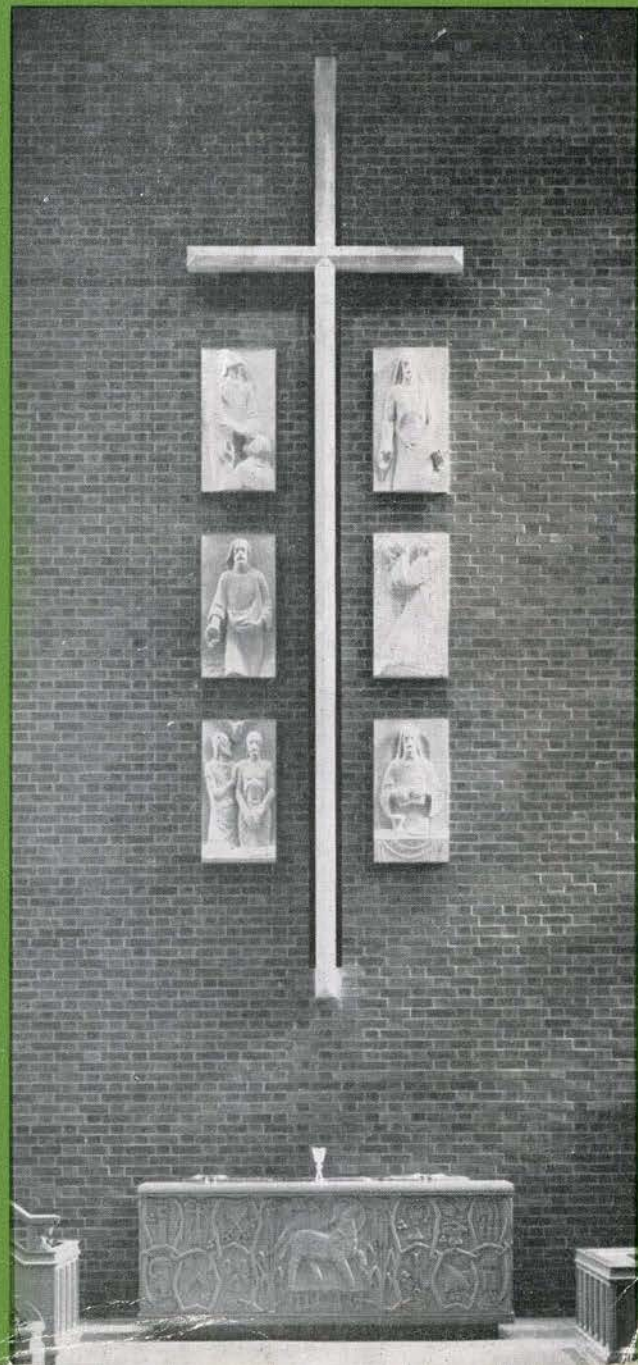


ROYAL ARCHITECTURAL INSTITUTE OF CANADA JOURNAL

DECEMBER 1961

ROYAL ARCHITECTURAL INSTITUTE OF CANADA
INSTITUT ROYAL D'ARCHITECTURE DU CANADA






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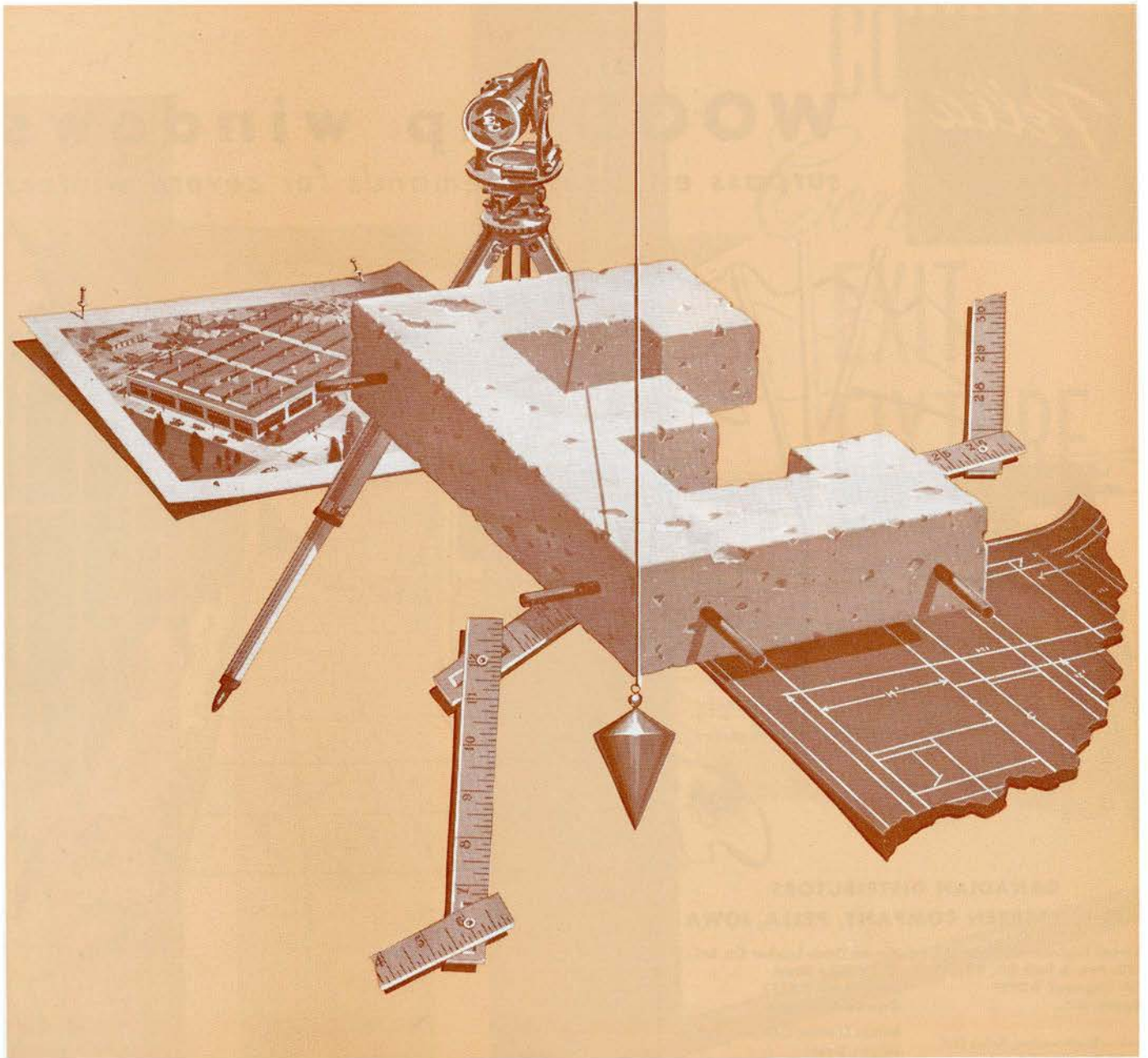


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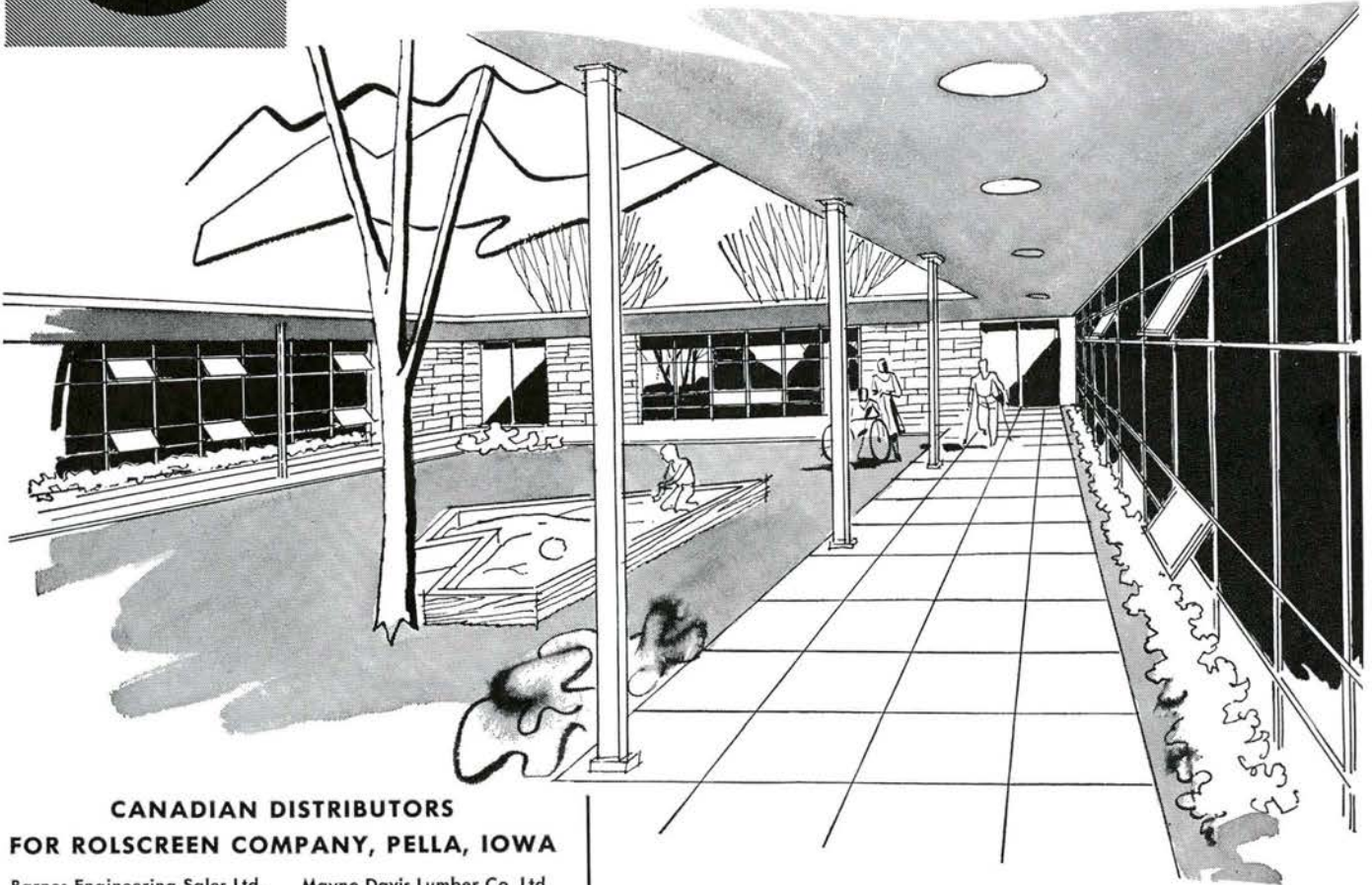
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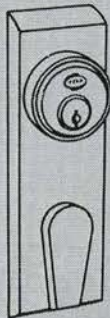
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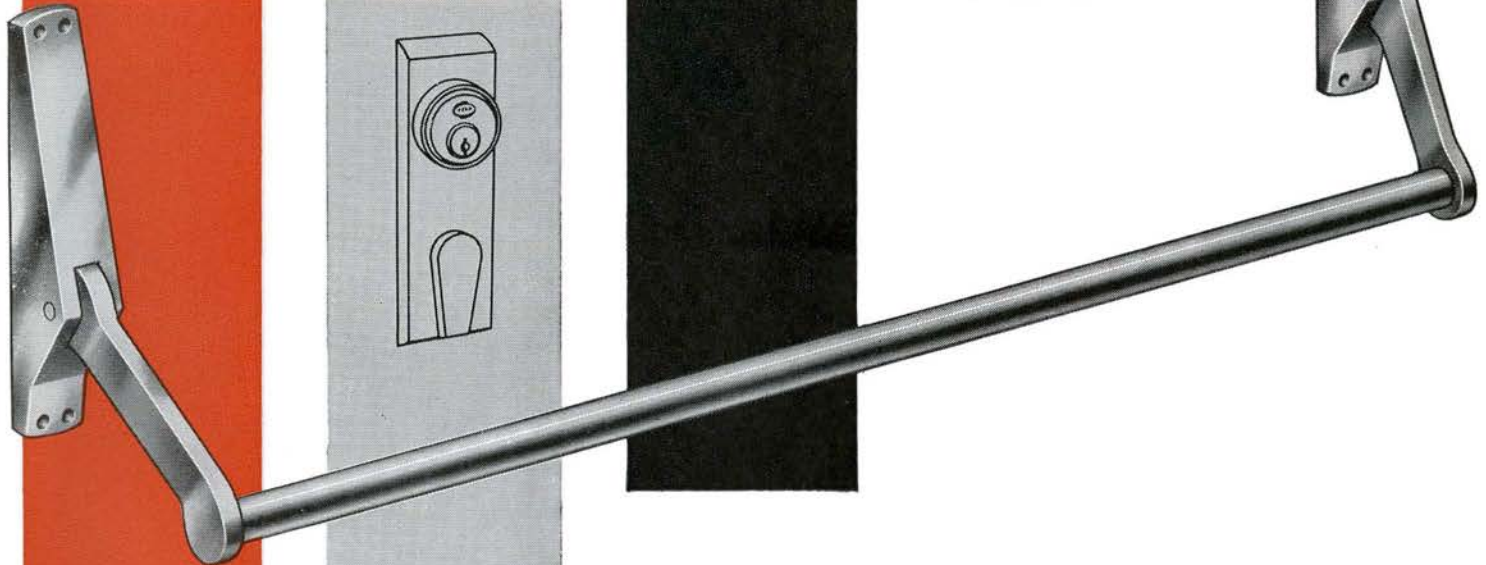
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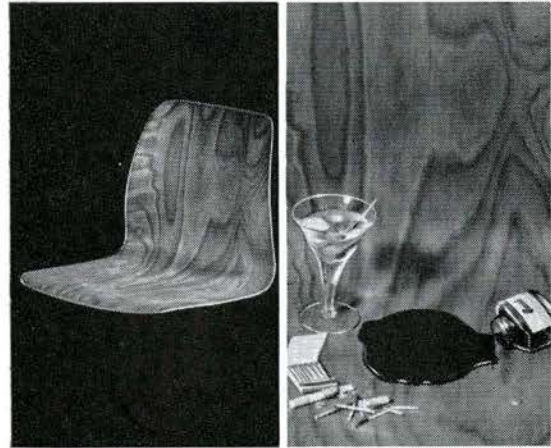
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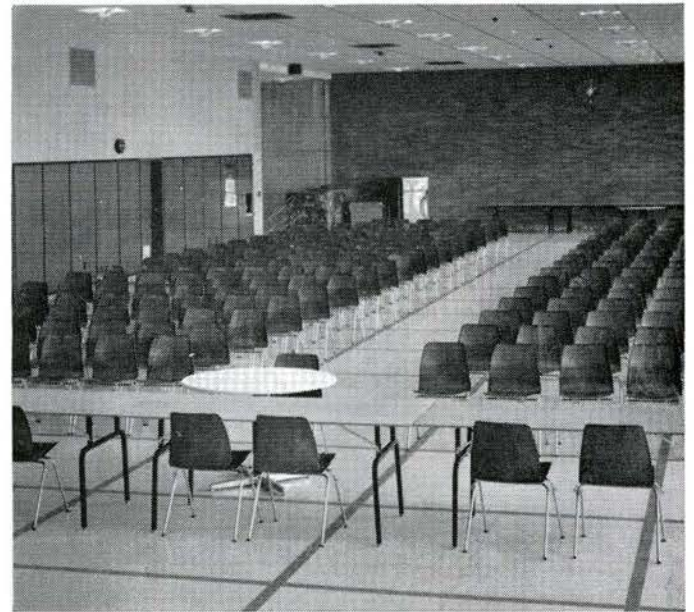
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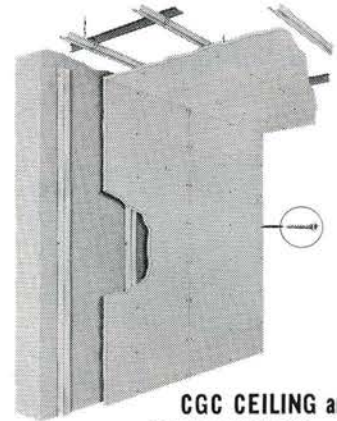
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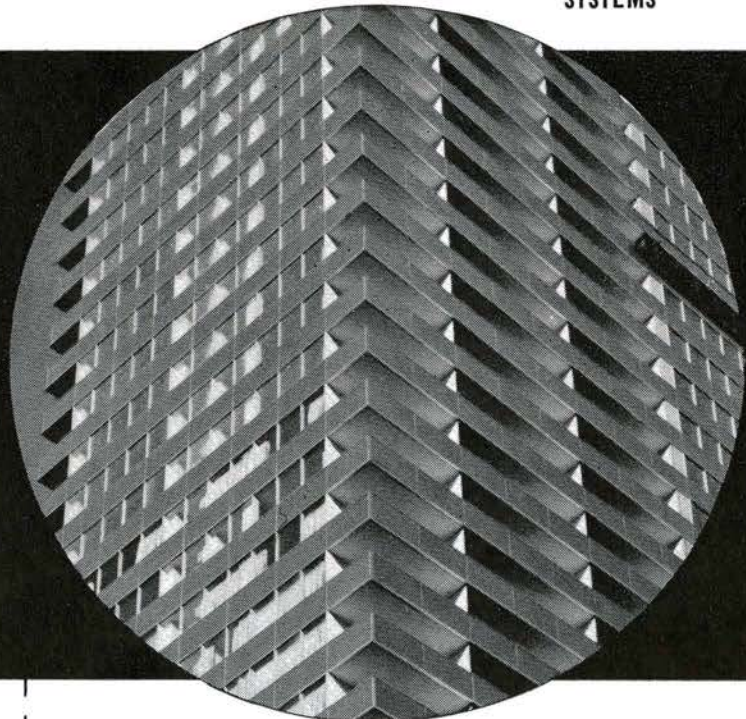
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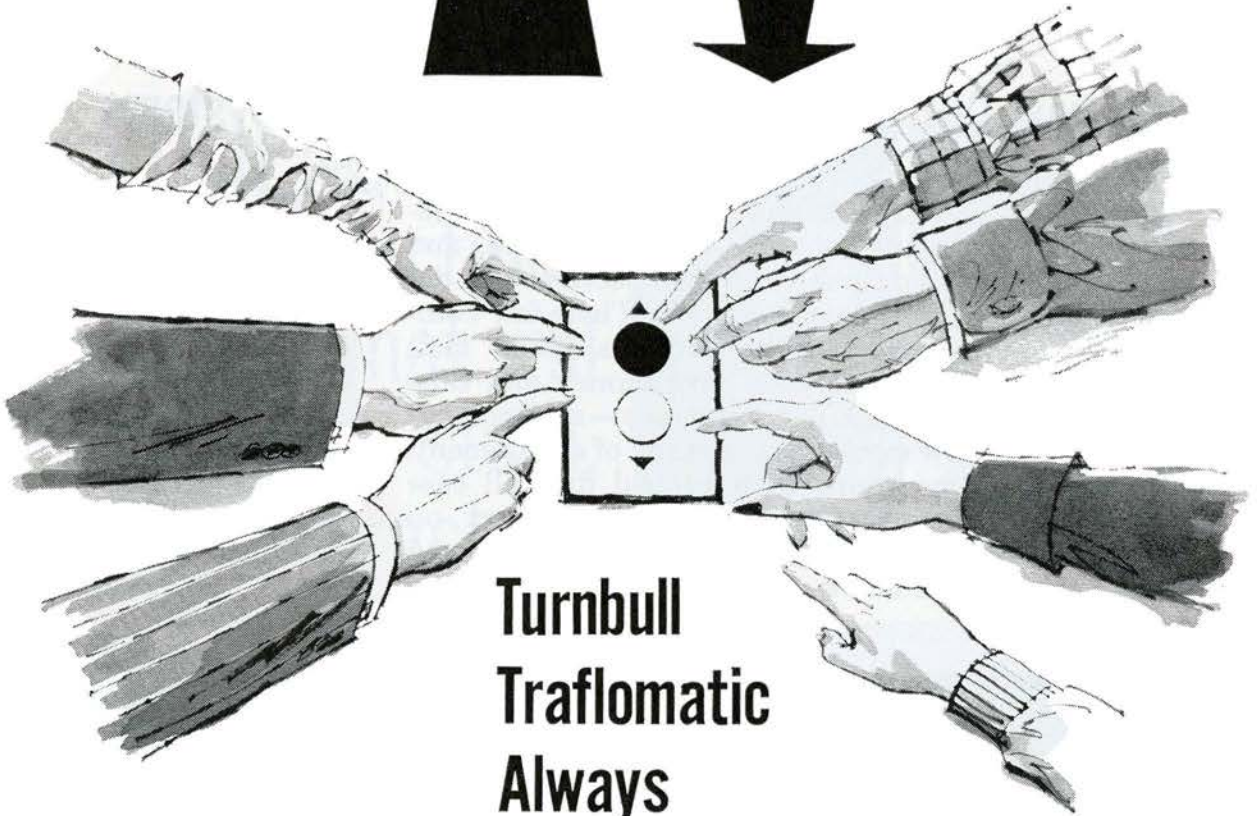
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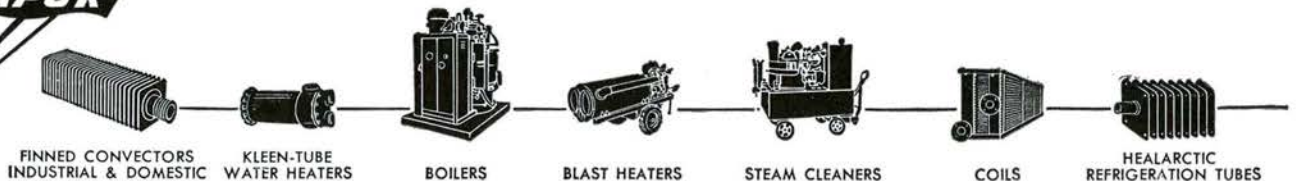
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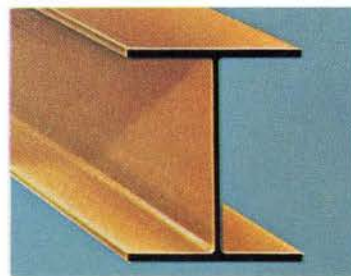
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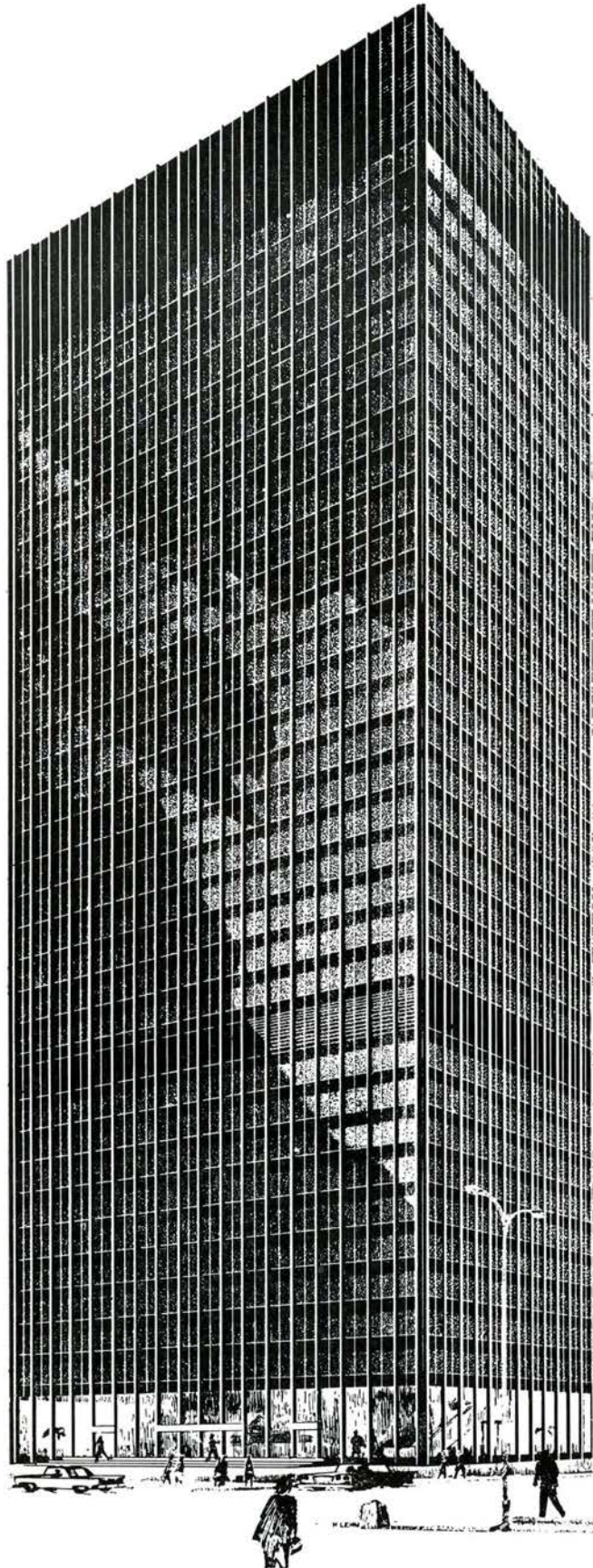
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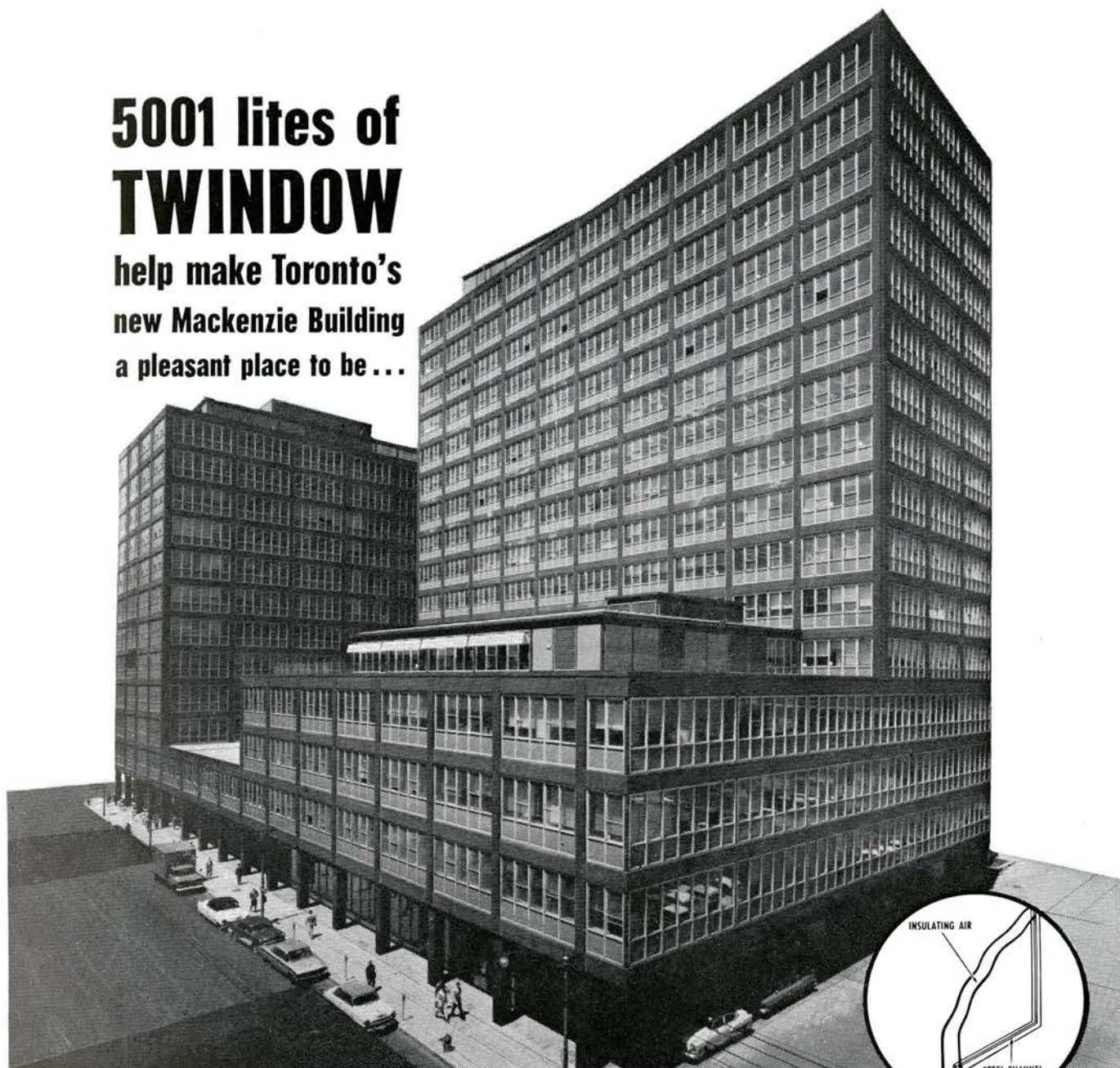
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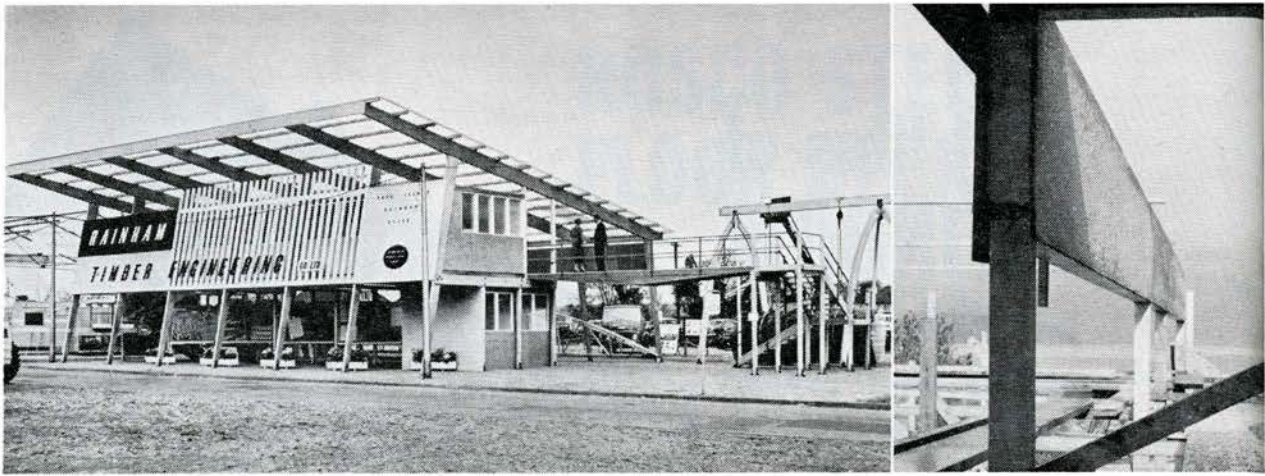
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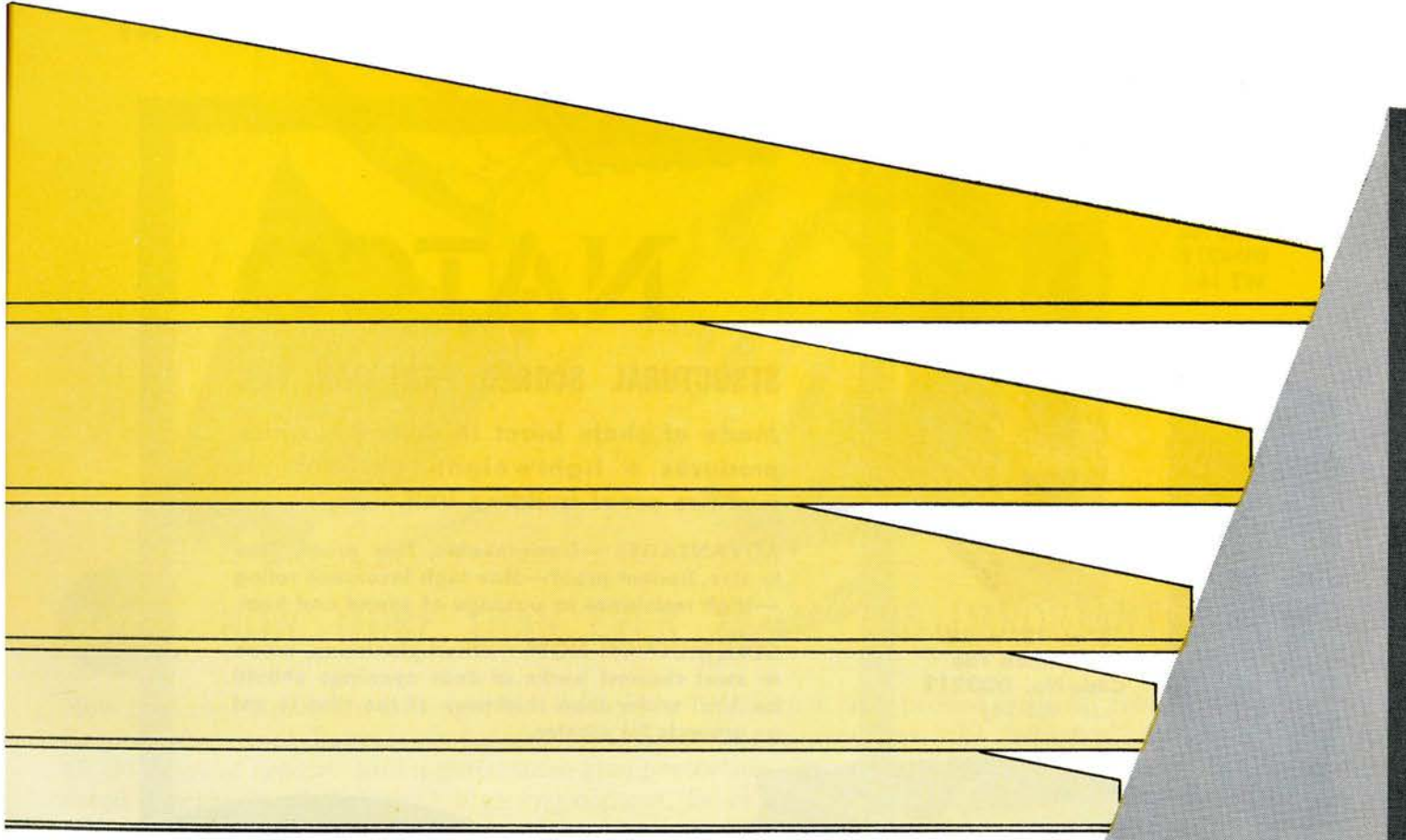
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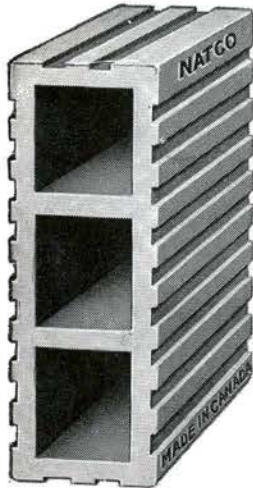
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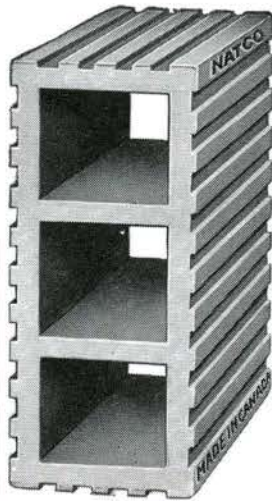
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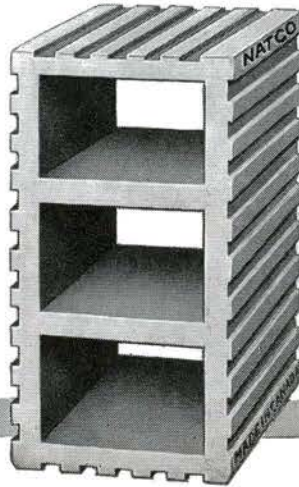
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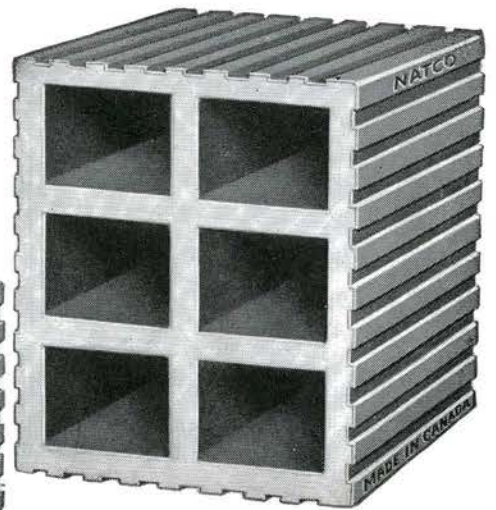
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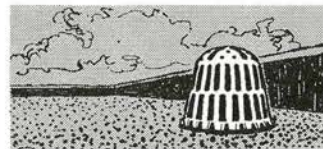
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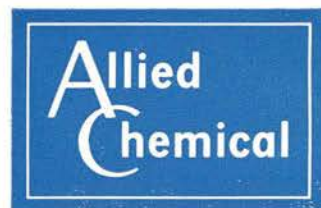
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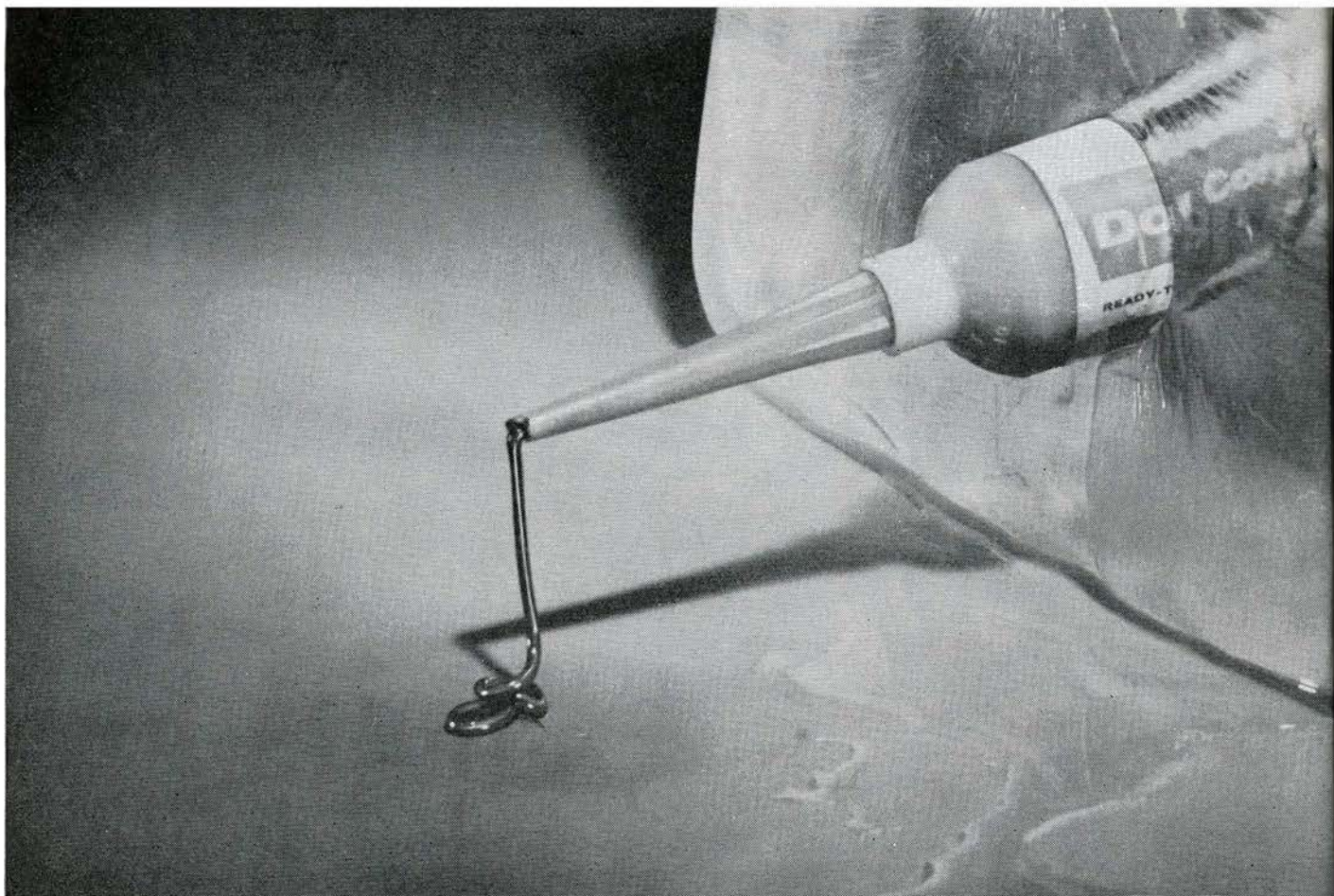
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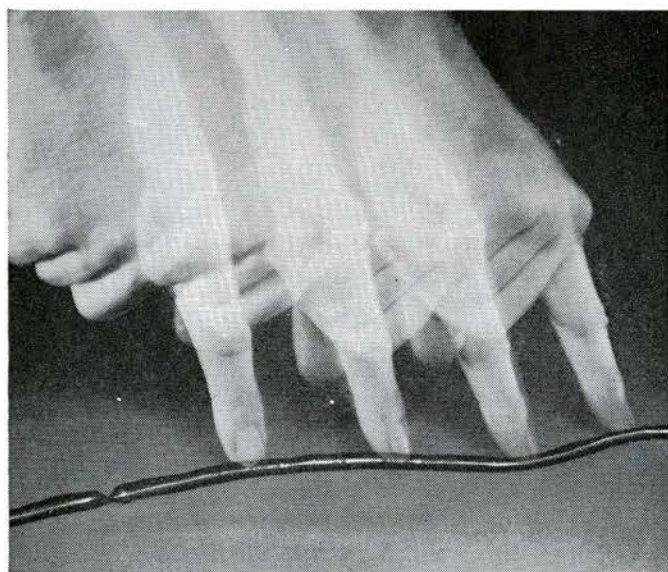
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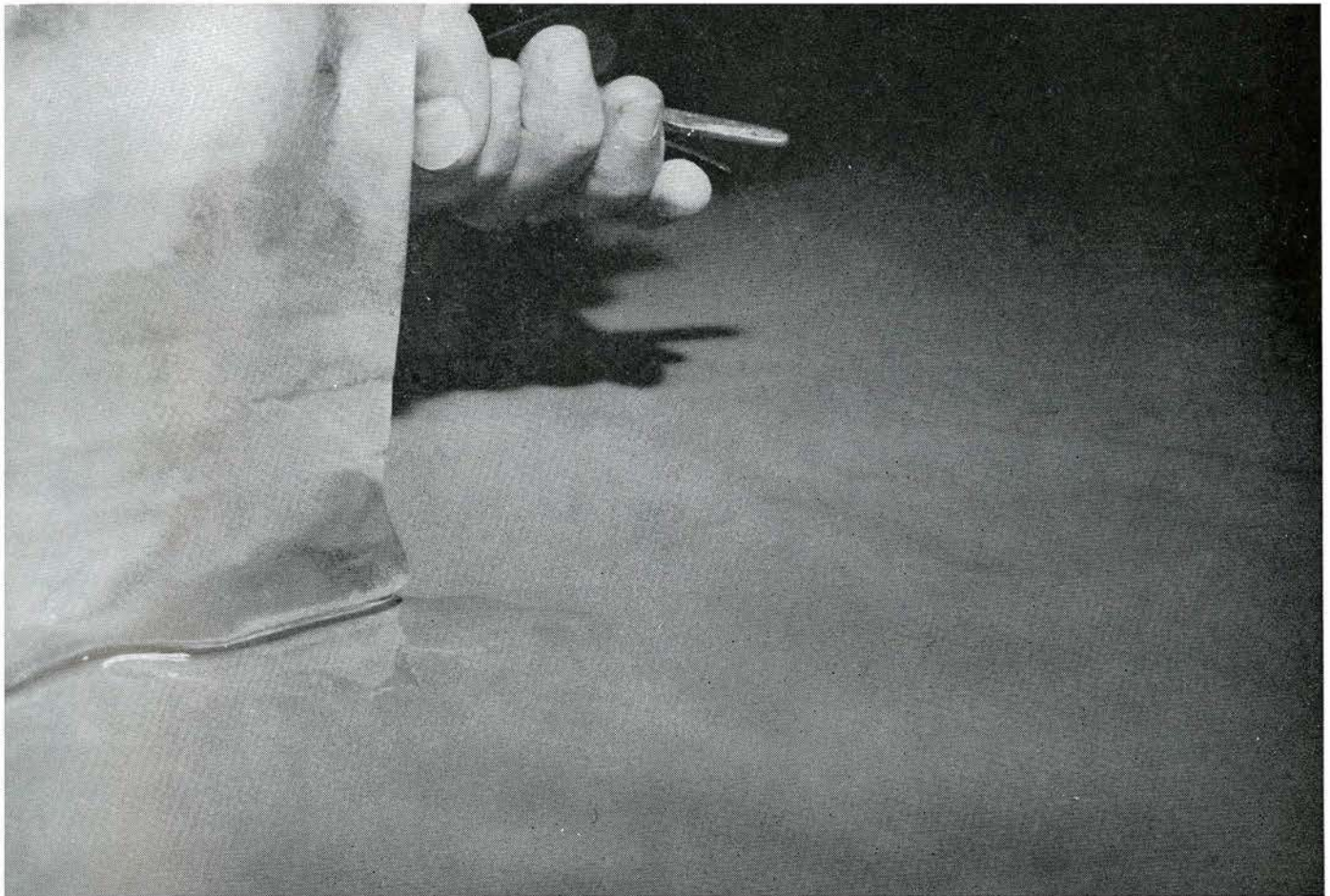
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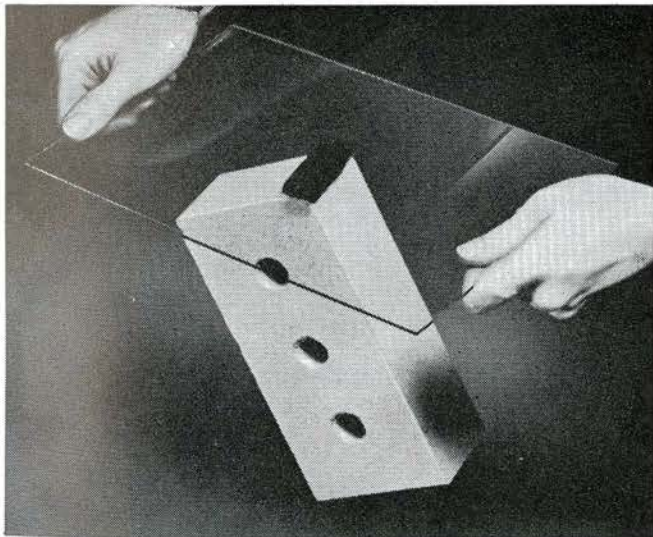
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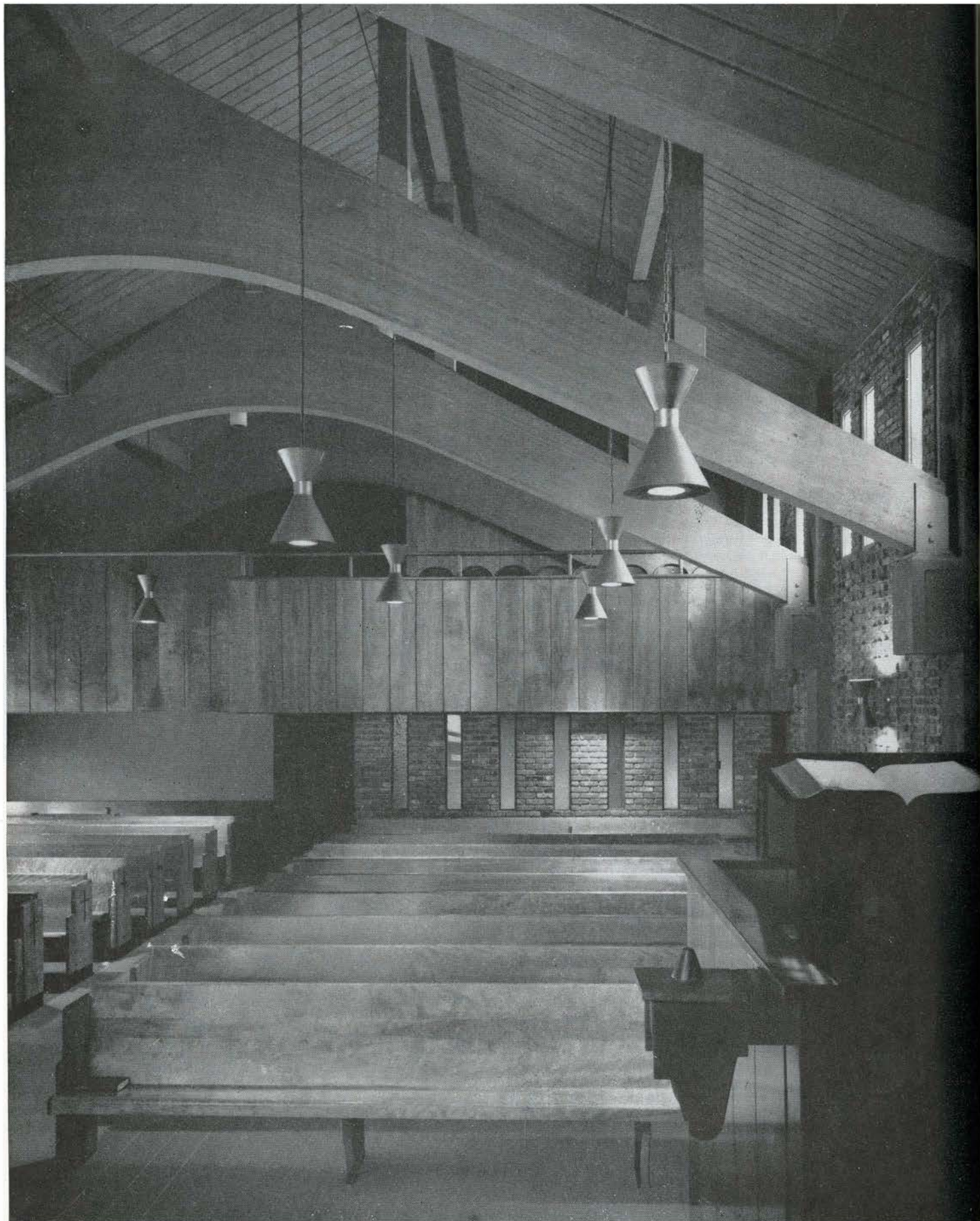
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Gracefully bowed laminated beams supporting a parabolic arch, spacious wood-framed glass areas at either end—all combine to create a wide-open setting for a unique treatment of the crucifix. Note how simplicity of design dramatically demonstrates wood's quality throughout this unusual house of worship.

