Ontario.

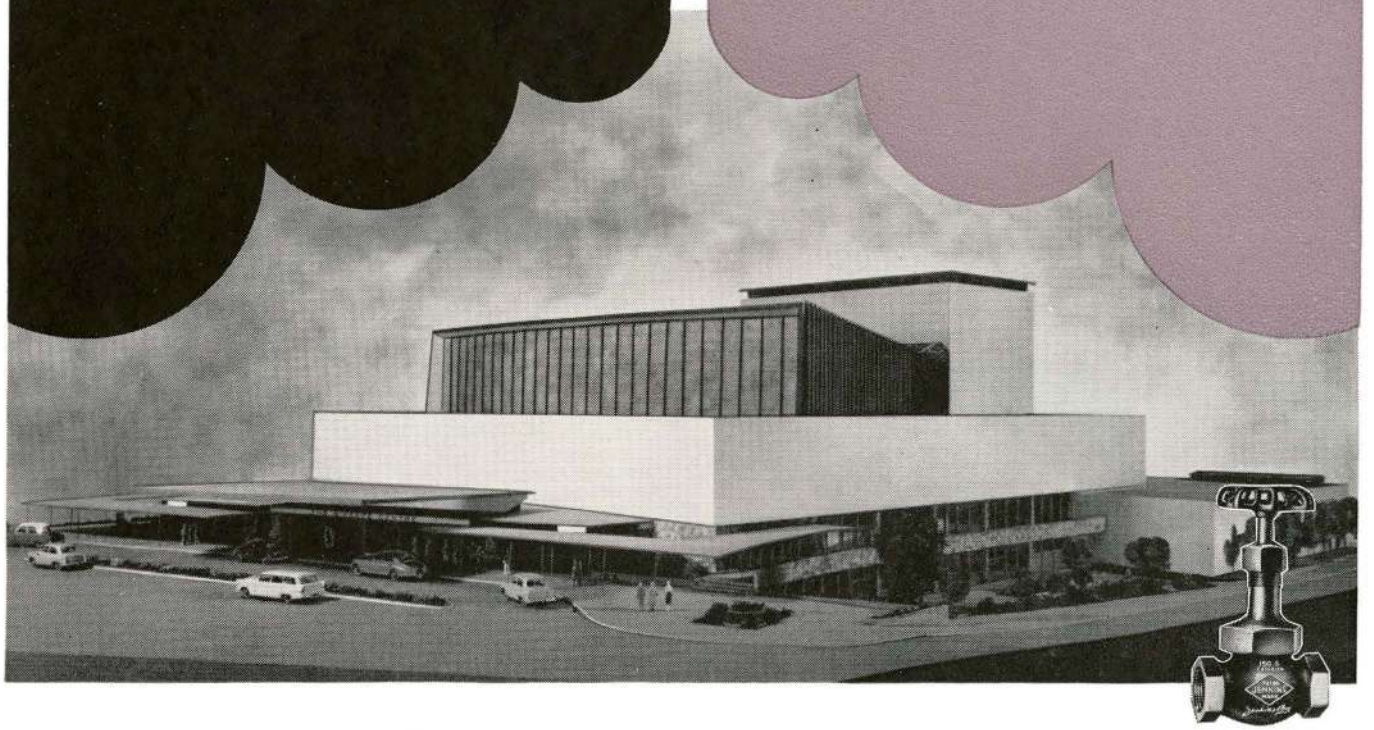
DESIGNED FOR VERSATILE PERFORMANCE

ARCHITECTS:
Earle C. Morgan — Page & Steele

CONSULTING ENGINEERS:
Frost, Granek Associates Ltd.

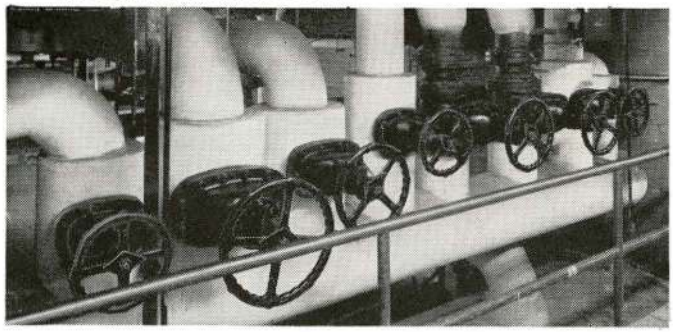
GENERAL CONTRACTORS:
Anglin-Norcross Ontario Ltd.

MECHANICAL CONTRACTORS:
Universal Plumbing & Heating Ltd.



The opening of Toronto's O'Keefe Centre for the Performing Arts is a major event in the city's cultural activities. Built at a cost of $12 million, this remarkable theatre centre is designed to house the most versatile performances. Both stage and acoustics are adaptable for each type of event — opera, ballet, jazz, symphony, a Broadway musical, or a one-man show. Careful heating is of prime importance to the patrons' comfort, so Jenkins Valves were the logical choice to control the Centre's steam-heating system. Selected for flawless performance at low cost, you'll find valves with the "Diamond" trade mark playing similar roles in public buildings and plants from coast to coast. Jenkins Bros., Limited, Lachine, Que.

A battery of Jenkins Iron Body Gate Valves on the main boiler room header control the circulation of steam heat throughout the theatre centre.



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JENKINS

LOOK FOR THE JENKINS DIAMOND

VALVES

TRADE JENKINS MARK

Jenkins Bros

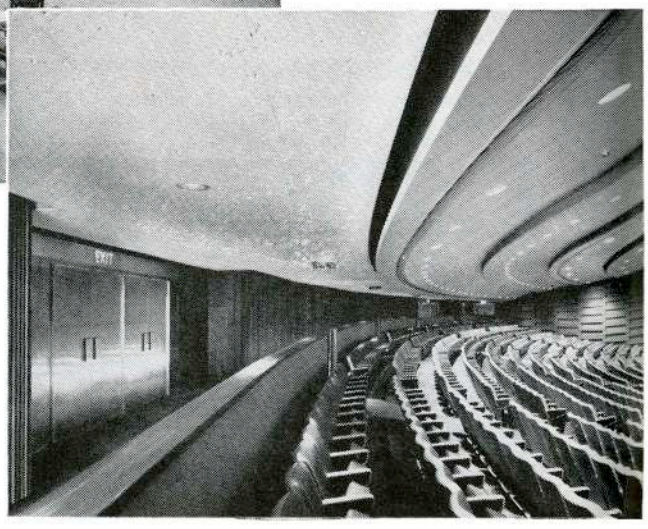
A JOB TO BE

O'KEEFE CENTRE FOR THE PERFORMING ARTS

Architects:
Earle C. Morgan and
Page & Steele, Toronto

Acoustic Consultant:
V. L. Henderson

General Contractors:
Anglin-Norcross Ontario Ltd.



PROUD OF!

Dominion Sound's Acoustical Installation in the new O'Keefe Centre

The all-important acoustical installation in the auditorium of the O'Keefe Centre, was entrusted to Dominion Sound Equipments Limited — Canada's foremost acoustical applicators, and exclusive Canadian distributors of Celotex sound conditioning products.

One of these products, Acousti-Celotex "Celotone", a mineral fibre acoustic tile with the natural texture of travertine, was installed by Dominion Sound in many areas throughout the Centre where greater sound absorption was specified.

Dominion Sound is pleased to have contributed its talents in the exacting science of acoustics to the O'Keefe Centre for the Performing Arts.

DOMINION SOUND

EQUIPMENTS LIMITED

Head Office: 4040 St. Catherine Street West, Montreal

Branches: Halifax, Saint John, Montreal, Ottawa, Toronto, Hamilton, London, North Bay, Winnipeg, Regina, Saskatoon, Calgary, Edmonton, Vancouver

BEAUTY and PERMANENCE

145 *Ellison* DOORS in BRONZE

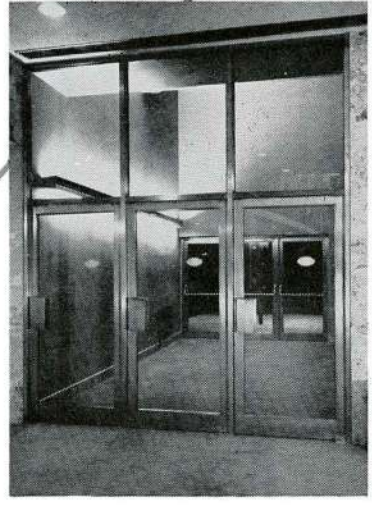
For O'KEEFE CENTRE, Toronto, Ontario

Flush
Stile — Rail and
Acoustical Doors
with Framing

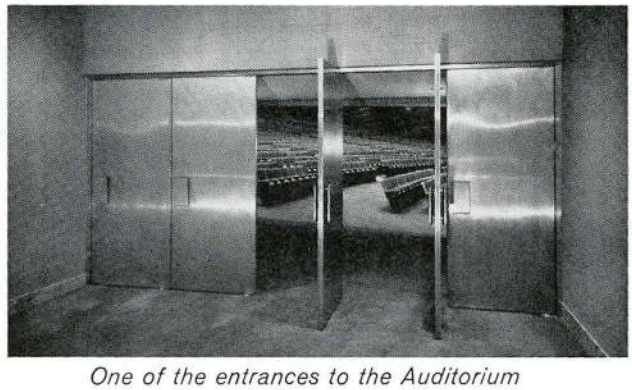
All are Ellison VARI-STILE construction with Ellison #61 checking Pivots.

