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# R . A . I . C JOURNAL

JANUARY 1946

CONTINUING the time honoured *Journal* tradition, it falls to the lot of the Chairman of the Board to write the Editorial for January. One does so with the realization that nineteen hundred and forty-six will be an epoch-making year in the history of mankind. During the next twelve months decisions will be made in the political and economic fields which will largely determine the fate of humanity for years to come.

JANUARY is not only a month for new resolutions, it is a month for stock-taking. Among professional men stocktaking implies a review of one's contribution to the well-being of one's Community. As Architects we may exert an increasing influence on environment particularly in the populous sections of the country. The measure of private and public building intrusted to us, is the measure of our responsibility for the mental health of our communities in so far as mental health is affected by the functional use and aesthetic qualities of buildings.

THE current issue of a popular weekly displays, on its cover, a picture of Prime Minister Mackenzie King. Beneath the picture is the title "His Country Has Come of Age". Last month the *Journal* came of age, and co-incidental with this celebration your chairman has completed twenty-one years of practice. Such anniversaries when associated with New Years provoke more than the usual meditation and self-criticism.

WHILE pondering such matters one thought thrusts itself upon our consciousness again and again. Why not organize refresher courses for Architects? No, one does not mean courses on the use of new materials. Aggressive manufacturers have taken care of that situation with their efficient advertising and sales organizations. One means courses affording the sheer delight of studying Architectural Design for its own sake, and this would seem to be the appropriate hour. Such courses would be welcomed by the large numbers of our profession who are re-establishing themselves in practice. Some have answered the call of duty in other fields of service, but all have suffered the strain and dislocation of war, and would relish the opportunity of going "back to school" and extracting inspiration and new enthusiasm from the illustrated lectures of outstanding leaders in the Profession.

NO better model for such courses occurs to one than the comparatively recent series of lectures on "Planning of Canadian Towns and Cities" arranged by the School of Architecture of the University of Toronto, under the chairmanship of our Editor. The success of this course, demonstrated by the very high average attendance of those registered, is proof positive that properly sponsored efforts to inaugurate such courses as suggested, would likewise be crowned with success. While initiative might be taken by Provincial Associations, one is convinced that the Architectural Schools are the logical bodies to arrange and conduct refresher courses. One would also favour calling on leading lecturers from beyond the borders of the sponsoring province, for the simple reason that "A Prophet . . .". No doubt the presently overburdened Universities will wish to defer responsibility for new enterprises, and yet, they are meeting the post-war challenge with vigour and imagination. May we not profit also while the leaven is at work within the loaf?

IN closing one confesses, unashamedly, to be guilty of using space in the *Journal* to present a personal plea, a plea which, one is convinced, is both timely and pregnant with fruitful possibilities for the Profession in Canada.

F. BRUCE BROWN, *Chairman, Editorial Board.*

# HEATING

By FORSEY PAGE, with acknowledgments to KAREL RYBKA

In the days of Sir Christopher Wren the architect's work in the realm of heating, plumbing, lighting and other mechanical trades was very simple. Oil lamps, wood or coal stoves, back pantries, wooden bath tubs and fireplaces were about all he needed to worry about.

Today, central heating, electric illumination, modern plumbing with water supplies and sewage disposal, mechanical refrigeration, and many other developments have replaced those early amenities. I believe that of those services, heating is the most backward. Although it had the advantage of being reasonably developed in the days when electricity was a little-known plaything of the scientists, nevertheless heating engineers seem to have spent the last fifty years developing a little gadget here and something else there and generally adhering to the handed-down methods. During the same period of time, other services making for human comfort and safety moved ahead in leaps and bounds.

Let us for example, imagine the present day in the electrical field. Had Kelvin, Faraday and Edison followed the example of the heating engineer and decided that it was sufficient to arrange for a lighting system for each individual residence rather than to think in terms of districts, metropolitan areas, and ultimately entire states and continents, we would now have a small steam engine, or possibly a gasoline in every house operating a Delco plant, and would spend considerable time and money keeping it in repair, and worrying about fuel supply, upkeep, etc. Similarly the primitive sanitary facilities were gradually replaced by inside bathrooms with private water supplies and septic tanks, which is comparable to the individual heating plant of our day. But this lasted only a short while, and today only smaller communities rely on this antiquated system of sanitation. Most larger towns and even many smaller villages, boast at least up-to-date water supply systems and communal sewerage systems.

Some years back a summary of the fuel situation in Canada disclosed that: (a) Close to 40 per cent. of the coal consumed was used for heating. (b) 60 per cent. of the coal used was imported. These conditions may have changed to some extent since, but they are close enough for a general survey of the heating problems. The logical conclusion is that it would be in the nation's interest to increase the use of domestic coals for heating, which would proportionately reduce importation of coal. Of the many obstacles to the increased use of domestic coals should be noted: (a) The better quality of most of the imported coals, which ensures a reasonable satisfactory use even in inefficient heating equipment. (b) The proximity of some of the American coal fields to the more densely populated areas of Canada.

As it is impossible to change either of these two conditions in order to help the domestic coal situation, the logical corrective measures would be to improve Canadian heating equipment to a point where domestic coal would give the same satisfaction as foreign coal and to place the locale of usage at a point where some of the excessive handling and freight charges would be eliminated.

This leads us directly to the modern well equipped and strategically located central or district heating systems, which have proven their value in hundreds of cities and towns all over the world. It is one of those unsolved riddles, that in Canada, with the long Canadian winters and low average winter temperatures, and with the tremendous as yet unde-

veloped supply of low grade coals, district heating has thus far been restricted to some community plants in Montreal, Winnipeg, Brandon and North Battleford.

The architect, who is interested in community planning, is fully aware of the advantage of district heating. It gives the user reduced building costs through elimination of boilers, boiler and fuel rooms, smoke stacks and other items: increased comfort due to ready control of heat, added leisure through elimination of tending fires, carrying clinkers and ashes, dusting and cleaning; reduced worries about fuel supply and about the weather; cleaner, more easily maintained living quarters and surroundings; improved health due to reduced smoke, dirt, city fog, noise, etc., greater safety due to absence of open fires, and to elimination of some of the chores around the heating plants; diverse, little noticed financial gains due to reduced premiums, taxation, cleaners' bills, etc., and finally, payment of the boiler plant costs and of the actual heating costs on a "pay-as-you-go" basis.

The central heating system also ensures to the community a large share of the same advantages, particularly reduced smoke and dirt nuisance, economy in fuel consumption (with ensuing reduced harbour or storage facilities); possible use of low grade domestic fuels; contracting for fuel on large scale, thus reducing dealer profits; relief of some of the traffic congestion, and consequently reduced damage to pavements, etc.; improved rental and assessment values of the properties; reduced fire fighting needs; and many other advantages.

In addition, the owners of large buildings and their architects will appreciate the fact that more rentable or usable area will be available, without cost increase, by omission of the large heating equipment and appurtenances. There would be substantial savings also in auxiliary services such as coal chutes or conveyors, ash hoists, etc. Deep sub basements for heating plants would disappear. Complicated foundations and footings for the concentrated loads from boilers, etc., would not be necessary, and most of the heat and sound insulation of the heating would be saved.

The disadvantages of district heating are the additional street mains with the required first cost, maintenance, etc. But gas, water, sewers, underground telephone and telegraph lines, power cables and many other services have proven that there are no serious difficulties on this score. If heating mains can be laid and maintained successfully in the heart of Manhattan, there is no reason why they should not be provided in any other town or city. The economy of operating large, carefully planned and supervised units will pay for a great part of the capital cost, particularly if auxiliary installations, such as supplying domestic hot water, or even industrial steam, etc., permit a reasonable all-year operation of the plant.

Let us take as an example, a residential development of about 1000 domestic establishments, some industrial and commercial buildings, schools, churches, etc. If all buildings contained independent, coal-fired heating plants, the average efficiency of these plants would be not more than 60 per cent. and the average coal price, based on pre-war conditions, would be possibly \$10.00 per ton, with a total coal consumption of perhaps 20,000 tons annually giving a fuel cost of \$200,000.00. A modern power plant will operate at about 83 per cent. efficiency, and even after consideration of piping losses, etc., the efficiency should not drop under 80 per cent. This plant will then use about 15,000 tons of coal, delivered to it by railroad

car, and costing—again on pre-war basis—about \$5.00 per ton, or \$75,000.00 annually. The difference in fuel cost alone represents an amount of \$125,000.00. If the cost of installing a central heating plant and distributing network were even as high as \$1,000,000.00, then this fuel saving alone would represent a gross return of 12½ per cent. thereon. In addition should be considered the reduced cost of the heating plants within the buildings, particularly the reduced space requirements, and elimination of other building costs.

Assuming that the savings in building costs and equipment, including a share of savings on schools, churches, public institutions, office and factory buildings, etc., were assessed at \$500.00 per household, and that this amount were subscribed without interest charge by each householder towards a newly planned district heating system in a new community, then the so collected amount of \$500,000.00 would reduce the necessary mortgage or debentures on the systems to only \$500,000.00 and the above fuel savings of \$125,000.00 annually would represent a gross revenue of 25 per cent. on the borrowed money. This looks attractive.

Now this idea is not just a scheme which works in books only. When North Battleford in Saskatchewan decided in 1916 to use the exhaust steam from its power plant for district heating, an assessment of 75 cents per square foot of equivalent steam heating surface was collected from each owner who desired the service. This money was used to build the pipe lines and it was repaid rapidly in steam consumed in the buildings. As the scheme worked there, why should it not work elsewhere?

Granted that some of the earlier district heating plants did not prove successful ventures, but the same applies to all new ideas and departures. Today, hundreds of these utilities are successful and render an important public service at handsome profits to the shareholders.

We must realize that the consumer is prepared to pay a fair price for all the advantages of an easy supply of heat. This has lately been demonstrated by the tremendous increase in the use of labour-saving devices around the furnace room of the residence and in the boiler plant of the larger buildings. The hand-fired boiler is gradually being superseded by mechanical stokers and this equipment in turn is slowly making way to fully automatic combustion equipment, be it oil fuel, gas or even electric heating. With improved living standards we will expect improved heating installations which will take less attention. If they cannot be obtained from the established manufacturer of heating equipment or from a heating utility, then we will turn to the nearest substitute from the oil company, or the gas company, or the electrical contractor and the hydro system.