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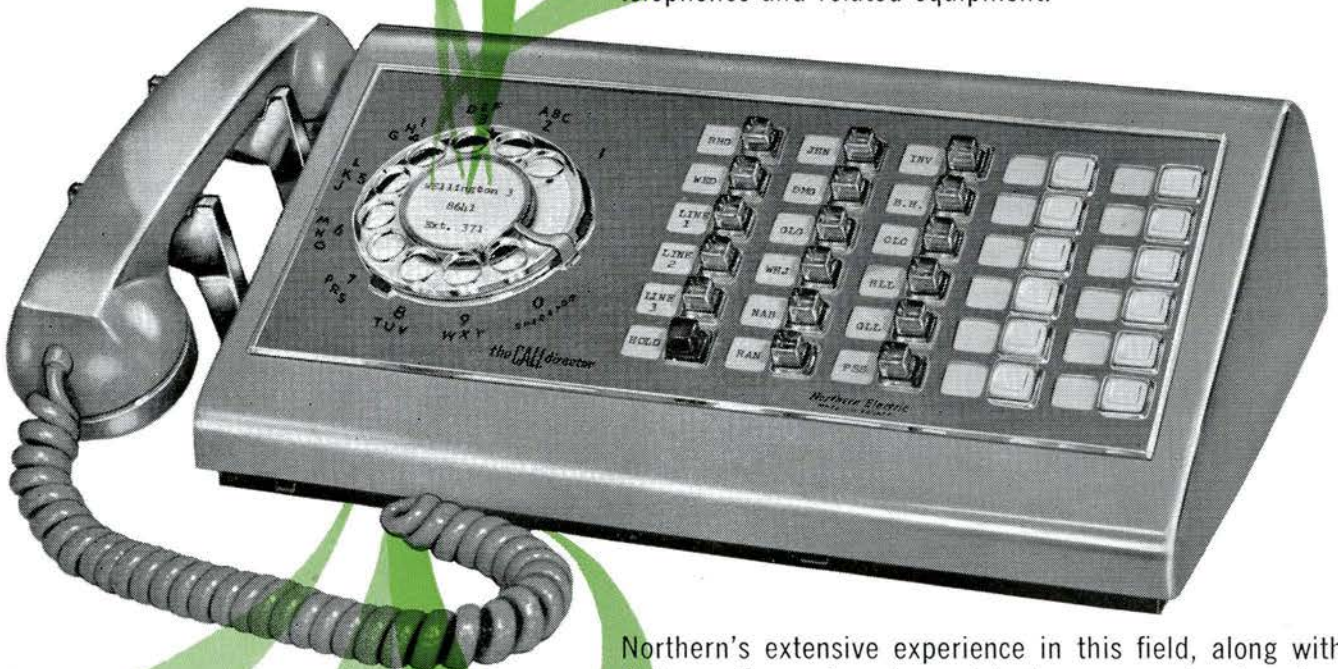
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A PUBLICATION FOR 2500 ARCHITECTS

AS WE BEGAN a review of the accomplishments of the Journal over the past twelve months, we recalled the speech made by Mr Alphonse Ouimet, President of the Canadian Broadcasting Corporation to the members of the RAIC assembled in Quebec City (*Journal June, 1961*).

Mr Ouimet had chosen as his theme "Programming for 18,000,000 Experts." If I may be permitted to paraphrase his speech, I would like to entitle this editorial "A Publication for 2500 Architects". This is the number of members to whom the Journal should be answerable.

It is appropriate to recall at this time the 1959 survey of the RAIC and the Journal. This study revealed an apparent lack of personal identity of the members of the Royal Institute with the Journal. Similarly it found the "Link" between the Provincial Associations and the Journal to be weak.

The remedial action taken by the Royal Institute at that time (*Journal December, 1959*) has borne results and is under constant revue.

Suivant se thème, je voudrais m' adresser à nos collègues de la Province de Quebec de Langue Française. Bien que l'Administration — Rédaction du Journal de l'Institut Royal se trouve a Toronto, votre président et comité de rédaction présentaient dans chaque numéro un aspect d'intérêt aux 750 Architectes de Quebec. Nous espérons pouvoir pendant l'année 1962 continuer et augmenter notre reportage en français, avec l'assistance de Claude Beaulieu, sous rédacteur pour la Province.

Issues of the Journal devoted to special topics have also resulted from the 1959 survey. During the past year the subjects included Hospitals (*June, 1961*), Schools (*July, 1961*), and Housing (*October, 1961*). This policy will continue in 1962. Such special issues will be prepared with the guidance of an architect wholly conversant with the topic. Readers of the Journal will be informed of the topics as far in advance as possible so that members of the Royal Institute may help insure an outstanding selection of buildings in each category.

The November issue of the Journal recorded winners of the Massey Medals. Other material submitted for this award will be published from time to time. It is unfortunate that competition for the Massey Medals, awards which do so much to bring architecture before the public, should have the result every three years of putting a temporary embargo on submission of recent work to the Journal.

A comprehensive illustrated catalogue of the 100 buildings selected for the Massey Medals submission has been published this year for the first time by the RAIC. Here I would like to make a personal observation. This catalogue brings to mind a phenomenon long apparent in Journal illustrations. Buildings are rarely photographed in a winter landscape. It is correct that we should show our buildings in the most favourable season. And yet, for every month of the year that our buildings are enhanced by flowers and foliage, there is a month when they are at the mercy of naked poles, overhead wires and the clutter of street furniture. Perhaps we, as architects, should take a critical look at the surroundings of our buildings this winter; good architecture deserves a higher standard from its environment.

The custom of writing the Christmas Editorial gives the Chairman a most welcome opportunity to express to the members of the Editorial Board and to the Staff of the Journal his appreciation for their loyalty and hard work and to wish to every member of the Royal Institute a very Happy Christmas and a Prosperous New Year.

*R. A. Dick, Chairman,
Editorial Board*

Stained Glass

A DEAD ART FULL OF LIFE

by Paul F. Damaz, AIA

THE RELATION OF ARCHITECTURE to the allied arts has always varied according to time, styles and fashion. Architectural styles are recognized not only by techniques of construction and general forms of architectural elements, but also by the degree and the type of collaboration between architects and artists. Thus Egyptian architecture is characterized by linear low reliefs carved in stone, whereas renaissance and baroque styles are identified with lavish amounts of high reliefs, sculptures in the round and mural paintings. Byzantine architecture has made a very large use of mosaics, whereas stained glass is an integral part of gothic architecture. One might also say that the lack of applied art has greatly contributed to the refined purity of Japanese architecture and to the mechanical coldness of modern architecture until the 1950's.

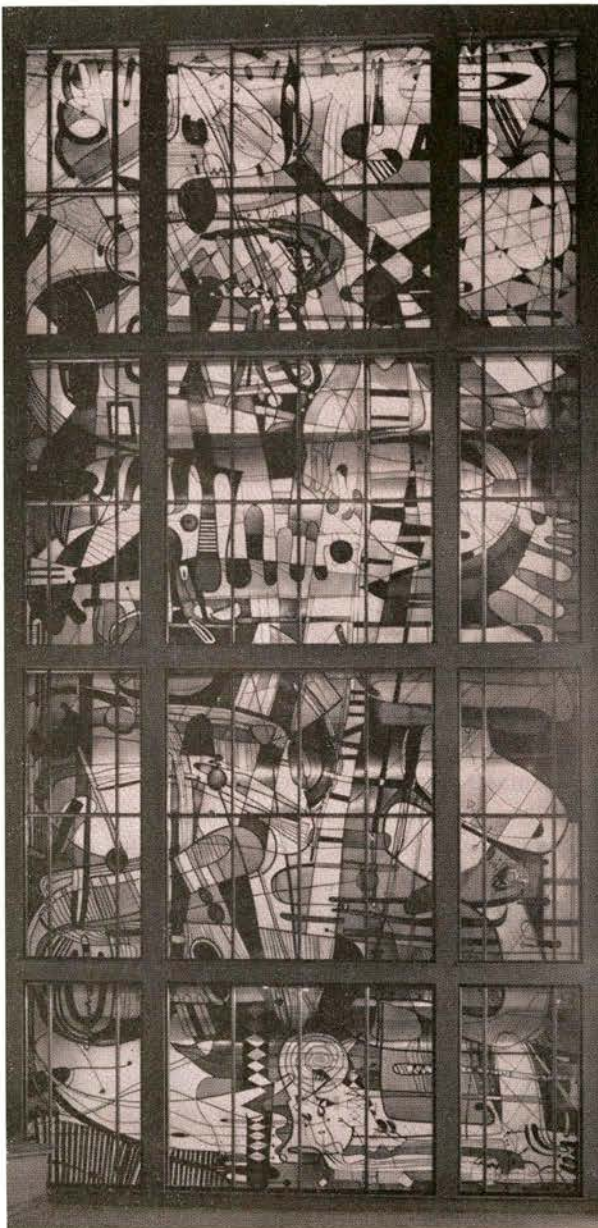
STAINED GLASS AND ARCHITECTURE

Although several art media — major and minor — have been used in more than one architectural style, stained glass has developed with gothic architecture, reached its splendor in the cathedrals of the 13th and 14th century, and virtually disappeared with the coming of the renaissance. In gothic times, stained glass was so much a part of architecture that it might be said to have been one of its elements rather than an art in itself.

The humanism and the frivolity of the renaissance had no use for the mysticism of the dark cathedrals of the middle ages. The deep symphony of colors gave place to bright sunlight which allowed the powerful of this world to show themselves in all their glitter and to compete with the magnificence of the ministers of God.

THE DECADENCE OF STAINED GLASS

The very few stained glass windows made during the renaissance, were of a poor artistic quality. Stained glass artists, impressed by the "chiaroscuro" of the new fashionable painting, began to imitate the work of the great painters and gradually lost the feeling for the materials peculiar to their art. Leaden tracery, which in the Middle Ages was part of the composition, began to embarrass them. Three-dimensional effects were introduced with the help of perspective, and the play of shadows. Stained glass craftsmen painted their cartoons like easel paintings thus bringing about the decadence of an art which had brightened a whole civiliza-



On facing page: Section of the 50' high stained glass window of the staircase of the new Broadcasting House in Cologne, Germany, by GEORG MEISTER-MAN. Architect: P. F. Schneider.

Right: First Methodist Church, New-haven, Indiana, by EMIL FREI. Architect: Robert Smith.



tion. During the following centuries, the art of stained glass remained forgotten or misunderstood. It had lost all relation to architecture and it became a sort of by-product of painting.

THE RENAISSANCE OF STAINED GLASS

How did it happen that stained glass, considered only yesterday as a lost art, has found all of a sudden so much vitality? No doubt it owes its new life to several circumstances among which we must point out the influence of modern painting and particularly cubism, the revival of sacred art, and the discovery of new techniques of stained glass more appropriate to modern architecture.

The renaissance of stained glass coincides with the birth of modern painting which "no longer seeks to create an illusion of reality" but has become more concerned with color, plans and lines.

Credit for the first renovations in the art of stained glass, which took place between the two wars, goes to two French artists, J. H. Stevens and Louis Barillet who "was the first to introduce in stained glass, forms which were definitely modern".¹ Together with them, we must mention the Dutch Joëp Nicolas and the Swiss Hans Stocker. These artists demonstrated that stained glass was something else than a colored photography or a painting on glass. Their efforts prepared the public and the clergy for the return of great art into the Church.

For the last fifteen years, the western world has witnessed an important movement of sacred art. France, which was the cradle of stained glass, is again the place of its revival. This medium became the speciality of several artists such as Jacques Le Chevalier and the painter Jean Barillet, top French stained glass designers. The giants of today's art world, such as Léger, Rouault, Matisse, Bazaine, Braque, Manessier, Villon and Chagall, who until recently had cast a disdainful eye upon stained glass, have now designed many windows, some of them unquestionable masterpieces.

The movement has spread not only in Europe but also to America where, not only well known stained glass designers, such as Emil Frei, but also a number of young artists, have already produced works of great value. The American painter A. Rattner has just installed in a Chicago synagogue a large stained glass window which is a masterpiece.²

NEW TECHNIQUES

Part of this success is due to the improvement of the fabrication of glass which can now be obtained in a practically unlimited number of colors, but it is due mostly to the introduction of the technique of the "dalle de verre". This type of "stained glass" consists of antique pot-metal glass about one inch thick set in reinforced concrete, as opposed to the traditional hand-blown antique glass which is about 1/8" thick and which is bound together by means of lead canes having an H section. No paint is applied to this thick glass. The color is integral and glass is no more "stained".

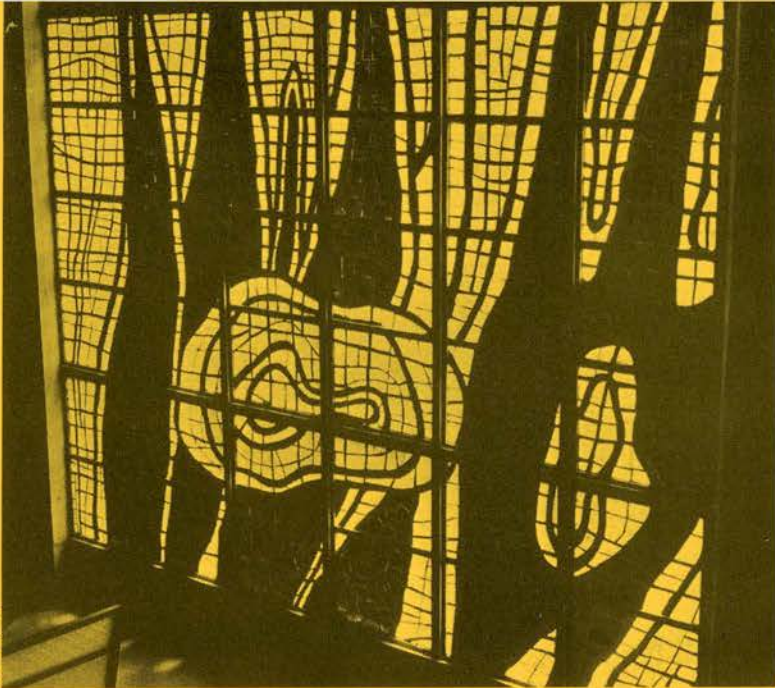
Discovered in France in the 1930's by two stained glass craftsmen, Gaudin and Labouret, the "dalle de verre" technique was developed and perfected after the war by J. Barillet, the only stained glass artist who makes his own glass. A variation of this technique, replacing the cement by an epoxy resin compound, is now being tried, although it is too early to judge its lasting merits.

The "dalle de verre" variously known as "chunk glass" or "chipped glass" or "concrete stained glass", when seen from the interior, gives a powerful and brilliant design. As a medium of artistic expression, it is much closer to modern art than the traditional stained glass. The concrete separating the chunks of glass, applied in heavy lines or in large areas, not only becomes a new element of the composition but has the advantage of clearly de-limiting colors, thus doing away with the disturbing influence of radiations that certain transparent colors might have on the adjoining ones. Seen from the exterior, it presents a tracery of cement and glass which fits remarkably well the new tendencies of modern architecture.

