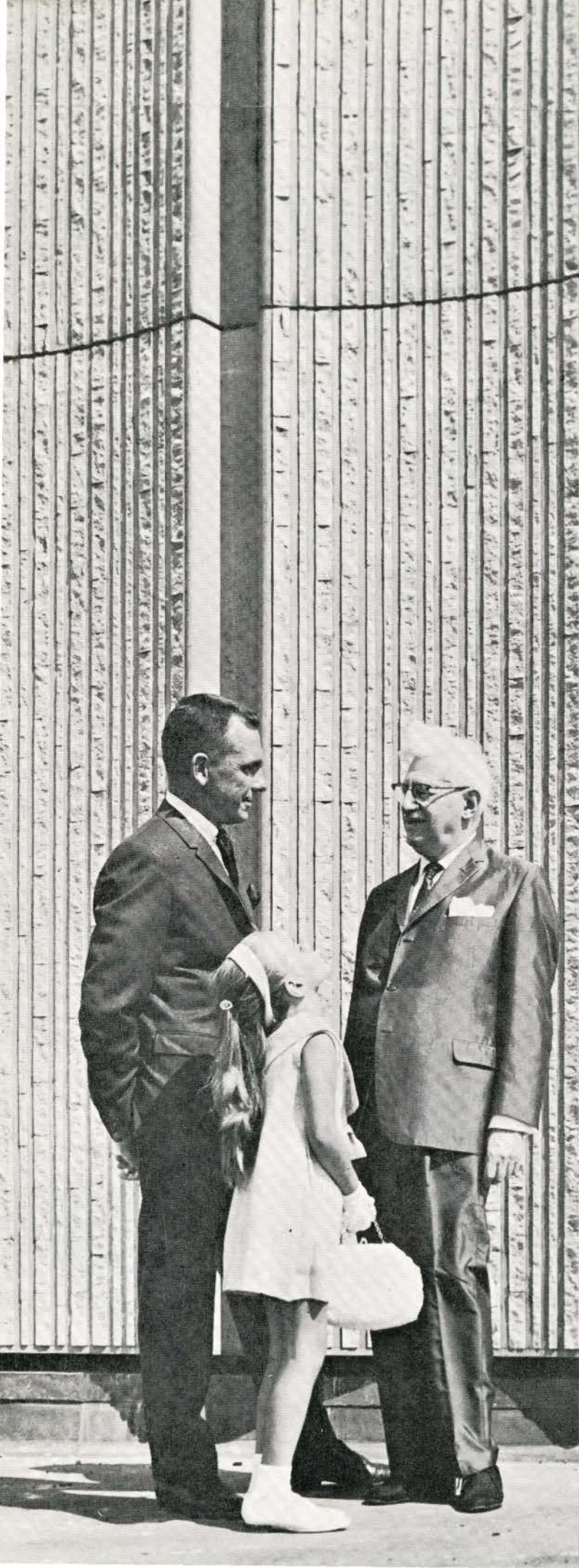


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JOURNAL RAIC-L'IRAC

DECEMBER 1965 DECEMBRE



20,000 TONS

OF PRECAST INGENUITY

Contract for the architectural precast concrete on Toronto City Hall and Nathan Phillips Square is the largest ever let in Canada.

Describing the work to former mayor Nathan Phillips Q.C., Beer Precast president Fred Beer comments:

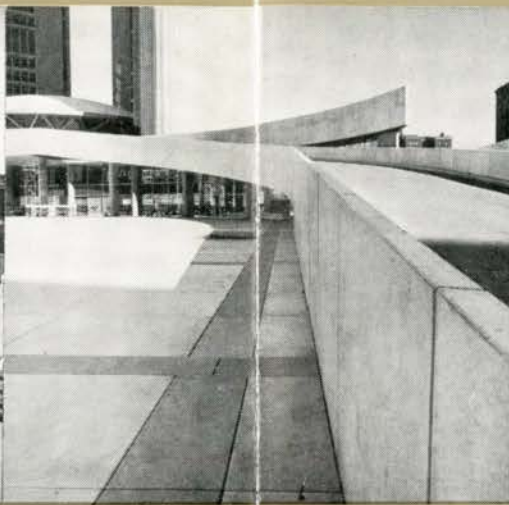
"It was fun—and rarely can you point with pride to such a satisfying contract. The magnitude of the job and exceptional co-operation of architects resulted in a number of design "firsts" such as the first major use of wall panels as part of form which has now become standard practice in the Toronto area. An invention to hold the thousands of pieces of marble in place during vibration of concrete and the use of precast pedestals to level discrepancies and provide drainage area for the underground garage also typify the ingenuity required for the job.

Architect's plans were approved and job quoted in August 1961. Extensive design and testing of precast concrete followed with production continuing from 1962 through to completion and erection in August 1965. Over 20,000 tons of concrete were required for the 5000 marble faced backwall panels, 2000 curtain wall panels, 5500 one and a half ton paving slabs, 3500 pavement pedestals, 2000 balustrade panels for elevated walkway and podium, plus 4000 precast units for items such as induction unit covers, channel slabs, handrails, curved seating and benches. We congratulate the architects and the city council for this monument to precast versatility and freedom of design."

F Beer



Precast pedestals supporting paving



Paving and balustrade



Precast stairway



Paving on Nathan Phillips Square



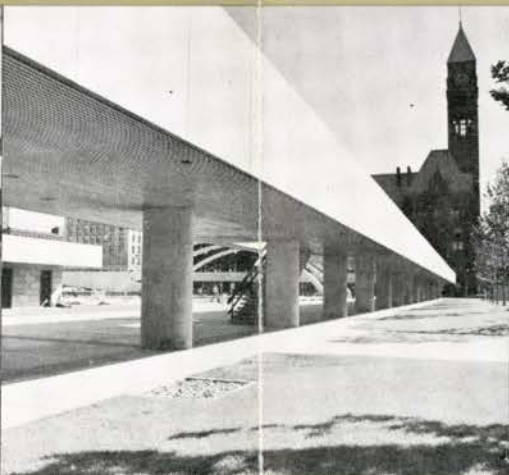
Precast struts on council chamber



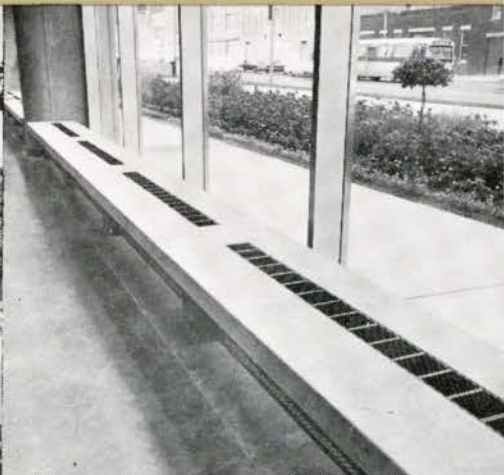
Spandrel and wall panels



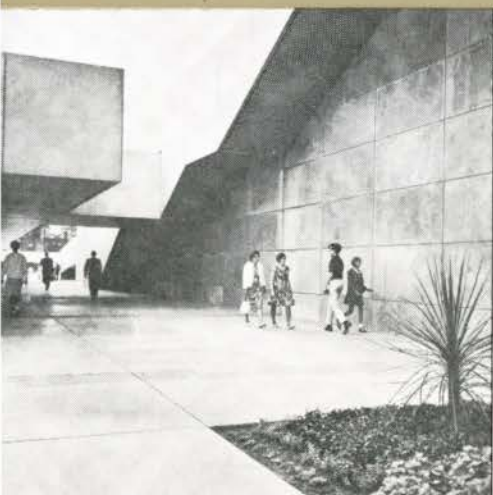
Duct covers and benches



Balustrades to elevated walkway



Precast induction unit covers



Podium wall panels and balustrade



Paving slabs



Pool house wall panels and fascia



TORONTO CITY HALL AND NATHAN PHILLIPS SQUARE • Architects: Viljo Revell—John B. Parkin Associates, General Contractor: Anglin-Norcross Ontario Limited

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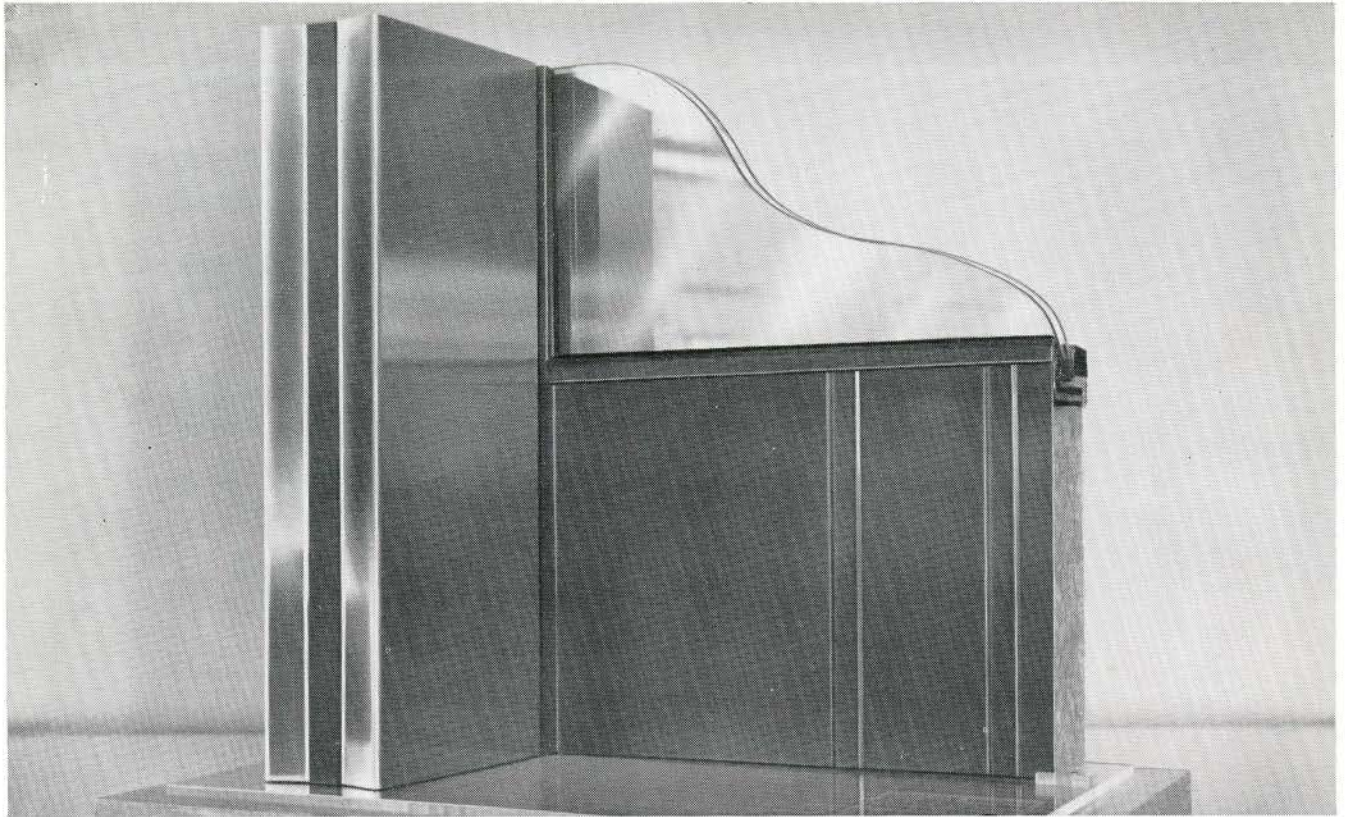
A variety of creative architectural applications is presented in Publication C-1 "Modern Sheet Metal Practices". For your free copy write Anaconda American Brass Limited, New Toronto (Toronto 14), Ontario. Sales Offices: Quebec, Montreal, London, Winnipeg, Calgary, Vancouver.

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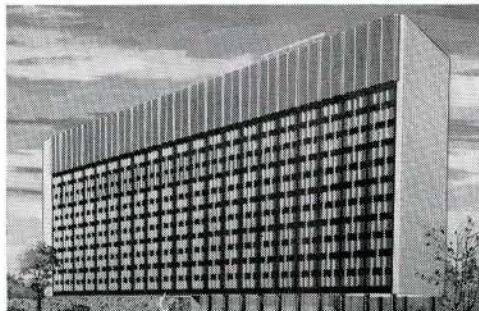
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Report of Executive Committee

Institute action on preliminary reports of the special committees on the Profession and on the Aims and Functions of RAIC received the attention of the Executive Committee of RAIC Council, at its November 5-6 meeting in Montreal. Top priority will be accorded to a Handbook of Professional Practice. A central file and index of court judgments affecting architects will be maintained at Institute Headquarters. Group insurance plans will be extended as soon as feasible.

William G. Leithead (*F*) agreed to undertake preparation of a Main Street Improvement Manual, as an additional Centennial project to supplement *Decoration 67*. Assistance is promised by Dr Thomas Howarth (*F*) and Milton S. Osborne (*F*), and by Roderick Clack on behalf of the Centennial Commission.

Arthur W. Davison reported for the Salaried Architects committee. Discussions are continuing with Federal Government representatives in order to raise standards of architectural practice in government offices. The meeting agreed with the recommendation that each provincial association should be urged to form a committee to improve the status and employment conditions of architects in government and corporation employ.

Norman H. McMurrich (*F*) was authorized to provide information on RAIC activities for inclusion in the Canadian Conference of the Arts brief to the Royal Commission on Bilingualism and Biculturalism.

Revision of the standard form of agreement between owner and contractor (stipulated sum), RAIC-CCA Document No. 12, received approval on its submission by the Legal Documents committee.

Reconstituted membership of the Architectural Education committee, as proposed by chairman J. L. Davies (*F*), was approved—as was also RAIC participation in the International Conference on Theatre Design, scheduled for July 1967 in Canada.

C. F. T. Rounthwaite (*F*) will represent the Institute at the Canadian Conference on Aging, January 24-28, 1966, in Toronto.

The newly organized Canadian Society of Landscape Architects has submitted information on its constitution and program, which will be passed to our component associations for their consideration.

Other business concerned Institute and *Journal* financial statements, plans for a new RAIC seal, the 1966 Assembly, and Honorary Fellowships.

Members of PQAA Council joined the meeting to discuss matters of mutual interest and to preview the new AIA film, "No Time for Ugliness".

FRED W. PRICE
Executive Director

Rapport du comité exécutif

Au cours de sa réunion à Montréal les 5 et 6 novembre, le Comité exécutif du Conseil de l'Institut a fait un examen des mesures prises par l'Institut pour donner suite aux rapports préliminaires des comités spéciaux sur la profession et les objets et fonctions de l'IRAC. Il a décidé d'accorder la toute première priorité à la préparation d'un Manuel sur la pratique de la profession. Un fichier central et un index des décisions judiciaires intéressant les architectes sera établi et gardé à jour au siège de l'Institut. Les plans d'assurance collective seront élargis aussitôt que possible.

M. William G. Leithead (*F*) a accepté de se charger de la préparation d'un Manuel sur l'amélioration des rues principales à titre de nouveau projet du Centenaire qui viendra s'ajouter à *Décoration 67*. Il a reçu des promesses d'aide de la part de MM. Thomas Howarth (*F*) et Milton S. Osborne (*F*) ainsi que de M. Roderick Clack au nom de la Commission du Centenaire.

M. Arthur W. Davison a fait rapport de l'activité du Comité sur les architectes salariés. Le Comité continue ses discussions avec des représentants du gouvernement fédéral afin de faire relever des normes de pratique de l'architecture dans les bureaux du gouvernement. Le Comité exécutif a approuvé une recommandation demandant que chaque association provinciale forme un comité chargé de faire améliorer le statut et les conditions d'emploi des architectes travaillant pour le gouvernement et les grandes sociétés.

Le Comité exécutif a autorisé M. Norman H. McMurrich (*F*) à fournir des renseignements sur l'activité de l'Institut en vue de la préparation du mémoire de la Conférence canadienne sur les arts à la Commission royale d'enquête sur le bilinguisme et le biculturalisme.

Le Comité exécutif a approuvé la version révisée de la formule type de contrat entre le propriétaire et l'entrepreneur (somme stipulée), Document no 12 de l'IRAC et de la CCA, soumise par le Comité sur les documents juridiques.

L'Exécutif a également approuvé la liste des membres du Comité sur la formation des architectes, révisée selon la proposition de son président, M. J. L. Davies (*F*), ainsi que la participation de l'Institut au Congrès international sur l'architecture des théâtres, qui aura lieu au Canada en juillet 1967.

M. C. F. T. Rounthwaite (*F*) représentera l'Institut à la Conférence canadienne du vieillissement du 24 au 28 janvier 1966 à Toronto.

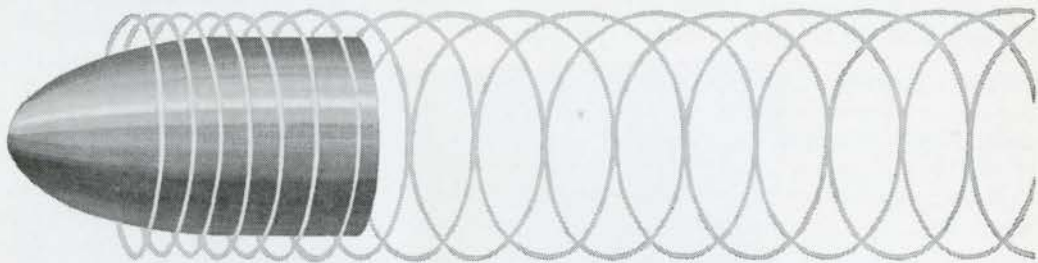
La nouvelle Société canadienne des architectes paysagistes avait fait parvenir des renseignements sur sa constitution et son programme; ceux-ci seront soumis à l'étude des associations constituantes.

Les délibérations ont également porté sur les états financiers de l'Institut et du *Journal*, sur les plans en vue d'un nouveau sceau pour l'Institut, l'assemblée de 1966 et la choix de Fellows honoraires.

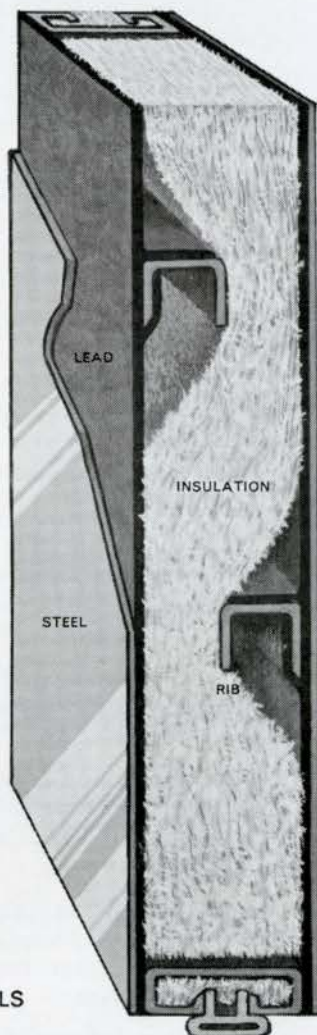
Des membres du Conseil de l'AAPQ se sont joints aux membres du Comité exécutif pour l'étude de questions d'intérêt commun et pour une avant-première du nouveau film de l'AIA, "No Time for Ugliness". □

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Communiqué

From Institute Headquarters

Applications are now being received for the RAIC College of Fellows Scholarship, value \$2,500, for "the advancement of architectural knowledge through travel, study or research". Basis of selection includes "potential contribution to professional knowledge and welfare and to the affairs and activities of the candidate's professional societies".

Application forms are available from RAIC Headquarters, and from the Schools of Architecture. Candidates must have graduated from a Canadian School of Architecture during the period 1960-65. Deadline March 1, 1966.

The School of Architecture of the University of Montreal welcomed two internationally famous architects, Richard Neutra and Georges Candilis, as seminar speakers in November.

Neutra, winner of more than 50 top awards, spoke on "Architecture and the Life Sciences". Candilis, associate of Le Corbusier and Professor at the Beaux Arts in Paris, chose as his subject, "The Education of the Architect".

Another outstanding visitor, Sir Hugh Casson, FRIBA, Hon. MRAIC, spoke to the Ottawa Chapter of OAA in November. His subject: "Recent British University Architecture".

News from Washington: "Encouraging reaction is being noted on several fronts as AIA's war on Community Ugliness makes its impact felt. The oil and petroleum industry has been warned to improve the appearance of gas stations by one of its own leaders; the electrical industry has approached the Institute about the problems of underground wiring; the billboard industry has been urged to develop a new concept of visual communication to suit the environment for which the architects and planners are striving".

An engineering publication has called the AIA campaign a "noble crusade to increase public consciousness of the shabbiness of cities and of the architect's role of responsibility in urban planning and design".

One of the main weapons in this war is the new AIA Film, "No Time for Ugliness". It has been added to the RAIC Film Library and is already in great demand.

Another weapon is the new book, "Urban Design: The Architecture of Towns and Cities", which may be ordered from AIA, 1735 New York Ave., N.W., Washington, D.C. 20006 (or from McGraw-Hill Publishing Company, New York) at \$12.50 plus postage.

A new AIA book of interest to our members is "Comprehensive Architectural Services" (\$8.00). Edited by Dudley Hunt AIA, it describes principles and practices of comprehensive services for architectural firms of all sizes.

(continued on page 12)

du Siège social de l'Institute

Le concours est maintenant ouvert pour la Bourse d'études du Collège des agrégés de l'Institut, d'une valeur de \$2,500 et destiné à "l'avancement des connaissances en architecture au moyen de voyages, d'études et de recherches". Un des éléments dans le choix du gagnant sera "l'apport possible du candidat aux connaissances professionnelles, au progrès matériel de la profession et aux affaires et à l'activité de ses associations professionnelles".

Les formules d'inscription sont à la disposition des intéressés au siège de l'Institut et aux écoles d'architecture. Le concours est ouvert aux personnes diplômées d'une école d'architecture entre 1960 et 1965. La date limite pour les candidatures est le 1er mars 1966.

Au cours du mois de novembre, l'Ecole d'architecture de l'Université de Montréal a accueilli dans le cadre de son programme de conférences deux architectes de réputation internationale, MM. Richard Neutra et Georges Candilis.

M. Neutra, gagnant au cours de sa carrière de plus de 50 prix et distinctions très recherchés, a traité de "L'architecture et les sciences de la vie". M. Candilis, ancien collaborateur de Le Corbusier et professeur à l'Ecole des Beaux-Arts de Paris, avait choisi pour sujet: "L'éducation de l'architecte".

Un autre visiteur de marque, sir Hugh Casson, a prononcé en novembre un discours devant les membres de la section d'Ottawa de l'AAO. Son sujet était: "La nouvelle architecture universitaire en Grande-Bretagne".

Nouvelles de Washington: "Avec les progrès de la campagne de l'AIA contre la laideur des collectivités, on annonce des succès sur plusieurs fronts. L'industrie de l'essence et du pétrole a reçu d'un de ses propres dirigeants instructions d'améliorer l'apparence des stations-service; l'industrie de l'électricité a consulté l'Institut au sujet des problèmes relatifs à l'enfouissement des fils de distribution et l'industrie des panneaux-réclame a été priée de trouver un nouveau concept de communications visuelles plus en rapport avec le milieu que les architectes et les urbanistes s'efforcent de créer."

Une revue d'ingénieurs a appelé la campagne de l'AIA "une noble croisade en vue de rendre le public plus conscient de morne apparence des villes ainsi que du rôle et de la responsabilité de l'architecte dans le domaine de l'urbanisme".

Un des principaux instruments dans cette campagne est le nouveau film de l'AIA "No Time for Ugliness". Ce film a été ajouté à la cinéthèque de l'IRAC et il est déjà en forte demande.

Un autre instrument est le nouveau livre "Urban Design: The Architecture of Towns and Cities", que l'on peut obtenir de l'AIA, 1735 New York Avenue, N. W., Washington, D.C. 20006 (ou de McGraw-Hill Publishing Company, New York) au prix de \$12.50 plus les frais de port.

(continué à la page 17)

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requires

ARCHITECTS

for the Department of Public Works at Queen's Park, Toronto. The Chief Architect's Branch is comparable to a large private office and is responsible for the design of new, and renovation or extension of existing government buildings throughout the Province.

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File PW 105

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File PW 106

(2) *Architect Checker.* To make detailed check of all drawings and to recommend additions, deletions or alterations before final printing for tender use. Checks all documents and tender advertisements before release.

File PW 107

Write (or telephone 365-5401) for an application form which must be completed and returned not later than February 11, 1966. Please quote appropriate file number.

Recruitment Branch
DEPARTMENT OF CIVIL SERVICE
Parliament Buildings
Toronto, Ontario

Not all EXPO '67 architects are concerned solely with design of the pavilions. John Pratt, well-known Montreal architect and entertainer, is busy lining up performing artists from many parts of the world. Mr Pratt is producer of entertainment for the great exhibition in Montreal.

The UIA Working Commission on Sports and Recreation facilities is drawing up a reference manual. Members who have carried out special work in this field are invited to submit material on it to our UIA representative, Joseph Pettick, 2236 College Avenue, Regina. Provide one photograph and a brief description of the design concept. Photos should be 8" x 10" black and white glossy prints. The name of the architect and the building should be placed on the back of the photograph.

"Architecture and the Human Environment" is the theme of the next biennial UIA Congress, at Prague, Czechoslovakia, in July, 1967. Five working groups are planned:

1. The evolution of residential structures.
2. Man and the countryside.
3. The liveable environment.
4. Production and place of work.
5. The historic patrimony.

The UIA has *not* approved an architectural competition for a tourist and social complex at Kaslik, Lebanon.

Our members will be interested in the following comments of the Swedish Ambassador to Canada, Honorable Ragnvald Bagge, on the Swedish Town Planning Exhibition currently on tour of city halls across Canada:

"The essential task is to organize the city into an efficient tool for living, a city adapted to all groups in the community, serving them in work, home life and recreation. No definite rules exist for the planning of residential areas. Priority is given, however, to differentiation of traffic. With the constantly increasing number of automobiles, planners seek to separate pedestrians from wheeled traffic and parking places. In addition, emphasis is laid on unbroken patches of green, intended as outdoor space for recreational purposes for young and old. . . . During the immediate post-war years, housing construction was concentrated on the outskirts of cities and towns, the urban core being neglected. Now, however, planners devote much energy to the systematic renewal and modernization of the urban core. Their aim is to improve its residential environment so as to bring it up to a par with the standards exacted of new housing developments."

