JOURNAL

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

VOL. 16 JULY, 1939 NO. 7

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Architects:
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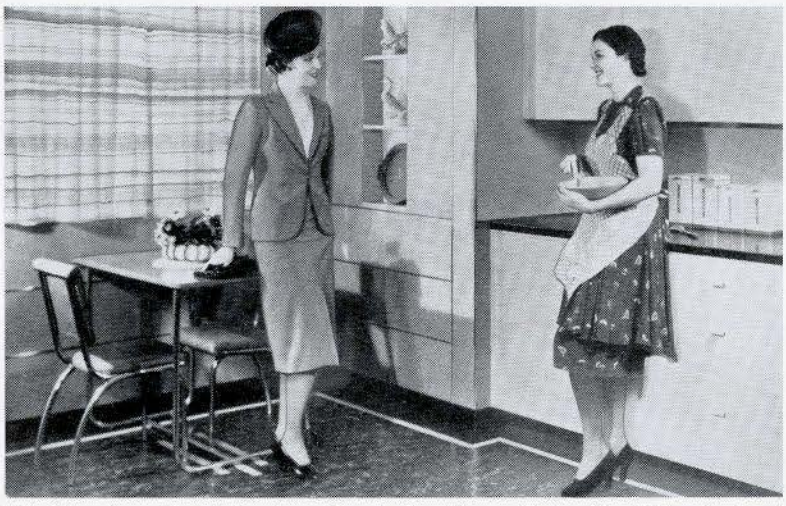
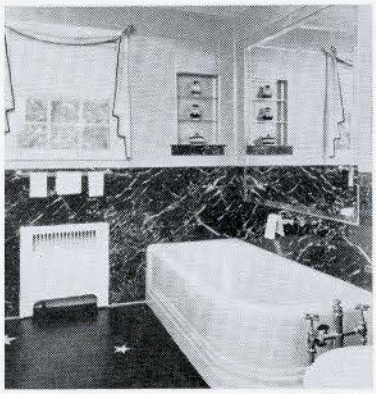


This picture is worth a whole volume of words when it comes to describing kitchen treatments that are really up-to-date. J-M Decorative Asbestos Flexboard is the material responsible for this kitchen's beautiful modernity and style-appeal. And THESE *are the things that "sell" the ladies!*



ANY BATHROOM CAN LOOK LIKE THIS! *Whether it's a matter of modernizing or of new construction, J-M Asbestos Flexboard and Wainscoting are equally adaptable. In the picture above, the lower walls are of Marbleized Asbestos Wainscoting, the upper of Asbestos Flexboard.*

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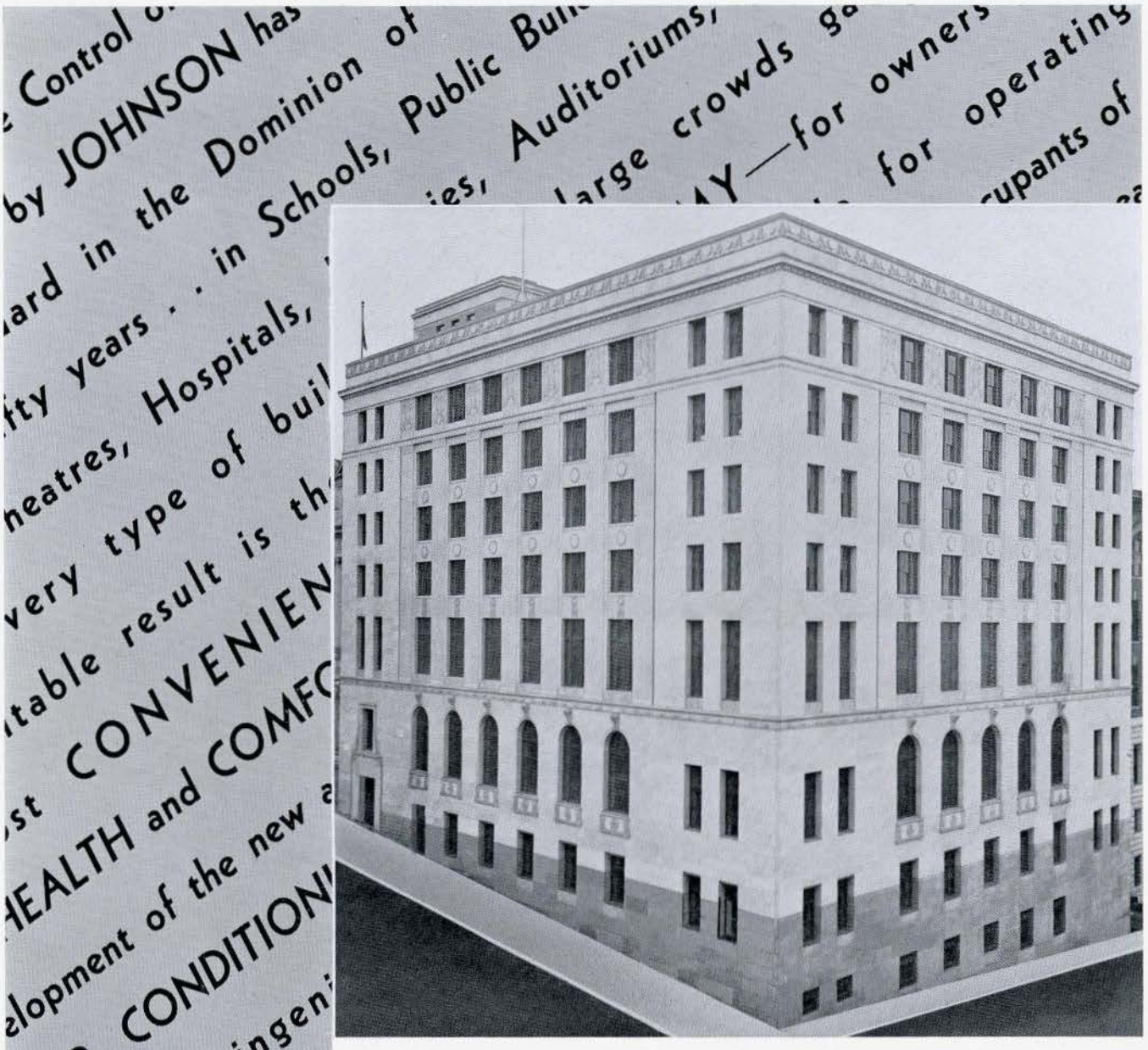