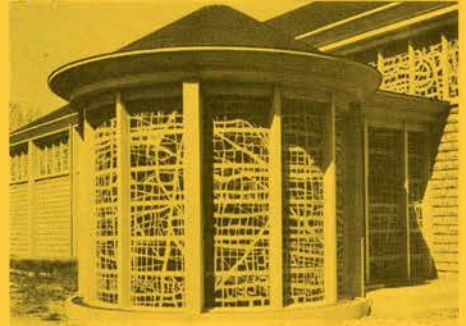
The "dalle de verre" is now commonly used in Europe and is being tried by a few studios in the U.S.. It has been used in some of the largest stained glass commissions such as the 25,000 square feet of stained glass now being installed in the new Cathedral of Hartford, Conn.³

THE DANGER OF SUCCESS

Success also spells danger: the danger of commercialization and consequently the danger of decadence. This is particularly true in a time where imitation, competition, and mass production are the inevitable follow-ups of individual creation. Now that stained glass has become a fashionable



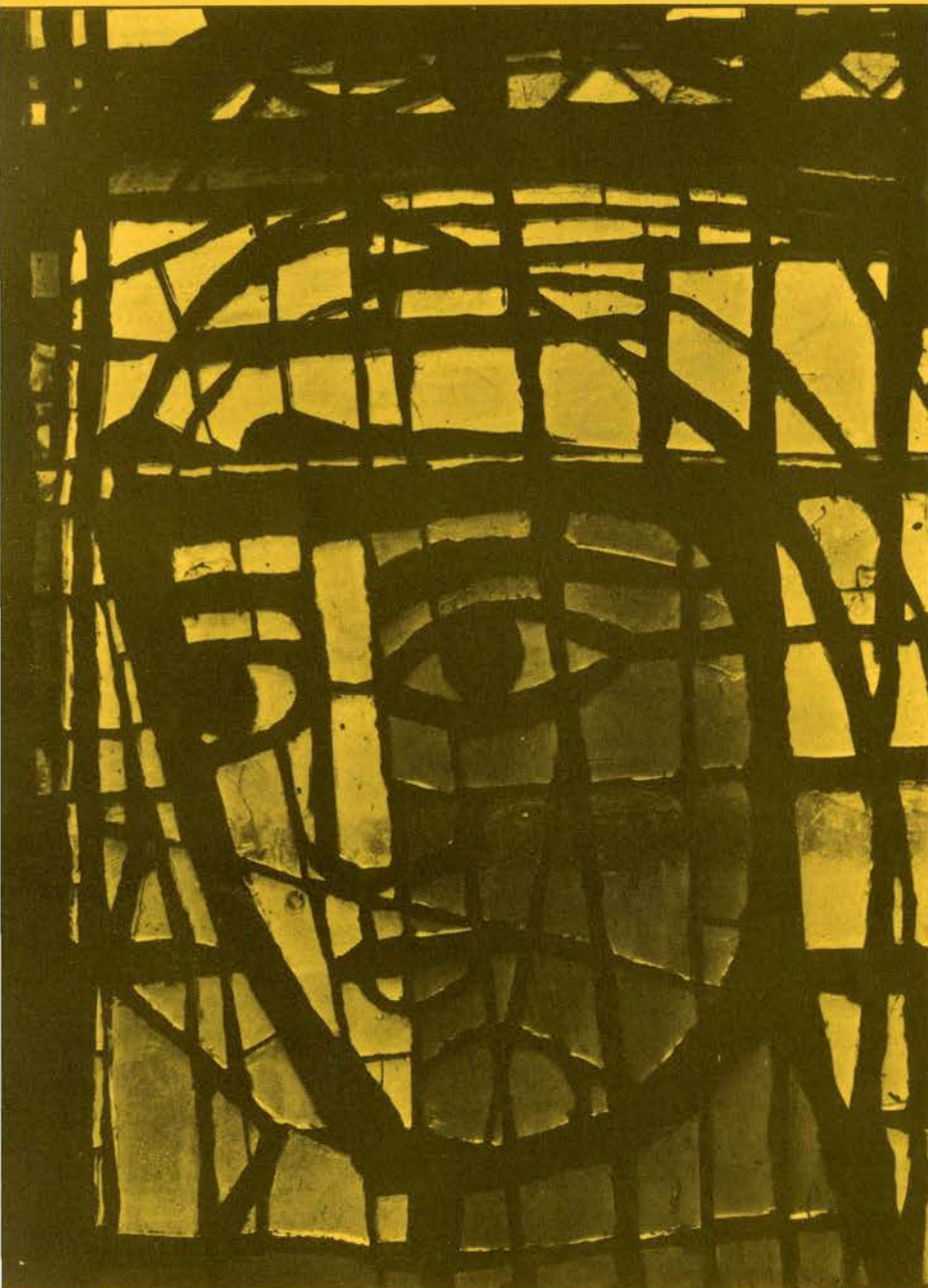
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1 & 2 The Baptistry of the Church of the Sacred Heart, Audincourt, France. Concrete stained glass by JEAN BAZAINE.

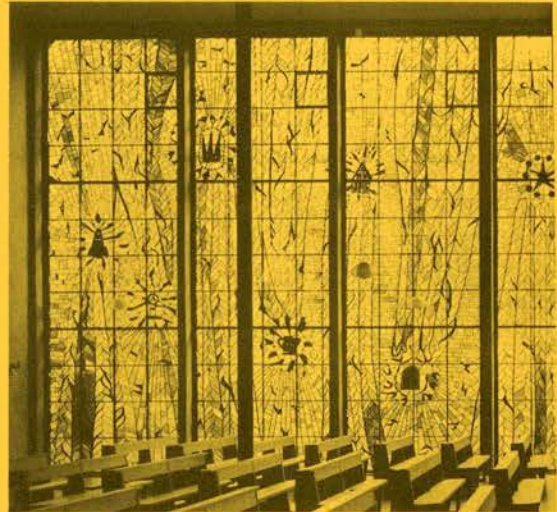
3 Detail of a concrete stained glass window by JEAN BARILLET.

4 Lead stained glass wall at the Church of St Maria Koenigin, Cologne, by HEINZ BIENEFELD. Architect: Dominicus Bohem.



3

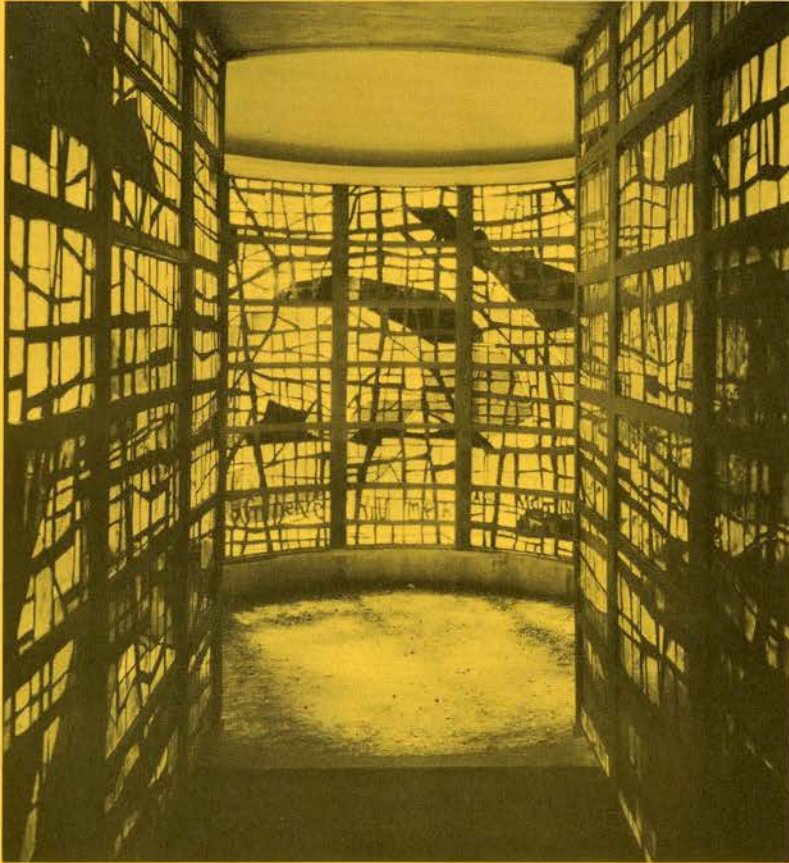
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HUGO SCHMOLZ

5





6

PANDA



7

PANDA



5 Lead stained glass window at the Temple Mishkam Israel, Hamden, Conn. by JACQUES DUVAL. Architect: Fritz Nathan.

6 Concrete and glass window at the University of Caracas, Venezuela, by FERNAND LEGER. Architect: Carlos Raul Villanueva.

7 & 8 Stained glass windows in St Joseph's Mother House, Willowdale, Ontario by J. Barillet. Architects: Marani, Morris and Allan, Toronto.



8

and lucrative activity, accepted alike by religious groups and by the public, dozens of self-styled stained glass "artists" spring up from everywhere. Hardly a week goes by without architects receiving a call from some local stained glass studio, or a fat envelope full of "literature" which fortunately goes straight into the waste paper basket.

To architects — and their clients — considering the installation of stained glass in their buildings, I would like to offer the following observations:

- Stained glass is a work of art. It must be created and executed by a stained glass artist and not by some anonymous studio.
- Real artists are proud. They do not advertise, do not send "literature", and do not sell their art as a construction material.
- A good artist does not have to distort the human figure to achieve the "modern look". Figurative art can be just as "modern" as abstract art. It does not need to be distorted or horrified.
- The most striking sketch is not always the best. Commercial art is a flat statement, strong, obvious, immediately understood, and shallow. Real art is not obvious. It has a deep spiritual meaning which, very often, is not immediately understood.
- Stained glass is always a very important part of an architectural whole. The final success of a building in which stained glass is installed, might very well depend on the degree of collaboration and understanding between the architect and the artist. The choosing and directing of a stained glass artist should be done by the architect even if he has to act as a non-remunerated adviser.
- Stained glass is never installed temporarily. It is better to install good stained glass progressively, according to available funds, than to disfigure permanently a good building with a poor substitute.

If we are able to escape the dangers of commercialization, if we can convince our clients to entrust the stained glass work to a reputable artist who understands architecture and who is ready to work in close collaboration with us, we will find out that stained glass, more than any other form of art, is a strong and beautiful means to extend and to elevate the imaginative and emotional impact of architecture.

¹ Joseph Picard in "L'Art Sacré Moderne", B. Arthaud, Paris.

² Reproduced in color in Time magazine, September 26, 1960.

³ Designed by J. Barillet for the architects Eggers & Higgins of New York.

PAUL F. DAMAZ

French architect established in New York since 1948.

Member of the French "Order des Architectes", the "American Institute of Architects" and the "Architectural League of New York".

Former design-critic at the Architectural School of Columbia University.

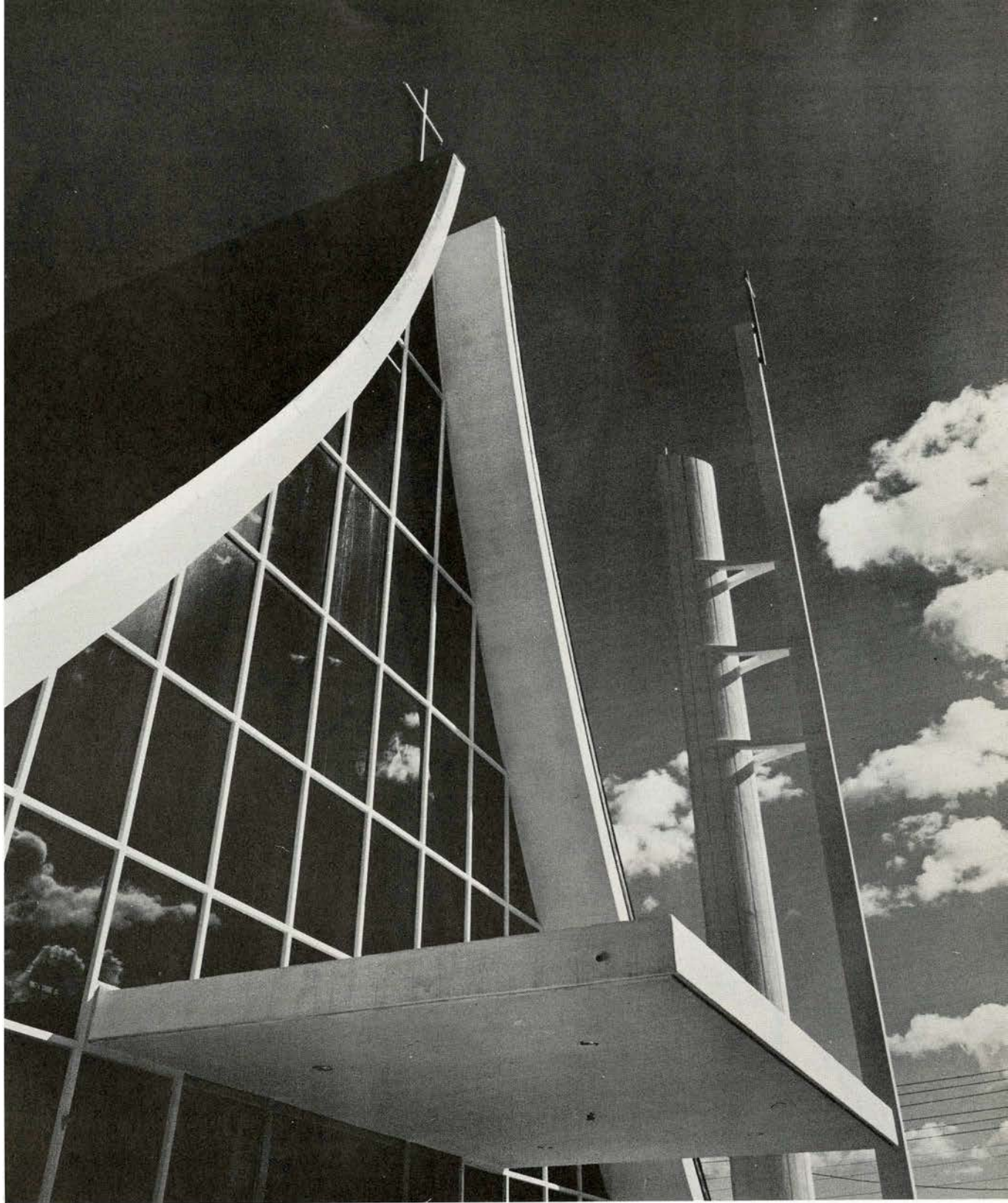
Specialized in religious architecture, he has been working actively towards the return of art into modern architecture.

Received the "Arnold Brunner Award" in 1958, for his book "Art in European Architecture" (Reinhold Publishing Corp. N.Y., 1956).

In preparation: "Art in Latin American Architecture" to be published by Reinhold Publishing Corp. in 1962.

The Martyrdom of St. Hippolytus,
leaded stained glass by
MAX INGRAND.





MASSEY
M1961
MEDALS

EGLISE ST-RAPHAEL

Jonquiere, P Q

Architects: St-Gelais & Tremblay
Jonquiere, P Q

Structural Engineer: Louis Lemieux
Jonquiere, P Q

Mechanical Engineer: Albert Bourdages
Jonquiere, P Q

General Contractor: Emile Lamarre

Photos by Ellefsen



EGLISE ST-RAPHAEL DE JONQUIERE

LES ARCHITECTES, en collaboration avec M. le Curé Larouche, ont bien étudié le problème liturgique, et tout en se soumettant à la tradition liturgique, ils ont essayé de l'adapter à notre temps, à nos moeurs.

Cette église est une construction en forme de tente, de silhouette élégante et fort élancée, grâce à l'élimination des murs latéraux remplacés par le toit qui se prolonge jusqu'au sol.

La principale caractéristique de cette église vient de la grande simplicité de la nef qui ne retient aucunement l'attention et s'efface pour laisser la place d'honneur à l'autel, répondant ainsi parfaitement aux exigences de la fonction liturgique. Seules, les quatorze stations du Chemin de la Croix viendront troubler la tranquillité de la voûte.

Le parti groupe les fidèles dans un rectangle qui se rapproche des dimensions du carré, rapprochant ainsi les fidèles du centre d'intérêt et leur permettant une participation plus étroite au Saint Sacrifice. Le chœur se dégage à l'avant, entouré d'un déambulatoire, tandis que le jubé se prolonge à l'extérieur en une marquise qui abritera les gens à la sortie. Les murs, très inclinés à la base, ajoutent une note plus intime à la réunion des fidèles alors qu'au sommet de la voûte, le jour de quatre pieds laissé entre les parois devenues presque parallèles donne une impression de légèreté tout en fournissant une source de lumière naturelle idéale.

Le clocher qui s'implante tout à côté est relié à l'église par une mince dalle de béton qui abrite la chaufferie. A sa fonction liturgique usuelle, il ajoute cependant un rôle pratique assez imprévu et fort ingénieux puisqu'il dissimule dans ses parois la cheminée de l'édifice.

Cette église s'avère d'autant plus intéressante que le coût de \$225,000.00 rivalise avec tout ce qu'on aurait pu concevoir de traditionnel.

La structure est composée de douze membrures d'acier de chaque côté, réunies par des rotules.

A l'intérieur, nous avons comme revêtement un plâtre acoustique et un plâtre fini sable.

Le revêtement extérieur est en cuivre.

La construction de cette église se termina à Pâques 1960. Les dimensions de l'emplacement sont de 425' 0" x 200' 0".

ST. RAPHAEL CHURCH, IN JONQUIERE

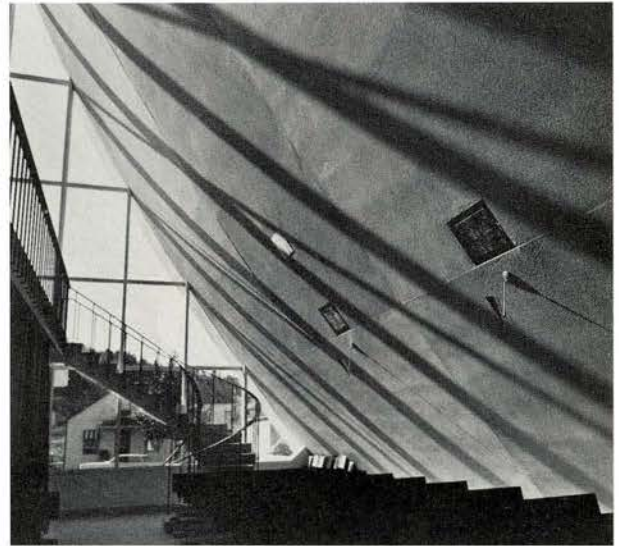
THE ARCHITECTS, after studying the liturgical requirements, have endeavoured to respect tradition while adapting it to the present way of life.

The absence of side walls, made possible by extending the roof down to the ground level, has provided a slender and graceful tent-shaped construction, the main feature of which is the great simplicity of the nave. Everything has been designed to give the altar the place of honour. Only the Stations of the Cross will break the tranquility of the vault.

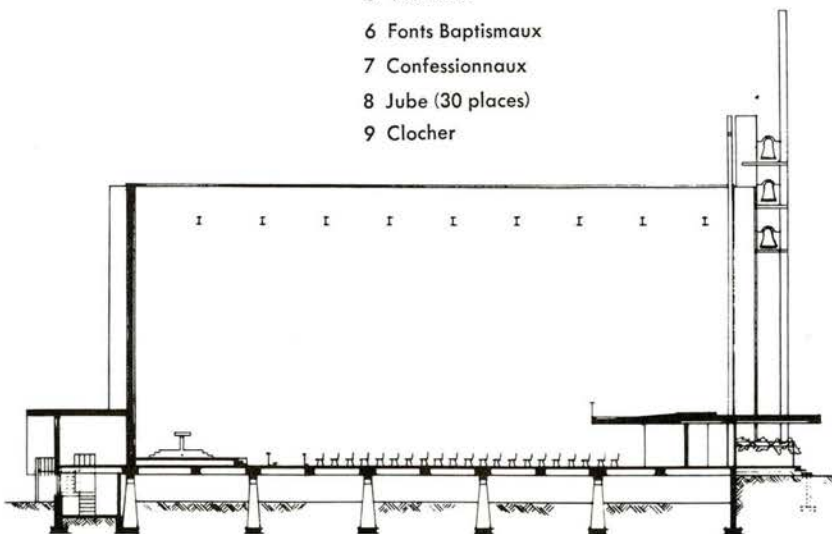
The walls being very slanted at the base, create an atmosphere of intimacy while, at the top, a space of four feet is left open giving an impression of lightness and; at the same time, providing a source of natural light.

Of interest is the fact that the cost, \$225,000, compares favourably with that of conventional construction.

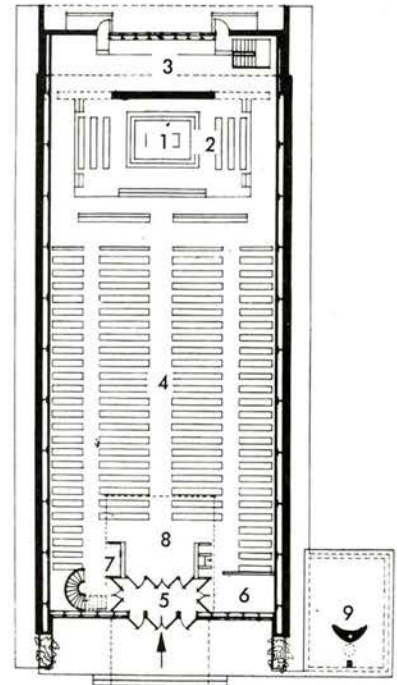
The structure consists of twelve steel panels on each side held together by hinge-joints. The inside is finished in acoustic and sand-finish plaster and the outside facing is in copper.



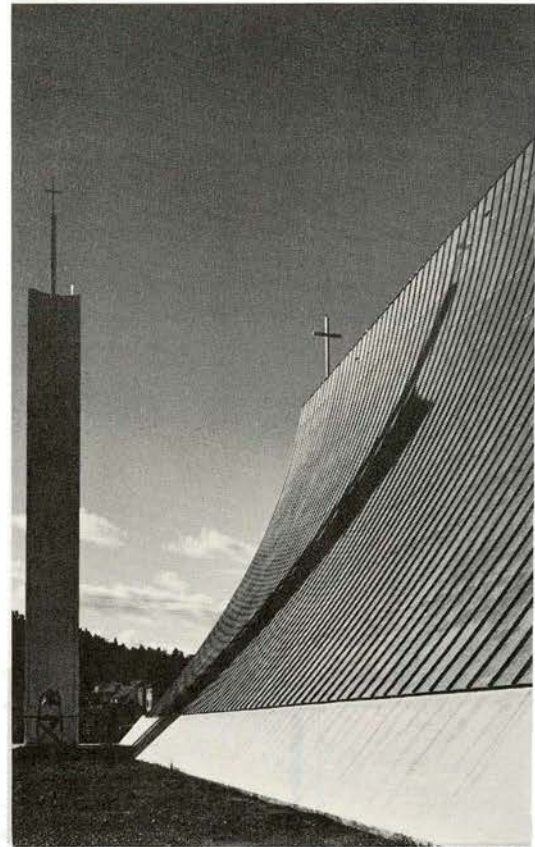
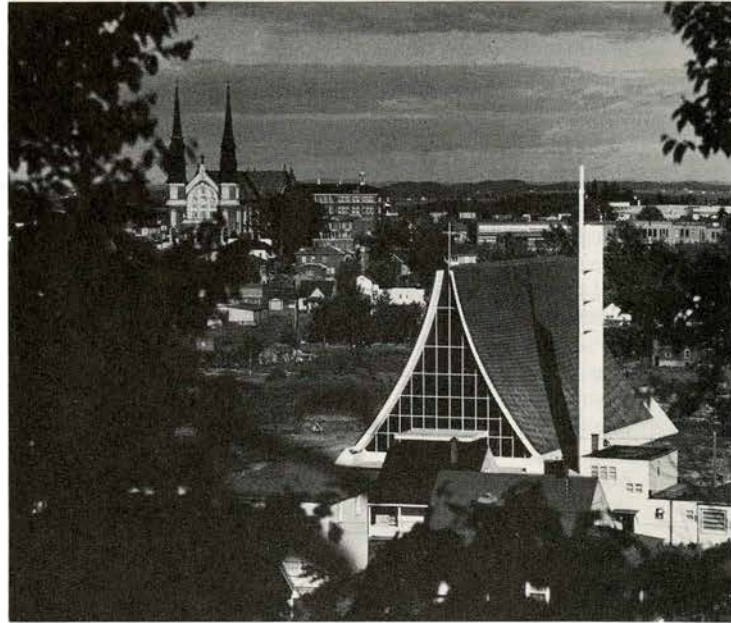
- 1 Maître Autel
- 2 Choeur
- 3 Sacristie
- 4 Nef (620 places)
- 5 Vestibule
- 6 Fonts Baptismaux
- 7 Confessionnaux
- 8 Jube (30 places)
- 9 Clocher



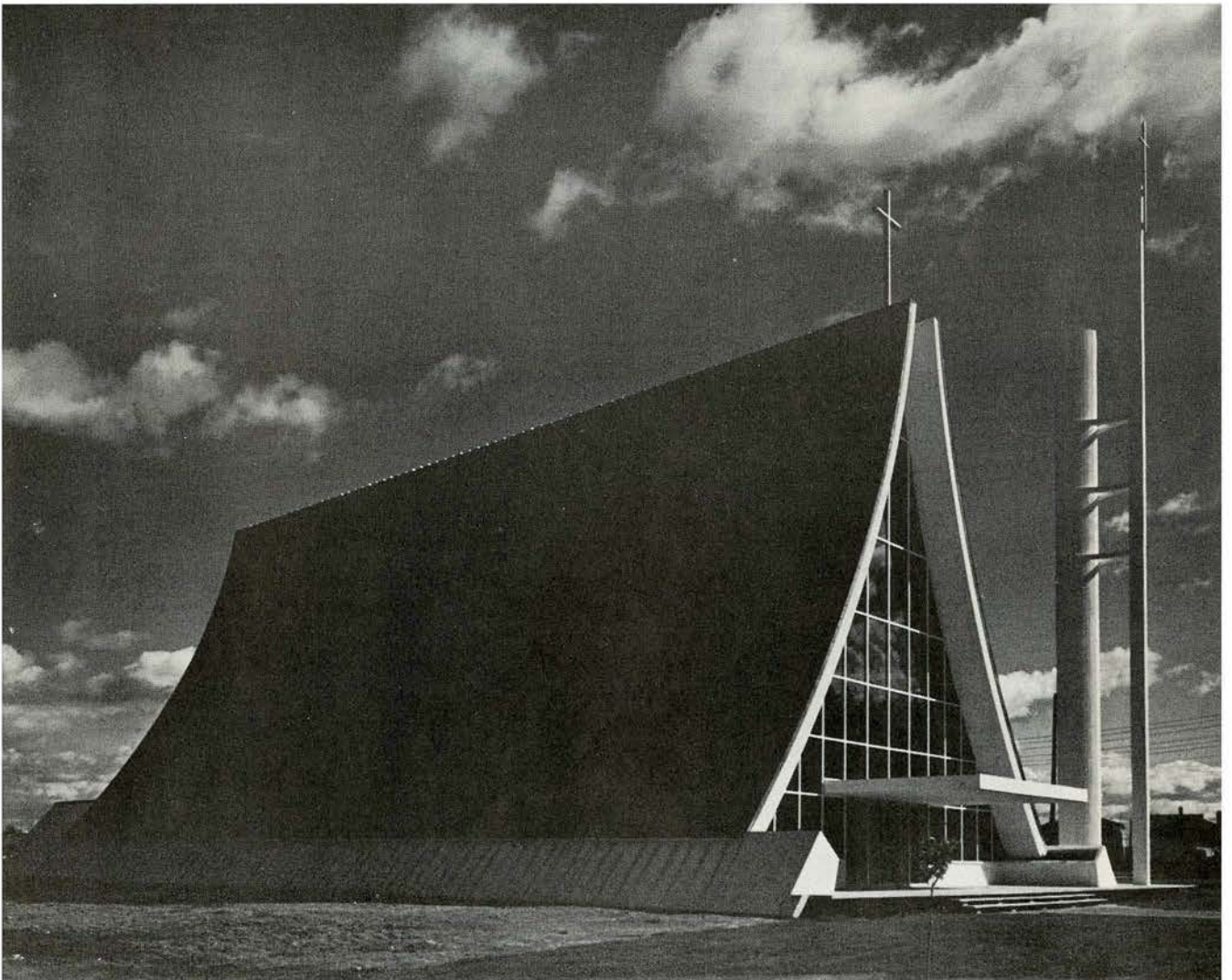
COUPE LONGITUDINALE

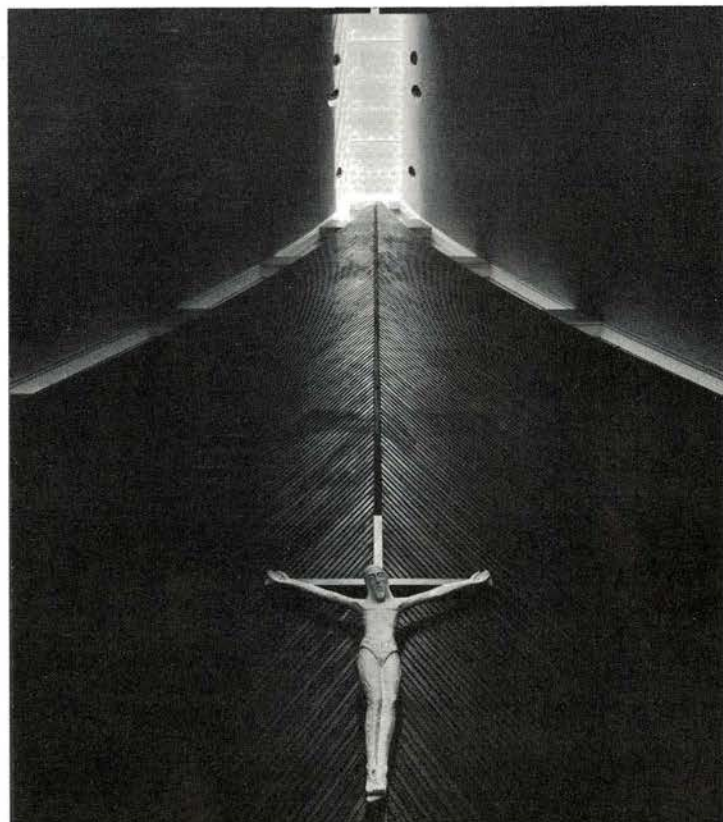
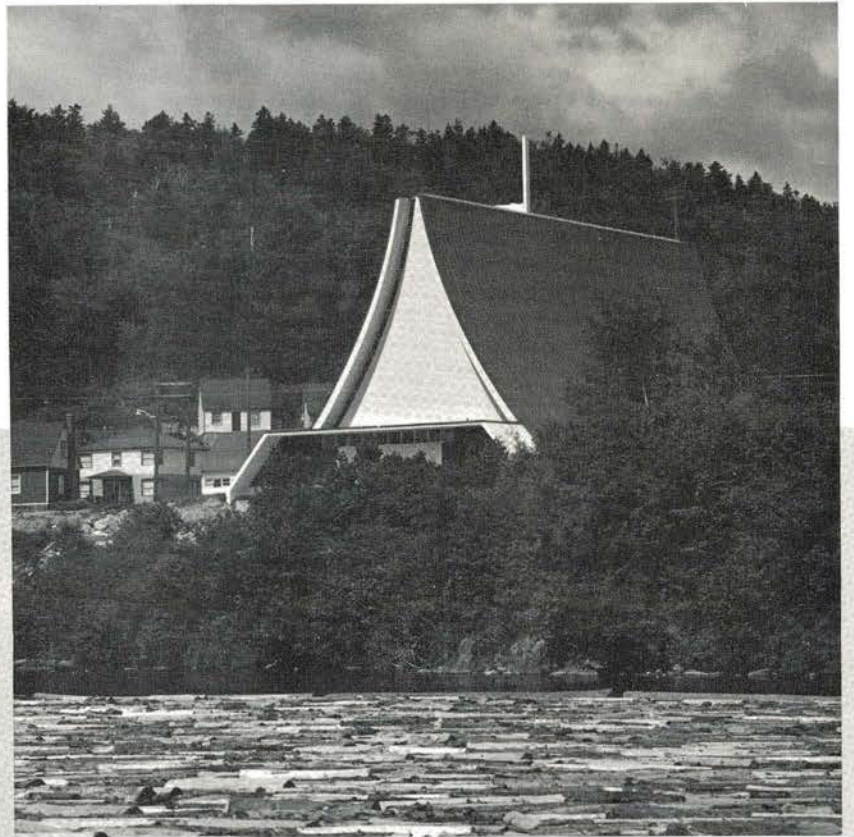
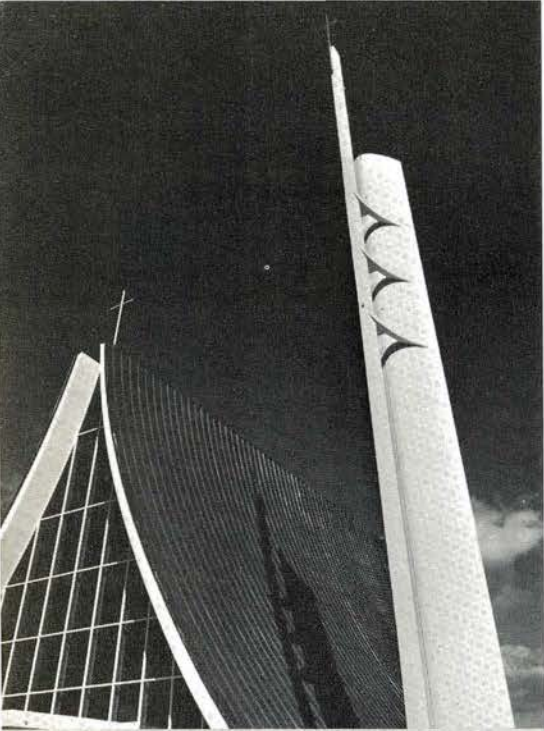


REZ-DE-CHAUSSE



EGLISE ST-RAPHAEL DE JONQUIERE







McMASTER DIVINITY COLLEGE
Hamilton, Ontario

Architects: Bruce Brown & Brisley
Toronto

Mechanical Engineers:
L. H. Schwindt & Co. Ltd.
Burlington

Structural Engineers:
for the covered way
C. D. Carruthers & Wallace
Toronto

General Contractor:
The Tidey Construction Co.

THE DIVINITY COLLEGE building is the result of three major influences or requirements. It houses the Divinity Faculty of the University, it creates a spiritual focus on the campus, and it acts as a pivot point about which the Baptist Convention of Ontario and Quebec revolves, and in fact draws its leadership.

The general form of the building reflects its threefold purpose, the quadrangle enclosed across the front by the covered walkway recognizes the building as a graduate college within a university, and creates semi-private precincts for staff and students. The prominence of the Chapel and the Memorial Tower with its carillon, respects the importance of the building as the spiritual focus of the university, and of the Baptist Convention.

In particular the building is to house the staff and students of the college providing space for administration, instruction, and recreation, spiritual recreation being provided by the Chapel. The disposition of these functions may be seen on the accompanying plans, from which it will be obvious that as much importance is placed on areas for private and group discussion as in areas for formal instruction.

The design problem presented was that of creating a small building complex in a prominent location which could hold its own surrounded by much larger structures in basically the same materials. The building then had to achieve a certain prominence while still preserving the harmony of the main campus.

The structure is a system of bearing walls and piers supporting steel joists and concrete slabs.