Among the many regional planning studies being aided by CMHC is one in Sudbury, Ontario, to investigate scattered suburban development which has resulted in inadequate municipal services and community facilities. The study is being carried out by the architectural firm of Sawchuk and Peach, with the aim of controlling future development throughout the area to the best advantage of the community as a whole.

Division of Building Research, National Research Council, has published a new bulletin of building abstracts in English and French. This survey of articles pertaining to building research, from Canadian technical journals, is available on request to DBR/NRC, Ottawa 2.

(concluded on page 18)



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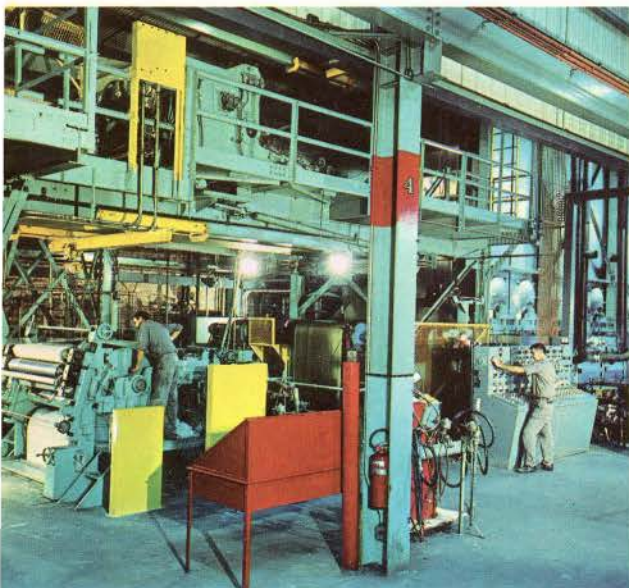


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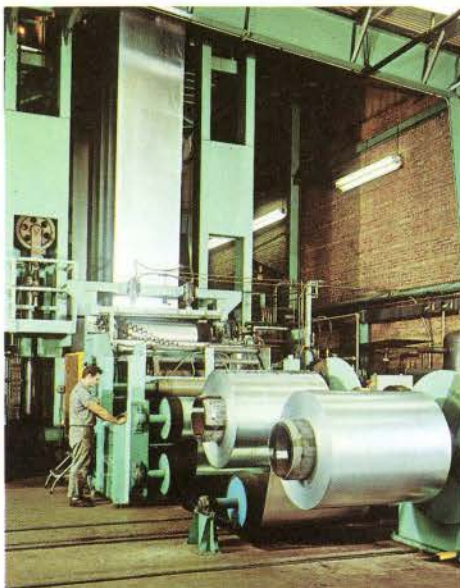


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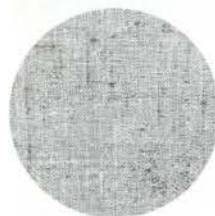
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L'AIA a publié un autre livre de nature à intéresser nos membres: "Comprehensive Architectural Services" (\$8). Ce volume, préparé par Dudley Hunt, AIA, expose les principes et la pratique des services complets à l'intention de tous les bureaux d'architectes, petits et grands.

Les architectes au service de l'Expo 67 ne sont pas tous intéressés exclusivement aux modèles des pavillons. M. John Pratt, architecte et spécialiste en divertissements bien connu de Montréal, est à la recherche d'artistes exécutants de diverses parties du monde. C'est lui qui est chargé des divertissements pour la grande exposition de Montréal.

La Commission de travail de l'UIA sur les aménagements de sports et de loisirs travaille à la préparation d'un manuel de référence. Les membres ayant fait des travaux spéciaux dans ce domaine sont invités à présenter de la matière à ce sujet à notre représentant près l'UIA, M. Joseph Pettick, 2236 College Avenue, Regina (Saskatchewan). On demande une photographie et une courte description du modèle. Les photographies doivent être en noir et blanc sur papier glacé de 8 pouces sur 10. Le nom de l'architecte et du bâtiment doivent être inscrits au dos de la photographie.

Le prochain congrès biennal de l'UIA, qui aura lieu à Prague (Tchécoslovaquie) en juillet 1967, aura pour thème "L'architecture et le milieu humain". On prévoit cinq groupes de travail:

1. L'évolution de la structure résidentielle;
2. L'homme et le paysage;
3. Le milieu habitable;
4. La production et la lieu de travail; et
5. Le patrimoine historique.

L'UIA n'a pas donné son accord à un concours visant un complexe touristique et social à Kaslik (Liban).

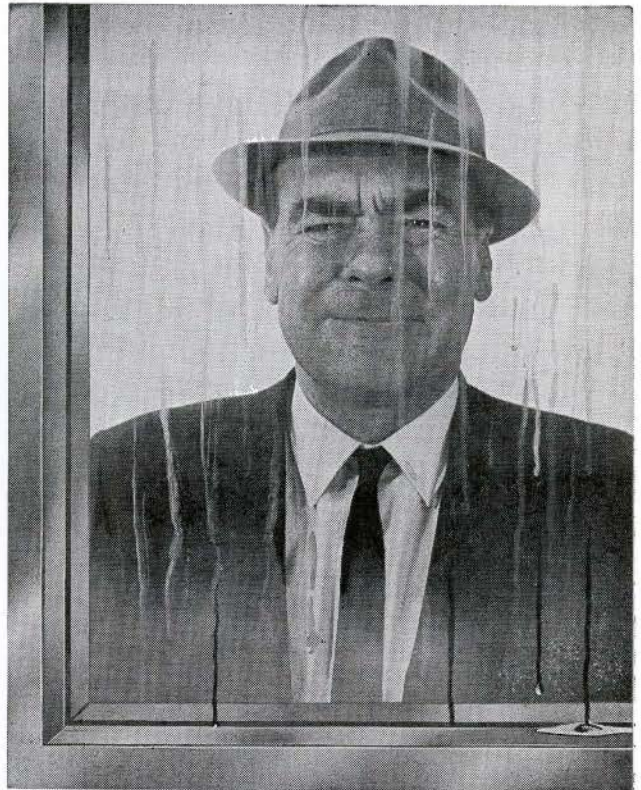
Nous citons à titre d'intérêt pour nos membres les paroles suivantes de l'ambassadeur de la Suède au Canada, l'honorable Ragnvald Bagge, au sujet de l'exposition d'urbanisme suédois, actuellement en tournée des hôtels de ville du Canada:

"L'exposition est consacrée aux solutions nouvelles qu'on a trouvées en Suède pour donner aux aspirations des communautés humaines une expression architecturale qui mette en lumière la vie sociale. Ces aspirations communautaires s'expriment tout autant dans l'adaptation d'établissements humains existants aux nouveaux besoins fonctionnels que dans la création des nouveaux ensembles.

Cette attitude se réfléchit surtout dans l'aménagement des noyaux urbains, foyers des activités sociales, culturelles, commerciales, et administratives. La coordination architecturale et les exigences de l'art urbain sont les impératifs primordiaux dans l'aménagement de ces fonctions multiples."

Une des nombreuses études de planification régionale commanditées par la SCHL porte sur la région de Sudbury (Ontario). Il s'agit d'une enquête sur la construction trop clairsemée des banlieues qui a provoqué une insuffisance des services municipaux et collectifs. L'étude faite par la maison Sawchuk et Peach a pour objet de permettre de contrôler les constructions futures dans toute la région à l'avantage de toute la collectivité.

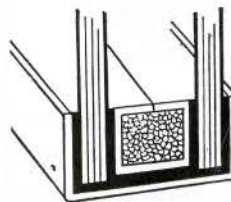
La Division de la recherche en bâtiment du Conseil national de recherches vient de publier en anglais et en français un bulletin d'exposés sommaires sur le bâtiment. Ce relevé



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The 1966 architectural exhibition of the American Hospital Association will centre around the complete hospital, rather than a particular department as in recent years. Projects may be new hospitals, or additions or remodelling to existing hospitals, and should have been completed no earlier than January 1, 1963. Projects accepted for exhibition will be displayed during the annual meeting in Chicago, August 29-September 1, 1966.

Many items of interest to architects are found in "This is Japan 1966", just received here courtesy of RAIC Honorary Member Tarao Saito and *Asahi Shimbun* of Tokyo. Like the marvelous 1965 edition, this great volume contains some fine photos and descriptions of the Tokyo Olympic pavilions. A portfolio, "Towards a New Architecture", includes the latest works of Tange, Otani, Take, Maekawa, Kikutake and others. Both 1965 and 1966 books may be seen at RAIC Headquarters.

FRED W. PRICE
Executive Director

d'articles visant la recherche en bâtiments, tirés de publications techniques canadiennes, peut être obtenu sur demande à la Division de la recherche en bâtiment du Conseil national de recherches, Ottawa 2.

L'exposition architecturale 1966 de l'American Hospital Association portera sur les hôpitaux au complet plutôt que, comme le faisaient celles des dernières années, sur des départements particuliers. Les oeuvres peuvent comprendre de nouveaux hôpitaux ou des additions à des hôpitaux existants dont la construction ne remonte pas plus loin que le 1er janvier 1963. Les oeuvres acceptées seront exposées au cours de l'assemblée annuelle à Chicago du 29 août au 1er septembre 1966.

La publication "This is Japan 1966", que nous venons de recevoir grâce à l'amabilité de Tarao Saito, membre honoraire de l'IRAC, et de *Asahi Shimbun* de Tokyo, renferme plusieurs articles de nature à intéresser nos membres. Comme la magnifique édition de 1965, ce grand volume présente quelques belles photographies et descriptions des pavillons olympiques à Tokyo. Une chemise "Towards a New Architecture" renferme les dernières oeuvres de Tange, Otani, Take, Maekawa, Kikutake et autres. Les deux éditions, 1965 et 1966, peuvent être consultées au siège de l'Institut. □

Le directeur général
FRED W. PRICE

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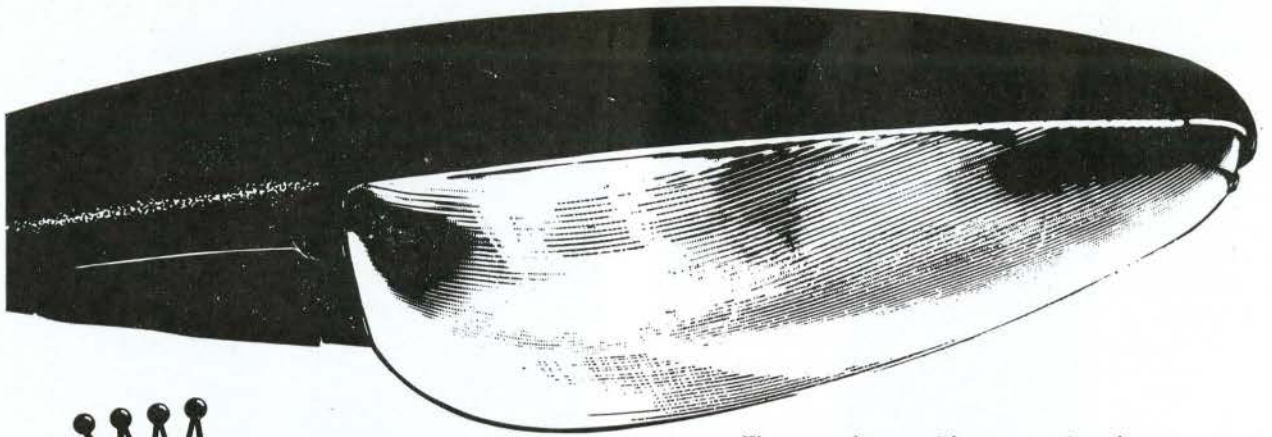
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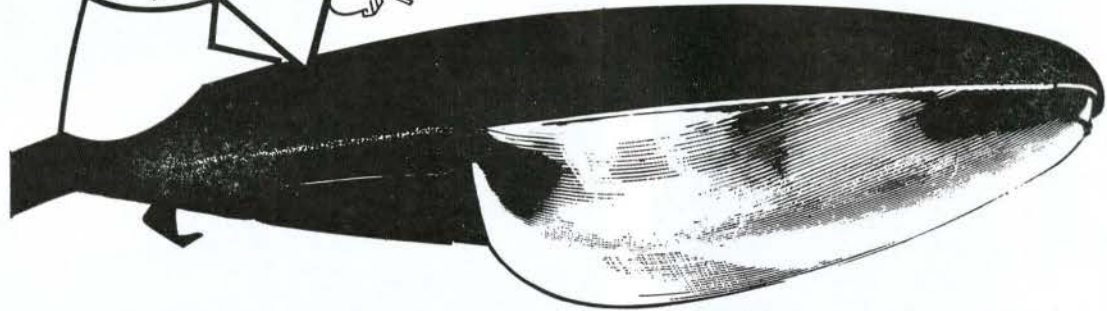
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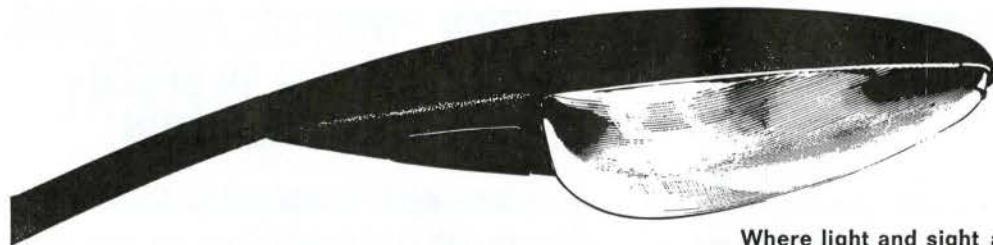
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News/Nouvelles

De la fumée sans feu ?

Le 25 novembre l'AAQP tenait une assemblée générale spéciale où assistait 276 membres, nombre jamais auparavant atteint pour une assemblée générale.

Qu'y avait-il?

Cette assemblée faisait suite à une résolution soumise, mais défaite par un amendement, à l'assemblée générale annuelle tenue à Québec au mois de janvier 1965. La résolution initiale était la suivante:

"Qu'il soit interdit au trésorier et aux autres membres du Conseil de l'Association des Architectes de la Province de Québec, de verser à même les biens de ladite Association des sommes d'argent, soit directement ou indirectement, à l'Institut Royal d'Architecture du Canada, à titre de cotisation ou de contribution annuelle, sous peine pour lesdits trésorier et autres membres du Conseil d'être tenus conjointement et solidairement responsable des sommes ainsi versées."

et l'amendement qui infirmait cette proposition était le suivant:

"Qu'un comité étudie les positions de l'IRAC, les conditions d'appartenance à cet institut et que le rapport de ce comité soit envoyé à tous les membres un mois avant la tenue d'une assemblée générale spéciale convoquée aux fins de décider de cette question, cette assemblée devant être tenue avant la fin du mois d'octobre prochain."

En fait soixante quinze (75) se ralliaient à l'amendement et 43 contre.

Le comité d'étude fut donc constitué et douze séances régulières eurent lieu sans tenir compte des assemblées des sous-comités et des consultations auprès de nos conseillers juridiques.

Le comité s'est efforcé de découvrir tous les faits pertinents à cette question en commençant, naturellement, par ceux qui sont à l'origine de la fondation de l'IRAC et terminant ses recherches par une critique des fonctions actuelles de l'IRAC. Des points de vue divergents ont été exprimés relativement à la possibilité d'être ou de ne pas être membre de l'IRAC à titre individuel. Le rapport du comité a été remis aux membres à la fin de septembre et à cause de l'incidence du règlement touchant à la procédure d'amendement des règlements, l'assemblée générale spéciale convoquée pour décider de cette question a été tenue le 25 novembre et non à la fin d'octobre.

Dès le début de l'assemblée générale spéciale des points de procédure étaient soulevés et une bonne heure était consacrée à les débattre. C'était une assemblée démocratique se déroulant sous le signe de Bourrinot.

Smoke Without Fire ?

On November 25, the PQAA held a special general meeting where 276 members were present, a number never before reached for a general meeting.

What was on?

This meeting was the result of a motion proposed, but defeated by an amendment, at the annual general meeting held in Quebec city in January, 1965. This initial motion was as follows:

"That it be forbidden to the Treasurer and other members of the Council of the Province of Quebec Association of Architects to disburse, from the assets of the above-mentioned Association, sums of money, whether directly or indirectly, to the Royal Architectural Institute of Canada, by way of assessments or annual dues, under the penalty of said Treasurer and other members of Council being held jointly and severally responsible for the amounts thus disbursed."

and the amendment which crippled this motion was as follows:

"That a committee study the position of the RAIC, the conditions relating to membership in this Institute, and that the report of this committee be sent to all members one month before the holding of a special general meeting called to decide on the question, this meeting to be held not later than the end of October next."

75 members were in favour of the amendment, 43 against. The amendment thus carried.

Once constituted, the Committee held 12 regular meetings, not counting meetings of sub-committees and consultations with legal counsel.

The Committee was set the task of laying down all the facts affecting the question starting naturally with those related to the foundation of the RAIC, and ending with a soul searching of the present activities of the RAIC.

Opposite viewpoints were expressed concerning the possibility of being or not being a member of the RAIC as an individual. The report of the Committee was transmitted to the members at the end of September and, because of the exigencies of by-laws affecting the amendments to by-laws, the special general meeting called to decide upon this question was held on the 25th of November and not at the end of October.

From the very start of the special general meeting points of order were raised and a full hour was consumed debating these. It was a democratic meeting, evolving under the spell of Bourrinot.

Suivent diverses résolutions pertinentes à l'IRAC.

1) "Que l'article 72 des règlements généraux soit annulé."

(Les dispositions de cet article prévoient la nomination des délégués à l'IRAC.)

La motion est rejetée (33 pour, 150 contre).

2) "Que soit distribuée aux membres de l'AAPQ copie du texte de clause/s contenue/s dans le projet de refonte de la loi des architectes (Bill des architectes) susceptible/s de lier pour l'avenir l'AAPQ avec d'autres sociétés parentes, l'IRAC particulièrement. Que la rédaction de ce texte soit confiée aux procureurs qui ont rédigé le projet de bill.

Un amendement, que soit ajouté après le mot "particulièrement", le texte suivant:

"Que tout amendement apporté avant la présentation du bill devant le comité des bills publics soit transmis aux secrétaires des sociétés régionales." *Adopté*

Le vote est ensuite pris sur la proposition principale qui est *adoptée* telle qu'amendée.

3) "Que le vocable "appartenance" qui a souvent été utilisé pour qualifier le mandat accordé à l'IRAC par notre Association soit dorénavant abandonné et qu'on lui substitue le mot *relations* ou tout autre plus adéquat qui traduira le principe confédératif impliqué. *Adopté*

4) 1. Que les règlements généraux de l'Association des Architectes de la Province de Québec soient modifiés en ajoutant à l'article 2 l'alinéa qui suit: "nul membre ne peut être contraint d'adhérer à une autre société, institut ou association d'architectes que l'AAPQ."

2. Que les règlements généraux de l'Association des Architectes de la Province de Québec soient modifiés en ajoutant après l'article 71 sous le titre ADHESION A D'AUTRE SOCIÉTÉ, INSTITUT, ASSOCIATION, l'article 71A qui suit: "Les membres désirant adhérer à d'autre société, institut ou association le feront librement à titre individuel."

3. Que les règlements généraux de l'Association des Architectes de la Province de Québec soient modifiés en remplaçant l'article 72 par le texte qui suit: "les relations entre l'AAPQ et les autres société, institut ou association seront assurées par le Conseil."

4. Que les règlements généraux de l'Association des Architectes de la Province de Québec soient modifiés en ajoutant à la deuxième ligne de l'article 92 l'alinéa qui suit: ". . . elle sera versée intégralement à l'AAPQ et ne servira qu'à ses propres fins." Proposition rejetée (48 pour, 129 contre).

5. "Que l'AAPQ verse une contribution annuelle de \$35.00 pour chaque membre de l'AAPQ à partir du début de l'année fiscale 1966.

Après discussion la proposition fut retirée et il a été recommandé par le comité de législation et règlements".

Pour conclure, il faut reconnaître qu'un feu existe. Contrôlé, le feu a servi le progrès du genre humain; libre le feu détruit inutilement.

L'IRAC n'aurait-il que faire d'un peu de feu?

P.E.L.

The following motions relating to the RAIC were put forward:
1) "That the article 72 of the general by-laws be void." (The provisions of this by-law affect the nominating of delegates to the RAIC). This motion was defeated 33 for and 150 against.

2) "That members of the PQAA be sent copy of the text of articles containing the proposed revision of the Architect's law likely to tie the PQAA for the future with other kindred Societies, the RAIC in particular. That the wording of the text be entrusted to the attorneys who have written the proposed bill."

An amendment was moved to add the following text after the word "in particular": "That any amendment brought before the submission of the bill before the Public Bills Committee be sent to the Secretaries of Regional Societies." The amendment was carried and the amended motion was carried as amended.

3) "That the wording "Appartenance" (belonging), which has often been used to define the mandate granted to the RAIC by our Association, be thereafter abandoned and that the word "relations" be substitute therefor, or any other word more adequate, which shall translate the principle implied by Confederation. This item was carried that the above item be studied by the By-Laws Committee.

4) 1. "That the general by-laws of the Province of Quebec Association of Architects be modified by adding to Article 2 the following sub-paragraph: "No member may be obliged to be a member of another Society, Institute or Association of Architects other than the PQAA."

2. "That the General By-Laws of the Province of Quebec Association of Architects be modified by adding after Article 71 article 71-A as follows: "71-A ADHERENCE TO OTHER SOCIETY, INSTITUTE, ASSOCIATION: Members wishing to adhere to another Society, Institute or Association will do so freely as individual members."

3. "That the General By-Laws of the Province of Quebec Association of Architects be modified by substituting to Article 72 the following text: "The relations between the PQAA and other Societies, Institutes or Associations be maintained by the Council."

4. "That the General By-Laws of the Province of Quebec Association of Architects be modified by adding to the second line of Article 72 the following sub-paragraph: "It shall be paid totally to the PQAA and shall be used for its own ends." These motions were defeated 48 for and 129 against.

5. "That PQAA shall make an annual contribution to the RAIC of \$35 for each member of the PQAA starting in the fiscal year 1966."

After discussion the motion was withdrawn and a recommendation was made that it be started by the by-laws' committee.

To conclude, one must recognize that there is fire. With care fire has served the progress of human endeavor; free fire destroys wantonly.

Is there any need of fire within the RAIC?

P.E.L.

Un membre de l'Association des Architectes de la Province de Québec a donné ses points de vue concernant la proposition. Monsieur Trépanier, Président sortant de l'A.A.P.Q. nous dit le suivant à ce sujet:

Monsieur le président, le sens de ces quatre propositions est clair, le but est évident. En la votant, notre association retire son appui à l'Institut Royal d'Architecture du Canada.

Qu'avons nous à gagner par ce geste? Rien si ce n'est le montant de la contribution annuelle que nous versons pour être membres de l'IRAC, rien, pas même l'honneur.

Par ailleurs, nous perdrons les services que nous rend l'IRAC nous devons envisager des déboursés importants pour les compenser; je veux parler ici des facilités qui sont mises à notre disposition dans le domaine de l'administration. Nous perdrons en outre et d'une façon irrémédiable, une représentation efficace qui a déjà fait ses preuves auprès du gouvernement central, de même qu'un vote favorable à cette proposition nous séparera de nos collègues de neuf provinces du pays et ce, au prix même de l'estime qu'ils nous portent.

La lecture de cette proposition à l'étude me rappelle un commentaire que m'a fait l'architecte John B. Parkin alors que j'étais à Toronto en compagnie du regretté Peter Barott dont nous déplorons tous la mort prématurée. Sur cette question du retrait du Québec de l'IRAC il me dit: "Si Québec quitte l'IRAC, l'IRAC continuera quand même d'exister..."

Ceci m'amène à un autre facteur qui milite aussi en faveur du rejet de cette proposition, à savoir que l'IRAC ne peut transiger directement avec les architectes puisque l'organisme est la propriété des associations provinciales. Partant, les architectes du Québec devront faire partie d'une association d'une province autre que le Québec pour demeurer dans l'association nationale. Voilà donc une prise de position qui ne favorise d'aucune façon le progrès de notre association et qui crée le danger de voir ses membres s'en désintéresser.

Cette proposition dont se dégagent un nationalisme outré et une forte tendance isolative ne peut être acceptée par des membres de la profession la plus universelle qui soit, car nous paraîtrons plus pauvres et notre prise de position nous couvrira de ridicule. Si cette proposition est acceptée, partout, on pourra dire: les architectes du Québec élèvent des clôtures alors que partout dans l'univers, on veut des ponts. Monsieur le président, notre association aura de grandes difficultés à maintenir une réputation avant-gardiste si elle démontre un esprit tellement rétrogarde, surtout au moment où l'on prépare l'Expo 67.

Au soutien de cette proposition, on alléguera les sempiternelles doléances: nos droits sont bafoués, notre voix n'est pas entendue l'architecture canadienne-française n'a pas le rayonnement qu'elle mérite etc.

Monsieur le président, nos droits seront-ils mieux reconnus si nous abandonnons le moyen de les revendiquer? Notre voix sera-t-elle plus écoutée si nous acceptons de ne plus parler? Le génie français sera-t-il mieux servi si nous le clôturons à l'intérieur de nos frontières?

Non monsieur le président et cela est évident. Un vote favorable à cette proposition équivaut à un armistice dans la défaite, à une défaite parce que nous refusons de combattre. Les grandes difficultés du combat ne constituent pas à mon avis un motif à invoquer pour s'y refuser et c'est pourquoi je demande que cette proposition soit rejetée.