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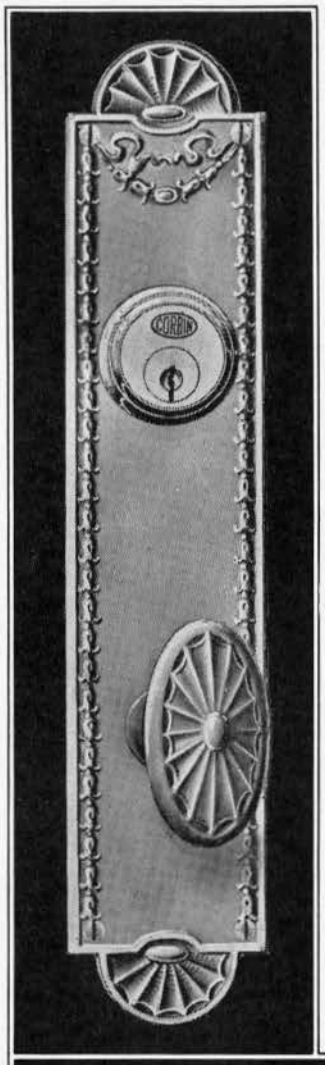
MINNEAPOLIS-HONEYWELL *Gradutrol System*



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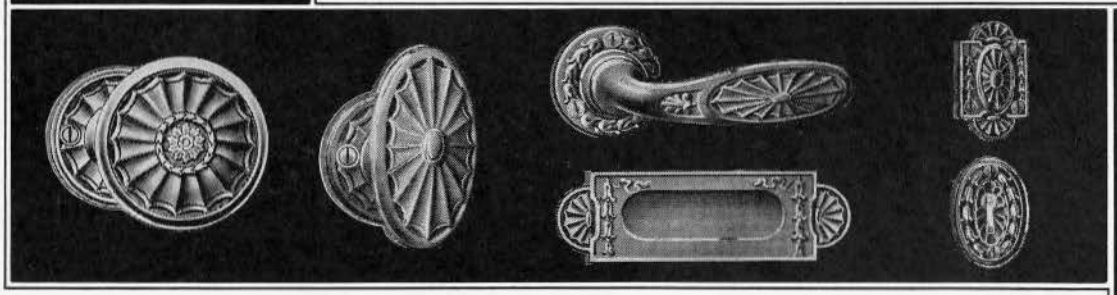
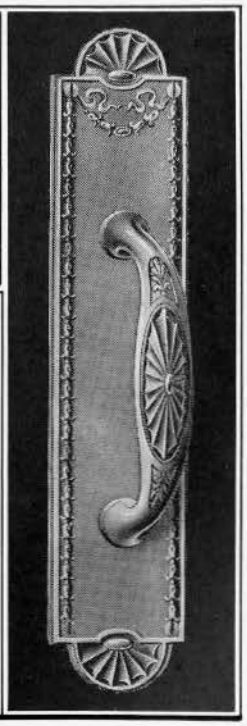
"Good Buildings Deserve Good Hardware"





FITZROY is one of the notable Corbin Hardware Designs which is particularly suited for a residence or building of Georgian or English architecture. The proportions are pleasing and the ornamentation is characterized by a lightness and grace for which the Adam brothers were celebrated. The Adams were among the first of the great designers to relate interior ornamentation to architectural style — an artistic principle adhered to by Corbin in hardware design.

CORBIN LOCK COMPANY OF CANADA, LIMITED

BELLEVILLE ONTARIO

JOURNAL

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

Serial No. 167 TORONTO, JULY, 1939 Vol. 16, No. 7

CONTENTS

PLATES

SUBSCRIPTION RATES

Canada and Newfoundland—Three Dollars per year. Great Britain, British Possessions, United States and Mexico—Five Dollars per year. All Other Countries—Six Dollars per year. Single Copies—Canada 50 Cents; Other Countries 75 Cents.

ONE of the suggestions made in answer to our questionnaire was that a "Question and Answer" section should be started in the *Journal*. The R.I.B.A conducts such a section extremely well, and we believe a department on similar lines would be a useful "service" to the architects of Canada. No one in particular will be responsible for this department, but each question will be sent to the person best qualified to answer it. All questions will be sent to the Editor and all questions and answers will be published.

In the same questionnaire quite a few asked for photographs of stock furniture, hardware, lighting fixtures and the like. The Editorial Board approved of this suggestion, and this month we are illustrating some "summer furniture" which a committee selected from a vast collection which varied from marble seats to rustic benches.

From time to time the publisher of the *Journal* is criticized for reproductions which are grey or fuzzy. He may at times err, as we find his brethren do in the most august architectural magazines, but more often the blame rests on the photographs. Poor, amateurish photographs are sent to this office often, as in one case in the last number, too late for a change to be made. We do not wish members to go to unnecessary expense, but in the interest of the publisher and of the members who do not wish to see poor reproductions, we must make a rule that under no circumstances will a photograph be used that is not first class.

