

# RAIC JOURNAL

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## EDITORIAL

DURING THE YEAR, the President and Chairman of the Editorial Board each write an editorial for this page. It may not, therefore, be inappropriate for the editor to say something in the issue which precedes the annual meeting. We, on the *Journal* staff, are to some extent anonymous. Few architects visit the sanctum sanctorum of the publisher where, in an adjacent room, we occupy a circular stool. The telephone and the postman make it unnecessary for them to do so, but nevertheless it is a loss. Ideally, we would be a part of an architects' building in which there would be a constant going and coming of architects from all over the world. One would get to know by the grape vine that Mr Mies van der Rohe was in the building listening to Mr Parkin, or that Mr Govan was having tea with some architectural students among the piloti, and one would immediately interview them in one's best editorial manner. It is evident that we are visualizing an RAIC building, but Toronto is an unlikely setting for such an institute, and rapid transit is not yet rapid enough for commuting to the Capital. Such thoughts come to us after seeing the editor of the *RIBA Journal* in Portland Square last summer. We seem to remember that he wore a green eyeshade. He was certainly surrounded by galleys, and galley-slaves kept providing him with fresh sheets and illustrations for his inspection. In the halls of the Institute were what we took to be Canadians like ourself, Australians, New Zealanders, South Africans and an Indian; at least, so we assumed from the fact that they did not carry umbrellas. We have to confess that contacts such as these are rare at 57 Queen Street West, Toronto.

We labour here under the very great handicap of distance. If the editor and editorial board have had one continuous goal over the years, it is that the *Journal* should play an important part in bringing the profession together and in promoting good will. Such a goal is not easy to achieve by correspondence, and that is our only means of communication. We have active editorial boards in metropolitan centres, and we have no doubt that the *Journal* would be vastly improved if we could meet occasionally and discuss the plans of the Board. We have, for instance, had many requests that the *Journal* be printed on a matt paper, and we have had to bear with those critics, who are readers of the *Architectural Review*, who would like blue and yellow inserts. These are problems largely of cost and staff, but we have at last decided to try three months, starting with July, on a suede paper. We shall form our own opinion of the result, but would welcome criticism from east, west and centre. The new feature Viewpoint would seem to be well read, but we invite topics as well as comments on the points of view expressed by those whose opinions were specifically asked. Viewpoint is a means of airing many matters that are discussed at luncheon tables and in the office, but their publication can reach a wider audience with profit. Subjects for O Canada abound in every province, but so far we have received only one from outside Ontario. Fortunately, O Canada is anonymous, but for those of us who know the source of photographs, the suggestion that such oddities are to be found in only one province is slightly embarrassing.

Since an annual meeting, two years ago, our request for reports from annual meetings whether of chapters or associations has received the careful attention of our provincial representatives. In addition, we would earnestly ask for the manuscripts of papers read before any architectural group. The gaping maw of the *Journal* devours some fifteen thousand words of text, and one of our greatest needs is for text. Finally, we would urge provincial representatives to rally round the page which we once called 'Provincial Letters'. At some period, and for no good reason, that page was lost under the heading of 'News from the Institute'. We do still publish provincial letters, but, frequently, we are reduced to one from Ontario. We initiated the provincial letters, and there have been moments of depression when we have asked the Board whether it should be abandoned. Apparently, the very provinces that are remiss are among those that would like the letters continued. Perhaps, the meeting at Halifax will give the page a new lease of life.

On behalf of the publisher, the *Journal* staff and ourself, we would like to thank all those members who, even in a small way, have contributed to the success of the *Journal* during the year.

THE FACTORS TO BE CONSIDERED in choosing windows for any building are numerous, and office buildings are so varied in their general requirements that the assessment of the window conditions to be satisfied in any particular office building design demands wide and careful consideration.

It is doubtful whether any other product in buildings requires to perform services during the whole range of the year that are so contradictory in their objective, so difficult to achieve mechanically and arrive at a real attractive appearance, simple and obvious in operation, and low in first cost and minimum of maintenance for the life of the building.

In earlier forms of construction, openings in walls for windows were limited in size for obvious structural reasons, but with the growing versatility of structural engineering it has become possible to create building structural forms where exterior walls are not essential as a structural element, and the architect is thereby free to exercise a wider skill in using windows as an architectural feature on a much greater scale.

This freedom from exterior wall limitations has culminated in the so called "curtain wall" construction, where the complete façade of a building is being considered as a complete window structure wherein the glazed part of the structure used for light transmission is only a part of the same framing that carries the spandrel panels.

Window forms can now be classified in three major divisions: —

- A. Simple window form.
- B. Continuous windows where windows of normal height form a substantial part of the width, or even the full width of the façade.
- C. Curtain wall types where the window structure runs from floor to floor.

Each of these window forms usually must be considered as to the freedom from or limitations imposed when considering all other features required in a window design for a particular building.

Since the earliest times, windows have received a great deal of attention by the architect as a means of providing interest and balance of appearance in the architectural treatment of the building, and an essential part of window design lies in achieving the lines required by the architect while, at the same time, obtaining a sufficiency of lighting, ventilation and other requirements. Frequently, the size and proportion of glass sizes required by the

architect will dictate what type of window construction is to be selected. In some circumstances, particularly in severely cold areas where double windows are essential, the greater simplicity of appearance imposed may influence the architect to achieve his taste in pleasing appearance in a different way. Essentially, however, it is the job of the window maker to provide the architect with windows that permit the designer to obtain the appearance and service that provide the best all-round compromise for the particular building concerned.

What are the factors involved in mechanical and commercial limitations?

These are very varied and initially must be taken one by one.

The prime purpose of a window is to hold glass and keep the wind and rain out of a building.

It is not purposed here to discuss all the forms of glass with their various applications as this is a wide field and should be treated as a necessarily lengthy subject in itself, covering the economical clear sheet, polished plate glass, wired glass, obscured types, heat-absorbing glasses and their use and application, and also the glass block forms of glazing.

The size, limitation and cost of each type of glass is usually a large factor in the selection of type of window and the design size limits.

The next factor is usually the matter of heat loss. Heat losses can be through three causes: —

1. Transmission through glass areas.
2. Transmission through the frame structure.
3. Heat loss because of movement of air through the window structure.

Unfortunately, this whole question of heat loss is very complex as, of necessity, it involves the subject of condensation and methods of heating.

Many elements of the products that go to make up a complete building have been the subject of exhaustive testing to determine measurable factors that result in ready finalizing of design.

Testing procedures for measuring the effect of variations of window design — heat losses, condensation control and correct application of heating and allied matters, are very complicated and expensive procedures. The National Research Council Building Research Division has had under consideration for some years the setting up of equipment for these purposes, but the scale of the problem and

the expenditures involved would appear to have made it difficult for this to be achieved, and up to the present time no test results are available for general use. Until such testing work has been carried out, the data will not be available to put window design into mathematical relation to winter heating, summer cooling and condensation control.

In the meantime, the choice of window, the design of interior window sills, heating elements and scale of moisture control in winter and summer can only be based upon very general observation of results in existing buildings in everyday use.

The measurement of temperatures, humidity conditions, wind velocities, and other relevant data, the proper tabulation and interpretation of such data is a very time consuming task, and the preparation of such data from a sufficient number of buildings of differing types and in different climatic areas over the proper seasons of the year would be a big task and cost a substantial sum if undertaken by an independent organization whose findings would be generally accepted.

The following comments, therefore, are necessarily based upon past observations that cannot be substantiated by laboratory test data or documented data from existing buildings.

As it is rare for two manufacturers to produce the same types in the same way, it is impossible to go into detailed discussion without, in effect, going into a comparison of one manufacturer against another, and it would be improper of the writer to attempt to do this.

To add further complications, it is necessary at the outset to know whether flyscreens are or are not required. If screens are needed, then there comes the question as to whether they must be removed only from the outside or the inside. Where it is proposed to use hinged sashes opening in, removal of screens from inside is a problem, particularly if high up. If outward opening top hinged windows are used with a screen on the inside — operation of the sash becomes a problem.

Again, there is the question of shading of glass areas against excessive sunlight. Where individual single windows are used, a deep masonry wall may provide ample space for either draw curtain or venetian blinds with sufficient space between the windows and sunshading to permit clearance for window operating hardware to be in either open or closed ventilator position without clumsy operation being involved.

However, with continuous windows and their walls it may be necessary to have shades close to window surfaces and this limits ventilator operation and thereby choice of ventilator to types where this is convenient.

Window cleaning has always been a design problem and is increasingly so with the larger areas of glass now commonly being used. Where it is practical and economical to clean windows from the outside, then window design need not be influenced by the complications of making provisions for cleaning from the inside. With single storey buildings this may be practicable with the building owner's staff, but in multi-storey buildings this must usually be done from the outside by professional window cleaners.

There are, also, the problems of local by-laws and of insurances to be considered. Whether outside cleaning shall be done from ladders, swing stage from roof, or by the window cleaner getting through the window or an adjacent window and using the cleaner belt safety devices, all have their bearing on window design. If swing stages are used, then ventilators can be of such sizes and location required for ventilation purposes only, but the roof parapet and flashing conditions should be considered in making this a safe roofing condition.

If access is through each window, then the size of the ventilator will be governed by reasonably safe use by the window cleaner in this way. If access is through an adjacent or remote panel, then the safety cleaner hook attachment to mullion members must be adequately treated. The exterior sill conditions become a factor in the decision as to whether cleaning can be done by the exterior window washer on a safety belt or by swing stage method, or conversely, sill design must conform to cleaning requirements.

In some buildings it may be practicable for the window washer to have access to all offices during the daytime so that window washing can be done office to office in the most economical way. This may be quite impractical in other offices where the occupants may not be disturbed by such operations done from the inside, where it might be possible with the same offices to wash at any time from the outside without inconvenience to the occupants.

Where washing is to be done from the inside — meaning that outside glass surfaces are to be reversed so that cleaning can be done by the window washer standing on the floor safely on the inside — then the window design will be completely influenced by this window washing requirement.

The question of insulation of windows has become very varied and somewhat complicated. If the building is going to be a comparatively dry building in the sense that the relative humidity, with low outside temperatures, is going to be low because of no mechanical humidification or occupational uses — and such is the case with many office buildings — then the question of excessive condensation does not become a factor of too great importance. In such cases, it may be considered that the single glazed window be used and sufficient heating be incorporated to meet the local average winter conditions.

For the same building, if it is desired to cut down the heat losses and raise the comfort level closer to the windows, then double glazing may be a sound answer.

With single windows, the next factor is that of air infiltration through the ventilator perimeter. This will vary considerably with the nature of the ventilator, the footage of crack, and quality of installation, and heat losses through infiltration can sometimes be more troublesome than transmission losses through the glass.

A further factor that is usually not sufficiently considered is the effect of down drafts. The worst conditions for this occur where there is a combination of a tall window — single glazing, a wide, cold window stool and the heating supply not sufficient to combat the steady stream of cold air falling down the window face and deflected by the stool into the adjacent room area. This can be minimized

by heat supply through the top surface of sill — thereby preventing a cold pocket and build up of increasingly lowering temperature of the down draft.

Alternatively, a good design results in narrow sills where the radiator cover becomes a radiating surface in itself, with the warm air coming from the radiator close to the top of the radiator enclosure.

Where the design conditions need examination of the question of condensation — such as low winter temperatures, high winds at such times, and higher humidities, then the question of the structure of the windows becomes of importance.

Under such conditions it may be probable, or past experience may have proved, that single metal windows would result in condensation or even ice coating sufficiently frequently and in sufficient volume to be necessary to eliminate.

Under these conditions double sashes are necessary. In some very limited circumstances, it may be sufficient to have a solid metal frame and inner and outer sashes, but usually it is advisable to have a thermal break between the two sashes; that is to say — two frames coupled together with an insulating material between. With such double independent sashes in a split insulated frame, the inside frame and sash surface temperatures will remain above the dew point in most conditions.

With double hung ventilators used as the sash type in double windows, it is possible to obtain the benefit of indirect ventilation by raising the lower outer sash and lowering the inside upper sash. This is a distinct advantage for office buildings as it allows necessary ventilation in windy or wet weather without direct draft or risk of rain blowing in where desks are close to windows.

In considering the possibilities of reducing the effect of sun heating where double windows are used, a later refinement beginning to be adopted is the fitting of sunshades of the venetian blind type between the double windows and operated from the inside. This prevents the inner glass from being raised to the highest temperatures and results in an important reduction in refrigerating load if summer cooling is adopted.

Where single windows are used, it is quite practicable to use the hinged ventilator types although screening, sunshades and cleaning access introduce limitations to complete freedom in designing to suit architectural lines.

Hinged types can be produced in steel and aluminum, although care must be taken in not using aluminum ventilators beyond certain sizes of ventilators, unless hollow sections are used to give the required rigidity. Weather-

stripping of hinged ventilators of the traditional casement design is not offered by the manufacturers, and this is a limitation to be considered in the colder areas.

Hollow section aluminum hinged ventilators are now being offered with adjustable weatherstripping.

Double hung ventilators are widely available in aluminum construction and with stainless steel weatherstripping that results in lower infiltration losses than with unweatherstripped casement construction.

Costs of windows vary considerably, ranging from the simple single glazed type through the range of double glazed and double window types — and there seems to be no simple way of cataloguing types and relative costs, due to the many factors that require to be evaluated in deciding upon the type to be adopted for any particular building.

From the foregoing very general notes, it will be appreciated that modern windows have become very varied and specialized. It is no longer possible to turn to catalogues where manufacturers used to list standard sizes and several makers have the same range to offer. In fact, modern window making has of necessity become a highly specialized trade where each building must be studied and a workable compromise reached to combine in one design the best balance of the varying conditions to be satisfied, having regard to the purpose to be achieved and the cost that is practicable to entail.

The rapidity with which new developments are taking place, and the variety of details to be studied to result in a well balanced design make it most desirable that architects call in experienced window makers to offer solutions for specific requirements and to do this at a very early stage in design before working drawings are well advanced.

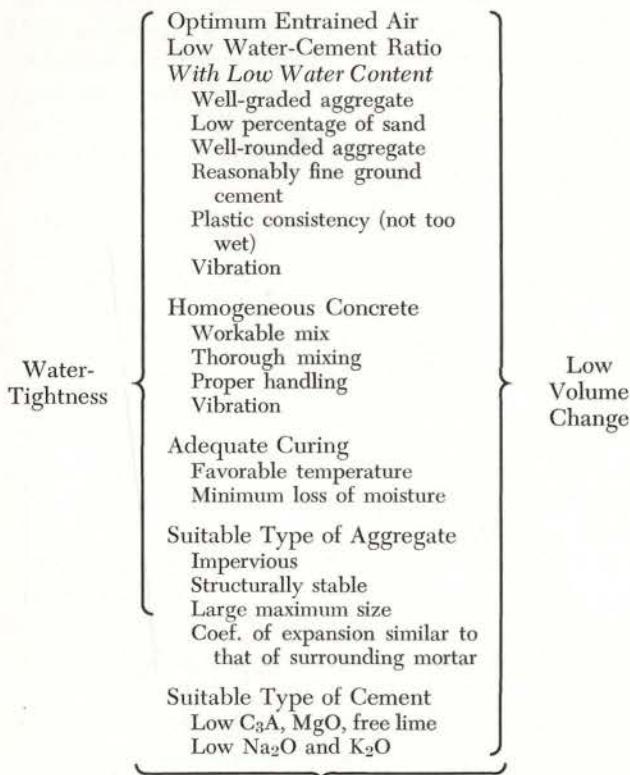
One of the most satisfactory ways for all concerned, the architect, the owner and the window maker, is for full size sample windows to be seen and approved before specifications are made.

At the present time, window design is much more fluid than at any time in the history of building, and a great deal of work remains to be done in sound experimental work and laboratory testing before adequate data on heat losses, condensation control, etc., is known in a simple, usable way, to add to present knowledge.

It is fully expected that the healthy co-operation between the architect and the window makers will continue to increase to bring about the fullest useful development of this important field of building design and construction.

**Basic Requirements**

THE FIRST REQUIREMENT of watertight concrete constructions is that the concrete itself must be of the highest quality. The Bureau of Reclamation Concrete Manual lists the requisites of watertight concrete as follows:



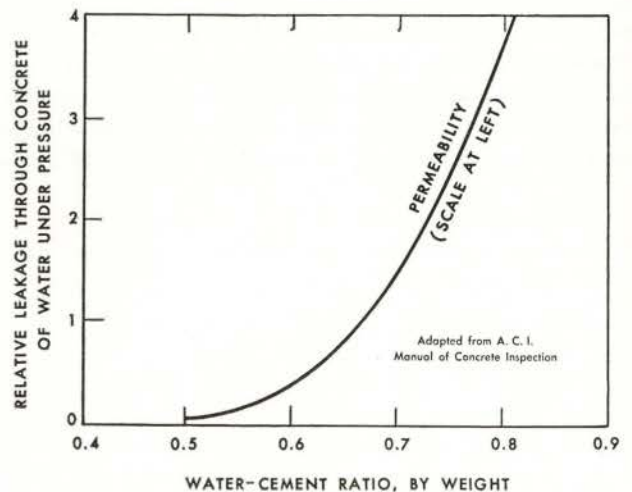
**Water Most Important Factor**

Though the importance of the quality of the concrete ingredients (cement, sand, stone, etc.) on watertightness should not be discounted and should be checked, it can usually be assumed that most ingredients will be generally satisfactory at least in areas served by responsible ready-mix concrete companies. Most companies produce scientifically proportioned concrete from approved and tested materials. The common variable, however, is the water, and it is the amount of this ingredient that has the greatest single effect on the watertightness of concrete. Approximately 2 to 3 U.S. gallons of water are required to hydrate a bag of cement — the balance is necessary only to provide sufficient workability for placement purposes. Excess water bleeds from the mass and in so doing forms a network

of thread-like inter-connecting passages. Any increase in total water means an increase in the size and number of these passages. Obviously, if water can leave through these passages, it can subsequently re-enter. It is for this reason that all authorities agree that the lowest practicable water content is a fundamental — in fact an essential requisite — of watertight concrete.<sup>1</sup>

**Effects of Reducing Water**

The chart shows the great reduction in permeability (or increase in watertightness) effected by a reduction in water. Illustration shows trends; values will differ with the materials and the conditions of tests. Unfortunately, a reduction in unit water content (when produced by reducing water alone) means a “dry” mix — one that is difficult to place and consolidate. Workability, or lack of it, has an important bearing on the watertightness of the mass. It can be stated that more water can enter through construction faults, honeycomb, cold-joints, and shrinkage cracks than through the pore structure of a concrete of indifferent basic quality. Here again theory and practice must find a practical middle ground. Watertight concrete should contain the least possible water for maximum density and reduction in bleeding channels, yet water can only be reduced to the point where adequate workability can be maintained.



Concrete of lower water-cement ratio is more nearly watertight

### Integral Waterproofing Treatments

Though many materials have been presented as "waterproofers" few, if any, provided the basic requirements of water reduction and maintained or improved workability. Stearates, though helpful in reducing capillary movement of water through concrete have only a negligible effect on workability, and tests have shown that concrete containing stearates is more permeable to water under pressure than similar concrete without such treatment.

Air-entraining agents have been found to improve the watertightness of concrete to some extent, partially because of reduction in water, but largely because they reduce bleeding and therefore reduce the capillary and water channel structure within the concrete. However, the fact that they reduce compressive strength, and the strength of bond to steel, must be given consideration in their use. The development of cement dispersing agents made available a material of proven ability to increase greatly the resistance of concrete to water without adversely affecting any of its other physical properties. Its capacity for reducing water content and entraining a small amount of air accounts for this achievement.

### Action of Cement Dispersing Agents

There is nothing involved or mysterious about the action of cement dispersing agents. They are essentially water-reducing agents and plasticizers that convert a "dry" unworkable mix to a flowable cohesive consistency without the use of added water. Conversely, they permit total water to be reduced as much as 15 per cent for a given slump or flow. This means that the agent reduces the uncombined excess or pore-producing water up to 33 per cent, thereby producing concrete of exceptional density and watertightness.

### Cement Dispersing Agents Reduce Permeability

Tests conducted by the Rush Engineering Co., show a reduction in permeability of 40 per cent when a cement dispersing agent was employed in the mix. Other investigators, including Dunagan<sup>2</sup> report similar reductions in permeability in concrete made with a cement dispersing agent.

### The Effects of Shrinkage on Watertightness

Shrinkage cracks are often a cause of leaks but trouble from this source can be controlled if the cement and water content of the mix are kept within reasonable limits, and the concrete adequately reinforced. Cement dispersing agents provide important reductions in shrinkage. The chart at right shows that regardless of cement content or water-cement ratio, drying shrinkage is governed mainly by unit water content.

(Chart made from data in U.S. Bureau of Reclamation Concrete Manual 4th Edition, Page 26).

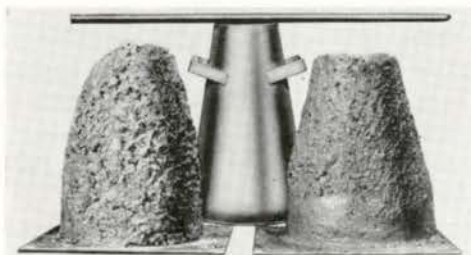
As indicated, a 15 per cent reduction in unit water content with a cement dispersing agent—from 36 to 30.6 U.S. gallons per cubic yard—reduces the amount of shrinkage of a five bag mix 0.12 in. per 100 ft., or 20%. This reduction in shrinkage is an important contribution in producing watertight concrete.