Nos institutions sont des outils et nous sommes des artisans. En ce sens, tous deux sont des importants en fonction de l'oeuvre entreprise. Personne ne soutiendra l'utilité du seul outil, pas plus qu'il n'est raisonnable de penser que l'artisan parviendra à son but sans outil. L'IRAC est en fait l'un de nos deux outils et je pense qu'il serait insensé de s'en départir sous prétexte que nous ne savons pas nous en servir.

Les efforts que nous faisons actuellement pour se priver d'un moyen devraient plutôt s'orienter dans le sens d'une amélioration de ce moyen et il faut bien le constater, les architectes canadiens-français du Québec ne se sont jamais tellement intéressés à l'IRAC. Ainsi, nous sommes faibles des deux côtés à la fois, c'est à dire que nous ne sommes pas là pour en retirer tous les avantages possibles d'une part et que, d'autre part, on pourrait certes nous reprocher la petitesse de notre apport à cet organisme. Il est donc juste de conclure que nous recevrons autant que nous donnons, et, si nous ne sommes pas satisfaits de ce que nous obtenons, donnons davantage et, même si nous n'obtenons pas plus, nous serons encore gagnants.

Monsieur le président, cesser nos relations avec l'IRAC c'est de l'inconscience destructrice, c'est une action rétrogarde, c'est la fuite du champ de bataille, la peur de la confrontation des idées, et, dans ce cas-ci, c'est de l'ignorance en plus.

Il nous faut reconnaître nos intérêts où ils sont, nous sommes des architectes et les échanges que nous pouvons avoir avec des collègues de cultures différentes sont nécessaires et peuvent être enrichissants s'ils sont consentis avec de la compréhension et non pas avec des préjugés.

J'ai aussi à la mémoire ces paroles de Mahatma Gandhi: "Je ne veux pas que ma maison soit emmurée de tous les côtés et que les fenêtres soient bouchées. Je veux que la culture de tous les pays s'engouffre dans ma maison aussi librement que possible."

Les contacts que nous avons avec les architectes canadiens-anglais ne peuvent que nous enrichir et il ne tient qu'à nous en effet de participer au travail de l'IRAC et d'y faire rayonner le génie français.

Monsieur le président, c'est parce que je crois que l'affirmation de Mahatma Gandhi correspond mieux à notre idéal professionnel que le sens de ce que nous débattons actuellement que je demande le rejet de cette proposition.

1966 EDUCATION SHOWCASE

Forty-one schools will be graphically displayed at the second annual Education Showplace to be held this January 21-22 in Toronto at the Automotive Building, Exhibition Park. These were chosen from 100 entries submitted by architects across Canada. In charge of the architectural exhibition is a committee of architects and school officials composed of Chairman F. J. K. Nicol, MRAIC, ARIBA, Director of School Planning and Building Research, Ontario Department of Education; G. S. Adamson (F), Toronto; Peter Dobush (F), Montreal; W. C. How, Superintendent of Schools, Regina; and A. E. McColl, Superintendent of Secondary Schools, London.

(News continued on page 64)

Letters

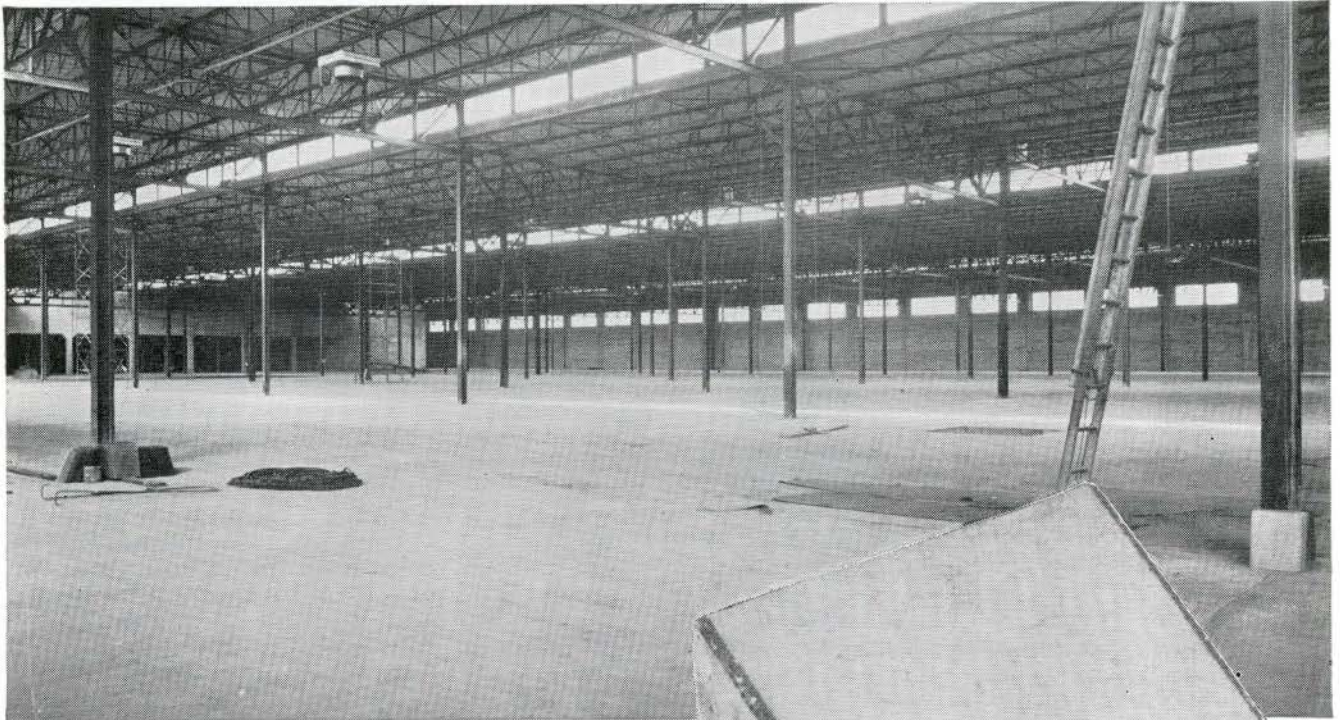
Editor,
Journal RAIC/L'IRAC

I would like to compliment the Institute on its selection of a Centennial project—the production of a guide booklet on the subject of Community street decoration. Properly applied, the knowledge gained from such an authoritative source should do much to enhance the appearance of all communities during Centennial Year. Its availability at this time should also enable the necessary plans to be laid well in advance and co-ordinated with other local projects.

On behalf of the Committee, which I represent, I would like to take advantage of your offer, announced in the October 1965 issue of "Centennial-Ontario", and obtain a copy of this booklet to guide our preparation for parades, and other outdoor events to be held here in 1967.

Alan W. C. Tustin,
*Retired Wing Commander RCAF
Chairman, Military Participation Comm.
Niagara Falls*

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ART AND ARCHITECTURE

Western Tour: Part II

WINNIPEG

For contrast to the "big" airport (Toronto) the "little" airport, almost domestic in scale, is reassuring and the art work, at that scale, has a better chance of integration and confrontation.

I knew from photographs that the "entombment" of Gladstone's "solar cone" sculpture (*Canadian Art*, May 1964), probably one of his best, is unfair. Entrapped and confined within deep, narrow walls, the soaring form forbidden ascension or even public viewing from below (because the lower floors are accessible only to the cleaning staff) it grumbles and bubbles with ineffectual water play. However, freezing droplets, clinging to the slender wires as extended icicles, gave jewelled enchantment to the general effect, analogous to looking down into a bear pit at the glowering monster confined below. My guess is that Gladstone fell into a trap of his own making by disregarding what must have been a "pit" already present.

The mural by Eli Bornstein shows a lack of understanding, necessary when lighting his work, to dynamically illuminate the delicate, Bach-like collection of contrapuntal intervals of muted, colored forms. His small works hanging in the Mendel Museum in Saskatoon, where daylight creates a vital energy in shad-

owy fugues with the forms, gives the hint. John Graham's decorative grid of competent charm, with the décor of colored chairs so unsympathetic to the Bornstein, fares better. One wonders if this oversize brooch, having gone so far, might well have extended to a full size grid-wall. Local talent here is competent enough. The only weakness is in imagery.

The inept suspension of the Yarwood form by too short a bracket (reminiscent of hardware store delvings rather than a sculptural or even architectural solution) is saddening when one sees the unhappy relationship with the water pool below.

Elsewhere, the art work of Winnipeg is overshadowed by the quality of the architecture and the industry of the competent young architects, which appears to keep them too preoccupied with architectural problems to feel the need for an art excursion or to persuade an unwilling client into patronage. However, Winnipeg offers a complete architect-artist contribution in the "sculptured park" the landscape plaza for Metro Winnipeg, designed by Etienne J. Gaboury. The outstanding work of this architect-artist with his court houses, churches and parks, reveals a complete involvement in art and architecture. He has a versatile ability with materials to become either sculptor or architect as

the problem dictates. Here integration is so thorough as to make any other relationship unnecessary. Corbusier displayed a similar double talent. One wonders how many artists similarly trained in architecture would respond as ably?

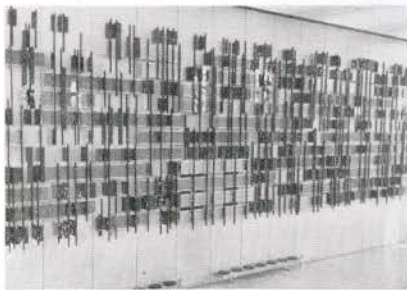
In my brief visit to Winnipeg little else of distinction presented itself other than light hearted excursions of a decorative nature of artists Willer and Richards with screens and fountains for shopping plazas. A further survey of Winnipeg artists would be necessary to explore the potential of others, such as Tony Tascona, whose work has yet to be used in architectural décor.

Much of the quality of the work of local architects appears to have its source in the school of architecture of the University of Manitoba. Here, after a specially arranged session, one was made aware in the faculties of Art and Architecture, of a lively interest in the problems in education of artists and architects, and in the need to co-ordinate skills and activities. It remains to be seen, however, how much of the interesting discussion, which is often the indulgence of university personnel, results in vital activity. Intellectual examination of a problem, however worthy, is of little value to a living community if educators do not give a lead in practical application.

Winnipeg is well fitted with talent, skill and the physical establishment to take a pioneering step in co-operative education. Sensitive and able leaders are there.

REGINA

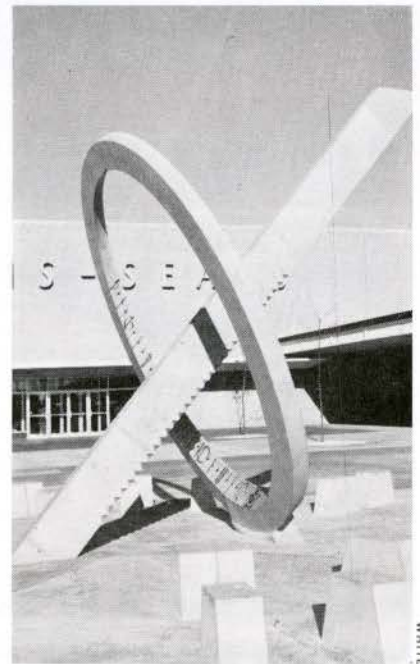
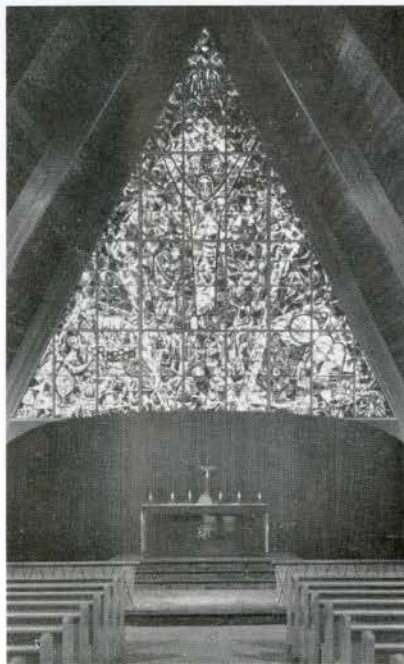
Elsewhere, architect Joseph Pettick with the Saskatchewan Power Building at



Above: North wall of new Winnipeg Air Terminal. Architects: Green Blankstein Russell Associates. Artist: John Graham.

Center: Stained glass window at St Bernadette Roman Catholic Church, Winnipeg. Architect: Roy Sellors. Artist: Gerald Tooke.

Right: Sun dial at Polo Park, Winnipeg. Architects: Green Blankstein Russell Associates. Artist: Jim Willer.



tempts total integration with mosaic sculptural walls and glass formed ceilings, conceptual in origin, of local geographic phenomena. The attempt provides plenty of interest and controversy.

The Guaranty Trust Company, through architects Black, Larsen and McMillan, commissioned artist John Miller to create a mosaic wall confronting the glass entrance of their Regina building. The clients, without reference to the architects, have "thoughtfully" obscured the design they cheerfully paid for, by a sign in large, gold capitals. Miller also pro-

duced mosaic murals for the Regina Court House (Architects, Portnall and Grole) and St Mary's Church Regina (Architect, E. J. McCudden). These murals are largely figurative and traditional, competent but lacking in an adventurous and contemporary approach to this colorful media.

First Presbyterian Church (Architects, Stock, Keith and Associates), features work of Roy Kiyooka and Lorraine Mollach; and St Mary's Church has used Huben Garbier and John Nugent to design liturgical appointments. Nugent's altar boxes have a strong sculp-

tural and ritualistic quality. This artist is an asset to the Western scene, with his versatility and determination to produce and work in his own environment, casting his, and the work of others, in his own studio foundry.

CALGARY

What with lecturing, press interviews, TV appearances and tours, I saw as much of Calgary as one can in a crowded day. Vigor and honesty again prevail. An interesting factor is that the native born and immigrant architects are equally happy in building this prairie community into a modern city. Apparently it has a subtle charm of its own in the flat plain and distant hills. Here, more than other western towns, is a need for reshaping by planning and landscaping, but I saw little evidence of it.

Art integration at Simon Fraser Junior High School (Architects, Cohos-Delesalle & Associates) has been carried out by artist Robert Oldrich. The inside mural of brick, figurative in idiom, is a most successful treatment of the material. This artist's work, traditional but always competent, turns up in the West as ubiquitously as Jordi Bonet in the East. European trained, he has a competent response to architectural scale which must be a blessed relief to the architect wishing to employ local talent. It is unfortunate that the work, well integrated and often apt as it may be, is on the main weak and old fashioned in imagery. This is a common heritage of European training in Canadian and Australian art training schools. The content is often descriptive rather than evocative; it "depicts" rather than symbolizes—a subtle distinction—which could change a work of competence into something more. We need a statement in art rather than a restatement. Oldrich, while gallantly working in the isolation of the West, without much outside stimulus, undoubtedly satisfies his client without disturbing the status quo, which leaves the aesthetics of art well behind the architectural statements of 1965.

I saw sensitive work by other artists who have not worked with architects, some teaching at the Alberta College of Art. The graphic images I saw at the College, given exploitation of architectural materials and illumination, could cause as much excitement as the Pellan glass mural in Montreal, or the Bonet mural in their own Calgary Herald Building (McMillan-Long & Associates).

What the Western artist with a strong personal image needs is more subjection to architectural materials and possibilities to achieve architectural scale to excite him to new fields of endeavour. □

(Concluded in next issue)