Quite the best way we know by which any chapter of architects, or any group where no chapter exists, may make the architect and his services known to the public is by an exhibition. In Toronto the biennial exhibition, which in its best year, and its poorest exhibition, drew 32,000 people, is already being planned for 1941. The proposals made by a special committee in a report, which was approved at a general meeting in June, are somewhat revolutionary in Canada and may be of interest to other chapters. In the past it was felt necessary to have some attractive exhibit like Steuben glass or a well-known collection of furniture or silver, in order to lure an unsuspecting public into a room full of photographs, all of which were shown in competition. Some buildings received honourable mentions — others were picked out for special distinction with medals made from, or dipped in, various precious or semi-precious metals. All that, it appears, will be changed. The committee is convinced that architecture, the Mistress Art, if properly handled, can be sufficiently alluring to make a successful exhibition without any outside attractions. Architecture, and the architect as a useful and necessary member of society, will be the note of the Exhibition. Housing and slum clearance, materials of building, plans with houses, and decorative charts illustrating the services of the architect will be a few of the ingredients that will go to make up the show. Gone, apparently, are the medals; gone even are the names of the architects on photographs of their work. Every architect will work, not for himself, but for the common good. It sounds like an architectural Utopia, but it has enthusiasm behind it and we wish it well.

We would like to be of help to the R.A.I.C. Exhibition Committee who appeal each month for photographs for the Exhibition in 1940. We think all members would like to see some official statement in the *Journal* describing the Exhibition. If it is competitive, we should like to know the names of the Judges as we would in any professional competition. If it is going on tour, as was suggested, are the photographs per firm to be limited? A clear statement of policy would do much to support the monthly appeal for photographs. At the moment we are completely in the dark in regard to an exhibition only eight months away.

ARCHITECTURAL ASPECTS OF THE HIGHWAY

By JOHN LAYNG

IT IS OPPORTUNE for us to concern ourselves with the architectural developments of the road. Highway architecture, or rather, highway building, has become, in too many instances, highway robbery, the spoilation of the intrinsic beauty of the countryside, which, if allowed to pursue its seemingly inevitable course, would soon present a super-expensive and perhaps insoluble problem throughout the whole country.

The primary function of any road is to provide access from one place to another, from one town to another. The modern significance of this definition grows as motor powers increase and speed limits rise. Therefore, to state the case rather rudely, every other consideration is subservient to this prime purpose. With *speed* and *directness* of access there must be *safety* of access and *pleasantness* of access. Everything that stands as a definite hindrance to these functions is, then, a serious block to the present and future regional planning of our country.

In its very beginning, at the outskirts of a town, the highway usually encounters its greatest defacements. Here urban growth has petered out into a needlessly self-paralyzed area caused by heedless overgrowth. Shacks and poor looking unrelated buildings are the rule in unregulated low density areas. Lack of definition between the town and the country creates a situation incorporating the disadvantages of both and the advantages of neither. These chaotic conditions, existing everywhere, give the worst of impressions on entering a town and a prolonged annoyance on leaving it. This no-man's-land should provide for itself a link between the fine and magnificent scale of a modern highway and the lesser scale of the town, between the natural beauty of the landscape, and the artificial, though not necessarily inferior, beauty of the town. Public gardens and parks and play spaces in a formal pattern will bind and at the same time segregate town from country and keep the highway approaches clear of built up areas.

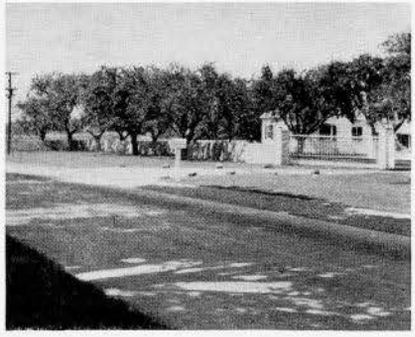
Many of the buildings which face a highway group themselves, by reason of their indifference to design and position, into two classes, namely: unsuitable buildings and undesirable buildings. They are unsuitable because, although they need to be there, they spoil the beauty of the countryside. This spoiling may be due to the entire lack of architectural study, to an exuberant love of the styles which produces nonsensical whimsicalities, or to the jarring note of wrong colour schemes as related to the adjacent fields, rocks, trees and sky. It may be a question of location on the site. Buildings too close to the road not only narrow down the vision for the passerby, and in doing so create danger points, especially at the intersections, but also neglect for their owners and occupants the most necessary requisite of privacy and quietness. Churches and schools must adapt themselves to the new order and build well back from the road to provide ample and safe parking and recreation space and at the same time build to designs which will add positive beauty to the scene. Farm groups and rural industries can be planned and placed to present their best to the public eye. Suitability then, is a matter of taste in the building and placing of these structures.

The second category, undesirable buildings, creates greater problems. These buildings have been the natural outcome of an era of mushroom growth; the reflection of a confused society carrying its insane pleasures into the country with the hope of achieving some of its charm. Far from doing this, these individuals have, through their own lack of willingness to plan and co-operate in relation to the needs of the neighbourhood, forfeited any possible rights they ever had; and have allowed an infectious and cancerous growth until reaction demands a stop. Pleasure palaces have their place and should be planned and incorporated into amusement gardens or parks which allow for concentration of people and cars without interfering with the through traffic of a road. Unfortunately, dance halls, roadhouses, refreshment booths, tourist cabins and other places of questionable purpose, facing a highway have always presented a dual problem of aesthetics and behaviour. It is not the purpose of this article to comment on the conduct at these places except in so far as it usually creates the problem of safety along the highway and demands a solution; but it is within its province to question why such places usually look run down and shabby, why their continual air of being cluttered up is preferable to an air of well-being which simple tidiness will bring. Surely economy is not a drawback. Good design can do a great deal to bring these buildings, either grouped or isolated, into the whole scheme; and good planning to keep them in their proper areas.