This tendency is dictated by the inherent desire to move the heating plant with its dirt, grime and toil, away from the home, and the office, or even the factory. In the residential field, oil, gas and particularly electric heating still involve a higher fuel cost than heating with coal. But is it not reasonable to charge against the heating cost at least some of the time spent on it? And is it not fair to charge against the heating at least part of the cost of smoke, city fog, etc., which, for example, for the city of Chicago alone is being estimated to cost the citizens annually between 40 and 80 million dollars in direct and indirect expenditures? These thoughts are gaining ground, and justly so. This is accentuated by the fact that the backers of these more modern and originally more expensive methods of heating strive hard for their improvements; whereas the grates and furnaces of most of our coal burning equipment have remained unchanged for 50 years.

It seems, therefore, that sooner or later we will reach a point where the heating in many centres will by necessity be supplied from street mains, regardless of whether it will be hot water,

steam, oil, gas, or electricity. This day will be blessed by the entire community, and by none more than the architects, as it will render the communities cleaner, brighter and more beautiful and liveable.

The gas companies have been particularly active in this regard and not only in districts where natural gas is plentiful and where entire communities heat with it. In the larger cities manufactured gas is being used in an increasing volume, though all kinds of excuses have to be made at times to reconcile the pocket book with the increased comfort.

But where there is a will, there usually is a way. To meet the competition of cheaper systems there is the possibility of the installation of several small, mass-produced standardized gas heaters in one building, each supplying several nearby radiators from a strategic location, with the least amount of piping and installation cost. It would then be easy to maintain, for economy, varied temperatures in different parts of the building. The short runs of small pipe eliminate most of the usual grading of mains, and give more clearance in basements, or allow reduction of basement height. From there it is, of course, only a step to the gas unit heater, which is stock equipment in many districts. This is one trend. On the other hand, I understand that successful central hot water heating systems have been designed which supply all the heat required in an average residence through a ¾", or possibly 1" pipe, from street mains not larger than from 2" to 6" diameter. I don't know how it is done but such an installation should certainly be inexpensive, and competitive even where a gas distribution system is already in existence. It is an established fact that even the coal costing \$15.00 per ton will be 30 per cent. cheaper than gas fuel of 500 B.T.U. per cu. ft. at the extremely low price of 5 cents per 100 cu. ft. But to some \$200.00 for gas per year may seem fair compared with \$150.00 for coal.

In order to render the transformation to street heat general and economically feasible, we will have to make the buildings tighter, warmer and thus easier to heat. This will not only materially decrease the annual fuel bill, but will ensure greater comfort and better health. With the superficially more expensive street heating, better construction will become inevitable, better and easier maintenance of the buildings will follow and ultimately the citizen and the community will share these incalculable profits.

And with this advancement will come other improvements. It is self evident that an insulated, heat-tight building will require less heating surface, smaller radiators or heat outlets, will have fewer obstructions and more room. The old fashioned large cast iron radiator has already made room for the small enclosed heating elements, which may diminish still further. The more expensive fuel also tends to make us think of carefully checking the heat, and though it too means an increased first cost, we find a daily increasing use of automatic temperature controls, with all their well known benefits.

There are several reasons why I have been dwelling on the street supply of heat: (1) The development of these ideas would be a very suitable post-war reconstruction programme which would fit well into any town planning scheme. (2) It will find favour on account of the post-war coal situation when a large quantity of domestic coal, which until recently has gone into the war effort, will be available to us again. (3) The electric power used in the war effort will be available and the more common means of heating will have to compete with it. (4) The same will apply (and in some areas already applies) to fuel oil and even to gas.

The electrical expert has shown on many occasions that he has no conception of professional ethics. It took the heating engineer several hundred years to develop the hot water bottle from the heated brick or stone through the age of the warming pan. Then the electricians come onto the scene and

develop overnight the electric heating pad, branch out into the stove business, build pots and pans and ultimately put an age-old conception on its head and set an oil-burner into the top of a boiler instead of in the bottom. Today they have replaced the age-old fusing processes with welding, have practically overrun the entire more exacting field of heat treating of metals, are pushing out of existence all the venerable steam and gas dryers, dip tanks and other aids of industry and in short do not know any limits whatsoever. I understand that they heat electrically all kinds of metals and alloys and produce steam in large quantities in many and diverse plants all over the country. The explanation is ease of control, cleanliness and absence of fumes, gases and dirt.

I have mentioned the possibility of heating buildings electrically although the cost of electricity is still several times as high as that of oil and coal. I also believe that the reversed refrigeration process, which is cracked-up as turning cold into heat at practically no cost, is still too new to be of any immediate consequence in Canada. But nevertheless, I say, "watch the electrical engineer." At the present he is carefully investigating the applications of what is known as panel heating. We architects too look with considerable interest to panel heating and to the solar house. It is rather surprising to hear that panel heating in its modern version is some 40 years old and some 2 or 3 thousand years old in its earlier forms.

For the architect it offers attractive prospects. It eliminates radiators and they did bother many of the conscientious designers by their functional "beauty" ever since they were invented. The opinions on panel heating are still divided. Not so much on its merits as far as comfort is concerned, but whether an equal expenditure on other forms of heating would not give as good, or better returns, or conversely, whether in the long run the additional cost is justified.

Reports seem to indicate that panel heating systems, particularly with the heating surfaces installed in the ceilings, were found to be of considerable benefit in hospitals; that heated floors are of great help in nurseries and kindergartens where cold floors present all kinds of dangers, and in homes. They have been successfully introduced in churches, where they have considerably reduced discomforts from the large cold masses of masonry, which are often impossible to heat up to proper temperature for the extent of short-time use. They are useful in factories especially where some types of assembly require the workers to lie on their backs on or near the floors.

On this continent hot water has been used predominantly as a heating medium in panel heating systems, though some smaller installations employ hot air. In some parts of Europe, particularly Switzerland, electrical heating elements have been used successfully—mostly for off-peak heating. They have the advantage of fairly rapid heating-up and permit closing off rooms when not in use. Hotels and dormitories which require most heat in the evening and early morning, churches requiring some evening heat and some on Sundays, and similar buildings should be in a preferred position for this type of heating. There is another field where electric heating may come into its own, and that is pre- and post-seasonal heating of individual rooms, replacing the unwieldy and not too clean fireplace. In these instances the regular hot water radiator in the living room and dining room, etc., could be equipped with an inexpensive immersion heater which would be switched on for chilly mornings and evenings before the heating system has been started or after it has been closed down for the season.

Let us look now at a typical factory building and analyze the usual type of heating and the complaints arising therefrom.

A large number of the older type factories used to have steam heating coils under the windows both in the side walls

and in the monitors or sawtooth roof spaces. This type of installation—if sufficient—was expensive, and mostly manually controlled; the heat was either on and then objectionable, during 180 of the 200 days of the heating season; or it was shut off and then the cold drafts from the extensive glass surfaces were often unbearable. This method of heating was superseded by automatic temperature control by means of intermittently operated steam unit heaters, located in strategic points throughout the plant. Here in the path of the discharge of the heaters, hot blasts alternated with cold window drafts and cold radiation during the off periods of the heater; in other locations the induced air currents were always cold, though not less noticeable, and they usually aggravated the down drafts from windows and roof areas. The horizontal discharge unit heater ultimately lost out to the down-blast unit heater, which eliminated some of the worst cross drafts, but did not eliminate window drafts, particularly during the off periods of the heaters. To overcome some of these difficulties, direct heating units have been introduced again under windows; sometimes elaborate draft deflection systems have been developed, which succeeded only in bringing out some other shortcomings of the heating system.

These difficulties led in a few factories to deviation from established practice to the extent of using a more expensive hot water heating system or a sub-atmospheric steam heating system, which permitted continuous heat supply at varying rates, in accordance with the outdoor weather. It is possible that further development of factory heating will have to continue from this point and that many will adopt panel heating or other forms of heat supply.

The ventilation requirements of industrial plants used to be provided by a large number of opening sash both in the windows and in the monitor or skylight windows. Difficulties in keeping these tight increased the complaints of drafts in the winter and to eliminate this condition they would often be kept permanently closed. It is for the heating engineer to develop effective, properly controlled and economical ventilating systems whose first cost would not be more than that of the expensive window closing gear necessary with the window system of ventilation.

Some consideration will need to be given to summer cooling of industrial plants. The short summers and—except for limited areas—the very few really hot days in Canada, will keep summer cooling of industrial plants—for some time to come—in the luxury class, but the requirements of special processes may outweigh the considerations of first cost and operating expense. But the removal of excessive heat, obnoxious gases, fumes, etc., from industrial processes will have to receive considerable more care in summer than hitherto; thus even expensive filters and dust collectors will find favour among plant operators for the protection and comfort of the worker and improvement of the product, and usually also for their increased fuel economy and other advantages.

In other types of buildings, similar consideration will obtain. Where manual heating control was hitherto considered sufficient, automatic control will become a necessity, and it will be turning more and more from intermittent operation to a continuous heat supply at varying temperatures. Where draft conditions used to be overcome by woollens or heavier clothing, preventive measures, such as automatically controlled heating surfaces, will become a necessity. The tendency to consider the heating of large office areas, theatres, assembly halls, etc., by means of an air conditioning or ventilating systems sufficient and to neglect window drafts and cold walls, will be corrected by proper co-ordination of heating and ventilation. The tendency to treat heating and ventilation as separate problems will need to be modified, in order to ensure best results.

*(Continued on page 19)*

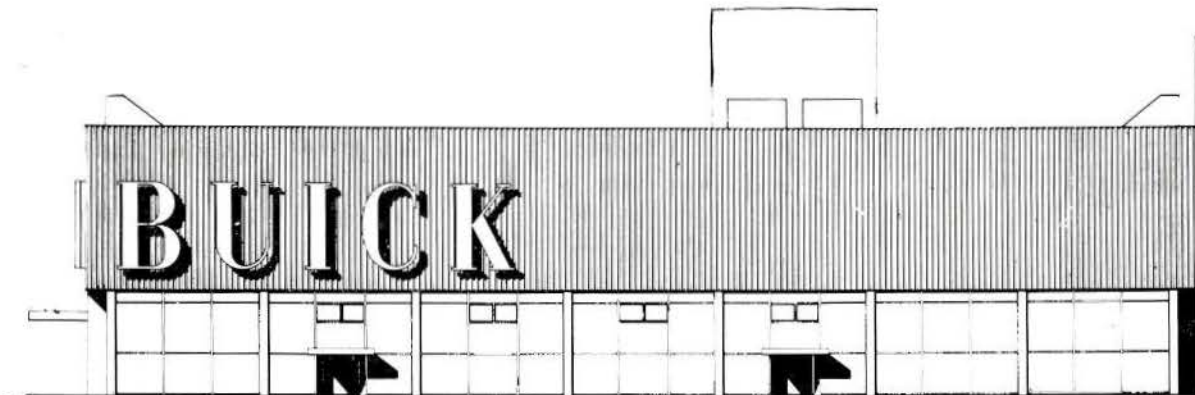
# GENERAL MOTORS DESIGN COMPETITION 1

FOR DEALER ESTABLISHMENTS

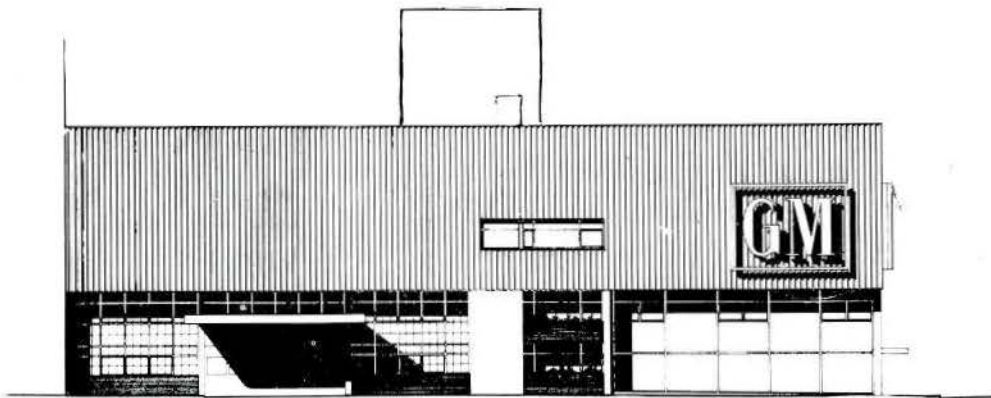
PROGRAM NO.