Anita Aarons

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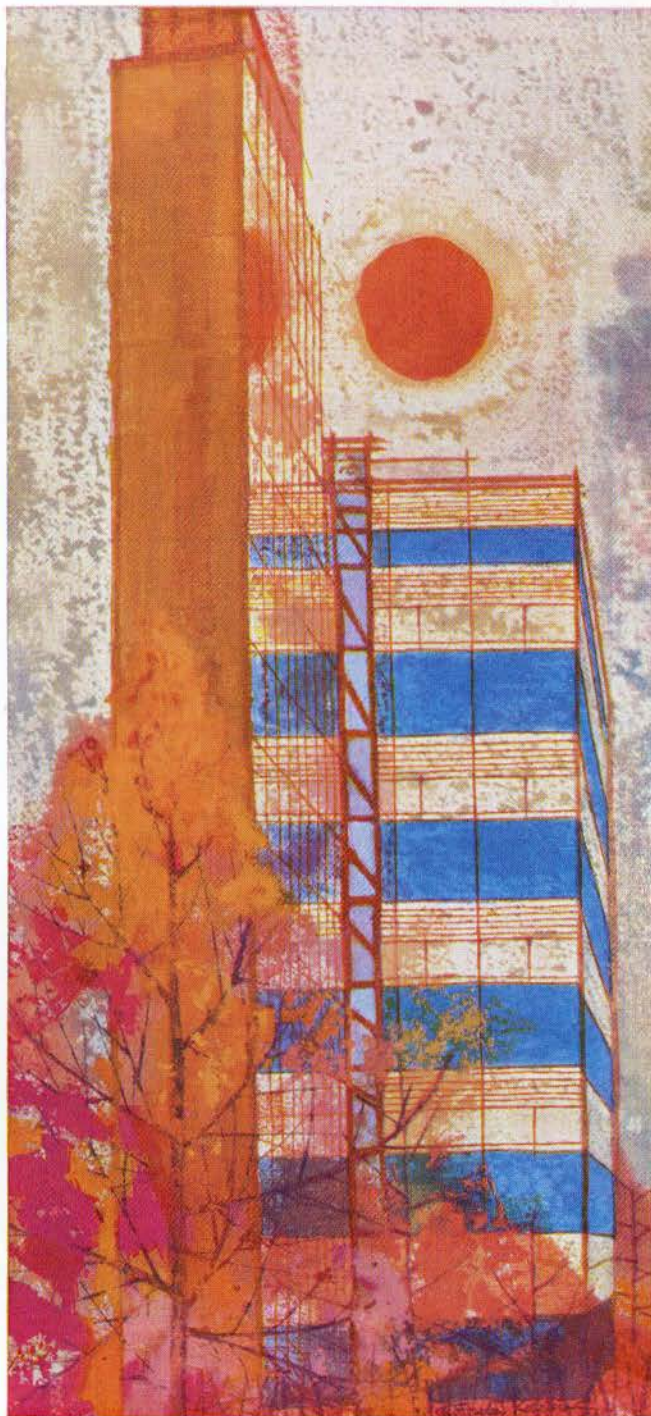
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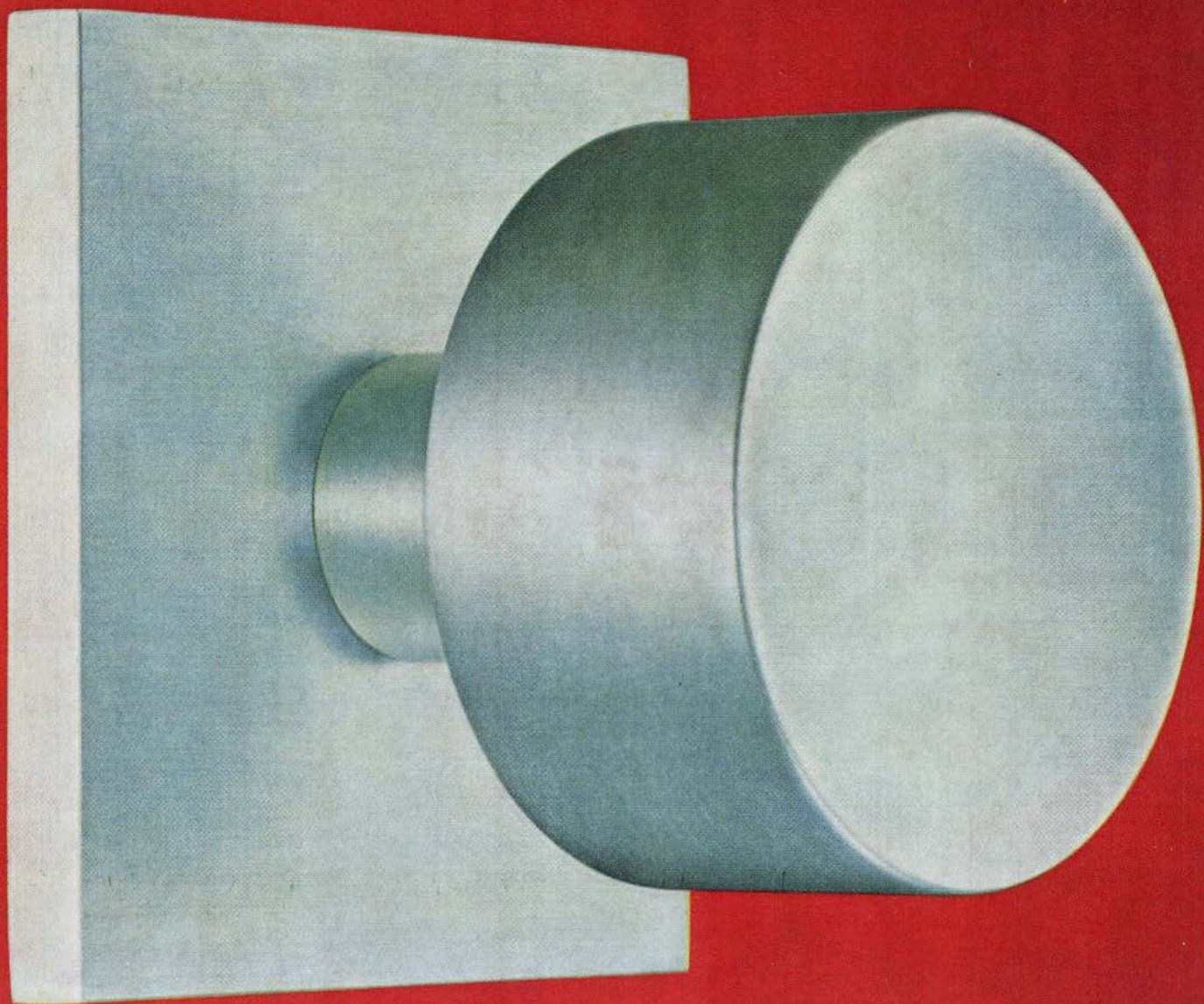
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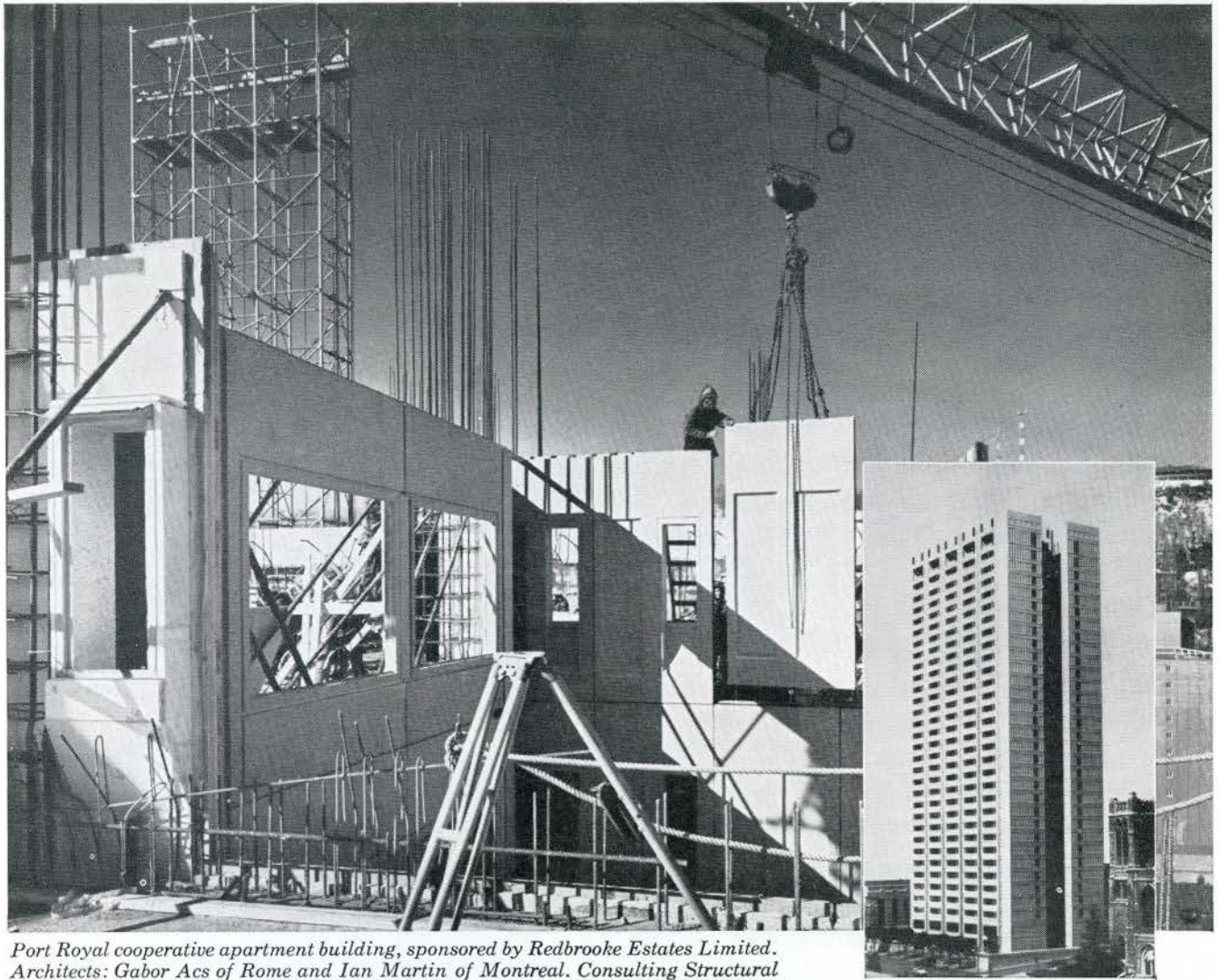
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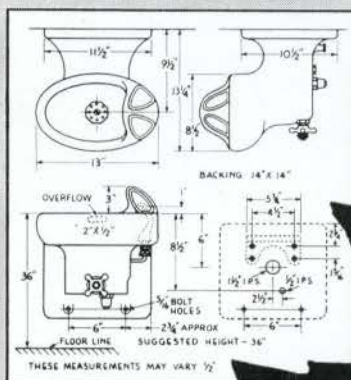
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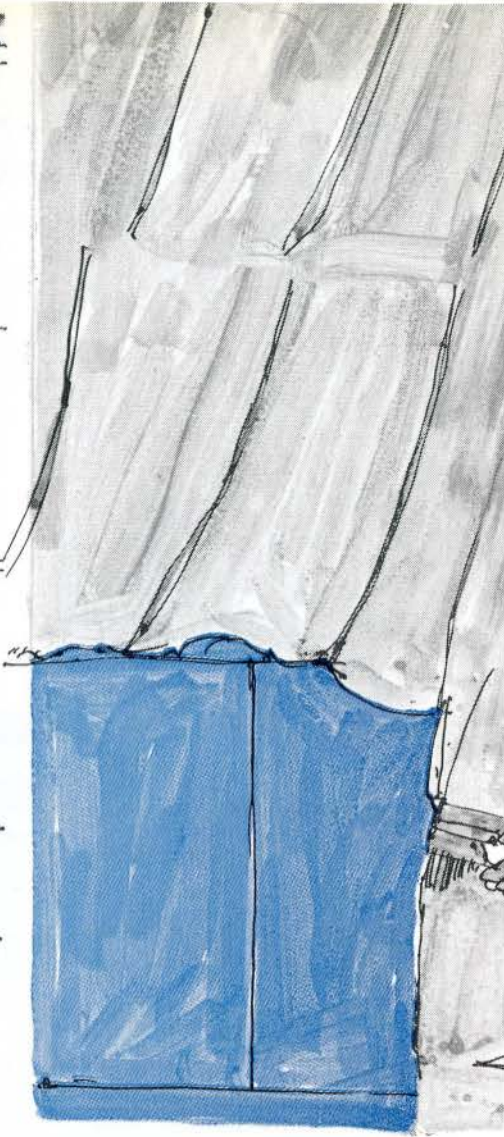
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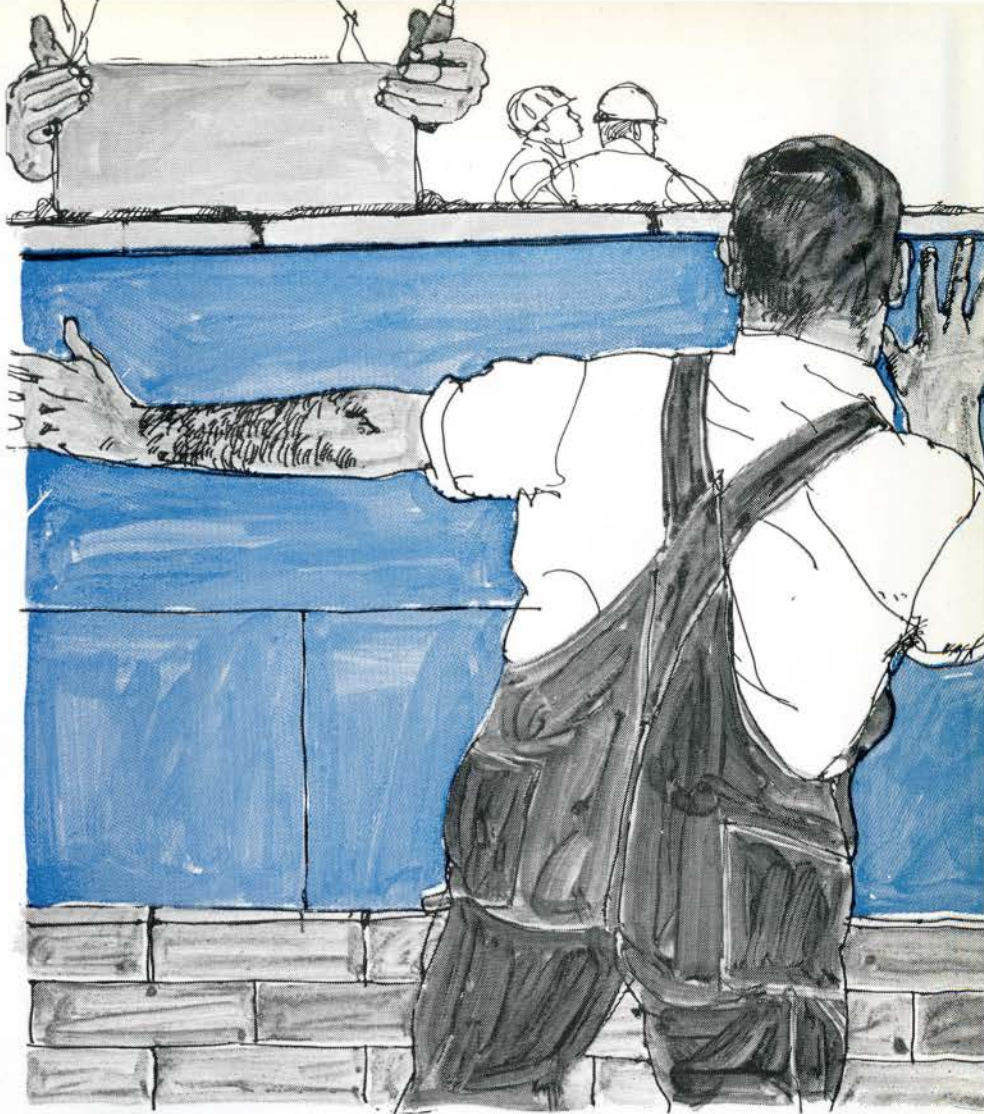
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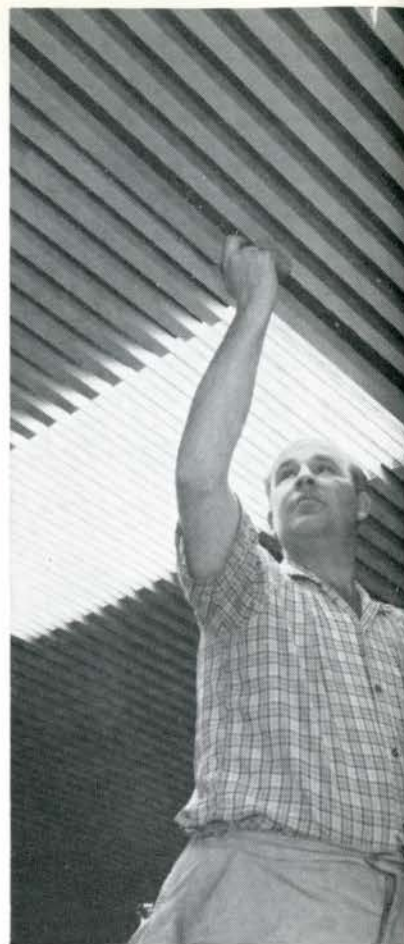
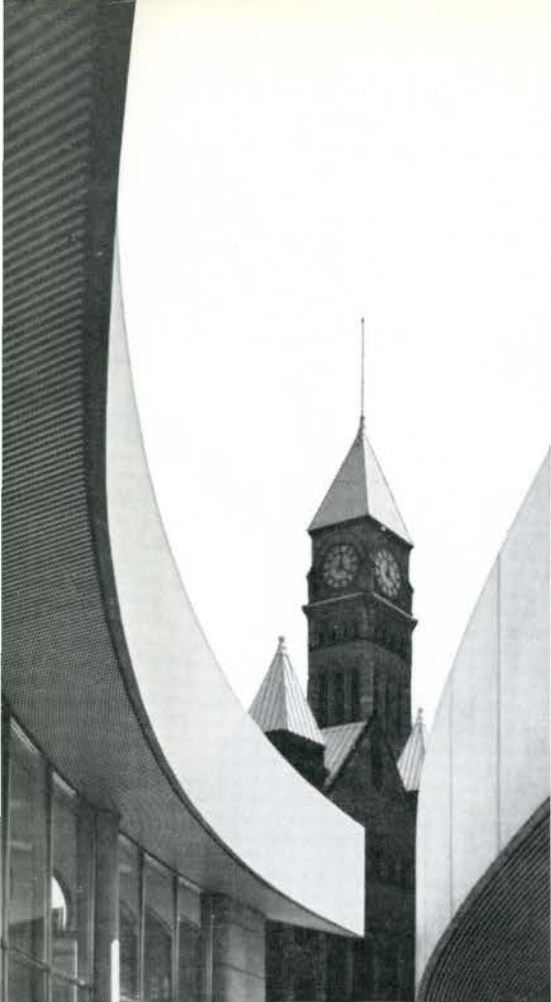
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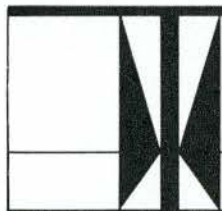
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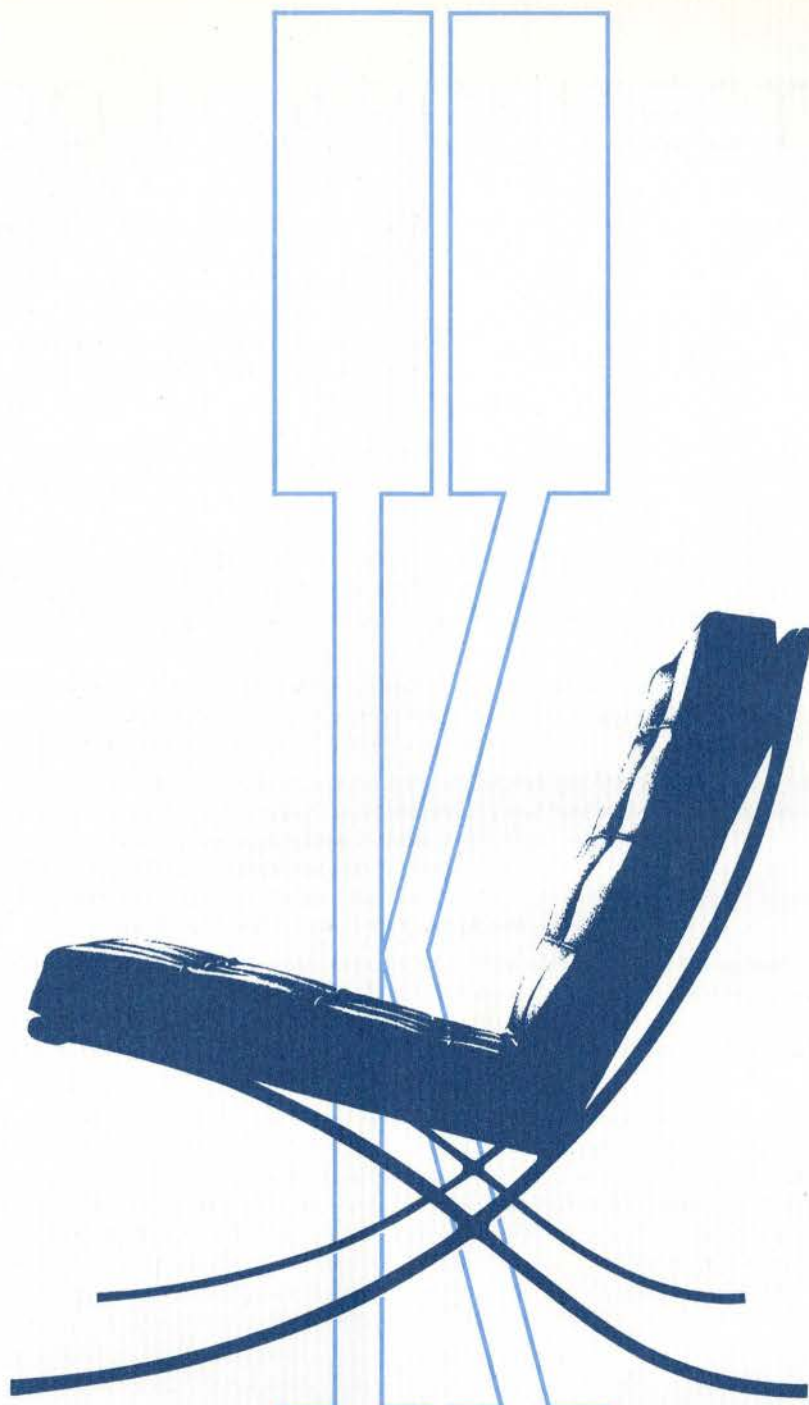
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WOOD IN ARCHITECTURE

Vincent Scully, in submitting this prologue to our issue on Wood in Architecture, asked us to make this clear to readers — that this material is not an article: he wrote "it really doesn't develop any theme; but is only a set of random observations, some of which I have already made elsewhere. There is no conclusion, except perhaps that wood is an uncivilized material. I love it, but that doesn't make an article".

Joseph Esherick has contributed the article, photographs and captions following on pages 38–48.

The technology of wood has never been so developed as it is today. Its three fundamental potentialities — as log, skeleton, and skin — have not before enjoyed so many technical resources for their exploitation. But they are not normally being exploited by most architects or in buildings other than small houses — where, too, with one set of exceptions, wood is much less obviously employed today than fifteen years ago.

The fact that the techniques exist but are not being used suggests that the process of design is not a technologically deterministic one but that techniques are invented or pre-existing techniques are widely employed in response to overwhelming desires for certain kinds of form. The formal conception would so come first and the technology second.

Obviously, the process can hardly be so simple, since the available techniques will always physically modify formal ideas. But the career of wood in North America indicates that, while its availability first made it the dominant material, still the formal characteristics to which it gave rise soon superseded material and technique alike in order to live their own lives. The typically American thin sheathing of wall, for example, is flat, linear, and repetitive in pattern whether it is made of seventeenth-century wood or twentieth-century plastic and glass. McCoubrey has pointed out how painting in the States, from pre-Feke to Motherwell and Warhol, has normally veered toward the same kinds of pattern. How much is thin technique responsible, how much an instinct for the form?

The skeleton, too, has played its part in America: released in the Stick Style of the eighteen-forties, becoming a baroque basketry of thin members by 1875, it gave rise, not only to the work of Greene and Greene and so on, by which it was transmitted to the California of the present day, but also to that feeling for the interweaving of skeletal elements, in whatever material, largely unfelt in Europe, through which the façade plaits of Sullivan's skyscrapers took shape and the interpenetrating spaces of Wright's houses found their principle of articulation.

Wood itself in America has been largely skeleton and skin — not log, despite the cabin myth. It has consequently been mainly light and articulate in character, not monumental and massive, like Russia's great piles of logs or the vast creaking columns and bracket capitals of China, Korea, and Japan. Can it be this very fact, in large part, which is tending to limit its use today? This is to say, wood last dominated our conceptions in the late forties. And what were those conceptions but Bauhaus or Bay Region: both types of form equally light, asymmetrical, domestic in scale, skeletal, planar, and so perfect for wood. But the fifties witnessed a turn toward weight, big scale, monumental mass, symmetrical solemnity and the expression of permanence: bad for wood, or for wood as we had generally conceived it to be. Away blew the plywood Harvard box on its lally poles. At its lightest, architecture moved toward Mies' brick and ringing steel; at its heaviest, toward Corbusier's garantuan concrete lintels and thrusting piers.

Wood, as if in desperation, took to flight in stressed church roofs, laminated arches and various phases of the hyperbolic paraboloid. Its use tended to become special, structurally exhibitionistic, and somewhat esoteric — except where, in small houses, it suited the builders' non-purposes, if they may be so called, or, now, the flexible ironies of the thoughtful Venturi or the skilful Moore. It is in this last category of the ironic small house that the Stick and Shingle Styles find their modern continuation in boarded and battened or shingled boxes with sloping roofs, treated in ways that are consciously impermanent, witty, and allusive.

Is it the desire, indeed the need, for permanence that most limits the use of wood after all? Fire codes tending to restrict its employment surely play a part, although many of them may no longer be realistic in terms of the methods for fireproofing which are now easily available. Yet, is wood necessarily less permanent in expression than other materials? In the form of logs and massive timbers it can last a very long time indeed, resisting decay no less than fire. Here, too, economy of material and function may not necessarily preclude the use of solid elements big in section. Such are in accord with the architecture of body and presence which seems to be what we formally envisage today. Kahn's pre-cast pieces, assembled largely dry, are after all like wooden beams.

But perhaps, in our search now for the straightforward form, released through function into shape, we can imagine again the common material of our continent, not in terms of technology as such but of its primal qualities, its built-in terror and awe. Perhaps we have not yet felt enough for the earthy force of wood, despite the hymns in its praise we once sang. Not flight, but the foot of the post on the stone, the shadowy pavilions, high, the chunk of the bolts in the joints, the blackened timbers, blunt, creosote-burnt, looming; the big roofs to protect the open grain from rain — the rain itself, the wood soaked in darkness. The fibrous structure of the wood, its obvious life, more demanding than the life of other materials, an old animal, cracking in the cold, "complaining," we say, the joists complaining in the frosty moons.

Vincent Scully

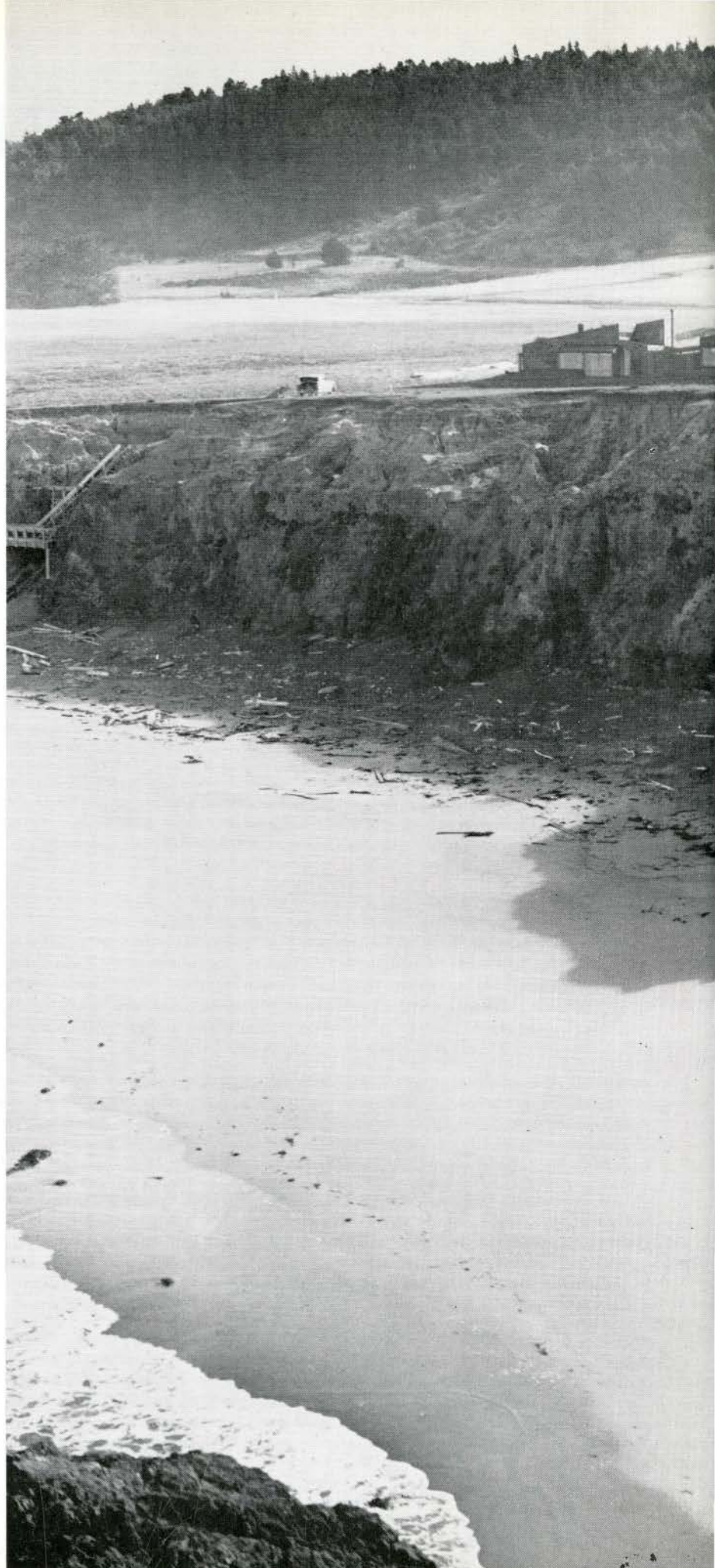
SOME NOTES ON WOOD FRAME

Few things are more difficult or more exasperating than trying to describe precisely how one does something that has become virtually instinctive. The classic example is to describe how one rides a bicycle — but this is simple compared to the examination of the complex actions of designing which seem frustratingly complicated before the act and even more frustratingly simple afterwards. I apologize in advance should one feel after reading all this that it is what anyone should know, and that it is just a matter of common sense. But then common sense at times seems to be going out of style, even with so ordinary a thing as wood frame construction. A plea for a rather simple approach may not be altogether out of place.

It is obvious but important to note at the outset that wood frame cannot be considered only as a way of putting things together over which one has independent and complete control, control to the extent that the system can be changed in its details or in its overall objectives. Wood frame construction is a step in a long and elaborate process that begins with either raw timber stands or tree farms, and ends with the ends of the lives of a whole series of entities that are the products of the system. Or to look at it in other ways one might say that it begins with banks, or with social institutions such as schools or with cultural attitudes such as ways of looking at and evaluating things, and ends back in the bank — or it doesn't end, in the social or cultural sense, but continues.

Not only is the process elaborate but it has attached to it a vast array of investments that make it possible for the system to work and give the stability necessary to any continuous working of the system. These stabilizing elements tend to resist change, whether it is short term or long term. If one chooses to work within the system one accepts a large group of well-known limitations (and it is extremely important to recognize that these limitations are well-known or at least are knowable — there is no point in getting involved with the system and then complaining that it doesn't work the way it doesn't work).

If one chooses to work outside the system it is possible to remove certain limitations but not all of them. The move outside the system not only exposes one to increased costs but puts one in a position where the limitations are not well known and in fact



Sea Ranch Demonstration Houses, Sonoma County, California



FRED LYON

may not be knowable. While this may have some advantages it has some obvious disadvantages.

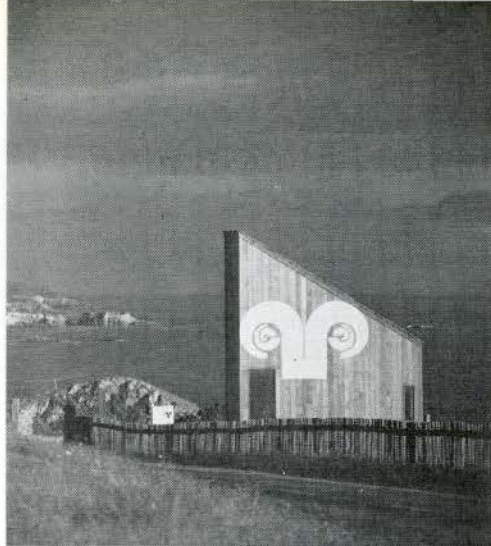
I take the position that working within the system is the easiest and the most effective way in which to operate. Thus I accept the fact that douglas fir or redwood or cedar have certain properties and that even though I may not like the way in which it is done, these materials are graded according to certain rules, the timber is cut and milled by certain specific methods and by tools that have quite specific advantages and limitations. For example, saws will make certain kinds of cuts to certain tolerances and it is just as foolish to demand zero tolerances from the established system as it would be to ask a circular saw to cut rounds. Timber comes to the market in specific ways, is warehoused and sold and delivered in specific ways and the way it is put together in a building is further limited by the tools and the skills of the carpenters who do the work. Thus there is no point in designing a particular joint, for example, if the skilled craftsmen aren't available to make the joint or the tools necessary are not in use, either because they have gone out of use and there is nobody around who knows how to employ them, or they are not permitted by union rules or accident commissions or the tool simply doesn't exist because it hasn't been invented.

While it has been fashionable to heap scorn on the building industry and any sub-industry such as the lumber industry I find it difficult to share this criticism. I find the system remarkable not only in its capability but also in its adaptability and changeability — and this view is supported by any examination of the kinds of wooden buildings we were able to build twenty years ago and the kinds of buildings that are possible today. Obviously the comparison is even more dramatic if one goes back to the days before the war. Yet in both cases the system has not changed enormously but has merely adapted itself by making detail changes in response to different commercial, social and cultural requirements.

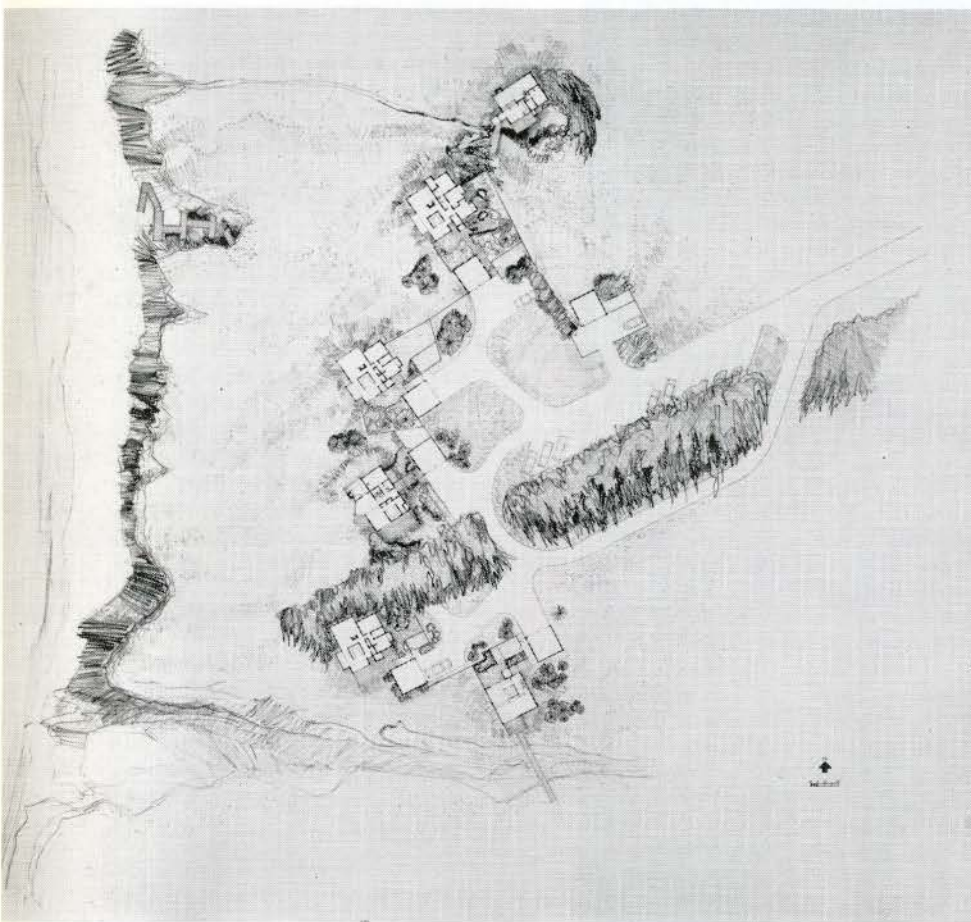
To this point I have attempted to look at the entire system. Our interest here however is more limited. We are speaking of wood frame construction; I will exclude then considerations of mill construction, for although timber is a major ingredient in mill construction it is a long way from being the kind of principal ingredient that timber is in normal wood frame construction. I will assume certain limits of size; for example that the story height will not exceed three,



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Top Left: The two one story houses and the two story house from the northeast. Notice the manner in which the roof is kicked up on the left hand house in order to get a single high window and a better balance of light along the living room wall. Although the plan of this house and the adjoining one is very similar the house on the right has two bedrooms only and therefore the living room projects as a bay, changing the internal light situation and making the balance problem less difficult.