Cement dispersing agents produce greater slump with same amount of water



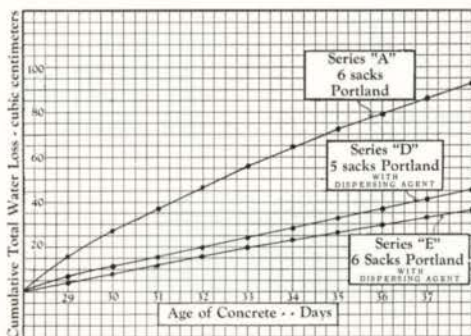
Plain Mix	Cement Dispersing Agent Mix
6½ gallons .....	w/c .....
1 inch .....	slump .....
	5 inches

Cement dispersing agents produce greater workability with less water



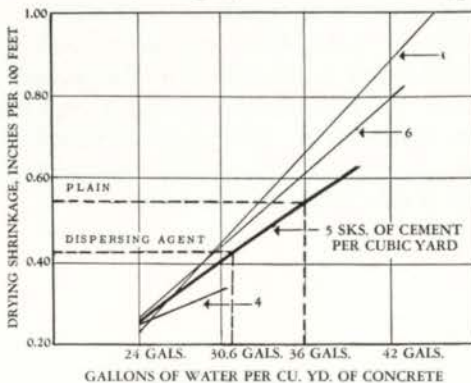
Plain Mix	Cement Dispersing Agent Mix
6¾ gallons .....	w/c .....
1¾ inches .....	slump .....
	2½ inches

Cement dispersing agents reduce permeability 40%



Test specimens held under a pressure equivalent to a 60 ft. head of water for 24 hours, for each day shown. (Rush Engineering Co. tests)

Cement dispersing agents reduce shrinkage

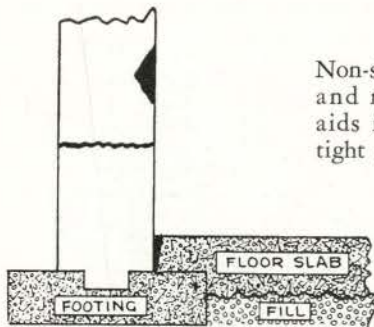


## Field Problems in Producing Watertight Concrete

Assuming that a cement dispersing agent has been employed as a basic ingredient to improve workability and reduce permeability and shrinkage, the problem resolves itself to one of proper placing, consolidating and curing procedures. If concrete is specified as it should be — on a strength basis — the specification should call for strengths of not less than 3000 lbs. at 28 days. Definite reference should be made in the specifications to permissible slump — not to exceed 3". Vibration should be mandatory but should be so performed that neither honeycomb due to under-vibration, nor segregation due to over-vibration will occur, and should be supplemented by hand spading as required. Further, wherever possible, concrete placement should be scheduled so that no horizontal or cold-joints will occur. If horizontal construction joints cannot be avoided, the top of the lower lift should be thoroughly cleaned, preferably by wet sand-blast, and a layer of grout placed before starting the next lift.

Despite these specification requirements, it must be considered that few, if any, jobs are perfect. Mistakes and delays do occur resulting in construction faults that can result in considerable leakage. Superficial surface repairs of these areas with a cement wash or patches that shrink are not sufficient to assure a watertight wall.

Specially prepared metallic aggregates designed specifically to counteract shrinkage, provide an effective and lasting method of sealing honey-combed and other defective areas. Such mortars are non-shrink and have been used successfully in the down-stream repair of many major power dams.



Non-shrink grout and mortar are aids in securing tight structures

The juncture of the floor and wall is one of the usual, if not inevitable, sources of leaks. The shrinkage of structural concrete can be reduced but not entirely eliminated, and this volume change invariably creates a separation crack at this vulnerable point. Though the crack can be cut out and sealed at a later date, it is advisable to anticipate the difficulty during the construction stage. Lightly oiled, bevelled siding can be placed on the footing, bevelled side down, the floor poured against it, and after the concrete has hardened the siding removed and the resultant cavity permanently sealed with non-shrink mortar. The method is effective and economical.

## Specifying Watertight Concrete

Though all specifications have the usual clauses calling for high standards of workmanship, etc., experience has indicated that special reference or emphasis should be made stressing the intent of the specification to produce watertight concrete. Further, the specification should outline in detail the procedure to be followed to rectify properly construction faults such as honeycomb, cold-joints, etc. It has been found that proper amplification of these important points makes the specification a much more effective supervisory instrument for the clerk-of-works or supervising engineer. The following clauses are suggested for inclusion in your present concrete specifications:

Concrete shall be designed in accordance with the A.C.I. Standard Recommended Practice for Selecting Proportions for Concrete (A.C.I. 613-54), current C.S.A. Specification A-23, or other methods based on the water-cement ratio law, with normal portland cement and an approved cement dispersing agent, which reduces the water required for a given consistency and complies fully with the water-cement ratio law. The strengths, slumps, water-cement ratio, entrained air content, and top size aggregate of the different classes of concrete shall be as called for on plans or elsewhere in the specifications. The concrete shall be so designed that ingredients will not segregate and excessive bleeding will not occur.

### Special Provision for Below-Grade Concrete

The intent of this specification is to produce concrete of maximum watertightness, and freedom from gross construction faults such as honeycomb, cold-joints, sand streaking, etc. The contractor will be required to take appropriate measures to assure this desired result.

The slump of the concrete for all below-grade areas shall be controlled at all times and must not exceed 3". Placement shall be scheduled to eliminate all cold-joints. Concrete shall be thoroughly consolidated by mechanical vibrators, supplemented by hand spading as required, to produce a dense, homogeneous mass.

Sand streaks, honeycombed areas, cracks and other defects, should they occur, shall be cut out as directed by the architect/engineer to sound concrete and then filled with non-shrink mortar, in accordance with the manufacturer's directions.

### Grouting Joint at Floor and Wall

All junctures between basement floor and foundation walls, and openings around pipes, ducts, etc., or holes created by form ties shall be grouted and sealed with non-shrink mortar, in accordance with the manufacturer's directions.

<sup>1</sup>"The fundamental condition which is common to almost every disintegrated concrete is that it is porous in the sense that it is absorptive or permeable to water. Prevent the penetration of water into concrete and at once it becomes a building material highly resistant to all ordinary destructive agencies". R. B. Young, Past President of the American Concrete Institute and former consultant to the Hydro Electric Power Commission of Ontario.

<sup>2</sup>Prof. W. M. Dunagan, "Methods for Measuring the Passage of Water Through Concrete", Proceedings, American Society for Testing Materials, Vol. 39, p. 866, (1939).



Health and Welfare Building, Vancouver, British Columbia

*Architects, Semmens and Simpson*

*Structural, J. H. Read & Associates*

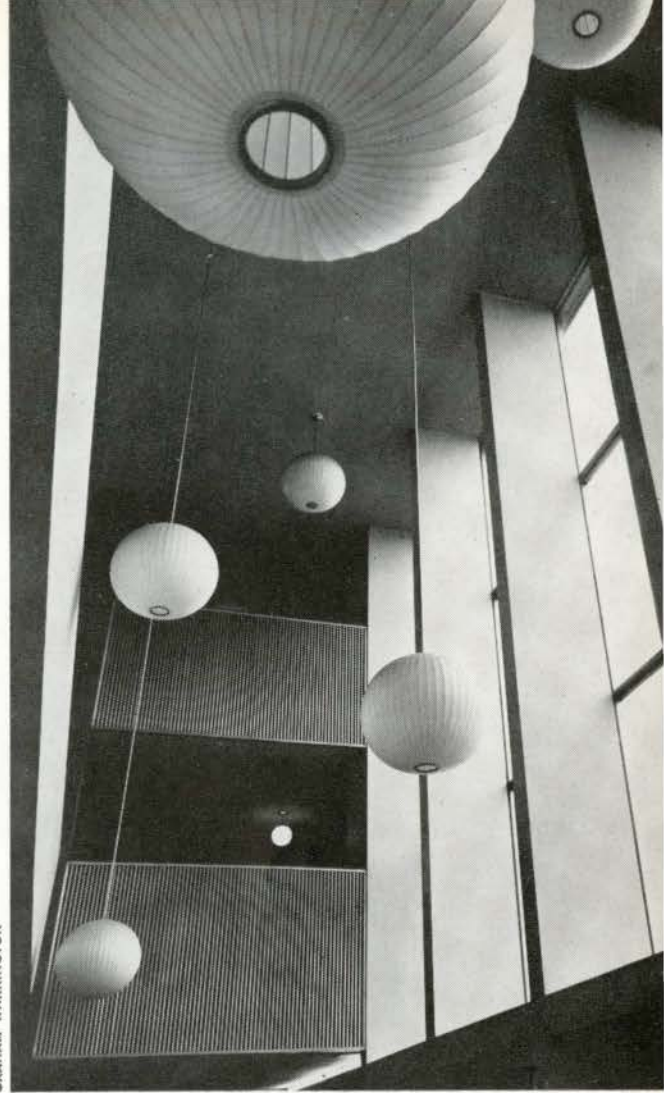
*Mechanical, Heat and Power Engineering Ltd.*

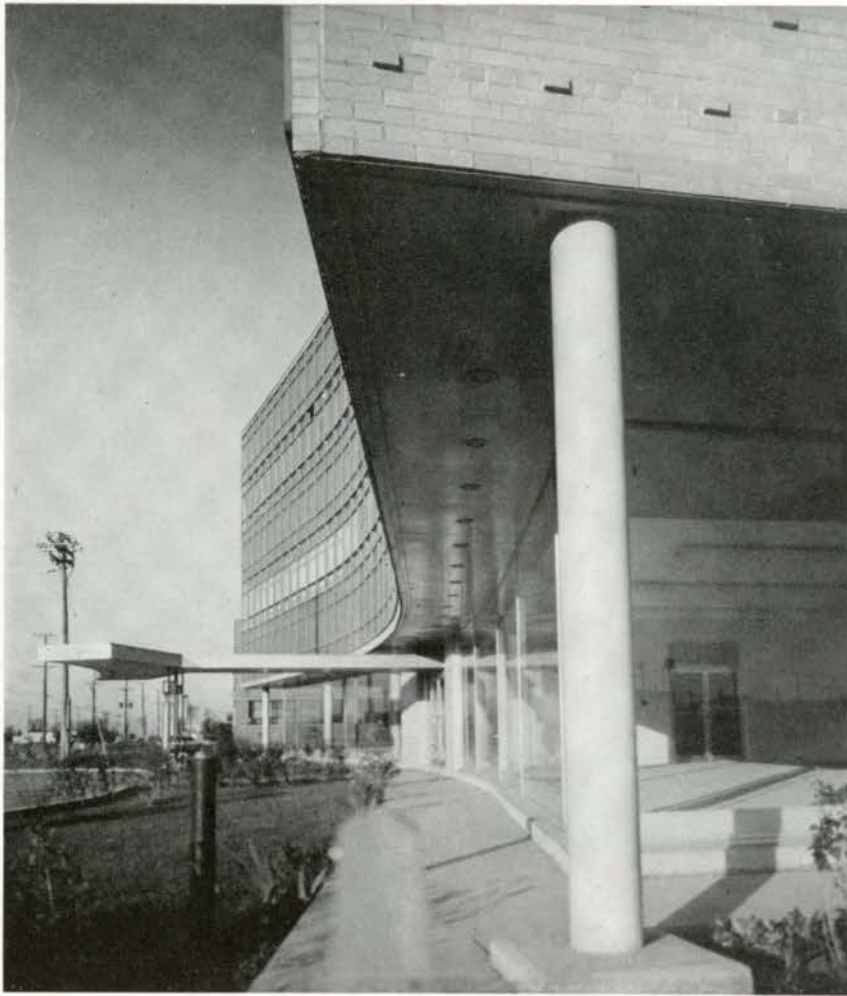
*Electrical, A. E. Simpson*

*General Contractors, Kennett Construction Ltd.*



GRAHAM WARRINGTON





STUDIO ALAN

View from the north-west

Standard Electric Co. Ltd., Montreal, Quebec

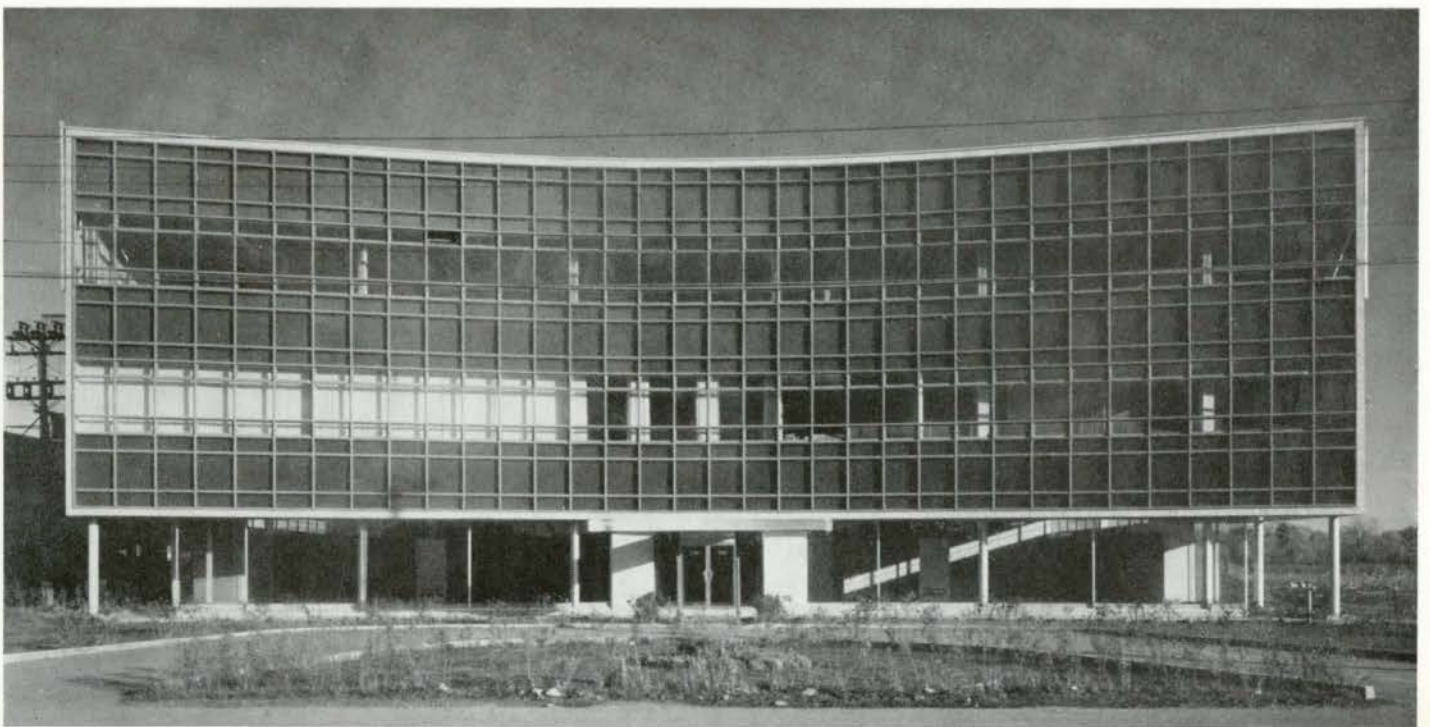
*Architects, Lazar & Sterlin*

*Structural, Irving Backler*

*Mechanical, Eli. L. Ilson*

*Electrical, S. Meland*

*General Contractors, Main Construction Co.*

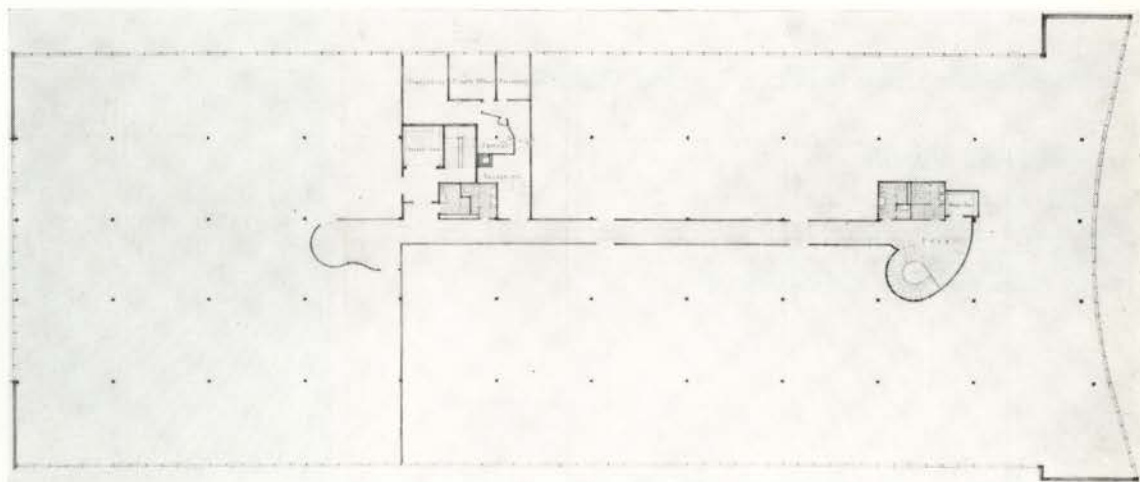


STUDIO ALAIN



The main entrance

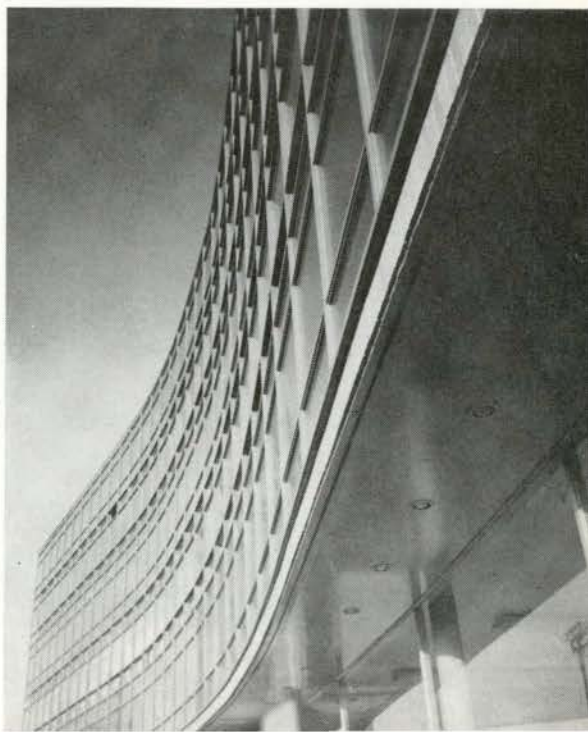
Typical floor plan

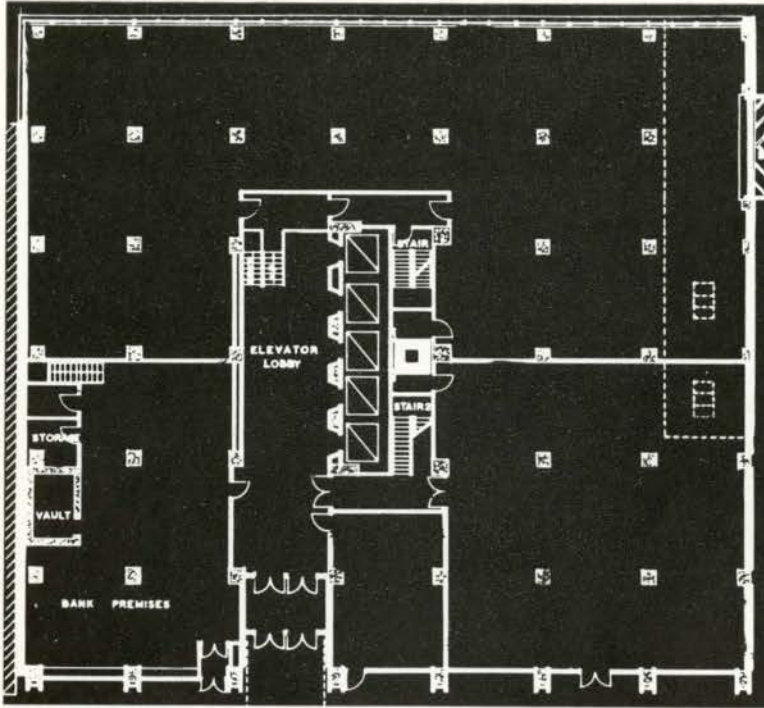


Principal stairway



Detail of main façade





Ground floor

Richmond Street Office Building, Toronto, Ontario

*Architects, Page & Steele*

*Structural, Hooper & Yolles*

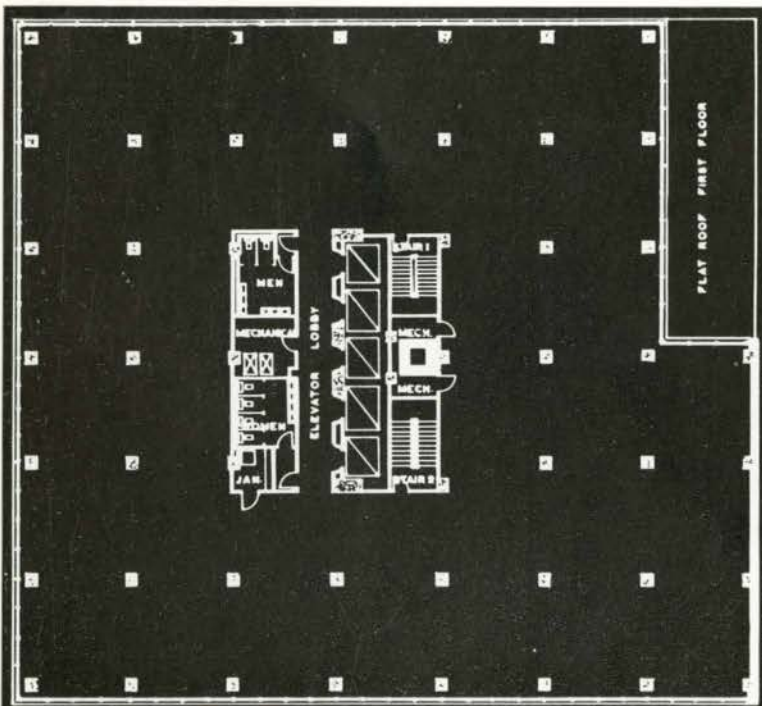
*Mechanical, J. A. Norton & Co. Ltd.*

*Electrical, C. W. Dent (Roxborough Electric Co.)*

*General Contractors, Yolles & Rotenberg Ltd.*



View from the north-west. The plain masonry wall is in green semi-glazed imported brick.