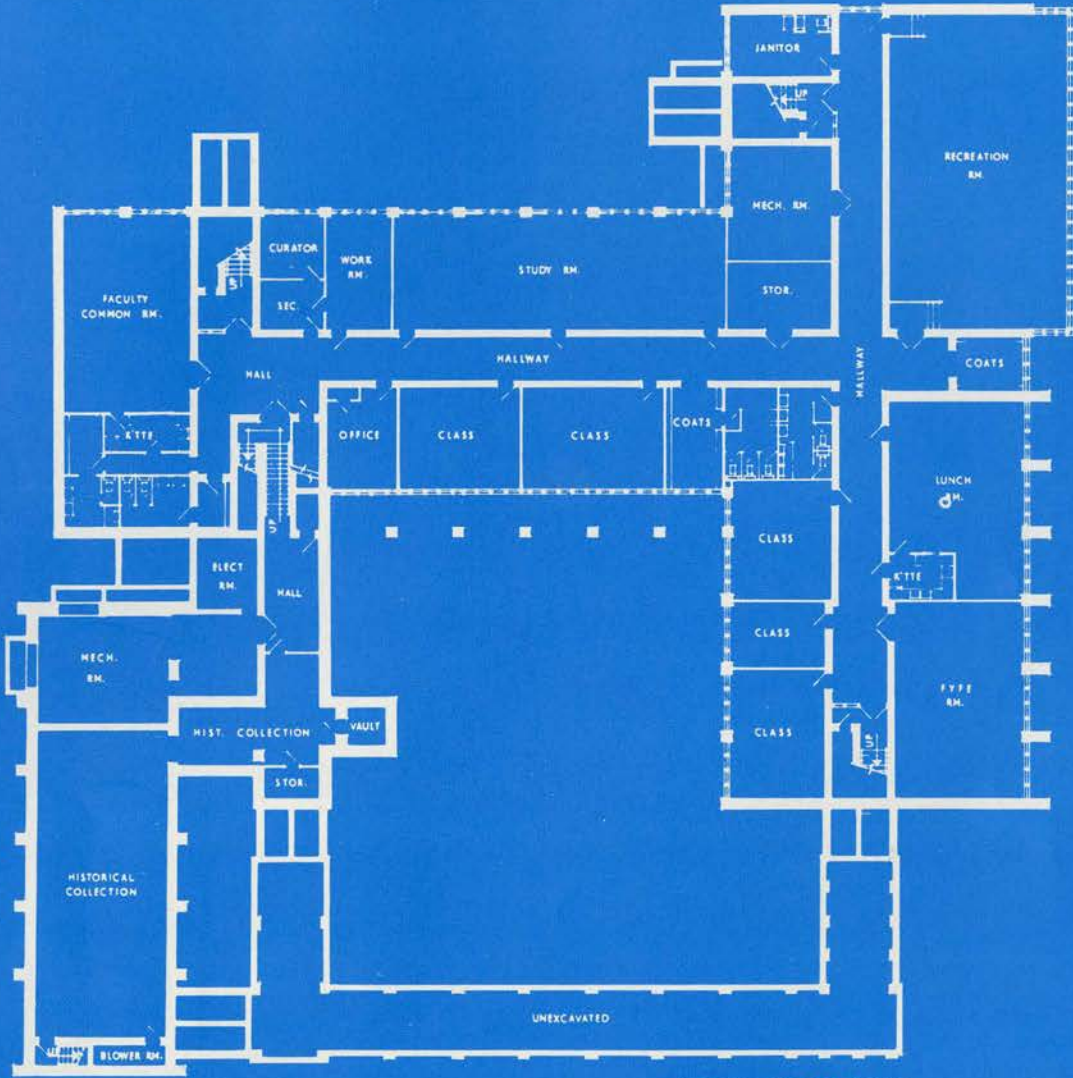
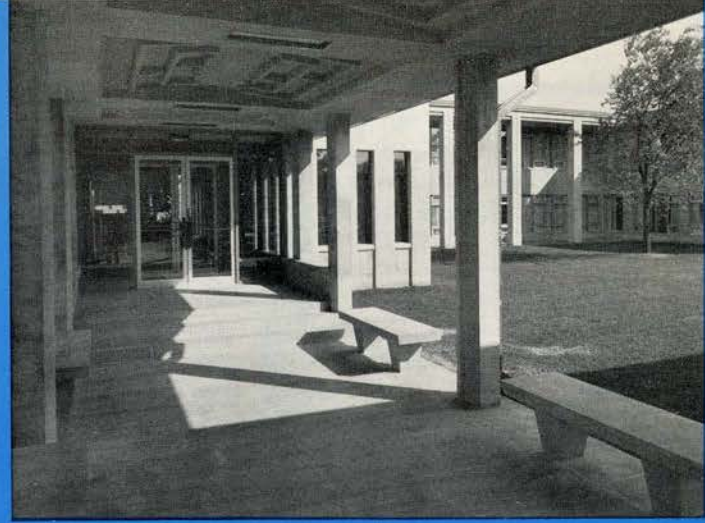
The heating is from the central heating plant of the university; air conditioning is provided in the Chapel, lecture hall and recreation room.

The building is faced with split faced Indiana and grey Indiana cut stone. Interior walls are exposed brick in corridors, and plaster in rooms. Floors are terrazzo in halls and stairs, tile in the rooms, and stone in the Chapel. Sloping roofs are copper, window frames housing double glazing are aluminum anodized to a gun metal colour. Woodwork throughout is oak, except for the principal's office and board room which are finished in mahogany.

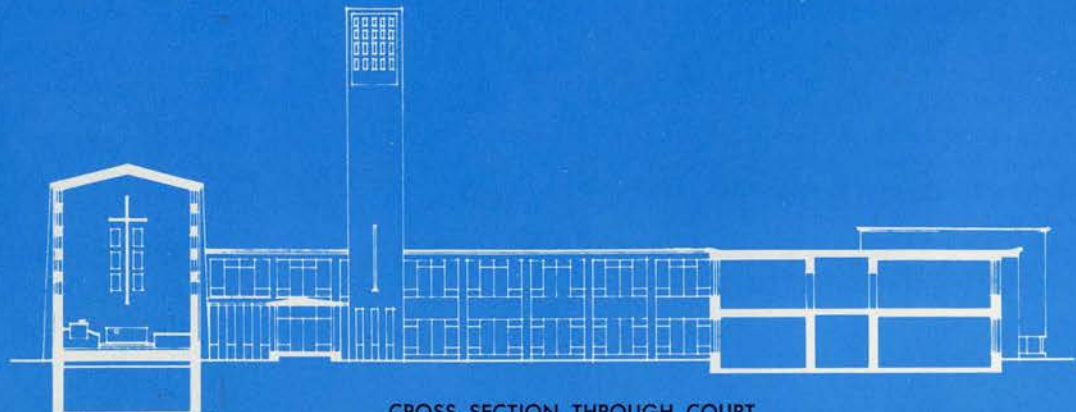
Photos by Panda



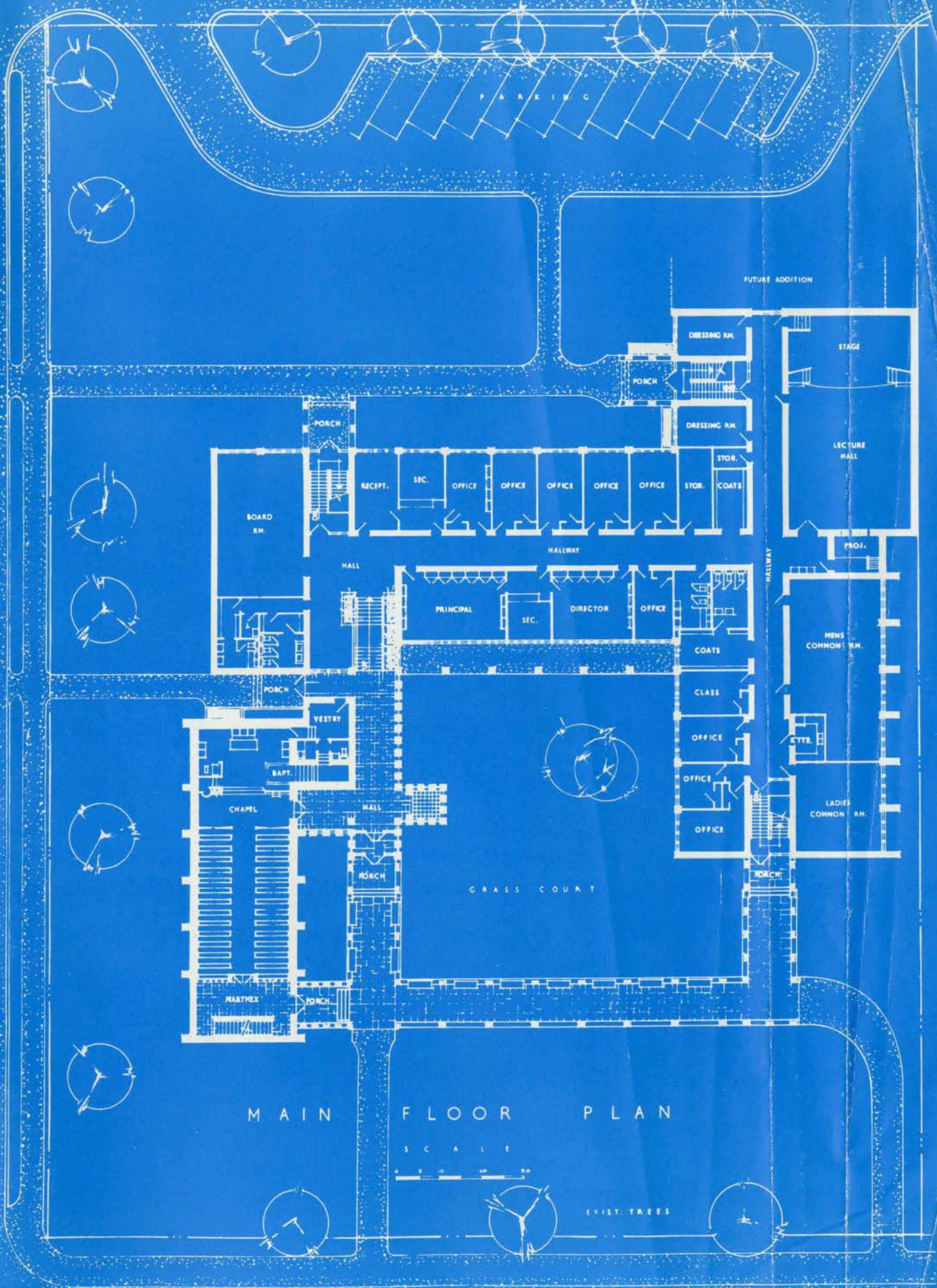
Door pulls designed and executed in Teak by William H. McElcheran. The figures represent the pupil and the professor.



GROUND FLOOR PLAN



CROSS SECTION THROUGH COURTYARD



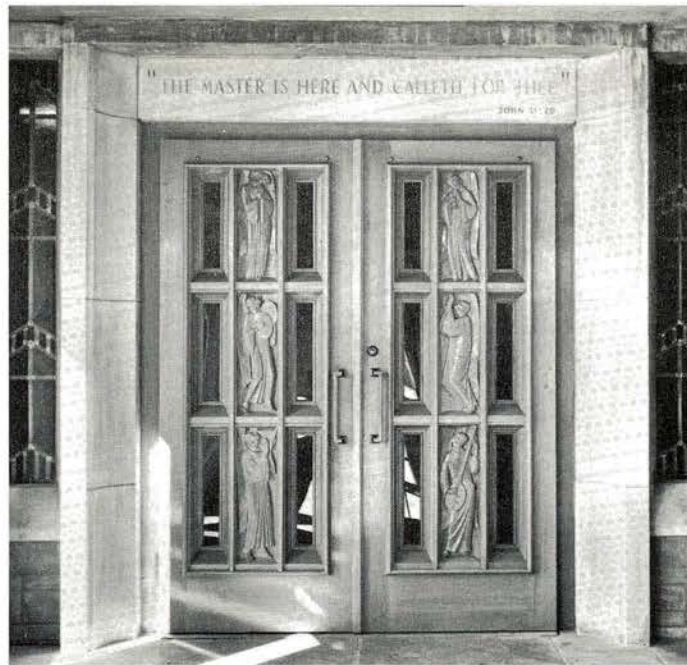
MAIN FLOOR PLAN

SCALE

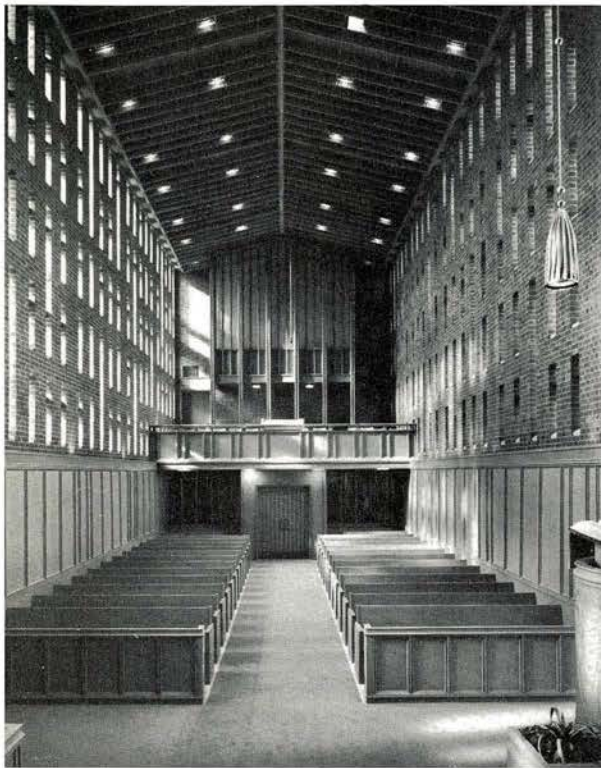


EXIST. TREES





The Chapel door showing the figures representing prayer and praise designed and carved in white oak by William H. McElcheran.



Below: The Communion Table. Surrounding the Agnus Dei are symbols representing the twelve apostles set in a framework of wheat and grapevines symbolizing the Bread and Wine of Communion.



Right: The Pulpit showing the carving representing The Calling of the Disciples. From left to right – Peter and Andrew – James and John, Zebedee, their father.

The pulpit and communion table were carved from full size designs prepared by Wm. H. McElcheran by the Valley City Manufacturing Co Ltd who also executed and installed all the chapel furniture.

Left: The Nave. On either side of the cross are carvings representing the Ministry and the Life. On the left from top to bottom – Christ the Healer, Christ the Sower or Teacher and the Baptism. On the right: The Resurrection, Agony in the garden and the Breaking of Bread.

These scenes are in Indiana Limestone and were carved by Louis Temporale from models by William H. McElcheran.



CHAPEL ST LOUIS LE ROI St. Boniface, Manitoba

Architects:

Libling, Michener & Associates
Winnipeg, Manitoba

General Contractor:

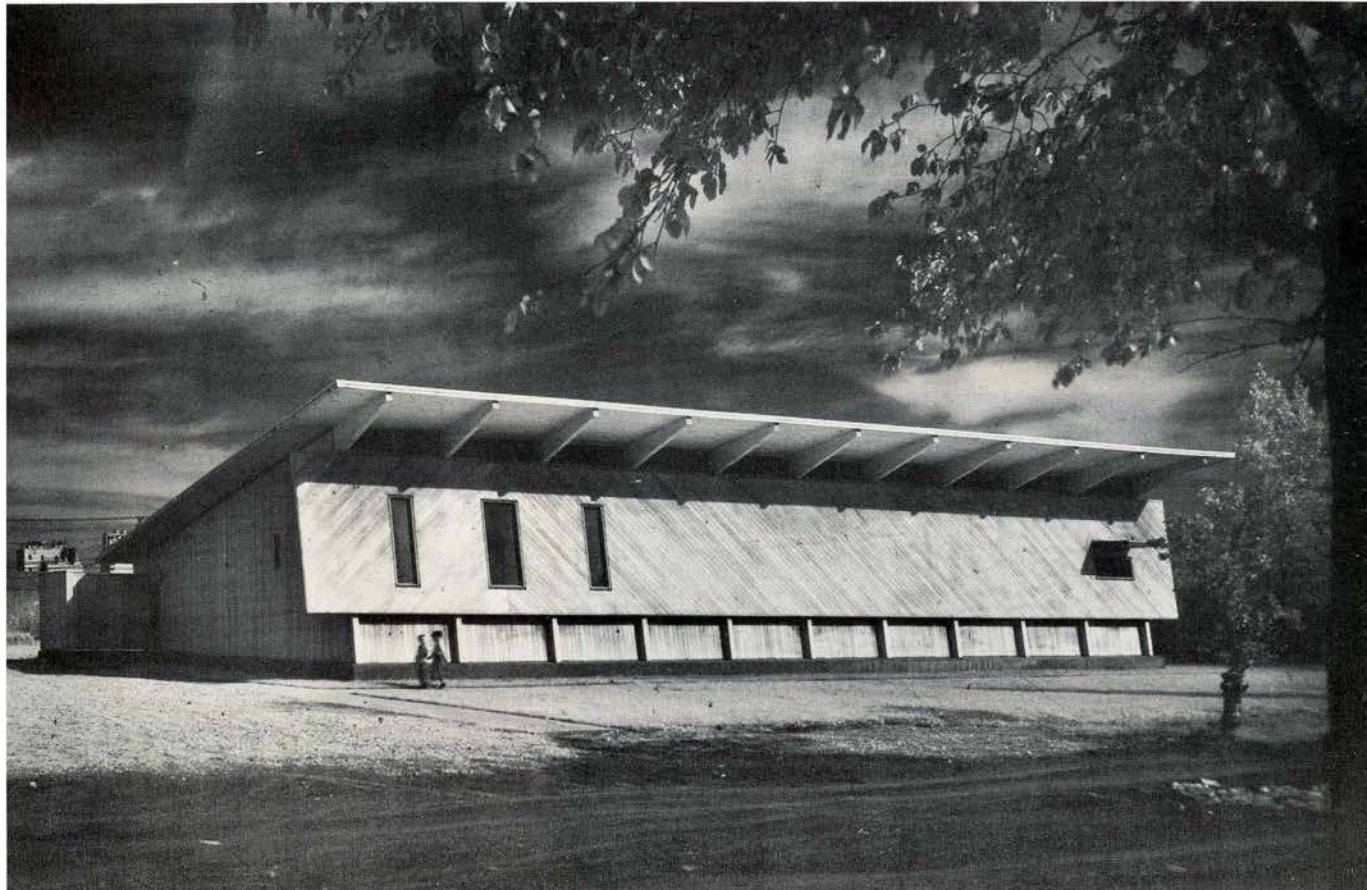
Conito Construction Co. Ltd

Photos by Henry Kalen

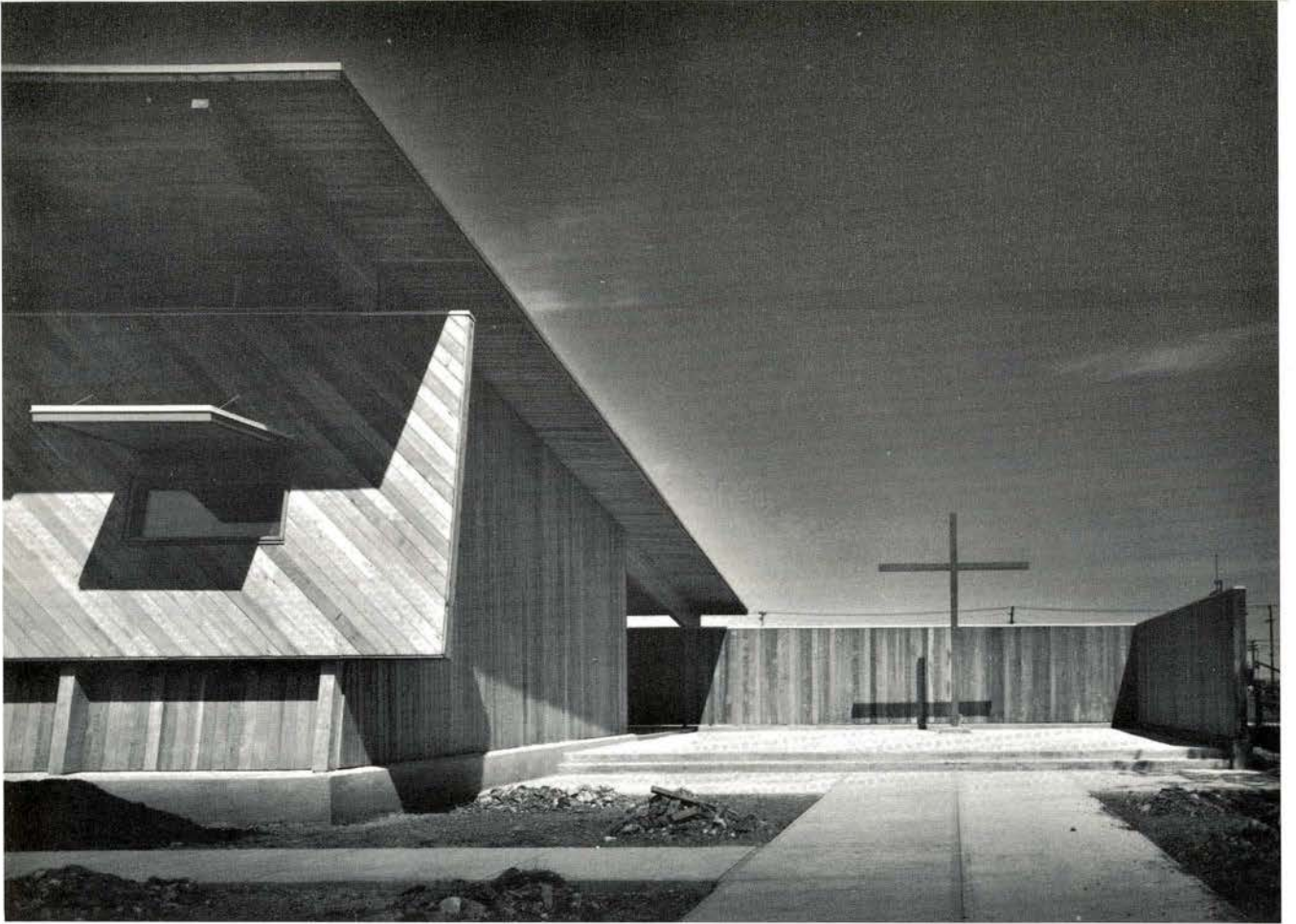


THIS CHAPEL accommodates parishioners of the cathedral parish who live in a remote section of the parish. The site is adjacent to the Grotto of Notre Dame De Lourdes and the Meditative Gardens in connection with the Grotto. As such, the chapel is also a focus of attention for those making a pilgrimage to the Grotto. Although the building is located near to the business section of St. Boniface, the peculiarities of the site and surroundings suggested a rural, rather than an urban treatment of the chapel. The liturgical and devotional functions which must be met by the internal plan, are common to all catholic churches. As this chapel is primarily an adjunct facility to the main cathedral, offices and similar administrative facilities common to larger churches, have been omitted.

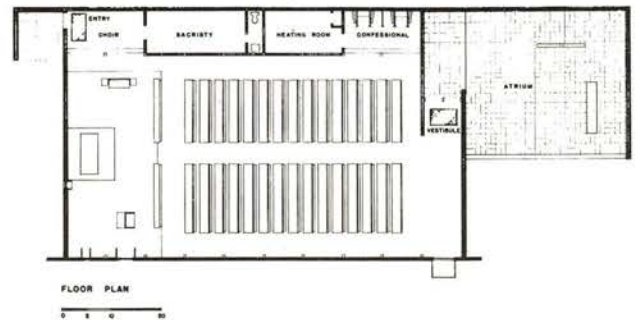
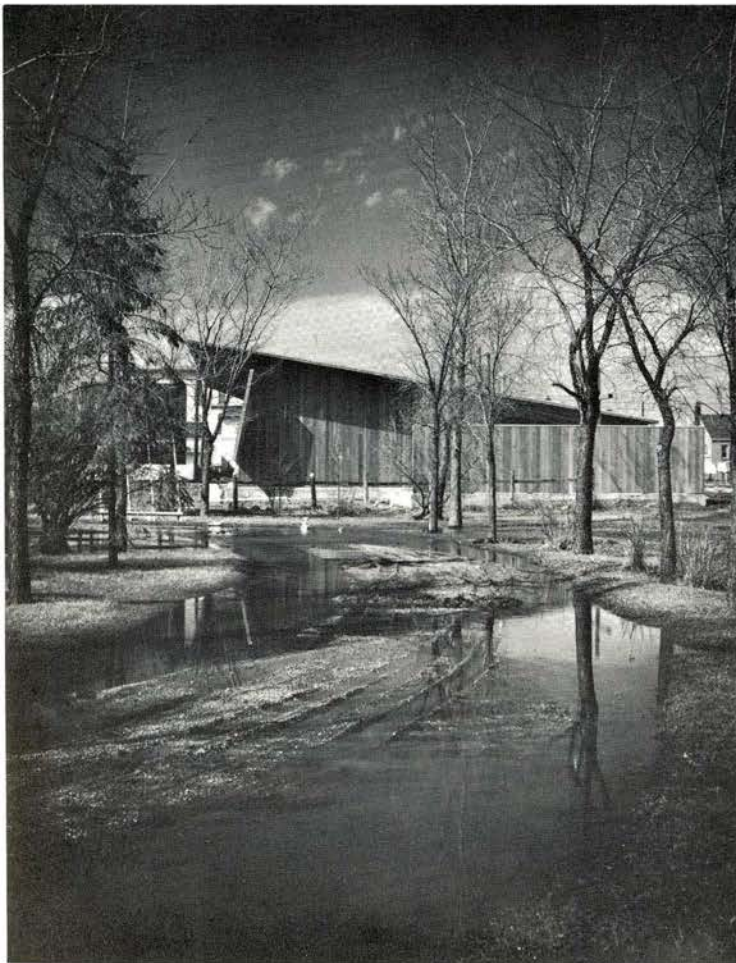
The foundation is a re-inforced concrete slab on grade. The super-structure is framed in glu-laminated wood beams and columns with a 2" fir deck forming the roof structure. Enclosing walls are wood stud.

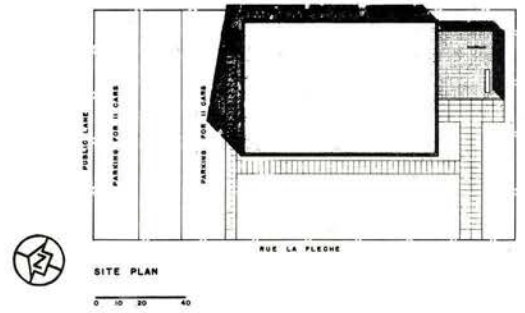
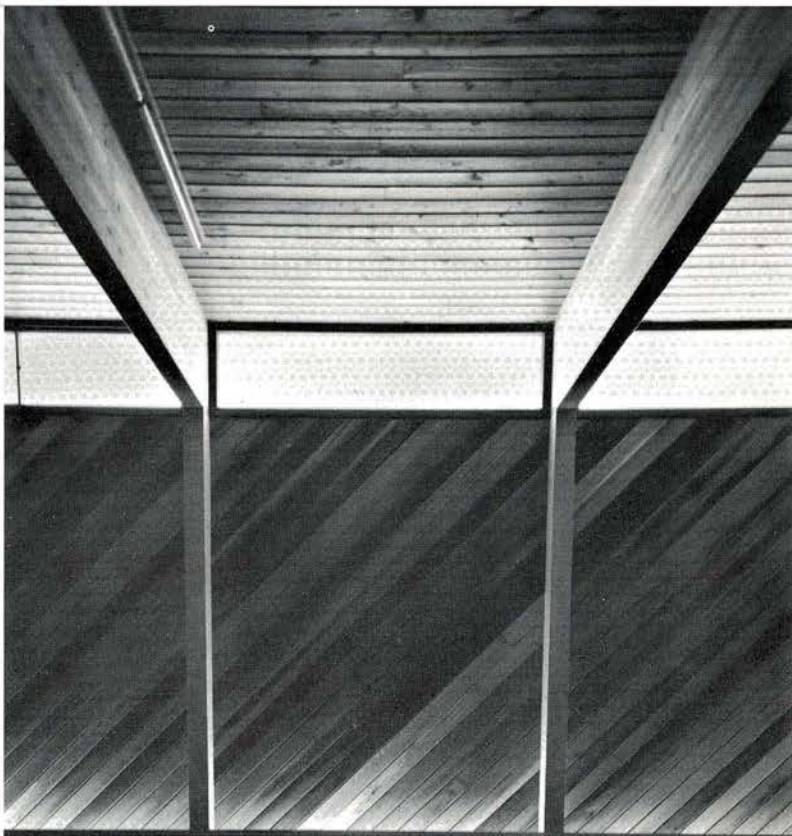
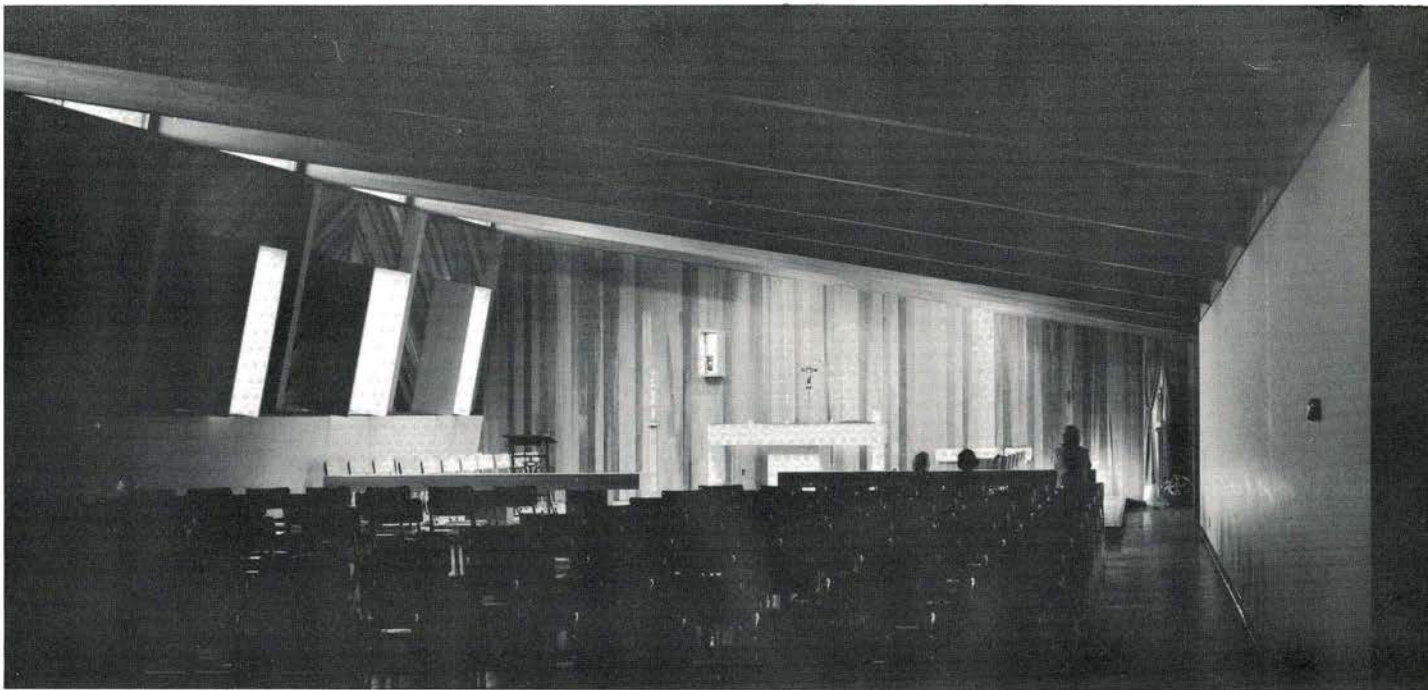
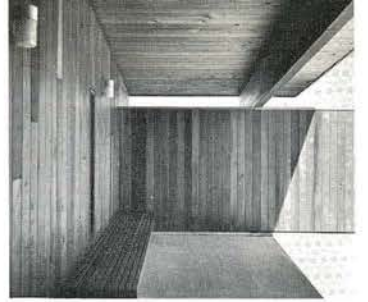


Extensive use of wood, naturally finished, has been used throughout. Exterior and interior walls are finished in a clear cedar, the roof deck is fir, as are the glu-laminated wood beams and columns. A plaster dado on one outside wall and some interior plaster walls have been used for visual contrast on the interior. Plaster has been painted white. Both natural and artificial illumination have been carefully studied to provide strong lighting emphasis on the altar and sanctuary area. Light into the nave of the church is indirect in that the glu-laminated beams shield the light source. Additional lighting is provided on the outside wall by means of a strip of glass set between the outside wall and the dado. Interior floor finishes are asphalt tile throughout. The heating is by means of a hot air furnace supplying air through perimeter ducts set into the concrete slab.