FIRST PRIZE: ROBERT T. COOLIDGE  
D. C. BYRD

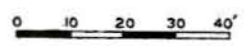
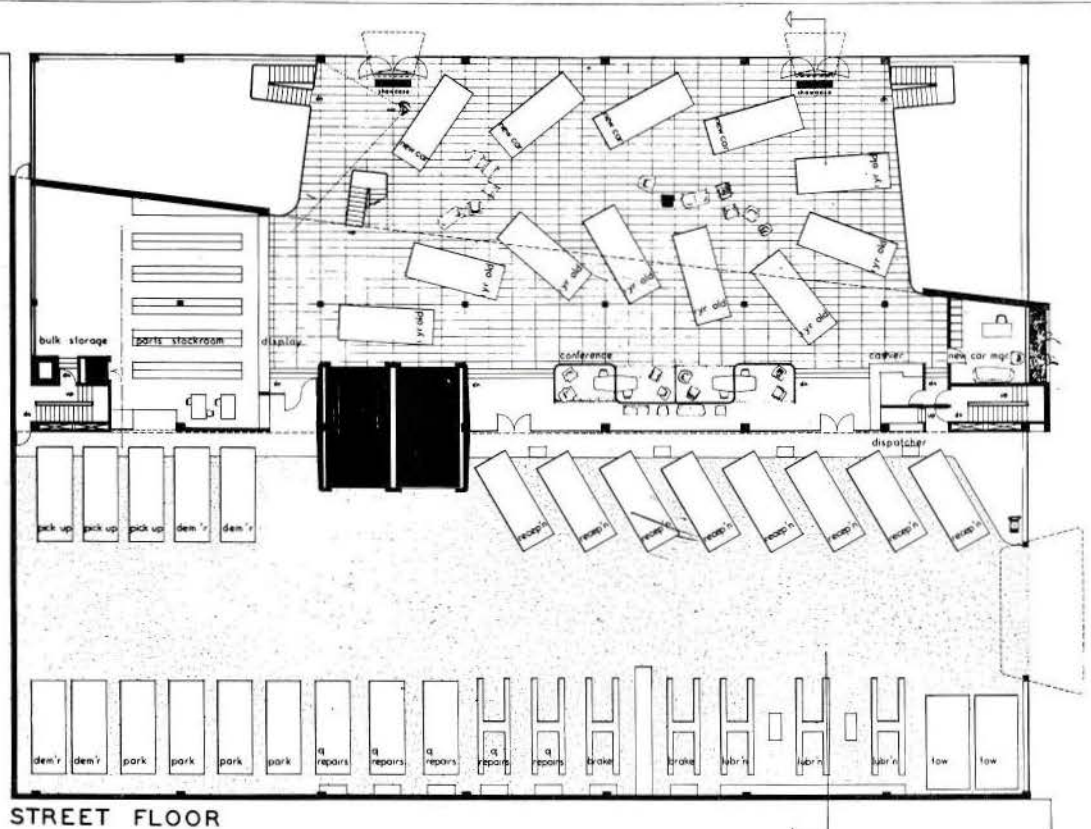
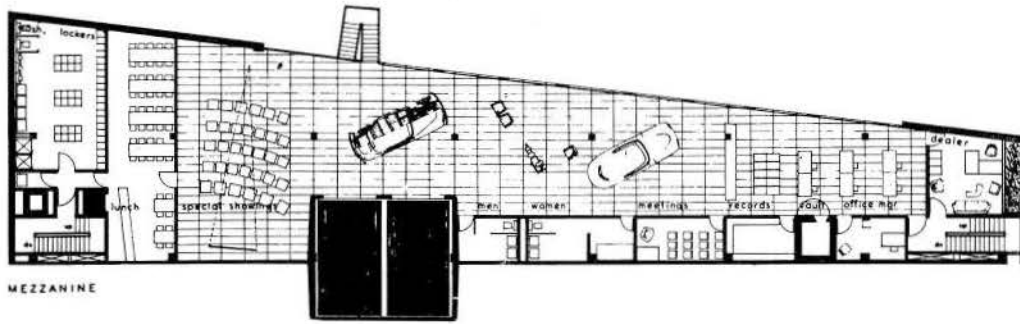
For a dealership in passenger cars exclusively, this project is designed to house an organization with an annual sale of 750 new and 1,200 to 1,500 used cars, a daily service load of 60 to 75 cars and a wholesale and retail parts and accessories business. In premiating the design, the jury called especial attention to its "relatively compact plan, good arrangement of services and very effective display." The latter involves not only an extremely effective and economical facade but also the adept handling of the showrooms proper. Here the designers have perforated the two outer corners of the main floor, thus opening the basement showroom (for used cars) to the street; they have also introduced a mezzanine for the display of parts and accessories. All three levels are connected by free standing stairs.



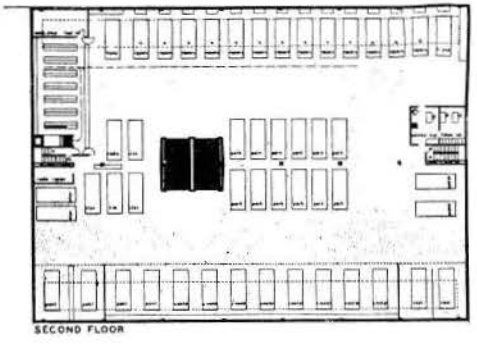
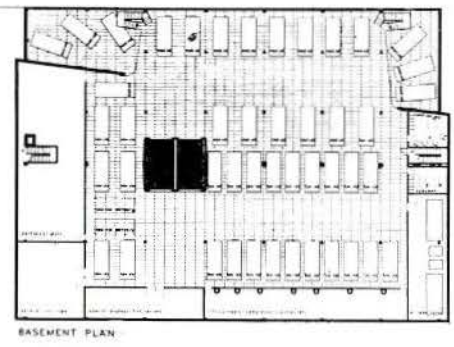
FRONT ELEVATION



SIDE ELEVATION



**VEHICULAR CIRCULATION** is organized around a bank of two elevators with doors at either end of both cars. Facilities for office staff are concentrated at one end of sales area on first and mezzanine floors, mechanics' washrooms and luncheon at the other.



# GENERAL MOTORS DESIGN COMPETITION **2**

FOR DEALER ESTABLISHMENTS

PROGRAM NO.

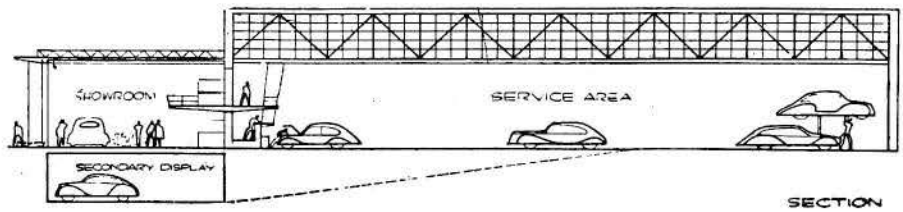
FIRST PRIZE: READ WEBER  
JAY S. UNGER  
TANIA WAISMAN  
SIDNEY L. KATZ  
VICTOR ELMALEH

For a medium-sized dealership in passenger and commercial vehicles, this project was premiated by the jury as "meeting all problems in a very satisfactory manner." It assumes a business with a sales potential of 300 new cars and 50 new trucks annually; an annual turnover of from 450 to 600 used cars and 50 used trucks; a service capacity of about 25 cars and 5 trucks daily; and the usual wholesale and retail business in parts and accessories. The showroom and service department are well related, while service and demonstration traffic are handily segregated. The building coverage is held down to about two-thirds the total area by using outdoor parking for used cars and temporary storage. The jury particularly liked the exterior and the excellent relationship between outside and inside display areas.