Gas pump stations, generally, have grown out of their unhappy infancy into a state of neatness if nothing else. However, on short run highways, it may be advisable to restrict the building of gas stations with the object of eliminating commercial interference on the road. Such a course offers no particular hardship to the thinking motorist. The accessories of the highway: bridges, culverts, retaining walls, lights, mail boxes, fences, traffic direction signs and mileage pointers, are all details of an entire scheme which should be regarded as such and be designed to fulfill their desired function, to withstand repetition and, at the same time, to delight the eye and harmonize with the character of the landscape. The advertisement poster sign, especially illuminated ones, should be considered as a dangerous distraction to drivers. These signs are allowable and even have a decorative value in the town, but the countryside should not be disfigured by their present method of massive and awkward display.

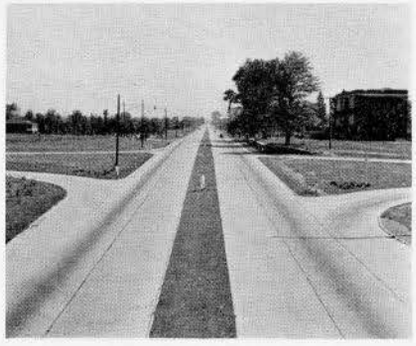
Planting of new trees and shrubs along the road and, in some cases perhaps, thinning or clearing of old trees should be considered of immediate importance because, on the straight and level highway that all roads aspire to be, the creation of vistas, symmetrical and asymmetrical, which will provide continuing interest is a means of safeguarding against the consequence of monotony—sleep.

In Canada, before it becomes a real evil, legislation must be taken to prevent, what in England is known as Ribbon Development. This is the spreading of new buildings, usually houses, along the highway, which, if carried to its extreme and not impossible conclusion, would create a complete single street from town to town continuing the inappropriate urban pattern, and thereby destroy the purpose of the road and sever it from its adjacent and surrounding landscape. Common sense would indicate that such building developments provide no satisfaction for the individual owner because the continual and increasing traffic vibration and noise immediately defeat the country-quietness objective and the cost of spread out local utilities increasing land taxation and values, destroys the economy-of-living objective. Aesthetically, the ideal, of course, is to keep the original farm layouts so that the vast native scale and entity of the countryside is preserved.



INTELLIGENT RESTORATION OF THE RURAL SCENE

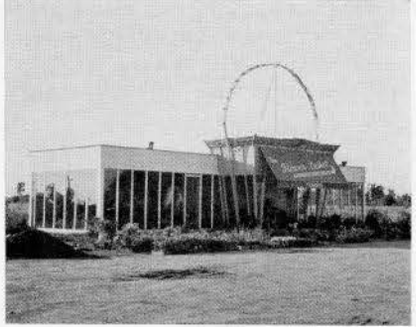
CABINS, TRAILERS, SIGNS . . . ET CETERA



SPEED, SAFETY, AND PLEASANTNESS OF ACCESS

OLD TREES GROW IN THE NEW HIGHWAY SCHEMES

LIKE PROBLEMS: UNCONSIDERED AND CONSIDERED



But what of the social reaction to all these intended reforms? There is bound to be friction between the individual whose immediate economic opportunity is threatened and the progressive road planning authority, whose main object is "the greatest good for the greatest number of people." Such friction must be withstood and combatted through regulative measures and individual persuasion. Oftentimes the man who objects becomes an enthusiastic supporter when he sees his particular problem related to a larger scheme destined to restore order and beauty to his community. In any case, there can be very little sympathy for that type of piratical individual who, in spite of profitable alternatives, still hankers for the profits to be derived from an unfair congestion of the highway. Enlightened control which considers with care and discretion the problems of each district will result in the satisfaction of the rural populace and the restoration of rightful commerce to the town.

To bring about these necessary changes, the matter must be controlled by public boards who have both the legislative power and the revenue to perform the work. Ontario, claiming about one-half of the automobiles in Canada, with the resultant income and demand for roads, is leading in a movement to create better conditions along the highways. The Department of Highways of this province deserves a most enthusiastic commendation for its enterprising work. It has differentiated between the negative control of mere restrictions and the positive control of setting forth a plan, idealistic in its conception but desirable and practicable in its operation and results. The road authority assists in new work and also rectifies the wrongs of late decades by means of its Highway Improvement Act.

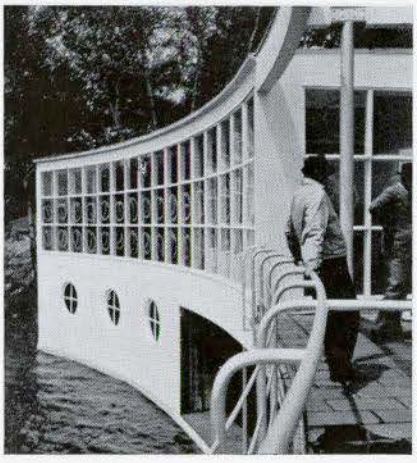
> *"The Lieutenant-Governor in Council upon the recommendation of the Minister may fix the distance from the roadway at which fences, buildings or other structures may be placed and also the distance from the roadway at which trees, shrubs or hedges may be planted."*
>
> *"The Minister may direct the removal of any tree, shrub, bush, hedge, fence, signboard, gasoline pump, building or other object growing or standing on lands adjacent to the highway where in his opinion the safety or convenience of the travelling public so requires, or when any such object might cause the drifting or accumulation of snow or is injurious to the roadbed, but subject to the payment of such compensation as may be agreed upon or as may be determined in the manner provided . . . "*