CHAPEL ST LOUIS LE ROI







ST. BASIL'S
ROMAN CATHOLIC CHURCH
Ottawa

Architects:
Bemi, Murray & Associates
Ottawa

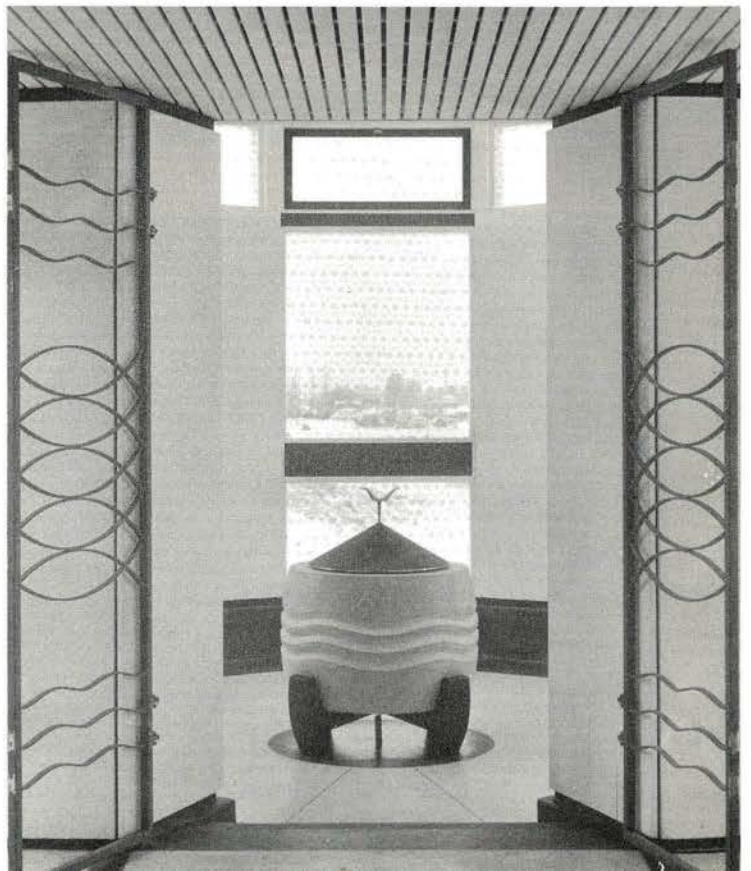
Structural Engineer:
J. Y. Bernier
for the dome:
John Adjeleian

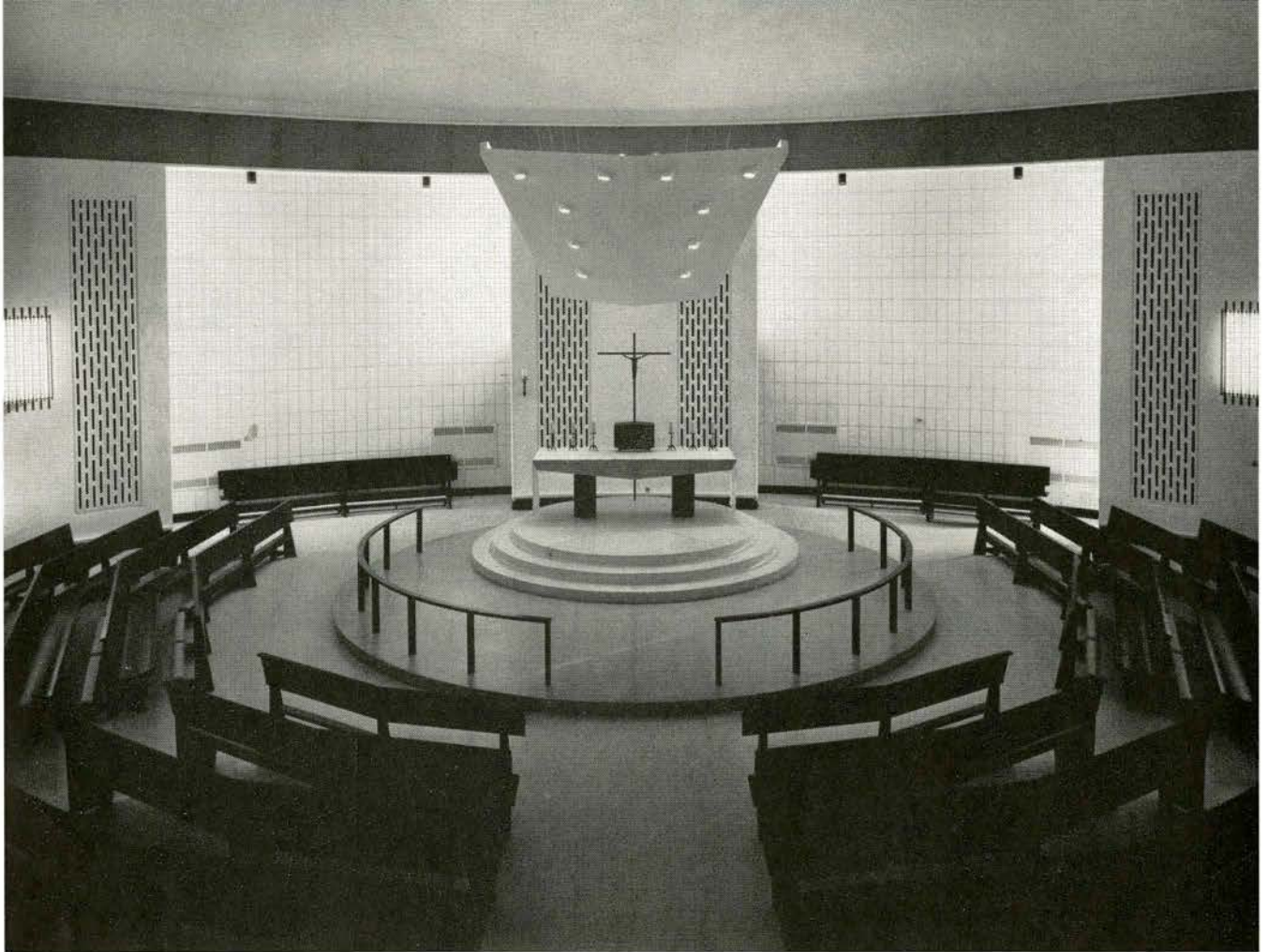
Mechanical & Electrical Engineers
J. L. Richards & Associates

General Contractor:
James Tapp & Sons

*The Stations of the Cross and
certain of the furnishing items
were developed by
Gerald Trottier*

Photos by Warrander

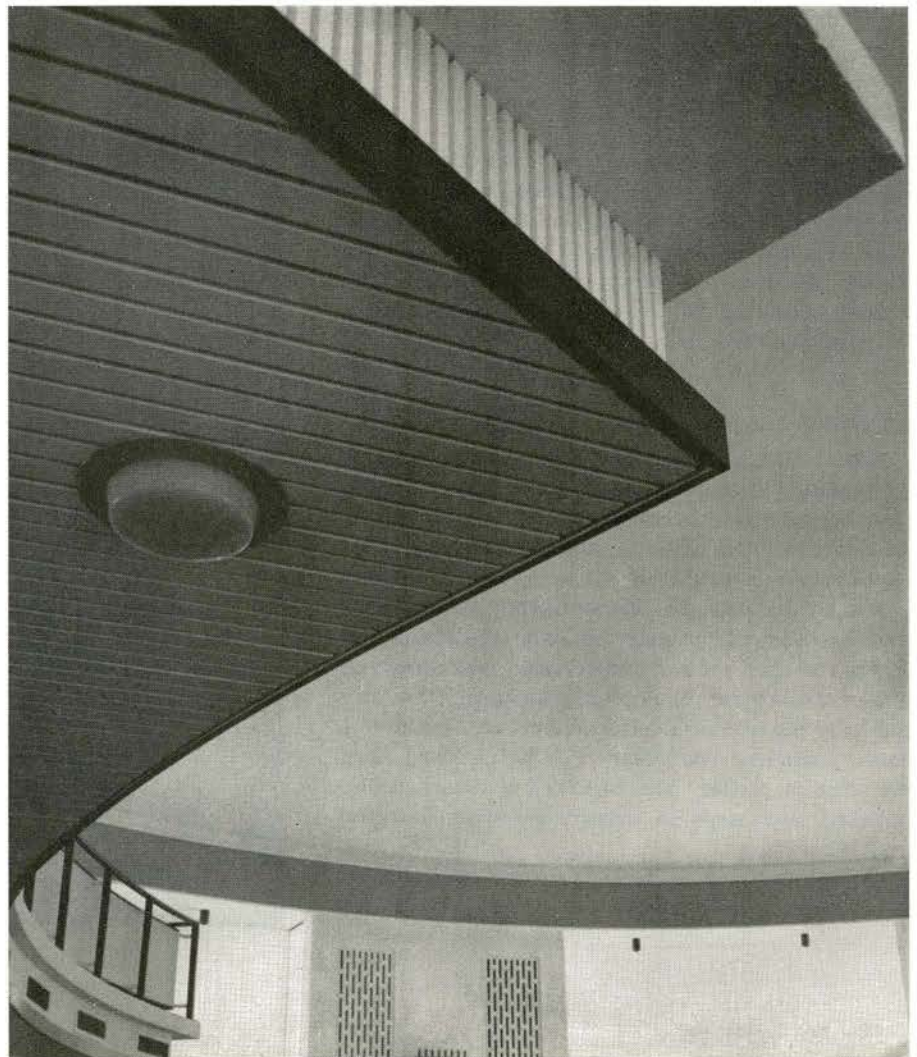
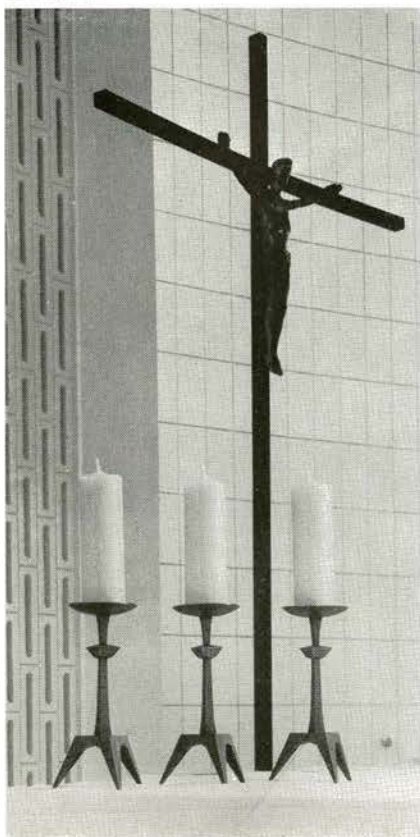




Above: A view of the church from the balcony.

Right: Balcony detail.

Below: The altar, candle sticks and Crucifix.



away from the church itself. The remaining auxiliary buildings, such as the sacristy, rectory, housekeeping quarters and garage were placed to form an interior court where the congregation could gather. A covered walkway and block wall form the balance of this enclosure. A basement was required for church activities, and to provide adequate natural light, the ground floor of the church was raised 5'.

A large rectory was necessary to accommodate the members of the religious teaching order who administer a nearby school.

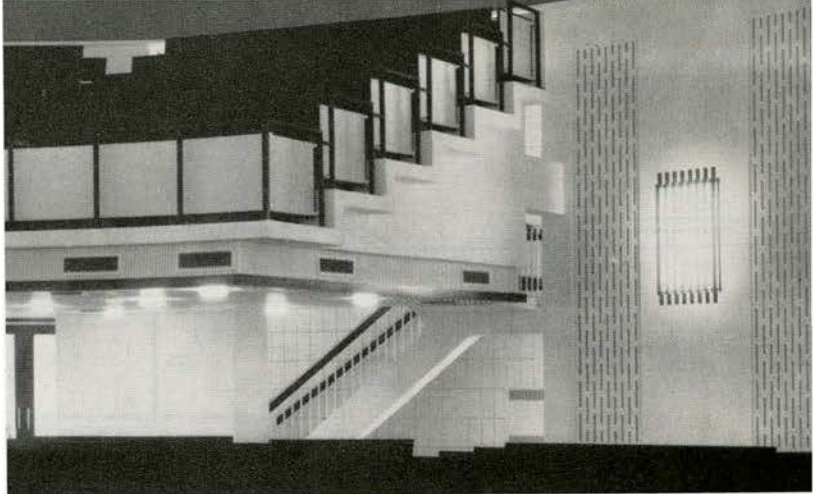
MATERIALS AND FINISHES

The undulating surface of the church proper has been reflected in its exterior cladding. Brick panels have been used for the curtain walls and Redwood siding on the sheer walls. The concrete blocks have been left exposed on the interior of the church for acoustical correction. Further acoustical panels have been located in the four side recesses upon which the Stations of the Cross are painted. The prestressed dome ring has been expressed in the interior of the church as a unifying element. A canopy, located over the altar to enhance the focal point, also acts as a sounding barrier, reflecting the voice out into the audience. This canopy conceals all the artificial lighting, leaving the ceiling free and uninterrupted. The cavity created under the balcony has been used to accommodate the heating and air cooling equipment.

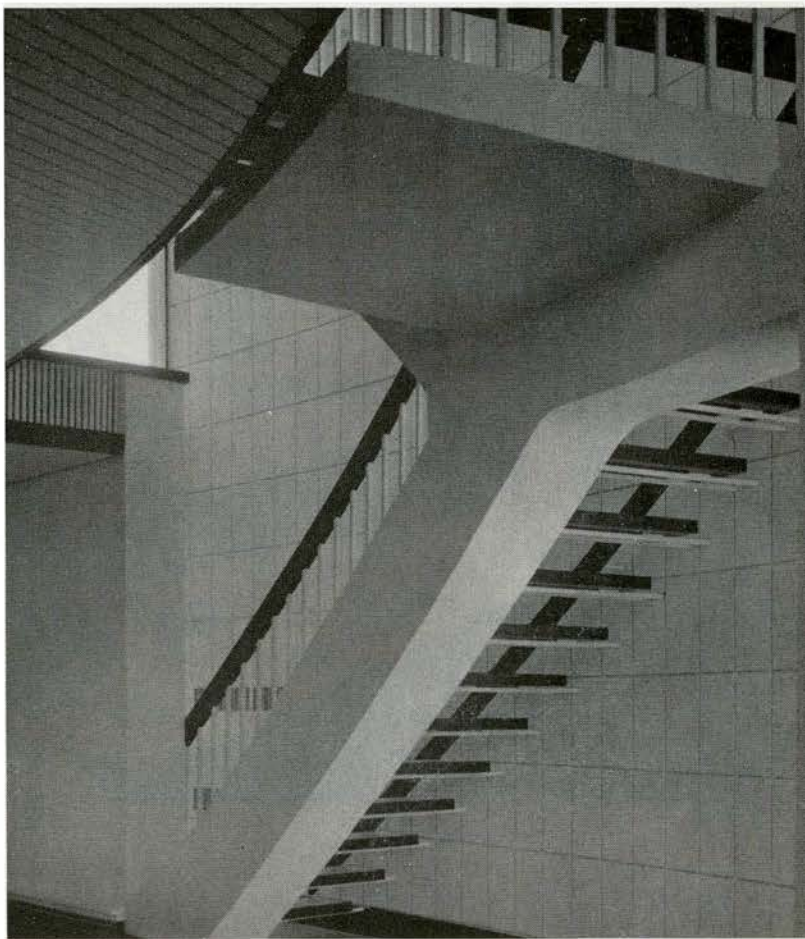
STRUCTURAL SYSTEM

With the altar located at approximately the quarter point in the church proper, it was necessary to find a roof structure that did not create a central focal point and a thin shell concrete dome was chosen. This was sprayed with a crystallite plaster and left in its natural state. The sheer walls supporting the dome have been treated in such a manner as to allow concrete block on their sides to be incorporated, to act as an acoustical baffle. The balcony is cantilevered from two columns and except for the hinge points, is kept free from the exterior wall to give a floating quality.

The structural system in the basement area has been laid out at right angles for simplicity and economy. The basement has been connected with the rectory by a tunnel which also carries the mechanical equipment.



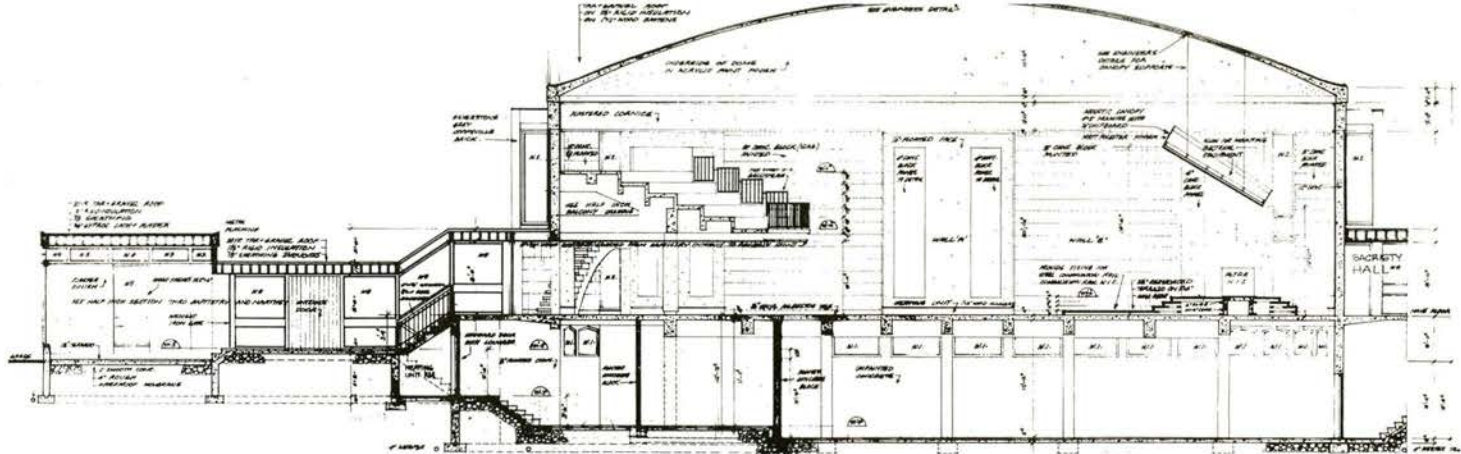
ST BASIL'S ROMAN CATHOLIC CHURCH



Top Right: View of the balcony showing the hinge point.

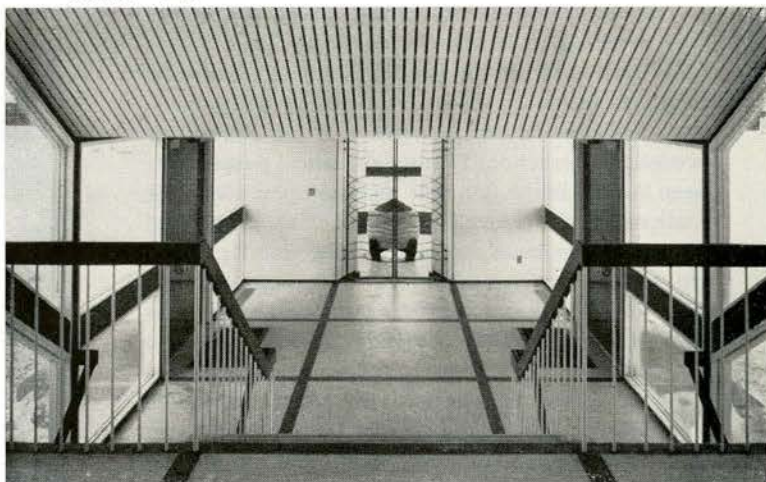
Centre Right: One of the Stations of the Cross painted by Trotteir.

Bottom Right: Detail of the balcony stair.



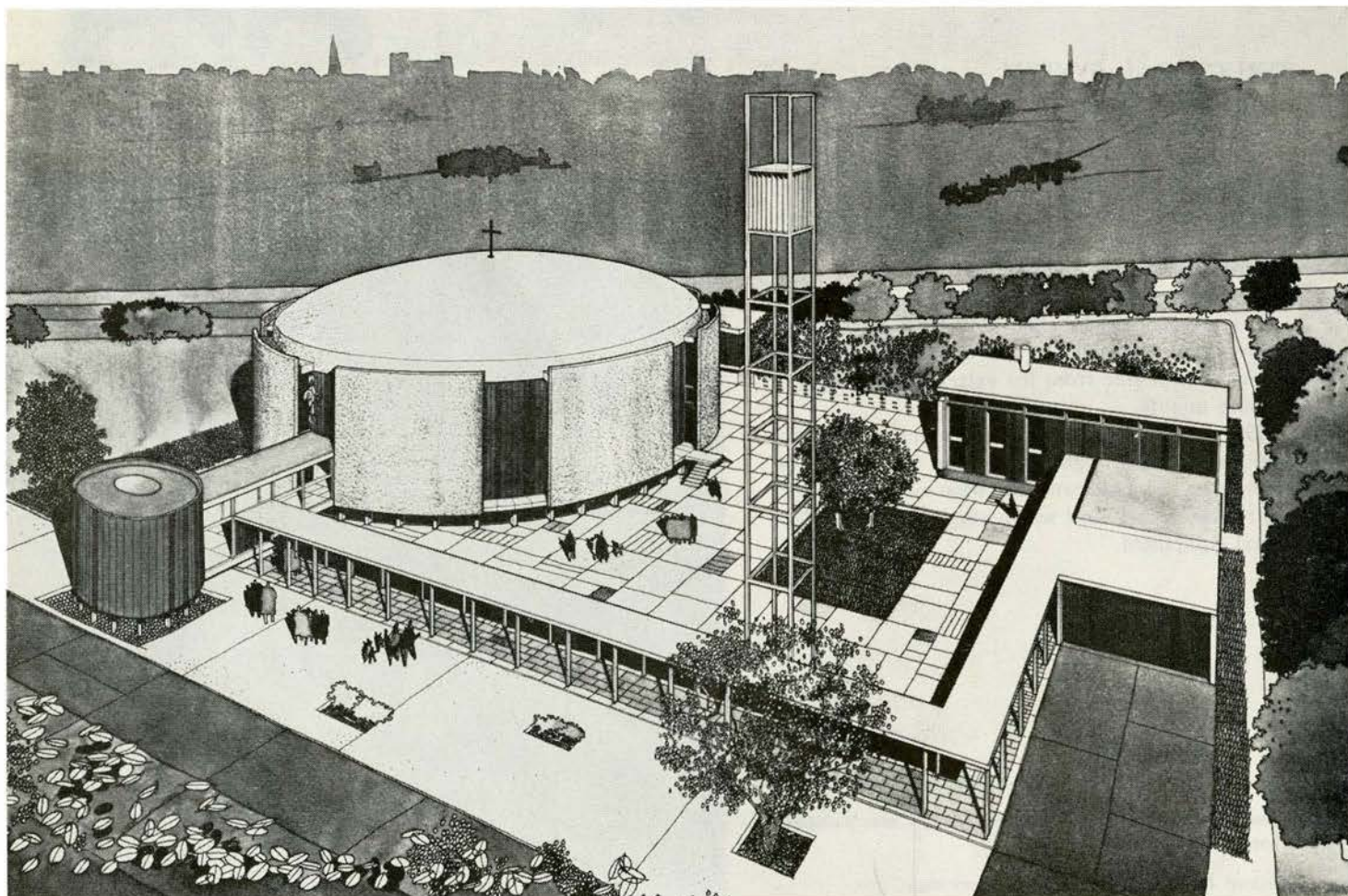
SECTION A-A

ST BASIL'S ROMAN CATHOLIC CHURCH



Right: View of narthex from the church.

Below: Sketch of complete project.



COMMUNICATING AT THE NATIONAL LEVEL

THE PERENNIAL QUESTION of Federal-Provincial relations has been receiving special attention in recent weeks as a result of new political alliances in many provinces. Much of the oratory and extravagant comment can be dismissed as pure exaggeration, but the fact that these issues should arise at all is probably significant. The moral appears to be that the Confederation achieved in 1867 is not yet fully secure, and admitting that our nation has survived these 95 years, burdened down with glaring inadequacies and inconsistencies, the present uneasy alliance is probably better than any other political or economic solution for Canada.

Canadians should be concerned about seeing that the national identity is protected, preserved and made more meaningful to our citizens. In examining the headlines of our newspapers, one is impressed with how few of the outspoken critics are capable of any constructive fair-minded criticism. Indeed, in this time of international peril any trend or movement toward secession, separation or separatism appears an ill-conceived impediment to the grinding, thankless task of nationhood. The task to develop a viable nation, we suspect, has scarcely begun.

Within the profession of architecture — and illustrated by the day to day relationship between the RAIC and the nine provincial associations — one finds the national problem reflected in miniature. For the Institute and the component societies, the problem does not consist of disharmony in regard to policy or reflect any conflict in financial or money matters. The weakness is in the element of communication. A key role of the RAIC is to know the profession and its problems (in all areas of Canada) intimately and to represent the entire profession at the national and international level. The task of fact-gathering by Ottawa headquarters is achieved by committee process with standing and special committees of the RAIC, comprising representatives from each provincial association.

All national organizations in Canada who possess a membership thinly spread along a narrow band in major centres from coast to coast use committees to acquire information and solicit opinions that may result in policy changes. In committee after committee — whether it be Legal Documents or the Canadian Joint Committee on Construction Materials, the Building Research Committee or the International Relations Committee — there is a heavy reliance on the association or chapter, the firm or individual architect, to study specific proposals and report back their views. In devising, and keeping clear, communication lines from Ottawa out across the country the essential life blood of any national society has been, and always will be, the “play back” or response of its private members to a coherent program promising short term benefits to the Institute members and long term advantage to the profession as a whole.

If the day should ever come (and perish the thought) that these communication lines were to be contracted, as a matter of policy, within provincial boundaries, the profession would be much the poorer.

COMMUNICATIONS SUR LE PLAN NATIONAL

DEPUIS QUELQUES SEMAINES, l'éternelle question des relations fédérales-provinciales est revenue à l'ordre du jour, à la suite de nouvelles alliances politiques dans plusieurs provinces. Evidemment, il faut faire la part de l'exagération dans les diatribes et les déclarations extravagantes qui nous parviennent, mais le simple fait que la question se pose est significatif et prouve que la Confédération établie en 1867 manque encore de solidité. Cependant, si notre nation a réussi à survivre pendant ces 95 années, c'est probablement que la formule politique et économique actuelle, malgré ses lacunes et contradictions flagrantes, est encore la meilleure pour le Canada.

Les Canadiens se doivent de protéger et de conserver leur identité nationale et de voir à ce que celle-ci soit plus riche de sens pour leurs concitoyens. En lisant les journaux, on est surpris de voir combien peu de ces violents critiques ont des idées saines et pratiques à offrir. Or, en cette période de danger international, toute tendance ou tout mouvement vers la sécession, la séparation ou le séparatisme apparaît comme obstacle mal venu sur la voie difficile et ardue du développement national. Il y a lieu de se demander si ce développement d'une nation viable est véritablement commencé.

Dans la profession d'architecte, et les relations quotidiennes entre l'Institut et les neuf associations provinciales, nous trouvons en petit le même problème. Pour l'Institut et ses sociétés constituantes, le problème ne découle d'aucun désaccord de principe ni d'aucun conflit d'ordre financier ou monétaire. Il tient plutôt aux communications. Un des principaux rôles de l'Institut est de bien connaître la profession et ses problèmes (dans toutes les régions du Canada) et de représenter cette profession sur le plan national et international. Le siège social à Ottawa obtient ses renseignements par l'intermédiaires de comités permanents et spéciaux, composés de représentants de toutes les associations provinciales.

Tous les organismes nationaux du Canada, dont les membres sont réunis par petits groupes dans les grands centres d'un littoral à l'autre du pays, comptent beaucoup sur des comités pour obtenir des renseignements ou des expressions d'opinions pouvant influencer sur la ligne de conduite générale. C'est ainsi que l'IRAC, par l'intermédiaire de tous ses comités, — documents légaux, recherche en bâtiment et relations internationale et comité mixte sur les matériaux de construction, — tient beaucoup à ce que les associations ou chapitres locaux ainsi que les architectes et maisons d'architectes individuels étudient les propositions faites et expriment leurs opinions. Dans l'établissement et le maintien de moyens de communication entre Ottawa et le reste du pays, l'objectif a toujours été et sera toujours, comme dans toute association nationale, d'obtenir la réponse ou la “réaction” de ses membres à des programmes pouvant assurer le bien immédiat de ses membres et les progrès permanents de la profession en général.

Si jamais, ce qu'à Dieu ne plaise, ces moyens de communication devaient être réduites, par question de principe, aux limites des frontières provinciales, la profession en serait beaucoup appauvrie.

CHURCH ARCHITECTURE CONFERENCE

THERE IS AN increasingly widespread understanding by churchmen that responsibility for the form of a new church must be the architect's — once he fully understands its function.

This was perhaps the most significant of many important elements of information which emerged from Ontario's first Conference on Church Architecture held in Toronto last month.

The fact that the architect must be free to create the form of a new church once he is instructed in its function according to liturgy was stressed in addresses by some of North America's senior experts in building for worship, and in panel discussions and workshops.

More than 200 delegates attended — about 60 architects, 15 representatives of the allied arts, the remainder clergy and lay officials of six faiths. The conference was sponsored by the Ontario Association of Architects and the Anglican Church of Canada, the Baptist Convention of Ontario and Quebec, the Evangelical Lutheran Synod, the Presbyterian Church in Canada, the Roman Catholic Church and the United Church of Canada. The bulk of the administrative work was carried out by the United Church of Canada and the conference site was the Anglican Diocesan Centre in downtown Toronto.

One recommendation for a sound architect-building committee relationship came from Rev. Edward S. Frey, Executive Director of the Department of Church Architecture, United Lutheran Church in America.

"The first step in building for worship is to create a large committee which will break down into sub-committees to do its work," he advised in his address. "The committee which will

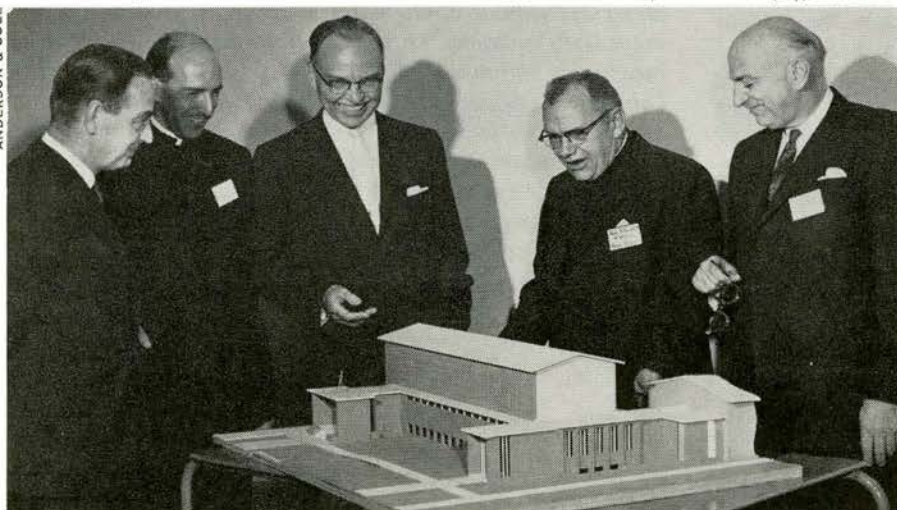
work with the architect will be very small. The large committee will evaluate the life and work of the congregation and write detailed descriptions of each activity to be held in the church room. It will write a program of these activities in terms of nature, purpose and goal. The large committee's business is program, not architecture; it is best that this committee not attempt to describe the aesthetics or engineering of the building-to-be. When it gets to work, it will soon know that it does not have the time to play architect and it shouldn't try."

In building around worship, Dr Frey emphasized, it is necessary to consider what people do when they gather for worship. "They preach, teach, baptize, celebrate the Lord's Supper, render praise and thanks to God," he said. "This is what we build around. If we do it faithfully and carefully, the space enclosed and the mass and form of the enveloping fabric will be at once a tool and a symbol exactly related to what the assembled congregation believes and does together about the celebration of God's presence among his people."

Commenting after the conference, Rev. John E. Page, SJ, of Toronto, said, "There were a number of straightforward statements which made it clear that a priest or minister should explain to the architect how and why worship is carried out and leave it to the architect to supply form."

Father Page, an engineer as well as a priest, was enthusiastic about the allied arts workshop in which he participated and is alarmed that Canadian artists are not better known. "Because they are not known, they aren't called in by architects," he says, "and it is difficult for them to get the stimulation they need."

Looking at a model of St James (Islington) United Church, designed by Bruce Brown and Brisley are, left to right: Peter M. Thornton (F), FRIBA, ARCA, Vancouver; Rev John E. Page, SJ, Toronto; Harold E. Wagoner, AIA, Philadelphia; Rev Edward S. Frey, New York, Executive Director and founder of the Department of Church Architecture, United Lutheran Church in America, and Anthony Adamson (F), Toronto.



A conference record, prepared from tape recordings of discussions and texts of addresses, is available from the United Church of Canada, Room 715, 85 St Clair Avenue W., Toronto. Price is \$1.00 per copy.

There is a real need, he feels, for a permanent Canadian exhibition of liturgical art, perhaps organized by the National Gallery of Canada and which might travel throughout the country.

He was impressed with the "wonderful feeling of genuine good will" at the conference. "From the ecumenical point-of-view, the gathering was most fruitful," he reports. "In a cordial atmosphere, there was frank and friendly discussion between various denominations about the various forms of Christian worship." This was the first time the Roman Catholic Church has been represented at an interdenominational conference of this kind.

The importance of a thorough understanding by the architect of a church's function was stressed, too, by John Layng, MRAIC, of Toronto, in the panel discussion on "Better Church Building in Ontario".

His Excellency F. A. Marrocco, DD, Auxiliary Bishop of Toronto Diocese, the Roman Catholic Church, suggested that the influx of new Canadians "who have grown up in the shade of ancient churches and of ancient architecture in general" might militate against any rapid development of contemporary architecture here. It is a great challenge for the architect, he said, to build churches in which new Canadians can "feel close to the same God they loved in their own countries" and to put the churches at the same time in "a form that leaves no doubt that we have for these newcomers a house of God that embodies the youth, vigor, initiative and optimism of their new land."

The conference's theme address was given by Harold Wagoner, AIA, CAGA, of Philadelphia. He is a past president of the Church Architectural Guild of America.

Mr. Wagoner reported with satisfaction that the "puritanical conservatism" which governed so much church building in the United States is rapidly disappearing. "More exciting changes have happened to churches in my architectural practice in the past five years than in the preceding thirty," he told delegates. "There is a literal pot-pourri of forces which together are producing a revolution in church architecture."

There is no doubt that the exchange of opinion and information at this first Ontario Conference on Church Architecture can result in better church building in the province. In the words of Rev. George M. Morrison, of United Church of Canada, "The material has been provided — it now remains to be seen how well it is used."

John Stuart Cauley

THE ASSERTION that "our residential, if not our total environment, is largely the work of investment interests aided by assessment-seeking municipal administrations" is incapable of easy proof. The premise imputes major responsibility for our impoverished environment to the favored aversion of the intellectual — the economic force. The anti-urbanism of our literary and philosophic traditions finds too easy comfort in associating the evils of the contemporary city with either capitalism or late-industrial technology. The controlling influences in our society, now as in the past, are a function of all the values of our mass, and often meaningless culture.

The power of the economic force is but one aspect of the process of growth affecting the city in its "unstructured randomness and patterned orderliness". Investment interests and municipal administrations, insofar as they direct our total environment, are the consequence of our moral and cultural toleration. The contemporary environment, like the historic, is a faithful mirror of our culture.