Top Right: Looking south at entrance from highway. This little building is used as an entrance marker, displaying the logotype of Barbara Stauffacher on both sides. The interior was originally intended at first to provide some soft sell exhibition space as well as emergency shelter. Due to expansion problems it is now used as a secondary office.

Bottom: Site Plan.

that the height in feet will not exceed forty to fifty, and that building area will have certain specific limits depending on use, areas very much less than would be possible with other more fire resistant materials; in short building code limitations.

I will also assume the acceptance of such basic requirements as the need to keep out rain, to prevent the building from being eaten up by termites and for the inclusion of obvious safety and maintenance requirements. I assume also that some means of resisting lateral forces is required. I realize that my own working environment — in earthquake country — may make me see such problems in a slightly different way but it must be an unusual community where the wind never blows hard enough to have any significant effect. It may be of interest to those who do not work in earthquake country to know that generally speaking, if we compare the loads determined by code for earthquake with the code loads for wind our windloads usually indicate a higher force to be resisted and therefore govern structural design.

Other than simply because the materials and skills are there, why would one build with wood frame anyway? The answer is a manifold one and it must consider not just what one wants to do but must also include what one does not want to do. If cost is a serious constraint, particularly where cost must be kept down and yet the building is large, wood frame is always a good bet — and it is good if size is small and complexity great. While it is perfectly possible to build quite good and complete concrete buildings for relatively complicated uses for something on the order of \$20 a square foot it is only possible if the size is quite large. There are penalties for limited size in frame but the penalties are nowhere nearly so severe as with other methods of construction. If the requirements naturally lead to some cellular space organization, if the spans, both horizontal and vertical, are not excessive, and if a complex non-repetitive but rather highly particularized solution is obvious, again wood frame is logical. But with wood frame one must be willing to accept something less than the highest possible fire resistance, acoustic properties that do not naturally lead to the easy acoustic isolation of all the "cells" of the structure, and a building life, which when it gets beyond thirty or forty years, requires a fairly high level of attention.

Because I have come to accept the limitations of wood frame and I have a reasonably

clear set of expectations of the advantages, it is more or less automatically indicated if a building should logically be of wood frame — and it is a decision I make early on and with no strain. If I can't make it usually the building code does. For example any sort of school of more than one story in wood frame is simply something about which I would feel much too uncomfortable and would resist doing even though under certain circumstances it is permitted by our local codes. The risk in such a case is high and the question to be answered is a two-part one: What is the probability of a fire and then, if there is one, what would be the total cost?

One accepts, in addition to all the obvious constraints — that wood has a limited strength, shrinks and swells, is susceptible to certain fungus and insect attacks, and burns — that there are a variety of legal constraints as well as industrial standards limiting what one can do and defining particular applications in a rather broad categorical fashion. Building codes are quite specific and while one usually builds to a standard higher than the building code suggests, the assumption is one only gets credit for the code standard. Similarly grading rules are broad averaging rules and, for example, the actual stresses and modulae of elasticity indicated by a particular rule cover a very wide range in practice. Further, and primarily for convenience, one accepts miscellaneous industrial standards as for millwork and casework construction, for glued laminated structural members, and so forth.

One also accepts as basic resources many widely differing characteristics of wood and therefore makes use of these resources for widely differing reasons. Timber is extremely strong for its weight and is, within certain limits, easily cut and worked and easily remanufactured and reworked on the job. It can be fabricated to quite close tolerances, and the tolerances can often be better than is possible with steel frame; it is fundamentally a good thermal insulator and it can be made, again within limits, both fire and insect or fungus resistant.

Perhaps the greatest advantage of wood frame construction lies in the fact that it goes together in small parts and one can be, to a certain extent, indifferent to the likeness or dissimilarity of these parts. The assembly of complex collections of parts, differing in size, shape and purpose, is not only easy but natural to the system. Thus the payoff is high with a wood frame



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Interior of three bedroom two story house looking toward stairwell. Note that no effort is made to line up the head of the door to the passageway with the rail of the stair landing on the left. Note also that the beam under the partition is a glue lam and that the adjoining beam is simply a solid timber beam. No attempt is made to pretend that the two beams are doing the same thing.

Looking down into the two story section of the living room of the three bedroom two story house from the second floor.

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building if the requirements within the building are varied and changeable but not so high if the basic system is highly repetitive and stable.

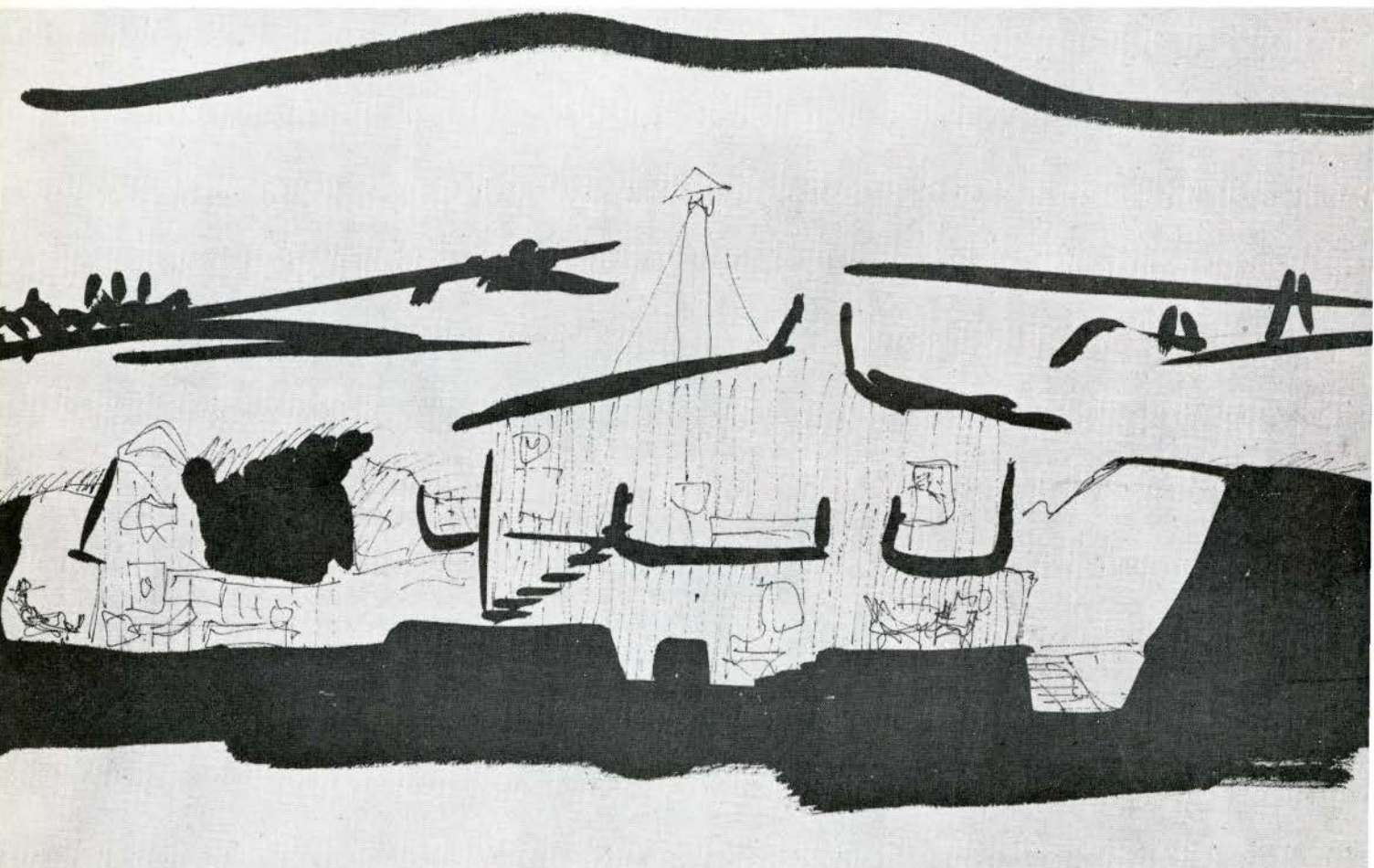
Wood frame structures are assemblies of components none of which are especially strong but which in combination are adequate for the job. The system assumes that a reasonable amount of chopping up of the frame is permissible and that the voids in the framing system are there to accommodate plumbing pipes, electrical wiring or conduit, heating pipes or heating ducts, thermal or acoustical insulation, etc. A conventional wood frame structure will quite naturally and easily accommodate itself to a wide variety of window and door types, to many different kinds of finishes, and to a wide range of roof schemes. The system appears awkward in many respects in that after the frame is built and erected by the carpenters, other specialists appear on the scene and install their work within the frame, sometimes virtually chopping it to ribbons. But because it is easy to patch the frame does not mean that this is necessarily the cheapest way or the best way to do it.

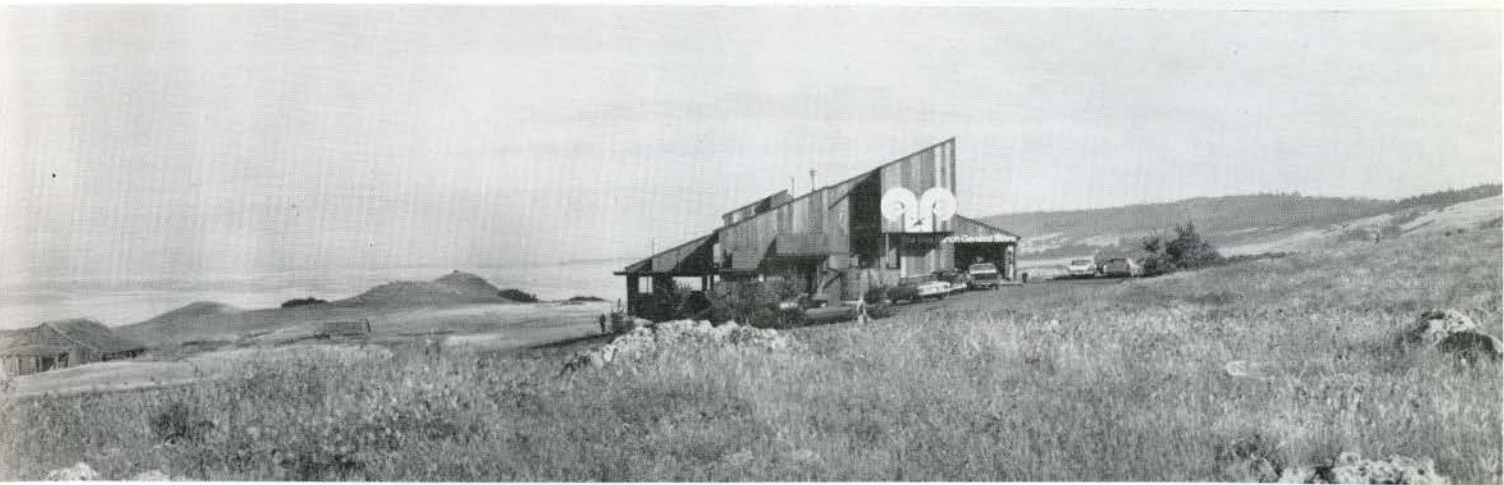
Any building problem produces a mass of nagging subproblems; wood frame is no exception. Condensation is more than just the nuisance that it would be in a concrete or metal building; it is genuinely dangerous and can lead to deterioration of the structure through dry rot, to say nothing of a whole series of other unsightly events. In some parts of the San Francisco Bay Area certain mixes of materials cause serious trouble — near the coast we generally try to avoid stucco or exterior plaster simply because of the tendency towards condensation on the back of the plaster and use instead wood finishes (shingles or shakes are best) because of their good insulation properties.

Swelling and shrinking can be equally troublesome — to both structure and appearance. Because shrinkage can be so great (a 12"-deep joist can shrink over an inch from the green state) — and because this can either cause severe cracking or can induce latent stresses or potentially dangerous situations by literally having the joists lifted off the plate and supported only on the wall sheathing, serious thought must be given to the control of this shrinkage. It is our policy to use only air dry or kiln dried material (and second hand when available) for floor joists or beams not only to avoid shrinkage but because deflection is less — and there is less likelihood of deflection

Store-restaurant; on the right one of the original old barns on the property which is being kept and used as a horse barn.

An early sketch of one of the dug in ideas. My early notion, shown here and in some of the other sketches, of the kind of hipped roof I guessed would give good wind protection on the lee side (with some means of dumping light down into the center) simply didn't prove out in wind tunnel tests. The difference between some of the ideas we were guessing at in these sketches and what we ultimately had to do based on the wind tests is quite clear from any comparison with the photographs.





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setting to a permanent sag. Dry studs will reduce enormously the problem of nails "popping" — the phenomenon of the wood shrinking away from the head end of the nail — with the result that the head projects further from the wood.

A wood frame, being a light structure, is naturally set in motion more easily by airborne sound waves than a heavier structure. While this is a relatively modest problem with a single family house it becomes acute in an apartment house where separate apartments are stacked and where alien sounds might penetrate any of the sidewalls or from above or below. The problem is a complex one and typically, for wood frame, it is solved in a relatively complex way, or at least a way that seems complex in that it involves the addition of different materials, each to reduce a particular type of sound.

One can be quite specific about the limitations with respect to size in wood frame and these limitations are significant. Horizontal spans of minor members, that is for example floor joists, become a serious problem when they are greater than 24 feet for a variety of reasons. First deflections become difficult to control and timbers are increased in depth to satisfy deflection problems. With the deeper timber one adds

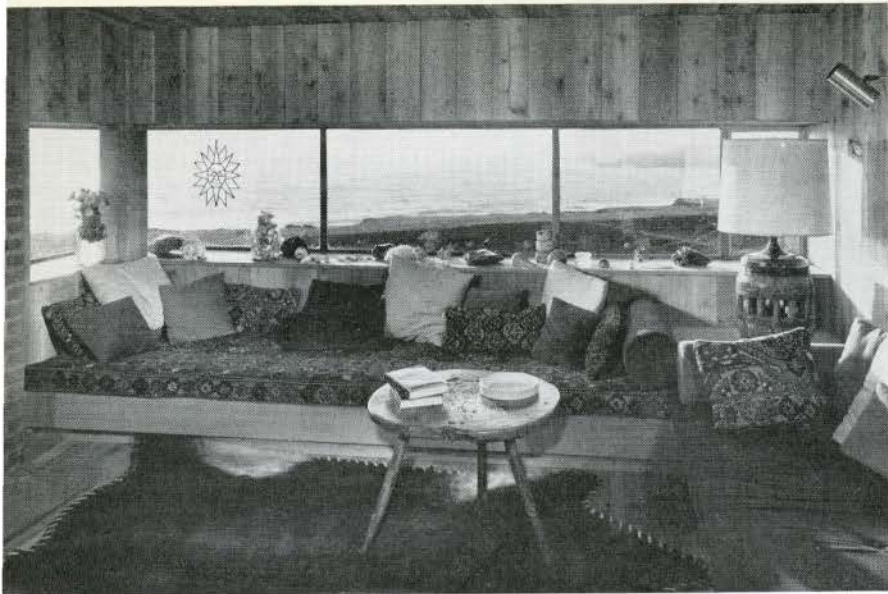
to the severity of the problems that may result from shrinkage. Vibration problems become more acute, the potential "bounce" from the floor increases and, because one is beginning to get into outsizes, the cost begins to go up geometrically. Not only is the timber itself more costly but it can no longer be handled by one or two men comfortably, so there is additional labor. While the problem is obviously not so acute for roof spans it still exists. Permanent deflection or sagging, particularly with green timber, is nearly as critical here as in floor problems. Similarly vertical spans become a problem when stud heights exceed sixteen to twenty feet. Deflections under windloads may simply become unbearable visually or may be sufficient to crack glass unless the depth of the framing member is considerably above normal.

Since one does not span wood in two directions in the same plane unless one is dealing with a stress skin arrangement, which virtually precludes the use of the space within this skin for mechanical components, each framing direction becomes a framing layer. There is no such thing as a two-way slab in wood frame and it is extremely difficult to cantilever in the same plane around a corner in the way that is easy and natural in reinforced concrete. Of

all the characteristics of wood framing, the layering of the framing members seems to be the least understood, or at any rate the least accepted, perhaps because of a stylistic drive to imitate reinforced concrete or welded steel — or of early experience in schools building models of balsa wood with cemented joints.

Framing of two directions in one plane is possible however so long as the beam (or header) is a terminal member — *i.e.* so long as it is not supporting a cantilever. Such layouts were, until recent years, virtually impossible economically, but now with many new kinds of proprietary makes of framing anchors this is no longer so difficult.

The use of these framing anchors in combination with plywood floor and wall diaphragms constitutes perhaps the most striking development in wood frame construction in recent years. Windows can be "bled" to walls, partitions, floors or ceilings so that entering light washes the wall without any interrupting shadow, providing much easier brightness ratios for the human eye in looking out the window. In addition to combinations of wood frame and plywood with metal anchors other additions of steel to form composite systems are possible and advantageous where



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design requirements force extreme solutions. For example consider a box with two opposite walls — let us say the east and west walls — sheathed solid and the two opposite north south walls all open glass frame, a not uncommon situation, often reasonable within cities but a stylistic absurdity when it appears out in the country. Such a structure has all the lateral stability in the north-south direction of a wet box of Kleenex. The only answer in this case is to take out the lateral loads either with a "rigid" frame, by cantilevering columns out of the foundation or by adding shear panels.

Wood frame construction does not lend itself naturally or easily to any sort of curved form. Obviously the easiest thing to build is a box where all cuts are square. Complexity is added when cuts are square only in one plane and the most severe flat plane situation is where cuts are not square in any plane. However such cuts as these latter are easy compared to any cuts required by the intersection of a simple sloping flat plane with a curved plane. While it is true that it is possible to use stave construction (in the manner in which

water tanks are built) one is limited to specific arcs of circles for each stave cut and to curvature in one plane only — but with the loss of the hollow wall into which other component parts of the structure can be built.

Thus, because wood frame construction is an assembly of straight sticks of wood, it is only natural that these sticks are assembled as some sort of an assembly of planes that intersect at more or less complex angles. The sort of plasticity that one can achieve with masonry or mud cannot be directly achieved in wood frame. But it is perfectly possible to achieve a representation of this plasticity, in short to create a kind of plastic ambience without having the curves quite so specific. In this I'm not speaking of a formal geometry — either some form of crystallography or some repetitive system of curved shapes, but rather to a vaguer and less specific array of forms, forms that are less easily abstracted, pointed to, focused on, but rather of forms that are less easily described and less likely to be described by different people as exactly the same thing; in short, forms subject to the widest variety of interpretations at different times or under

different conditions. Wood frame permits one to represent this sort of plasticity if it capitalizes highly on the minute-to-minute change of sunlight through the day and on the changes in the quality of the light because of atmospheric reasons. It seems to me possible to achieve, at least in part, a situation in which the building is not seen but the light is; a building that gives the environment and the activity back so directly and so completely to the user that the building does not really exist but is only a kind of vague idea making the existence of other far more important things clearer and more apparent.

The great advantage of wood frame is that after one knows how to use it one can to a large extent disregard it. It is not necessary that it get in the way, that it become formally geometric, a kind of regular repetitive crystallography which encourages the observer to focus on the building. Because it is really not plastic it does not acquire the tactile aspect that sculpture has and one does not, in one's mind, tend to run one's hand across it and find that the building is exactly where one expects it to be in the process — one can't run one's hand across

Above: The three bedroom two story house, looking northwest up the coast from the "Inglenook". The ceiling is deliberately low, so low that one is forced to sit down in order to really see the view; standing one just sees the water over the cliff edge. There is a widow to the left of the fireplace which goes clear to the ceiling producing a good balance of light.

Below: Another view of the three bedroom two story house.



ROY FLAMM





ROY FLAMM

Page 45: Bay Stockton Apartments, San Francisco. Architects, Joseph Esherick & Associates. Looking east, garden apartments on the left are duplicated on the right but at a higher level. The aim throughout this group was to capitalize on different situations in order to produce the widest possible variety of choices for possible tenants.

Above: Cary House, Mill Valley, California. Architects, Joseph Esherick & Associates. View of path to house entrance looking more or less west. Trellises give mild shelter outside and latticed overhangs at windows give a good filtered light inside. Note that the protective overhang for the window is associated with the window and not with the roof.

it and even if one tried the building isn't quite where you put your hand.

So much for how we look at wood frame — for what we see as easy and natural and what we have to be wary of; how do we go about designing wood frame buildings? First off, given the wood frame, we can assume the building is bound to be a relatively small one and the client "singular" (one or two people rather than boards of directors with planning committees and building committees and operations committees) and the predictive requirements not so great (answers can be usually given immediately and directly by the client — no market studies, surveys, research, simulation of alternative strategies under different conditions). Under these conditions I prefer the most direct possible approach. I came to this, in part, because of earlier negative experiences with the more traditional routine of collecting information, retiring to the back room to produce a "scheme" — and emerging to present the client, on the next meeting, with a rather well-defined, clearly drawn plan and perhaps a perspective sketch or two. But there was always the inherent difficulty that in explaining the sketches I had to defend them — just for the sake of explaining — and the client, in questioning, was put in the position of attacking the drawings. Rather than serve as a means of communication all too often the drawings became a barrier to communication. So I decided to try doing *no* drawings in advance — or at least none I would show the client — and to start the conference with a blank sheet of paper.

One always develops a better sense of the information required to design anything as one tries to design. With the traditional scheme I was always working off incomplete information but trying to produce something that looked like a complete answer. With the new scheme I could frankly question and inquire as I went along, and develop information as needed. The advantages of this approach were not merely that I had eliminated a false step and was getting better information; now the client saw the whole process and in particular saw something of the relationships one develops between needs and response — that is between clients' requirements and design actions. There are limits to the effectiveness of this method, not the least of which is one's own particular capability at any one time. But I enjoy

the pressure and I continue to use it in most small projects.

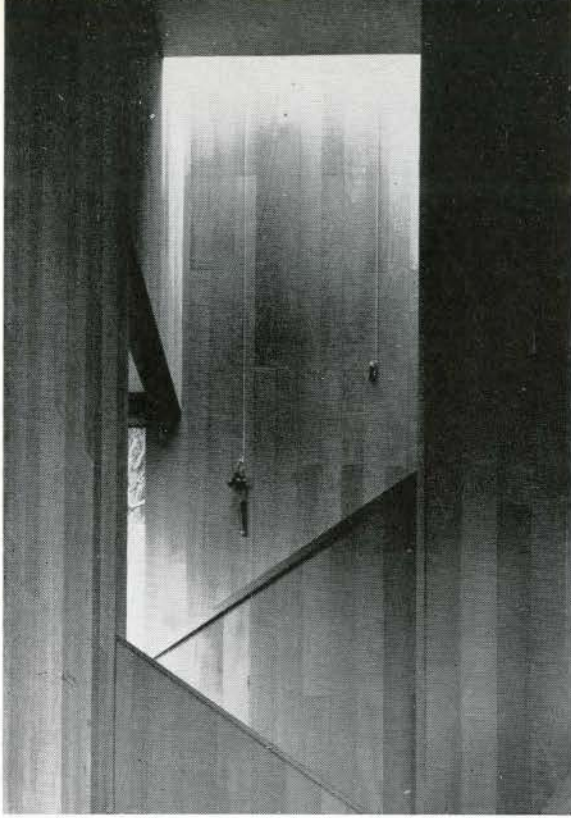
Clearly, working drawings cannot be done in such an informal manner. When agreement exists with the client about the project — and when the project has come to take enough shape so that one can conceive of it — vaguely perhaps — as some sort of building, it is moved into the drafting room and a reasonably rigorous process of enquiry begins. The entire focus is on the particulars of the project at hand in its environment — (and the environment includes not just the site but, for example, available building materials, methods and skills and time available).

We do not attempt to "express structure" in the sense of establishing some overriding structural system — for one reason because being "expressive" often involves situations where the expressiveness is more important than the reality and mere language is in charge of ideas. (Architecture is filled with these inventions of architects and critics; there are other non-problems: How does the building meet the ground? What is the concept?)

Our approach is highly particular. We hope to solve the particular problems that actually exist and not some invented pseudo-problem; we try to find a kind of reality within the problem, rather than introduce some external formalism to shape the particulars to. We go about it by seeking answers to a long series of questions — What is happening at any one point? What is the environmental situation — views, sun, wind, privacy problems? What is the use — or more realistically — what are the uses of the whole and of each identifiable part? What ways by what different users? — in what other ways? How do we build it and what is the easiest most direct way? What will lead to least troubles in the future? What is really happening?