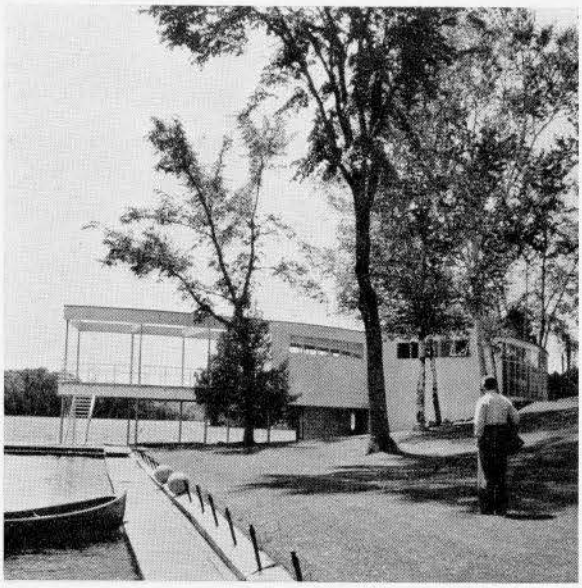
Now and in the future, architects must play a greater part in this work by giving it not only their combined support but also their individual direction in the designing and placing of highway buildings and even in the restriction of such buildings if the condition so requires. The objective is to recapture the beauty of the open road by care and consideration at every step. A general survey of the whole problem, including a policy for secondary country roads, is needed immediately before misguided enterprise might make mistakes. Such a survey should be conducted by a planning board whose members are well equipped through training and experience to deal with matters of aesthetics in collaboration with the engineers who so ably deal with matters of technics.

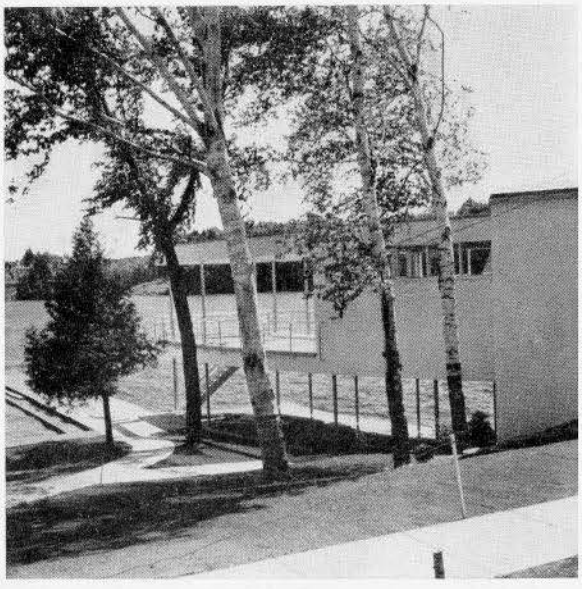
THE DECK, ELGIN HOUSE, LAKE JOSEPH, MUSKOKA

MACKENZIE WATERS, ARCHITECT

The accompanying photographs show the first completed unit of a comprehensive scheme for the replanning and rebuilding of Elgin House, Muskoka. This unit houses "the shop", a post office, refreshment and recreational facilities, removed some little distance from the administrative and sleeping quarters so that guests who desire quiet will not be disturbed by the noises contingent on the activities for which it is designed.