architects EARLE C. MORGAN
PAGE and STEELE

Entrance to one of the lounges



West entrance to the Center



One of the entrances to the Auditorium

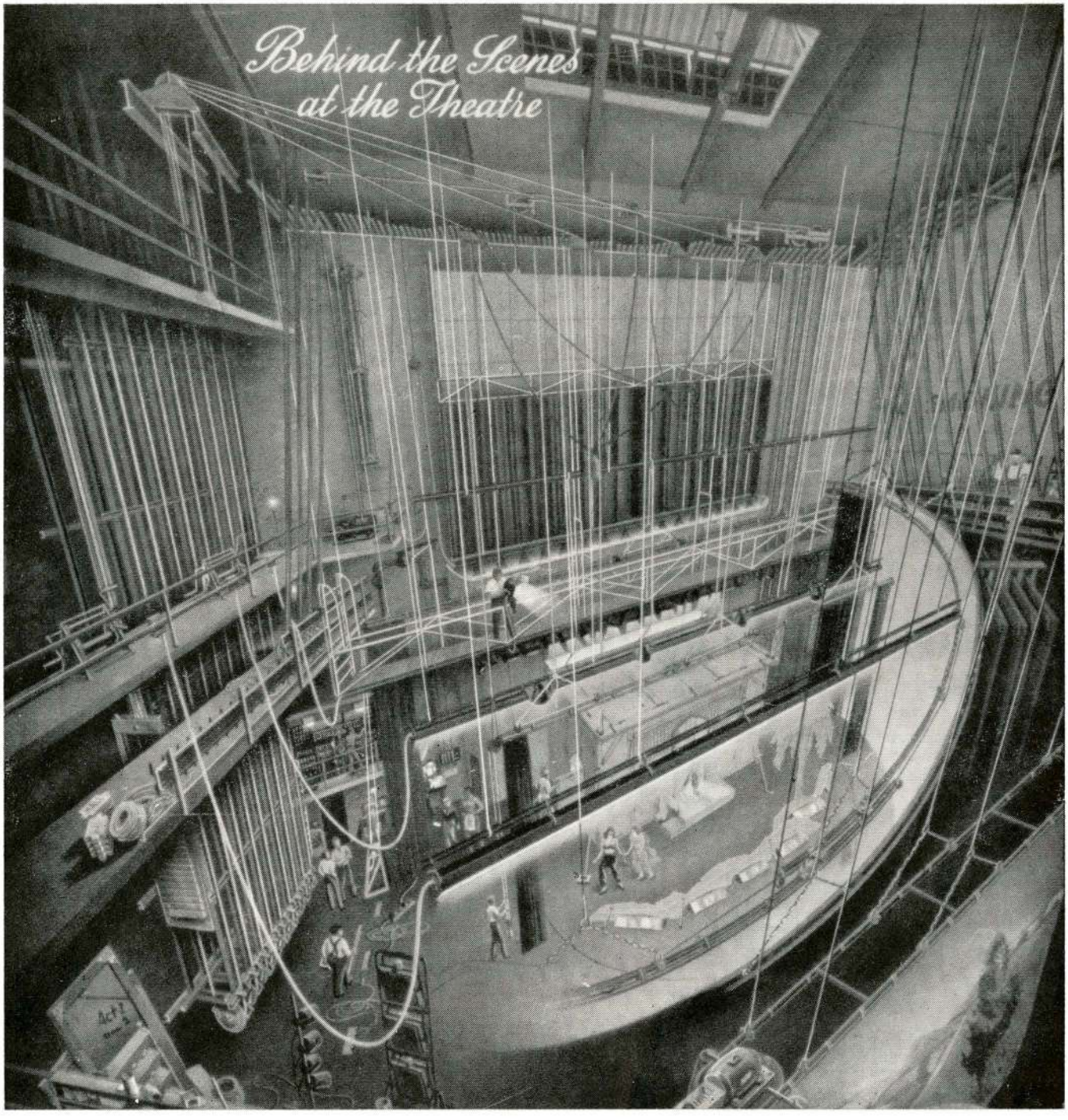
Executed by the manufacturers of

Ellison
the BALANCED DOOR

representatives in 72 principal cities in U. S., Canada and Puerto Rico

ELLISON BRONZE CO., INC. • Jamestown, N. Y.

In Canada—H RSFALL ENGINEERING, 2696 St. Clair Avenue West, Toronto, Ontario



Complete stage and TV studio equipment

contour curtains
orchestra and stage elevators
rigging equipment
turntables

We invite your inspection of our installation at the O'Keefe Auditorium

BOILEAU-FERGUSSON LIMITED

32 Chauncey Avenue • Toronto, Ontario • BE. 3-9082
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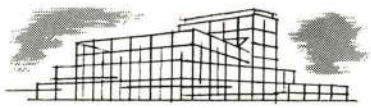
Custom built desk in executive office, O'Keefe Centre

Lead and Zinc are "behind the scenes" at the O'Keefe Centre

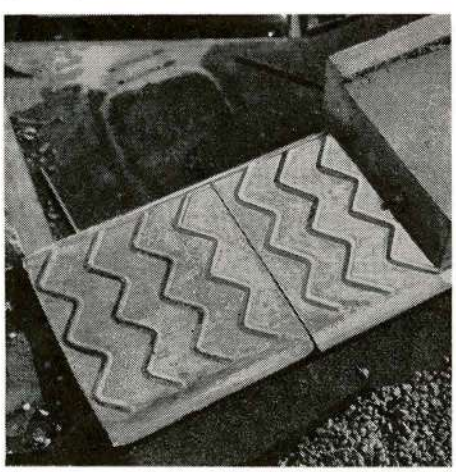


At Toronto's multimillion dollar O'Keefe Centre you will find lead and zinc contributing to the life of the building and the comfort of those who use it. Here are some examples.

O'Keefe Centre for the Performing Arts, Toronto
Architects: E. C. Morgan, Toronto; Page & Steele, Toronto

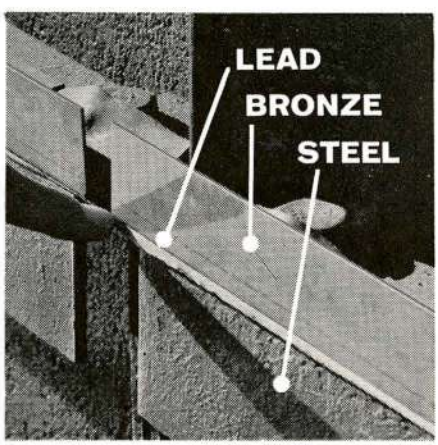
LEAD FLASHING

Over 4,000 square feet of lead-clad copper flashing were used. Its principal application was for through-wall flashing underneath coping stones as shown below. Both plain and corrugated sheet and strip were laid. Lead-clad copper combines the high strength of copper with the excellent corrosion resistance and non-staining characteristics of lead. Coating, both sides included, averaged 1¼ ounces per square foot.



Lead flashing

LEAD ANTI-CORROSION STRIP

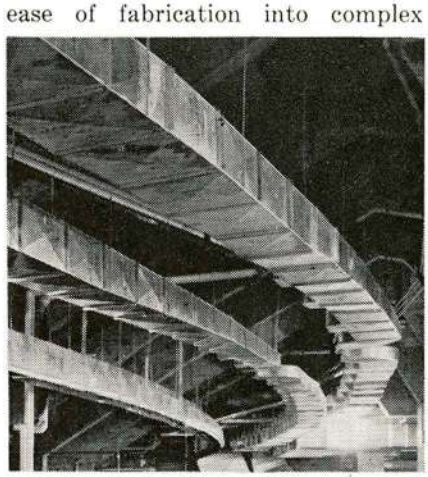


Lead Anti-corrosion Strip

The upper exterior walls of the Auditorium are clad with corrugated bronze sheet panels. Bronze structural members carrying the sheets are secured to the main steel frame. The steel at its junction with the bronze would be subject to corrosion due to the electrolytic action caused by dissimilar metals in the presence of moisture. To prevent this corrosion 2-inch wide strips of 4-pound gauge lead were inserted between the joint faces of the two metals.

GALVANIZED DUCTWORK

Nearly 400 tons of galvanized (zinc coated) sheet were used to make up the extensive heating and ventilating system. Gauge varied from 26 to 16 and zinc coating was standard at 1¼ ounces per square foot (both sides included). The choice of galvanized sheet means long, trouble-free life, ease of fabrication into complex



Galvanized Duct Work

shapes, simplicity of installation and low thermal expansion to help keep duct noise to a minimum. The choice also meant real economy in initial cost at no sacrifice to future service.

COMINCO

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215 St. James St. W., Montreal, Quebec

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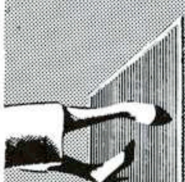
Specify LEAD and ZINC — metals you can use with economy and confidence. Contact our Sales Development Division for further information.

BO  LAR FOOT GRILL CO. LTD.

the original Foot-Grille

- A FIRST-LINE DEFENCE AGAINST DIRT
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- HINGED FOR EASY CLEANING
- INCLUDES A PAN & A DRAIN
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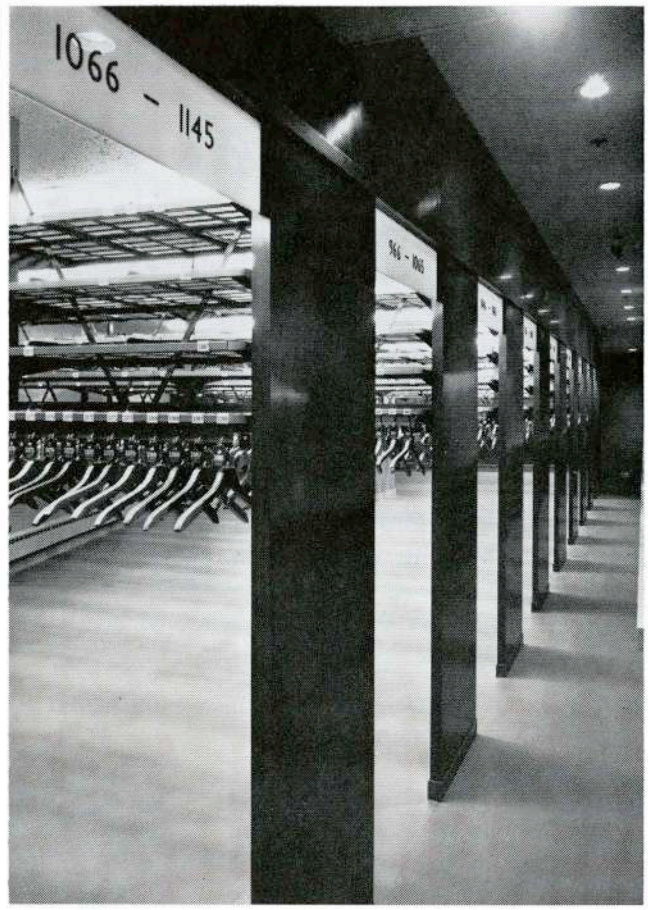
CAUTION

Be sure to specify 5/16" clear spacing between bars, or less, if women are expected to use grille. Most architects specify 1/4".



Ceiling Suspended

VOGEL PETERSON

Checker Hat and Coat Racks installed in The O'Keefe Centre

by

J. Lorne Davidson Limited

Authorized Canadian Distributor

Toronto 544 Queen St. E. EM. 8-8608

O'Keefe Centre

CANADA'S OUTSTANDING NEW OPERA HOUSE

• HEATING

• PLUMBING • AIR CONDITIONING

by Universal

ARCHITECTS:
Earle C. Morgan — Page & Steele

CONSULTING ENGINEERS:
Frost, Granek Associates Ltd.

GENERAL CONTRACTORS:
Anglin-Norcross Ontario Ltd.

MECHANICAL CONTRACTORS:
Universal Plumbing & Heating Ltd.

The O'Keefe Centre in Toronto, reputed to be the finest theatre on this continent, which is now nearing completion, is only one of the many large projects Universal men have worked on throughout Canada.

We are proud to have installed the mechanical services in this unique arts centre and also for the part we are playing in the up-building of Canada's industrial and cultural expansion.

Among the companies we have served are the following:

Bank of Nova Scotia; Marathon Paper Mills of Canada Ltd.; Proctor & Gamble Co. of Canada Ltd.; Sunnybrook Hospitals; Hospital for Sick Children; Frigidaire Products of Canada; Canadian S.K.F. Co. Ltd.; McKenzie Building, Toronto; Humber Sewage Treatment Plant, Toronto; Harris Filtration Plant, Toronto; Ashbridges Bay Sewage Treatment Plant, Toronto; Board of Trade Bldg., Toronto; T.T.C. Office Building, Toronto; Confederation Life Office Bldg., Toronto; Cancer Clinic, Toronto; Camp Gagetown, N.B. (High Temp. Hot Water); U.S. Naval Base, Argentia, Nfld.