Typical floor

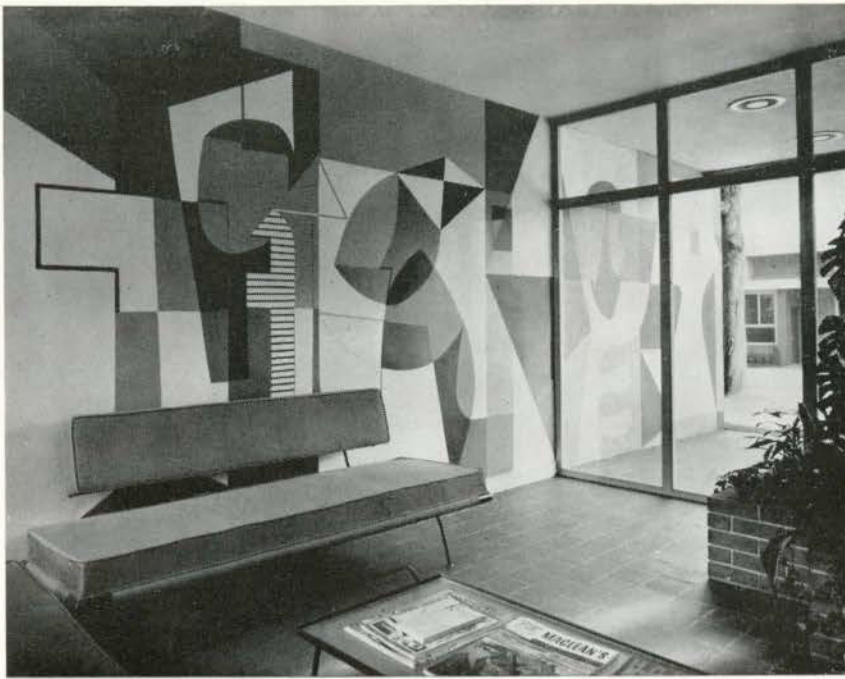


The owners' reception desk and office

Main entrance foyer



HUGH ROBERTSON — PANDA



Main entrance lobby

Cockfield Brown & Company Limited  
Vancouver, British Columbia

*Architects, Sharp & Thompson, Berwick, Pratt*

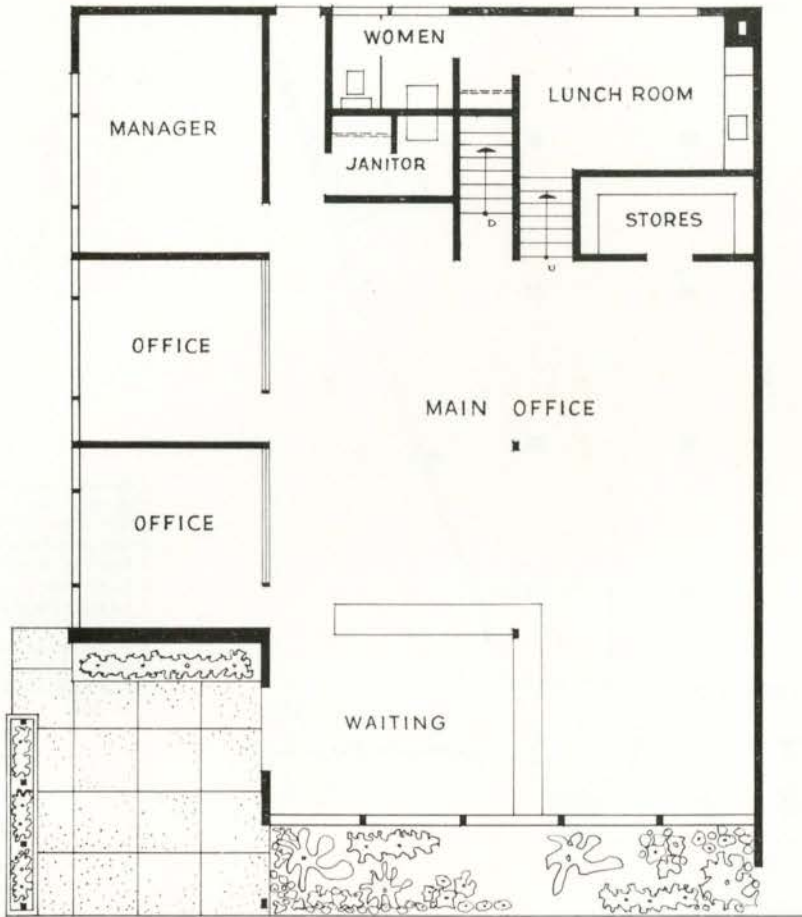
*Consultants, Associated Consulting Engineers  
General Contractors, Halse-Martin Construction Co. Ltd.*

*Cost per cu. ft. \$1.02*

*Construction: Glued-laminated post and beam structure*



Mural by Jack Shadbolt



Columbia Securities Office Building  
Vancouver, British Columbia

*Architects, Duncan McNab and Associates*

*Mechanical, Mitchell Bros.*

*Electrical, R. M. Campbell*

*General Contractors, Orr & Walach Construction Co.*

*Cost: approximately \$10.50/sq. ft.*

*Exterior: cedar V-joint, 6" mahogany around entrance.*

*Interior: birch plywood in main office area; mahogany plywood in private offices; sheet rubber floors; acoustic tile ceilings.*

*Heating: hot water.*

*Main entrance doors: mahogany with plate glass lights.*

*6" stone veneer wall at back of entrance court with floodlight spot on soffit.*

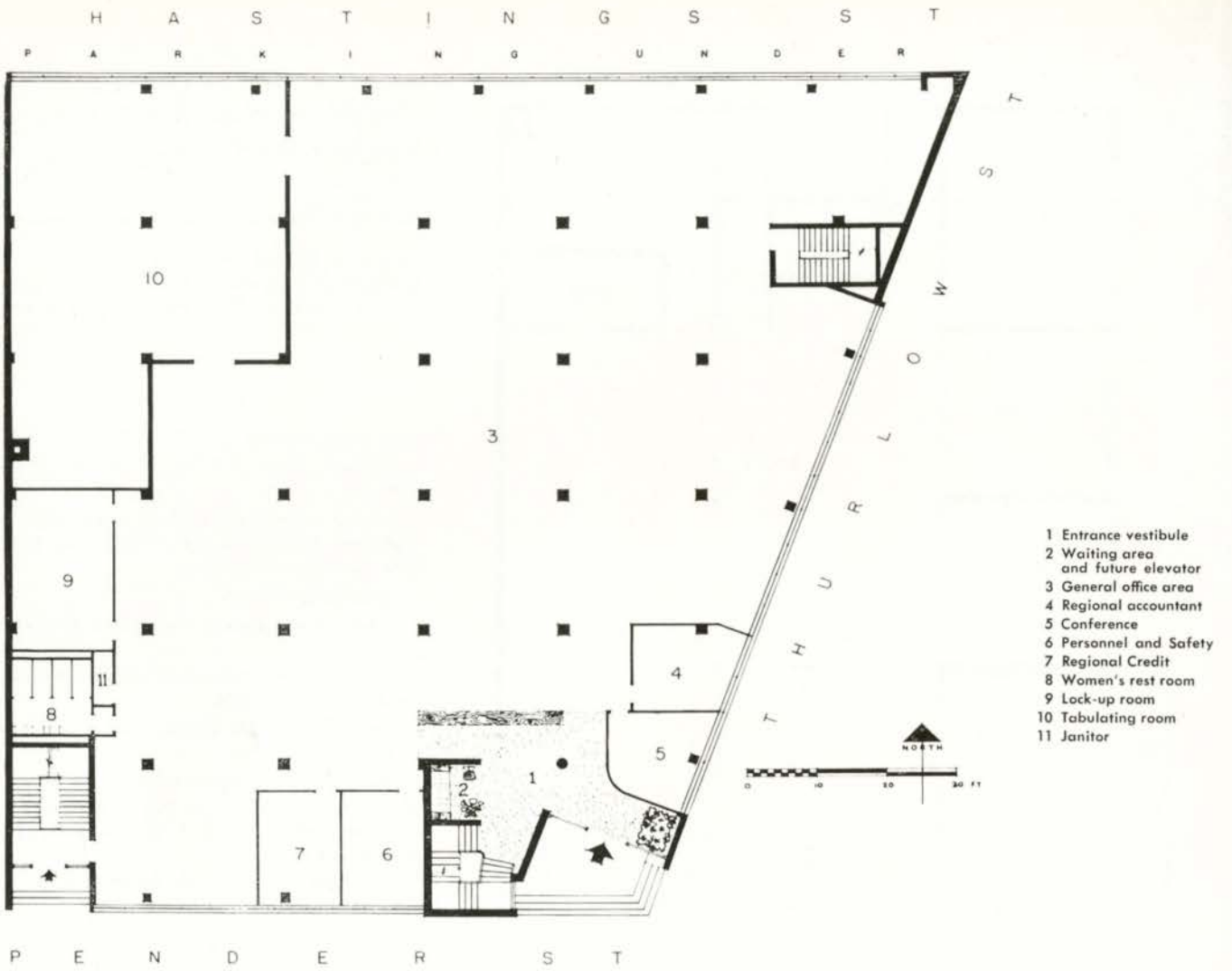
*Parking at rear, blacktopped with carport for eight cars.*

*Main elevation: top and bottom lights — plate glass; centre lights — translucent glass divided by aluminum muntin and 4" x 10" wood posts sheathed in mahogany.*

*The main purpose of the building is to house a car financing business.*



GRAHAM WARRINGTON



View from the south-east







Entrance vestibule

*Function of Building:* The regional office for British Columbia and Alberta and Headquarters for the British Columbia Division of The British American Oil Company Limited.

*Structural Type:* Class "A" of flat slab re-inforced concrete with some brick veneer masses.

*General:* Aluminum windows with spandrel facings of aluminum sheets welded to  $\frac{3}{4}$ " plywood. The building is designed for two future additional floors. The interior has acoustic plaster ceilings directly applied to the underside of the structural slab. Other concrete surfaces being putty over plasterweld. Walker duct for power and telephone outlets in numerous strips is imbedded into the structural floor slabs.

The owners were desirous of having a minimum of private offices. The rear basement area provides covered executive parking and in the basement proper is the tire department, staff meeting and cafeteria, sales clinic with projection room and various dead and live storages.

The interior decoration in the vicinity of the main lobby, first and second floors, is by Mr Thor Hanson, Art Director of The British American Oil Company Limited.



The British American Oil Company Limited  
Vancouver, British Columbia

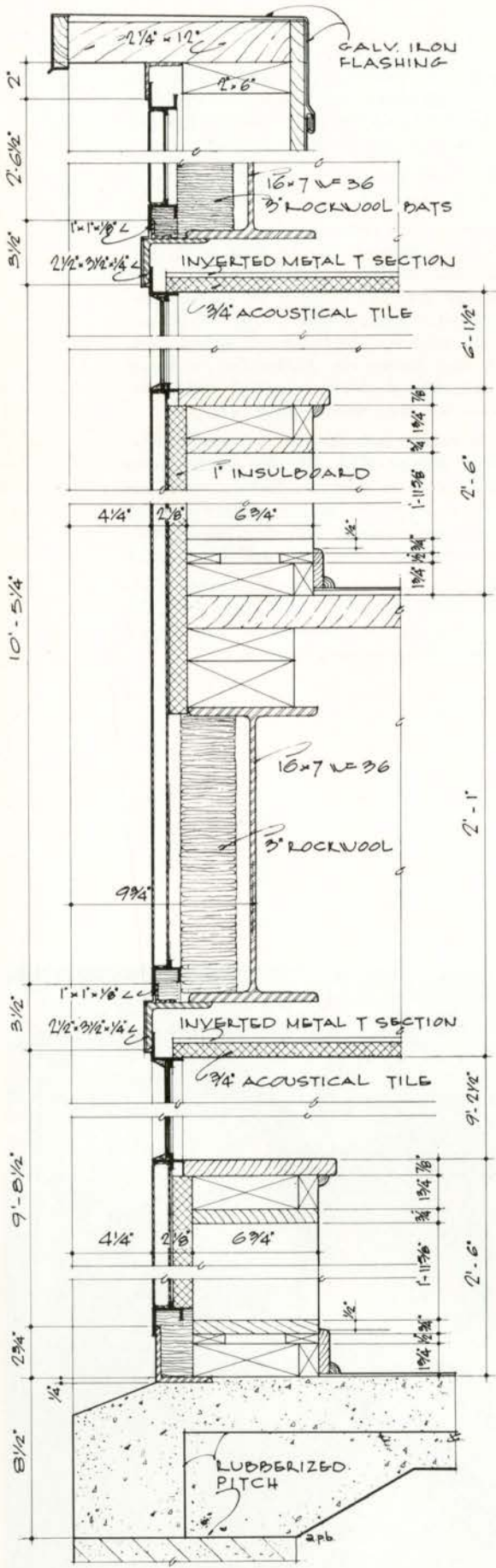
*Architect, John H. Harvey*

*Structural, J. D. Nicol*

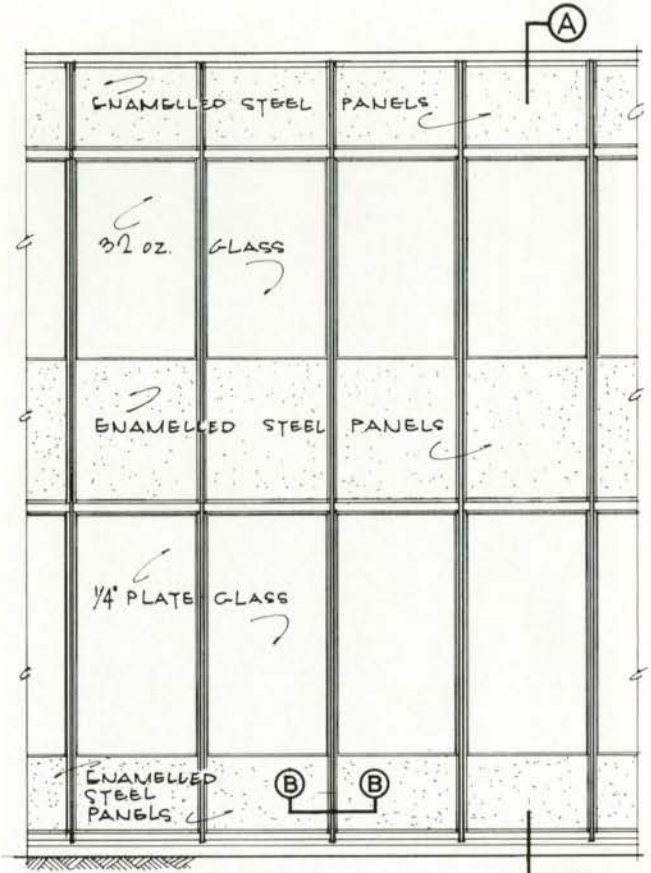
*Mechanical, D. M. Drake*

*Electrical, R. Lennox McKenzie*

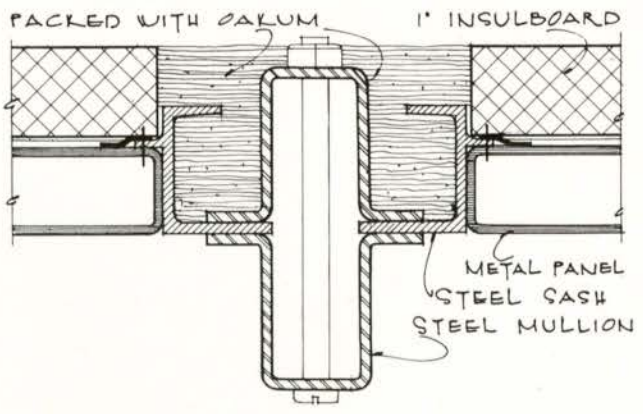
*General Contractors, Commonwealth Construction Co. Ltd.*



SECTION (A)-(A)



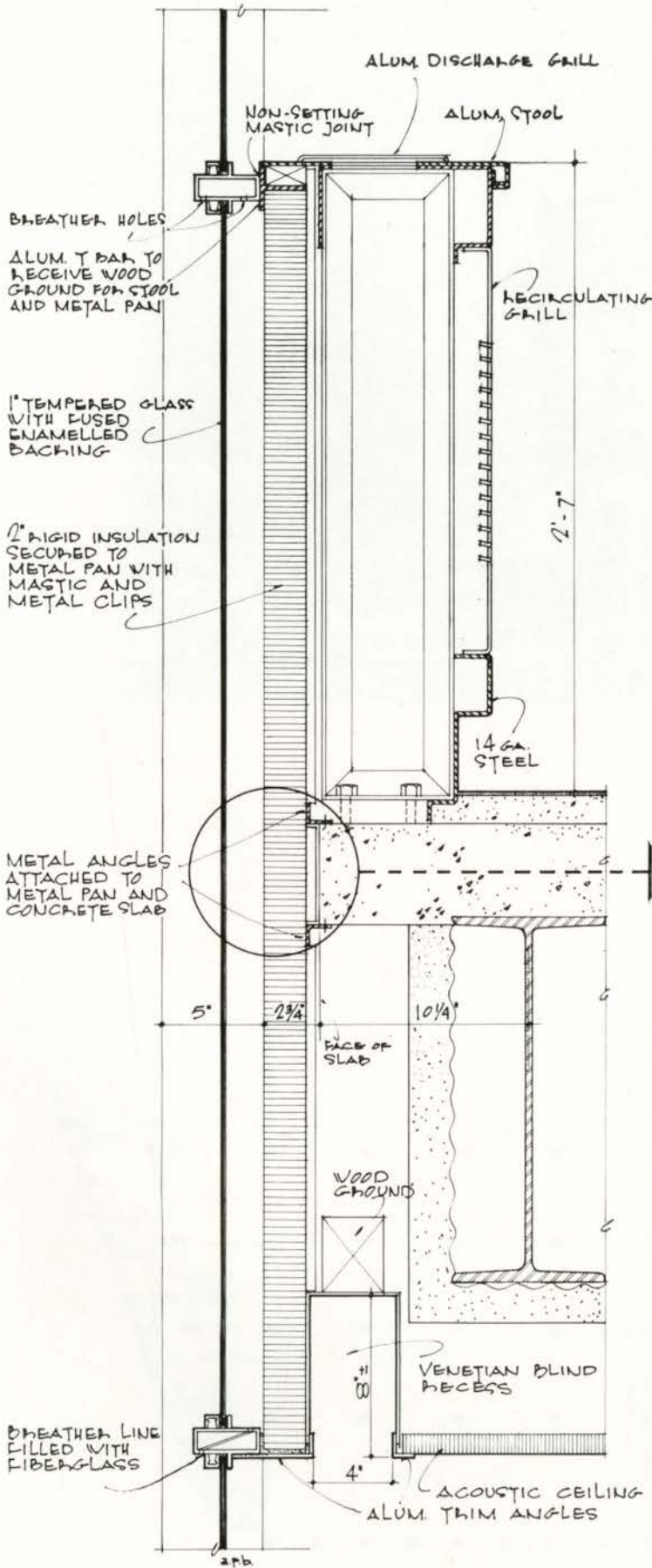
PART OF ELEVATION



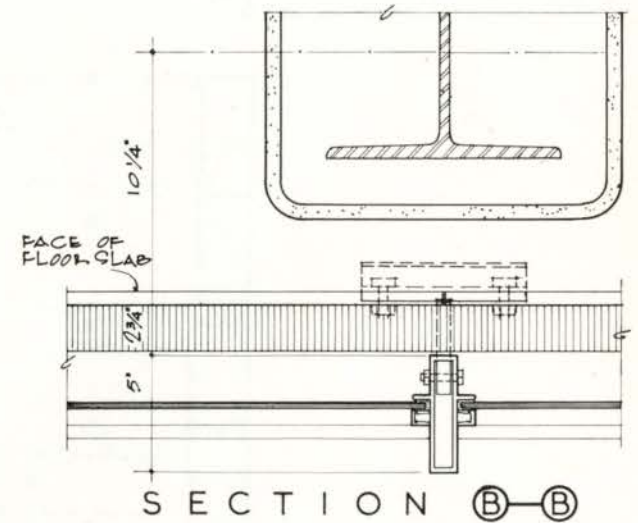
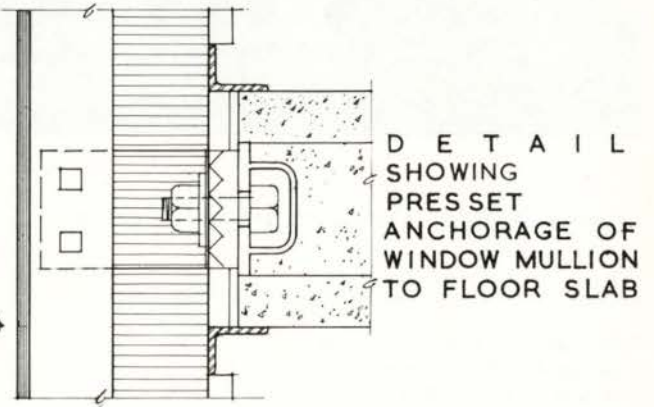
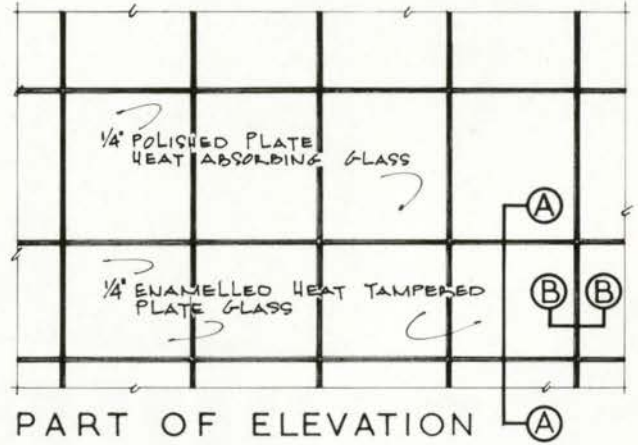
DETAIL (B)-(B)