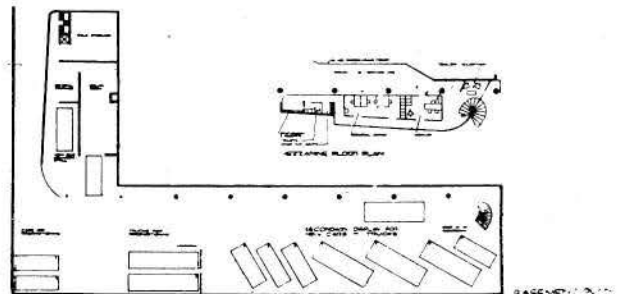
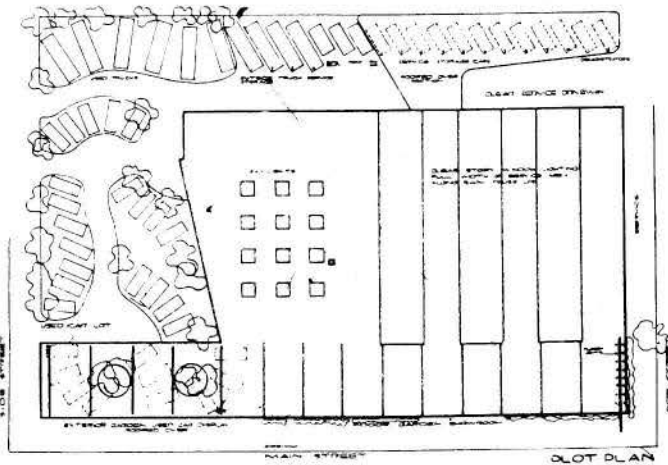
OPEN AND INTERIOR DISPLAY AREAS DOMINATE STREET FRONTAGE



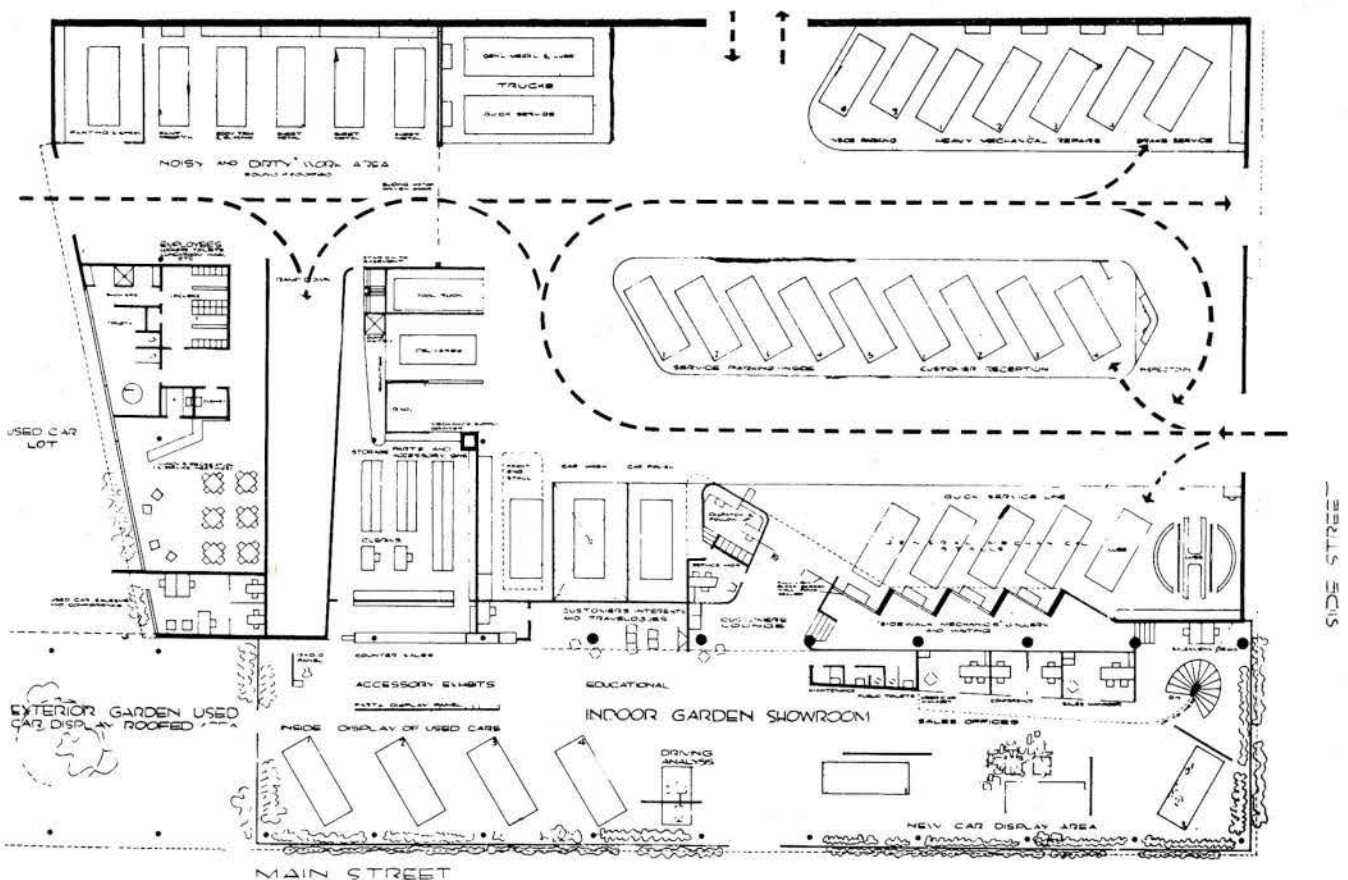




**CONTINUOUS MONITORS** light the entire closed portion of the service area. Both open and roofed-over areas are provided for outdoor parking, while easy internal circulation is achieved by quarter turn parking for all cars being serviced. Note narrow mezzanine, which provides space for customers to watch repairs to their cars without getting in way of the process itself.



RAMP LEADS TO BASEMENT SHOWROOM WHICH IS ALSO ACCESSIBLE BY CONTINUOUS STAIR CONNECTING ALL FLOORS



# GENERAL MOTORS DESIGN COMPETITION

FOR DEALER ESTABLISHMENTS

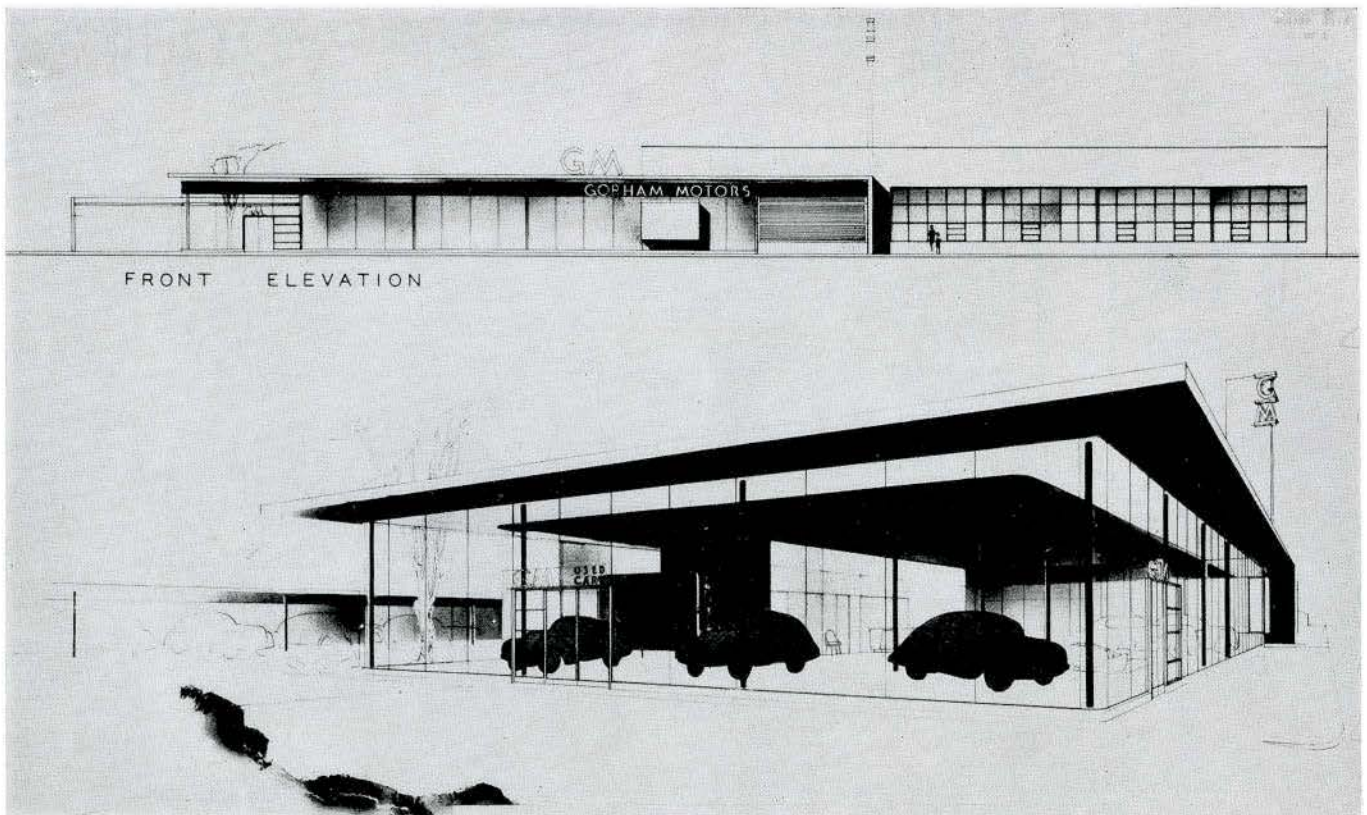
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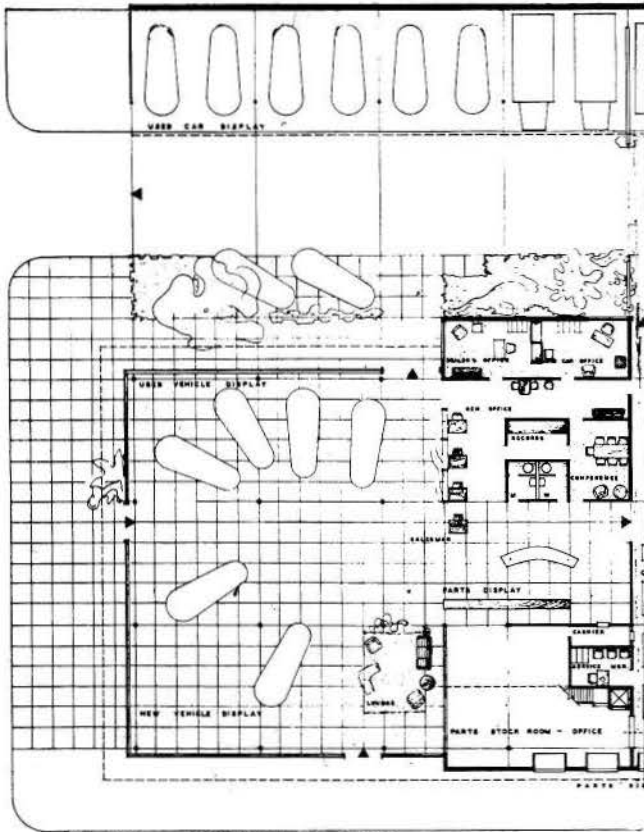
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FIRST PRIZE: L. B. HOCKADAY  
T. J. PRICHARD

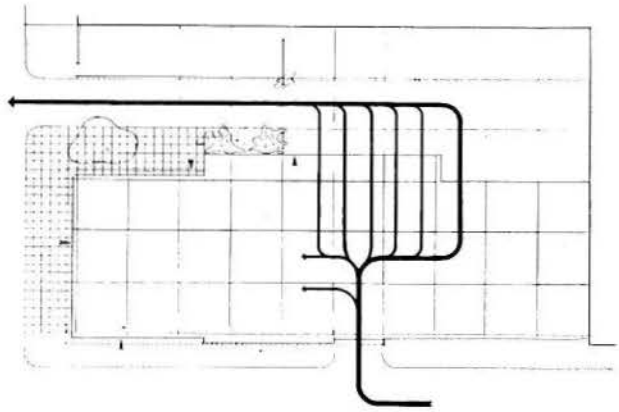
An average dealership in passenger and commercial vehicles involves an annual sales potential of about 125 new cars and 20 new trucks, an annual turnover of 200 used cars and 20 used trucks. In addition there is a service volume of between 12 and 15 cars daily and a comparable trade in parts and accessories. In meeting this program, the jury felt that the winners achieved "an excellent and compact plan with well arranged service areas and a first rate showroom." The exterior affords good visibility for display. Simplicity of design and ease of circulation were commended by the jury in both interior and corner lot solutions. And the variations were achieved with only one change in plan: on the interior lot, both offices and stock room are along the inner wall of the showroom; on the corner lot, the stock room is merely shifted to a position opposite that of the offices. In both cases, display area is concentrated where it will be most effective.