UNIVERSAL PLUMBING & HEATING

UNIVERSAL SHEET METALS

Companies Limited

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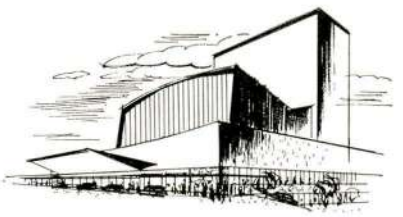
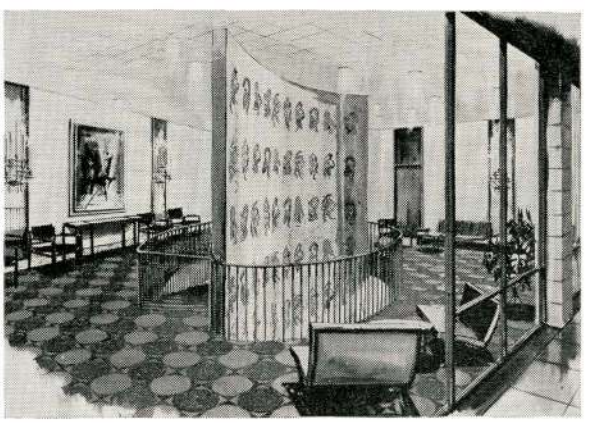


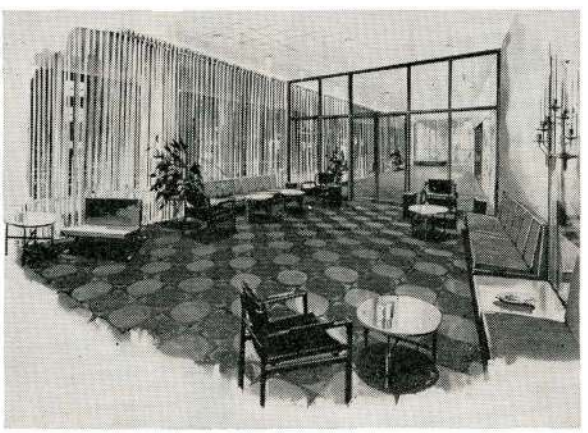
EATON'S OF CANADA

was appointed by the O'Keefe Centre Planning Committee as supervising authority for the Interior Decoration, design and supply of furnishings in

THE O'KEEFE CENTRE

for the performing arts





Just as the architects have contrived to give grace and lightness of line to the vast multi-purpose structure, so Eaton's has themed and colour-schemed the decoration to emphasize the feeling of space, light, liveliness and luxury.

Eaton's is proud to have co-operated from the blueprint stage on, with Toronto Architects, Earle C. Morgan and Page & Steele

For information on Commercial Contracts of any size, contact our

CONTRACT SALES SERVICE

EATON'S OF CANADA

Vancouver • Edmonton • Calgary • Regina • Winnipeg
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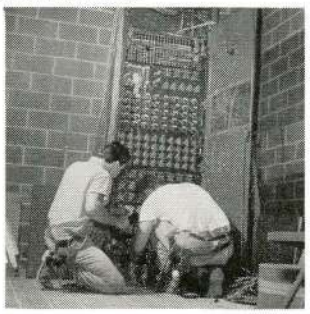
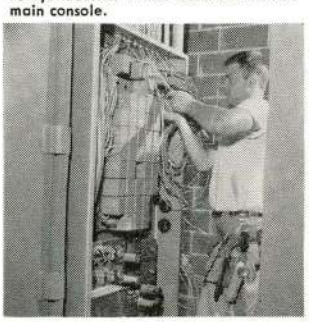
Smartly styled, unobtrusive Edwards automatic fire detectors are located throughout the theatre—even in the muralled main lobby.



This complex Edwards automatic fire alarm control and supervisory panel relays location of fire outbreak to the main console.

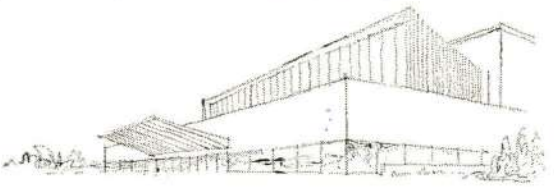


Here is the heart of the Edwards auxiliary services system, a centralized control for dozens of operations throughout the new building.

The large Edwards bell sounds a fire warning in the O'Keefe Centre lobby; the Edwards buzzer, more frequently used, is the theatre's curtain-call.

This Edwards Waterflow Switch activates the fire alarm system when any of the buildings' sprinklers go into action.

at the O'Keefe Centre... Canada's most modern theatre



AUTOMATIC PROTECTION AND CONTROL BY EDWARDS!

With every modern facility for the production and enjoyment of live stage shows, Toronto's new O'Keefe Centre ranks among the world's finest theatres.

This console, custom-built by Edwards of Canada Limited, provides central supervision of (left) WATCHMAN'S TOUR, indicating progress, maintaining schedules and warning of delinquencies; (centre) AUXILIARY SERVICES, indicating condition of door locks, alarm systems, elevators, stand-by generators, etc., and LIGHTING CONTROL for remote operation of all but stage lights; (right) FIRE ALARM, pin-pointing the location of fire.

ARCHITECTS: Earle C. Morgan and Page & Steele
ELECTRICAL ENGINEERS: Jack Chisvin and Associates Ltd.
ELECTRICAL CONTRACTOR: Standard Electric Construction

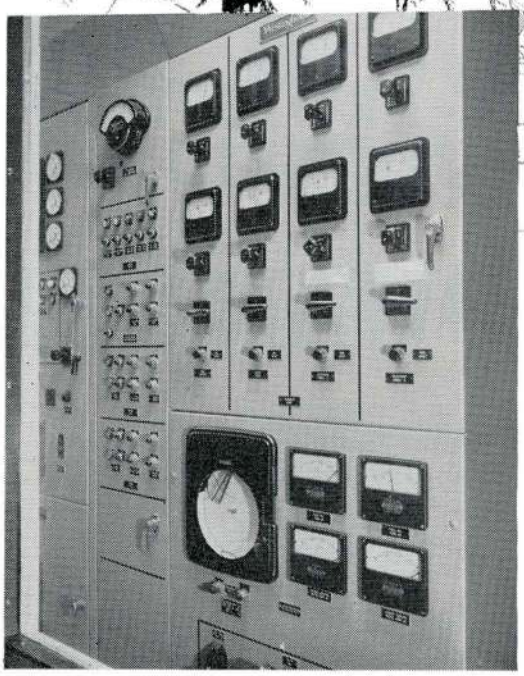
EDWARDS OF CANADA LIMITED, OWEN SOUND, ONTARIO

SAINT JOHN QUEBEC CITY MONTREAL TORONTO HAMILTON WINNIPEG EDMONTON CALGARY VANCOUVER

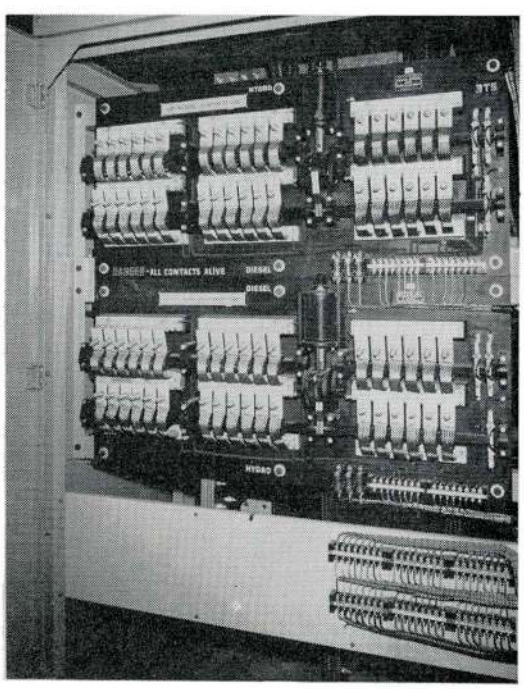
6021

In U.S.A., Edwards Company Inc., Norwalk, Conn.

A complete telephone system with . . .



The Supervisory Control panel, looking from the Diesel Generator room, through the triple glass window into the control room. The panel provides remote control of the switchboard located in the basement below.



The inside of the automatic transfer Switchboard gives an idea of the extremely complex engineering and skilful wiring needed on a control switchboard of this type. Switchboards are applicable to specific switching problems like this, as well as to general building circuit control.

POWER GUARANTEED BY THIS UNIQUE SWITCHBOARD!

Custom-designed for the Bell Telephone Company, this low-voltage Switchboard transfers the power supply for the telephone system from hydro to *auxiliary diesel power* —when required.

A team of experienced engineers from Canadian Westinghouse designed and built this unique transfer Switchboard and remote control panel.

Behind each Westinghouse Switchboard now at work in schools, hospitals and industrial buildings are the same Westinghouse engineers and proven Westinghouse components.

And they're ready to help solve your power problems. For full information on Westinghouse custom-designed, low-voltage Switchboards, contact your nearest Westinghouse Sales Office. Or write to Canadian Westinghouse Company Limited, District Manufacturing and Repair Division, P.O. Box 4, Toronto 18, Canada.

Consulting Engineers: Karel Rybka & Associates Ltd., Toronto.
Electrical Contractor: Standard Electric Company Ltd., Toronto.

YOU CAN BE SURE... IF IT'S

Westinghouse

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Hemus Towers Apartments, Toronto

NORANDA COPPER TUBE

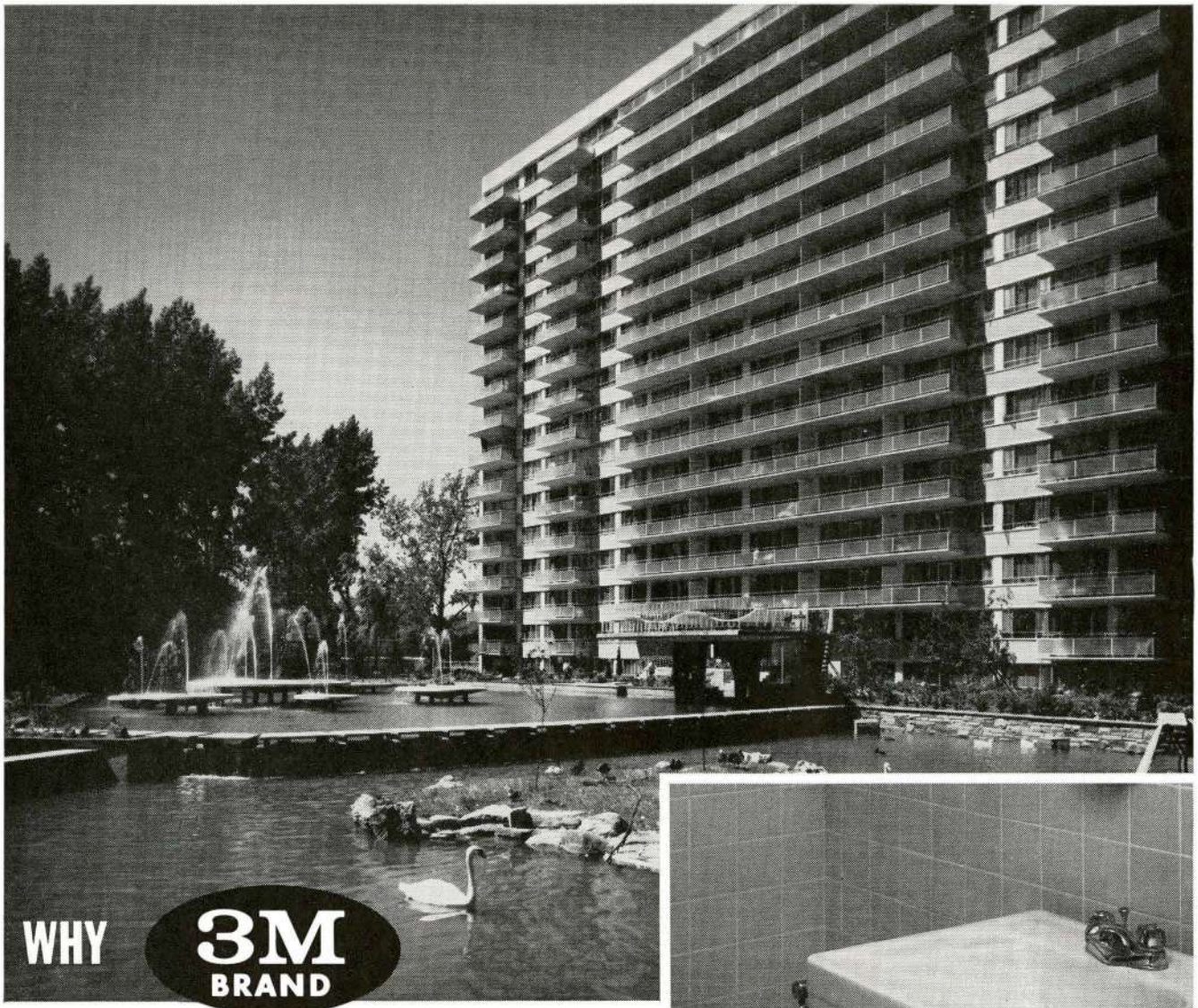
MEANS LONG LIFE AND HIGH CORROSION RESISTANCE FOR WATER, SERVICE AND DRAINAGE LINES