OFFICE BUILDING  
FOR  
BRAMPTON, ONTARIO  
WILSON AND NEWTON ARCHITECTS

# SELECTED DETAILS



SECTION A-A



SECTION B-B

OFFICE BUILDING  
 FOR  
 ANGLO CANADA FIRE AND  
 GENERAL INSURANCE COMPANY  
 TORONTO ONTARIO  
 JAMES A. MURRAY ARCHITECT



Customs Building, Vancouver, British Columbia

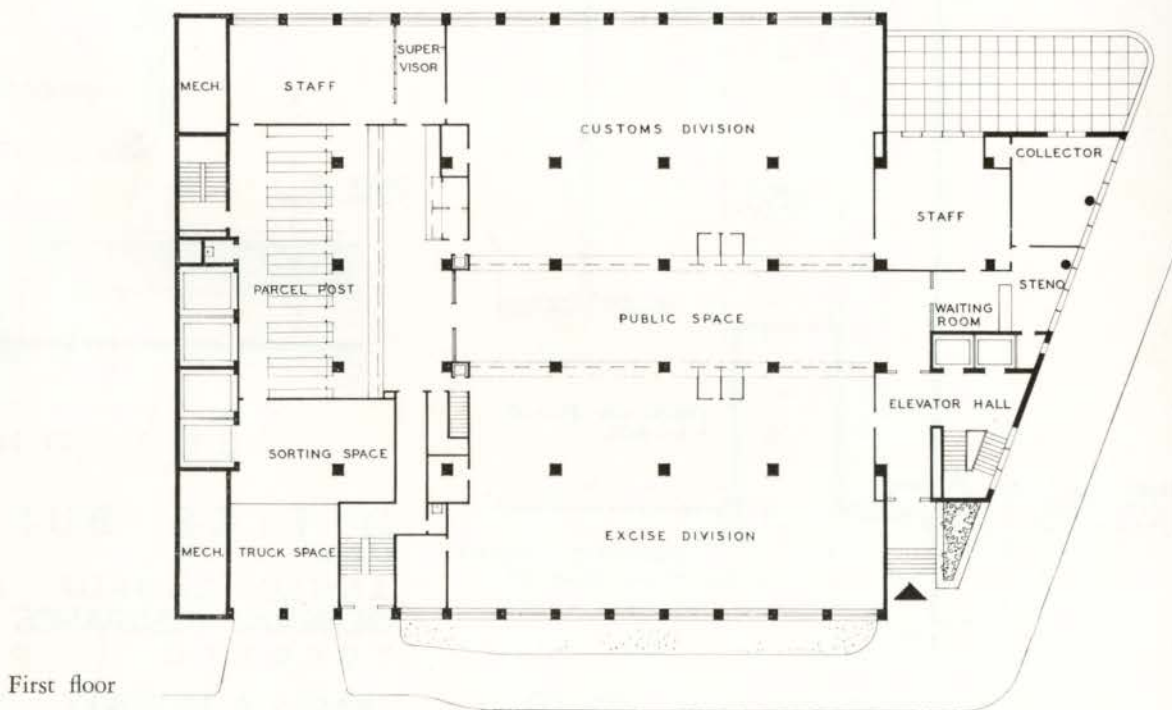
Architects, C. B. K. Van Norman and Associates

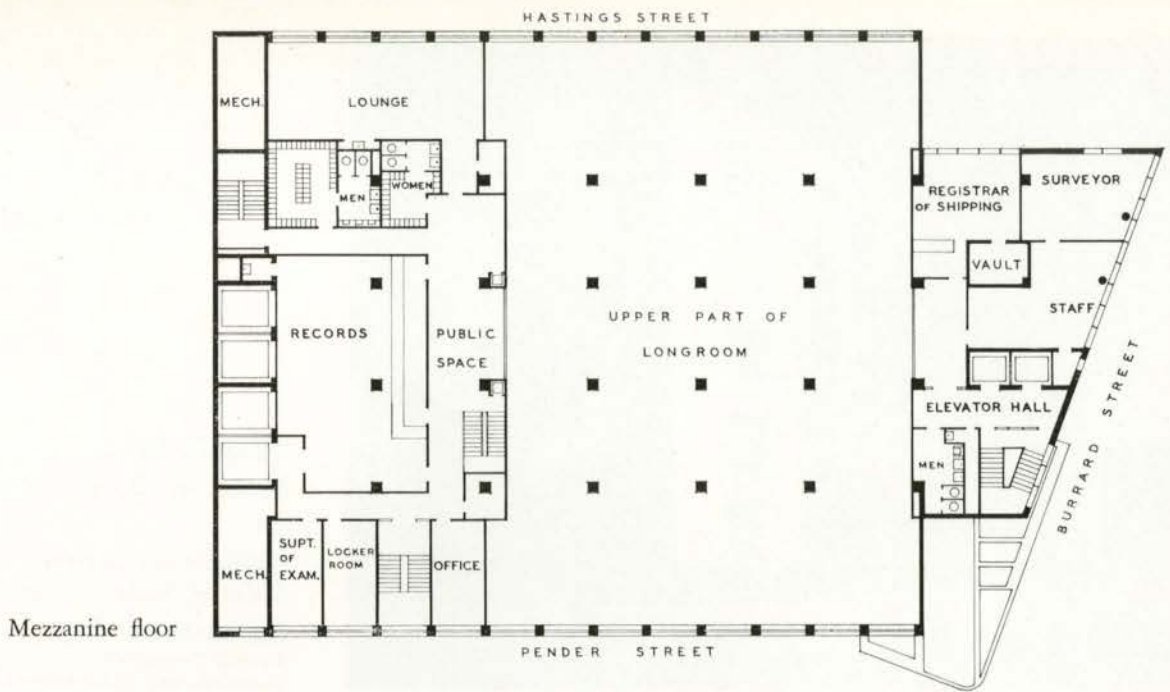
Structural, J. H. Read & Associates

Mechanical, D. W. Thomson

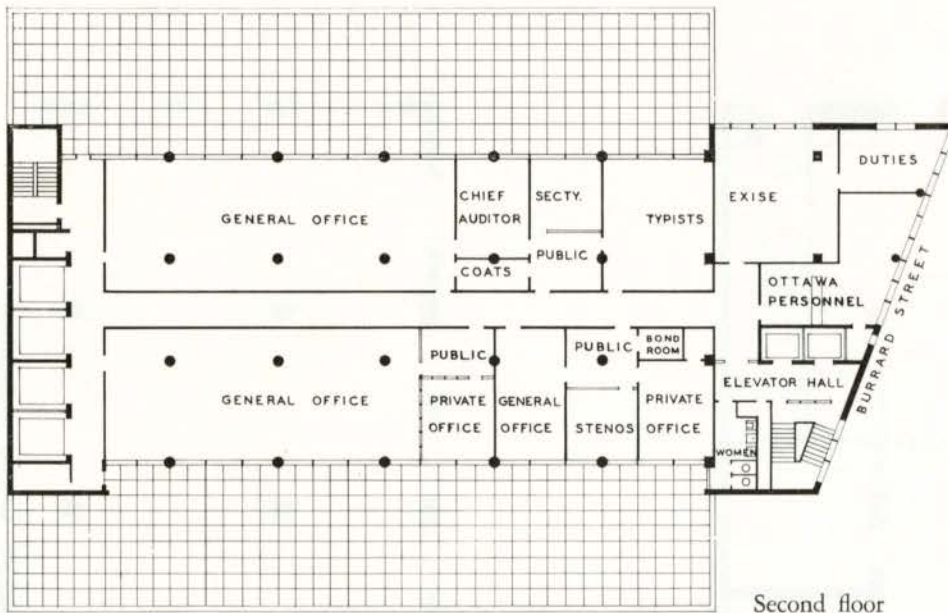
Electrical, R. Lennox McKenzie

General Contractors, Northern Construction Company  
and J. W. Stewart Ltd.

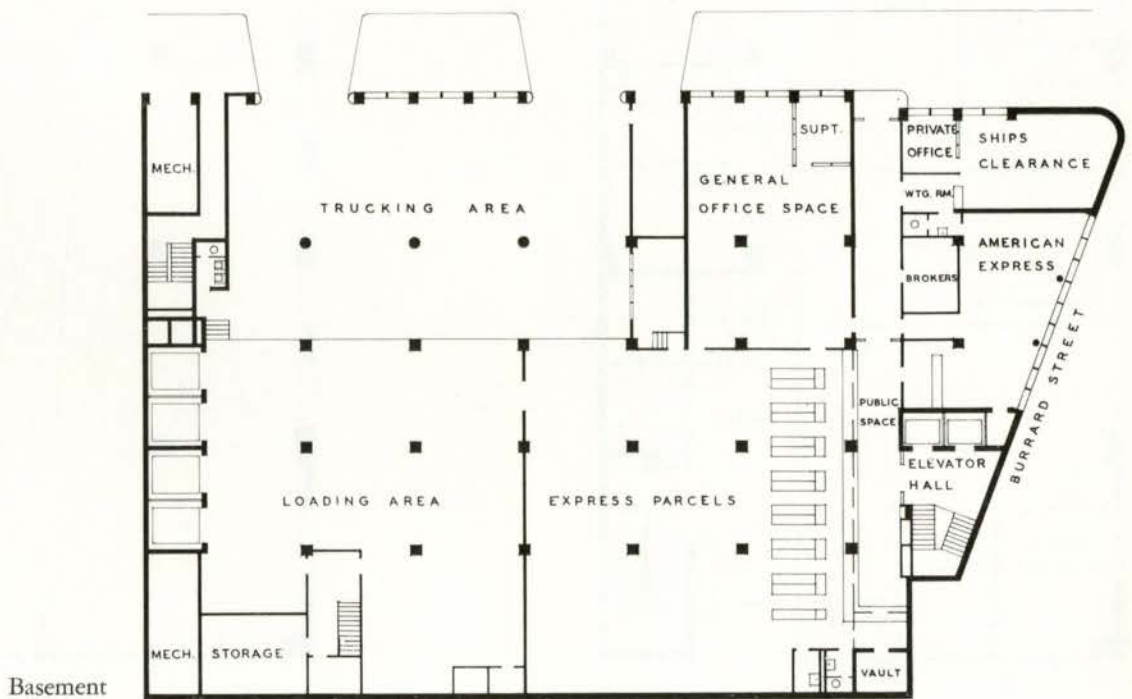




Mezzanine floor



Second floor



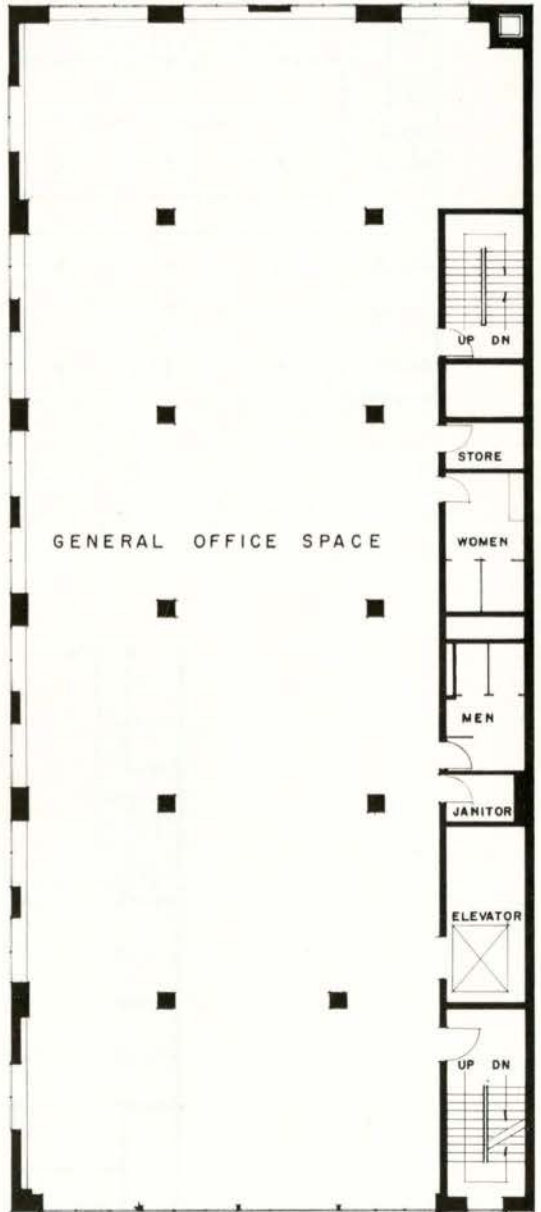
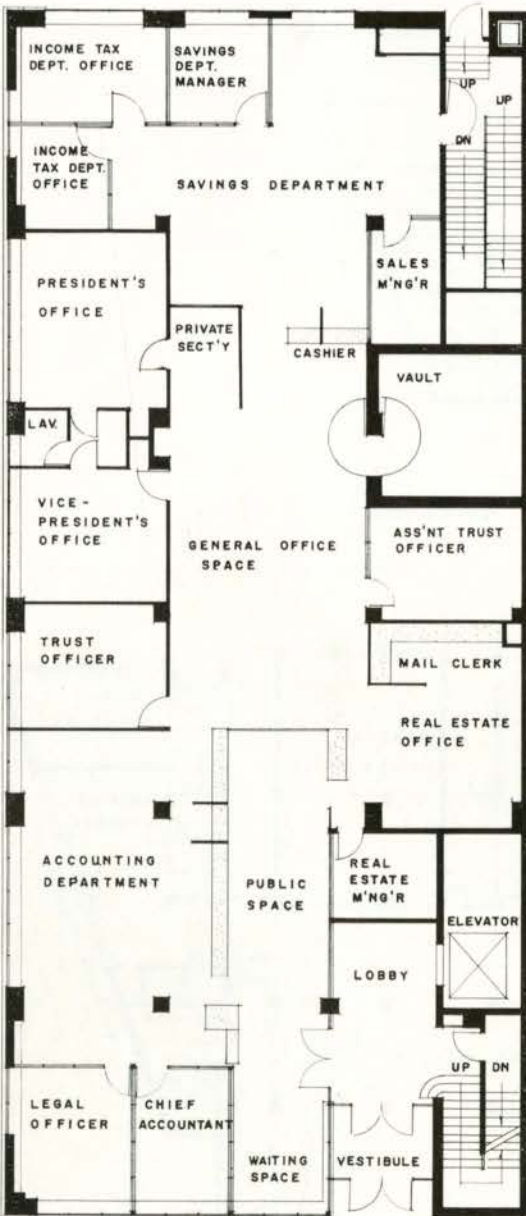
Basement



Yorkshire House  
Vancouver, British Columbia

Architects and Engineers  
McCarter, Nairne & Partners

Mechanical, D. W. Thomson  
General Contractors  
Commonwealth Construction Co. Ltd.



Harbour Administration Building  
Hamilton, Ontario

*Architects, Murton and Barnes  
(formerly Murton and Evans)*

*Structural, J. A. W. Brown  
Mechanical, F. W. Stott  
Electrical, Walker & Associates Ltd.  
General Contractors  
W. H. Cooper Construction Co. Ltd.*



JOHN MORRIS STUDIO



Entrance vestibule

JOHN MORRIS STUDIO



The Board Room



G. S. ROBINSON

## Government Administration Building Regina, Saskatchewan

*For the Government of Saskatchewan  
E. J. McCudden, Provincial Architect*

*General Contractors, Hilsden, Smith & Company*

Aerial view of Legislative Building grounds showing Government Administration Building and Saskatchewan Boys' School

THE PROXIMITY OF THE BUILDING to the masterly work of the Saskatchewan Legislative Building and its superb landscaping dictated that the building should not be of excessive height and that, despite its size, it should avoid any sense of disturbance or intrusion on an extremely well planned and satisfying area.

Open floor planning and the elimination of all but essential private offices resulted in economical space of great flexibility; it being a principle that the wings should be large enough to accommodate the largest branch of a government department and that an entire floor would accommodate any one of several different departments as a centralized unit.

A 20' x 20' structural steel system was established as being suitable for the greatest number of internal planning and desk arrangements, and that the 60' width was nearly ideal for air conditioning. Generally, open web steel joists were used for floor construction with R.C. slabs for corridors, vaults, cloakrooms, etc.

With approximately 68,000 square feet of office space, the building cost \$1,750,000.00 or roughly \$25.50 per square foot of rentable area. The efficiency is approximately 82%.

Exhaust steam is supplied from the nearby Legislative Building generating plant via a service tunnel to the sub-basement. High pressure to the air conditioning equipment in the penthouse and low pressure to the vacuum return line heating system both rise in the service shaft at the elevator core. The heating system is divided into twenty-four zones, one to each side of each wing on every floor. Transformers and main electrical distribution centre are located in the sub-basement at the foot of the service shaft so that all electrical services rise at the south wall of the shaft with isolation switches located at the cat walk on each floor. Triple under floor fibre-duct interconnected systems using the after-set outlets and a synchronized clock and program system were installed.

The north and south air conditioning units to the front of the penthouse feed down at each side of the elevator shaft, while the east unit at the rear of the penthouse feeds down in the service shaft. Return air ducts rise at the ends of each wing to above the top floor ceiling, hence to the penthouse. Each unit is comprised of a pressure controlled linkage assembly at the fresh-air, return air mixing chamber, a rotary oil air filter, preheat coil, humidifying chamber, reheat coil and water cooling coil for summer operation. The 20' column system facilitated the co-ordination of air diffusers and fluorescent lights at 10' centres and was ideal for the acoustical tile treatment, the acoustical correction of which somewhat exceeded expectations, working day tests in the large office areas giving recordings of from 38 to 52 decibels with an average of 46 decibels.

All windows, glazed with "Twindow", were designed for cleaning from inside the building and are combinations of only four sizes using fixed, third bottom pivoted casements and bottom hung units.

Hubert Garnier of St. Vital, Manitoba, was commissioned to execute the sculptured details. The tracery work of the penthouse forming the main air intake, is 17' wide by 12' high inside the surround, all of blue Tyndal stone with the exception of the buff Tyndal crest. The pierced crest details at the ends of each wing are the discharge openings for the auxiliary exhaust ventilating systems serving lavatories and laboratories, etc.