We do not seek to "simplify" by some over-riding visual pattern — by pretending that things that aren't the same are the same. We accept differences. We accept conflicts. And we capitalize on them. The great virtue of wood frame, in spite of and to a certain extent because of its limitations, lies in the easy and natural manner in which one can work in very particular and responsive ways with differences and conflicts.

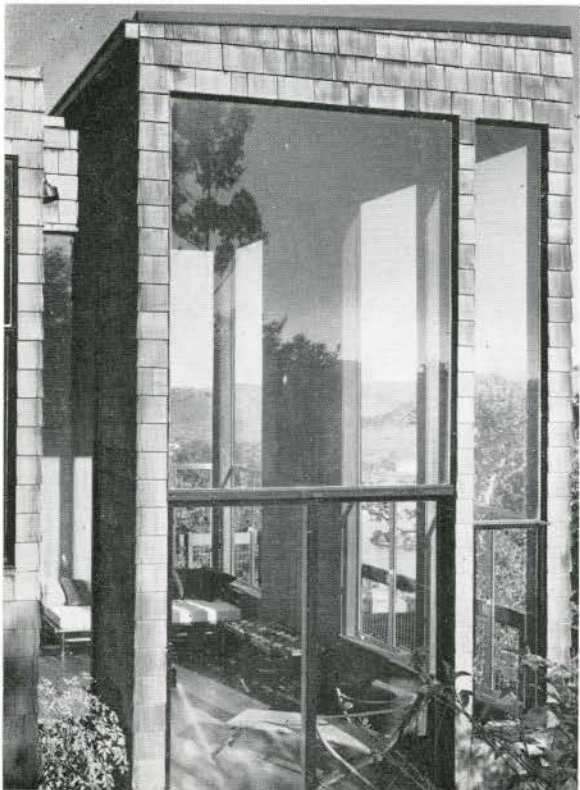
Joseph Esherick



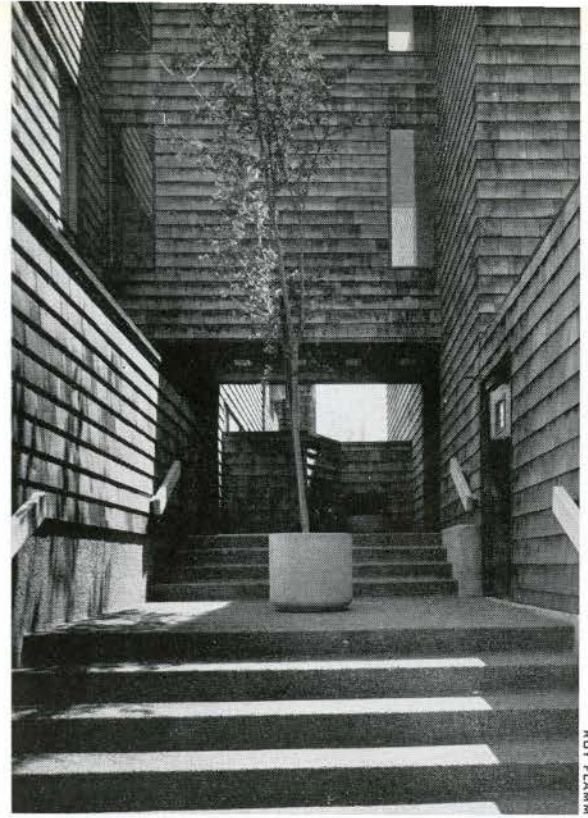
ROY FLAMM

Cary House, looking from living room up into skylight at stairwell. The lines operate a simple gravity flap so that air can be exhausted in the heat of the summer from the highest part of the room at the skylight. Note that the skylight is arranged so that there are no overhanging edges to give dirty shadows at the top.

McLeod House, Belvedere, California. Architects, Joseph Esherick & Associates. From the living room on the left, one steps down three steps into this glassy little pavilion with a ceiling higher than the living room itself. I was interested in putting into the house some of the relationship of the downward and upward character of the view as one looked out over the cove (on the right). Note the freedom with which it is possible to detail wood elements and the easy way in which windows can be inserted in very small places.



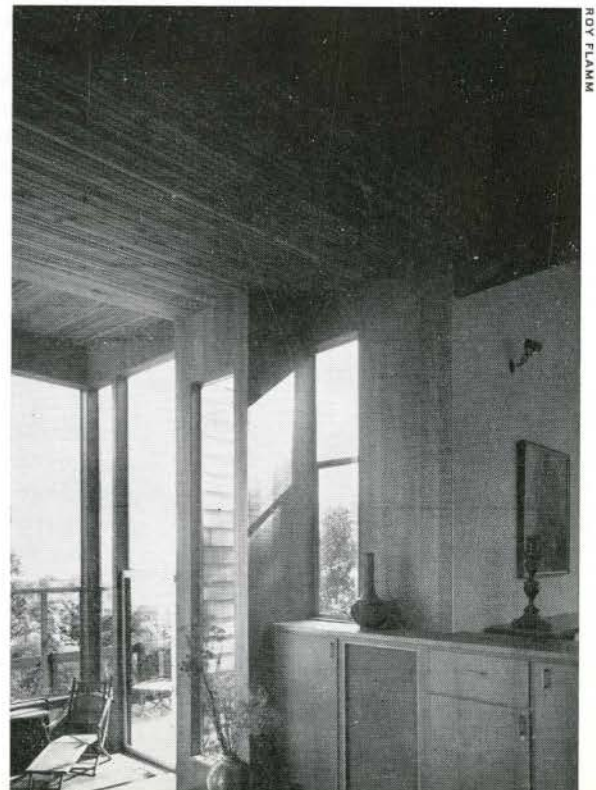
ROY FLAMM



ROY FLAMM

Bay Stockton Apartments, looking up toward the entrance to the southerly building, showing bridge connecting the elevator tower on the right and the smallest building on the left. The aim was also to deal with the problem in the established Telegraph Hill tradition of a variety of buildings distributed around back alleys and narrow lanes. It wasn't our idea to put the tree in the center.

Looking from the inside at what photograph at left shows from the outside. I like the way the combination of sheet rock and natural wood came out, adding a great deal to the plasticity.



ROY FLAMM

DBR/NRC's Housing Research Affects Wood Developments

by R. E. Platts

Mr Platts is the Research Officer, Housing Section, Division of Building Research, National Research Council, Ottawa.

The continuing program of housing research at DBR/NRC is concerned with both the product and its production, and both facets naturally involve wood and wood-based materials. All of these studies including the examples outlined below are carried out in close association with the Forest Products Research Branch and Central Mortgage and Housing Corporation. The Division was set up in 1947 to provide a technical service to the building industry and to the Central Mortgage and Housing Corporation. A further function is to provide technical support to the committees responsible for the National Building Code of Canada and particularly the document "Residential Standards", the latter forming an up-to-date manual of accepted practice in wood frame construction.

A number of studies have been concerned with the efficient use of wood components in frame construction. An intensive program of roof truss research, for example, has led to increased use of trusses in house building. Extensive tests on conventional and trussed roof constructions, together with information obtained from the continuing DBR/NRC study of snow loads on roofs, have had considerable effect on refining the requirements of the Residential Standards. Roof design loads have been reduced to 60% of the ground snow load, and roof framing requirements for houses have been almost completely revised to provide a more efficient design in conventionally framed roofs. At the same time, more rational performance requirements for roof trusses have allowed the development of efficient light-weight trusses, now used extensively throughout Canada. In this way wood frame practice has been refined and improved. Similarly, the technical evaluation of racking resistance of walls and deflection characteristics of floors have allowed the "Standards" to be more liberal in these areas, again affecting wood frame practice everywhere. Other examples of cost-saving changes to the Residential Standards, resulting from technical studies, include wider stud spacings for partitions, reduction in required thickness of plywood sub-flooring, and the elimination of wall sheathing and cross-bridging in floors.

While the product has been changing so have the methods of production, and again the cost-savings have been significant. DBR/NRC's studies of prefabrication indicate significant gains in overall productivity by transferring to the shop a relatively small proportion of the site labour content of the average house. These gains are reflected in the operations of leading project builders across Canada, many of whom are now fabricating the basic wood shell in the shop. The prefabrication study, culminating in an extensive report, has attempted an assessment of the present position and future potential of prefabrication in house construction. The paper considers the effect of such factors as Codes and financing and discusses production methods, factory equipment and shop layout in relation to design and production. The inquiries received on these prefabrication practices and problems show that the remarkable spread of shop fabrication is continuing among project builders, smaller builders, and many building supply dealers. Many have found that wood shell prefabrication forms the best operating approach in winter building, and by this

means project builders have undertaken year-round building programs with no significant difficulties and with obvious advantage to the country's economy. The former emphasis on winter building enclosures has given way to the use of the prefabricated shell itself, which can be erected and closed-in in one day and then forms its own heated enclosure.

Project prefabricators and others are now striving with considerable success to adapt their wood frame production to row housing and other low-rise multiple housing designs, with several quite attractive projects now completed. Studies and testing at DBR/NRC have shown how wood frame construction can be adapted to the more rigorous requirements of multiple housing, meeting both the sound and fire requirements of party walls and floors. Even the more stringent British sound transmission requirements have been met by careful wood frame design to meet the developing interest in the United Kingdom in Canadian wood frame materials and techniques.

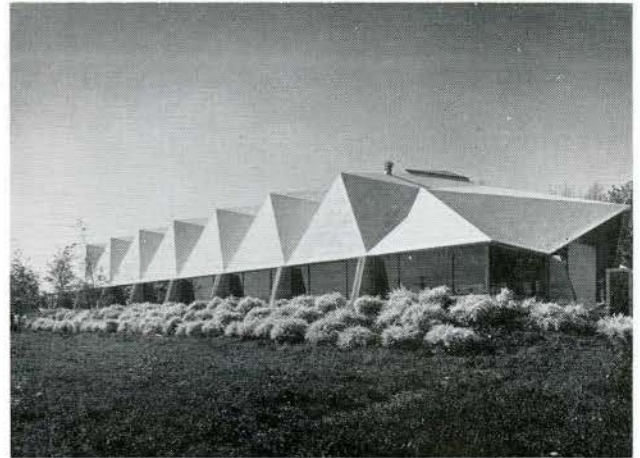
A recent survey of plastic materials as structural elements in housing has aroused great interest in the potential of what might be called "formable wood-plastics". The extruded wood particle boards form the best current example of this material concept, and one company in Canada is successfully pioneering the production and application of "extruded wood". Wood-fibre or metal skins bonded to the extruded board form very strong, smooth composites which show particular promise in partition systems and also in walls, roof deck, and other components. In view of the potential of such materials the Division has set up small study projects to assist manufacturers to assess and develop sandwich panel components utilizing extruded wood cores. This work follows upon and draws from the Division's experience in stressed skin plywood studies and designs for far northern housing.

Recently the Division has entered the challenging area of work study, with crews now trained to systematically measure just what goes into the construction of a house, both in labor and in materials. The importance to the industry of this field of study is indicated by the report by Professor Aird of the University of British Columbia on "Manpower Utilization in the Canadian Construction Industry", which the Division has published. The Division's first work study project is now well underway, in co-operation with the Research Committee of the National House Builders Association. Following the detailed measuring of labour and materials in a typical wood frame house which is now being completed at an Ottawa project, the results will be analyzed and a new design prepared for a house similar in appearance but technically refined to achieve cost reductions. Observations on this house will form the second phase of the project and will be known as the NHBA's Mark V project. It will be designed to make full use of the minimum standards of Residential Standards, and the project observations will be set up to measure the resultant savings in manhours and materials. The work study method can be a most useful tool in other studies such as the evaluation of materials handling and winter building techniques and their effect on house construction costs.

Research Developed Plywood Components

by Alan E. Oman

Mr Oman is Advertising and Publicity Supervisor of the Plywood Manufacturers Association of BC, Vancouver.



Plywood Research Laboratory, North Vancouver, BC, Architects : Thompson, Berwick, Pratt & Partners.

Research Developed Plywood Components

The plywood industry banks heavily on research and testing to develop new applications that realize fir plywood's great structural potential. Before 1930 plywood wasn't considered a structural material, but the perfection of waterproof glue to bond veneers greatly expanded plywood's range of applications and the industry set to work to come up with building systems that would take advantage of plywood's unique properties.

Plywood structural components were developed to utilize efficiently plywood's strength and to satisfy the demand for more sophisticated building designs.

PMBC Structures Testing Laboratory

Research and development into plywood's properties and applications is conducted at the structures testing laboratory of the Plywood Manufacturers Association of British Columbia (PMBC). The Association has carried out an extensive research program since its inception in 1951.

This program was accelerated when PMBC built its own laboratory in 1962 which is staffed by engineers and technicians.

Principal objectives of the lab are :

1. to develop and simplify design procedures for structural components ;
2. to verify design assumptions ;
3. to proof load and thereby establish the adequacy of designs for which rational design procedures cannot be developed and to develop satisfactory fabrication procedures.

Plywood components are fabricated and loaded to destruction on the lab test floor, which is designed to handle development and testing of full scale structural components with spans up to 100 feet.

The lab test floor is divided into four areas :

1. A completely equipped carpenter's shop.
2. An area devoted to photoelastic model studies.
3. A 100 x 30 ft. horizontal load test area incorporating a 100 ft. loading rail designed to withstand a test pull of 5,000 plf, permitting the application of 500,000 lb test loads to components 100 feet long.
4. A 72 x 30 ft. test area, for application of uniform and vertical

loads, incorporating three 72 ft. parallel loading rails set at 9 ft. o.c. in the laboratory floor.

Testing systems are housed within the three test areas, each designed to apply and measure a test load and to record the stress and deflection in the component under test.

A recent addition to the laboratory facilities is the flexure machine, one of three such machines currently in operation in North America. It is designed to apply a uniform bending moment to full size plywood panels up to 4 x 12 feet. The machine has a capacity of 60,000 in.-lb.

Another recent testing machine now in operation in the PMBC lab is the Tinius Olson universal loading machine. This machine loads components and records stress.

Current Lab Research Work

A computer program on standard web beams is being developed. This project will result in an entire family of standard design plywood web beams. Testing is being conducted on stressed skin panels and portal frames. Other lab testing is devoted to the investigation of the abrasion-resistant qualities of various coatings for plywood sundecks and walkways. A feasibility study is being conducted into T-beams, a new structural component under development at the lab. Another project is concerned with the determination of the ultimate strength of plywood.

Components

Plywood structural components are assemblies of fir plywood and other material (generally lumber) in which the individual pieces act together as an integral unit and which are designed to carry defined structural loads. They may be fabricated in the shop or on the site and are fastened together with glue, nails, staples, screws, bolts, special mechanical fasteners or any combination of these. The range of component design is wide and still increasing as research and testing develop new ways to utilize plywood properties.

Plywood Beams were the first components developed. They usually consist of one or more vertical plywood webs to which lumber flanges are attached along top and bottom edges.

Stressed skin panels are another plywood component developed by the industry and are one of the most versatile. In this structural

system plywood is glued to both sides of a core material, composed usually of spaced longitudinal or lateral lumber framing members. Used extensively in wall, floor and roof construction, stressed skin panels have been used in spans from 4 to 40 feet.

Plywood panel arches' graceful curves and easy fabrication have made them very popular with designers. They are stressed skin or stiffened plywood panels fabricated in a curve. These curved panels act as two or three hinged arches and are able to span greater distances than flat panels of similar cross section.

Plywood folded plates are attractive and efficient components and very easy to fabricate. Essentially a series of plywood beams arranged and fastened together to form an assembly, folded plates are usually square-toothed, saw-toothed or trapezoidal in cross section. The components, functioning as panels, mutually stabilize and stiffen each other. Spans over 60 feet have been produced economically and research has indicated spans up to 120 feet are economically feasible.

Barrel vault components require only corner supports, thus forming a roof independent of walls for support. They are basically panel arches extended in length and designed to span in two directions. Work is currently being conducted at the lab which is expected to produce simpler and more economical barrel vault fabrication techniques.

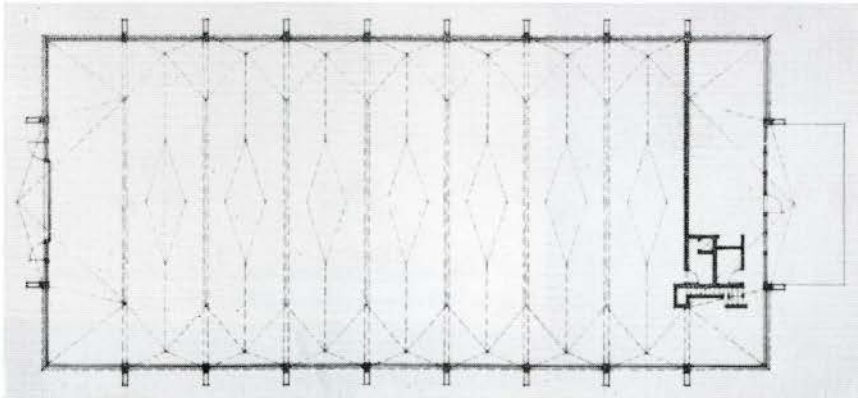
Rigid frames are arches formed by four straight pieces of lumber joined by nailed plywood gussets. Frames are usually spaced

2 ft. to 4 ft. on centres. The structure is enclosed with plywood applied directly to the frames. The Plywood Association's research engineers produced this component as an answer to the need for large, post-free, clear span interior structures which could be easily adapted to a variety of uses. Rigid frames are perhaps one of the most popular of all plywood components because of their great economy and simple fabrication.

Other plywood components include stiffened panels, nailed web beams, glued web beams, cranked beams, portal frames, trussed panels, hyperbolic paraboloids, spherical domes, triangular beams, elastica arches, structural boxes, trusses and diaphragms.

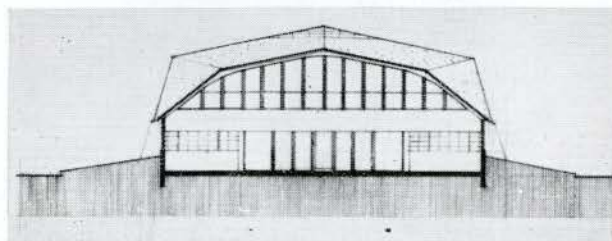
Technical Publications

To assist architects and engineers in the specifications and design of plywood structural components the Plywood Association publishes technical literature containing up-to-date and accurate information about fir plywood's properties as they apply to the various component systems. These publications are available without charge to specifiers. New titles in 1965 include: Plywood Folded Plate Design, Fir Plywood Rigid Frame Selection Manual, Design of Canadian Fir Plywood Stiffened Panels and a selection of case histories outlining design procedures for specific component applications. Among the many technical publications planned for 1966 are: a Plywood Physical Properties Handbook; 1966 Construction Guide; Report on Triangle Beams; a Report on Finishing Plywood.



Main Floor Plan

Transverse Section



The Importance of National Standards to the Forest Products Industries

by J. H. Jenkins

Mr Jenkins is the former Director of the Forest Products Research Branch, Department of Forestry, Canada.

In recent years, the importance of national standards, specifications, and building codes in influencing the use of wood has received wider recognition.

In Canada, national standards are formulated by the Canadian Standards Association through various specification and standards committees.

These committees are so selected as to be representative on a national regional basis, of manufacturers, users, and technical specialists, such as those of the Forest Products Research Branch of the Department of Forestry of Canada.

CSA committee structure

The standards work of CSA is divided into sections such as A-Civil Engineering, B-Mechanical Engineering, C-Electrical, O-Timber, and so on.

Policy matters affecting timber standards are the responsibility of the CSA Sectional Committee on Timber. Under this sectional committee is a large group of specification committees responsible for the preparation of the wide range of specifications or standards in the field.

CSA timber standards

There are 30 standards in the O-Timber series covering a wide

range of wood products. They include softwood lumber; structural timber; glued-laminated timber; qualification code for manufacturers of structural glued-laminated timber; engineering design of timber; poles; piles; crossarms; wood preservatives; plywood-hardwood, poplar, Douglas fir, etc.; adhesives; millwork (sash, doors), and ladders. (To follow as bibliography.)

Impact on building

CSA Standards play an important role as reference material in the National Building Code of Canada and its supplement — Residential Standards 1965.

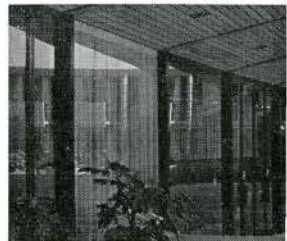
The code and the residential standards are documents of far-reaching importance affecting all types of building products and their use. At the municipal or city code level it can be used as a guide or it can be adopted in toto by legislation.

As an example of the importance attached to CSA Standards, it should be noted that in the National Building Code 1965 there are references to 18 different CSA Standards in the wood field.

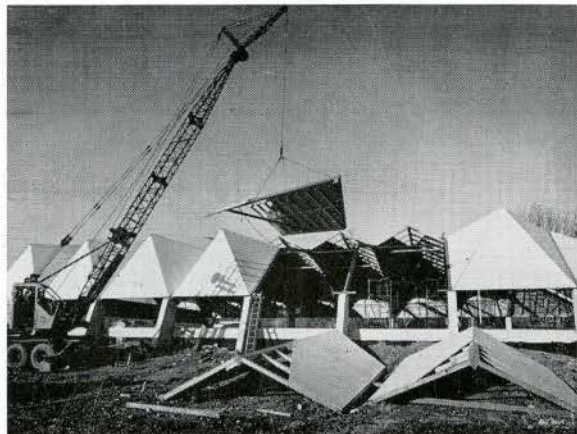
The national standard covering the classification and grading of softwood lumber used in house construction is CSA O-141 Softwood Lumber. It includes descriptions of the classification of softwood lumber, grading provisions, the requirements for grade marking, the measurement and tally of lumber, definitions and terminology, abbreviations.



*Plywood Research Laboratory
North Vancouver*



*Plywood Research Laboratory, North Vancouver
Thompson, Berwick, Pratt & Partners*



PHOTOS BY PULLAN

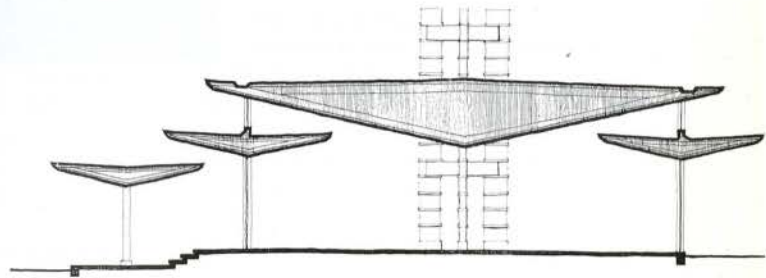
Grade marking of lumber has been practised in Canada since 1960. It has been organized and controlled under the Canadian Lumber Standards division of the CSA. This is described in detail in Department of Forestry Publication No. 1134, "The Development of the Grade Marking of Lumber in Canada".

From the inception of grade marking in 1960, the Forest Products Research Branch of the Department of Forestry has played an active part in supplying the necessary background technical information and in providing the chairman and secretariat for the CLS Administrative Board.

Glulam timber standards

In January 1964, the responsibility for the qualification of manufacturers of structural glued-laminated timber was transferred from the Canadian Institute of Timber Construction to an administrative board of the CSA.

This administrative board has as its members four representatives from the glued-laminated timber industry and four well-known engineers representing commercial and government user interests. This board forms a division of CSA, somewhat similar to CLS. It is responsible for the proper functioning of the CSA Qualification Code O-177, and ensures that the necessary quality standards are maintained. The board is self-sustaining financially.

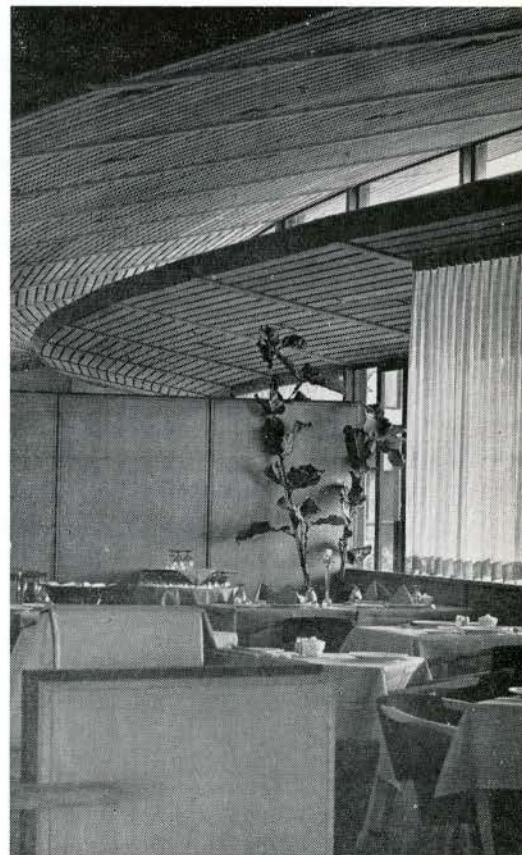


*Delpport Motor Hotel
Cross Section at Main Lobby*

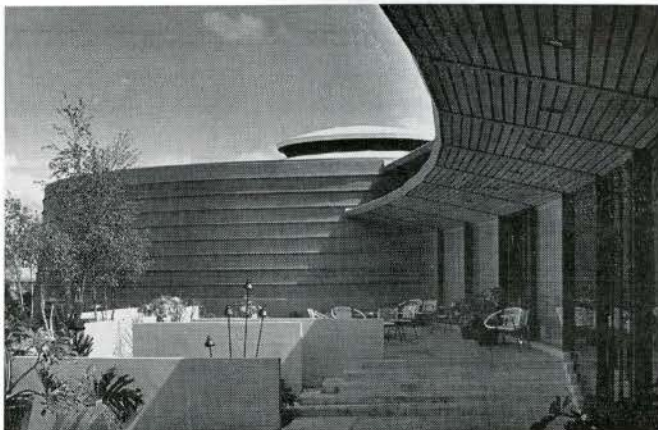
Delpport Motor Hotel



Delpport Motor Hotel



*Delpport Motor Hotel, Richmond, BC
Thompson, Berwick, Pratt & Partners*

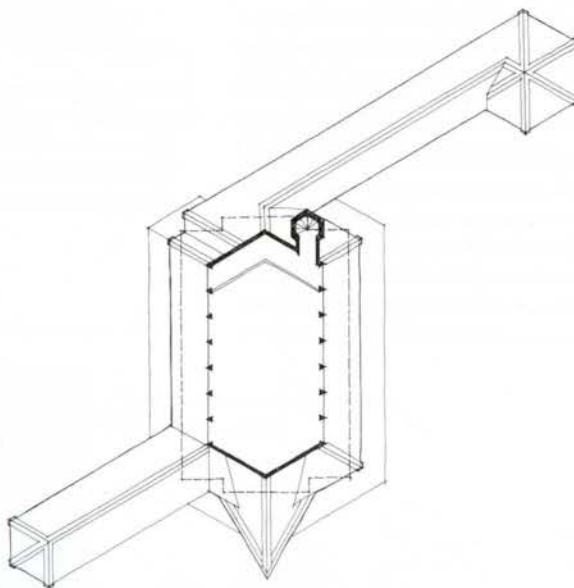


*Filburg Church, Comox, BC
Thompson, Berwick, Pratt & Partners*



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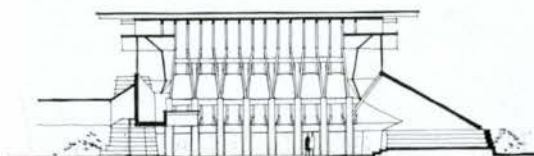
Plan at lower roof level



Cross section



Longitudinal Section



Structural Wood Research at the Forest Products Laboratories of Canada

by D. E. Kennedy

Mr Kennedy is the Head of the Timber Mechanics Section, Forest Products Laboratory, Department of Forestry, Ottawa.