Commercial Plumbing Ltd., Toronto, used Noranda Copper Tube extensively in the recently completed 149-suite **Hemus Towers Apartments.** The compactness of Noranda Copper Tube, especially Type DWV, is a vital factor in today's construction where every inch of space must be utilized. Take advantage of Noranda Copper Tube —its compactness, popular price, speed and ease of installation, and permanence. Available from wholesalers everywhere, Noranda Copper Tube is your "key to a better job".

THE KEY TO THE BEST IN METALS

Noranda Copper and Brass Limited

SALES OFFICES: Montreal • Toronto • London • Edmonton • Vancouver



WHY 3M BRAND

CERAMIC TILE ADHESIVE CTA-11 WAS CHOSEN FOR TORONTO'S FABULOUS NEW BRENTWOOD TOWERS

Harry B. Kohl: *Architect*
Morris Dennis & Son: *General Contractor and Builder*
Century Tile Company Limited:
Ceramic Tile Contractor

Speed and economy are vital to a building contractor to maintain construction schedules and realize a profit. And these two important factors are the primary reasons why 3M CTA-11 was chosen for setting the ceramic tile in the luxurious new Brentwood Towers' 1,080 apartments.

CTA-11 trowels on smoothly, quickly. Long open time and non-slipping makes it easy to use . . . speeds up applications. CTA-11 is economical too! One gallon covers approximately 85 square feet. Match this economy with time and labour savings and you have a truly low-cost ceramic tile adhesive. CTA-11 has *many* advantages. For the full story mail coupon.

Minnesota Mining and Manufacturing of Canada Limited, Box 757, London, Ontario.

Gentlemen: Please send me full details on 3M Ceramic Tile Adhesives.

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COMPANY .....

ADDRESS .....

CITY ..... PROV. .....

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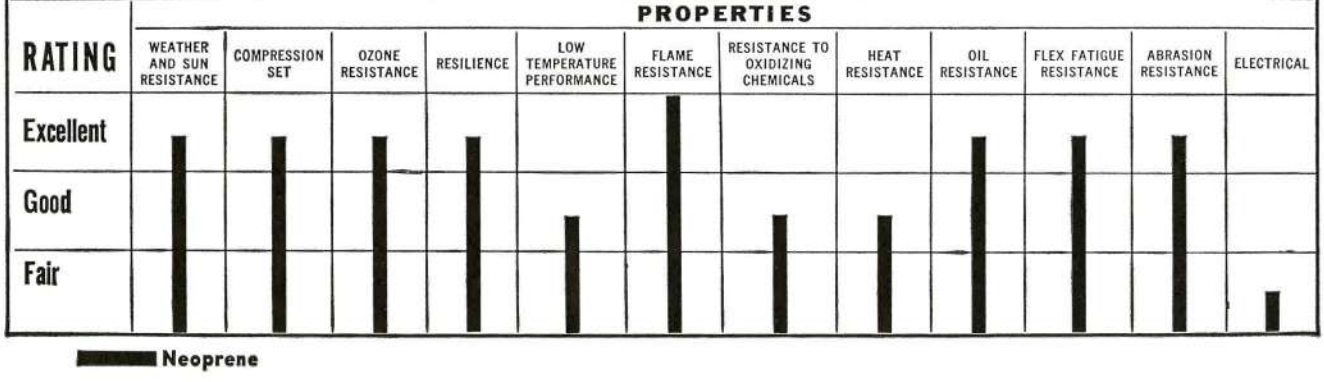
In new Lockport, N. Y., elementary school...

THESE LIGHTS WERE GLAZED

Anna Merritt Elementary School, Lockport, New York, covers an area of 17,111 sq. ft., features a new aluminum framing system with a neoprene seal that eliminates caulking.

THESE PROPERTIES OF NEOPRENE HELP THE ARCHITECT GAIN LONG-LASTING, EASILY-INSTALLED WEATHER SEALS



3 TIMES FASTER THAN NORMAL

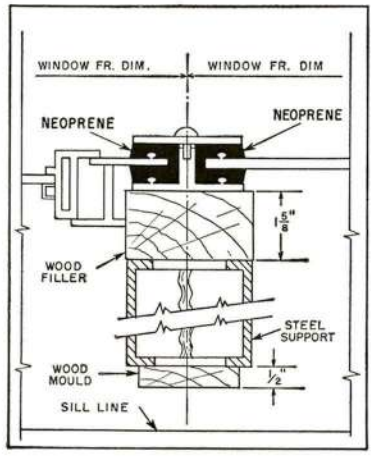
For the new Anna Merritt Elementary School (shown in photo) and the Roy Kelly Elementary School in Lockport, New York, architects Sargent, Webster, Crenshaw & Folley, Syracuse, N.Y., developed an ultra-thin aluminum mullion (only 1¾ in. wide) which, in combination with a prefabricated neoprene synthetic rubber sealing gasket (a special gasket designed with Patent Pending) gives the exterior wall a trim, modern appearance . . . speeds glazing . . . and cuts maintenance.

GLAZED IN A DAY AND A HALF. This modern neoprene-sealed glazing system requires no tool more complicated than a screwdriver . . . permits precision factory manufacture of all components . . . eliminates chance for error or careless workmanship in caulking . . . insures a clean, neat glazing job. The contractor estimates that, with the preformed neoprene gasket, installation moves three times faster than conventional glazing. The 17,111-sq.-ft. Merritt School was completely glazed in just a day and a half. Kelly School—2½ times as large—was glazed in 3½ days.

LASTING SEAL. A properly compounded neoprene gasket will perform efficiently for decades in this application. It resists weather, sun, ozone, heat, cold, chemicals, pressure . . . stays resilient and maintains a tight seal . . . protects glass against wind breakage . . . can be re-used if a window is broken. Neoprene's excellent combination of properties is shown in the graph on the opposite page.

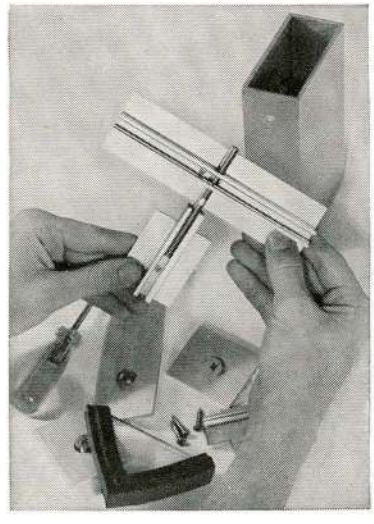
For more information on neoprene gaskets, and your regular copy of "Elastomers Notebook," write to: Du Pont of Canada Ltd., Elastomers, 85 Eglinton Ave. East, Toronto 12, Ontario.

This glazing system is sealed against weather by a prefabricated neoprene rubber gasket.

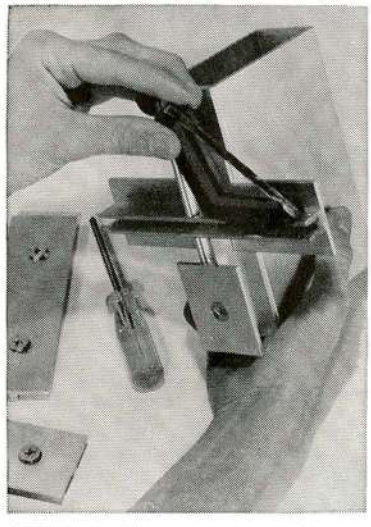


Neoprene gasket is Pawling Rubber Corporation's "Wet" Seal Channel

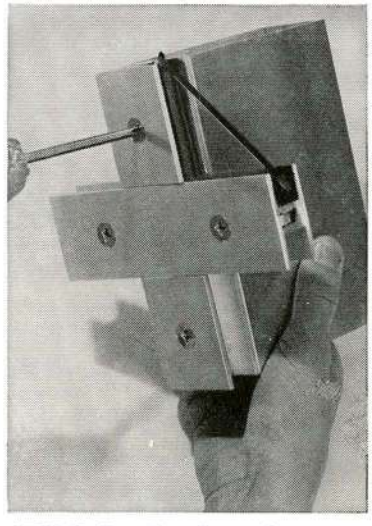
STEP 1—The simple, durable aluminum frame (only 1¾ in. wide) is assembled quickly and easily.



ONLY A SCREWDRIVER IS NEEDED!



STEP 2—Resilient neoprene seal snaps easily over glass, then gasketed light can be set in place in frame.



STEP 3—Screwing down of pressure strip against neoprene gasket assures a durable, weathertight seal.

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Better Things for Better Living . . . *through Chemistry*

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HYPALON*
VITON*
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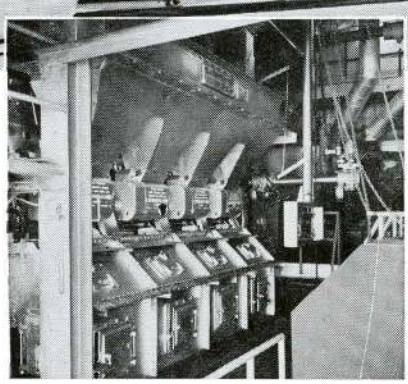
DISTRICT HEATING WITH COAL

is chosen in the new

WELLINGTON SQUARE

LONDON ONTARIO

First enclosed Mall-type Shopping Centre in the heart of a city in North America (Air-conditioned in Summer...Heated in Winter— Plus Roof-top Parking for 850 cars)



ONE BOILER ROOM (PHOTO ABOVE)

Saves millions of dollars in capital costs for over 350 clients of Cities Heating Company Limited. (PHOTO BELOW)

During the Summer months this same boiler-room feeds steam air-conditioning units operating on the heat-exchange principle.