The architect through training and awareness should be as knowledgeable of economic influences as he must be of the other factors. Let us not be as collectively retarded in assuming such essential understanding as our immediate predecessors were in assuming mastery of the technical realities of the last century. *John C. Parkin (F), Toronto*

THE DEVELOPMENT OF MUNICIPAL RESOURCES which obtain fair returns for investors, which increase assessments and subsequently raise net municipal revenue are surely conditions to be desired by any municipal administration. The fact that the results obtained in pursuing this objective are often unfortunate from the environmental point of view does not alter the precept which is integral with the successful operation of a free enterprise society. Architects can move more effectively in aiding the production of desirable results within this climate if they have gained a sufficient understanding of the aspirations of development capital and are sympathetic to the needs of municipalities which all have a natural desire to increase their revenues.

In private practice it has become increasingly (albeit painfully) evident that more and more clients require investment assistance and guidance from their Architect in addition to the traditional architectural design services. In order to satisfy his clients, particularly those of a Corporate nature, and also to successfully compete with the package dealer, he must understand the motivations and vocabulary of the investor. The translation of this knowledge through Architecture into environment is still the Architect's surest means of making a contribution to the society of which he forms a part. This activity however, carried on as a part of his normal practice must be supplemented by extra curricular civic activities and in this regard Architects have several avenues of influence.

- 1 As an individual the Architect should maintain an informed interest in proposed development for his municipality and thus be in a position to give the benefit of his views to those responsible for decisions affecting environment.
- 2 Architects as a group through their Institute or Chapter can maintain a watching brief on the activities and trends in their municipal administrations and thus be in a position to make group representation on specific issues while they are still in the formative stage.

"Our residential, if not our total environment, is largely the work of investment interests aided by assessment-seeking municipal administrations.

"If we deplore the results, should not Architects be educated and trained to move more knowledgeably among these influences?"

- 3 Architects as members of other organizations interested in civic affairs can assist such groups in the formulation of valid opinions in matters which affect the environment.
- 4 Architects as individuals can, by coming forward with an evidence of interest in civic affairs be appointed as members of various municipal commissions which actively guide the administration.
- 5 Architects can offer themselves as candidates for election to municipal councils or boards.

Of the above suggested avenues of influence Architects should give increasing consideration to the last two, namely serving their municipalities by appointment to boards or by election to office. These activities of course have always required the participation of professional people as a normal civic duty. We are now in a period of urgency which requires vigorous attitudes by those who can appreciate the deterioration of our material surroundings. The concern which prompted our Institute to set up a committee on the Residential Environment, the Report and the recommendations contained therein indicate a strong need for continuous decisive action by our profession if we are to have any worthwhile effect on the present deplorable trends affecting the environment. The most direct form of action is to have Architects in voting positions where they can influence and guide others similarly placed, where they can stand and be counted on matters which affect our environment.

W. G. Leithead (F), Vancouver

WHEN I RECEIVED your letters of June 20 and 28 inviting my comments, I decided not to contribute because it seemed to me the subject proposed for discussion was too reminiscent of the sort of thing one encounters on "Fighting Words", that interminably dull and repetitious program in which the participants struggle painfully to come up with statements which are intended to be individually provocative but which, in fact, end up being very similar to the expressed opinions of the other participants.

The trouble with the above program, and similarly with our subject, is that to express a controversial subject briefly and concisely is not easy, and often leads to confused thinking. For instance, how would one define the nebulous "investment interests"? How can one blandly assert that municipal administrations are primarily engaged in "assessment seeking"? Why put the onus for the "deplorable" appearance and usefulness of our residential environment (or do you mean our total environment) upon "investment interests" and so-called "assessment seeking municipal administrations"?

When you ask "should not architects be educated and trained to move more knowledgeably among these influences" do you mean "architects" or do you mean "architectural students" or do you mean both? In the former case our discussion would naturally be on a somewhat different base than if you meant the latter.

Such a combination of vaguely worded assumptions, coupled with statements of doubtful accuracy, form a poor

basis upon which to request opinions for publications in a learned *Journal*.

We all know that the problem of the residential environment is a problem solvable not by any particular profession, or group of people, but by a combination of professions, agencies, organizations, and government bodies (including municipal administrations) working in co-operation after the problem is understood more thoroughly than any one profession, or combination of professions, now understand it.

I would like to suggest that we as architects should stop blaming others, at least by implication, for the residential environment where we think it is bad; and stop giving the impression (or trying to give the public the impression) that if architects were more active in this field our residential environment would automatically be something that at least the architects would not deplore.

Before engaging in this discussion, I must emphatically disagree with your stated assumption that "our total residential environment is largely the work of investment interests aided by assessment seeking municipal administrations". I am, however, very pleased to agree with you that architects should be trained to move more knowledgeably, not only among "investment interests" and "municipal administrations", but among all those other sections of our society, each of which have such an important overall influence on the form of our residential environment.

Without a doubt our educational facilities should be directed at defining more accurately the position of the architectural profession within the complexities of our environment. They should be revised to stress more clearly that an architectural education is not only an opportunity

but also a responsibility. Our educational facilities should attempt to bring fresh light upon the great social advantages inherent in a proper correlation between architect, engineer, builder, financier, and government.

How to train architects to be more knowledgeable of those sectors of our society which bear the heaviest influence upon the evolution of our residential environment is much more difficult to assess. Certainly, the way not to do it, is to assume a "superiority" in the field and to imply that it is "others" who are at fault. Fundamentally this is a problem of social integration which is not to be solved by "training" in the sense implied in the quotation submitted for discussion. A socially integrated person cannot have this training "applied" externally, but must have this sense of social consciousness nurtured in his development through the home, the public school, the secondary schools, the universities, and then by voluntary application throughout his mature years — an application which is a part of one's daily life.

It is heartening to see the emergence, among many professions in addition to our own, of a new feeling of social consciousness; a realization that professionals in the past have suffered from a narrow compartmentalized outlook which restricted their endeavours to a relatively narrow segment of our social order. Much of this feeling may at present be "lip service" but things are stirring, and from "lip service" we should progress to conviction and action.

I am very pleased indeed to participate in this discussion and trust that the *Journal* will continue this program and with experience enlarge the scope of participation to include those sister professions and interests also vitally concerned in the design of the residential environment.

Peter Dobush (F), AMTPIC, Montreal

BOOK REVIEWS

FAILURE AND REPAIR OF CONCRETE STRUCTURES by S. Champion, M.Sc (Eng), Ph.D., MICE., MI Struct.E., M.Soc.CE (France). Published by John Wiley and Sons Inc. 199 pages. \$6.75.

THE adequacy of the concrete in a structure is decided mainly in its early life. Any mistake or oversight in proportioning, placing or curing during this period will be reflected in its behaviour in future years. This is particularly true where the concrete is exposed.

In spite of the present advance in the knowledge of the factors which should produce good concrete, and the greater control possible with modern methods of manufacture, failures still do occur.

The causes of failure produced by a change in stress conditions (as where a highway cut might pass over an existing tunnel) or by mechanical conditions (such as cavitation or abrasion) or even external chemical attack, can usually be assessed easily. Where deterioration is a result of some error or oversight in its early age (i.e. in proportioning, placing or curing), the

causes of failure are often much more difficult to ascertain.

Mr. Champion has written a very informative book dealing with the "Failure and Repair of Concrete Structures". He devotes two chapters to the causes of deterioration, Chemical and Mechanical. These should be kept in mind not only by the engineer with a deteriorated structure to repair, but by anyone in charge of concrete being placed in a new structure. He also points up the fact that determining the cause of deterioration in any particular case requires a considerably detailed study and might involve large expenditure which is not always justifiable.

In the remainder of the book the author covers with considerable detail the techniques of repairs for an extensive list of failure.

In general this is a very useful book — with certain reservations. The English terminology, which tends to be different from our own, on occasion somewhat obscures the meaning. Also it seems to me that some of his techniques would be considered too expensive for application in this country.

Carl E. Helwig, M.A.Sc.
Associate Professor of Civil Engineering, University of Toronto

ELEMENTARY ENGINEERING MECHANICS by Eugene George Key. Published by John Wiley and Sons Inc. 457 pages.

IN his book "Elementary Engineering Mechanics", specifically written for two-year Technician Programs, Eugene G. Key is confronted with the difficult task of developing the subject of Engineering Mechanics based solely on high school mathematics. Quite frequently, therefore, popular explanations replace the strict mathematical language appreciated in higher-level texts on this subject.

Mr Key's text covers the usual topics of a course in Elementary Engineering Mechanics. A good number of problems from a variety of fields are solved as examples. Each chapter of the book is augmented by a wealth of problems and solutions given — a feature which is of great value to the student.

In general, the material in this book is well presented; however, some of the technical terminology used (in particular in connection with trusses) is rather awkward. In a number of instances definitions lack preciseness.

Dr J. Schwaighofer, Dip. Ing (Graz)
Associate Professor, Civil Engineering University of Toronto.

CANADIAN BUILDING DIGEST



DIVISION OF BUILDING RESEARCH • NATIONAL RESEARCH COUNCIL

CANADA

BUILT-UP ROOFING

by M. C. Baker

UDC 69.024.158

Roof covering is probably the most important element in a building. It must protect the structure itself and provide for the comfort of the building occupants or the protection of valuable property, while exposed to a wide variety of climatic conditions.

The old adage "out of sight, out of mind" is often applicable. While most other building elements are subjected to some measure of maintenance, roofing is usually neglected until penetration of water warns of problems. Recently however, roofing has become the subject of more intensive study in the interests of improvement in architectural design and construction.

Architects, builders and roofing material manufacturers are generally familiar with the necessary design and construction precautions that assure good roofing application. Despite this general knowledge of techniques and problems, however, failures have been all too common in recent years. It is the purpose of this Digest to set down in a general way the factors that affect the design and service life of gravel surfaced built-up roofing of the "hot application" type for flat or nominally flat roofs. Individual factors and roofing problems will constitute the subject of subsequent Digests.

Built-up Roofing Materials

A built-up roofing consists of plies or layers of roofing felt bonded together on site with hot bitumen. It is laid down to conform to the roof deck and to seal all angles formed by projecting surfaces so that it constitutes a single-unit flexible waterproof membrane. The simple principle for flat roofs is to turn the membrane up to make a skirting or base flashing on vertical surfaces in order to form a large water-

tight tray. The only outlets from this tray are the roof drains or scuppers to dispose of water.

Roofing felt consists of a mat of organic or inorganic fibres, impregnated or saturated and sometimes coated with bitumen. The most common are the organic rag felts made from wood fibre pulp to which is added scrap paper and a small percentage of rag. Inorganic asbestos fibre felts have also been in use for many years, and more recently glass fibre mats.

Bitumen is a generic term describing any native mixture of heavy hydrocarbons in viscous or solid form; in the roofing industry it indicates either asphalt or coal-tar pitch. In the solid state these materials appear alike, but their characteristics are somewhat different. Most of the asphalt used in Canada as an impregnating and waterproofing agent in asphalt roofing products and built-up roofing is the residue of petroleum distillation, with some refinement to achieve desirable properties and a range of softening points. Asphalt in its natural state is also found in some parts of the world in large solid deposits called lakes. Coal-tar pitch is produced by distilling crude tars derived from the coking of coal. The cold flow properties that contribute to its excellent self-healing properties prohibit its use on other than low slopes. Low melt point asphalts are used on low slopes, and higher melt point asphalts can be used on much steeper slopes. Consequently asphalt has a much wider range of application.

Roofing felts are described as asphalt or tarred felts depending on the saturating agent used in their manufacture, and are used with asphalt or coal-tar pitch respectively to build up a waterproof membrane. The waterproofing properties of the membrane depend on the

existence of continuous films of bitumen. It is the function of the felts to stabilize and prevent rupture or flow of the bituminous films, and generally to strengthen the roof covering. Saturated felts absorb water and are subject to deterioration without additional bituminous waterproofing.

The most commonly used surfacing materials are gravel and slag of sizes from $\frac{1}{4}$ to $\frac{1}{2}$ inch. Other suitable surfacing materials are marble chips, crushed brick chips, crushed volcanic rock, crushed limestone and crushed asbestos rock. The material must be clean, hard, free of dust and light in colour to be satisfactory. It acts as a protective dressing to limit the destructive action of the solar rays on the bitumen, to keep the felts and underlying structure cooler in sunny weather by reflection in order to minimize thermal movements, and to provide weight to prevent felts from lifting in high winds. Its specified sizing is important in obtaining complete coverage; if too large, gaps may result between gravel units, and if too small, the surfacing may be easily dislodged and blown off.

Roofing Specifications

Stimulated by the trend towards one-story buildings, particularly in the industrial and commercial field, an increasingly large variety of roof deck types have come into use over the past thirty years. Prior to this, wood roof decks and cast-in-place concrete decks predominated. A five-ply built-up membrane developed for wood decks was one of the earliest standard specifications. It consists of a layer of sheathing paper and two plies of dry felt nailed to the deck to secure the roof covering and prevent bitumen drippage through the wood joints. Additional plies of felt are applied in alternate layers of bitumen and felt, with a heavier pouring of bitumen on top, into which is embedded a light coloured gravel or slag.

Sheathing paper and dry felts are not required when this type of roof covering is applied to cast-in-place concrete roof decks. One layer of felt is dispensed with, but an extra layer of bitumen is necessary to secure the covering to the deck. This forms the standard four-ply built-up roofing.

Other specifications are modifications of the standard 4- and 5-ply specifications designed to meet varying conditions or to arrive at minimum specifications for roofing with reduced life expectancy. The factors to be considered in developing a specification are (a) slope; (b) type of roof deck, whether a single

unit or assembled units; (c) nailability of the roof deck; (d) presence of insulation and vapour barriers; (e) expected life of the membrane.

It is very important that sufficient slope be provided to avoid standing pools of water. The combined attack of water or ice and sunshine on the membrane is a much greater hazard than either element alone, and it is believed that deterioration is accelerated accordingly. Slopes of less than $\frac{1}{4}$ inch per foot are considered undesirable, and even with this slope considerable care is necessary in the construction of the deck and membrane to avoid ponding of water. Coal-tar pitch or asphalt are considered satisfactory for slopes from $\frac{1}{4}$ to 1 inch per foot. On lower slopes where there is danger of ponding, coal-tar pitch is usually considered slightly superior because of its better self-healing properties during long service and its better resistance to oxidation by air and to the effects of light and water. On roof decks with slopes of 1 to 3 inches per foot, the "steep" or higher melt point asphalts should be used. It is not considered good practice to use asphalt gravel surfaced roofs on slopes in excess of 3 inches per foot, because the surfacing has a tendency to slide or be blown off. Smooth surface asphalt roofing or mineral surfaced asphalt roof coverings are considered the better choice for such applications.

The broad classification of deck types with similar problems can be made as follows: (a) wood, (b) steel, (c) cast-in-place concrete, (d) cast-in-place materials such as gypsum and perlite, vermiculite or other lightweight concrete, (e) nailable precast units, (f) non-nailable precast units. With any of these decks, the following items need consideration: 1. The roofing system, herein considered to include the roofing membrane, and the insulation and vapour barrier if used on top of the deck, must be fastened to the deck by nailing or cementing with bitumen to prevent uplift. 2. When the deck consists of assembled units, bitumen drippage through the joints must be prevented. 3. Excessive deflections during construction and in service can overstress and cause rupture of the roofing. 4. The moisture absorption property of the deck requires particular consideration, since construction moisture and moisture vapour accumulation owing to high humidity within the structure may affect the roofing. 5. Deck surfaces must be smooth, with no high or low spots.

To achieve better thermal resistance the majority of roofs are insulated. A variety of

insulation materials are available, including wood fibre, glass fibre, cork, foamed glass, plastic and cast-in-place lightweight materials. Design decisions regarding insulation must take into account its strength, stability, moisture characteristics and compatibility with adhesives or nailability for fastening. Moisture in the insulation either from construction or from water vapour condensation can have a very serious effect on the roofing system.

The inclusion of a vapour barrier to prevent penetration of water vapour into the insulation from the inside is required for most building types; it is particularly necessary for buildings carrying moderate to high relative humidities. When a vapour barrier is used, careful construction is essential to avoid trapping moisture in the roofing system. The vapour barrier is usually fastened to the deck with adhesives or bitumen, the insulation to the vapour barrier, and the built-up roofing membrane fastened with bitumen to the insulation. Compatibility of the materials and adhesives is an important design consideration.

There is often unnecessary and improper placing of mechanical equipment on roofs. If building space is so valuable that such equipment must be placed on the roof, it is extremely important that the proper type of structural platforms be detailed for the equipment to stand on. Structural platforms should be supported on round pipe columns, which can be more easily and effectively flashed than H-columns, and should be high enough above the roof to allow the proper installation of the roofing. Where there is no alternative to carrying structural members through a roof, or where it is necessary to provide structural anchors for equipment mounted on the roof, a pitch pan or pitch pocket is the most satisfactory means of waterproofing around such penetrations, although this involves additional inspection and maintenance.

The necessity for roof expansion joints depends on the size and design of the building. It is generally accepted that on any long building, an expansion joint should be provided at each junction of the main portion of the building with a wing, and on the main portion if any dimension exceeds 150 feet. To be fully effective the building has to be deliberately separated into sections by expansion joints from foundations up through walls and roof. Considering the roofing by itself, it is desirable to provide an expansion joint at each change of joist or roof direction.

Application

Since saturated felts pick up moisture fairly readily, the bottom ply for nailable type decks

should be a coated base felt. During construction most decks are likely to retain moisture from overnight rains, frost or dew, or may contain some moisture from incomplete curing. The use of coated base felts is a good safeguard against wrinkling of the membrane. For wood decks the coated base felt is nailed to the deck, instead of the sheathing paper and dry felts normally used, and three plies of felt are laid down with bitumen to complete the roofing membrane. All absorptive materials, including the saturated felts, intended for use in the roofing system should be stored under cover and weather-proofed as soon as they are laid on the roof. Vagaries of weather, the demands on roofers to apply roofing irrespective of weather, and the increasing amount of winter construction, all seem to indicate a need for roofing under protective cover such as is used for other phases of building construction.

Lack of sufficient bituminous material has contributed to many roofing problems. A solid uniform film of bitumen between plies of felts is essential, and to achieve this approximately 25 pounds per square (100 sq ft of roof area) of coal-tar pitch or 20 pounds of asphalt are required. The top coating of bitumen must be considerably heavier to provide proper protection for the underlying layers and to allow for embedment of the surface material. The top pour should not be less than 75 pounds per square of coal-tar pitch or 60 pounds of asphalt.

A double pour top coating is desirable on the lower pitched roofs. It is accomplished by embedding approximately 200 pounds of gravel in a top pour of 50 pounds of bitumen, and later repeating the operation with 300 pounds of gravel in 75 pounds of bitumen on a second pour. This gives added protection against standing water and melting snow and ice. The second pour can be placed after all other trades have finished their work over the roof, and provides an opportunity to check for possible damage during construction.

Overheating bitumen during application can completely destroy the excellent waterproofing qualities that manufacturing quality control endeavours to ensure. The temperature range for coal-tar pitch is 325 to 375°F; under no circumstances should it exceed 400°F. The corresponding range for asphalt is 400 to 430°F with an absolute limit at 450°F. Below the minimum temperature there is a loss of application workability and cementing action. Above the maximum temperature the materials lose valuable oils by distillation, and only a thin film is formed in application that cannot provide adequate cementing action.

Proper and complete adhesion between plies is essential if blistering problems from trapped air and vapour are to be avoided. This can be assured by solid mopping of the roofing plies with bitumen at proper temperature, application by brooming down of the felts without delay, and avoidance of creases and folds in the felts during application.

Careful attention should be given to interruptions in the roof surface at parapets, penthouses, vents, pipes, chimneys and drains, and these should be detailed on drawings and described in specifications. Bends in felts, required to make base flashings, must be supported with cant strips. Base flashings should extend a minimum of 8 inches above the level of the deck and should be protected at the top edge with metal counter flashing. Since there is danger of rupture from movements between vertical and horizontal surfaces, base flashing should not be fastened directly to vertical surfaces such as parapet walls. If an 8-inch wide board is placed behind the cant strip, contacting the vertical surface but not fastened to it, the base flashing can be nailed and cemented to the board. The top edge of the board and the base flashing can be covered by the counter-flashing attached to the wall. Through-wall flashings in masonry walls extending above the roof must be provided and carefully detailed to act in conjunction with counter-flashings. Unless such flashings are provided, water can penetrate underneath the counter-flashing and the roofing membrane. Drains extending through the roof should be provided with expansion joints directly below the roof level since they are exposed to both inside and outside temperatures. The provision of adequate detailing and clear specification of roofing and plumbing trade responsibility is essential.

Durability

It is generally accepted that a bitumen and felt built-up roofing, when properly applied, can be expected to last for many years, and this life can be increased considerably by adequate maintenance. Unsatisfactory service and early failure are usually the result of incorrect use of materials or lack of necessary precau-

tions in design and application. Inadequate provision for drying shrinkage, thermal changes of the roof substructure and creep deflections may cause the membrane to be stressed beyond its capacity and to crack or tear. Water trapped under or between the felts during construction or excessive amounts of condensation on the underside may cause blistering and ridging defects that rapidly deteriorate the roofing long before it suffers as a result of direct weathering.

In direct weathering, both asphalt and coal-tar pitch are subject to a slow process of oxidation. This is accelerated by heat and light from the sun, and some of the oxidation products are soluble in water. The long term effect of exposure to sun and the elements is a gradual loss of bitumen from the surface and eventually crazing and pitting. When moisture penetrates to the fibres of the felts, deterioration can take place rapidly. There is also a loss of flexibility on exposure and the membrane may become brittle. Traffic over old felts that are wrinkled or blistered can cause cracks where water may penetrate. Regular inspection and repair or resurfacing, however can frequently arrest deterioration and add many years to the useful service of roofing.

Conclusion

Construction of satisfactory built-up roofing is only possible if high standards are maintained in all phases of design and construction. Design requires a thorough consideration of the physical environment, the relationship of the roofing system to the structure, the component materials and their inter-relationship, as well as proper consideration of all design details. Construction requires a complete understanding of and strict adherence to proper techniques that include protected storage of materials, construction on dry roof decks during dry weather, correct bitumen application temperatures, solid mopping and thorough adherence of felts. Inadequate consideration of any of the above factors may negate perfection in the others since all contribute to the performance of the roofing system.

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

Editor, RAIC Journal,

I was impressed by Lewis Mumford's address on receiving the RIBA Gold Medal (Journal, Sept. 61) and his response to the fearful times in which we live. I was not equally impressed by the RAIC's response to the same challenge as I read it in the press: "Architects Offer Assistance to EMO".

There are more constructive steps we can take than burrowing holes in the ground. The menace of nuclear war will not be dissipated by making ever more elaborate and expensive preparations for it. Such efforts may even bring the Bomb closer by making us believe we can save ourselves from its effects.

As architects we are conscious of the rich fabric of man's physical accomplishments in history. Shall our role today be to acquiesce in the total destruction of these for the glory of conflicting ideologies which none of them have the complete solution to man's problems?

It is an appalling thought that our generation may have the arrogance to believe that its problems can be solved by sacrificing the civilization men have painfully created through centuries of struggle.

Nuclear war is the enemy of Canada as it is the enemy of all nations. To combat it, we must first make ourselves and others understand the actual nature of nuclear destruction. Then we must channel our skills, our energies and our money into activities which promote peace.

As architects we have a contribution to make to housing. Instead of setting our minds to the building of caves, we should turn them to the building of homes for the millions of people in the world who live in squalor.

Stig Harvor, Ottawa

Editor, RAIC Journal

In the course of a research study (tentative title: "The Competitors") of urban redevelopment competitions in the United States and elsewhere, I have sought with no success a copy of the Conditions of Competition for the Toronto City Hall and Square. Professor Eric Arthur of the University of Toronto informs me that 2,000 copies were printed, but none are now available at the normal sources. If any of your readers could dig up a copy as a contribution to my research, it would be deeply appreciated.

*Grady Clay, Research Associate,
1960-61
344 South Peterson Ave.,
Louisville 6, Ky.*

PRESIDENT URGES ARCHITECTS TO SUPPORT GOVERNMENT WINTER WORK CAMPAIGN

I welcome this opportunity of associating the Royal Architectural Institute of Canada with the excellent program which has been developed by the Federal Department of Labor and the National Employment Service in support of a national winter work campaign.

Members of the architectural profession may not be fully aware of the great strides taken by the Department of Labour during the past four years to stimulate wintertime construction by means of the Municipal Winter Works Incentive Program. This nation-wide project was designed to encourage municipalities and communities to create additional winter employment through carrying out needed public works jobs which would not be undertaken in the absence of the program. Federal Government payments to 2,163 municipalities last winter totalled an estimated \$35,923,000. The advantages to participating municipalities were: winter jobs for unemployed workers, availability of well qualified tradesmen, a ready supply of materials, earlier completion of municipal undertakings, savings in the cost of municipal projects, and the reduction of community welfare costs.

Included in the program is the construction, major reconstruction or renovation of municipal buildings. Because of the need to provide balance in our economy, members of the architectural profession throughout Canada recognize the desirability of developing building projects throughout the calendar year without regard to any threatened interference or stoppage by weather conditions.

As a result, the volume of wintertime construction has increased so that now more Canadians are employed in construction operations during the middle of the winter than were employed during the middle of the so-called "building season", a dozen years ago.

Technological changes in the building industry and substantial improvements in winter building techniques now make it both possible and practical to carry on most types of construction throughout the winter, even under severe cold weather conditions.

Architects can make a substantial contribution to the winter works program by counselling owners that construction can be carried on in the dead of winter without any sacrifice in quality of construction or any significant addition to overall costs.

Harland Steele, President, RAIC

RAIC-CMHC Committee Plans Two Day Housing Conference in 1962

Meeting at Central Mortgage and Housing headquarters in Ottawa on November 24, members of the RAIC-CMHC Joint Committee on Housing reviewed five recommendations from the 1960 Residential Environment Report which still require implementation, and laid tentative plans for a two-day housing conference to be held in Ottawa during September 1962.

Provincial Associations are now being asked by the Chairman, James A. Murray (F) Toronto, to submit a year-end report on activities developed locally to implement certain of the major proposals in the Committee of Inquiry report.

Attending the meeting in addition to the Chairman were, James Strutt, Ottawa; Ian MacLennan (F), Humphrey Carver, Andrew Hazeland, E. D. Fox (Committee Secretary), all of CMHC, and Robbins Elliott, RAIC Executive Director.

Architect-Engineer Delegation Offers Emergency Measures Aid

A Joint Architect-Engineer delegation visited the Prime Minister in Ottawa recently to offer the services of the two professions in the face of a worsening international situation, and amid current demands to develop effective emergency measures in all Canadian communities.

Harland Steele (F), Toronto, RAIC President, and W. L. Wardrop, Winnipeg, President of the Canadian Council of Professional Engineers, led a small delegation to discuss with the Prime Minister the fostering of closer collaboration between the Federal Emergency Measures Organization and the architectural and engineering professions in developing plans to meet any national crises. The two national associations advocated the formation of an advisory committee of senior architects and engineers to work closely with government planners in helping to implement measures calculated to protect the public against the threat of nuclear fallout.

The proposal developed from the autumn meeting of the National Joint Architect-Engineer Committee comprising four architects from the Royal Institute and four engineers from the Canadian Council of Professional Engineers. The Committee was formed in January 1960 to develop a better understanding and appreciation of the scope of the architectural and engineering professions, and develop improved relations at all levels between the two professions.

At the recent joint meeting R. C. Betts (F), Montreal, retired as Committee Chairman after serving for one year, and was replaced by W. L. Stanley, P. Eng., of Edmonton. Two RAIC members, C. A. E. Fowler (F), Halifax, and James Searle, Winnipeg, were appointed to the Committee, replacing retiring members H. L. Bouey (F), Edmonton, and Neil Stewart (F), Fredericton. Mr Fowler was named deputy chairman.

Massey Medals Exhibit to Tour US under Smithsonian Auspices

The 1962 Massey Medals for Architecture Exhibition will be seen in major cities in the United States following its Canadian tour. RAIC Headquarters in Ottawa has been advised by the Traveling Exhibition Service of the Smithsonian Institute in Washington that the Smithsonian will assume full responsibility, including financial, for a US Tour of the Exhibition during the period September, 1962 to January, 1963.

Catalogue "Best Seller"

A 1961 Massey Medals for Architecture Exhibition Catalogue, produced by the Institute in both French and English editions for circulation coincidental with the Ottawa opening of the Exhibition last November 2nd, is proving to be a best seller.

Newspaper columnist, Alan Jarvis of Toronto, writing in the Montreal Star, said:

"Here, at long last, is the book that so many of us have waited for. For those of us who are amateurs of Canadian architecture, and especially for those who are self-appointed critics, there has been a desperate need for visual aids.

"Now, for the price of one dollar, (the book may be ordered from the RAIC, 88 Metcalfe Street, Ottawa 4, Ontario) we may obtain one hundred illustrations of the best work being done by Canadian architects, together with very informative notes on the construction of the buildings, sometimes special notes on the client's special needs and sometimes there is a mention of price per square foot.

"This book, or booklet, registers in permanent form, for the first time, the work of the Massey Foundation in drawing attention to, and in commending by means of awarding medals, the best architectural work done in this country. It is one more example of the influence our former Governor-General and his associates have had on the Canadian scene.

"The Massey Medals have been awarded five times, and exhibitions of the selected work have travelled across Canada under the sponsorship of the National Gallery. This has meant that many thousands of people have seen these exhibitions and have informed themselves, biennially, of the state of architectural progress — or regress —

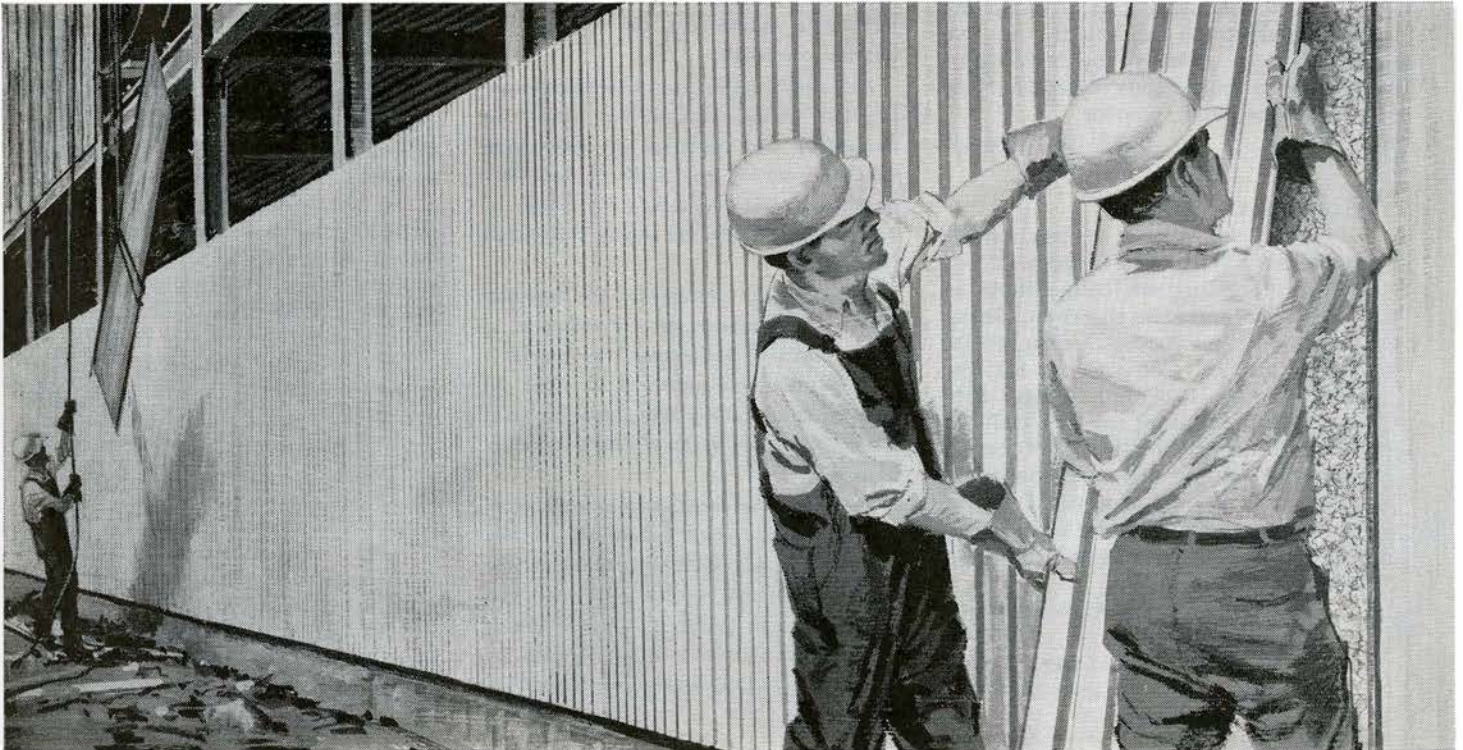
in Canada. This time, however, there is the possibility that many thousands more people may be able to enjoy a survey of the work of the past few years, for the incredibly modest sum of one dollar.

"Equally important, I read with delight in the foreword to this catalogue that the Canada Council, in co-operation with the Department of External Affairs, has bought 800 copies for distribution in countries abroad. I can think of few more effective means of projecting an image of Canada abroad, of the RAIC, who produced this book

"Robbins Elliott, Executive Director of the RAIC, who produced this book and Paul Arthur, who designed it, are to be congratulated on a long-needed work. In future I hope the editors will find room to print floor-plans, for in many cases the technical notes are incomprehensible without them and also that in the case of prize-winning buildings more than one photograph of it will be printed."

The catalogue was produced in a modest run of only 3,000 copies, of which 800 are being sent to a select list of organizations and individuals in countries abroad. In Canada, one architectural firm has already ordered 300 copies. Several dozen individual requests for single copies have been received at RAIC headquarters from interested members of the public.