THE DECK, ELGIN HOUSE

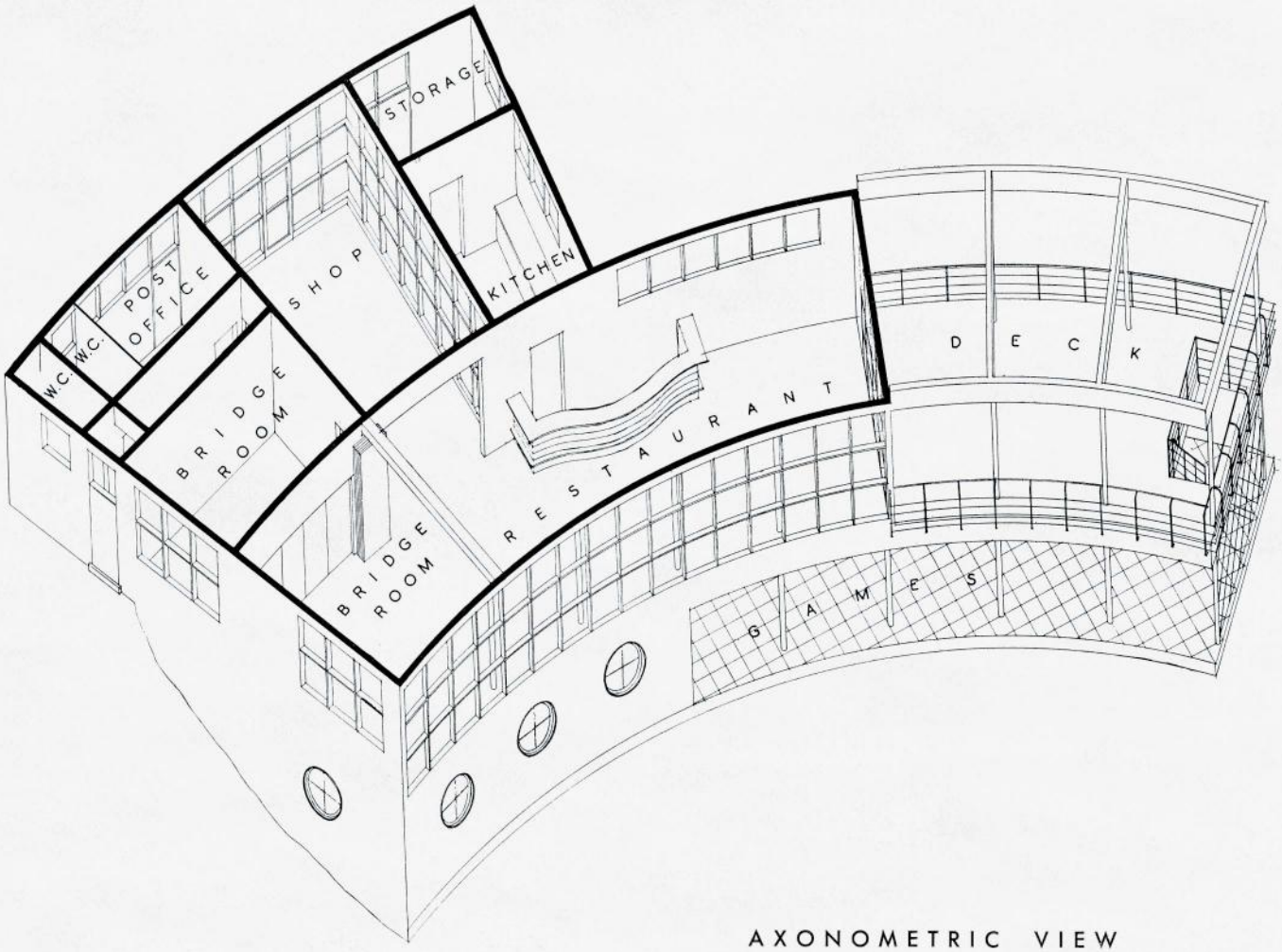
MACKENZIE WATERS, ARCHITECT

The plan of this building was evolved from the study of the architectural requirements of the different and varied activities, the steep contours of the site, the restrictions imposed by the shore line and the pier, and the desire to save, as much as possible, the fine birches.

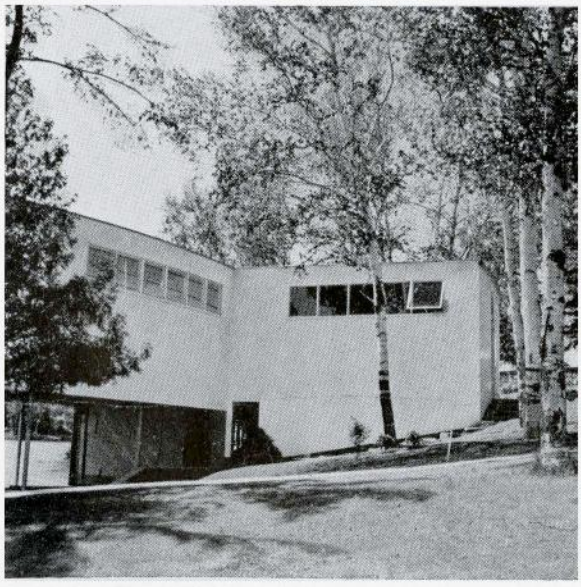
At the upper ground level the main circulation proceeds through the shop to the Restaurant and then to the outer open Deck and down to the pier, or vice versa. The secondary spaces are Storage and Kitchen, Post Office and Card Rooms. The Shop has open structure walls continuing the pattern and scale of the fenestration for display shelves. Because of its shape, the Restaurant gains many decorative features. The curved outer wall with deep window mullions, breaks up undesirable low western sunlight. The ceiling here is formed with curved pieces of insulation board separated by three recesses six inches wide in contrasting colour. Simple spherical flashed opal lights are suspended from the ceiling. Behind the soda bar will be a large scale map of the Muskoka District built up in wallboard. Movable Finmar stools are provided at the bar. The Restaurant space is made flexible by the tall accordion doors which separate it from the adjoining Bridge Room.

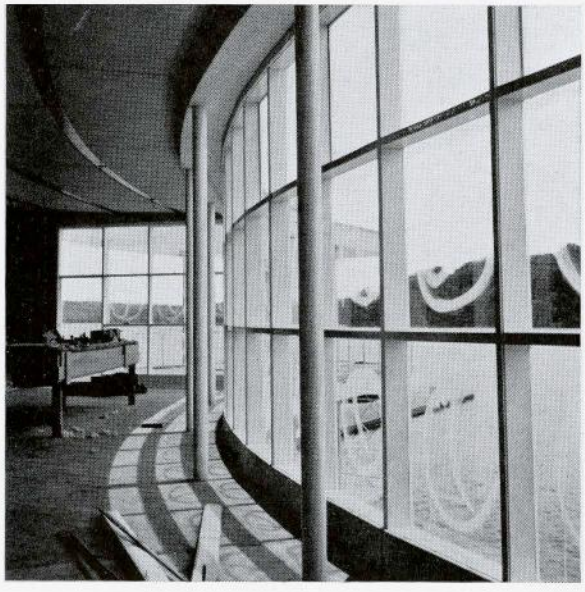
On the superstructure of the open Sun Deck awnings may be stretched if the need arises. For a sense of security when leaning upon it and to discourage children from climbing it, the pipe railing has an inner top rail. Open riser companionway stairs lead directly from the Deck to the lower level and pier. This floor is given over to shuffleboard outside and to ping-pong inside the portholed enclosed space.