LOW COST CENTRAL HEATING

London, Ontario is another example of the revitalization of the "heart" of a City—similar to developments in New York, Chicago, Montreal and Toronto.

Wellington Square Shopping Centre is a magnificent example where the centres of older cities have been made dynamic through an aggressive planning programme. The T. Eaton Co. Ltd. Canada's largest retailers, collaborated with Webb & Knapp, North America's greatest realtors, on this progressive development. Where Central Heating is available such a vast project is naturally attracted through lower costs of heating and/or process steam. In London, Coal offers the greatest economy for mass production of heat and/or steam.

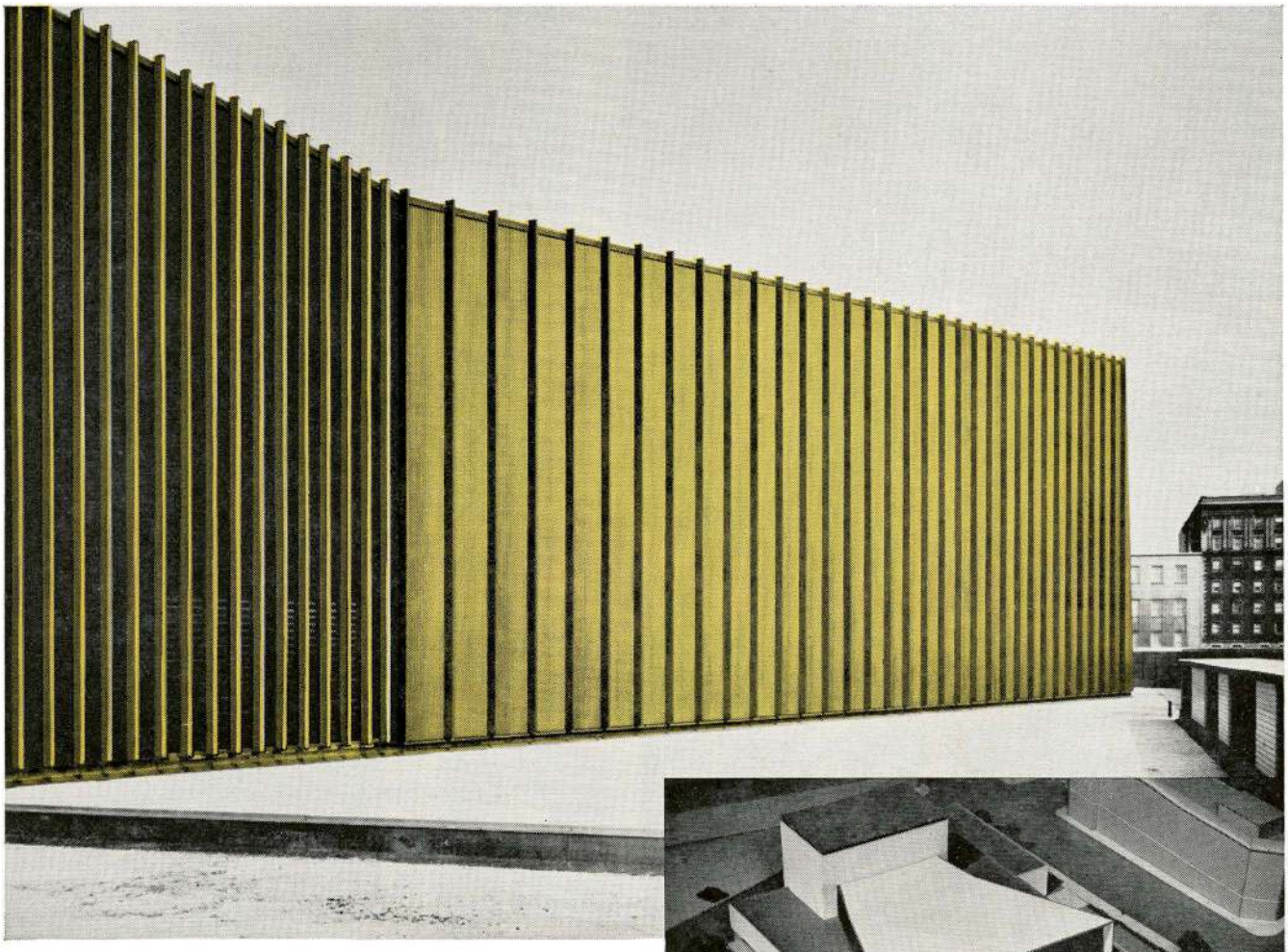
In the case of Wellington Square which comprises a 5-level T. Eaton Co. Ltd. building, a Dominion Supermarket, 50 other retail stores and businesses plus the mammoth covered Mall, the entire project is heated through underground pipes by Cities Heating Company Limited. It is estimated that the cost to each individual user is well below any other method of heating.

Major capital costs have been saved by Eaton's, Dominion Stores and the others due to the fact that no individual heating plants or boiler rooms are needed: in all cases heat or process steam is delivered from the central coal fired plant via underground pipes. For all large projects we invite architects, engineers and investors to investigate the economies possible with Central heating; as in the case of Wellington Square, London, Ontario, you will find that in the long-span Coal can deliver you considerably more profit on your investment.

For further information or additional case histories showing how other plants have saved money burning Coal the modern way, write to Bituminous Coal Institute of Canada at 159 Bay Street, Toronto.

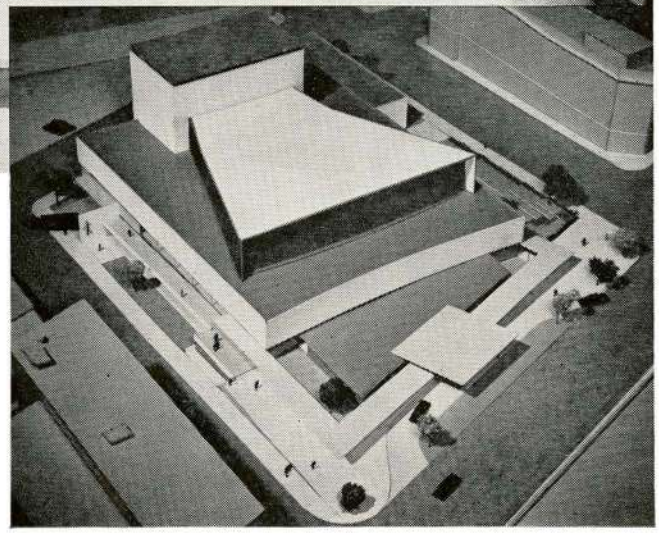
Where costs count – Coal is the fuel

BCi BITUMINOUS COAL INSTITUTE OF CANADA



Architectural design

BEHIND THE RED BRASS CURTAIN



Architects: Earle C. Morgan and Page & Steele. General Contractors: Anglin-Norcross (Ontario) Limited. Architectural Metal Contractor: Canadian Ornamental Iron Co. Ltd. Roll-forming: J. Brockhouse & Co. (Canada) Ltd.

Here is a beautiful example of how Red Brass, one of Anaconda's versatile architectural metals, expresses art in architecture. Red Brass was chosen for the exterior auditorium walls of the new O'Keefe Centre for the Performing Arts, not only for its durable beauty but also its economical adaptability to curtain-wall construction. Red Brass can be roll-formed for easy shop fabrication. It can be supplied in long lengths to eliminate horizontal joints. The natural richness of this facing will weather to an elegant "statuary bronze" shade.

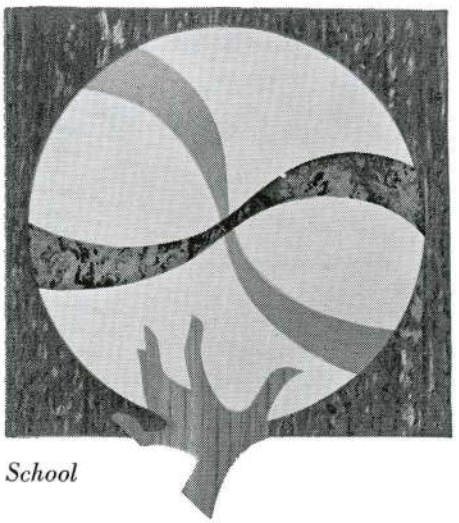
Details of other curtain wall designs and the many uses of copper and copper alloys in modern architecture, are outlined in the full-colour, 64-page booklet, "Architectural Metals by Anaconda". Write for your *free* copy to: Anaconda American Brass Limited, New Toronto (Toronto 14), Ontario. Sales offices: Quebec City, Montreal, Calgary and Vancouver.

C-6050

ANACONDA
Copper and Brass
TRADE MARK

BUY CANADIAN

Anaconda Products are as Canadian as the Maple Leaf.



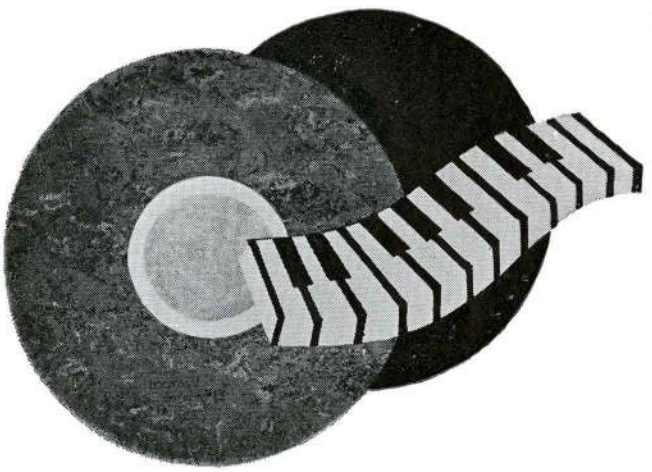
School

VARIATIONS ON A CIRCLE THEME WITH CUSTOM-MADE

DOMINION LINOLEUM

How to take a shape and shape it to specific flooring motifs! Custom-made Dominion Linoleum shows how with a circle, but is equally adept with triangles or trees, squares or ships.

The wide variety of colours and patterns in linoleum help to make more interesting motifs, and they are surprisingly economical, too. Consult our designers for ideas, or discuss with them how your own sketches can be worked out. For further information or literature, write Dominion Oilcloth & Linoleum Co. Ltd., 2200 St. Catherine Street East, Montreal.



Music Store

Soda Fountain

Available by-the-yard
or in tiles (9″ and 12″) in these
types...all inlaid...
MARBOLEUM • DOMINION JASPÉ
HANDICRAFT • BATTLESHIP
TILECRAFT (12″ tiles only).