STEEL for clean,



RAIC members who have not secured a copy should write to Ottawa without delay.

Cornell Scholarship Program

The Graduate Division of Architecture and Fine Arts of Cornell University, Ithaca, N.Y., has announced its 1962-63 program of Fellowships, Scholarships, and Assistantships. Financial assistance is available to qualified students for graduate studies in architecture, landscape architecture, city and regional planning, painting and sculpture. Applications, which should be directed to Dean Burnham Kelly, will be received until February 10th, 1962.

Information Wanted

Dr Eric Arthur, Editorial Adviser to the Journal, is preparing an illustrated article on paving and would welcome details of Canadian examples. Readers who have incorporated paving in recently completed projects are invited to send details to Dr Arthur, c/o The Journal RAIC, 600 Eglinton Avenue East, Toronto 12.

Positions Wanted

Architect in India, 18 years experience, last 14 as head of architectural organizations of three Northern Indian governments, seeks position in government or with private practice firm in Canada. P. J. Ghista, FRIBA, FIIA, The Mall, Patiala, India.

Erratum

The Journal regrets that the name of Fraser Watts of Toronto was inadvertently omitted from the architectural credits in the presentation of the 1961 Massey Silver Medal award to the Private Golf Course, Toronto, credited to Raymond Moriyama & Associates (*Journal*, Nov 1961, Page 66).

NEXT ISSUE

Economic Forecast
 A survey of 1962 prospects in the building and construction field, written for *The Journal* by Maurice Hecht, B Sc, M Sc, former Vice President, Research and Statistics, Montreal Stock Exchange and contributor to leading Canadian magazines on economic topics and forecasts.

Assessment of Architecture in Canada since 1945
 by John C. Parkin (F)
 An address to the US Society of Architectural Historians

Heraldry
 by Eric R. Arthur (F)

Nova Scotia

School of Architecture

The first school of architecture to be established in the Atlantic provinces was officially opened November 1 at the Nova Scotia Technical College by Premier Robert L. Stanfield, who is also minister of education. Other speakers at the opening ceremonies were Dr G. W. Holbrook, president of NSTC, John Darby, president of the Nova Scotia Association of Architects, and Professor Douglas Shadbolt, director of the new school of architecture.

Following the ceremonies a reception was held for the official party and later a dinner for members of the new school's advisory group. Members of the advisory group who were special guests at the opening included Professor John Russell (F), director of the School of Architecture, University of Manitoba; Dr Holbrook; Dr G. G. Meyerhof, head of the graduate studies committee, NSTC; Neil Stewart (F), president of the Architects' Association of New Brunswick and RAIC delegate; Charles A. E. Fowler (F), delegate of the NSAA; and Professor Shadbolt.

The school started operation September 14 with 12 students enrolled, representing St Mary's and Dalhousie

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Universities, Halifax; St Francis Xavier, Antigonish, NS; Acadia in Wolfville, NS; Mount Allison, Sackville, NB; the University of New Brunswick, in Fredericton; and Toronto and McGill Universities. The majority of the students are from the Maritimes, but two are from Central and South America and one is from Bermuda.

An exhibition of work done in the first six weeks of the school term was on display at the official opening.

The addition of the School of Architecture to the course at the Nova Scotia Technical College was approved in 1960.

From its inception, NSTC has operated in association with other universities in the Maritimes on a basis unique in Canada, whereby it offers only the last two years of the five year engineering courses and then graduate work, the students doing the first three years at the associated universities. Currently the college is associated with Acadia, Dalhousie, the University of King's College, Mount Allison, St Francis Xavier, St Mary's and Memorial University in Newfoundland — these institutions offer a uniform course in engineering covering the first three years.

The addition of the School of Architecture will be the first to change this pattern, as the college will accept students after two years at the associated universities in the engineering course, and provide four years of the six-year professional course in architecture.

The School of Architecture will add one year of the course to the curriculum each succeeding academic year,

which will put it in full operation by the 1964-65 session. The first graduates will appear in 1965, and the staffing of the school will anticipate eventual graduate work.

Accommodation has been provided for the School in the NSTC building, Spring Garden Road, and will be adequate for the first few years of operation. New equipment has been provided for the starting class and will be supplemented as the program develops.

Lester J. Page

Fall Meeting of the Nova Scotia Association

A seminar and panel on Maritime building products, a talk by the director of the new School of Architecture and a social evening for members, their wives and guests highlighted the fall meeting of the Nova Scotia Association of Architects, on November 17, in Halifax.

The morning session saw representatives of the Atlantic Provinces Economic Council speaking to the architects on Maritime Building Products. Among the panelists were: V. M. Knight, Nova Scotia deputy trade minister; K. G. Eisner of APEC building products committee; John A. Paterson, New Brunswick's deputy trade minister; A. F. Byers of the Maritime Lumber Bureau; James S. MacDonald of C. A. Fowler and Company, representing the architects; and E. J. Gillis of Gillis Company Ltd.

The theme of the session resolved that the Maritimes should do a little

digging themselves instead of sitting back waiting. Thumbnail comments included:

Mr Paterson—There was no scarcity of people producing building materials in the Atlantic area. Transportation costs for bringing materials into the area were high but many of these products could be produced here and probably would be as the population grows.

Mr Knight—Architects would save themselves and their clients money by suggesting to local industries building materials which they could produce here, thus effecting savings on freight rates at least.

Mr Byers—Maritime lumbermen were the world's worst promoters of their own products. The bureau is now engaged in a promotional campaign and architects could sympathize with and assist this program.

Mr Gillis—Architects and the supply industry will have to work in close cooperation to ensure that Atlantic industry is given first priority.

Mr MacDonald—Atlantic manufacturers must promote their own products and meet competition with price and standard.

Other comments: Tradesmen from other parts of the country could accomplish far more work in the same time . . . A lack of pride in their work noted among local craftsmen and deficiencies in trades training centres . . . Many manufacturers were finding a lack of money incentive among the labor force in this area.

At the luncheon, Professor Douglas Shadbolt, newly appointed director of the School of Architecture recently opened at the Nova Scotia Technical College, spoke on the function and operation of the school. *Lester J. Page*

Quebec

Formation d'un Institut d'Urbanisme à l'Université de Montréal

Au cours des derniers mois viennent de se conclure, grâce à la collaboration des Autorités du Gouvernement de la Province, principalement des Ministères de la Jeunesse et des Affaires Municipales, des Autorités des Facultés Universitaires intéressées ainsi qu'au support des différentes organisations professionnelles, les démarches visant à la création, à l'Université de Montréal, d'un Institut d'Urbanisme.

Cet Institut, relevant de la Commission des Etudes de l'Université, dispensera, dès septembre 1961, au niveau des Etudes Supérieures (post-graduées), un cours complet d'une durée académique minimum de deux ans, conduisant au grade de la Maîtrise en Urbanisme.

Accessible aux étudiants possédant un diplôme ou un baccalauréat en



Photographed at the opening of the new School of Architecture at Nova Scotia Technical College on November 1 were, left to right, Prof. Douglas Shadbolt, Director of the School; College President, G. W. Holdbrook; John Darby, Halifax, President of the Nova Scotia Association of Architects; and Premier Robert L. Stanfield. (Photo by Wamboldt).

architecture ou en urbanisme d'une université ou école reconnue, le B.A., le B.Sc. (Sciences ou Sciences sociales), la maîtrise en géographie de l'Université de Montréal ou l'équivalent de l'un de ces grades, le cours est destiné aux candidats qui désirent s'orienter dans la pratique privée, la recherche, l'enseignement ou l'administration publique.

Du Secrétariat de l'AAPO

NOMBRE ET QUANTITE constituent des facteurs dont il faut apparemment tenir compte dans la vie. Chinois et Russes à tour de rôle se sont repliés sur leur nombre pour finalement disposer de l'ennemi. Si le japonais et l'allemand qu'on proclame très intelligents s'étaient arrêtés un instant à songer qu'à chaque fois qu'un adversaire tombait dix autres relèveraient la tête pour leur faire opposition, ils n'auraient certes jamais entrepris leurs guerres-suicides. Se pourrait-il qu'il coule quelque sang japonais ou allemand dans les veines de l'AAPO, car elle est loin de faire fi du nombre, elle mesquine rarement sur la quantité; on pourrait même risquer d'écrire qu'en certains cas elle s'y complairait. Je m'explique.

Une petite enquête que le Secrétariat s'est permis de conduire récemment nous a apporté les chiffres suivants: vous lirez ci-après le nom de l'organisme professionnel suivi du nombre de ses membres, et, entre parenthèses, du nombre des membres de son Conseil ou Bureau de direction: Corporation des ingénieurs professionnels: 9,900 (8); Barreau de la Province de Québec: 2,500 (30); Barreau de Montréal: 1,600 (13); Collège des médecins et chirurgiens: 6,200 (21); Collège des chirurgiens-dentistes: 1,417 (Bureau provincial: 34; Conseil exécutif: 12); Collège des pharmaciens: 1,500 (15); Institut des comptables agréés: 3,018 (18); Ontario Association of Architects: 900 (9); Association des Architectes de la Province de Québec: 729 (16).

Un calcul rapide vous démontre que les deux extrêmes reviennent aux ingénieurs qui comptent un membre du Conseil par 1,200 membres, et à l'AAPO qui se paye le luxe d'un représentant par 45 architectes. La moyenne pour les dix groupements précités semble vouloir indiquer un administrateur par 100 professionnels. Les autres associations auraient-elles toutes tort d'avoir si peu de délégués à leur Bureau d'administration ou, posons la question autrement, l'AAPO serait-elle seule à avoir raison d'élire un Conseil si nombreux? D'aucuns répètent cepen-

dant que plus il y a de têtes autour d'une table, moins il s'accomplit de travail.

Q'on me permette encore de vous fournir d'autres chiffres, cette fois dans le domaine de nos Comités. Le nom du comité est suivi, entre parenthèses, du nombre des membres qui en font partie: Pratique professionnelle (22); Membres & Bourses d'études (14); Législation & règlements (15); Urbanisme (22); Publicité & Relations extérieures (17); Expositions (16); etc. Ce n'est un secret pour personne qu'à aucune des réunions de ces comités on atteint une représentation de 100%. D'autre part, un relevé que le Secrétariat a fait récemment nous a révélé entre autres que deux membres de l'Association font partie de 10 comités et que quelques autres font partie de sept, six, cinq comités, etc.

Inutile de dire que les nombreuses occupations de l'architecte l'empêchent d'assister à autant de réunions. Ce qui s'en suit est bien simple, c'est un manque de continuité. Lorsque, pour une raison ou pour une autre, un membre du Conseil ou d'un comité doit s'absenter d'une ou de plusieurs réunions, on doit à son retour le mettre au courant des décisions prises ou des modifications apportées en son absence. La même chose se reproduit lorsque M. Untel ne peut arriver à temps à la réunion; on reprend, par déférence pour ses titres ou tout simplement par politesse, la discussion qui a eu lieu avant son arrivée. Il s'en suit donc une perte de temps considérable qui risque à la longue de nous faire perdre le précieux concours d'hommes de premier calibre et sur le Conseil et sur les comités.

Un exemple typique de ce que j'avance s'est produit dernièrement: Un comité de quatre qui avait fort bien débuté et qui abattait de la bonne besogne a jugé bon de s'adjoindre à trois réunions successives un, deux trois autres experts. Vous pouvez imaginer vous-même qu'à chacune de ces réunions il a fallu refaire l'historique du chemin parcouru de façon à mettre les nouveaux venus au courant du travail accompli à ce jour.

Il faudrait toutefois se garder, et il ne s'agit pas ici, de jeter la pierre à ceux qui sont en autorité présentement. Bien souvent ils sont forcés, en plus de leur charge de membres du Conseil, de s'occuper de travaux de comités, contrairement à ce qui se pratique dans le monde des affaires. Serait-il de bonne politique, croyez-vous, pour un membre du bureau d'administration d'une compagnie de la moindre importance de tenir la comptabilité ou d'exécuter les travaux de routine de la compagnie?

C'est pourtant un peu ce qui se passe à l'Association. Dans le cas qui nous intéresse, vos membres du Conseil sont surchargés de travail; le nombre d'heures consacrées aux questions professionnelles est fantastique.

Il faut à tout prix qu'on en vienne à corriger ces anomalies et à repenser les structures et les cadres de l'AAPO. Un membre du Conseil, à mon avis, est un administrateur, et de ce fait ne devrait être appelé à assister qu'aux réunions du Conseil, et à la rigueur, à faire partie d'un comité tout au plus. L'article 70 des Règlements devrait, il me semble, subir des modifications. Il exige présentement que des comités à demeure, tels qu'Urbanisme, Bibliothèque & annuaire, Réceptions, Expositions, Oeuvres historiques et architecturales, aient comme président un membre du Conseil. Point n'est besoin d'affirmer que l'architecte le plus qualifié dans chacun de ces domaines ne siège pas nécessairement au Conseil.

De plus, si ce dernier juge insatisfaisant le procès-verbal qu'on lui présente à la suite des réunions de ces comités il n'a qu'à inviter le président du comité en question à une entrevue de 10 ou 15 minutes à la réunion suivante du Conseil pour lui fournir de plus amples renseignements sur les recommandations du comité.

Il faut également, et surtout, dégager les membres du Conseil d'avoir à discuter de dépenses dont le montant est secondaire. Bien que la Loi des architectes stipule qu'il doit y avoir un président, deux vice-présidents, un secrétaire et un trésorier honoraires, on n'a jamais pris le soin de définir les fonctions exactes de cet Exécutif. Il devrait jouir, je le propose, d'un statut légal défini et de devoirs bien précis. C'est lui qui devrait s'occuper des questions de pure administration et de finance, de façon à libérer le Conseil et lui permettre de ne s'occuper que de choses primordiales, c'est à dire la mise en oeuvre des objectifs de l'AAPO tels que définis à l'article I des Règlements.

Qu'on me comprenne bien; si je me permets de relever ces travers ce n'est pas dans le but de démolir, (je serais mal venu de le faire dans ma position) ni de critiquer simplement pour le plaisir de la chose, mais en vue d'accélérer le travail de nos comités et du Conseil, et de fournir aux membres en général les services qu'ils sont en droit de s'attendre de leur Association. Tout ce que je souhaite c'est que dans un avenir prochain on en vienne à étudier sérieusement les points que je viens de soulever et qu'on y apporte des solutions immédiates et ceci pour le bien de tous.

Jacques Tisseur

l'Association des Architectes de la Province de Québec

**Congrès et Assemblée Annuelle
Exposition d'architecture et des matériaux de construction**

Hôtel Reine Elizabeth du 8 au 10 février 1962

LE JEUDI FEVRIER 8 FEBRUARY THURSDAY

Réunion du nouveau Conseil; election de l'Exécutif — Salon Matapédia	10.30 am	Council Meeting — Election of the Executive — Salon Matapédia
Inauguration officielle de l'Exposition d'architecture et des matériaux de construction	12.00 pm	Official opening of the Architectural Exhibition and Trade Show
Déjeuner de l'industrie de la construction — Salle Duluth	1.00 pm	Building Industry Luncheon — Salle Duluth
Première séance d'affaires — Salle Jolliet	3.30 à/to 5.30 pm	First business session — Salle Jolliet
Inauguration officielle des nouveaux Bureaux de l'AAPQ	6.00 pm	Official opening new PQAA Headquarters
Cinéma — Salon Richelieu	9.30 pm	Film — Salon Richelieu

LE VENDREDI FEVRIER 9 FEBRUARY FRIDAY

Première séance d'études — Salle Jolliet	9.30 à/to 12.00 pm	First Seminar — Salle Jolliet
Buffet — Salle Duluth — Allocution des ancien et nouveau présidents	12.30 pm	Buffet — Salle Duluth — Addresses by outgoing and incoming presidents
Deuxième séance d'études—Travaux des Sociétés de Québec des Cantons de l'Est et du Saguenay — Lac-St-Jean — Salle Jolliet	2.00 à/to 5.00 pm	Second Seminar — Submission by the Quebec, Eastern township and Saguenay — Lake St John Societies — Salle Jolliet
Danse et soirée récréative — Salles Duluth et Mackenzie	9.00 pm	Dancing and entertainment — Salles Duluth and Mackenzie

LE SAMEDI FEVRIER 10 FEBRUARY SATURDAY

Dernière séance d'études — Conclusions et résolutions — Salle Jolliet	9.30 am	Final Seminar — Conclusions and resolutions — Salle Jolliet
Déjeuner annuel — Allocution de Jose Luis Sert, Doyen Graduate School of Design, Harvard University — Salle Duluth	12.30 pm	Annual luncheon — Address by Jose Luis Sert, Dean, Graduate School of Design, Harvard University — Salle Duluth
Dernière séance d'affaires — Affaires nouvelles — Salle Jolliet	2.00 à/to 5.00 pm	Final business session — New business — Salle Jolliet
Conférence de presse — Remise des résolutions à la Presse — Salon Matapédia	5.00 pm	Press Conference — Release of resolutions to the press — Salon Matapédia
Coquetel de clôture — Salle Mackenzie	5.30 à/to 7.30 pm	Closing cocktails — Salle Mackenzie

Province of Quebec Association of Architects

**Convention and Annual Meeting
Architectural Exhibition and Trade Show**

Queen Elizabeth Hotel, Montreal, February 8-10, 1962

l'Association des Architectes de la Province de Québec

On behalf of the Province of Quebec Association of Architects I would like to take this opportunity of welcoming all those manufacturers who will be exhibiting their products at the Queen Elizabeth Hotel, Montreal, on February 8, 9 and 10 during our Annual Meeting. We still have room for a few more exhibits and I suggest that those interested get in touch with Mr Jacques Tisseur, Executive Secretary of the PQAA as quickly as possible.

A great effort is being made to develop an interesting program and all Architects are urged to attend not only the meetings but also the Exhibition.

The exhibitors are subjected to considerable expense in renting space, setting up and staffing their booths and it is up to the Architects and members of their staffs to attend. They have been asked to exhibit material of particular interest to our profession and I am quite sure that the exhibition will be most informative. All other members of the building industry will also be more than welcome.

The exhibition will be officially opened about noon on Thursday, February 8th. Cocktails will be sold in the exhibition area followed by a Building Industry Luncheon. Mark it down on your calendars and plan to attend.

Peter Barott

Province of Quebec
Association
of Architects

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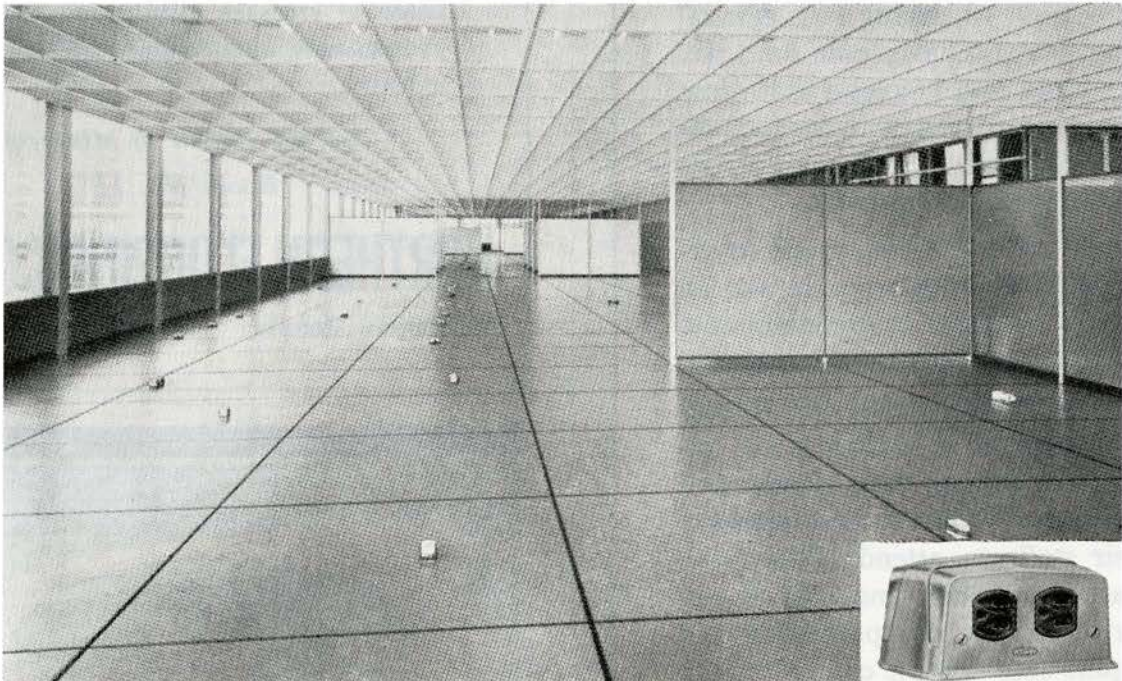
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List of exhibitors and booth numbers, PQAA trade show

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Ambassador Manufacturing Co.	[42]	Dominion Oilcloth & Linoleum Co. Ltd.	[11]
American Builtrite Rubber Tile Co. (Canada) Ltd.	[7]	Dominion Tar Construction Materials Ltd.	[58 & 59]
Arborite Co. Ltd., The	[9]	Dow Chemical of Canada Ltd.	[38]
Armstrong Cork Canada Ltd.	[13]	General Steel Wares Ltd.	[65 & 66]
Art Woodwork Limited	[51, 52 & 53]	Hobart Mfg. Co. Ltd., The	[25]
Atlas Asbestos Co. Ltd.	[41]	Hunter Douglas Ltd.	[47]
Bain & Dawes	[20]	International Nickel Co. of Canada Ltd.	[5 & 6]
Beer Pre Cast Concrete	[14]	Johl's Contract Corp.	[54]
Belcana Glass	[23]	Lasalle Builders	[33]
H. L. Blachford	[2]	Macotta Co. of Canada Ltd.	[4]
Building Products Ltd.	[63]	Metalworks Limited	[43]
Canada Flushwood Door Mfg. Co.	[49]	Natural Stone Co. of Canada Ltd., The	[17]
Canadair	[27 & 28]	New Castle Products (Canada), Ltd.	[10]
Canadian Armature Works Inc.	[29]	Nor-Ren Co. Ltd.	[8]
Canadian Pittsburgh Industries Ltd.	[15 & 16]	Northern Flooring Co. Ltd.	[11]
Canadian Steelcase Co. Ltd.	[61]	Otis Elevator Co. Ltd.	[56 & 57]
Canadian Zurn Industries	[60]	Porcelain Metals	[48]
Clerk Windows Ltd.	[62]	Rosco Metal & Roofing Products Ltd.	[19]
Collet, Paul & Co. Ltd.	[45 & 46]	E. T. Sampson & Co. Ltd.	[44]
Courtaulds Plastics	[12]	Standard Desk	[30, 31 & 32]
Crane Limited	[35]	Stow & Davis	[55]
Cresswell Pomeroy Limited	[34]	J. A. Wilson Lighting and Display Ltd.	[26]
Cweco Industries Ltd.	[18]	World Mosaic Inc. & Murals Ltd.	[36 & 37]
		Workwall Limited	[21]

PQAA Trade Show Products by RAIC-AIA File Numbers

RAIC-AIA major file divisions shown in bold type — 3
Exhibitor's booth numbers shown at end of listing — [54]

Prefabricated Buildings and Materials Used in Combination	17
17-A Exterior Wall, Floor, Ceiling and Roof Constructions and Accessories	
Tripanel — "Turnall" Asbestos-Cement	[41]
Atlas Asbestos Company Limited	
Tile, Terrazzo, Wallboards, and Miscellaneous Floor and Wall Finishes	23
23-C Electric Conductive and Sparkproof Floors	
Chemford 405 — Conductive Flooring	[2]
Furnane — Acid Proof Flooring	
H. L. Blachford, Limited	
23-D Plastic and Composition	[2]
Genuine Arborite — Plastic Laminate	
Arborite "Twin-Trim" — Moulding	
Arborite Edge Trim — Edging	[9]
The Arborite Company Limited	
23-G Miscellaneous Floor and Wall Finishes	
Tuflex — Live Rubber Flooring	[20]
Bain & Dawes Ltd.	
23-L Wall Boards, Plain and Decorative	
"Turnall" Asbestos-Cement Building Materials in Factory Applied Colors	[41]
Atlas Asbestos Company Limited	
Plastics	24
24-A Synthetic Plastics Adhesives	
Arborite Contact Cement	
Arborite Contact Cement Solvent	[9]
The Arborite Company Limited	
Paint, Painting and Finishing	25
25-D Decorative	
Situflex — Wall Covering	[2]
H. L. Blachford, Limited	
Furnishings and Interior Decoration	28
28-A-2 Furniture; Metal	
Premier Line & Design Trend — Office Furniture	[54]
B. K. Johl Inc.	
Electrical	31
31-C-62 Distribution and Transmission Systems; Wiring; Conduit, Raceways, Floor Duct, Knobs and Tubes	
Walker — Under Floor Ducts & Systems	[8]
Nor-Ren Company Ltd.	
31-F Illumination	
Smithcraft Lighting	[8]
Nor-Ren Company Ltd.	
Equipment	35
35-B Educational and Institutional	
Library Equipment	[54]
B. K. Johl Inc.	

35-H-5 Commercial; Display Cases, Shelving, and Selling Equipment	
Metal Shelving Equipment	[54]
B. K. Johl Inc.	
35-H-6 Commercial; Unit Partitions, Removable, Sliding, Rolling, Folding, Pre-Fabricated Enclosures and Stalls, Except Shower	
AlufRame & Premier Line — Moveable Partitions	[54]
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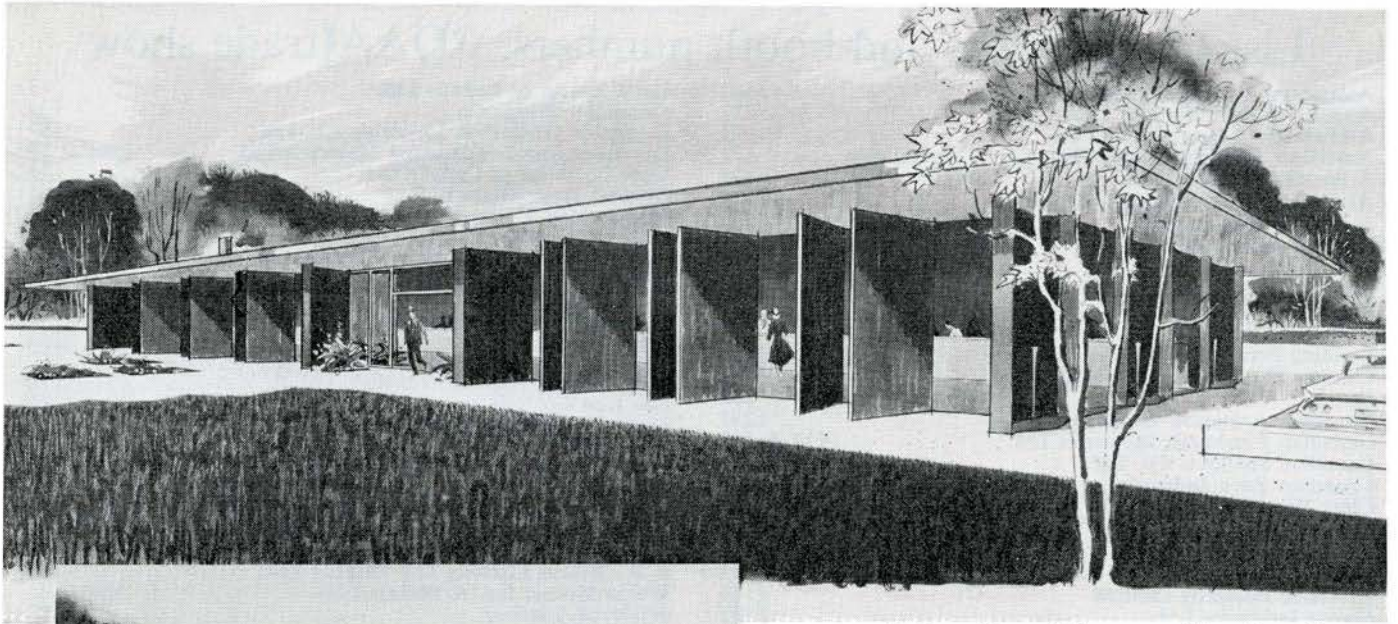
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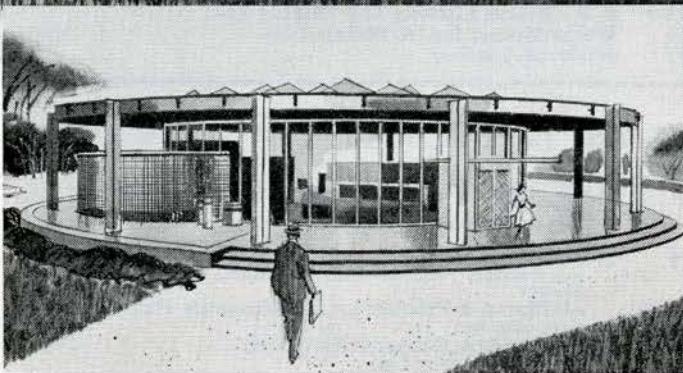
Award-winning branch bank designs accent wide use of nickel stainless steel

Exterior architectural components, interior hardware and ornamental accessories illustrate versatility of stainless steel in modern buildings

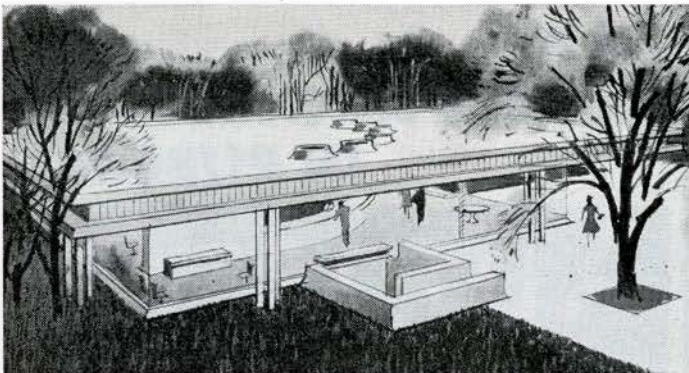
An all-Canadian branch bank design competition sponsored by the Stainless Steel Design Award Committee has produced some striking examples of contemporary architecture and industrial design featuring extensive use of nickel stainless steel. The competition is part of a continuing program aimed at fostering good design in Canadian stainless steel products.

The award-winning designs featured the use of stainless steel in such diverse applications as curtain walls, roofs, entrance-ways, window frames, furniture, fixtures, cashier booths, drinking fountains, drive-in service facilities, vaults, safety deposit boxes, door hardware and many other items.

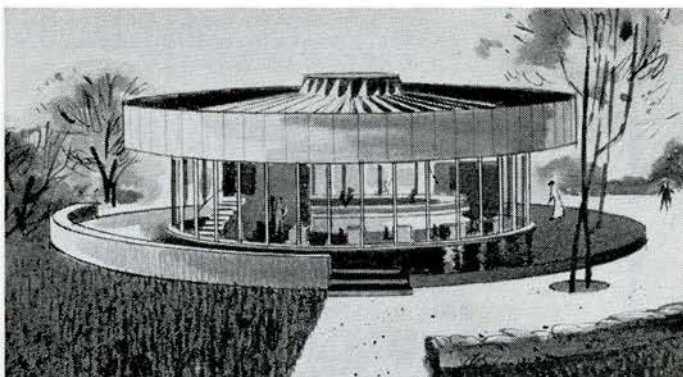
Nickel in stainless steel helps strengthen it, increases its resistance to heat and corrosion, makes it easier to form and fabricate into attractive and useful products for the home, for modern industrial and commercial applications. As the world's largest producer of nickel, Canada benefits from the increased use of nickel stainless steel throughout the world. And Inco through worldwide sales, market development and service activities has helped build world markets for Canadian nickel.



SECOND PRIZE: Architects J. A. Szarvas, A. G. Zimmerman and B. Meredith, Niagara Falls, Ont.



THIRD PLACE TIE: Architects McCarter, Nairne and Partners, Vancouver.



THIRD PLACE TIE: Architects Lipson and Dashkin and their associate, John Ensor, Toronto.

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Vital Information for every Architect



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1962 CONVENTION AND ANNUAL MEETING

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Addresses by
Louis I. Kahn Brock Chisholm Anthony Adamson

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Ontario Association Convention and Trade Show Program

THE 72ND ANNUAL CONVENTION and business meeting of the Ontario Association of Architects begins Thursday, February 8, with the official opening of the 1962 exhibits — the most comprehensive display of new building materials, techniques and student work in the association's history.

A buffet supper, with entertainment and refreshment, follows the exhibitors' reception. Ladies will have cocktails and dinner at the OAA building and go on to the O'Keefe Centre for "No Strings", the new Richard Rodgers musical.

After the announcement of new officers for 1962-63 at the convention's opening meeting Friday morning, members will organize into 10 discussion groups which will be an important feature of this year's convention.

Each group will investigate one of 10 significant topics (see Page 75) and there will be ample opportunity for member participation.

Members and ladies will be guests of the Toronto Chapter at lunch, where Anthony Adamson (F) will speak on "Some Observations on Certain Matters". Mr Adamson was general consultant to the Ontario-St Lawrence Development Commission and has been vice-chairman of the National Capital Commission since 1959. He was the designer of Upper Canada Village at Morrisburg.

The annual general meeting, Part I, takes place Friday afternoon. Louis I. Kahn, FAIA, will speak at dinner, to which ladies are invited. His subject is "Law and Rule for Architecture".

Mr Kahn was born in Estonia and came to the United States in 1906. Among many positions he has held since graduating from the University of Pennsylvania in 1924 are Consultant Architect to the Philadelphia Redevelopment Authority in 1939 and Resident Architect at the American Academy in Rome, 1950-51. He has lectured at various universities and has been Chief Critic of Architectural Design and Professor of Architecture at Yale. One of his most prominent designs is the Alfred Newton Richards Medical Research Building for the University of Pennsylvania where he has been Professor of Architecture since 1957.