The Forest Products Laboratories in Ottawa and Vancouver carry out independent research programs under the general direction and co-ordination of the Department of Forestry of Canada. Research on the structural uses of wood is only one of the important fields in which the Laboratories operate.

Basic Strength Data

Data on the basic strength and physical properties of all commercially-important Canadian woods are available. These data are kept up to date by additional sampling and testing of native trees as the need arises. Two very extensive specific gravity surveys, one in British Columbia and the other in the Maritime Provinces, have provided an additional check on the probable accuracy of currently published data.

Glued-Laminated Construction

The Laboratories are well known for their work in this field and for their contributions to the development of specifications and the improvement of end joints in laminations. Recent work at the Vancouver Laboratory has opened the door to money-saving finger joints and has shed more light on the behaviour of glulam beams under long continued loading. The Ottawa Laboratory has been investigating the lateral stability of long-span laminated beams with a view to the development of a more sophisticated design theory. This question also involves the continuous or intermittent support sometimes provided to the compression edge of beams and the effectiveness of this support. Currently, the Ottawa Laboratory is engaged in an extensive study of the effect of knots and other natural characteristics on the design strength of beams.

Mechanical Fastenings

Research is currently underway in two main fields. The Vancouver Laboratory is developing a nailed fastening which promises to have properties of strength and rigidity unequalled by other mechanical fastenings. The nail is a high-carbon hardened steel nail of oval cross-section which is driven through a pre-drilled steel plate with a driving fit. It is hoped that moment-connections

can be achieved with this type of fastening. The Ottawa Laboratory is studying the load-sharing characteristics of multiple-connector joints employing conventional shear plates. Changes in design specifications may result if it is found that some connectors in a row are disproportionately loaded.

Building Codes

The FPL serve as advisors to various building authorities and its members serve on several committees of the National Building Code of Canada. Ad hoc investigations are often carried out to assist Central Mortgage and Housing Corporation in arriving at a fair appraisal of a wood product's quality or a metal fastening's efficiency.

Non-Destructive Testing

This is a field in which there is great interest in many countries and in which both Laboratories are involved. The non-destructive testing of timber for strength promises to surpass visual stress grading in accuracy and to make possible safer and more economical timber buildings.

Non-destructive testing depends on the correlation that exists between stiffness and strength in timber. Two commercial machines have already been developed in the USA, both of which measure the stiffness of a joist on the flat and assign to the joist both a Modulus of Elasticity and working stress for use on edge. The Vancouver Laboratory has been assessing the possibilities of one machine and the Ottawa Laboratory has purchased and is assessing the other.

The Ottawa Laboratory is also working on the non-destructive testing of timbers on edge by means of vibrational techniques. This method has not yet reached the commercial stage but promises to have fundamental advantages over the existing commercial machines. All known methods of non-destructive testing have a degree of error since the strength-stiffness relationship is not infallible but research is pointing the way toward more accurate grading and more dependable timber structures.

Modern Wood Finishes

by P. S. Brown, P.Eng.

Mr Brown is Division Manager, Canadian Paint, Varnish and Lacquer Association, Montreal.

In terms of improved color retention, film integrity, resistance to blistering, faster drying, greater ease of application, and range of colors, the products which can be obtained from the paint industry today are far superior to the coatings offered only a few years ago.

Paint is a very complex material, owing its properties to inter-facial phenomena and chemical reactions of which we have but limited understanding. Above all, it represents a compromise, a carefully designed and often critical balance of mutually opposing properties. Where the balance is struck depends on the type of product required, and in its more subtle aspects, on the imagination, resourcefulness and experience of the formulators.

No paint as yet discovered retains its initial properties and condition indefinitely, either in the can or on the surface to which it is applied, but a primary aim of the formulator is to make the effective life as long as possible. The problems of storage are mainly questions of retention of consistency, drying power and pigment suspension. The life of a paint film is determined by how long the finish retains something approaching its original decorative and protective qualities, the relative importance of these two varying with the purpose for which the paint is intended. The problem becomes most complex with exterior finishes, which are exposed to degradation by light, heat, cold and moisture. No matter how durable the liquid medium or vehicle, how light-fast the pigment colors, or how well chosen the white pigments, the paint film will ultimately break down through chalking. Chalking only affects the top surface, leaving the paint underneath as an unbroken film with its protective value largely unimpaired. If chalking is slight and carefully controlled, not only does it permit good retention of original appearance, but by shedding collected dirt, it extends the period over which an attractive finish is retained. Finally, when repainting becomes necessary, a sound surface is presented that requires the minimum of preparation. Gentle chalking is without doubt the most elegant way in which an exterior paint can fail in its old age. The skill of the formulator is usually directed to control the onset and degree of chalking, and to minimize color change by choice of pigments and vehicle.

We can class wood coatings into two broad categories—pigmented and clear. Essentially, a clear coating consists of film forming material such as a synthetic resin, dissolved in a volatile solvent to give it the right consistency for application. Metallic driers are generally added to shorten the time required to change from a liquid to a dry film.

Opaque coatings require the addition of pigments to the combination of film former, solvent, and driers known as the vehicle. In paint manufacture, the pigment is dispersed in the vehicle by grinding. When the paint is applied, the solvent evaporates, and the film former binds the pigment particles into a continuous film or coating.

In the area of opaque pigmented coatings, the paint industry today offers oil, alkyd, water emulsion and water soluble paints, and many others, all significant improvements over the classic white lead and raw linseed oil paint most commonly used for exterior purposes many years ago. And whereas the white lead oil paints required three or more coats, modern paints may be applied

in one or two coats, depending on whether or not the job is repainting or original work. Modern coatings are carefully compounded dispersions of high hiding pigments in chemically processed oils or alkyds or combination.

Clear finishes still present many problems. As yet, there are no exterior clear finishes on the market which will last more than 2–3 years. Some progress has been made in extending the service life with the development of alkyd, polyurethane and silicone modified alkyd varnishes.

The industry has made great strides in the field of pigmented coatings. In the past few years, the interior field has been taken over completely by the alkyds and latex emulsions.

The alkyds are durable, washable and dry quickly without the characteristic unpleasant odor of the old-fashioned paints.

Vying with them in popularity are various latex emulsions, where the vehicle contains one or more of the three main types of latex resins suspended in water. These emulsions are easier to apply than alkyds but less durable. This characteristic makes them less useful in heavy traffic areas where the surface has to be washed frequently.

All interior finishes are available in an almost infinite range of colors which considerably enhance their decorative potential, and make possible the fullest use of color in design. One of the advantages of using paint for interior decoration is that the color can be changed as desired, and even with repainting every 3–4 years, this type of decoration is less expensive than other types of permanent wall coverings such as rigid films and laminates.

Clear finishes present no problems indoors. As well, a wide range of pigmented stains is available from various manufacturers to enhance the natural beauty of wood.

In the exterior field, conventional oil paints are still used occasionally, but the major share of the market has been taken over by the alkyds and different types of latex emulsions. At the present time, the greatest advances in paint technology are taking place in the latter field. The outstanding characteristic of the latex emulsions, of course, is their permeability to interior water vapor to give greater freedom from blistering. Latex emulsion primers for exterior wood have now been developed and complete emulsion systems are now available.

It should be noted that the use of cheap paint is false economy. Since at least three-quarters of the cost of painting is labor, the greater coverage per gallon and longer life of high quality coatings prove that it makes sense to specify good paint.

The only way an architect or specifier can assure himself of quality coatings is by enlisting the assistance of a reputable paint manufacturer.

Because of the complexity of the material and the industry's exploding technology, there is no easy road to paint specification.

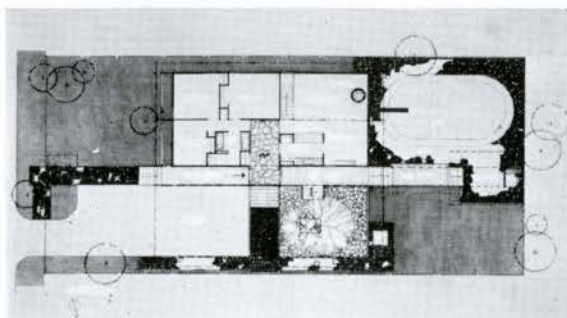
At the present time, the only safe and sure road is for specifiers to build up their experience with a limited number of manufacturers whose products are of recognizable high quality.

Ward & Macdonald Associates
Architects
Winnipeg, Manitoba
1950-1955

PHOTOS BY KALEN



*The Macdonald Residence, Winnipeg, Manitoba.
Architects, Ward & Macdonald Associates*



Floor Plan

Wood and the Mark IV Research House

by S. A. Gitterman

Mr Gitterman is the Technical Director, Research Committee, National House Builders Association, Ottawa.

The National House Builders Association has been sponsoring, with assistance from Central Mortgage and Housing Corporation, the Division of Building Research, National Research Council and the Forest Products Research Branch of the Department of Forestry, a program to encourage the development of improved or refined house construction techniques to obtain cost reductions without impairing the necessary structural requirements of a building. To date four research homes have been built.

Architectural Design

Whereas the Marks I, II and III house plans were similar, a new design had to be developed for the Mark IV since it was intended to try a full basement with wooden foundations. It was decided to use a split-level entrance, one-story house type with the basement used for non-habitable space. In a house of this type the basement can be used for habitable purposes and the overall area can be reduced thus obtaining more space for less cost. However, since there was some uncertainty regarding the performance of the exterior plywood sheathing and jointing below grade, and the possibility of water leakage at the joints, the walls were left exposed on the inside so that any defects could be recognized and easily rectified. If performance should prove satisfactory, the design principle can be used to obtain a smaller house with equal habitable space. Because of the heating system a complete separation of the lower from the upper floor was desired.

Wood Foundation

The use of wooden footings and foundation walls eliminated the need for wet construction and permitted easy erection in cold weather. The lumber used in the footings and foundation walls is red pine all pressure treated at the factory with a 5% solution of pentachlorophenol petroleum to a net retention of 8 lbs of preservative per cubic foot of wood. The fir plywood sheathing below grade was treated in the same way.

The studs of the basement walls were coated with Domtar Plastic Gum before the application of the plywood skins. The plywood

sheathing is $\frac{1}{2}$ " T & G and the joints were coated with the Plastic Gum. The thickness of the gum caused great difficulty in jointing the tongues and grooves and it was found necessary to saw off one lip of the groove and make a shiplap joint. When the sheets were nailed together the gum was forced out and made a good, apparently watertight joint.

Exterior Walls

The exterior walls are made of 2" x 4" studs at 16" o.c. covered with $\frac{3}{8}$ " fir plywood sheathing G.I.S. The insulation consists of 2" mineral wool Red Top Thermafiber paper backed blanket batts with vapor barrier. The inside face of the wall is covered with $\frac{1}{2}$ " gypsum backer board with squared joints. These were left untaped and untreated to be covered with Kraft paper. The exterior sheathing was also covered with a Kraft paper.

Roof Construction

The roof construction consists of 2" x 4" W trusses of standard design for a 50 lb./sq. ft. snow load. The sheathing is $\frac{3}{8}$ " fir plywood sheathing grade. Horizontal joints are supported on 2" x 4" headers.

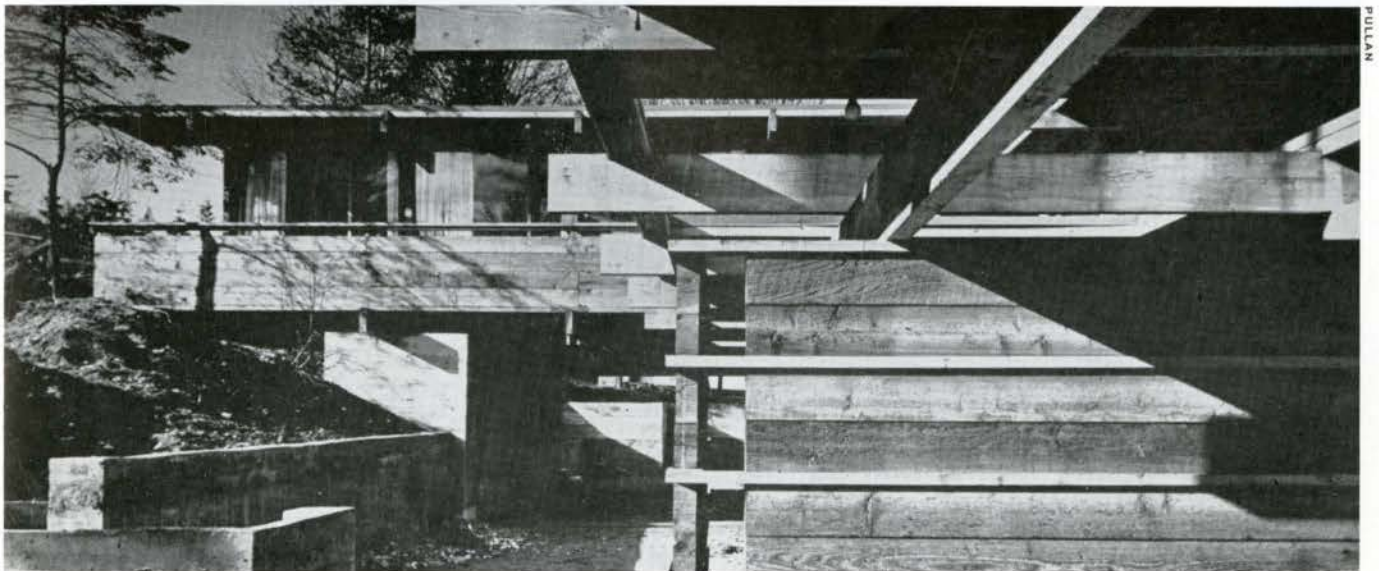
Radiation Processed Wood

This treatment is intended to achieve dimensional stability in wood and increase its abrasion resistance. The process consists of impregnating wood with a methyl methacrylate monomer which polymerizes when exposed to gamma radiation. The absorption is approximately 100%.

A treated door sill was used at the main entrance. This has been left unvarnished. Additional $\frac{1}{4}$ " plywood panels 2'0" x 2'0" square, treated in the same way, were also provided. These were installed under the centre windows of the east and west elevations. The window panel on the east side contains one piece of radiated plywood and one ordinary piece both unvarnished. The west elevation has two similar pieces, each varnished. It is hoped to observe the performance of these exposed to the elements and to obtain comparative data.

THE UNIVERSITY OF BRITISH COLUMBIA
SCHOOL OF ARCHITECTURE
Vancouver, British Columbia

*Copp Residence, Vancouver, BC
Architects, Thompson, Berwick, Pratt & Partners*



Advances in Structural Laminating

by W. M. Hall

Mr Hall is the Executive Director, Laminating Division, Canadian Institute of Timber Construction.

Current trends have developed a new market for laminated wood ("glulam") in Canada. Many new pulp mills are utilizing this system of modern structural design. Numerous large potash and fertilizer storage buildings have recently been constructed with laminated materials, thus lessening the problem of corrosion. Warehouses and transit sheds are also being designed in wood.

Large 140' beams for clear span railroad bridges and 200' storage buildings are demanding changes in production methods by modern laminating plants. Research has finally devised methods of utilizing the economical finger joint in lieu of the wasteful flat scarf for end-jointing the laminae. This new technique opened the door for other advanced production methods which have increased production and enabled the industry to keep costs down.

The new finger joint system of end-jointing utilizes the electronic or radio frequency method of curing. In this rapid glue curing method a radio frequency field is created along the glue line which, oscillating at some millions of times a second, creates heat by molecular friction. The adhesive is thus cured in 12 to 20 seconds instead of 6 to 8 hours as was required previously. Laminates of any length are possible which enable faster lay-up in assembling the beam. This in turn permits faster curing glues as less open assembly time is required.

With the increasing need for longer spans "moment-splicing" has come into wider use. Thus shorter beams, easy to transport, can readily be joined on-site to achieve clear spans of 180' or more.

As production methods have become more mechanized, the necessity for a higher degree of quality control has resulted. Through the efforts of the Canadian Institute of Timber Construction the Canadian Standards Association established on January 1, 1965, CSA 0177, a new qualification Code for Structural Glued-Laminated Timber. Specifiers, by demanding adherence to this Code, are assured a quality product when produced in one of the CSA Certified plants. The Institute is offering assistance to any Canadian plant in their effort to become Certified with the hope that soon all structural laminators will be Qualified to attach the CSA 0177 label to their products.



PHOTOS BY KALEN



*Allan Waisman Residence, Winnipeg, Manitoba
Waisman Ross — Blankstein Coop Gillmor Hanna Architects*

Bibliography

A great variety of publications giving detailed information on specific uses of timber in building construction are available from many sources in Canada. The most important of these are listed below. For additional information the CANADIAN WOOD COUNCIL, 75 ALBERT STREET, OTTAWA, ONTARIO, CANADA, may be contacted.

Canadian Institute of Timber Construction
200 Cooper Street, Ottawa 4, Ontario, Canada

Timber Construction Manual 371 pages \$6.50
Timber Piles 160 pages \$4.50

National Research Council
100 Sussex Drive, Ottawa, Ontario, Canada

National Building Code of Canada 444 pages \$4.00
Supplements \$4.00

Queen's Printer
Ottawa, Ontario, Canada

Canadian Woods — Their Properties and Uses 368 pages \$3.00

Canadian Standards Association
235 Montreal Road, Ottawa 7, Ontario

A — Lumber, Structural Timber and Engineered Uses

0-141-1965, *Softwood Lumber* \$1.00
043-1953, *Structural Timber* \$1.20
0122-1959, *Glued-Laminated Softwood Structural Timber* \$1.20
0-177-1965, *Qualification Code for Manufacturers of Structural Glued-Laminated Timber* \$2.25
086-1959, *Code of Recommended Practice for Engineering Design in Timber* \$1.80

B — Poles, Piles and Crossarms

015.1-1950, *The Physical Properties and Preservative Treatment of Eastern White Cedar Poles* \$.60
015.2-1950, *The Physical Properties and Preservative Treatment of Western Red Cedar Poles* (Under general revision) \$.60
015.3-1960, *The Physical Properties of Jack, Lodgepole and Red Pine Poles and Reinforcing Stubs* \$1.50
015.4-1948, *The Physical Properties and Preservative Treatment of Douglas Fir Poles* \$.60
056-1962, *Round Timber Piles* \$1.50
0124-1957, *Power and Communication Wood Insulator Pins* \$1.20
0116-1961, *Physical Properties of Power and Communication Wood Crossarms* \$.90

C — Wood Preservation

080-1962, *Wood Preservation* \$2.10

D — Cedar Shingles

0118-1960, *Western Red Cedar Shingles, Machine Grooved Shakes and Handsplit Red Cedar Shakes* \$.90

E — Plywood

0115-1959, *Hardwood Plywood* \$.90
0153-1963, *Poplar Plywood* \$2.10
0121-1961, *Douglas Fir Plywood* \$.90
0151-1961, *Western Softwood Plywood* \$.90
0152-1964, *Performance of Construction Plywood* \$1.00

F — Wood Adhesives

0112.0-1960, *Definitions and Standard Test Methods for Wood Adhesives* \$.90
0112.1-1960, *Animal Glues for Wood* \$.90
0112.2-1960, *Starch Glues for Wood* \$.90

0112.3-1960, *Casein Glues for Wood* \$.90
0112.4-1960, *Polyvinyl Adhesives for Wood* \$.90
0112.5-1960, *Urea Resin Adhesives for Wood (Room and High-Temperature Curing)* \$.90
0112.6-1961, *Phenol and Resorcinol Base Resin Adhesives (High-Temperature Curing)* \$1.20
0112.7-1960, *Phenol and Resorcinol Resin Adhesives for Wood (Room and Intermediate-Temperature Curing)* \$.90

G — Millwork

0132.1-1965, *Wood Windows* \$.75
0132.2-1960, *Wood Doors* \$1.80

H — Miscellaneous

Ladders (Under Preparation)
Particle Board (Under Preparation)

Single copies of the following are available free on request from the source listed.

Canadian Wood Council
75 Albert Street, Ottawa 4, Ontario, Canada

Wood Data Manual #1, Wood Frame Construction (Bilingual) 48 pages
Wood Data Manual #2, Post and Beam Construction (Bilingual) 32 pages
Wood Data Manual #3, Heavy Timber Construction (Bilingual) 32 pages
Wood Data Manual #4, Fire Protective Construction 36 pages
Environment for Worship (Bilingual) 20 pages
Environment for Learning (Bilingual) 20 pages
Environment for Recreation (Bilingual) 16 pages
Open House (Une Avant Premiere) 27 pages
Wood Data Files No. 1 and 2, The Insulating Qualities of Wood 4 pages
Wood Data File No. 3, Some Acoustical Uses of Wood 2 pages
Wood Data File No. 4, The Fire Performance of Wood 4 pages

Plywood Manufacturers Association of British Columbia
1477 West Pender Street, Vancouver 5,
British Columbia, Canada

Fir Plywood Sheathing 19 pages
Plywood Design Fundamentals 8 pages
Recommended Specifications for Plywood structural Assemblies 29 pages
Fir Plywood Concrete Form Manual 40 pages

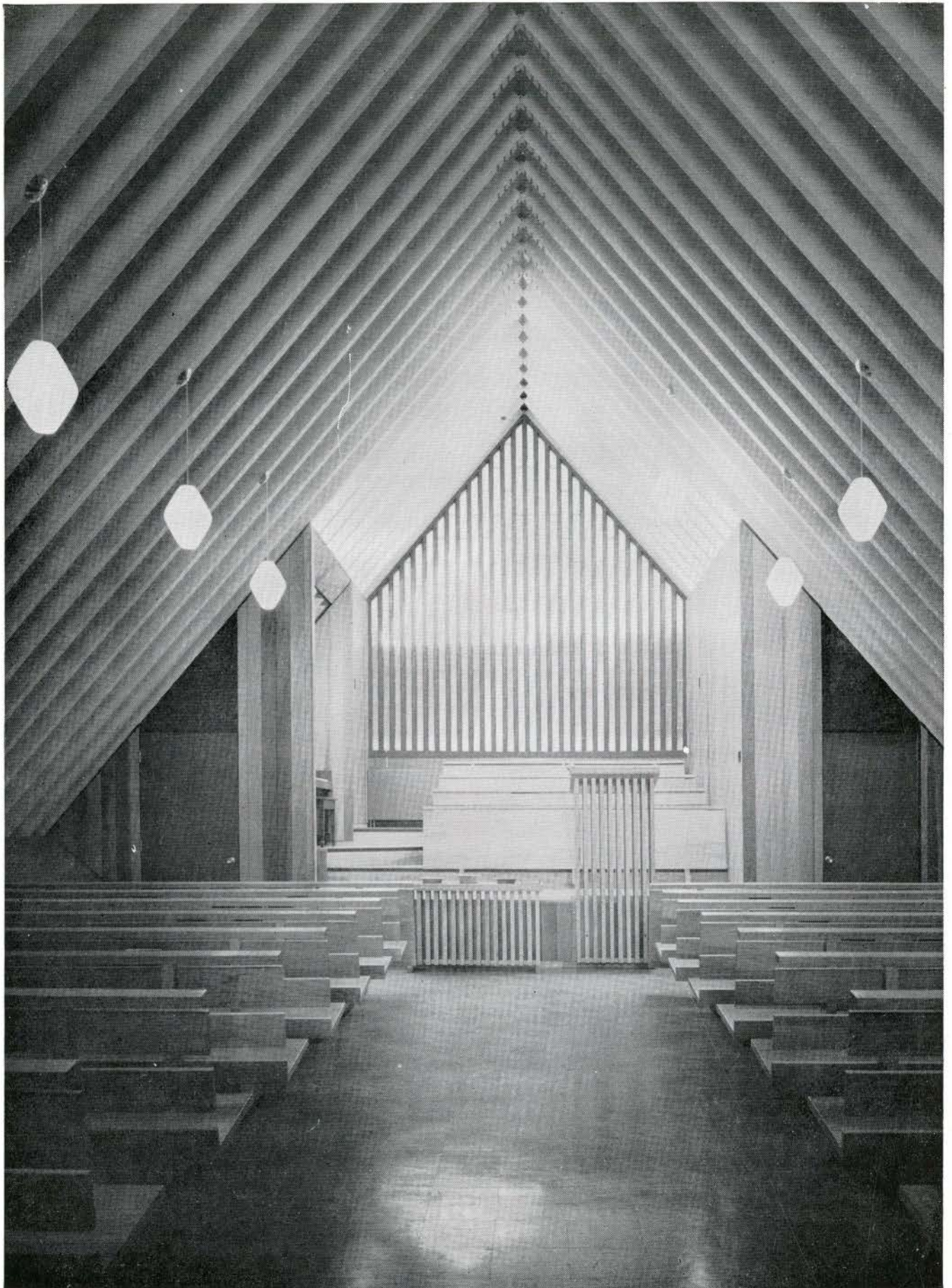
Canadian Lumbermen's Association
27 Goulbourn Avenue, Ottawa 2, Ontario, Canada