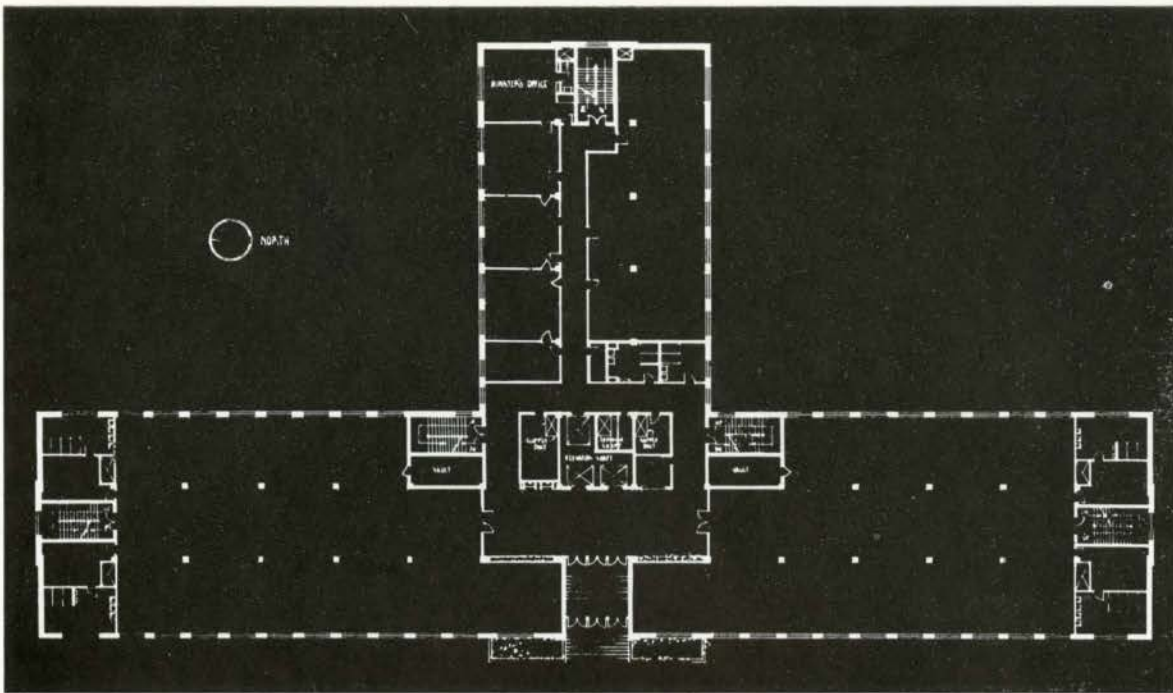
The rapid expansion of the Saskatchewan Civil Service and especially the Department of Natural Resources which has been re-organized into two departments, Department of Natural Resources and Department of Mineral Resources, resulted in the Government's decision to extend the building within twelve months of the completion. The new extension now under construction completes the H form of the plan and will add approximately 58,000 square feet of office space and 12,000 square feet of sub-basement dead storage. When completed, the building will provide office accommodation equal to the Legislative Building.

The design of the new wing afforded an excellent opportunity to improve. The Government, despite some objection to the drastic reduction of private offices, compared to old Government buildings, decided to stay with the open floor planning. Improvements in the new wing are almost entirely with the air conditioning and heating systems. It was considered desirable to eliminate all return air registers at low level and use flow-return air diffusers as installed in the original east wing which have proven much more satisfactory than the large low level return registers due to the impossibility of obstructing. Cooling is to be by refrigeration instead of water and provision made to convert the existing if required at any time in the future. Instead of the perimeter low pressure convector heating systems, individual "Unitrane" air conditioners are being installed but these will recirculate air locally and are not served by direct outside air. Each will have individual control of chilled or hot water. If private offices are introduced at the perimeter, it is felt that the minimum effect on other areas will result. The air supply is to be multi-zoned giving three zones to each wing on each floor. This is much more flexible than the single systems of the original building and will be much easier to balance and regulate which the frequent changes of portable partitions demand.

The new extension is estimated to cost \$1,300,000.00 reflecting the additional costs of the more expensive mechanical services rather than pronounced increases in general costs of construction.

*E. J. McCudden*



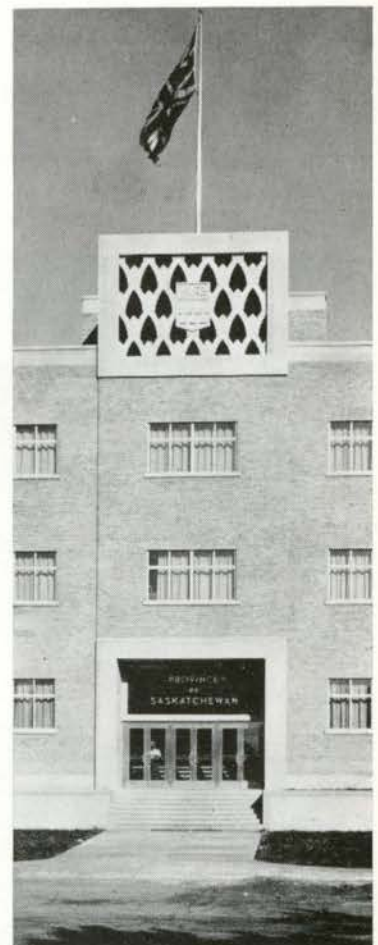


Main floor plan

SASK. VIS. ED. PHOTO



View from south-west



Main entrance



HUGH ROBERTSON - PANDORA

25 Adelaide Street West, Toronto, Ontario

Architect, Earle L. Sheppard

Structural, Wallace, Carruthers & Associates Ltd.  
General Contractors, Anglin-Norcross Ontario Ltd.



HUGH ROBERTSON - PANDORA

Open entrance foyer

Medical Services Association Offices  
Vancouver, British Columbia

Architects, Sharp & Thompson, Berwick, Pratt

Structural, Sam Lipson

Mechanical, Associated Consulting Engineers

General Contractors, A. R. Grimwood Ltd.

Cost per cu. ft. \$1.15 Construction: Reinforced concrete



The main façade



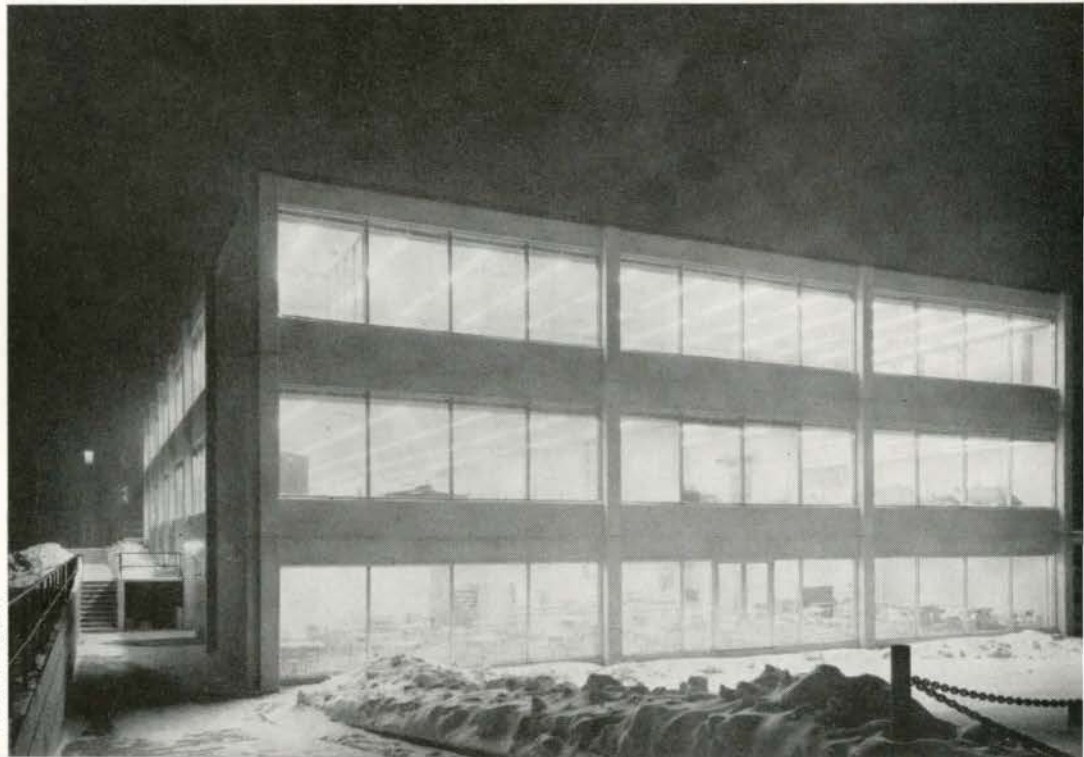
Night view of main façade

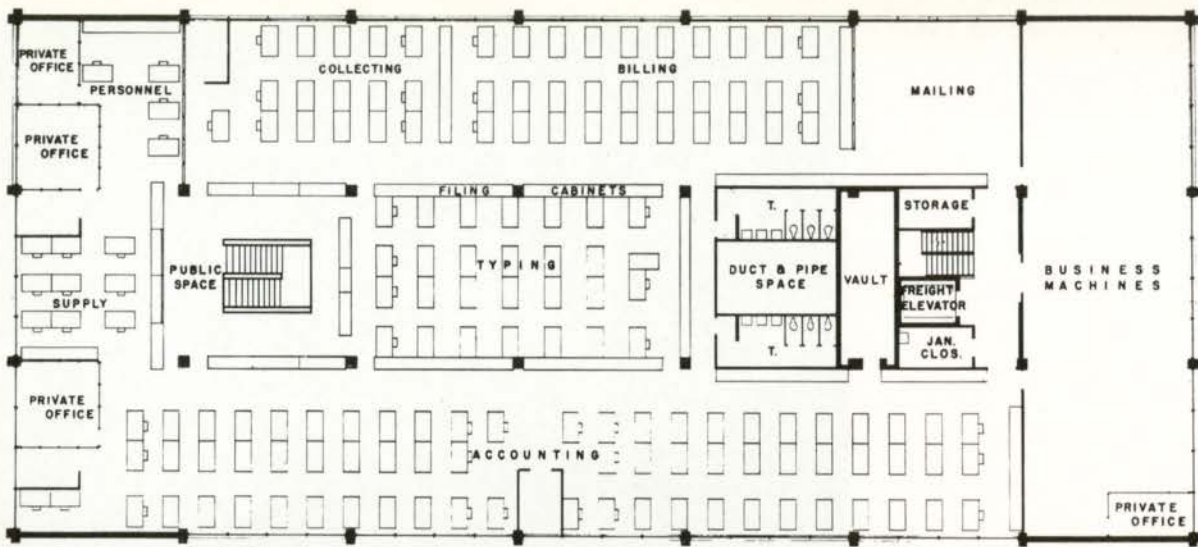


Manitoba Power Commission Building  
Winnipeg, Manitoba

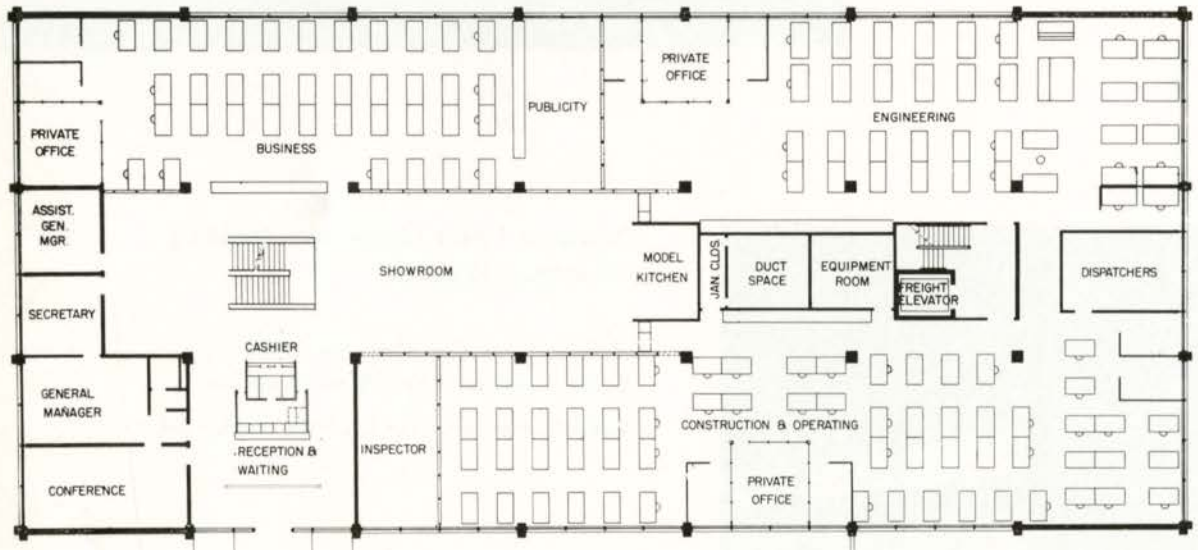
*Architects and Consulting Engineers  
Green, Blankstein, Russell and Associates  
General Contractors, Peter Leitch Construction Ltd.*

Night view from the terraced garden





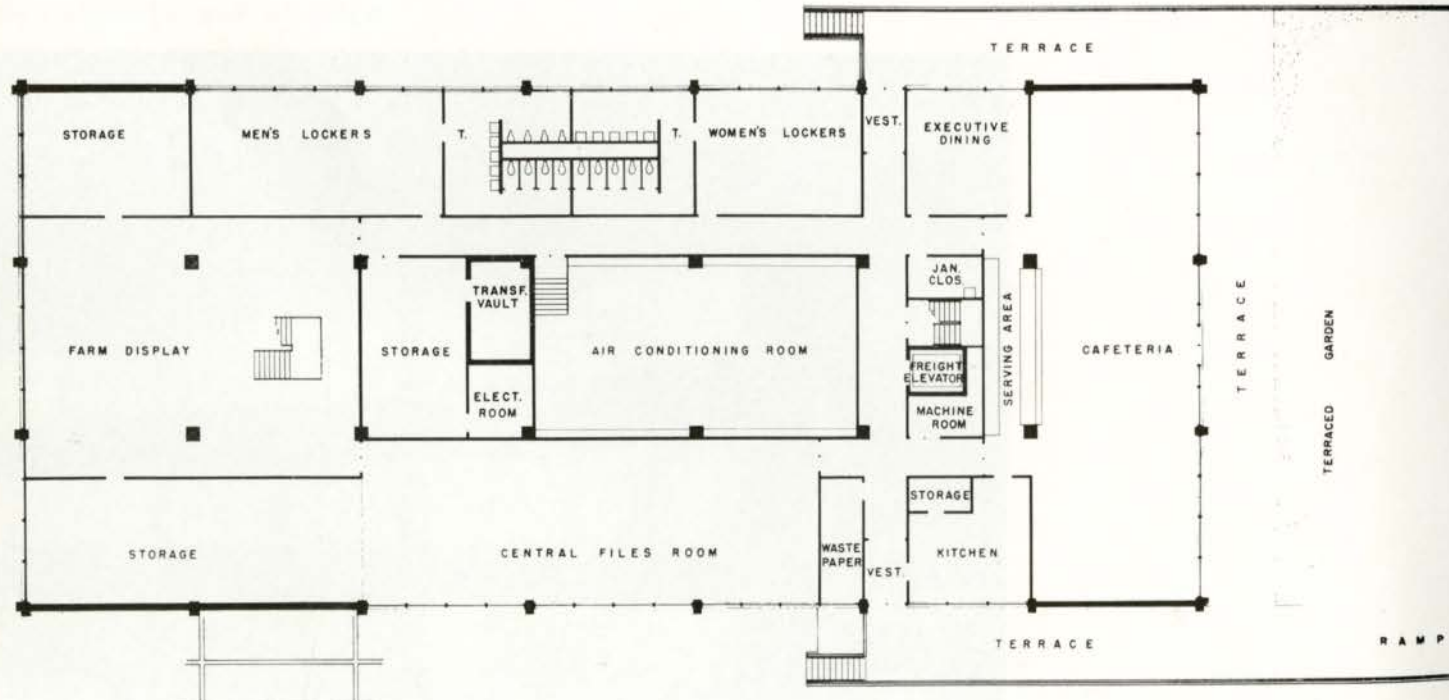
Second floor



First floor



Basement





Office interior



Staircase in showroom



View from reception area

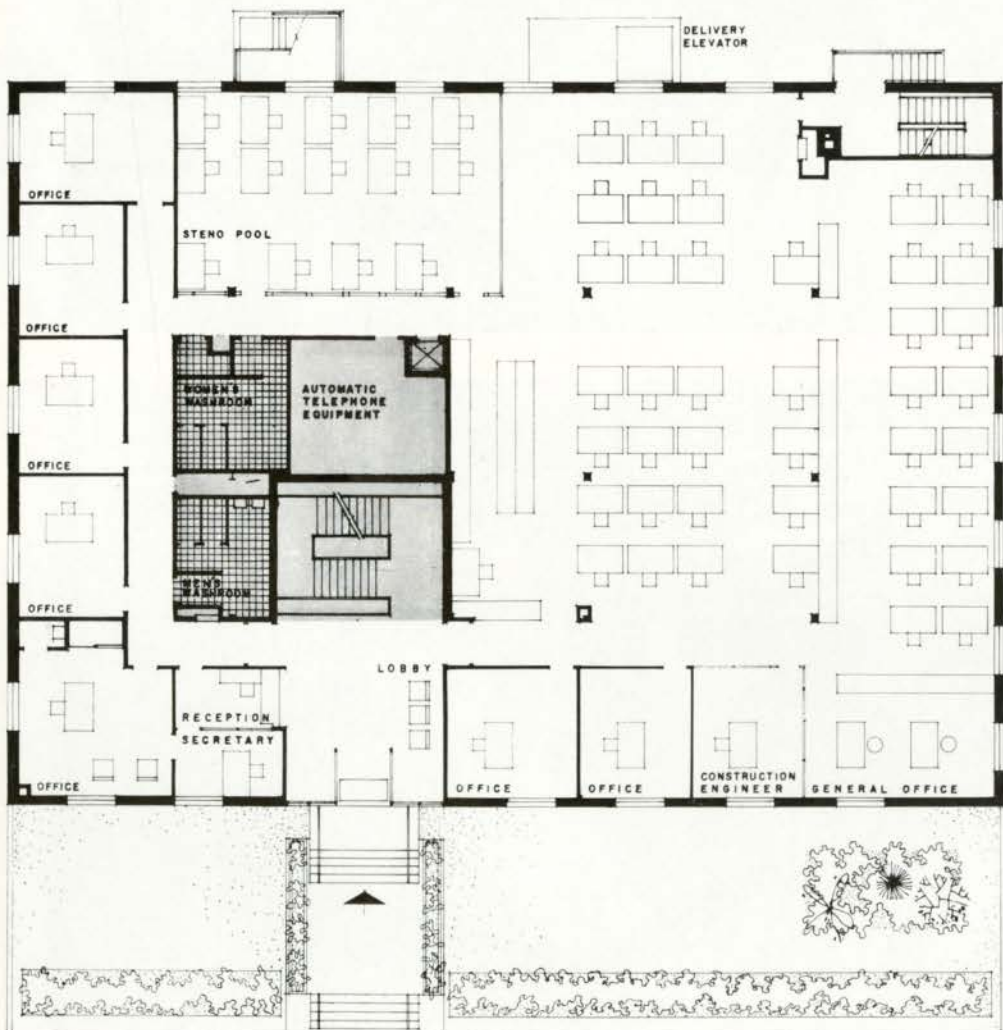
McColl Frontenac Oil Co. Ltd.  
Toronto, Ontario