Part II of the general meeting is Saturday morning. At luncheon, the Exhibitors' Awards to students will be announced, members and ladies will hear Dr Brock Chisholm on "New Dimensions in Responsibility".

Dr Chisholm, born and educated in Ontario, served overseas during World War I, where he was commissioned in the field as an infantry lieutenant. Between the wars, he practiced medicine, specializing in psychiatry, and commanded infantry battalion and brigades of the Canadian Militia. During World War II, he became Director-General of Medical Services with the rank of major-general. From 1948 to 1953, he was Director-General of the World Health Organization.

Author of three books, his most recent project is the Canadian Peace Research Institute which he founded with Norman Z. Alcock.

The annual dinner and dance Saturday evening follows the President's Reception.



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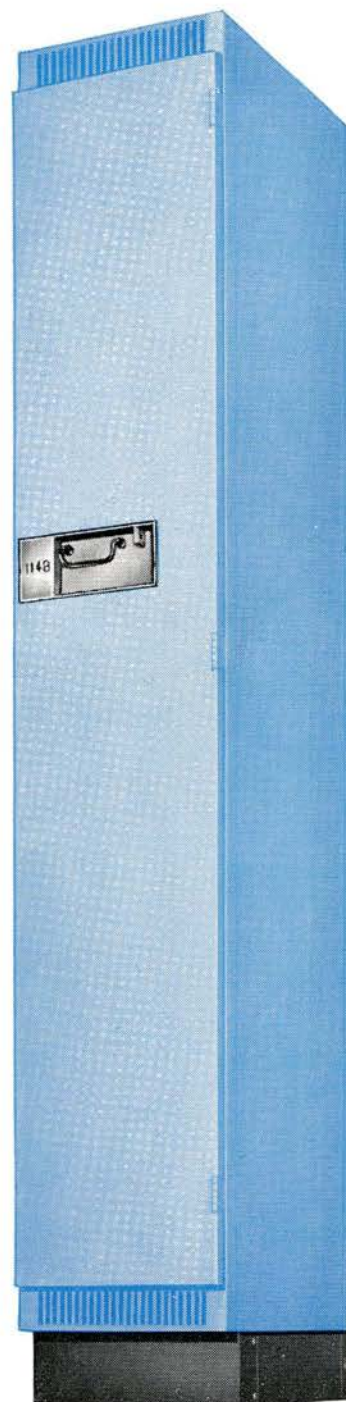


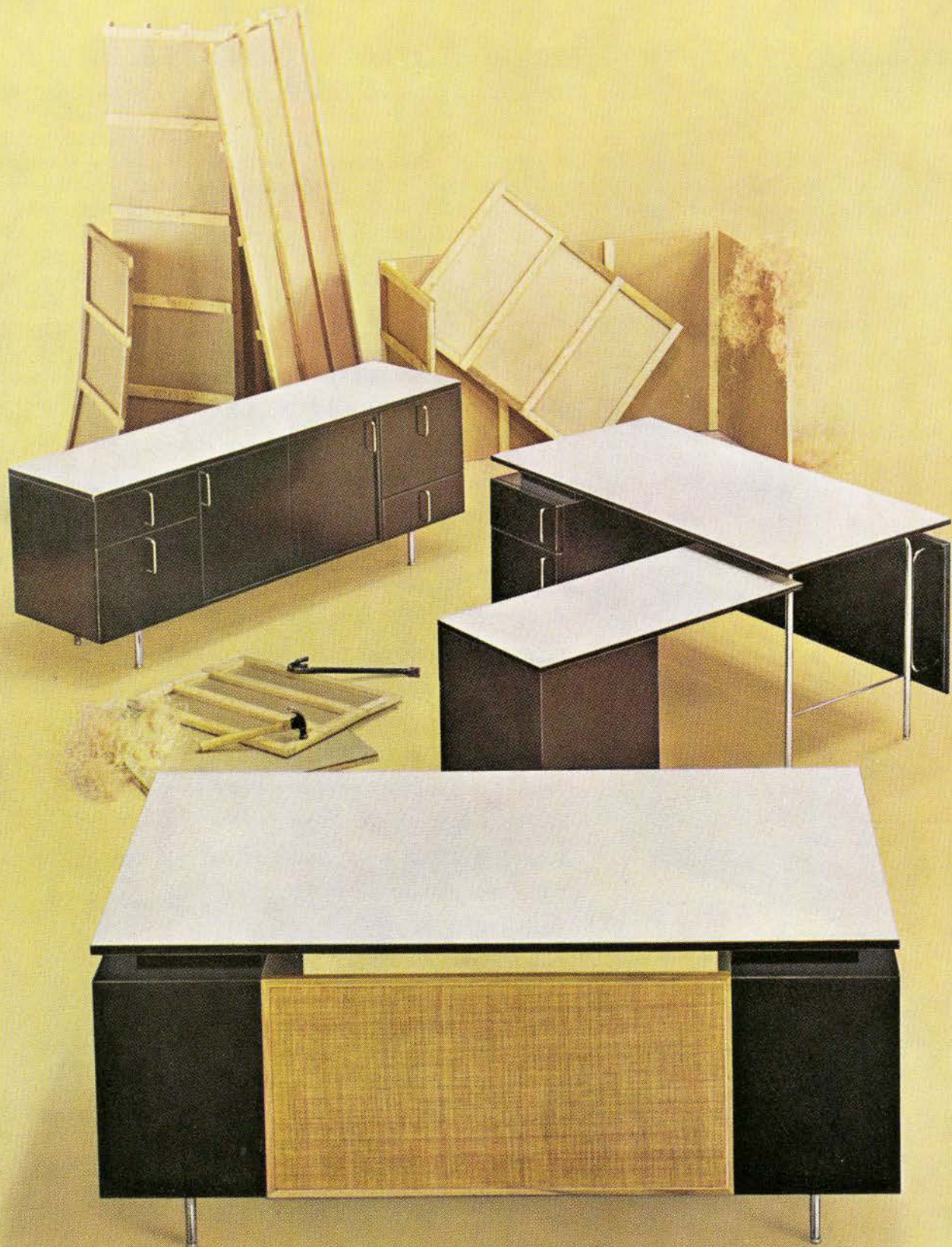
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Ten Discussion Groups Feature of 1962 OAA Convention

1 IT'S THE LAW

Client-Architect Agreements — Contracts and forms — Bid and Performance Bonds — Mechanics Lien Act — Release of Holdbacks — Final and Semi-final Certificates — Partnerships.

Chairman: Alvin R. Prack (F)
Discussion Leader: Marvin F. Allan
Consultant: W. D. S. Morden, QC

2 MANAGEMENT: OFFICE AND FIELD

Accurate preliminary estimates — Job Production Schedule — Standard procedures for dealing with owner, contractor and authorities — Progress and final Certificates for Payment — Field management, visits, reports, and job meetings.

Chairman: D'Arcy Helmer
Discussion Leader: W. G. Raymore (F)

3 ETHICS: PERSONAL AND PROFESSIONAL

Existing regulations and possible changes in controlling Professional Ethics — Public criticism and moral obligations to the Public — Anonymous alleged breaches of the Regulations.

Chairman: William E. Fleury (F)
Discussion Leader: Earle C. Morgan (F)

4 THE PUBLIC ARE CLIENTS, EDUCATE THEM FIRST

The Public Relations Program; Necessary or Not; It's Expensive — Responsibility of the Architect, Chapter and Professional Association for the implementation of the Program — Should the Public Relations Program be National?

Chairman: Wilson A. Salter
Discussion Leader: J. Stuart Cauley

5 THE CARE AND FEEDING OF CLIENTS

An Architect's best friend is his client. Why should we alienate his affections?

Chairman: Norman H. McMurrich
Discussion Leader: G. Everett Wilson (F)

6 PROFESSION AT THE CROSSROADS: ARCHITECTS' FEES

Partial Services, their moral and ethical implications — Contributions to clients who represent charitable organizations — The advisability of adopting a "sliding scale of fees".

Chairman: Warren M. Smale
Discussion Leader: John B. Parkin (F)

7 ARCHITECTURAL EDUCATION

A broad training for other careers — Technical Schools vs. Liberal Universities — Screening students prior to school admission — Financial Aid, apprenticeship and student salaries — Refresher courses — Is Formal Education Bunk?

Chairman: William A. Watson (F)
Discussion Leader: George D. Gibson (F)
Consultant: Thomas Howarth (F)

8 HOUSING OR HOVELS

House Building in Canada is a two-billion-dollar-a-year industry—Architects must work with builders if it is not to become a visual disgrace: — But How?

Chairman: Stirling Ferguson
Discussion Leader: Peter Dovell

9 FORMALISM IN DESIGN

Once "Form Follows Function", then "Form Follows Form". Is there to be no relationship between the exterior and content?

Chairman: Eric R. Arthur (F)
Discussion Leader: John C. Parkin (F)

10 DESIGN CONTROL: CORSET OR TASTEMAKER?

A thorny and difficult problem, more gray than black and white — What should the individual architect, the OAA, decide or adopt with respect to this problem?

Chairman: Lloyd D. Kyles
Discussion Leader: James A. Murray (F)



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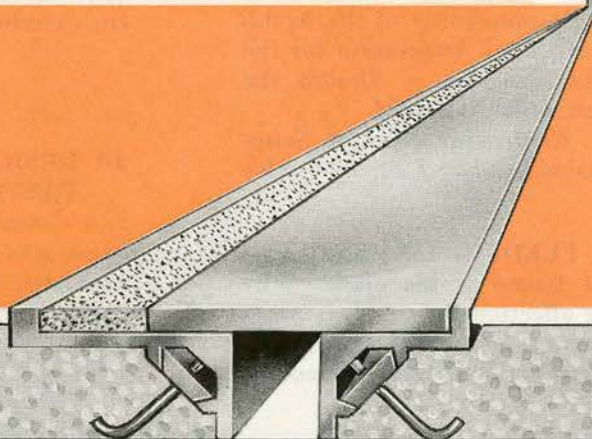
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Borden Chemical Company (Canada) Ltd., The	[66]	The Master Builders Company Limited	[28]
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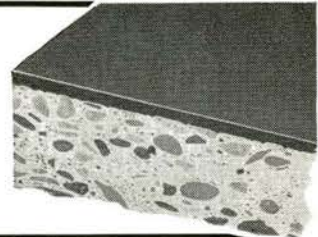
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V-Corr — Ceramic-coated Industrial Roofing and Siding [37]
Ceramel Industries Limited

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Dominion Aluminum Fabricating Ltd.
- 14-F Flagpoles, Metal**
DAF Flagpole [94]
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Prefabricated Industrial Buildings [39]
Dalite Corporation (Canada) Ltd.
- 17-A Exterior Wall, Floor, Ceiling and Roof Constructions and Accessories**
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Atlas Asbestos Company Limited
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(Continued on page 81)



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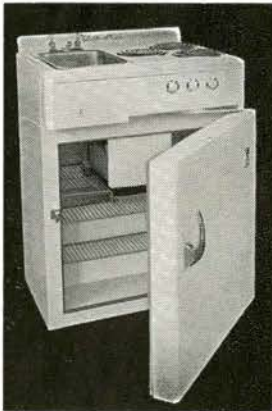
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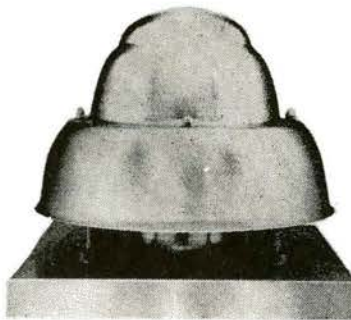
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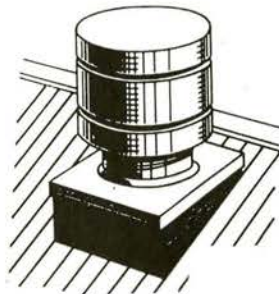
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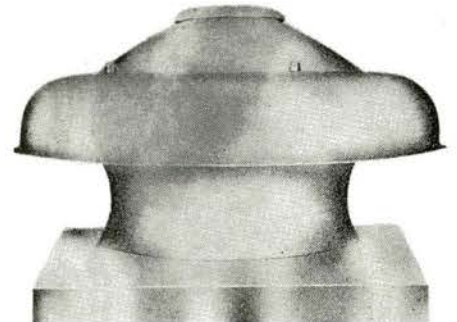
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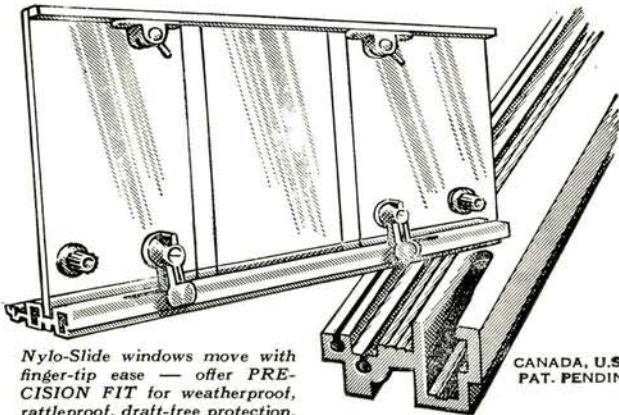
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19-E-92 Millwork; Flooring; Parquet Barwood Woodblock Flooring Barwood Flooring Canada Ltd.	[77]
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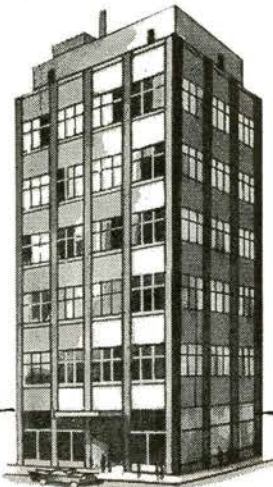
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Barwood BLOCK FLOORING

HARDWOOD BLOCK FLOORING

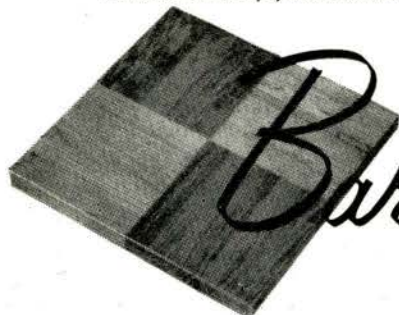
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INDUSTRY

Owing to the increasing number of new products, brochures and catalogues that are announced each month, the *Journal* has developed a new format for its Industry column. Listed below are brief news details classified under the headings New Products and Literature Received. Sufficient information is given to identify the subject only. For further details of the product referred to or copies of the literature listed, write or phone the manufacturer or distributor listed or the *Journal*.

New Products

Suspension system for quick installation of acoustic ceilings. Flangeklamp Corp, 1971 Abbot Road, Buffalo, N.Y.

Three pull down lighting fixtures in polished brass. C & M Products, 124 Crockford Blvd., Scarborough, Ont.

Vanity mirror, compartment and top. The F. H. Lawson Company, Bathroom Products Division, 801 Evans Street, Cincinnati 4, Ohio.

"COMBO" Sill and Threshold. Daymond Co. Ltd., Chatham, Ont.

Combination Towel Cabinet and Waste Receptacle. G. H. Wood & Company Limited, Box 34, Toronto 18, Ont.

Rubber expansion joint. Dominion Rubber Company Limited, Montreal.

Telefunken 707 Dictating Machine. Applied Business Systems Ltd., 23 Canmotor Ave., Toronto 18.

D5 Lighting Fitting. Rotaflex of Canada Limited, 609 King St. W., Toronto 2B, Ontario.

Vertical flue gas fired steel boilers. American Standard Products Canada Ltd., 1201 Dupont Street, Toronto.

Art Metal recessed and surface mounted — Lighting fixtures. Wakefield Lighting Limited, 644 Highland Road, London, Ontario.

Excel-Board Skylark and Fissurtex Acoustical Tile. Building Products Ltd.

Serene Protectone mineral fiber tile. Dominion Sound Equipments, Limited, 4040 St. Catherine Street W., Montreal.

Polyvinylchloride Waterstops. W. R. Meadows of Canada Limited, 96 Vine Avenue, Toronto 9, Ontario.

Quick Mount Closet Rod #1795. C. Hager & Sons Hinge Mfg. Co., 139 Victor Street, St. Louis 4, Missouri.

Fiberglas Prefinished Form Board. Owens-Corning Fiberglas Corporation, New York Office: 717 Fifth Avenue, New York, N.Y.

Josam "Leveloc" Levelling Bands. Josam Products Limited & Jerren Affiliated Companies, 130 Bermondsey Road, Toronto 16.

Equipoise Drafting unit. Department M, Charles Bruning Company (Canada) Limited, 37 Advance Road, Toronto, Ont.

J-M Rock Shakes, Asbestos-Cement Side-wall. Canadian Johns-Manville Co. Limited, Port Credit, Ontario.

Shepherd Casters 2" Spherical Supercaster. Shepherd Casters, Inc., P. O. Box 672, Benton Harbor, Michigan.

Literature Received

Color chart on 4" x 4" x 3/8" and 6" x 6" x 1/2" vitreous enamel floor tiles. St. Lawrence Ceramics, 280 St. Sacrement Ave., Quebec City.

Characteristics of natural white fluorescent lamps. Sylvania Electric Co. Ltd., 6233 Cote de Liesse, Montreal.

Recessed lighting fixtures catalogue of residential and commercial units. C & M Products Limited, 124 Crockford Blvd., Scarborough, Ont.

Catalogue No 113FG, describing a range of newly developed roof ventilators. Available from Canadian Armature Works Inc., 6595 St. Urbain Street, Mtl. 14.

Brochure on Alcoa Vynalate, a permanently bonded laminate of aluminum sheet and vinyl. Available from Alloy Metal Sales Limited, 215 Lakeshore Boulevard East, Toronto 2, Ontario.

A one page color chart describing full line of colored Fiberglass Housings for P. C. Fans. Bulletin No. FG-102. Dept. F, Davidson Fan Company, 213 California Street, Newton 54, Massachusetts.

Rotaflex Architectural Display Lighting Division, the first brochure in the Architectural and Display Lighting Range. Rotaflex of Canada Limited, 163 Church Street, Toronto 2, Ontario.

Brochure introducing Pyro-Pel Vapour Barrier and Pyro-Pel Adhesive. Available from Bishop Products Limited, Fleeceline Road, Mimico, Toronto 14.

Catalogue of Catalina commercial fluorescent lighting units, manufactured by C & M Products Ltd., Scarborough, Ontario.

A study by the Armour Research Foundation of Chicago on the shear strength of masonry control joint materials. Available without charge from Dur-O-wal, Cedar Rapids, Iowa.

Range of catalogues dealing with many aspects of Air Engineering. Available from American Air Filter of Canada, Ltd., 400 Stinson Blvd., Montreal 9, Quebec.

A new catalogue section from J. A. Wilson Lighting Ltd., on the Seagull industrial fluorescent lighting fixture. Available from J. A. Wilson Lighting Ltd., 280 Lakeshore Road, Toronto 14, Ontario.

Three informative 4-page folders describing different aspects of wood uses in house building, from the Canadian Wood Development Council, 27 Goulburn Ave., Ottawa 2, Ontario.

1962 Sanpan Catalog illustrating Sanpan Unitized Window Wall and Sanpan Classroom Window. Available through local Sanpan Representatives or Panel Structures, Inc., 45 Greenwood Ave., East Orange, New Jersey.



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March 12th to 15th, 1962

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March 20-22, 1962

Conference on Church Architecture
Sheraton Hotel, Cleveland, Ohio

March, 1962

Western Canada Conference on
School Architecture
Banff School of Fine Arts
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Architects

May 30th to June 2nd, 1962

55th Annual Assembly
Royal Architectural Institute of Canada
Bayshore Inn, Vancouver, B.C.

February 8th to 10th, 1962

Annual Meeting
Ontario Association of Architects
Royal York Hotel, Toronto, Ontario

February 8th to 10th, 1962

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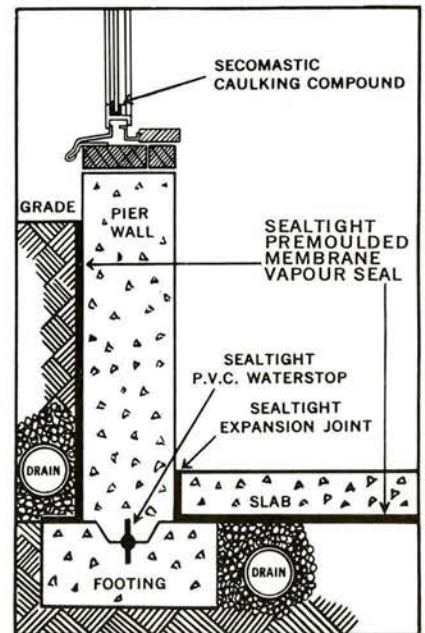
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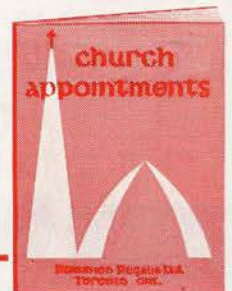
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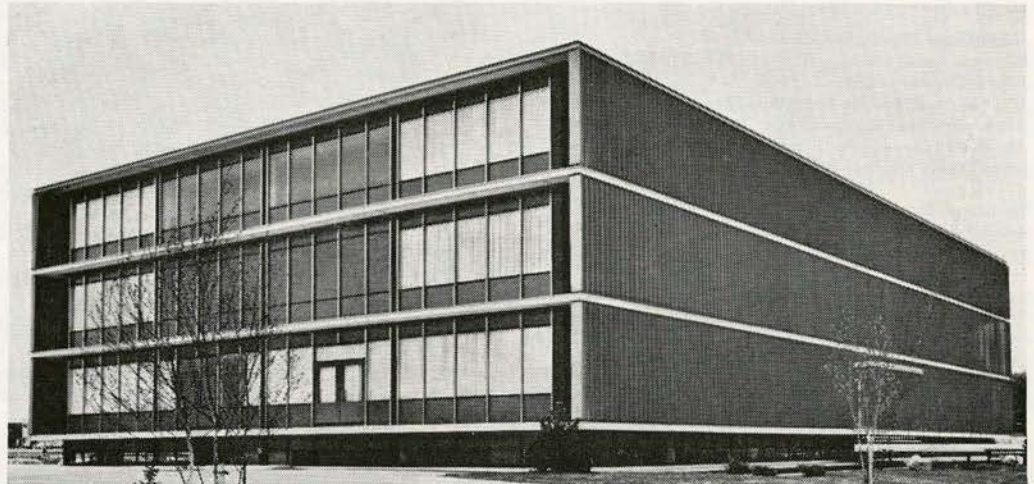
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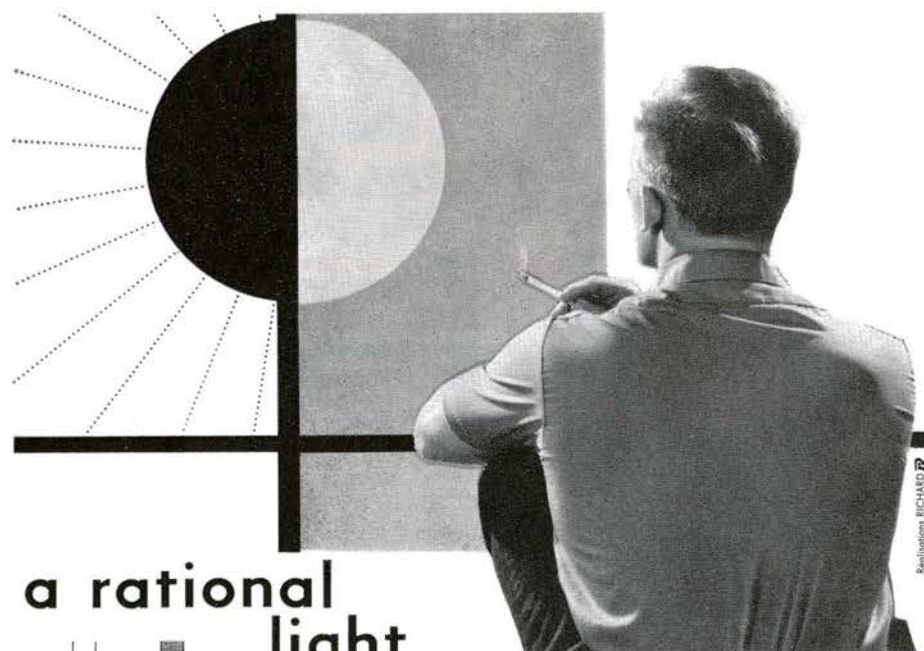


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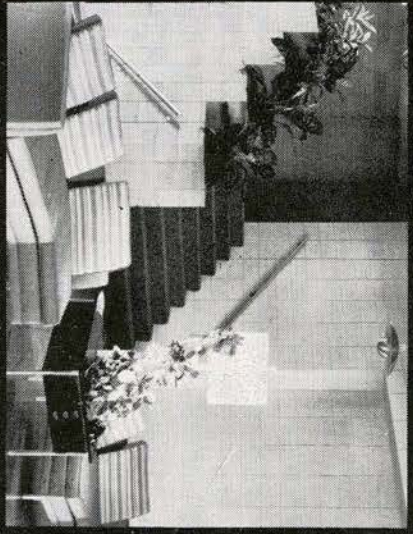
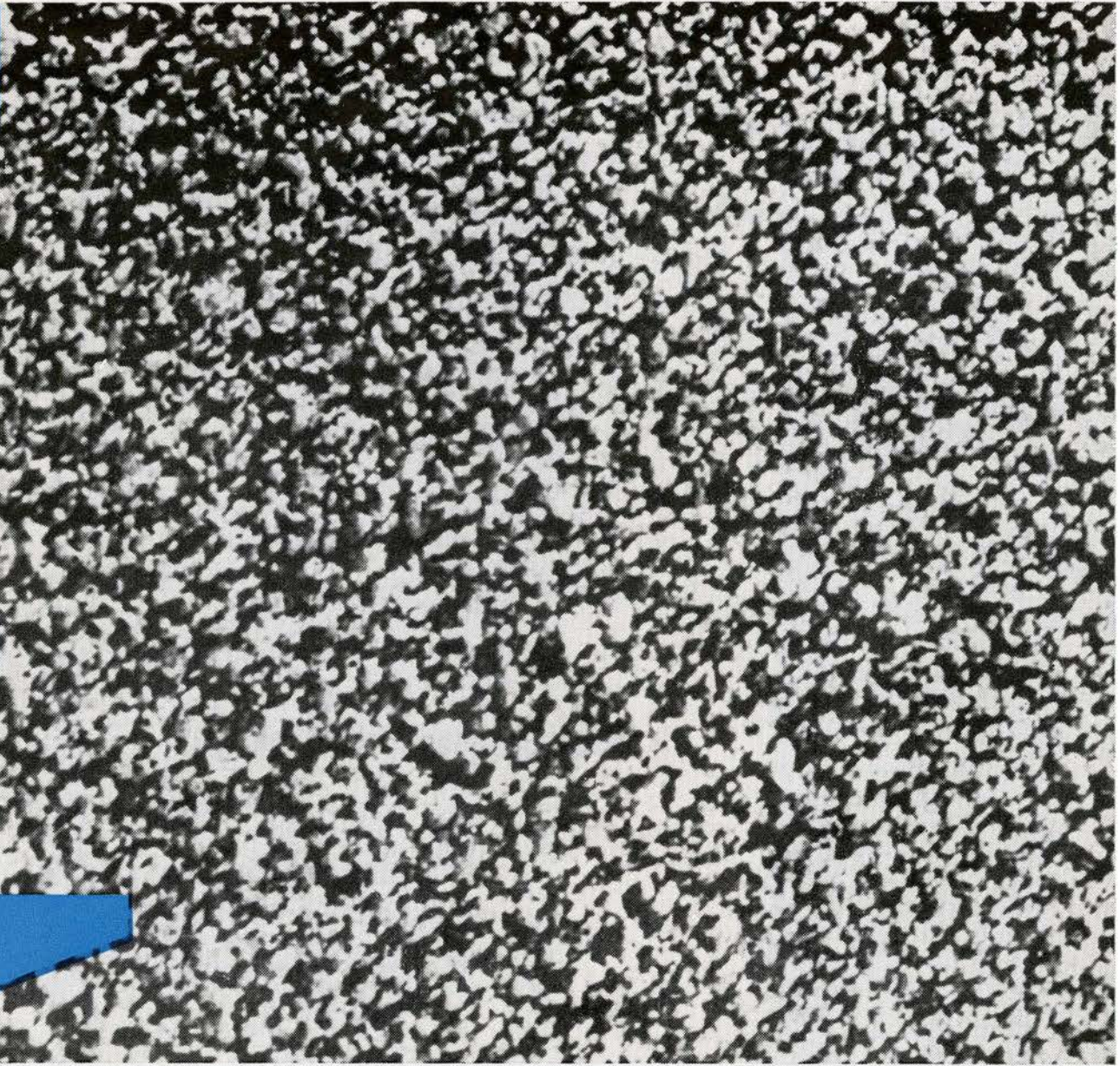


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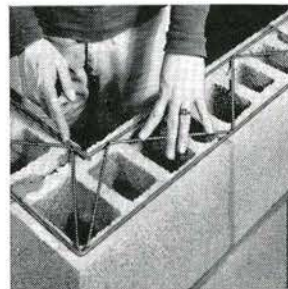
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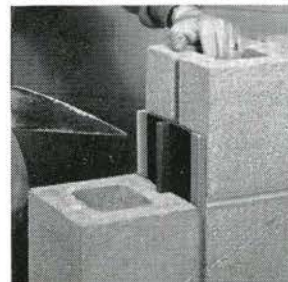
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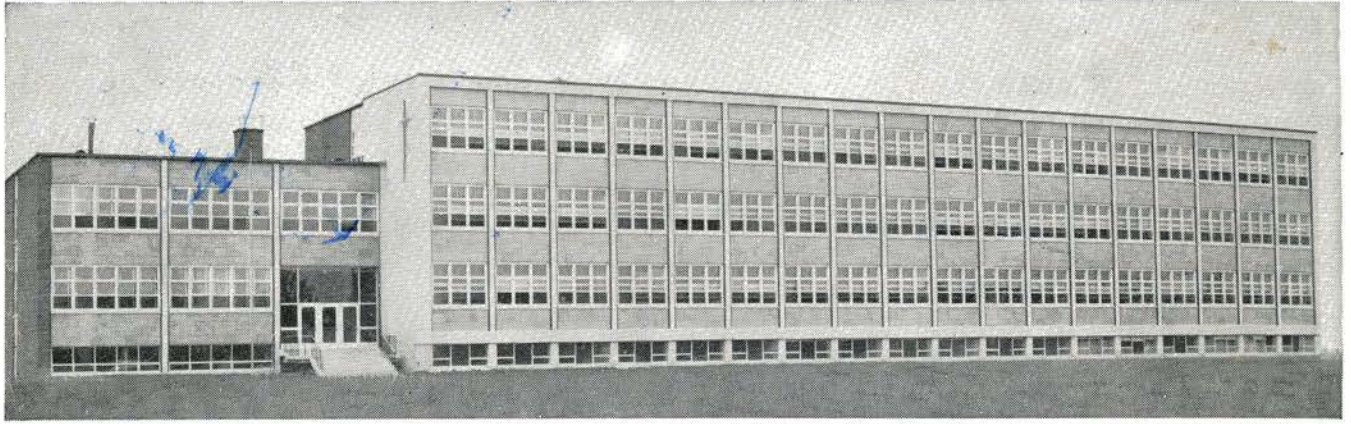
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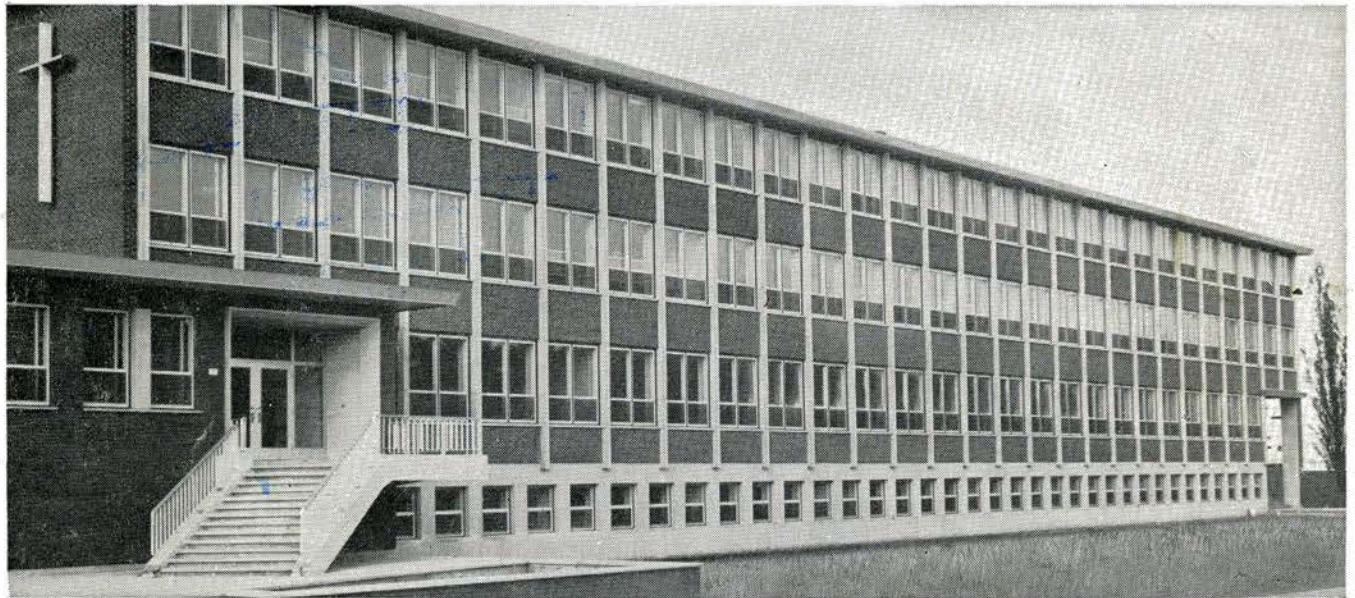
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