DOMINION LINOLEUM

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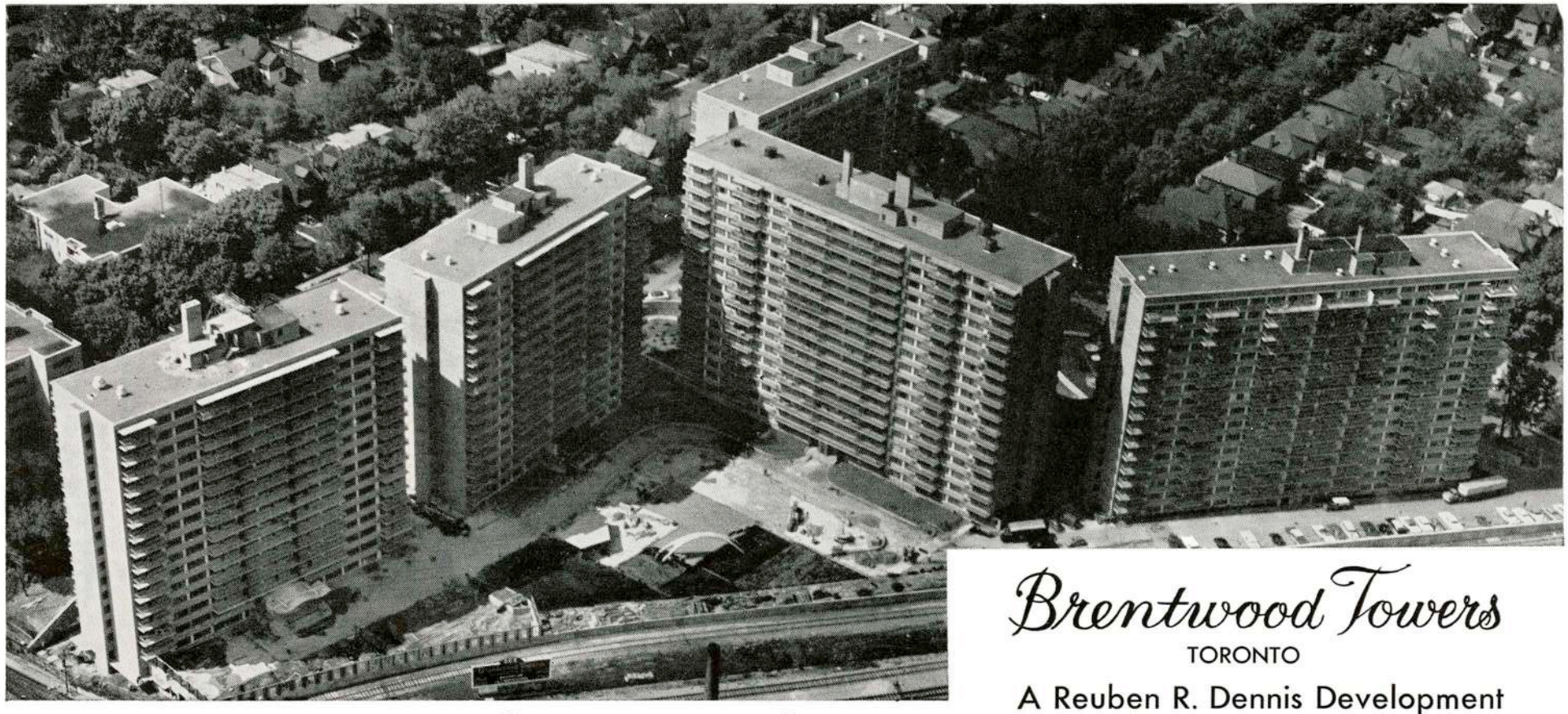
GUN METAL BRICK

A NEW DESIGN COLOUR FROM CANADA BRICK

Gunmetal—the richest expression of the brown spectrum. A new deep tone with steel gray in it, enhanced by the slight shine of the semi-glaze finish. Widely used for individuality and distinction in single colour wall treatment, or contrast with soft pastel Design Colours as French Blue, Dawn Gray, Venetian Gray. On the wall, Gunmetal performs with the same severe weathering qualities expected of Design Colours. Sample, Jobsites and test data are available on request from your Canada Brick representative or directly from the sales manager.

CANADA BRICK

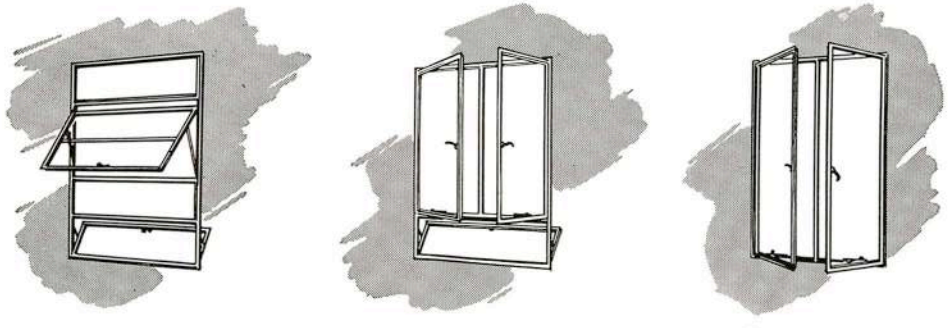
CANADA BRICK, STREETSVILLE, ONTARIO • ATWATER 9-2794



Brentwood Towers

TORONTO

A Reuben R. Dennis Development
Architect: Harry B. Kohl



Selected STANDARD METAL WINDOWS *by* CRITTALL

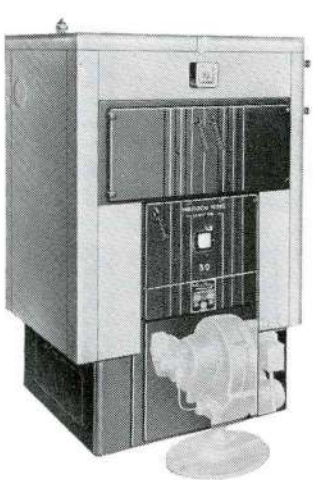
CRITTALL-FENESTRA Windows were chosen for their low initial cost, long life, lower maintenance expense, and complete protection against all weather. In addition, standardization of sizes resulted in lower on-site expense and fast delivery from stock. May we mail you our Catalogue for your files, before you specify your next windows?

CANADIAN CRITTALL METAL WINDOW LIMITED

685 WARDEN AVENUE • TORONTO 13, ONTARIO

MANUFACTURERS AND SUPPLIERS OF WINDOWS IN ALUMINUM AND STEEL

You only need this much space for a VIKING 30 OIL-FIRED BOILER!



And space-saving design is only one of the reasons why the Viking 30 is the ideal selection for apartments and commercial buildings. It is easy to install . . . adaptable to all types of firing . . . conforms to all code requirements . . . satisfies clients completely.

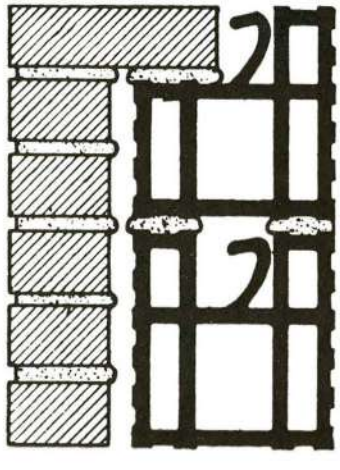
When you're planning heating systems, a good point to keep in mind is . . . Warden King provides the only *complete* line of I-B-R approved Boilers and Baseboard Panels manufactured in Canada. For full information, consult your Warden King Catalogue.

Manufactured by Warden King *2104 Bennett Avenue, Montreal*

ANOTHER CRANE PRODUCT

even Joshua would have been impressed!

If the walls of Jericho had structural clay backup tile, chances are the sound of trumpets would never have been heard within the city—let alone tumble the walls. Yet compressive strength and sound reduction are just two of the important properties of structural clay tile. It's non-shrinkable, fire resistant, an excellent plaster base, reduces dead load and inch for inch surpasses thermal resistance of solid masonry units. Make use of this modern hollow tile at every opportunity. Complete specifications on request.

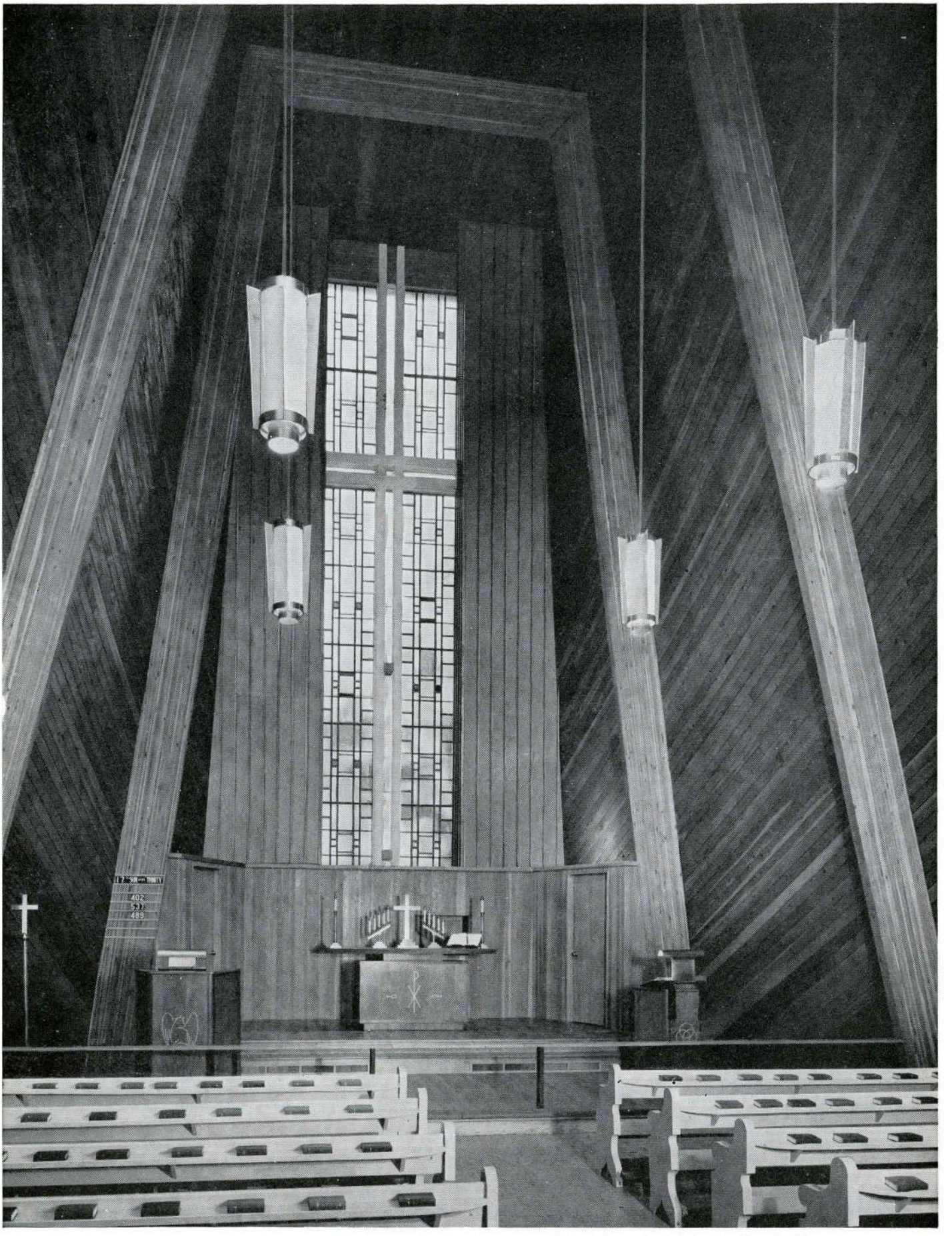


BRICK AND TILE INSTITUTE OF ONTARIO

4824 YONGE ST., WILLOWDALE, ONTARIO

GUARANTEED GENUINE Burned Clay BRICK

TILE



Allowing wood to function structurally *and* decoratively helped realize significant economies in the construction of this modern church. These dramatic supporting members are 2x6's over laminated arches.