*Architects and Engineers  
John B. Parkin Associates*

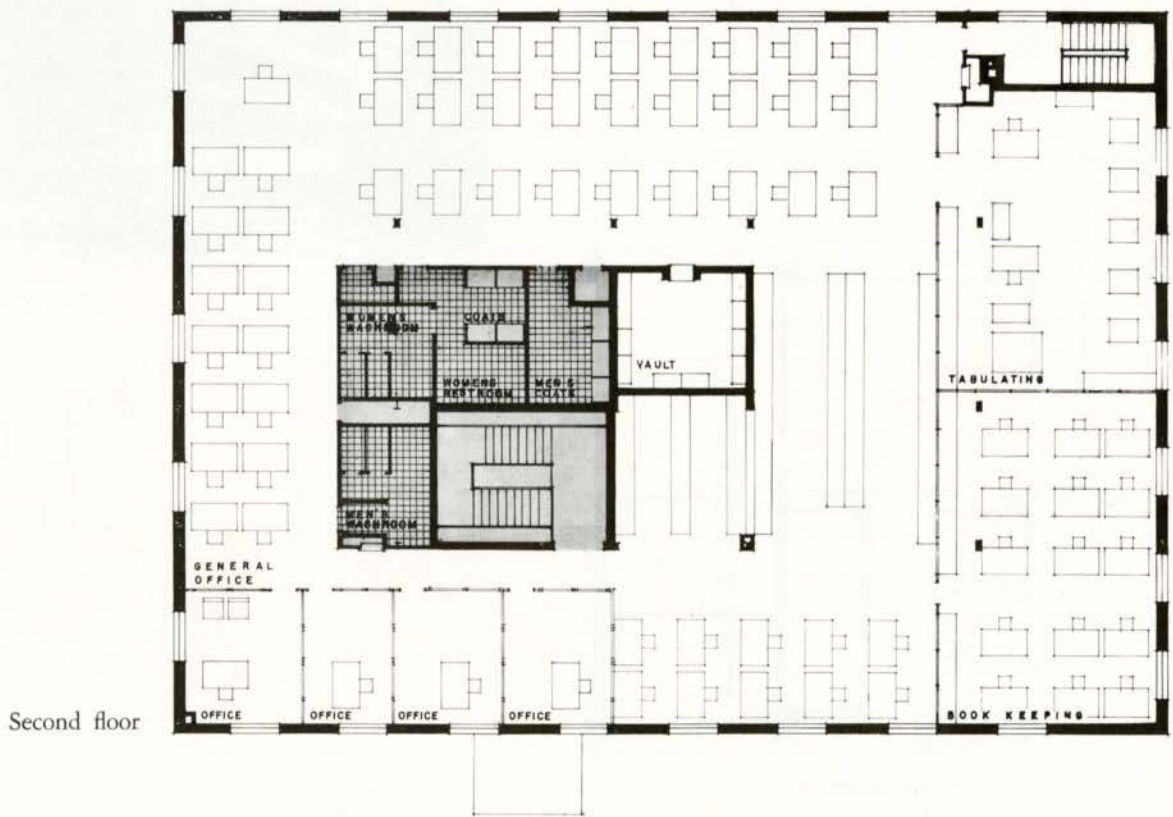
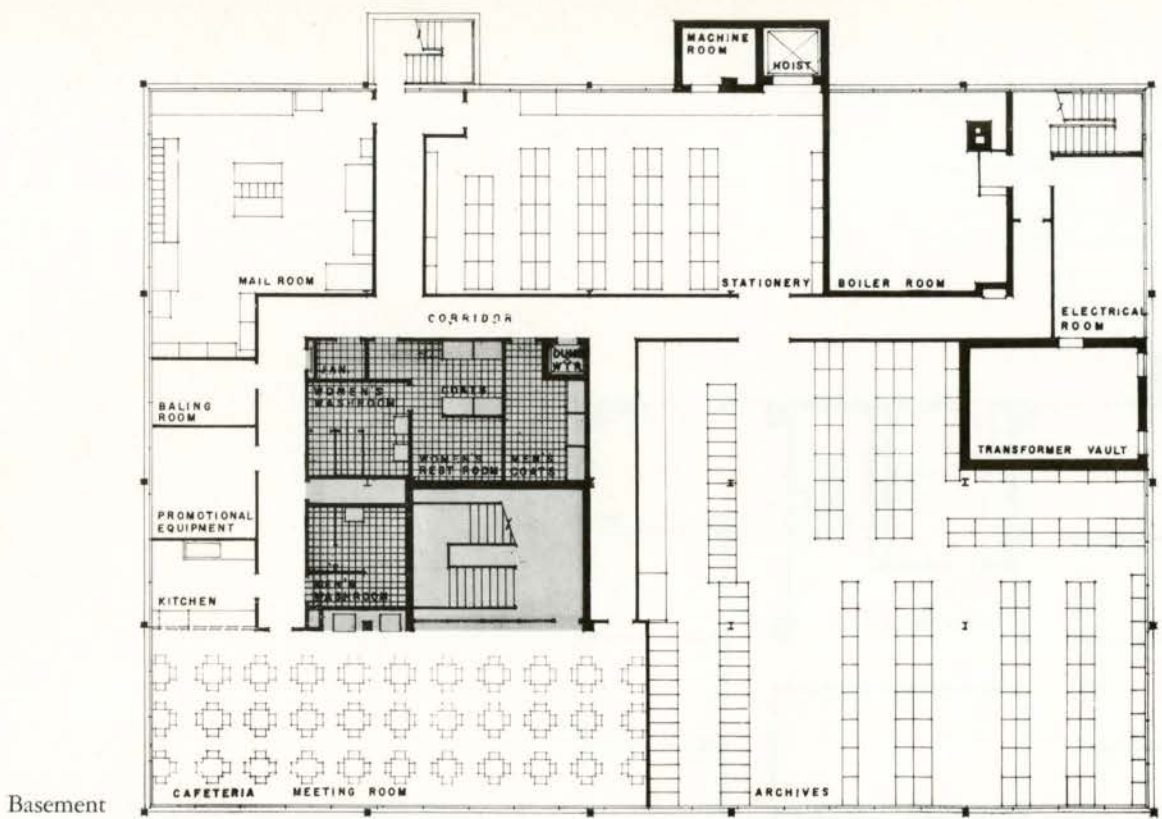
*General Contractors  
Chestnut McGregor Limited*



Main entrance front



First floor

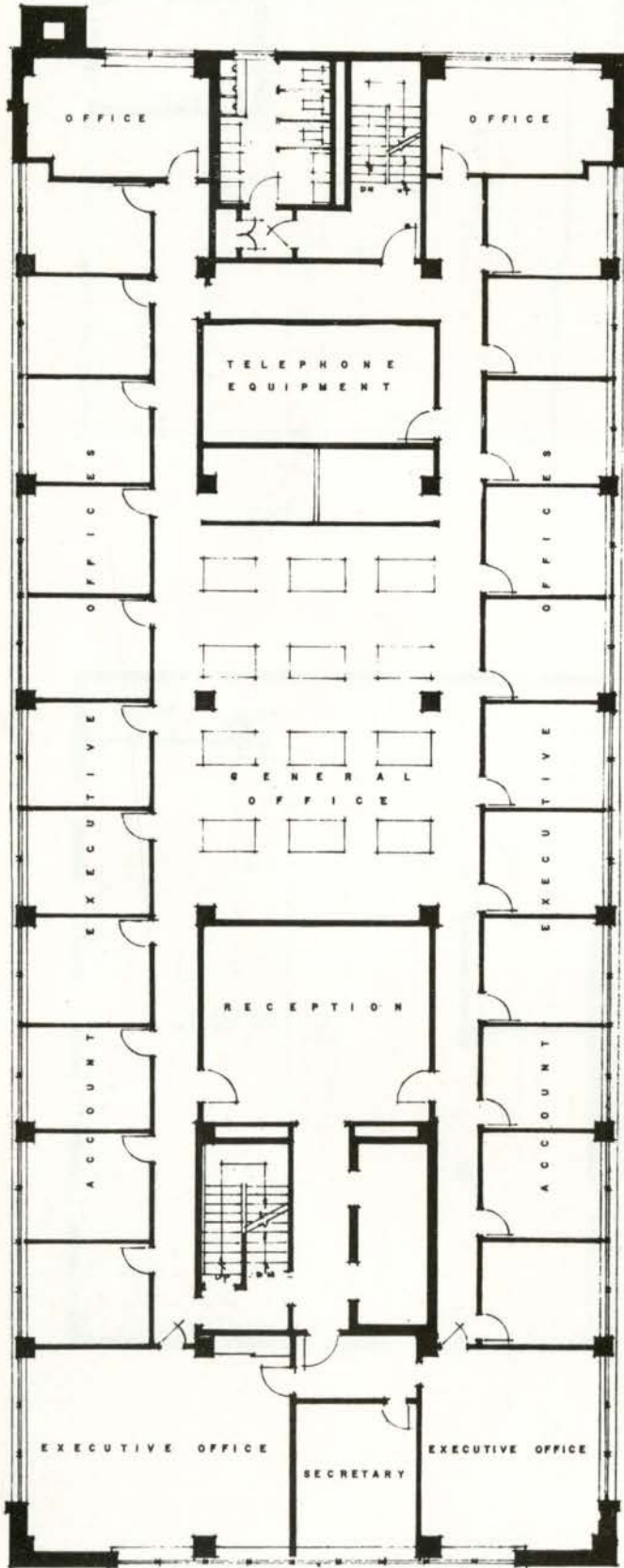


Cockfield Brown Building, Toronto, Ontario

Architects, Pentland & Baker

Structural, Spyridon S. Vozoris

General Contractor, Harry Davidson



Seventh floor



HUGH ROBERTSON - PANDA

The Bloor Street façade



JOHN E. MILNE



Interior looking toward entrance

### Cockfield Brown Building

*Bank of Nova Scotia interior by the Premises Department of the Bank. Architect, George H. Piersol*

PRINGLE & BOOTH LIMITED



Interior showing counter

"Now THEN," said Michael Scott, "are the Canadians pretty good leaners?"

"Leaners?" said we.

"Yes, building leaners," said he.

Finally getting the point, we admitted that our people were fair average leaners —

"How long do they lean at a time?" asked Scott, to which we replied that a good guess would be about ten minutes average.

"You call that leaning? Why, any Irishman would be ashamed to take less than thirty minutes to an hour against the corner of any building with a crony!"

This exchange took place on our way out of Mr Scott's latest building, the contemporary and therefore controversial ten storey bus station in the heart of Dublin. On the boards, at the moment, he has the new Abbey Theatre, a building in New York and others.

To continue — "Now then," said he, "let's try the corner of this building for comfort. You take that side, I'll take this one."

To our amazement, it made mighty comfortable leaning and even though we were of different statures our shoulders fitted perfectly.

Fitted into each of the corners were solid blocks of black Belgian marble into each of which had been carved a vertical water drop design, brilliantly polished, of course — decorative they are, but the basic idea, in a location that is close to the docks which means greasy coats and in a land where leaning is a fine art — well, make it easy for them and you keep the sides of the building clean plus allowing the sleeves to keep polishing the marble, in perpetuity.

To approach the subject of building upkeep in the above fashion does not mean that we are now about to launch into hundreds of words devoted to the "easy way" because the very nature of the work itself is practically all labour. This is obviously impossible, but we will endeavour to show that common sense governs, and, therefore, that the work need not be arduous; also, that the purse strings of the client can actually be tightened if he will only put cleanliness on the credit side of the ledger as against the debit.

Going down the street the other day, we stopped to look at a building, the windows were dirty, the entrance unswept, and yet this building is comparatively new, in fact, only two years old — hailed as the very latest, in design,

structurally and in appointments, pages and pages in the daily press for the opening devoted to the autotronic elevators, the unique system of air conditioning, the editorial matter surrounded by advertisements wishing the building well from every contractor from the general to the lowliest sub.

Here's what happened — all right boys back to work, it's open, isn't it? This building has to pay for itself, now let's see, it's rented solid so we can't take in any more, where can we save? Taxes, heat, light? No, those things are fixed. Now here's something, why do we need twenty cleaning women and, as for twelve caretakers, that's ridiculous; look at this, a hundred pounds of wipers in one month — now we're getting some place.

A dirty face in two years — there is one rental agent who will earn his pay when those leases start coming due and there is one landlord who, we hope, has a reserve for his write-offs because he's going to need one.

The comptroller of a large corporation once admitted to us that his favourite brass ash tray played a large part in his affairs. If it were bright and shining on his arrival at the office in the morning, the world was a fine place, but let there be a smear on it, however, and things were not quite so good. The days the cleaning woman forgot it completely, now those were the days the staff should spend under their desks. The same man paid no attention to the cleanliness of his or the general office, so long as his ash tray was shining.

To a lesser degree, this is true of all of us. The job at hand is the thing — take a look around right now, (that is if you are at the office, if you are at home please don't, it might be dangerous). H'mmm, could do with a bit of a clean-up couldn't it? Now don't feel badly, our experience is that newspaper offices are twice as dirty as draughting rooms.

Familiarity of surroundings grows on us to the point that we see only those things that are unusual or, in other words, we develop a habit. The business of keeping a building clean is exactly the same, the caretaker or cleaning woman does the same thing day after day, the exceptional one loves to see result from effort and through this interest can fight habit. The average, however, simply follows the line of least resistance until the bad habits pile up to the point that something must be done — it generally is and we get a new caretaker.

The above is true of those working without supervision

— with intelligent interest and leadership, the story can be entirely different. It is well to remember that, in most cases, this type of employment attracts those who are content to stay on the same level for years, and, therefore, training is important. Where you find a man or woman who knows what he is going to do when he arrives on the job, then you have something to work with, at least he is capable of planning.

Caretakers are a breed, in school work they quite often fall into these classifications — the fellow who sits in the boiler room and complains about the hours, the one who knows more than the board chairman or principal and is so busy running the school he has no time for other duties, and, lastly, the one who just does his work and says nothing (this type very rare). In apartment work, the average life is three years, the first year being spent learning the job, the second learning the angles and the third, capitalizing on the know-how gained in the second.

You may wonder why so much time has been spent on cleaning personnel, and that is only because the entire subject of building upkeep starts with labour, proper materials and equipment. Yes, when you stop to consider that the cost of maintaining a building from roof to ground floor is at least 85% labour and not more than 15% materials, then you appreciate the value of the individual.

Today, most architects are keenly aware of the importance of good housekeeping, and this is amply proven by specifications of materials requiring little upkeep plus easy-to-clean design application — no more, as an example, do we see buildings without adequate cleaning cupboards. Too, these cupboards are now streamlined to include proper broom and mop holders, shelves for materials and shower stall drains as against slop sinks. All these, plus many others, including air-conditioning, are helping, but then, dirt is a nasty customer, and, if it starts at the beginning of the job, it generally follows through regardless of all the help it gets.

Let us emphasize — about all we have in common with the architectural profession, outside floors and cleaning, is an appreciation of a good job, but it does seem to us that it must be discouraging to design and execute something for the betterment of the community, only to see it deteriorate in a few short years through lack of attention.

A few days ago, we asked a prominent member of our profession whether or not his firm still carried out periodic inspections of completed buildings, to which he replied, "Yes, and the results are most interesting. We find that the clients are, for the most part, grateful and readily agree to act on our suggestions immediately. On the other hand, some see our visit as an opportunity to present us with problems that we could easily do without, while still others have new projects in mind that we are able to get started on."

As is the case of the man with the brass ash tray, most people are completely unaware that their properties are declining, maintenance-wise, but, also, they are sensitive as to who puts them right on the subject — obviously, the architect is the proper person as he is the creator of the structure and any criticism can only be taken as constructive.

For some reason, floors always seem to present the

greatest problem in building maintenance which is, of course, understandable as they take more physical pounding than any other part of the building but also, floors are secondary in first impression — eye level objects being first, thus floors are of definite importance. The following list is given in short form and in an unbiased fashion.

#### *Wood*

In recent years, penetrating sealers as against high gloss varnishes have come into prominence, the theory being, and quite rightly, the more penetration the more durability. Maple, birch and beech two coats, no more than three, because of density these woods do not accept a filler. Stain for colour. Oak, fill plus two coats sealer.

#### *Asphalt or Mastic Tile*

Still best for below grade — to finish, steel wool, neutral soap and neutral wax. Avoid use of powdered cleaners or solvents.

#### *Vinyl Asbestos*

Resistant to alkalis and greases — requires limited wax use to combat abrasion.

#### *True Vinyl*

Brilliant colours, again limited wax required.

#### *Quarry Tile*

For kitchens, dairies, lavatories, etc., cleaned with oil bound or terrazzo soap.

#### *Lino Tile, Jaspe, Marboleum, etc.*

Good sound deadening qualities — to maintain, steel wool, neutral soap, neutral wax. Solvent type cleaners and waxes may be used but labour cost too high.

#### *Linoleum, Battleship*

To finish, prepare, apply one coat approved sealer, two coats neutral wax — to maintain, neutral soap, neutral wax.

#### *Terrazzo*

Care must be taken in specification and selection of contractor — new final grind technique being developed. To finish, after final grind, neutralize, apply one coat hand rubbed approved sealer, protective coat neutral wax previous to use — to maintain, approved terrazzo soap only. With proper finishing, floor is brilliant and non-skid.

#### *Cork*

Excellent sound absorption qualities — sand with great care, seal two coats recognized cork sealer, two coats wax.

#### *Leather*

A new flooring for higher decor use — solvent type cleaner sparingly, solvent type wax.

#### *Flagstone (interior use)*

Two coats water emulsion wax stops dusting, brings up colours.

#### *Rubber*

No soap in cleaning, use rubber tile cleaner, neutral wax only.

#### *Theory of Waxing*

The average person uses five times too much wax — wax is used for protection, ease of maintenance, beauty, and in that order — over-waxing with insufficient prior cleaning

produces build-up with resultant labour loss, and, quite often, damage to the flooring when stripping occurs.

Heavy traffic areas such as in front of counters, doorways, under desks, etc., should be regularly cleaned and waxed, as the field of the floor will be found to have ample protection, re-polishing is all that is necessary. Strip before re-waxing. The more often a floor is polished, the longer the period between waxings, the lower the labour and material cost.

### *Equipment*

The best cleaning equipment is vital in building cleaning not only to cut down man hours, but to create pride of accomplishment — as there have been improvements in this field that may not have come to your notice, you may find the following to be of interest.

First of all, we have the most important cleaning tool, the floor machine and that's exactly what it is, a tool — the idea that one huge machine will do the work of five men being just not workable — most modern buildings use several medium-sized machines rotating them according to shifts.

Personally, we believe in the self-propelled direct gear drive type as it gives greatest mobility with the least effort plus producing the best job. As the weight is entirely centralized on the brush, you scrub or polish through friction and weight combined.

The size of the machine should be determined by the number of square feet to be taken care of, and the price factor should be entirely secondary. As an example, a fifteen inch machine will run from three to five hundred dollars, each model offering different features.

Mopping equipment has made great strides, in latter years the portable tubs and mopping tanks giving way to streamlined, light weight units that produce a better result.

Let us look at pails, the new fashioned kind have offset wheels to combat tipping, the serrations along the side are so designed as to add strength to the pail. In addition, these serrations propel the water into the centre of the pail while being wheeled along the floor, thus preventing

splashing; also, the pail is specially reinforced at the top and the whole thing hot dipped galvanized so that there is no possibility of leakage. All in all, one would hardly believe such a thing as a mopping pail could be so scientific.

Mop wringers are now known as gear activated downward pressure wringers, and this style is hailed as the greatest step forward in mopping equipment in the past thirty years. Instead of pushing up on the handle which is not only hard work but causes splashing, the operator now pulls down on the handle and through the use of offset gears, it is just like power steering. At the same time, a pair of metal lids force down on the mophead in a uniform fashion, also preventing splashing. This type of wringer is built with great precision; the handle is at correct working height and correct pushing height so as to make the job just that much more simple. They are also built in baby size for ladies, medium size for average height people and large size for giants.

Industrial vacuum equipment is definitely playing a major factor in building cleaning as it is now possible to have a vacuum that cleans drapes, furniture, furnaces, air conditioning ducts, etc., plus picking up mop water, snow and slush — yes, even nuts and bolts.

These machines come in a variety of sizes, some with enclosed motors; others with motors that you simply take off the machine and strap around your waist for eye work or hard to get at places, the whole idea being portability plus variety of use and, of course, trapping the dirt once and for all.

By no means do we mean to create the impression that Canada's buildings are falling apart through lack of maintenance because this is by no means the case, but there is no question that one building will become shabby very quickly while a companion building built in the same year still remains fresh looking, and, while it may well be argued that the owner is responsible for the deterioration in the first instance, and pride of ownership in the second instance, still guidance is required and this could be accomplished by follow-through from the draughting board.

I THINK THAT MOST PEOPLE WOULD AGREE that a feature of our time is the ease with which it is possible to confuse Ends with Means and the difficulty of keeping a clear vision of what we are aiming at — entangled as we are in the wheels of our complex machine civilization. When we contemplate the radio and television sets, the strato-cruisers and submarines, the electric brains, the cyclotrons and all the other impedimenta of life to-day, it's hard to remember that each one of us is here for but a brief spell of time and that our real needs during this short earthly sojourn are but a little food and drink, some shelter from the weather, a little love, a little kindness, and the solace and inspiration of Nature and of art.

### What is a city for?

And so in our cities — with their acres of dwellings and factories, their subways and expressways, escalators and elevators, docks and wharves, marshalling yards and tramway depots — here, too, it's hard indeed to remember for what purpose all this mighty agglomeration of iron and steel, concrete and brick and stone was brought so laboriously together at so great a cost. What is a city for? The city is the means to civilization — and civilization is the art of living sociably together and thereby developing a richer, fuller and more interesting life than the life possible for isolated families or wandering tribes.

### Civilization

It would be good if we could always remember that the word civilization derives from *civilitas* — civility, and that it is allied to another word, 'culture,' which uses the metaphor of the garden and of cultivated soil as opposed to wild Nature: to become cultured is to have raw human nature enriched from the stock of common knowledge and its excesses pruned and controlled to the end that it bears the fine fruits of scientific and intellectual achievement, the flowers of creative endeavour — and the useful vegetables of social and political organization. Civilization takes the savage and turns him into a Plato, a Newton or an Einstein, or such a man as builds the Parthenon or writes *King Lear*.

We may perhaps be forgiven if these ideas become somewhat blurred on our daily journey to work past the gasworks and the abattoir, on the New York subway in the rush hour, in Manchester on Sunday when it's raining — or even when it's fine — in Sydney at five o'clock at Wyn-

yard Station, or in Chicago at almost any time. Yet this is in fact the meaning and purpose of a city, that it should provide an environment in which the best spirits may achieve their best. The city is a meeting place, a laboratory, a studio, a workshop for men's various creative activities. The purpose of the city is to make great men, and a Great City is 'great' because of its citizens — Athens because of Plato, Pericles and Pheidias, Rome because of Cæsar and Michelangelo, Paris because of Abelard, Molière and Victor Hugo, London because of Chaucer, Milton and Disraeli.

Above all, then, the Great City is a meeting place where the foremost minds, sharpening themselves upon one another, produce something greater than the mere sum of individual talent and, under favourable circumstances, achieve the brilliance of the Florence of the Medici, the London of Dr Johnson, the Boston of Emerson and Thoreau, or the Edinburgh of David Hume and *The Edinburgh Review* — a city, then, about the size of our Newcastle in New South Wales.