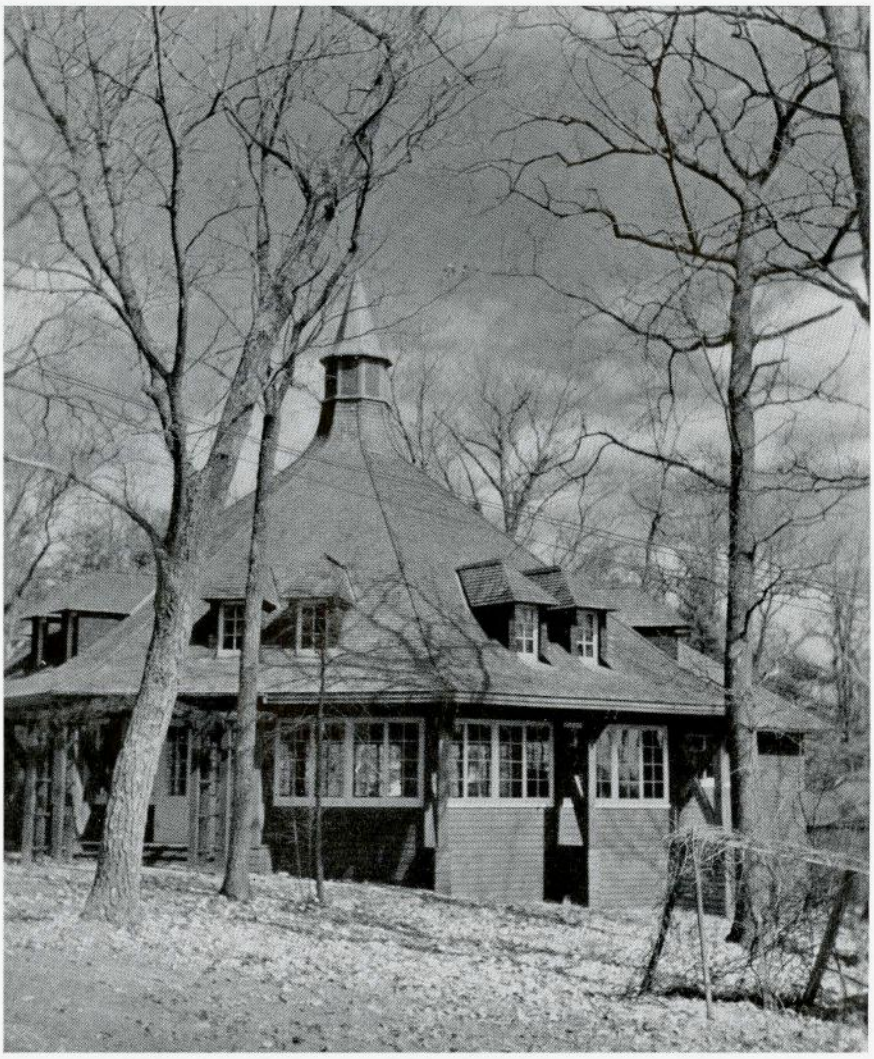
The two storey section of the building is built on a prefabricated frame of steel pipe columns supporting structural timber beams. These pipe columns bear on separate concrete bases and the whole first floor is a concrete slab on the rock shore line. This frame structure has the advantage of fast construction, eliminates the trouble of rotting wood posts, etc., at the water line, and gives a clean appearance to the design. The window frames are of wood fitted with unobtrusive opening steel sash. The wall construction is rough diagonal sheathing on studs covered with building paper and finished with one by eight tongue and groove flush pine siding laid vertically on the large areas and horizontally above the windows, etc. The interior walls are painted insulating board. The flooring throughout the second floor is heavy duty mastic tile over wood, and the Deck is paved with slate.