EXTERIOR AFFORDS GOOD VISIBILITY FOR CARS ON DISPLAY WITH GOOD LIGHT AND ACCESS TO SERVICE AREA



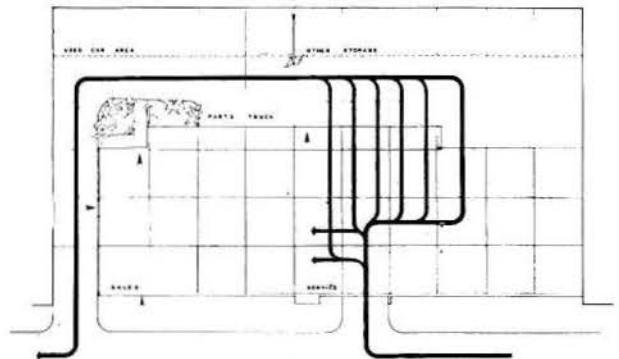


PLAN - CORNER LOT



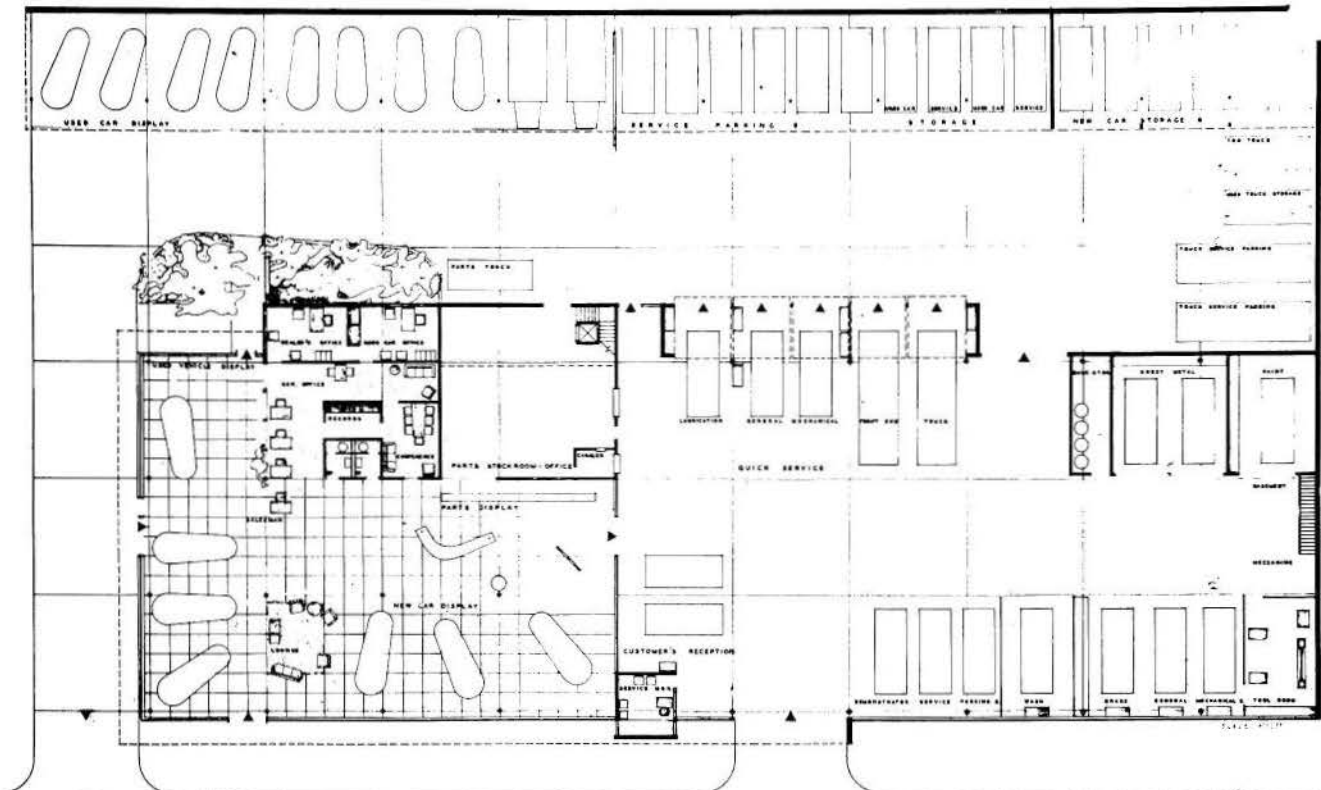
CORNER PLOT PLAN

**ONE WAY MOVEMENT** on all traffic, in both corner and interior plot solutions, permits comparatively small floor area. In either variation, the stock room is adjacent to both service and sales areas.



INTERIOR PLOT PLAN

EASY CIRCULATION AND COMPACT ORGANIZATION ARE OBTAINED IN BOTH CORNER AND INTERIOR PLOT SOLUTIONS

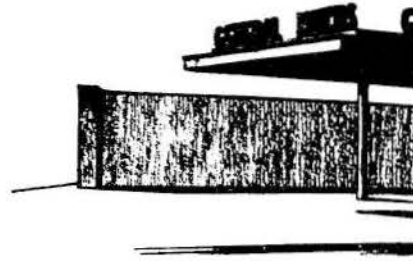


PLAN - INTERIOR LOT

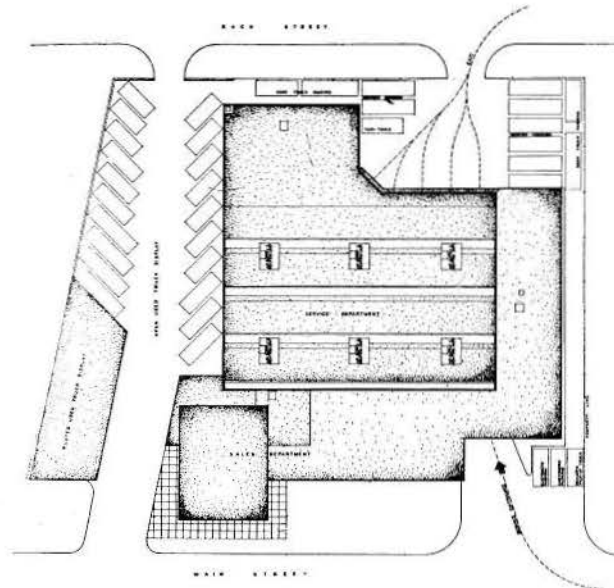
**GENERAL MOTORS DESIGN COMPETITION** **4**  
 FOR DEALER ESTABLISHMENTS PROGRAM NO.

FIRST PRIZE: J. B. LANGLEY, TORONTO

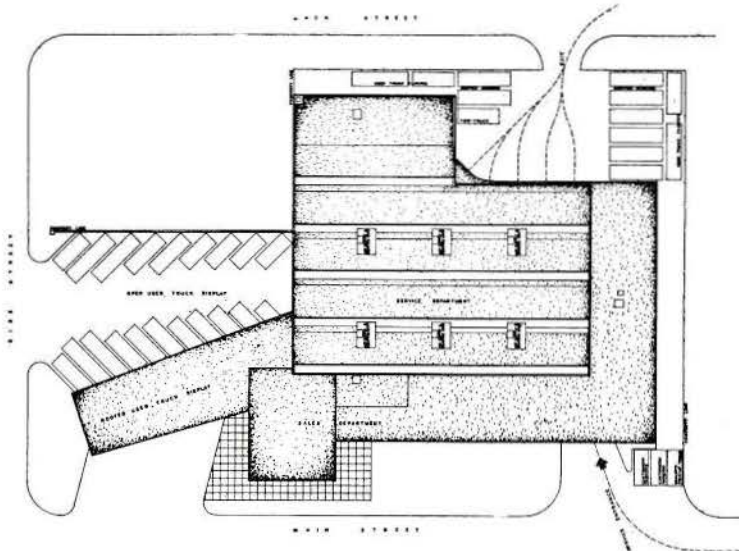
For a dealership in commercial vehicles exclusively, this project provides for an annual sale of 125 new and 150 used trucks, a service load of from 18 to 25 units per 16 hour day and wholesale and retail parts sales. The jury found it one of the best submitted in any of the programs. "The exterior has excellent character: it looks thoroughly business-like and handles merchandising requirements successfully. Quarter-turn access to parking stalls is easy. Circulation for big trucks is beautifully handled with direct access to the stalls from the entrance and an equally direct means of egress. The plan is good all the way through. Details have been worked out with great thoroughness and all required areas are related in a convincing way." The jury was particularly impressed by the secondary display area, "where the installation of a wall sloped in plan permits the showing of trucks of unequal length."