Hardwood Flooring Manual 24 pages
Plankwall Framing 16 pages
White and Red Pine Grades and Uses 72 pages

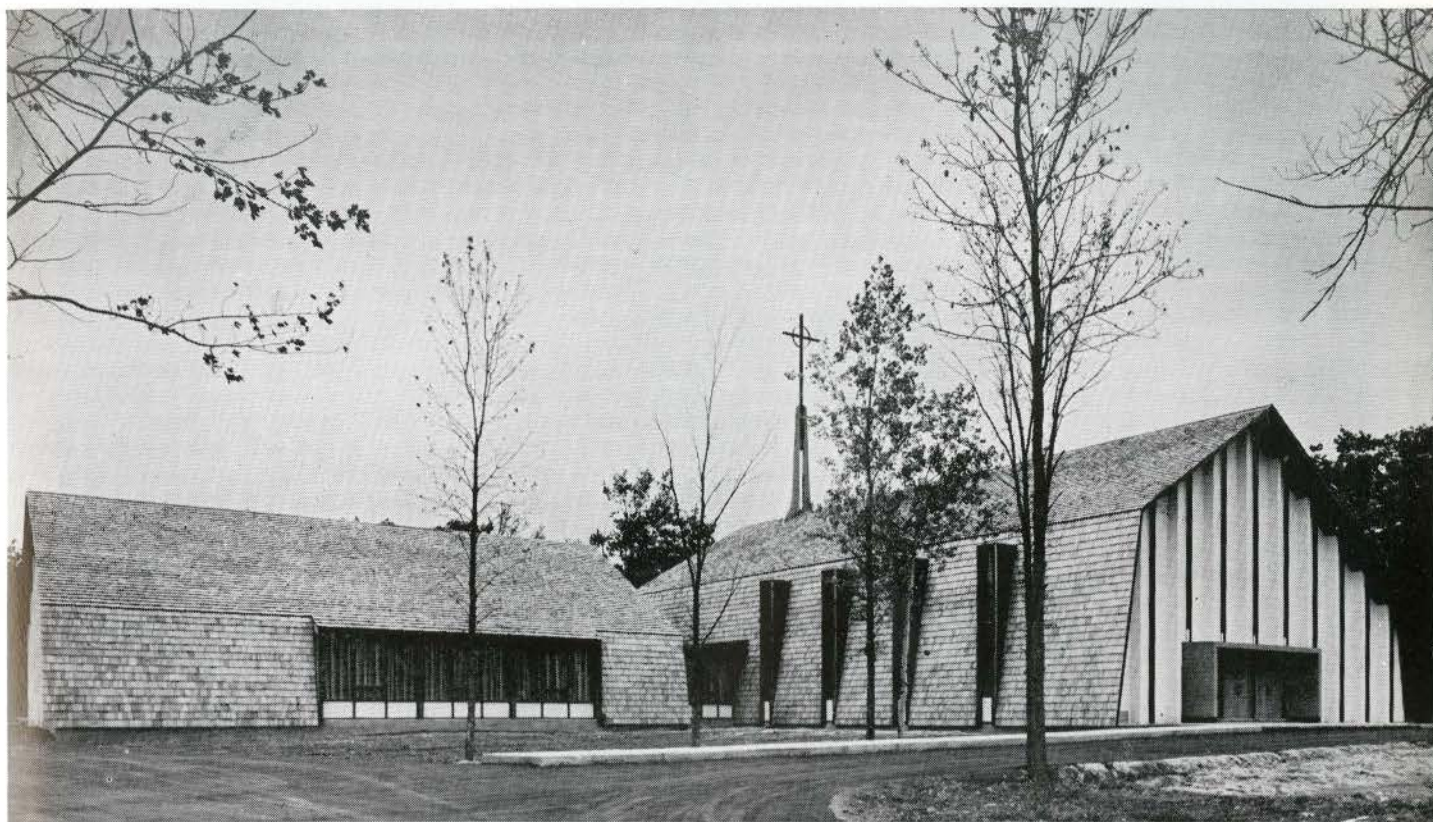
British Columbia Lumber Manufacturers Association
1477 West Pender Street, Vancouver 5, British Columbia, Canada
Pacific Coast Hemlock Grades and Uses 40 pages
Western Red Cedar Grades and Uses 36 pages
Post and Beam Construction 33 pages

Consolidated Red Cedar Shingle Association of
British Columbia

1477 West Pender Street, Vancouver 5, British Columbia, Canada
Certigrade Handbook of Red Cedar Shingles 100 pages
Certisplit Manual of Handsplit Red Cedar Shakes 32 pages



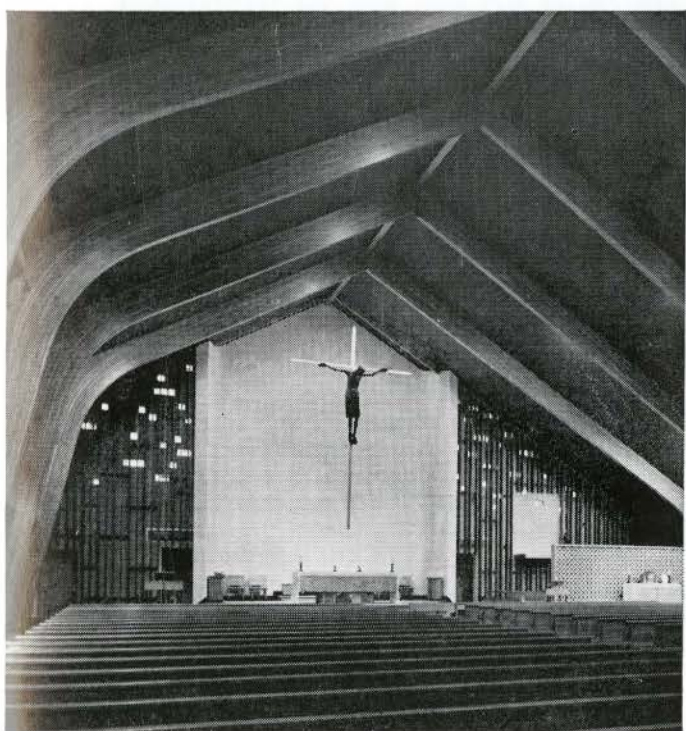
The Mennonite Brethren Church, Regina, which received a Massey Medal mention in 1964, demonstrates the beauty and versatility of wood. The unique plywood beams, in a W-arrangement, provide lightweight roof support at minimum cost. Architect, Clifford Wiens, Regina.



St. Patrick of the Island, near Montreal, shows how hand-split cedar shakes root the structure to its setting. The economies of wood permitted both church and hall within a limited budget. Architect, John W. Cook, Montreal.

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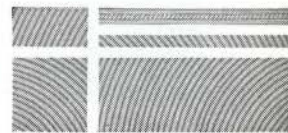
For construction, for panelling, for pews, is it any wonder wood is the choice of contemporary church architects. Wood is strong, beautiful, practical. It's a natural insulator. It has excellent acoustical qualities. And its economies are unmatched by any other material. For more data on designing with wood, write:

CANADIAN WOOD COUNCIL

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**Canadian Architecture
Exhibition in Europe**

"Three Centuries of Canadian Architecture", an exhibition prepared jointly by the RAIC and the Government of Canada, opened in Prague, Czechoslovakia, in September, under the sponsorship of the Canadian Ambassador. It attracted widespread attention, and 7,000 visitors during the first week. In October, it proceeded to the cities of Bratislava and Brno. Canadian Embassies in other European countries are arranging a continuing itinerary.

The Prague newspaper, "Rude Pravo", carried a complete and enthusiastic report on the exhibition. "Administrative buildings and services do not leave any doubt that Canada is in North America. . . . International competitions try to find new solutions to the skyscrapers, such as the one for the Toronto City Hall. There is also a high standard of construction, e.g. civic facilities—but Canada, too, still remains in the captivity of the radioconcentric urbanism, the crisis of which increases with the growing motorization of the population which depreciates this traditional conception more brutally than the plague and artillery have done in the past. . . . The entire exhibition is most engaging with its intentional informality."

The exhibition begins with a dozen panels of photographs now on tour across Canada in the RAIC exhibition, HISTORIC ARCHITECTURE OF CANADA. These are drawn from the 17th, 18th and 19th centuries — buildings of historical and architectural significance from coast to coast.

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The next section is introduced as follows: "Contemporary Canadian architecture relates to the environment. Site, climate and—as far as possible—locally-available materials affect the concept of a building. West coast construction involves a great use of lumber, particularly cedar; while the equable climate allows for light, airy forms. In the East, stone and brick exterior finishes are more common, and the buildings must be sturdier, to withstand a more rigorous winter. But the overall characteristic of all modern Canadian building styles is that of the best of modern architecture

throughout the world: functional simplicity."

This section includes photographs of the following buildings:
Oxford University Press, Don Mills, Ont. Architects: Fairfield and Dubois
The Yonge-Eglinton Building, Toronto. Architect: K. R. Cooper
Embassy Row Apartments, Montreal. Architects: Menkes & Webb
Margaret Addison Hall, Victoria University Women's residence, Toronto. Architects: Gordon S. Adamson & Associates

(Concluded on page 68)

"A liturgical triumph"

"One of the finest examples of worship expressed in modern architecture" says P. F. Pocock, D.D., J.C.D., Coadjutor Archbishop of Toronto.



ARCHITECT • JOSEPH W. STOREY

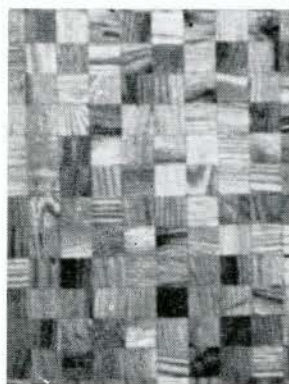
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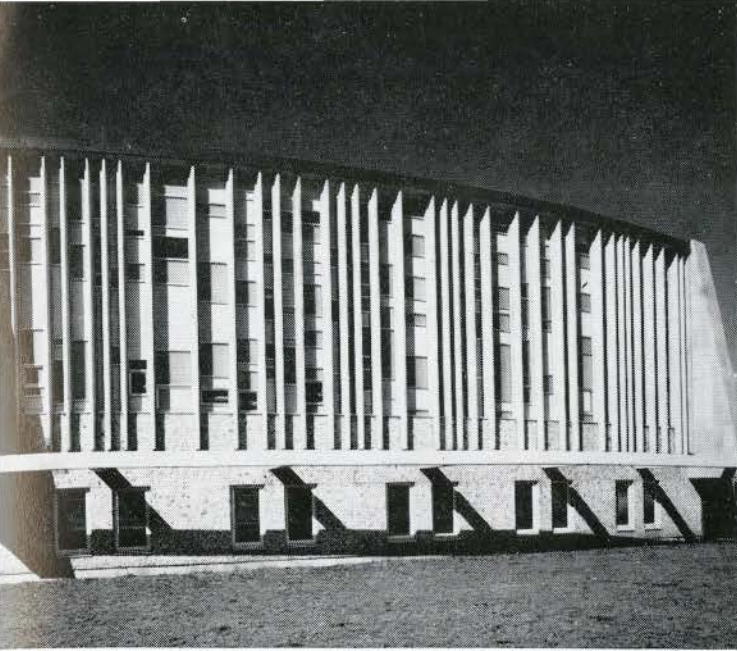
City..... Prov..... Tel.....



3

- 1 **Concord Motor Hotel, Winnipeg, Man.** Architects: Herman & St. Lawrence. Consulting Structural Engineer: R. Lazar. General Contractor: Fort Garry Construction Co. Ltd. Precast concrete members by: Supercrete Ltd.
- 2 **Gestelner (Canada) Ltd., Don Mills, Ontario.** Architects: Crang & Boake. Consulting Structural Engineers: Kazmar Consultants. General Contractor: Milne & Nicholls Limited. Precast concrete panels by: Standard Prestressed Structures Ltd.
- 3 **Texaco Building, Calgary, Alberta.** Architects: Abugov & Sunderland. General Contractor: Hashman & Son. Precast concrete panels by: Stoy Cement Co. Ltd.
- 4 **Women's Jail at Bordeaux, Que.** Architect: Claude Longpré. Consulting Structural Engineers: Deslauriers & Mercier. General Contractor: Douglas Bremner Contractors & Builders Ltd. Precast concrete panels by: Prefac Concrete Co. Ltd.
- 5 **Hydro-Quebec Station at Boucherville, Que.** Owners and designers: Hydro-Quebec. General Contractor: Collet Frères Ltée. Precast concrete panels by: Francon Limited.
- 6 **Lonsdale Towers, Toronto, Ont.** Consultants in Architecture: Hancock, Little, Calvert, Associates. Consulting Structural Engineers: M. S. Yolles Associates Ltd. General Contractor: Sheraton Construction Ltd. Precast concrete panels by: Beer Precast Concrete Ltd.
- 7 **St. Joseph's College, Yorkton, Sask.** Architects: Izumi, Arnott & Sugiyama. General Contractor: Perini Western Ltd. Precast and prestressed concrete units by: Con-Force Products Ltd.

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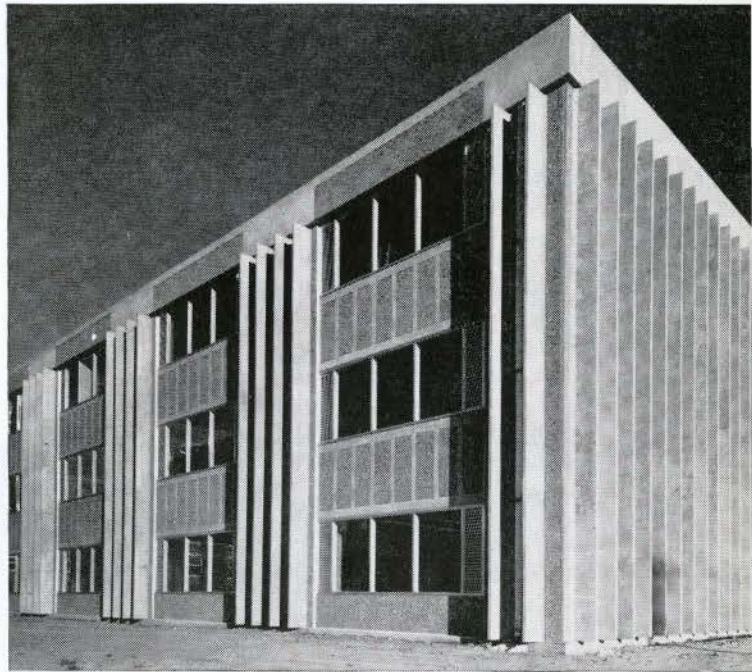
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(Continued from page 64)

Canadian Imperial Bank of Commerce Building, Montreal. Architect: Peter Dickinson; Supervising Architects: Ross, Fish, Duschenes & Barrett; Banking Premises: Clifford & Laurie

Toronto International Airport: Architects: John B. Parkin Associates; W. A. Ramsay, Chief Architect, Major Terminals Dept. of Transport Air Services, Government of Canada

Toronto City Hall. Architect: Viljo Revell; Associate Architects: John B. Parkin Associates

Riverdale Hospital, Toronto. Architects: Chapman & Hurst

Notre-Dame de Fatima Church, Jonquière, P.Q. Architects: Desgagné & Côté

Faculty of Music Building, University of Toronto, and Victoria University Library, Toronto. Architects: Gordon S. Adamson & Associates

Trinity United Church, Grimsby, Ont. Architects: Brown, Brisley and Brown
Thea Koerner House, University of British Columbia, Vancouver. Architects: Thompson, Berwick, Pratt & Partners

St-Raphael de Jonquière Church, Jonquière, P.Q. Architects: St-Gelais, Tremblay and Tremblay

La Grande Salle de la Place des Arts, Montreal. Architects: Affleck, Desbarats,

Dimakopoulos, Lebensold, Michaud and Sise

Edmonton International Airport. Architects: Rensaa & Minsos Associates

Crescent Apartments, Vancouver. Architects: Gardner & Kennedy

Apartment Developments and Single Dwellings:

a) Embassy Row Apartments, Montreal. Architects: Menkes & Webb

b) Executive House, Winnipeg. Architects: Libling, Michener & Associates

c) May Robinson House, Toronto. Architects: Jackson Ypes & Associates

d) House, Etobicoke, Toronto. Architect: Mrs. Joanna Ozdowski

e) House, Port Credit, Ont. Architect: Edward Ross

f) Jeanne Mance Housing Project, Montreal. Chief Architect, Ian MacLennan, Central Mortgage and Housing; Associate Architects: Greenspoon, Freedlander, Dunne and Jacques M. Morin; Architectural and Planning Consultants: Rother/Bland/Trudeau

g) Regent Park Housing Development, Toronto. Chief Architect, Ian MacLennan, Central Mortgage and Housing Corp. Row Housing—Associate Architects: J. E. Hoare, Jr. High Rise—Associate Architects: Page and Steele.

Housing Developments:

a) Edgemont Terraces, North Vancouver. Architects: Wilding & Jones

b) Fontainebleu Apartments, Ville La Salle, P.Q.

c) Woodland Park, Port Moody, B.C. Architects: Erickson & Massey

d) Scarlet Wood Federal-Provincial Project, Toronto: Chief Architect, Ian MacLennan, Central Mortgage and Housing; Associate Architects: Bregman and Hamann

e) Yorkwoods Village — Phase I, North York, Ont. Architects: Jack Klein and Henry Sears

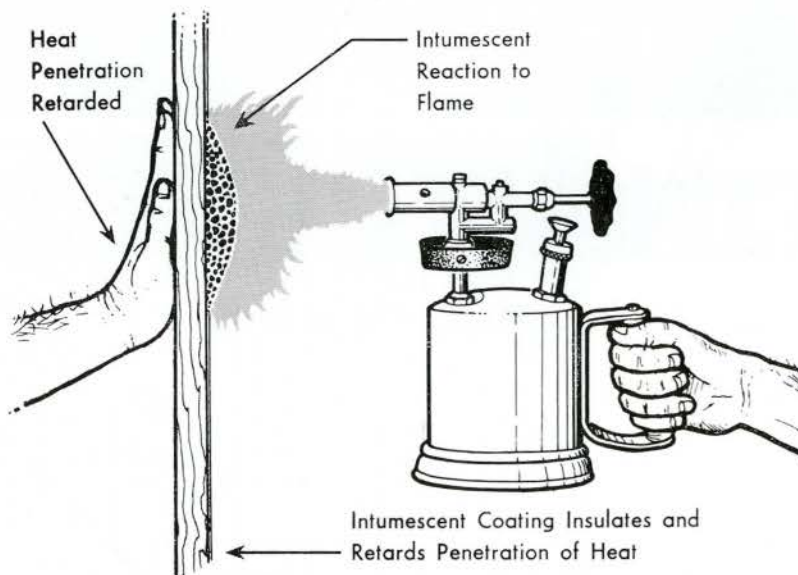
The final section of the exhibition includes photographs of the 18 structures that were awarded MASSEY MEDALS in 1964.

OAA Fees Committee Seeks Part-time Assistant

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- Edmonton International Airport, Chief Architect, W. A. Ramsay; Consulting Architects and Engineers, Rensaa and Minsos Feb 55
- Toronto International Airport, Chief Architect, W. A. Ramsay; Consulting Architects and Engineers, John B. Parkin Associates Feb 59

APPOINTMENTS

- Rudolph Papanek, MIRAC, a été nommé adjointe de l'architecte en chef de l'Exposition universelle canadienne May 104
- William Lobban appointed U. of Waterloo Planner Oct 85
- J. B. Wimbs to Div. of School Planning Research, Ont. Dept. of Education Nov 141

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- Sculpture, by John Nugent at Welby, Sask. Jan 17
- RCA 84th Annual Exhibition Feb 10
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- 1964 RAIC Allied Arts Medallist, Claude Roussel, by Yvon Le Blanc May 41
- Canadian Save the Children Sculpture Competition, winning entry by Jack Harman Sep 80

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- The Ancestral Roof, by Marion Macrae and Anthony Adamson Eric Arthur (F) Jan 24
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- Community and Privacy: Toward a New Architecture of Humanism, Serge Chermayeff and Christopher Alexander. Jonas Lehrman Feb 24
- Legal Aspects of Architectural Practice. Lectures given by U.C. Law Society to OAA Feb 29
- A Programmed Introduction to Program Evaluation and Review Techniques, Federal Electric Corp. Feb 29
- Fundamentals of Acoustics, second edition, by Lawrence E. Kinsler and Austin R. Frey Feb 29
- Engineering Contracts and Specifications, fourth edition, by Robert W. Abbott Feb 29
- 1963 Canadian Trade Index Feb 29
- Materials for Architecture, by Caleb Hornbostel Feb 29
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- Student Union Building for UBC Apr 9, Jul 17
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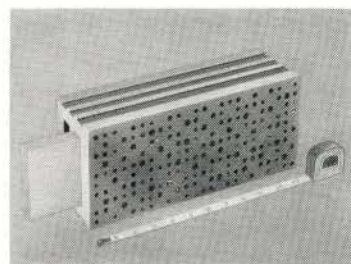
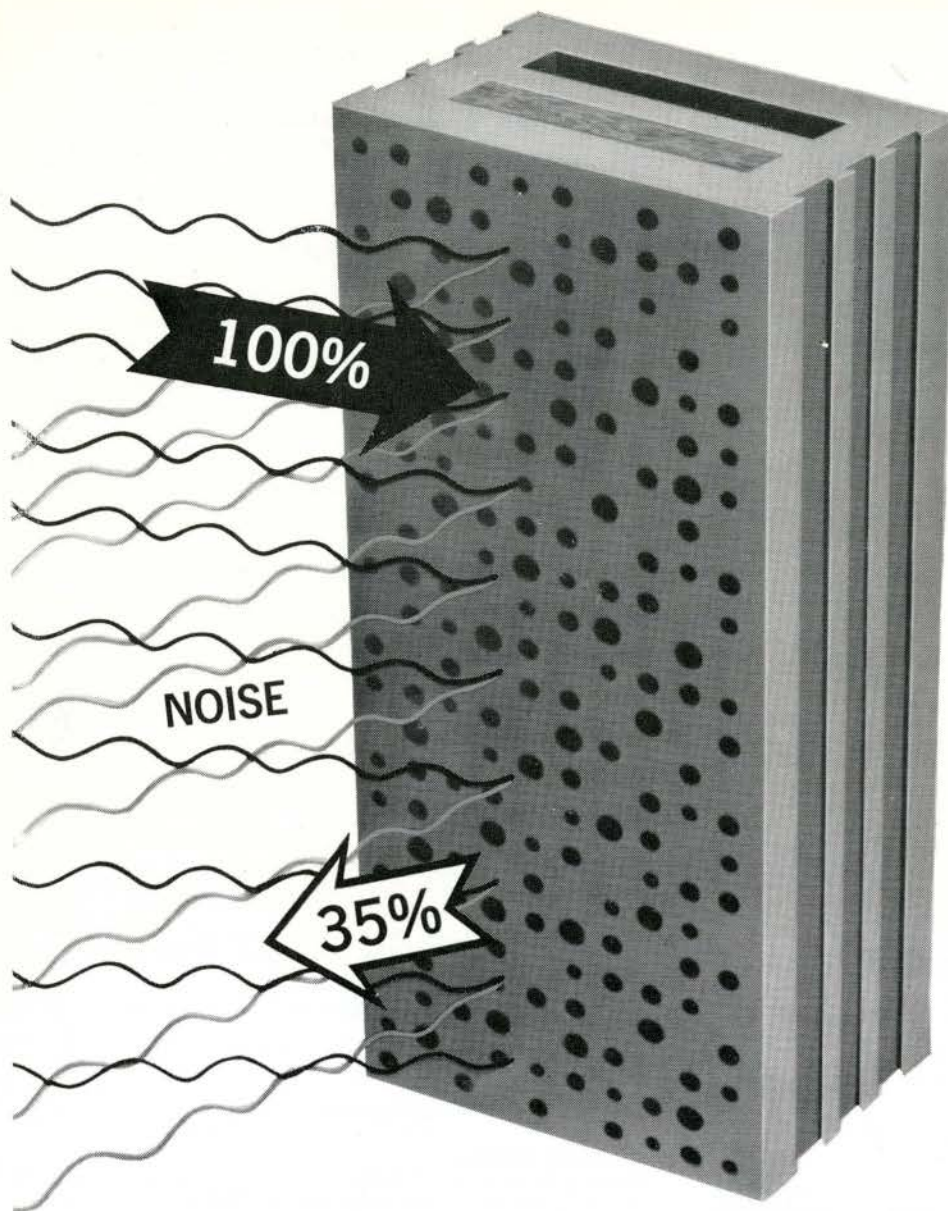
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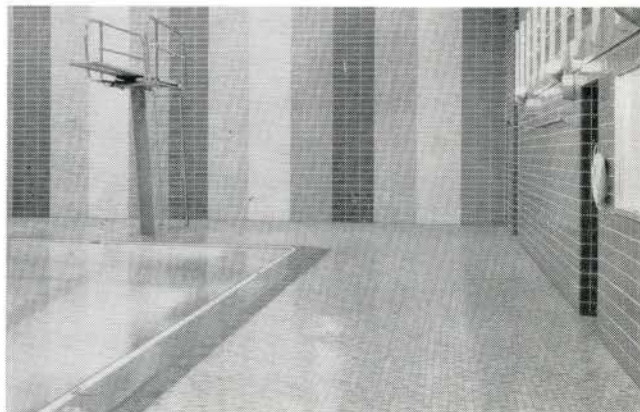
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