Because it brings its own beauty to basic design . . .

for new answers . . . look to WOOD!

The natural beauty of weathered wood helps wed this house to its site, harmonize with masonry and painted surfaces. Battens create a strong design line.

Wood's beauty goes to the very heart of a design problem, because it rests on a strong foundation of structural integrity. When you designate wood, you have a material that functions on two levels . . . structural and decorative . . . *simultaneously.* Any material that can perform this double duty is the welcome ally of today's inflation-harassed architect!

For example, wood's use on exteriors . . . its ability to weather subtly, beautifully, even as it protects and insulates . . . the ease with which it harmonizes with so many color schemes. In interiors, wood construction need not be hidden. Rather, you can boast of its beauty with exposed post, plank and beam . . . with floors, panelling and handsome built-in cabinetry. For more information on designing with wood, write to:

CANADIAN WOOD DEVELOPMENT COUNCIL,
27 Goulbourn Ave., Ottawa 2, Ont.

for freedom of design,
look to Wood

cwdc
NATIONAL wood PROMOTION PROGRAM

Wood's capacity for capturing the color of Nature, plus its ability to withstand the elements, makes it the logical choice for the architect trying to bridge the gap between indoors and out. Wood's acoustical properties enhance the richness of high-fidelity sound in this modern home.

INDEX TO JOURNAL ADVERTISERS

Three gymnasiums in one room

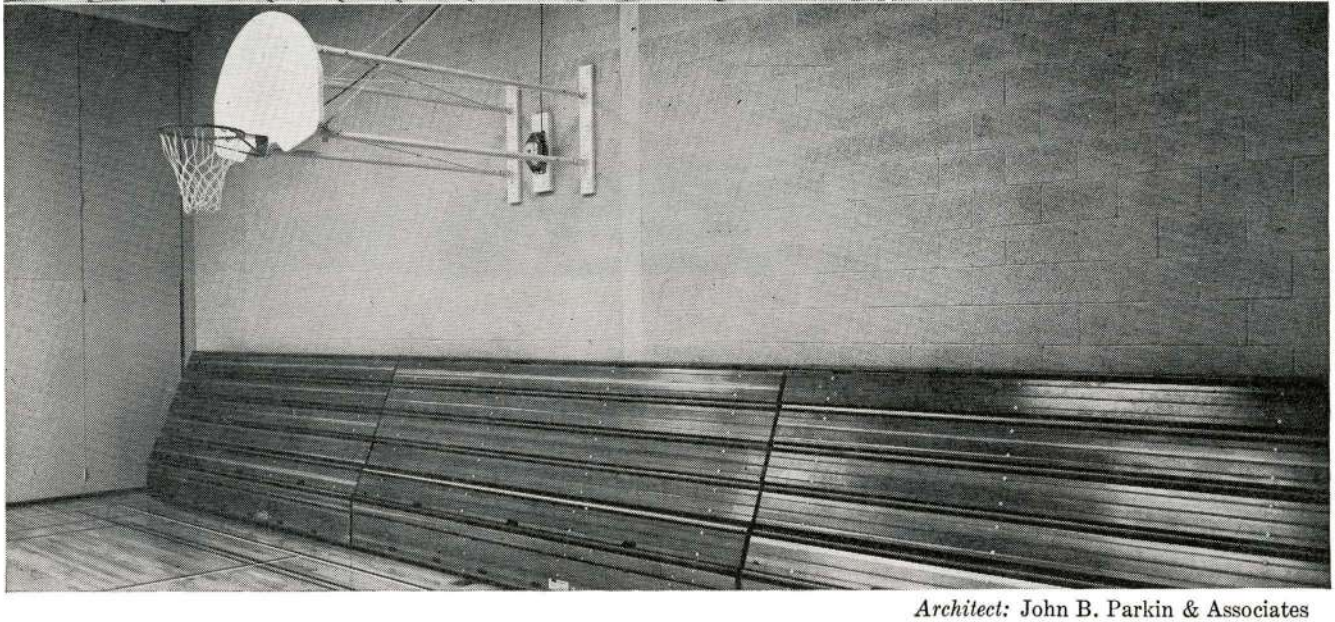
The new Don Mills Secondary School in Metropolitan Toronto has a good size gym and the architect put every square foot to work—*twice.*

FOLDING PARTITIONS: At the turn of a key, Brunswick's Folding Partition slides into place and instantly one large school gymnasium becomes two distinct recreational areas.

FOLDING GYM SEATS: Convenience and economy —plus important extras: positive row locking and single row operation; greater foot freedom; solid, even-load construction.

BASKETBALL BACKSTOPS: From the practical Wall-Braced design to elaborate, electrically operated units, Brunswick produces a complete line of fine-quality basketball backstops.

For detailed specifications on Brunswick Gymnasium Equipment, write or contact your nearest Brunswick branch.



Architect: John B. Parkin & Associates

BRUNSWICK

BRUNSWICK OF CANADA

School Equipment Division • Head Office & Factory: Box 60, Dixie, Ontario.

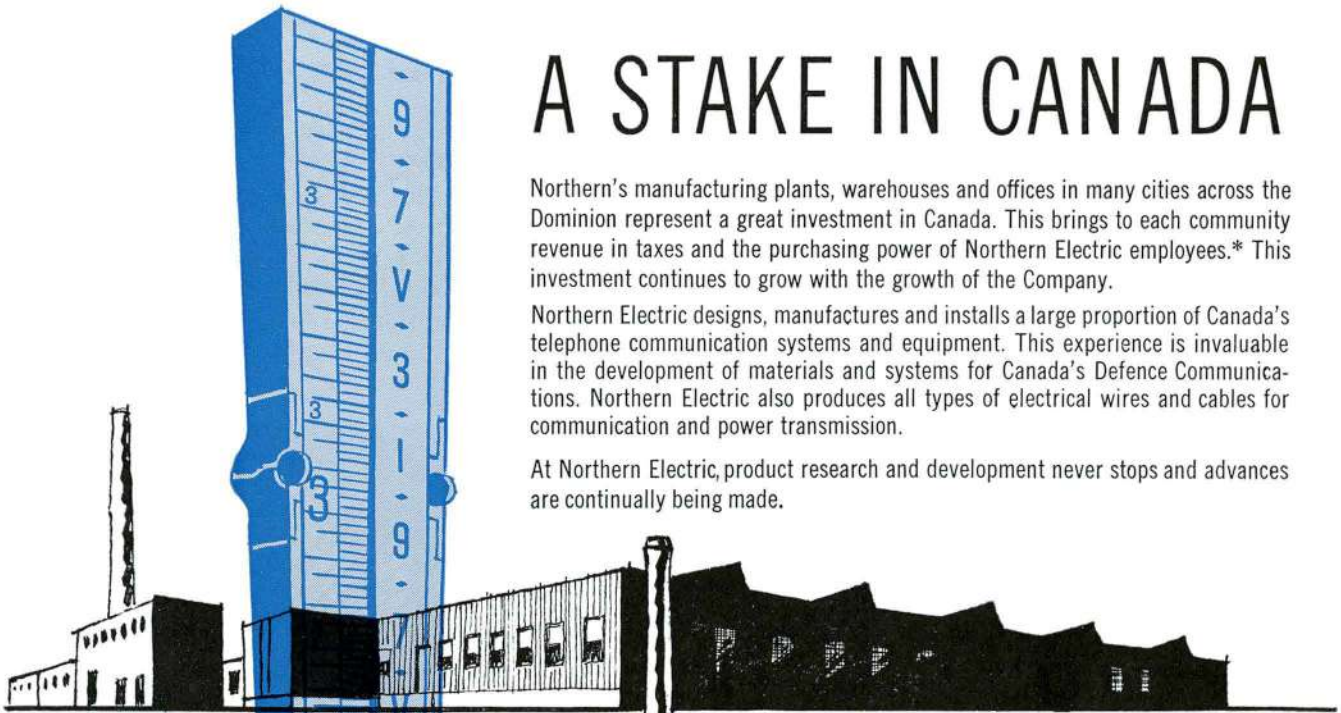
VANCOUVER • CALGARY • WINNIPEG • TORONTO • MONTREAL • QUEBEC CITY

A STAKE IN CANADA

Northern's manufacturing plants, warehouses and offices in many cities across the Dominion represent a great investment in Canada. This brings to each community revenue in taxes and the purchasing power of Northern Electric employees.* This investment continues to grow with the growth of the Company.

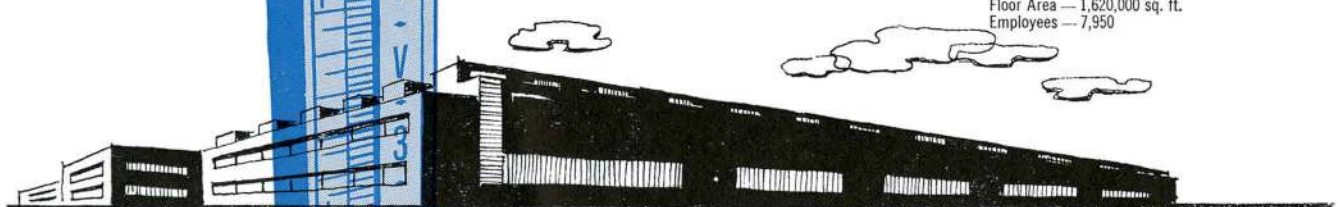
Northern Electric designs, manufactures and installs a large proportion of Canada's telephone communication systems and equipment. This experience is invaluable in the development of materials and systems for Canada's Defence Communications. Northern Electric also produces all types of electrical wires and cables for communication and power transmission.

At Northern Electric, product research and development never stops and advances are continually being made.

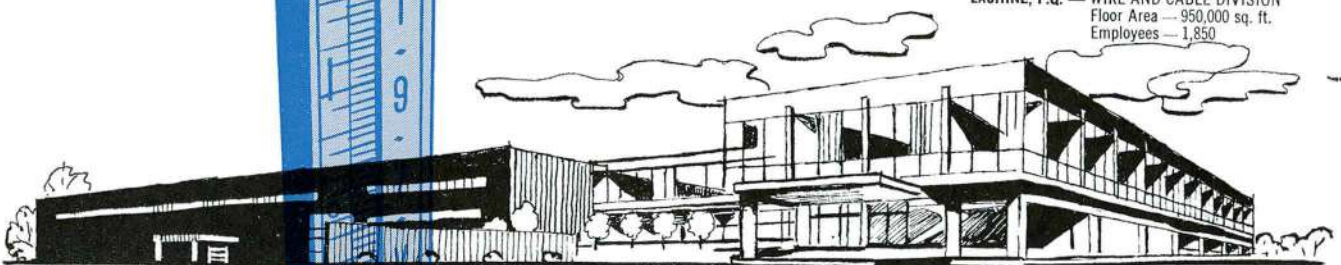


BELLEVILLE, ONT. — COMMUNICATIONS EQUIPMENT DIVISION
Floor Area — 188,000 sq. ft.
Employees — 900

MONTREAL, P.Q. — COMMUNICATIONS EQUIPMENT DIVISION
Floor Area — 1,620,000 sq. ft.
Employees — 7,950



LACHINE, P.Q. — WIRE AND CABLE DIVISION
Floor Area — 950,000 sq. ft.
Employees — 1,850



LONDON, ONT. — COMMUNICATIONS EQUIPMENT DIVISION
Floor Area — 317,000 sq. ft.
Employees — 200
(Ultimately, 1,000)

*Total including employees in Sales Division, Telephone Contract Division, Installation Department, Research and Development Department and Headquarters staff, 15,300.