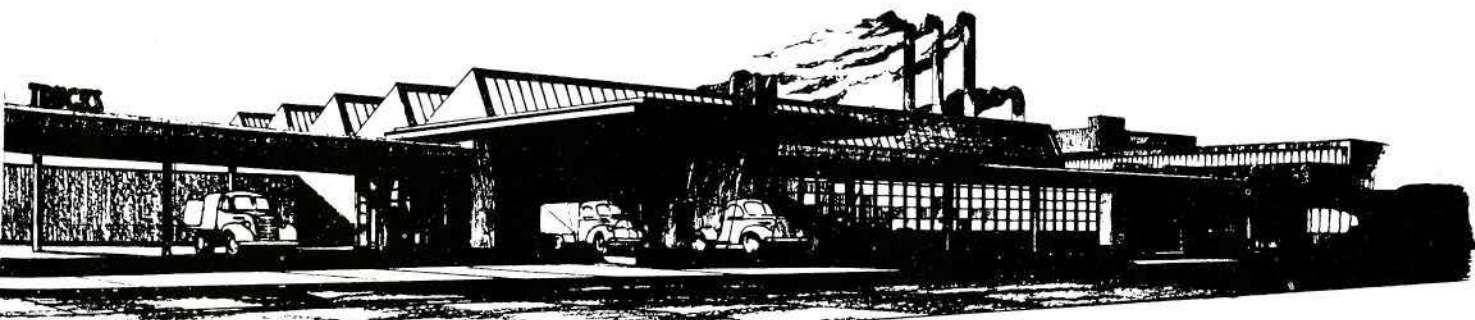


PERSPECTIVE



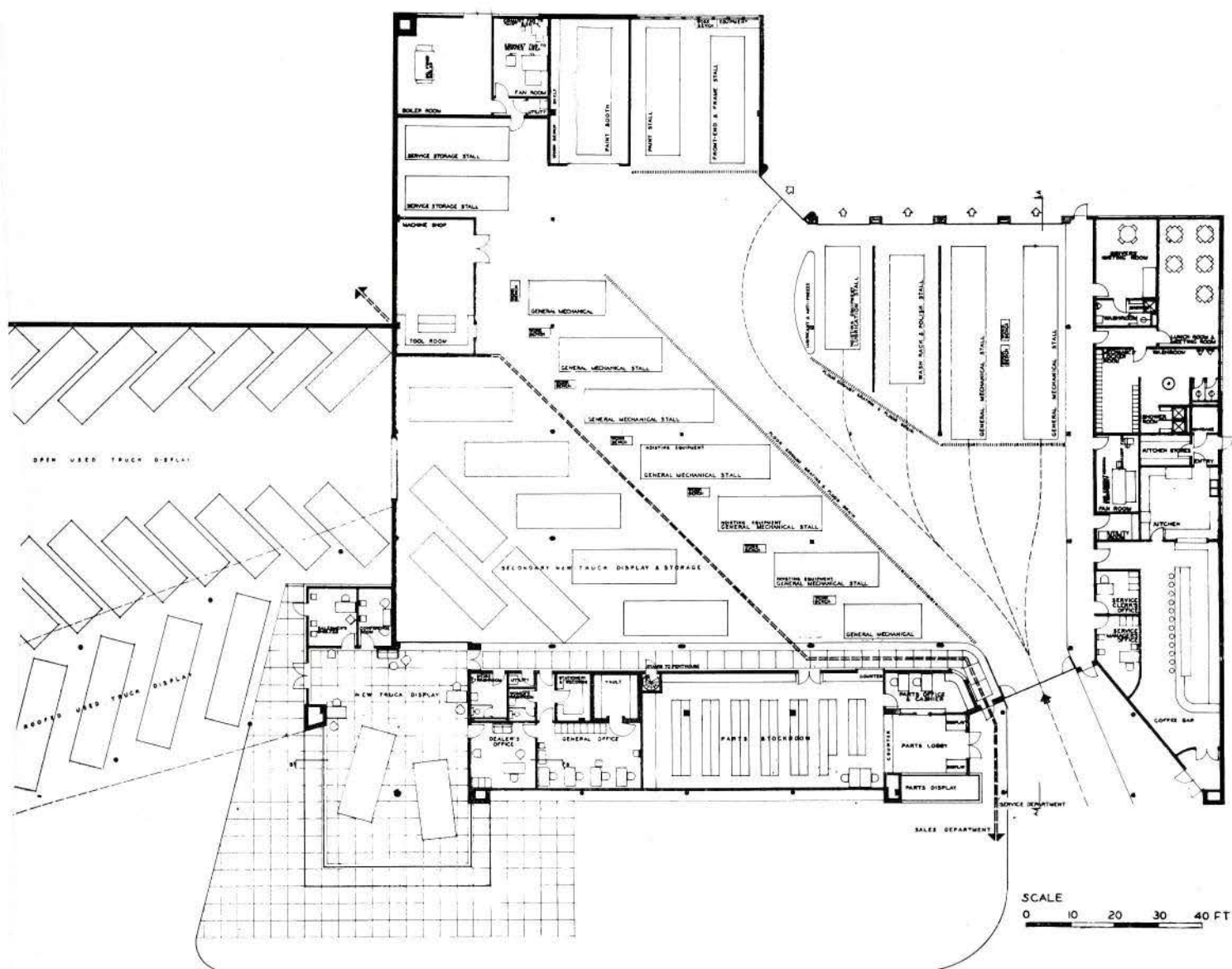
**THE PROGRAM** called for solutions to two sites and the prizewinner here shows both confidence and imagination in his solutions. Basic building is identical.





CORNER LOT SCHEME

**THE EXTERIOR** is a reflection of the commercial character of the enterprise as well as its industrial location.



PLAN OF SALES DEPARTMENT FOR CORNER LOT SCHEME

# TRENTE-NEUVIEME ASSEMBLEE ANNUELLE

DE

## L'INSTITUT ROYAL D'ARCHITECTURE DU CANADA

tenu à Québec, vendredi et samedi, les 15 et 16 février 1946

(Les séances seront tenues au Château Frontenac)

### Séances Préliminaires

Jeudi, le 14 février 1946

(voir tableau indicateur de l'hôtel pour lieux des réunions)

- |  |   |
|--|---|
| 11.00 A.M.—Réunion du Comité de la Rédaction du <i>Journal</i> de l'I.R.A.C. avec représentants provinciaux.                                 | et du Comité sur les Etudes d'Architecture. Ce dîner aura lieu au Club de la Garnison et les invités seront accompagnés de leurs épouses.   |
| 1.00 P.M.—Déjeuner pour les Membres du Conseil 1945, du Comité de la Rédaction du <i>Journal</i> et du Comité sur les Etudes d'Architecture. | 8.30 P.M.—Ouverture, au Musée de la Province, de l'Exposition "THE NEW SPIRIT", travaux de Le Corbusier, architecte, peintre et écrivain. Cette exposition est organisée par le "Walker Art Centre" de Minneapolis, Minn., et mise en circulation par "The American Federation of Arts" de Washington, D.C. Des travaux d'élèves des quatre écoles d'Architecture du Canada seront aussi exposés. |
| 2.00 P.M.—Réunion du Conseil de l'I.R.A.C. 1945.   |   |
| 4.00 P.M.—Réunion du Comité sur les Etudes d'Architecture.   |   |
| 6.30 P.M.—Dîner offert par le Président aux membres du Conseil de 1945, du Comité de la Rédaction du <i>Journal</i>                          |   |

### Séances Régulières

Vendredi, le 15 février 1946

- |   |  |
|---|--|
| 9.30 A.M.—Enregistrement des membres et des Délégués de l'I.R.A.C. et celui des élèves en Architecture.   | 2.30 P.M.—Reprise de l'ASSEMBLEE ANNUELLE.<br>(e) Affaires nouvelles.  |
| 10.00 A.M.—Séance d'OUVERTURE DE LA TRENTE-NEUVIEME ASSEMBLEE ANNUELLE de l'INSTITUT ROYAL D'ARCHITECTURE DU CANADA.<br>(a) Lecture du procès-verbal de la Trente-Huitième Assemblée Annuelle, tenue à Toronto.<br>(b) Rapport du Conseil: le Président.<br>(c) Discussion sur le Rapport du Conseil.<br>(d) Rapport de l'élection des Délégués au Conseil de l'I.R.A.C. pour 1946 par le Secrétaire-honoraire. | 5.00 P.M.—Convocation du Collège des "Fellows".<br>(Ces derniers porteront leurs médaillons distinctifs).  |
| 1.00 P.M.—DEJEUNER.<br>Bienvenue à l'I.R.A.C. par Son Honneur le Maire Lucien Borne. Maurice Hébert, F.R.S., sera le Conférencier.  | 7.30 P.M.—DINER INTIME au Manoir St. Castin, Lac Beauport. A cette occasion les Membres étrangers et leurs épouses seront les invités de l'A.A.P.Q. Les conférenciers seront le Professeur Milton S. Osborne, F.R.A.I.C., de l'Université de Manitoba, et Monsieur Ernest Wilby de Windsor, Ontario. |
|   | 9.30 P.M.—Divertissements offerts aux invités des Membres.   |

Samedi, le 16 février 1946

- |   |   |
|---|---|
| 10.00 A.M.—Réunion du Conseil de 1946 de l'I.R.A.C.   | 6.00 P.M.—Réception du Président aux Membres. Invités et leurs épouses.   |
| 11.00 A.M.—Reprise de l'ASSEMBLEE ANNUELLE.<br>(f) Autres affaires.   | 7.30 P.M.—DINER ANNUEL. (Tenue: Smoking et les Fellows porteront leurs médaillons). Les membres seront accompagnés de leurs épouses et autres invités. Il y aura remise de diplômes aux "Fellows" nouvellement élus. L'élection des nouveaux dignitaires de l'I.R.A.C. sera proclamée. Le conférencier d'honneur sera M. le doyen Joseph Hudnut du Graduate "School of Design" de l'Université Harvard. |
| 1.00 P.M.—DEJEUNER.<br>Conférencier d'honneur, Monsieur Jacques Gréber, D.P.L.G.F.  |   |
| 2.30 P.M.—Visite en voiture du Vieux Québec. Visite de l'Exposition Le Corbusier au Musée de la Province, ainsi que de l'Exposition des Travaux d'Elèves. |   |

Mademoiselle C. Griffith, Institut Royal d'Architecture du Canada, 74 est, rue King, Toronto.