At the time when Pope Leo X had gathered around him in Rome not only Bramante, Raphael and Michelangelo, but the greatest writers and poets of Renaissance Italy, one of the latter, Ariosto, the great Latin scholar of Ferrara, states clearly in a letter to his brother exactly why he was going to Rome and what he wanted there: he asks for 'leisure to revisit the sacred muses and go poetizing with them once more . . . I want to sharpen my wits with Bembo, Sadoletto and the learned Giovio. Each of these in turn, book in hand, will guide me through the Seven Hills, saying "Here is the Roman Forum, there was the Suburra, that is the Sacred Hill and here was Vesta's Temple . . ." In reading and writing I shall always have counsel at hand, whether I wish to quote from a Latin, a Tuscan or a bearded Greek . . . and recommend me to that great store of ancient books gathered by the Pope for the public good of all the world.'

The Greek agora, the Roman forum, the medieval or renaissance square, these are the supreme examples of the city as a meeting place, where the meeting place is symbolized in material form — the city where the scholar and the scientist can meet others of their kind, where the artist meets the patron and the critic, and the inventor can find a sponsor or raise a loan. And what are these laboratories, studios, workshops of which I have spoken? They are the libraries — galleries — museums — concert halls

– theatres – lecture rooms, where whatever is best or new in art or music, science or politics is to be seen or read or talked about. These are the workshops wherein new advances of the mind and spirit of man are made, where civilization itself is nurtured and maintained.

But, like Ariosto, we must all eat and drink and, if we are civilized, we make an art and a pleasure of it, with our fellows, in quiet courtyards, shady gardens or comfortable rooms. And we need to walk at our ease in safety, to see and be seen and exchange the news, in the corso or on the boulevard. And the air we breathe should be fresh, not heavy with coal dust or stale with oil fumes, and, being animals, though human animals, it comforts us even in the city to be in touch with our Mother Nature, to see a tree or a patch of grass or the blue waters of the bay or, from some vantage point, the distant prospect of the plain and the hills beyond; or to see the sun go down at evening from some terrace in a garden, and then at night to sleep in peace and quiet – the hardest thing of all in our cities to-day.

#### **The scenery in the theatre of life**

And in all our goings and comings in the city the background, the buildings, which are the scenery against which we act out our part in the theatre of life, should assist the drama of our role, neither dwarfing us with their scale and inhumanity, nor cheapening us with a pantomime frippery or a fun fair confusion. A hundred examples show how our personalities can be made to expand and glow through the skilful arrangement of the solids and voids of the streets and squares through which we pass: the Capitol and Spanish Steps at Rome and the terraces of the Pincio, the famous squares at Nancy, the steps and terraces of Versailles, the circuses of Bath and the crescents of Edinburgh all show how an urban or artificial environment can become as a piece of landscape sculpture to walk about in, or as an instrument tuned and keyed to our moods and sensibilities.

#### **The personalities of cities**

And, like great men, Great Cities develop personalities: through great deeds, like Cæsar and Napoleon; through great thoughts, like Plato or St. Augustine; through great achievements, like Wren or Michelangelo; so through great trials, like Vienna and Warsaw; through great ideas, like Jerusalem and Athens; through great accomplishments, like Paris and Rome – great cities develop inherent characteristics, personalities of their own, they come to stand for something: for the free individual and the rational mind, like Athens; for the unity of Western civilization, like Rome; for the finest art – the art of living – like Paris.

#### **The significance of buildings and monuments**

And man, having made the city, the city moulds the man. And man, who has always symbolized his gods and continued to make graven images even when expressly instructed to the contrary, man, in the greatest cities, has symbolized in their material shape the longings of his heart, the aspirations of his soul, the highest flights of his imagination; and so we find Rome, for so many centuries

the acknowledged capital of our faith, dominated by the all-inclusive dome of St. Peter's, the Mother Church of all Christendom; so in Prague our eyes are constantly drawn to the heights of the Hradcany, the fortress and cathedral there, mute but constant reminders of a millennium of struggle for the survival of the soul of a great people; so in Athens stood the buildings and monuments of the Acropolis, visible expressions of the ambition, hopes, faith, ideals of the Greek spirit, with the great statue of Athena, the maiden Goddess of Wisdom, the Champion and Protectress of her city, the dazzling and far-seen symbol of Athenian achievement – a beacon for which voyagers, returning from their dread journeys to the Pillars of Hercules or to the confines of the Euxine Sea, looked daily with longing and with reverence. The city expressed in its shape and form its innate character just as do the rhinoceros and the antelope, and it expresses it whether it knows it or not: the modern Athena in New York Harbour is also called the Statue of Liberty, but the stupendous cliffs and chasms of the office buildings on Wall Street in the background somewhat distract from the quiet contemplation of this fine symbol of a noble ideal!

In the light of the kind of thoughts and feeling about the city that I am trying to express I should like to consider the major trends and influences shaping and forming our cities to-day; and if I have in mind chiefly our Australian cities, and Sydney in particular, I do not think that these trends will be altogether inapplicable elsewhere.

#### **The modern trend towards size**

Firstly, there is the ever-increasing trend in cities, as in other things, towards size, towards numbers and in consequence to sameness, drabness, mediocrity, as in the overgrown Government Department or equally the large-scale private enterprise: the human being in both becomes a mere unit, a number, and in the overgrown cities of to-day with no clear articulation and differentiation of their various parts the effect is the same.

#### **The loss of contact with Nature**

With growth in size, in numbers of streets and factories and houses, so the edges of the city push ever further into the country until for a whole vast inner area all contact with Nature is lost, all contact with the soil – with natural bush, rocks, trees, grass – all this goes, while so much time is spent in gruelling journeys through this vast urban conglomeration that little energy is left to travel even further afield in search of unbuilt-on land where the trees have not yet been cleared. Meanwhile, such a thing as a fresh vegetable, unfrozen, undehydrated, uncanned, unhandled – vegetables picked when just ripe and still with the dew on them – such things disappear for ever, or become a memory only to be recaptured in more primitive countries far from the benefits of mechanization.

Thirdly, and again emphasizing the growing and disastrous change from human to machine scale in our urban environment, there are all the modern varieties of transportation, including the myriad motor cars, the screaming jet plane, the horrid tram, and the immovable railroad. The mere business of transport, which is a complete debit item in the human account book – being in itself of no

value whatsoever — is taking up an ever-increasing proportion of the national economy in costs, man-hours, materials and taxpayers' money. In the cities the evidence of all this is the vast and inhuman expressways, the tunnels and bridges, elevators and subways, airfields and parking places, which are converting the city as an environment for the good life, into the city as a mere traffic junction, at which one changes transport to get from one suburb to another. The city of man is becoming the city of machines.

### The city proper has become a dead heart

It is understandable therefore that, with these processes at work, people are fleeing from the city to the suburbs as rapidly as they can go; one's social status is, in fact, signified by the distance one lives from the town hall and the time one is able to squander in useless journeyings. The city proper becomes a dead Heart to which blood is poured in and out at morning and evening from a series of suburbs which remain anaesthetized and anaemic during daylight hours. Meanwhile, partly because it only has to be suffered for a brief working period, the city deteriorates into a network of noisy and unpleasant traffic routes, some remaining slum houses, a lot of shops which tend to get larger and nastier, and, of course, the office buildings into which the commuters disappear at nine o'clock to reappear at five.

In the kind of developments I have been describing, existing fine buildings, squares, monuments, parks fare very badly. Historic homes fall into decay, quiet squares become traffic centres, monuments are festooned with overhead tram wires, and city parks become convenient sites for public lavatories and a miscellany of odd buildings which thus save the expense of finding themselves new sites. But since there are few who really live in the city, there are few to complain. Eventually, the centre becomes so horrible that no one goes near it except on essential business. I was interested to see in St. Louis, in the United States, that the process had gone so far that they had been able to convert the old business centre into a National Park — a Memorial to Thomas Jefferson and the Louisiana Purchase.

In the last stages of this development the city not only lacks all ordinary human comfort, but ceases to have any real significance at all except as a place to manufacture things, or move them about in. I was saddened to see that my own home town of Liverpool in England appears to have reached this final stage of decline and fall. I devoutly hope that this is only appearance and that the seeds of revival are still fertile there; surely it must be so for a city with such a history of vitality and enterprise.

### The remedy

What do we do about all this? Firstly, we must have confidence to believe that the fault lies, not in our stars, but in ourselves and to remember that we who have created the sub-human squalor of Manchester and Pittsburgh also created Florence and Venice, Zürich and Vienna. As for specific action that should be taken, you will not expect me, in an hour, to talk of floor space indices, zoning ordinances, compulsory acquisition, compensation or the theory of betterment — nor will a

new Athens ever arise by legislation; but it is even less likely to arise without it, now that we are no longer willing to hand over our affairs to a Pericles, an Augustus or a Louis Napoleon.

The phrase 'Total Architecture,' which Dr Gropius has used so vividly, is one full of significance — for architects; but it would be a dangerous phrase if it were wrongly taken to mean that the architect was free to consider himself the self-appointed image of God on earth to bring order unaided out of chaos. The architectonic character — the significant form of the city — of which I have spoken so much, is the ultimate expression of the good life lived therein, and only through the architect can this fine flower of beauty be achieved; but to make the good life (and the good architecture) possible in our complex modern world, the economic, financial, legal and administrative arts and sciences must first play their part, and it is no less important for the architect to school himself to collaborate with skilled men in these fields as it is for him to learn again, as he now realizes, the language of the engineer.

For this reason I would wish that at this Convention a self-denying ordinance could be adopted, agreeing that the architectural profession should sacrifice the easy victories of cheap criticism of the legislative and administrative activities of their own representatives and officials in Federal, State and Local Authorities — not that criticism should cease, but that it should always be accompanied by practical proposals for improvement in the case concerned. Dr Gropius showed us an example of this when, after referring to out-of-date building regulations, he followed up by suggesting a performance standard rather than a standard specification.

These local and State authorities we so lightly slander are the clients and patrons of to-day, patrons with building programmes that would put the Medici or Lord Burlington to shame. We decided we didn't like the simple government of one man — Louis XIV or Peter the Great — that we wanted representative government; now we've got it and it is our task to lead, guide, help and educate these representatives to become the Lorenzo de' Medici's of tomorrow. In education the use of criticism is a delicate matter and criticism should be sparing in its application and constructive in character. When all the plans submitted to city and municipal councils are of a reasonable standard — and I wonder how many of you realize how unbelievably bad, bad in planning, in design and in construction, the vast majority of the plans submitted at the present time are — then the councils, with the assistance of the architectural profession, will go forward from thinking primarily, as they must to-day, of how to stop the bad, to the consideration of how to help the good.

What is my own recipe for stopping the process which is rapidly turning our large cities into mere mazes of engineering services? Like the truths in the Bible and the secrets of the good life, the secrets of the good city sound boring because we have heard them so often — but they are inescapable for all that.

#### 1. *Halt the spread of the city by a green belt or rural zone*

Use density zoning and floor space control to limit the numbers of people living and working in the urban area.

We all agree that the big cities are too big, while we watch them growing bigger. If we don't want this to happen, we have to stop it happening: the problem is as simple and as difficult as that.

2. *Provide for new developments beyond the green belt*

Restriction is not enough: every healthy organism is a growing organism; growth cannot and should not be prevented, but it can and should be directed. From Ebenezer Howard's 'Garden City' to the latest theory of neighbourhood and precinct planning the trend of modern development is towards a cellular pattern of limited developments separated from one another by larger or smaller open spaces. This is the pattern fitted to the transport, recreation, and even to the defence requirements of to-day, the pattern which makes possible a reintroduction of human scale into the smaller groups of which it is composed.

3. *Eliminate or reduce all unnecessary movement of people and goods*

More and better transport services, express highways, parking spaces and so on are necessary; but these alone offer no solution to the basic problem of central area congestion and the long journey to work: a more fundamental attack is needed by which, through a better relationship of homes to work places as well as to shops and schools, and a better organization of road, rail, sea and air transport terminals in relation to warehousing and wholesale marketing facilities, a radical reduction in the total amount of traffic movement is made. This should be one of the essential purposes of a zoning scheme.

4. *Bring more parkways and green strips into the city to subdivide it*

Break up existing urban areas into a series of neighbourhoods or communities defined as clearly as possible. Use the park strips and parkways for this purpose and let traffic flow between the developments, not through them. The aim should be a more human scale, a greater sense of local pride and, as a result, more interest in local affairs and better local government. And incidentally, don't build on existing parks; economize in anything rather than in fresh air, green grass and shady trees.

5. *Remember that ends are more important than means: and concert halls as important as hospitals*

More and better houses, hospitals and schools are im-

portant means to a better life, but concert halls, theatres, assembly rooms and art galleries make possible the good life itself. In new housing estates the community centre, with its club rooms and rooms for meetings and discussions, should be one of the first buildings built; it has an important psychological and social part to play in the new community and is a means to the full development of democracy, of which local participation is the essence.

6. *And to architects particularly: consider every building as part of a larger group*

Every architect has a public duty as well as the duty to his client: the whole is more important than the part, and this is especially so of architecture to-day, where economy and standardization are necessary to make possible large-scale programmes of similar building units — houses, flats, schools, hospitals, and so on. Under such circumstances beauty comes through the overall composition of streets, squares and building groups rather than through the elaboration of single buildings. Every architect should be something of a planner and a landscape designer and should think in terms of overall social well-being and benefit or injury to the community as well as to his client.

But if one single thing only could be done and I had to choose which, I would say: make the inner city areas habitable again; reverse the fashionable flight from the centre to the suburbs, the escapism which has always marked the decline of civilization. If we consider for a moment the significance of Mayfair and Bloomsbury to London, of Beacon Hill to Boston or Merrion Square to Dublin, or if we try to imagine Paris with no one living in the Faubourg St. Germain or San Francisco without Nob Hill, we realize that an un-lived-in city is as cold and uncared for as an empty house. When aldermen, members of parliament, captains of industry and leading men of the professions live once again within two miles of the town hall the City will quickly become cleaner and quieter and pleasanter than it is to-day — and fulfil more closely its most significant function as the guardian and nurse of civilization.

*The above was a paper given at the Fourth Australian Architectural Convention at Sydney and was published by the Journal of the Town Planning Institute, London. It is republished here with the kind permission of the Institute.*



## VIEWPOINT

*To what extent should the architect's convictions with regard to the aesthetic design of his buildings be influenced by his client?*

For many years I felt that no client should influence an architect in any way. This attitude may have some bearing on the curious fact that I have not had a client for many years. This has been unfortunate because during that time I forgot how to be an architect.

In the last few years, however, I have had to build some buildings and so have been forced to become a client. If there is something worse than arguing with a client it is, I was told, arguing with one who is an architect as well because the s.o.g. thinks he knows it all.

With the above experience I think I can make a definitive statement.

*A. P. C. Adamson, Port Credit*

This is an important matter since the architect's convictions play such a vital part in his relationship to his client.

The architect's convictions should be influenced slightly, if any, by the client and then only if there is something in the client's own personal philosophy which appeals to the architect. Convictions based on formal architectural training and a continuous quest for perfection can hardly be set aside in favour of a client's aesthetic whims.

This is not meant to indicate a belief in a rigid philosophy of design. One's convictions with regard to aesthetic design should be analyzed continually in the light of his experience, for personal experience is a major factor in the learning process. One's philosophy should be subject to progressive changes and refinements.

*Gordon S. Adamson, Toronto*

We must assume that the architect does in fact hold aesthetic convictions in which he firmly believes, and that he does not measure professional success in terms of annual income or volume of business. Otherwise there is no problem.

A sincere designer will regard his architectural philosophy as practically equivalent to religious belief. Abandonment of his aesthetic convictions would be moral defeat. The answer to the question is therefore "none".

High ideals are most easily maintained under conditions of financial independence. In the absence of a private income, the architect possessing strong convictions also requires a correspondingly stiff moral fibre. If conflict arises, he may have to choose between an unhappy compromise or loss of the job. He will feel a righteous indignation at any unwarranted interference on the part of his client, whose principal function is to pay the bills. He will feel a strong inclination to tell the client to go elsewhere.

In practice this may not be easy. Few architects can afford to relinquish profitable commissions because they are denied absolute control over design. Moreover, the situation may be

complicated. What should one do, for example, if differences of opinion do not appear until working drawings are on the boards, the fee half earned? Some compromise may be inevitable. How much? If possible, enough to avert disaster, not enough to make the architect hate himself.

It is impossible to measure compromise, to determine a degree of surrender morally justifiable under any given circumstances.

One thing is certain. No architectural reputation can be built upon a policy of subservience to the whims of the client. It would be interesting to discover how many clients have been turned away by such men as Wright, Saarinen, le Corbusier, or Neutra, especially during the early stages of their careers. Would their names mean anything today if they had not done so?

*Kent Barker, Toronto*

Not at all!

The role of the architect is to give expert professional advice upon matters that fall within his competence. Surely expert opinion upon the appearance of buildings, inside and out, is the root of the architect's service. The architect should never defer to his client upon any matters concerning which he is more qualified to judge. Should his client reject his opinion then he has no alternative but to make the most of his misfortune.

In spite of William's notable success at Sens, he made a botch of Canterbury, just attempting to be pleasant to a few crusty monks who did not know as much as he about his work.

Pericles, Julius II, Queen Anne and others, have shown that where architecture is concerned the best results are obtained when clients state what is wanted in general terms and then confine themselves to paying the bills.

*John Bland, Montreal*

The client's approach to the architect is nearly the approach of the patient to the diagnostician. The initial stages of consultation are identical. The architect and diagnostician listen, both listen patiently, for clues. If consultation can be listed in ten parts of time, professional advice may be listed in one part of time. I think most architects with minds that are not too arbitrary would agree on this comparison.

But what happens when all the factual points have been agreed upon? Clients are as happy as the architect, but there appears some friction as to "what the building looks like", or the conception is not as the client had conceived it. Unfortunately perhaps, I have not had too much experience with this baffling enigma. It is the architect's duty to indicate that the problem, if intelligently discussed, will automatically resolve itself. It is essential to listen, as it has often been proven that some clients have a great deal more aesthetic appreciation and imagination than many architects. In case of deadlock over this problem, there is, of course, the brutal and obvious answer.

*C. E. Pratt, Vancouver*

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## NEWS FROM THE INSTITUTE

### CALENDAR OF EVENTS

1955 Annual Assembly of the RAIC, Nova Scotian Hotel, Halifax, Nova Scotia, June 2nd to 4th.

British Architects' Conference, Harrogate, Yorkshire, June 8th to 11th, 1955.

Annual Convention of the American Institute of Architects at Minneapolis, Minn. June 20th to 24th, 1955.

Fourth Congress of the Union Internationale des Architectes at The Hague, The Netherlands, July 11th to 16th, 1955.

### ONTARIO

I never realized how difficult it was to find a topic for a letter of this kind until I was faced with it. I am sure no one is interested in a list of recent construction in this part of the Province and I am also sure that the editors will publish news of those designs which merit publication.

It should be noted, however, the great increase in the number of buildings in Ontario which are being designed in a fresh and appealing contemporary manner. On the other hand, it is unfortunate that so many of the larger office buildings recently constructed can hardly be called the result of great inspiration. With the wealth of new materials available, allowing such great flexibility of use, all architects have a tremendous opportunity to do great things. It is a shame that many architects have missed this wonderful chance.

The public (our clients) are ready to accept new design, regardless of how strange it might seem to them at first glance. In fact, they are truly excited and enthusiastic if given a proper sales approach, based on reason and supported by good presentation.

I wish to congratulate those architects who have had the courage of a pioneer and who have produced many excellent designs. Honest architecture has always required courage. A real architect must also defend his ideas and inspirations against the criticism of both the wise and ignorant.

Younger architects in particular should fight strongly against unfounded criticisms of clients. Always, of course, giving consideration to those criticisms which are justified. In other words, sell your design, defend it, if necessary, and you will find your clients will appreciate your efforts and, in most cases, be far more satisfied.

Let us all be architecturally brave, honest and truthful so that the profession will gain in respect and prestige.

*James S. Craig, Peterborough*

### MANITOBA 40th ANNUAL MEETING

For the second consecutive year the annual meeting was scheduled as a complete one-day program. The morning session which was devoted to the annual business meeting of the Association was held in the Exhibition Centre of the library building on the Fort Garry campus of the University of Manitoba. In the President's report, Mr Ernest J. Smith spoke of the growth and development of the Association over the past forty years to its present sound financial condition and to its 108 registered members. Speaking on behalf of the Association, Mr Smith and Mr G. Leslie Russell paid tribute to the late Professor Stoughton for his contributions to the Association, the University, and to the community as a whole.

Following the annual election of Councillors, the 1955 Executive was listed as follows: Cecil N. Blankstein, President; Earle G. Simpson, Vice-President; Mrs Douglas Chevrier, Executive Secretary; Ernest J. Smith (ex officio); Councillors: Dennis H. Carter, A. James Donahue, H. H. G. Moody, Charles Faurer, K. R. D. Pratt, Edwin Raines, and Norman C. H. Russell.

At the close of this meeting a luncheon was held in the University Residence. Dr H. H. Saunderson, President of the University of Manitoba, welcomed the Association and its guests to the campus.

The afternoon session consisted of two seminars, the first a panel discussion of the builder-architect relationship and the "package deal". The panel consisted of a builder, realtor, owner, architect, and architectural student. Mr Herbert D. White introduced the subject and acted as moderator. The second seminar, lead by Professor E. Stewart of the Department of Architecture of the North Dakota State Agricultural College, dealt with the problems of noise control in present day buildings.