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COMPANY LIMITED

SERVES YOU BEST

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Heavy Duty Concrete Floors

The Problem. Producing a long-wearing heavy duty concrete floor is difficult—even under ideal conditions, using the best materials and workmanship. But even the best plain concrete floors often dust, ravel, shatter and disintegrate from heavy duty usage in a short time after being put into service. And because of the relatively high absorption of plain concrete, these floors are frequently attacked by the corrosive materials used or manufactured in these areas.

Technical Considerations. A heavy duty concrete floor should meet these minimum requirements:

1. The concrete slab should be structurally sound . . . sufficiently reinforced . . . of adequate thickness and strength . . . and produced with high-quality concrete materials.
2. The *surface* of the floor should be designed to withstand the following conditions:
   - Present and anticipated point loads and severity of traffic.
   - The range of exposure conditions peculiar to the industry and to the specific operating area.
   - The type of cleaning dictated by the particular industry.
3. The floor should be practicable and economical to install . . . utilizing, wherever possible, locally available materials, equipment and workmanship.
4. The floor should require minimum maintenance . . . and be easy to repair.

Properties of various types of concrete floors, floor aggregates and surface treatments: Summarized from reports of the National Bureau of Standards, Research Paper RP-1252, Volume 23, November, 1939, Journal of American Concrete Institute Proceedings, Volume 50-18 and Bureau of Reclamation studies reported in Engineering News-Record, April 21, 1955.

Cured vs. Uncured Concrete Floors

Proper curing of a concrete floor not only produces higher strength, but also reduces shrinkage and cracking and increases abrasion resistance. Dusting is associated most frequently with improperly cured floors.

Chemically-Treated Concrete Floors vs. Properly Cured Floors

Chemical treatments are of greatest value when applied over floors that were not properly cured. Even then, the abrasion resistance is not nearly equal to a properly cured floor. A chemical after-treatment will, if used repeatedly, arrest dusting.

Metallic vs. Natural Aggregate

Specially prepared metallic aggregate, when applied as a dust coat over freshly floated concrete, provides a floor finish with 4 to 8 times greater impact and abrasion resistance than the same properly cured concrete without the metallic aggregate surface. The metallic hardened surface is non-dusting, virtually non-absorbent and is resistant to oil and many industrial corrosives. Floors finished with various types of natural aggregate (silica, traprock and emery) do not differ significantly in abrasion resistance, and are not equal to the metal aggregate.

Function of MASTERPLATE® in producing wear-resistant concrete floors.

MASTERPLATE is metallic aggregate—tough malleable, specially-processed and size-graded iron particles—combined with Master Builders exclusive water-reducing agent and other components which improve the properties of the finished floor. These components make it possible to easily incorporate a pound or more of MASTERPLATE per sq. ft. of floor . . . and keep the iron-armouring at the surface.

Advantages of the MASTERPLATE Floor

1. *Wear Resistance:* 4 to 8 times greater than the best plain concrete floor.
2. *Non-Dusting:* The malleable, high-strength MASTERPLATE surface does not fracture whereas natural aggregates fracture easily under impact.
3. *Low Absorption And Corrosion Resistance:* Oil, grease and corrosive solutions do not penetrate the surface. Spills can be easily cleaned.
4. *Slip Resistance* (When Desired): Swirl trowelling the surface produces ridges of "reinforced concrete".
5. *Easy - to - Clean:* Withstands repeated scrubbing, steam and strong cleansing compounds.
6. *Color* (When Desired): Available in 11 colors for industrial areas, institutional and commercial buildings.
7. *Economical:* Only 15¢ to 20¢ per sq. ft. more than the concrete to which it is applied . . . the most economical industrial floor surface known to industry today.

Estimating Data

Type of Service	Thickness of MASTERPLATE
Heavy Duty	1.0 to 1.25 lbs. per sq. ft.
Extra Heavy Duty	(Use ANVIL-TOP®—consult your Master Builders field man.)

Note: For areas subject to less heavy usage, quantities less than 1 lb. of MASTERPLATE per square foot will produce proportionately good results.

Suggested Specification Clauses

General Conditions: Floors designated to be surfaced with an approved metallic aggregate surface hardener shall be finished in a manner described in the following paragraphs of this specification utilizing the services supplied at no cost to the contractor, of a specially trained concrete technician, a full-time employee of the metallic aggregate manufacturer.

Cement: The cement to be mixed with the metallic aggregate shall be portland cement conforming to Type I of the current CSA A-5-51.

Metallic Aggregate, Non-Colored: The metallic aggregate, specially processed and formulated for specific use as a surface hardener, shall be MASTERPLATE as manufactured by The Master Builders Company Ltd. Material delivered to the job site showing any rusting of the metallic aggregate or presence of oil shall be rejected. It shall be mixed with portland cement, applied to the fresh concrete, finished and cured in accordance with the manufacturer's recommendations given on the job by his aforementioned job representative.

Curing: Floors finished with the metallic aggregate surface hardener shall be cured with an approved membrane curing compound applied immediately after the floor surface has hardened sufficiently so that it will not be marred by the application.

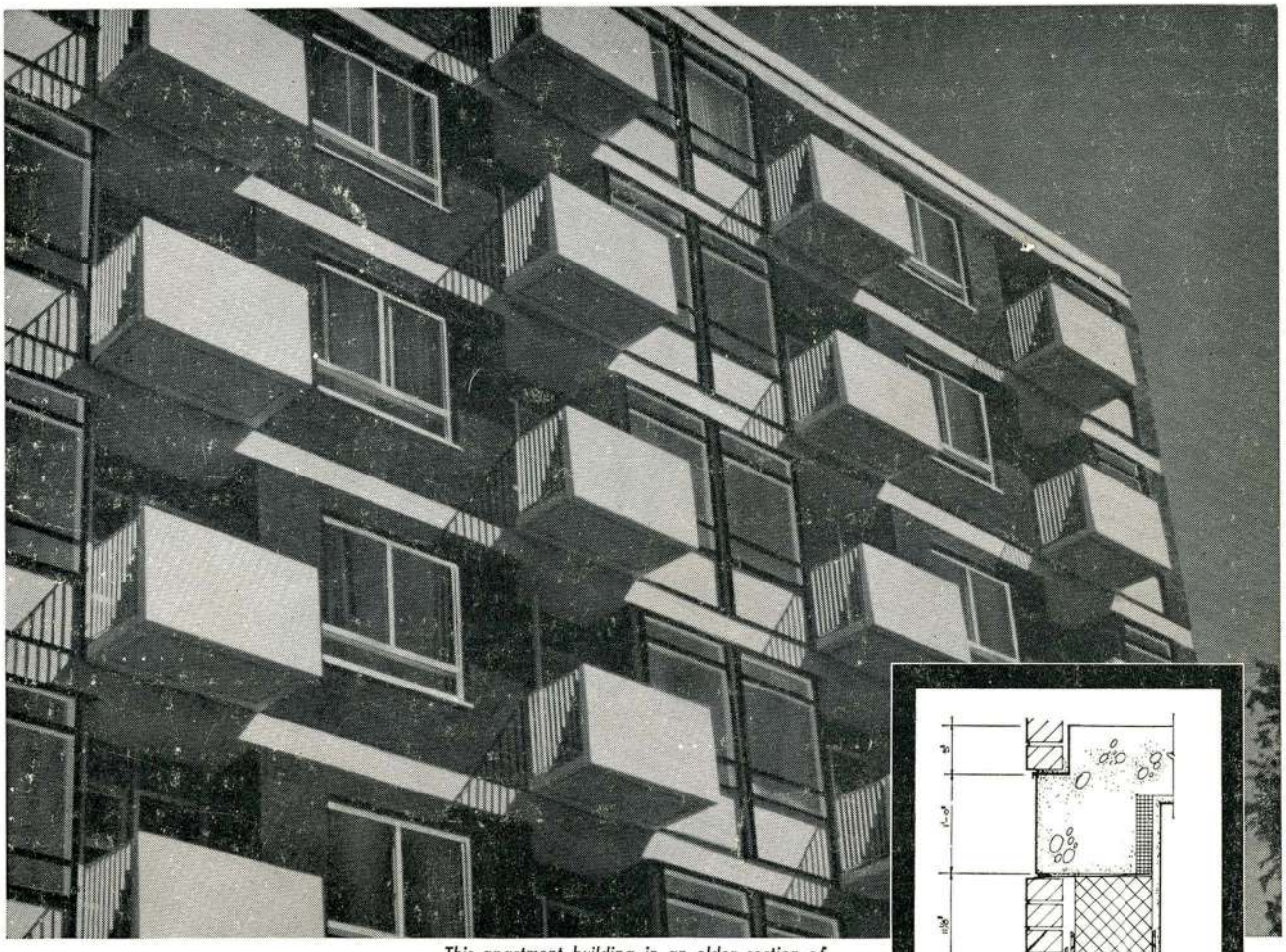
For a copy of complete suggested heavy duty concrete floor specifications, or for additional information on MASTERPLATE, contact the local Master Builders field man.

Our 50th Year of Service

The MASTER BUILDERS® Company Ltd.

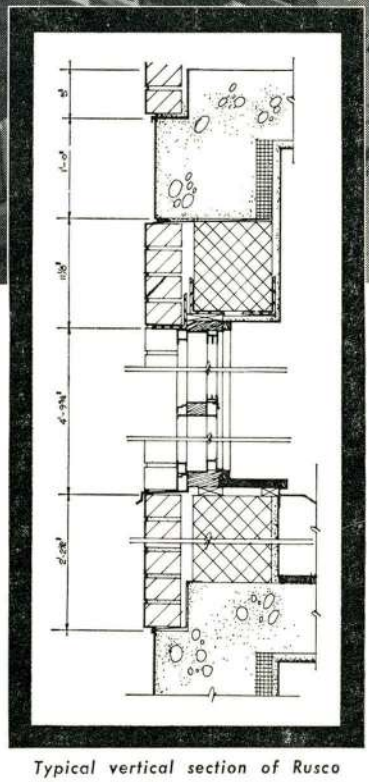
Subsidiary of American-Marietta Company • General Offices and Factory, Toronto 15, Ontario

Branch Offices in Vancouver, Edmonton, Winnipeg, London, Ottawa, Montreal and Saint John



This apartment building in an older section of Montreal's Westmount district features Rusco Windows and Doors.

Architects: **Bernard Rosen & Irving Caruso**



Typical vertical section of Rusco Window installation in this building.

RUSCO STEEL WINDOWS and DOORS for WESTMOUNT APARTMENTS . . .

This 48 suite apartment building, the first new construction built in an older residential section of Westmount, P.Q., features black and white Rusco Steel Windows in alternate vertical rows. The black windows are contrasted with yellow panelling. The balcony doors are also by Rusco.

The slimline design of Rusco Windows also minimized obstruction of the view—historic Mount Royal on one side, the St. Lawrence River on the other.

Call or write your nearest Rusco Office about

RUSCO WINDOWS AND DOORS

THE F. C. RUSSELL COMPANY OF CANADA LIMITED

750 Warden Avenue, Scarborough, Ontario

A Product of Canada

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