# THE THIRTY-NINTH ANNUAL ASSEMBLY

OF

## THE ROYAL ARCHITECTURAL INSTITUTE OF CANADA

in Quebec City, on Friday and Saturday, the 15th and 16th February, 1946

(All Sessions to be held in the Chateau Frontenac)

### Pre-Convention Meetings

Thursday, the 14th February, 1946

(See Notice Board for Location of Meetings)

- |  |  |
|--|--|
| 11.00 A.M.—Meeting of the Editorial Board of the <i>Journal</i> , with Provincial Representatives.   | Garrison Club and wives of the members are invited to attend.  |
| 1.00 P.M.—Luncheon for members of the 1945 Council, the Editorial Board, and the Architectural Training Committee.   | 8.30 P.M.—Opening, at the Provincial Museum, of Exhibition sponsored by the R.A.I.C.—“ <i>The New Spirit</i> ”, works of Le Corbusier, architect, painter, writer, arranged and designed by the Walker Art Centre, Minneapolis, Minn., and circulated by the American Federation of Arts, Washington, D.C. |
| 2.00 P.M.—Meeting of the 1945 Council of the R.A.I.C.  |  |
| 4.00 P.M.—Meeting of the Architectural Training Committee.   |  |
| 6.30 P.M.—President’s Dinner to the members of the 1945 Council, the Editorial Board, and the Architectural Training Committee. The Dinner will be held at the | At the same time an Exhibition of Students’ Work from the four Canadian Schools of Architecture will be on view.   |

### Programme

Friday, the 15th February, 1946

- |   |   |
|---|---|
| 9.30 A.M.—Registration of Members and Delegates of the R.A.I.C. and Architectural Students.   | 2.30 P.M.—Continuation of THE ANNUAL ASSEMBLY.<br>(e) New Business.   |
| 10.00 A.M.—INAUGURAL SESSION OF THE THIRTY-NINTH ANNUAL ASSEMBLY of the ROYAL ARCHITECTURAL INSTITUTE OF CANADA.<br>(a) Reading of the Minutes of the Thirty-Eighth Annual Assembly held in Toronto.<br>(b) Report of the Council: The President.<br>(c) Discussion of the Report of the Council.<br>(d) Report of the Election of Delegates to the 1946 Council of the R.A.I.C. by the Honorary Secretary. | 5.00 P.M.—Convocation of the College of Fellows.<br>(Fellows will wear insignia).   |
| 1.00 P.M.—LUNCHEON<br>Welcome to the R.A.I.C. by His Worship, Mayor Lucien Borne. Maurice Hébert, F.R.S., will be the Guest Speaker.  | 7.30 P.M.—INFORMAL DINNER at Manoir St. Castin, Lac Beauport. Members of the R.A.I.C. from other Provinces and their Ladies will be guests of the P.Q.A.A. for this occasion. The Guest Speakers will be Professor Milton S. Osborne, F.R.A.I.C., of the University of Manitoba, and Mr. Ernest Wilby, of Windsor, Ontario. |
|   | 9.30 P.M.—Entertainment of Guests of Members.   |

Saturday, the 16th February, 1946

- |  |  |
|--|--|
| 10.00 A.M.—Meeting of the 1946 Council of the R.A.I.C.   | 6.00 P.M.—President’s Reception to Members, Guests and Ladies.   |
| 11.00 A.M.—ANNUAL ASSEMBLY<br>(a) Unfinished Business.   | 7.30 P.M.—R.A.I.C. ANNUAL DINNER. (Dress: Dinner Jackets). (Fellows will wear insignia). Members, their Ladies and Guests are invited to attend this Dinner during which the Fellowship Diplomas will be presented. Announcement will be made of the newly elected R.A.I.C. officers. The Guest Speaker will be Dean Joseph Hudnut of The Graduate School of Design, Harvard University. |
| 1.00 P.M.—LUNCHEON<br>Jacques Gréber, D.P.L.G.F., will be the Guest Speaker.   |  |
| 2.30 P.M.—Sleigh Drive around Old Quebec. Visit to Le Corbusier and Students’ Works Exhibition at the Provincial Museum. |  |

Constance Griffith, Secretary, R.A.I.C., 74 King Street East, Toronto. Telephone WA. 2118.

# ANNOUNCEMENT

The attention of Members attending the Annual Meeting of the R.A.I.C. is drawn to an exhibition of the work of Le Corbusier, the French Architect, Painter and Author. The Exhibition is described as "The New Spirit", and has been arranged by the Walker Art Center, Minneapolis, and circulated by the American Federation of Arts, Washington, D.C. The R.A.I.C. is sponsoring the exhibition, which will be held in the Musée de la Province, and which will be officially opened on Thursday, February the fourteenth at 8.30 p.m.



## TRAIN SCHEDULE FOR ANNUAL ASSEMBLY

<i>Leave</i>		<i>Arrive</i>	
VANCOUVER	C.P.R. Feb. 9th - - - - 7.45 P.M.	MONTREAL	Feb. 13th - - - - 11.15 A.M.
EDMONTON	C.P.R. Feb. 10th - - - - 12.10 P.M.		Feb. 13th - - - - 11.15 A.M.
CALGARY	C.P.R. Feb. 10th - - - - 9.05 P.M.		Feb. 13th - - - - 11.15 A.M.
	C.N.R. Feb. 10th - - - - 10.00 P.M.		Feb. 13th - - - - 11.15 A.M.
REGINA	C.P.R. Feb. 11th - - - - 9.55 A.M.		Feb. 13th - - - - 11.15 A.M.
WINNIPEG	C.P.R. Feb. 11th - - - - 8.30 P.M.		Feb. 13th - - - - 11.15 A.M.
TORONTO	C.P.R. Feb. 13th - - - - 4.00 P.M.		Feb. 13th - - - - 11.00 P.M.
SAINT JOHN	C.P.R. Feb. 12th - - - - 5.00 P.M.		Feb. 13th - - - - 7.55 A.M.
HALIFAX	C.N.R. Feb. 12th - - - - 7.20 P.M.		Feb. 13th - - - - 9.20 P.M.
LEVIS	Feb. 13th - - - - 4.05 P.M.	QUEBEC CITY	Feb. 13th - - - - 5.00 P.M.
MONTREAL	POOL TRAIN	QUEBEC CITY	
		9.15 A.M.	1.30 P.M.
		6.50 P.M.	11.00 P.M.
		*11.55 P.M.	6.25 A.M. (end of line)

\*The Institute has engaged a special car, with sleeping accommodation, to leave Montreal at 11.55 P.M., February 13th, and arrive in Quebec City at 6.25 A.M., February 14th.

Will persons wishing to make this connexion please advise the Secretary immediately?



# THE PROVINCIAL PAGE

## AEDIFICAVIT



MR. E. FITZ MUNN

Mr. E. Fitz Munn was born in Brighton, England, and received his early education there. He was articled for four years to Mr. H. W. Sanders, Architect and Surveyor, who carried out various city work commissions — nothing very large but a good general practice.

In 1911 Mr. Munn arrived in Winnipeg filled with pioneer enthusiasm. He first worked with Mr. H. E. Mathews on St. Mathews Church and Farmers Advocate Building. In 1914 he went with the Dominion Government and was active on the designing and construction of Minto Armouries, McGregor St. Barracks, and other Military Buildings. In 1919 he was associated with Kipp Kelly Ltd. and built the Ogilvie Flour Mills of Winnipeg, and other buildings of like character.

In 1924 he joined the firm of Jordan and Over in the design of the Mental Disease Hospital at Brandon, the Spiers-Parnell Bakery, and the Winnipeg Grain Exchange. He was made a partner of the firm of Over and Munn in 1927. During the next few years the firm was responsible for the Bank of Nova Scotia, Winnipeg, the Nurses' Home and other buildings for St. Boniface Hospital and the Hospital at Fort Francis. On the death of Mr. Percy Over the firm name changed to E. Fitz Munn.

In June, 1914, Mr. Munn was appointed Secretary of the Manitoba Association of Architects, a position he has held with distinction ever since. He served as President of the Manitoba Association of Architects in 1944. Through all of the years as Secretary of the M.A.A. he has carried on with efficiency and good-humour. His ready smile and his knowledge of the working of the Association have endeared him to his fellow-architects.

## ALBERTA

In these days of economic turmoil there is probably little chance of creating a "new order" in architecture; yet there is the greater need for more effort than usual in clarifying our ideas on the subject. The architecture of any period expresses the mind of that period. A glance at the architecture of our city streets expresses the turmoil of thought into which we are thrown. It is surely no exaggeration to say that, from an architectural point of view, the appearance of the business streets of all our cities is just a mess. Can anything be done about this? The condition surely reflects some discredit on us as architects. Individually an architect can do little about it. Here and there we find a recent example of architecture

which shines out like a jewel of gold in a swine's snout. Can we not do something to reform the swinish multitude.

The chief source of general disorder would seem to lie in our excessive individualism. The street architecture of the middle ages does not lack individualism. Picturesque and varied as it is, it is held together by a uniformity of manner and it derives a stirring vitality from its simple and forcible expression of purpose. Today we are swamped by a multiplicity of minor purposes expressed through a multitude of incongruous mannerisms.

The picturesque effects of the middle ages offended the tastes of the architects and of the public of the renaissance period. The wider and more varied interests of the times called for a new view of the social order. Governments with departments were set up in place of the older opportune methods of management of affairs. Scientists explored nature and demonstrated that nature herself obeyed laws. In architecture this was expressed in the street facades of cities and, even in villages, an orderly and urbane type of life was adopted and expressed with charm in small houses. No more many-gabled buildings, no more irregularities of plan. A dominating cornice, careful spacing of windows, order and proportion, controlled men's ideas and showed themselves in their buildings. The public of the time approved and sympathized with these ideas. The results were and remain satisfying to the eye. They represent one fine phase of beauty. Can we evolve another, for beauty has many phases?

A French writer of the 18th century expressed the architectural ideals of his time:—"Bel ensemble, proportionnée aux besoins, donnant raison a toutes les regles du gout, a toutes les exigences de la vie, formant en un mot l'architecture française, c'est a dire l'architecture moderne habilement deduite de l'architecture antique." (Fine general effect, proportionate to requirements, satisfying the rules of taste and meeting the needs of life, in a word, French Architecture, that is to say, modern architecture skilfully based on ancient architecture).

We rather pride ourselves on not basing our work on ancient architecture. Yet it is safe to say that the only really beautiful recent works depend on the principles of order, proportion and harmony. Of these the classical orders are the eldest-born examples, and still, when we see these well executed on a grand scale, in our dismal city streets they impress themselves like august presences and often enough they make the more modern efforts look insignificant.

There is no use hankering after a revival of past times. There surely is great need to hanker after some beauty in the present. All the needs or supposed needs of the present day seem to conspire together against any beauty of general effect. A general control would seem to be necessary. We shrink at the word "control". We rightly resent the idea of all our thoughts and efforts being controlled by outside authority. We cannot resent the idea of controlling ourselves and of doing so for the common benefit. How can we make this idea the common and current coin of the day?

Cecil S. Burgess.

## ONTARIO

The New Year opens up for the Architects of Ontario many opportunities for thought—cheerful reflections and some sad memories, but very great hope and encouragement for the year that is just beginning.

The sad note to us all is the loss of our well beloved John M. Lyle. His passing will be mourned all over Canada but no more so than in his own province. I like to think of him as symbolizing that ideal which we would all like to achieve—to be a good Architect and a fine Gentleman. He will be greatly missed and it will seem strange at the annual meeting not to hear his cheerful and well considered criticism and advice.

After an illness of more than a year, another of the older members of the profession is around again, health restored and looking forward to the spring. There are few more ardent fishermen than W. P. Witton and we are much cheered at seeing him with us again and hope that his luck is as good as ever. (Incidentally, we in Hamilton have a very soft spot in our hearts for W.P.)