In the evening a dinner and dance were held at the Fort Garry Hotel. The guest speaker was the noted architect and author, Mr G. E. Kidder Smith. Mr Kidder Smith spoke on the Architecture of North Africa.

### OBITUARY

The death of **Maxwell C. Dewar** (F) on April 1st at the early age of forty-five years is a calamity to the profession and to a much wider circle in Alberta. He was a man of goodwill and of a super-abundant energy who had risen high in his profession by personal ability and by unsparing application to whatever he put his hand to. That ability and devotion he expended in many spheres beyond that of his profession. I feel his loss personally when I recall the many council meetings for various purposes at which, through the years, I have met him. One might differ from his opinions or policies, but one could never quarrel with Max; he was so clearly impersonal in discussing the matter in hand; he worked for the cause or the objectives in view. Having suffered more than one heart-seizure, he was well aware of the slender thread upon which his life hung; yet his energy could not be repressed and the final blow fell whilst he was upon one of his many undertakings.

*Cecil S. Burgess*

**John Stormont Porter** (F) was born in Edinburgh, Scotland, on April 2nd, 1891. He attended George Watson College and later was articled to James Graham Fairley of Edinburgh who practised as an architect and quantity surveyor.

In April 1912, at the age of twenty-one, he emigrated to Canada, proceeding to Winnipeg where he found employment with the Architectural Department of the Province of Manitoba.

When the First World War commenced, he immediately joined the Engineers, and served with the First Battalion Engineers with the First Division in France. He was very proud of his overseas service and always wore the little red patch of his Division. He was badly gassed and injured at Ypres in the first gas attack. After a considerable period in hospital in England, he returned to Canada with his transportation for Vancouver.

In the fall of 1920, he joined the architectural firm of McCarter & Nairne and continued in their employ, later being taken in as a partner. With this firm, he assisted in designing and carrying out many buildings in Vancouver and British Columbia. John Porter was a sound architect, and his work reflected his basic Scottish training in design and construction.

He was an outstanding golfer, having learned to play with his father on the links in Edinburgh. He was a member and Past President of Quilchena Golf Club and held the Club Championship in 1937. He was also Past President of the Architectural Institute of British Columbia. John Porter was always popular with his brother architects and the entire building and construction fraternity. At all times, he was just and fair, and his passing on February 12th, 1955, was a real loss to the profession.

*J. Y. McCarter*

#### **NOTICE OF PARTNERSHIP**

Patrick J. Cullingworth has entered into partnership with George H. Kerr. The firm will practise under the style of Kerr & Cullingworth, Architects, at 108 Ross Block, Saskatoon, Saskatchewan.

#### **ERRATUM**

In the official Membership List, Mr R. W. Humphrey's address was incorrectly stated. The correct address is 1508 Mountain Street, Montreal, P.Q.

#### **BATH SUMMER SCHOOL**

In response to suggestions received from students in Europe and North America, it is proposed to hold a Summer School from 22nd July to 6th August 1955, at Bath, Somerset, England. The Courtauld Institute of Art, London University, has agreed to sponsor this course.

The aim of this Summer School is to provide students of architecture and art with a specialized course which will bring them towards a closer knowledge and appreciation of English achievements in the fields of architecture and the decorative arts during a particular period (c. 1680-1820).

The cost of the course, including all fees for accommodation, tuition, transport and entry to houses, etc., will be forty pounds.

The number of students who may be enrolled for this course is limited to thirty. Applications with a deposit of ten pounds should be sent, as soon as possible, to The Secretary, The Bath Summer School, c/o The Holburne Museum, Bath, England; the balance of the fees to be payable on or before 30th June 1955.

#### **LETTERS TO THE EDITOR**

Sir,

There is always a small group in any field of the arts who are overly preoccupied with the aesthetics of their art. Both Le Corbusier and Mr Grossman are members of this group. They render a valuable service to their art, as does any specialist, in that they develop their theme until the last shred of an idea has been expressed; but, at the same time, they put too much emphasis on their one little part, and lose the conception of the whole.

Le Corbusier is a bitter man, preoccupied more with his failures than with his successes, not because he is a man born before his time, but because he is a man who will not accept the limitations of his times, and hence, in rebelling against them, he assumes the pose of a righteous dictator. He finds it impossible to work within the framework of democracy, particularly a broken down one like that of France. He finds it equally difficult to work with American democracy because of its expansionist, and trial and error tendencies.

Wright, on the other hand, revels in the individualism of American democracy, and the principles of his work, embodied in each small unit, will one day stimulate greater works, and will expand to include the conception of the organic city.

Le Corbusier has, on occasion, visited America and was thrilled by the efficiency of the American express elevator, and American mass-production. He found the hours of sunlight ill-used, so he reduced his architectural philosophy to a simple formula of the four hour work day (with eleven hours leisure), and the skyscraper city. He admits that work in itself is a bad thing, so he reduces man, the machine, to four hours drudgery. And he frees man from the hustle of the street, and stacks him layer upon layer into the sky. He hates the narrow city street, so he narrows the streets still further, calls them corridors, and connects them vertically with elevators. He decries the garden city, because no monument is very effective, lying horizontal, and because putting man close to nature is uneconomic.

Mr Grossman joins with Le Corbusier in lamenting the passing of the day that would see the dictatorial creation of a Place de la Concorde, which stands as a monument to a man, but as an insult to the dignity of individual men, no matter how wretched. And it will be noted that Le Corbusier's work has mostly found favour in those countries short on democracy — in South America and Italy, and often under dictatorship. It will be remembered, from past publications of his works, that his schemes for town planning often wipe out existing historical and topographical conditions. Everything must be subjected to the creative genius of one man. Who of us do not often wish for such mythical conditions, but who of us would want to place such power in the hands of one man?

Who of us wants to reduce man to measurement, and the module, to the rule of the Golden Rectangle and the control of the sun's orbit? Corbusier would have man's individuality submerged beneath measurement and logic to the glorification of his own. His design principles are mostly the result of logic, and hence are easily copied. He claims to love man, but no man who in truth does, would relive his life of failures, in a lecture.

Let us recognize the narrow limitations of Le Corbusier's work, for all his ability to express accurately the machine-like culture that is ours. Man's essence is his spirituality, not his likeness to the machine, and it will one day re-assert itself.

Yours truly,

*Fred Dawes*

Sir,

Mr Dawes seems to be inconsistent in his argument. He begins by sneering at artists who are preoccupied with aesthetics, which in itself is a contradiction in terms, and then proceeds to champion the one architect whose greatness lies primarily in the field of aesthetics.

The whole point of my review was to emphasize the contributions that Le Corbusier has made in the field of city planning, and the influence he has had on planners all over the

world, who are faced with the daily, very practical, and even unaesthetic problems of urban living. These are real facts, which all of us face to some extent when we are caught in a traffic jam at Queen and Yonge; Broadacre City, in all its grandness and beauty, does not seem to apply then.

If we accept the city as here to stay, which we should with delight, then why not try to make it liveable, healthy, and more comfortable than it is now; this is precisely what Le Corbusier has been trying to do for forty years or more. When I stress this aspect of his work, I am in no way reducing Wright or Mies in their stature as great architects.

Organized planning, which is the essence of civilized life, is as essential to democracy as are freedom and individuality—without it is chaos and unhappiness. That such planning has taken place in the Latin countries through the quick action methods of the enlightened few in control, should be considered a blessing; much worse could have happened. In our country, where democratic methods are the foundation of action, more time is needed. But planning *must* precede action.

Nature is necessary to man. In order to achieve the unity between them, Wright destroys the city. Le Corbusier on the other hand, provides us with a solution whereby the city can still flourish, moreover as a green city. I cannot see any despotic tendencies in this. And if such planning can be integrated with systems of harmonics and proportions, so that the things we look at are related to each other, and in some way to us, surely the results can only be more satisfying.

Yours truly,  
Irving Grossman

#### CONTRIBUTORS TO THIS ISSUE

**Lane Knight** is known to most readers of the *Journal* from articles on concrete which have appeared before on these pages. Mr Knight is Vice-President and General Manager of the Master Builders Company Limited. His friends are not unaware of his knowledge of concrete for which they have a profound respect, but they are more acutely conscious of his eminence as president for life of the Maynooth Piscatorial Society. The drastic diminution of the trout population in Ontario in the very foreseeable future is only one of the Society's more laudable aims.

**Gordon A. MacEachern** Referred to by the *Financial Post* as "Doctor to the nation's floors", Mr MacEachern specializes in the original finishing, re-finishing and maintenance of every type of flooring.

A regular contributor to trade magazines in both Canada and the United States, he is also the author of a 33-page book of floor finishing specifications which has enjoyed wide use and is currently in its fifth printing.

**Alan Weatherstone** was born in England and was trained originally as a naval architect with Cammell-Laird, one of the largest shipbuilders in the British Isles. In 1923, he joined Henry Hope & Sons Ltd. at their main factory in Birmingham.

Later, Mr Weatherstone was transferred to New York as Works Manager to establish a plant for the making of bronze windows. In 1931, he joined the Westeel organization in Montreal and became General Manager of Henry Hope & Sons of Canada, an operation run jointly by Westeel and Hope's. During the war, Mr Weatherstone was on loan to the Aircraft Division (Production) of the Federal Government Department of Munitions and Supply. In 1947, he formed Weatherstone Windows Limited of which company he is President and General Manager.

**Denis Winston** is Professor of Town and Country Planning in the University of Sydney, N.S.W., Australia. He is a Fellow of the Royal Institute of British Architects and a graduate of Harvard. He also holds the Diploma in Civic Design of the University of Liverpool.

#### FUTURE ISSUES

June	General
July	Saskatchewan
August	Japanese Architecture
September	Montreal General Hospital
October	Ottawa
November	Projects on Paper

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*Interpenetrating forms*

#### BOOK REVIEWS

**THE ARCHITECT AT MID-CENTURY** Volume 1: Evolution and Achievement edited by Turpin C. Bannister. Published by the Reinhold Publishing Corporation, New York. Price \$8.75.

*Council was so impressed with The Architect at Mid-Century that it asked Professor H. H. Madill to review the section on Professional Practice, and Professor John A. Russell to review that on Architectural Education. The volume itself was prepared at considerable expense by a commission appointed by the American Institute of Architects.*

Certain chapters of *The Architect at Mid-Century* deal with an analysis of the present state and probable future of the profession, the problems of registration and the period of training between graduation from an architectural school and the licensing examinations.

The architect's services are traced from past ages when great monuments were commanded by kings, nobles, priests and magnates who built as much for glory as for utility to the present day where the client may be an individual, a corporation, an institute or a department of government at one of its various levels. "Practice is now conceived as requiring a degree of comprehension never before envisioned, and this is pointedly evidenced by heightened standards of design embodying optimal provision and integration of utility, structure, equipment and aesthetic expression."

In assembling information for study and as the basis of their recommendations, the commission made a most comprehensive

investigation of the profession. Where possible the statistics have been presented in chart form. Of particular interest to Canadians are those dealing with the organization of the small, medium and large offices. The number and sizes of firms and their distribution is also shown.

The American Institute of Architects, formed in 1857, has approximately the same relation to the organization in each state that the Royal Architectural Institute of Canada has to the provincial associations. An important difference is that registration in a state does not automatically involve membership in the AIA. To the outsider this would suggest a weakness in the federal body where membership is on a voluntary basis. There is the similarity that, in practically all states, candidates may enter the profession through office training, study and the passing of prescribed examinations. This method of training descended from the pupilage system, the essential conditions for which no longer exist in the offices. This writer seriously questions the advisability of continuing this method as providing a satisfactory education for a prospective member of the profession. The period of office training required of graduates of schools of architecture varies from no training required in five states, to five years in one state (Delaware). Most require three years.

"In theory the title, architect, should denote membership in a profession which restricts its roster to those of proven competence. It has been pointed out that in Chapter III, however, that, . . . they operate in actuality through voluntary associations and professional societies . . . they do not possess the legal power which was necessary to prevent unqualified persons from fraudulently usurping a title which implies professional status." Chapter IX of the report outlines the long struggle for legislation which resulted in the passing of the first act, that of Illinois in 1891, which restricted the practice of architecture to qualified persons. The pattern thus established gradually spread to other states but not until 1951 did it become universal in the United States.

A wide variation existed in the laws passed by the various states. In 1920, the National Council of Registration Boards was formed, two of its functions being 1) the establishment of standards for the content, conduct and evaluation of qualifying examinations and 2) the provision of machinery by which architects may obtain, with minimum difficulty, registration in states other than their own. The national control is thus on a voluntary basis and the same is true in Canada. By contrast, a national registration bill was passed in Great Britain in 1932 and a similar one in France in 1940.

Probably the greatest difference in proceeding to registration in the United States and Canada is in regard to the examinations required of graduates of the schools of architecture. In the United States, there are so many schools of architecture that there is bound to be considerable divergence in the training. After the graduate has completed his "Candidate Training" (practical work) he tries the registration examinations on a comprehensive list of subjects. The Commission's recommendation in this connection reads —

R39: Endorsement of Single Registration Examination.

The Commission endorses and recommends that the AIA endorse the principle of a one-stage examination for registration and that this be administered only to candidates who have completed a required period of practical experience.

By contrast, in Canada, the graduates of the five schools of architecture, recognized by the RAIC, write no further examinations for registration in the various provinces but are admitted to practice on completion of a prescribed period of approved practical experience.

A weakness of the Canadian system may be in the fact that the candidate is not properly examined on the adequacy of the practical experience he has obtained. Something should probably be done about this and here we should study the recommendation of the Commission R-30: Systematization of Candidate Training. At this time, however, there does not seem to be much point in requiring a graduate of a Canadian

school who has passed an adequate examination in a subject, e.g. History of Architecture, to write again after three years' practical experience.

There is such similarity between the practice of the profession in the United States and Canada that the very detailed report of the Commission is of interest to all Canadian architects. It should be carefully studied by those holding office in provincial associations, registration boards and on the staffs of architectural schools.

H. H. Madill

Without a doubt, *The Architect at Mid-Century*, which includes the volume noted above and a second volume entitled *Conversations Across the Nation*, is one of the most impressive compilations of statistical information and architectural journalism ever to be published. Volume I is based on information gathered by The American Institute of Architects' Commission for the Survey of Education and Registration, in what is probably the most thorough investigation and analysis ever made of any profession anywhere. In his editorial in the January 1955 issue of the *Journal* Mr A. J. C. Paine, President of the RAIC, stated that the survey is unequalled as a source of information upon the subjects of the practice of architecture and of architectural education in the U.S.A.

This imposing work has already been very competently reviewed by Carl Feiss in the September 1954 issue of *Progressive Architecture* and by Richard M. Bennett in the November 1954 issue of the *Journal of The American Institute of Architects*. Both authorities concur in their unstinted praise of the men who initiated the study, carried it forward, edited it, and arrived at conclusions and recommendations totalling forty-three in number.

I have been asked to review those sections of Volume I dealing with Architectural Education, about 270 pages of the total of 497. In spite of the almost forbidding size of the volume, filled as it is with many charts and statistical comparisons, I found the book not only easy to read but stimulating and provocative. No matter where one casually opens the volume, some bit of information, some interesting statement or argument is bound to attract the attention and cause one to pursue the author's development of that theme to its conclusion. Seldom does one find such an "encyclopedia" of information so fascinating.

Chapter IV introduces the subject of architectural education under the title of "Patterns of Education for Architecture". The objective of architectural education is defined as "the development of architects, who, as enlightened individuals, responsible citizens, and resourceful professional men, will serve their society in attaining a worthy architecture". This objective embraces three complementary and interrelated processes — the transformation of raw recruits into useful assistants, the latter's transition to full membership in the profession, and the continued growth of the practitioners themselves in professional knowledge and skill.

After a very lucid history of the development of architecture in Europe and the United States, the author pauses for a brief but refreshing appraisal of "Education and the Modern Movement" before summarizing and commenting upon the educational characteristics and backgrounds of the registered architects in the United States — their training, their choice of schools, their geographical distribution, etc.

Chapters V, VI and VII consider in detail the collegiate education for architects, the courses in an architectural curriculum, the facilities, personnel, and administration of the schools. The perusal and study of these chapters will be a most rewarding experience for any school administrator or faculty member; furthermore, they will be most illuminating, even challenging, to the average architectural practitioner. Teaching staffs will be inspired to undertake a progressive reorganization of their curricula; practitioners, reminded of the debt owed to their alma mater, will be inspired to organize either as professional groups

to help the local school or as alumni to help their alma mater. Both groups will find the facts, the discussions and the recommendations reassuring as well as provocative of action.

In spite of the fact that this treatise deals with architectural education in the United States, it is obvious that, although the facts as revealed by a similar enquiry by a commission in Canada would be different, the general discussion, conclusions and recommendations might be expected to be almost the same. The main pattern of education, the problems of adequate pre-professional curriculum, the facilities (spatial requirements, teaching equipment and library), the selection of students, the maintenance of a creative professional faculty, the financial problems and the establishment of highest standards through the accrediting of the architectural schools — all are problems of equal concern to both Canadian and American schools of architecture.

Since "no other profession surpasses architecture in its intimate relationship with all phases of life," education for architectural practice must prepare and train the future practitioner to "draw upon many phases of knowledge to strengthen his capacities". Architectural education therefore prepares one for the broadest of professions — not for narrow specialization. Such breadth of training negates the frequently stated proposition that a school should design its curriculum primarily to ensure maximum employability for its graduates. Curricula should not be static but flexible, and should be varied from school to school without becoming extreme through individualism. The report presents very convincing ratings of the relative importance of the courses of an architectural curriculum which reveal almost complete unanimity in the opinion of professors and practitioners in placing architectural design, structural design, and building materials and methods first and chemistry and foreign languages last. In between these extremes, the rating of other subjects showed some points of variation, but generally exhibited comparatively minor differences of emphasis.

"In general, the Commission found that existing over-all programs of architectural education and registration are soundly conceived and, on the whole, effective in terms of familiar criteria. No revolutionary change seems to be demanded. On the other hand, the Commission is convinced that what is needed throughout is intensification, systematization, refinement, and deepening. Such measures are needed because professional education, like architecture and practice themselves, has reached a stage in its evolution in which new demands for functional efficiency make evaluation and integration imperative. While certainly rigid formulation should be avoided, it is also true that the day of laissez-faire should be definitely ended."

All members of the teaching staffs in schools would do well to study Chapter VI in its analysis of courses in graphics, construction, structural theory and design, building equipment, theory of design, history of architecture, city planning, architectural practice, other technical and academic courses and, of course, architectural design. The report, in its detailed discussion of the various courses in architectural curricula, stresses the need of integration between courses as well as the simulation of actuality and professional practice wherever possible.

After stating that "the impact of modern science has led to a broadening of the scope of architecture to include the total sensory impact of the environment thus created", the report points a critical finger at the lack of understanding and coordination in the presentation of the physical sciences to the architectural trainee:

"... In the age of science, the scientist seems to feel little obligation to those who must apply his hard-won princi-

ples. The effect is to overemphasize science as a cultural phenomenon and to frustrate the essential contribution it should be making to architectural competence. That this is not special pleading for indolent architects is amply proven by similar complaints in other fields as well. Professional students are quick to sense this indifference to their interests, and it is impossible in such circumstances for the architectural faculty to overcome their students' natural disaffection. The situation demands prompt and sympathetic attention from those responsible for the general administration of the universities."

After exploring possible correctives for this situation, including the substitution of a course in the *science of architecture* now being explored in several British schools, the report concludes:

"Whatever the solution, the need for exploring the architectural implications of all the sciences is incontrovertible."

The report devotes considerable space to the necessity of adequate teaching space and facilities, and to adequately trained teachers who, while discharging their academic duties in a manner satisfactory to the employing institution and thereby maintaining high quality in the total educational program, should have continuing practice as registered architects. One of the forty-three recommendations at the end of the report states:

"The Commission recommends that the AIA urge and call upon all chapters and members to demand that the profession's schools be provided with buildings of such size, character, and attractiveness as are needed to accommodate teaching programs of high quality. The Commission regards a large proportion of the space now allotted to these schools as barriers to essential instructional facilities and as affronts to the profession and to the faculties and students occupying them."

For many schools who have had perforce to develop their programs within accommodations that were inadequate, inefficient, inflexible, and unaesthetic, this strong recommendation is encouraging. This immediately suggests the supporting role which Canadian practitioners, as individuals, as professional groups, and as alumni can play in bringing pressure to bear on parent institutions to provide the proper buildings for our Canadian schools of architecture.

The report stresses a number of other valuable services which are the responsibility of the practitioners, such as frequent visits to schools to discuss problems with students and staff and to serve as design critics and members of juries; invitations to students to visit and inspect construction operations. Such a positive educational approach will be far more constructive than "the negative effect sometimes conveyed by dwelling upon the deficiencies of youth and the infallibility of experience."

From such statements as these it becomes evident that the report is filled with concrete proposals and provocative suggestions which are of equal interest and import to both teachers and practitioners of architecture. Almost without exception, the substitution of the initials "RAIC" for "AIA" will show the text and its recommendations to be equally applicable in Canada. The Architectural Training Committee of the RAIC, the administrators and staffs of the Canadian schools of architecture, the graduates of these schools, and the architects from coast to coast (MRAIC and FRAIC) owe it to themselves and to our profession to read this report and to give serious thought to the organization and implementation of a similar program of action in Canada.

John A. Russell