Reference was made in the last Ontario letter to the great step forward that has been made in an attempt to "re-vamp" our present lower school architecture and I am sure all will join me in congratulating our progressive Minister of Education and the committee who produced the Interim Report and further still the development of the plans for the Model School, designed under the direction of the Committee. That it gives us inspiration and encouragement is beyond question.

With the programme announced for the annual meeting in Toronto, its success is a foregone conclusion. Mr. Walker is no stranger to us and his return will be welcomed by many who had the pleasure of meeting him two seasons ago. And then there is the annual meeting of the Institute in Quebec City. Who, among the fortunate that were able to attend, will forget the meeting at the Seignior Club some years ago. Again we will have a chance to be thrilled with the charm of old Quebec and the hospitality of French Canada. We should go by all means if it is at all possible and so by our presence express appreciation for the President's efforts and the wonderful success he has made in keeping warm the spirit of good will during the last difficult years.

H. E. Murton.

## OTTAWA CHAPTER

As to Architecture in Ottawa, time only will prove whether as it was in the beginning, and is now, ever shall be.

As to Architects, Ottawa once again is in transition. As the shouting and tumult dies, the Ottawa Chapter reverts to a lowly but uncontrite basis, grateful for the opportunities occasioned by wartime experiences to greet our confreres from such outposts of Empire as Montreal, Toronto, Halifax and Vancouver.

As a Chapter we have gained much from these friendly and fortuitous contacts. Our men are returning to the fold. Already it is apparent that they come back enriched by experience and decidedly vocal in discussion of things as they might be.

The chief topic of discussion these days is, of course, the planning of the Greater Ottawa Area. Our meeting with Mr. Jacques Gréber last November aroused great interest. It is our hope that we may assist to some degree in the development of this project, the importance of which is self-evident. All Canada is interested by reason of its designation as a National Memorial and the precedents that may be established and the experience gained will undoubtedly react in the planning procedure in other areas.

Merrill Cameron.

## OBITUARY

ALFRED HOLDEN GREGG, F.R.A.I.C.  
1868—1945

The architectural profession learns with great sorrow, the recent death of Mr. Gregg.

He was born in Toronto, the son of Rev. William and Phoebe Holden Gregg and was educated at the Model School and Jarvis Street Collegiate Institute. His brother, the late W. R. Gregg, before practising architecture in Toronto, was in the office of H. A. Richardson, of Boston, the acknowledged leading architect in the United States at that time. It was natural, therefore, that when Mr. Gregg decided to study architecture, that he went to Boston. There he became a charter member of the Boston Architectural Club. Returning to Toronto, he practised with his brother and in 1904 with the late A. Frank Wickson, formed the firm of Wickson and Gregg which continued to Mr. Wickson's death in 1936. This firm became one of the outstanding architectural firms and was responsible for such outstanding buildings as Ardwood Hall, Sir John Eaton's residence, also the extension farm building and house at King, Ontario, for the same client; the Timothy Eaton Memorial Church on St. Clair Avenue West; Calvin Presbyterian Church; the Toronto Public Library in which Mr. A. H. Chapman was associated.

Mr. Gregg was an active member of the Ontario Association of Architects and a Fellow of the Royal Architectural Institute of Canada. Earlier in his practice he was one of the leading members of the Toronto Architectural Sketch Club. Mr. Gregg was a member of the National Club, the Arts and Letters Club and the Royal Canadian Yacht Club. He was a trustee of the 100 Toronto General Burying Grounds and a member of the Rosedale Presbyterian Church of which he was an elder. Mr. Gregg is survived by his wife Kathleen McMechan Gregg, his son Paul, his sister Miss Isabelle Gregg and his brother Clement Gregg. His son, Ian Gregg, R.C.A.F., was killed on active service in February, 1944.

J. P. Hynes.



## COLONEL J. B. MITCHELL

We regret having to report the passing of Col. J. B. Mitchell, one of the Members of The Manitoba Association of Architects.

He was actively connected with the formation of our Association during the years 1905 and 1906. He continued this activity through the early years and finally was able to see the Architects' Registration Act of Manitoba passed by the legislature in 1910. He was Architect for the Winnipeg School Board during these years until his retirement in 1929. At this time, the Architects' Association presented him an honorary life membership for his active interest and good work for the Association.

Col. Mitchell was 93 when he died and was the last surviving member of the original R.N.W.M.P. He was buried in his scarlet dress uniform and the sight was very impressive. He is survived by his wife, Margaret.

*E. Fitz Munn.*

## HAROLD TENNISON

The profession has indeed suffered a great loss in the sudden passing of Mr. Harold Tennison. His unswerving purpose throughout a busy and all too brief career, caused him to learn his profession well in the offices of Langley & Howland and Chapman & Oxley, and in no small measure did Tennison's efforts contribute to the success of many of the works of these great firms.

Tennison was a man of simple tastes, an avid learner and an inflexible believer in good construction. His works reflected very clearly these characteristics. Above all, Tennison might be described as an enthusiast—it mattered little to him were the job large or small. Each of his clients got in boundless measure all the loyalties and singleness of purpose that could be asked of any architect. He will be deeply missed by those with whom he has worked throughout the years.

*Hugh L. Allward.*

## HEATING

*(Continued from page 5)*

Even the residential installation follows similar trends. The manually fired and controlled hot water or hot air system has been superseded by the intermittently operating automatic combustion system. In the hot water variety little trouble occurred as long as the house owner was satisfied with a gravity heating system which supplied domestic hot water only on cold days. In order to permit combining hot water supply and heating, designs were introduced using a high constant boiler temperature and throttling the supply of heat to the heating system either by a throttling valve or by means of starting and stopping a circulating pump. Uneven heating became the result, particularly in the milder periods of the heating season. I understand this condition is receiving careful attention now.

In closing may I stress again that even without consideration of new equipment and developments, the heating of buildings will present many problems in the post-war era. Furthermore, although the science of heating has apparently been affected

only little by the precipitous developments of engineering of the war years, nevertheless it was not at a standstill. There will be many innovations in equipment and its operation, whose merits will have to be individually studied and adjudged. The building industry must make the best of these opportunities and the heating engineer must make the opportunities possible.

## THE NEW SPIRIT

### **An exhibition of the work of Le Corbusier at the Musée de la Province, February Fourteenth.**

This Exhibition is the first comprehensive show in America to survey all three phases of the work of Le Corbusier (Charles Edouard Jeanneret), the Swiss-Frenchman who coined the phrase "The house is a machine for living".

Few people have known the magnitude of Le Corbusier's genius. In addition to his leadership in modern architecture, he has written more than twenty-two books, and, with Ozenfant, founded the Purist School of Painting.

His history is the history of contemporary design, of which an understanding presupposes a knowledge of Le Corbusier's work.

Le Corbusier dropped from sight during most of the German occupation. It was not until late in 1944 that definite knowledge of his work and whereabouts reached this country. He has been working on plans for the reconstruction of French cities.

This Exhibition is also a new development in exhibition techniques; a complete story is told through a series of twenty-nine large caption panels, each designed for a quick visual message or a more detailed literary one. The story panels are augmented with photographic blowups, oil paintings, water colours, drawings, and facsimile pages of books. The show is an important experiment in visual presentation. It was designed and constructed by the Walker Art Center in Minneapolis.

## NOTICE

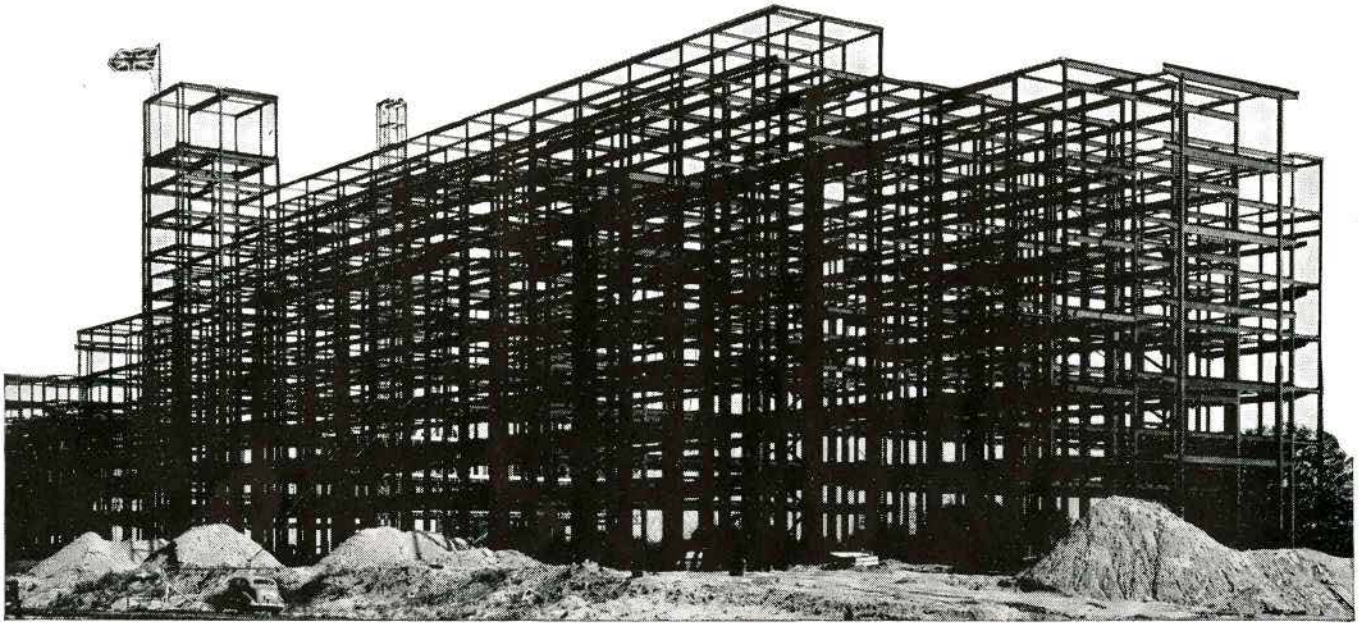
Several requests from the Toronto area have come to the office asking that publicity in the *Journal* be given to the formation of partnerships, and changes in architects' addresses. This is something that has been done in the R.I.B.A. *Journal* for many years, and the Editorial Board will be glad to publish such information if there were sufficient requests to warrant it. It is possible that the return of architects from war service throughout the Dominion has led to many professional changes of this kind, and we should be glad to receive such information and publish it in the February issue, if received before February 1st.

*—Editor.*

## POSITION OPEN

Experienced Architectural Assistants wanted for position in Architects' Office, Vancouver, B.C. Apply stating experience, age, and salary required, to E. & P. Division, National Employment Service, Room 912, 475 Howe Street, Vancouver, B.C. Order No. E. & P. 549.

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