AXONOMETRIC VIEW

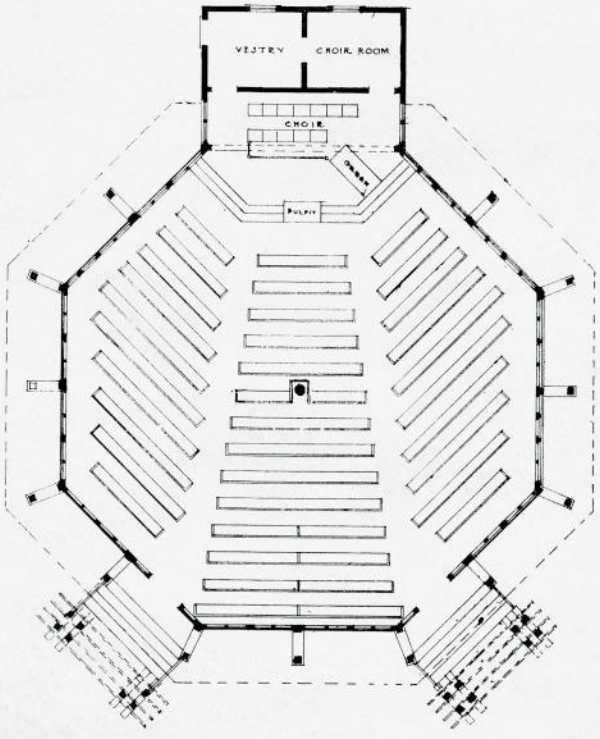




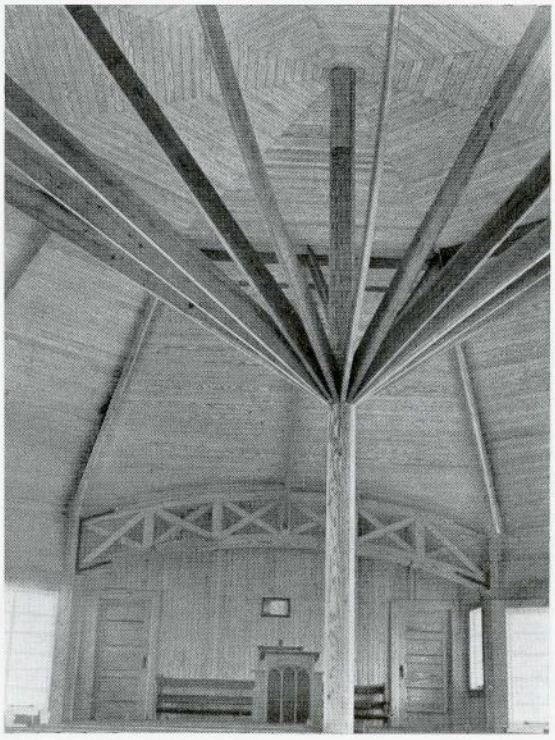


SUMMER CHURCH, STURGEON POINT, ONTARIO, ERECTED 1915

WICKSON AND GREGG, ARCHITECTS

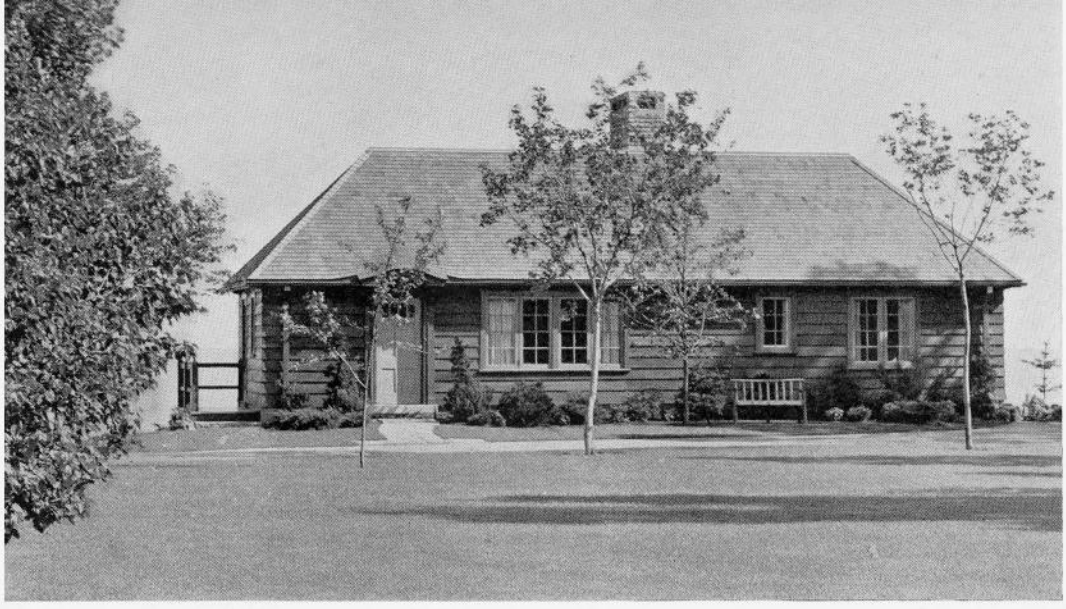


GROUND FLOOR PLAN



INTERIOR

Photographs by Ellsworth Flavelle.

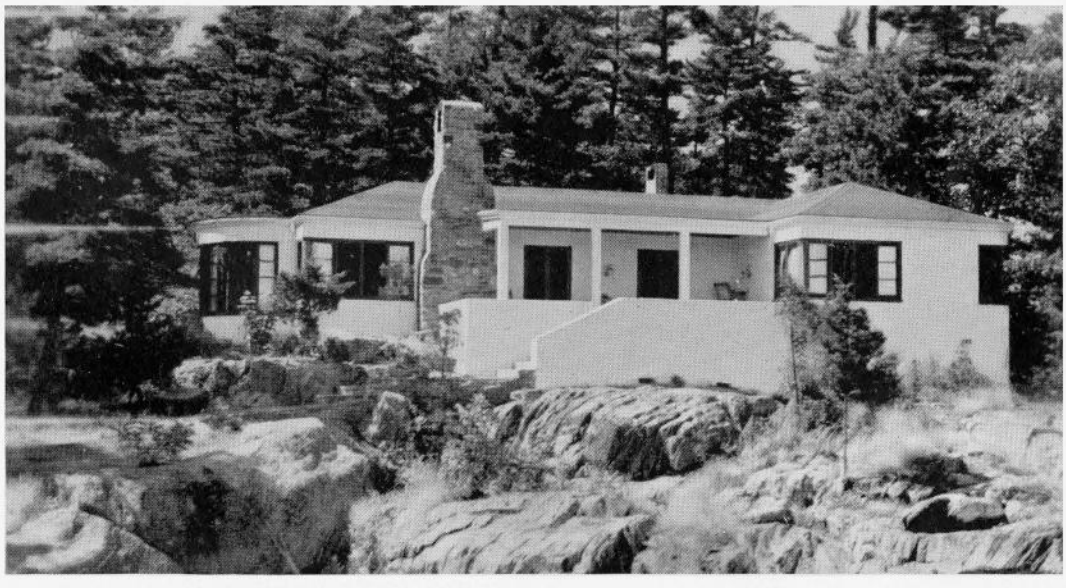


SUMMER HOUSE OF MISS M. STOAKLEY, SCARBORO, ONTARIO

W. L. SOMERVILLE, ARCHITECT

SUMMER HOUSE, VANCOUVER, BRITISH COLUMBIA

HARRY BARRATT, ARCHITECT

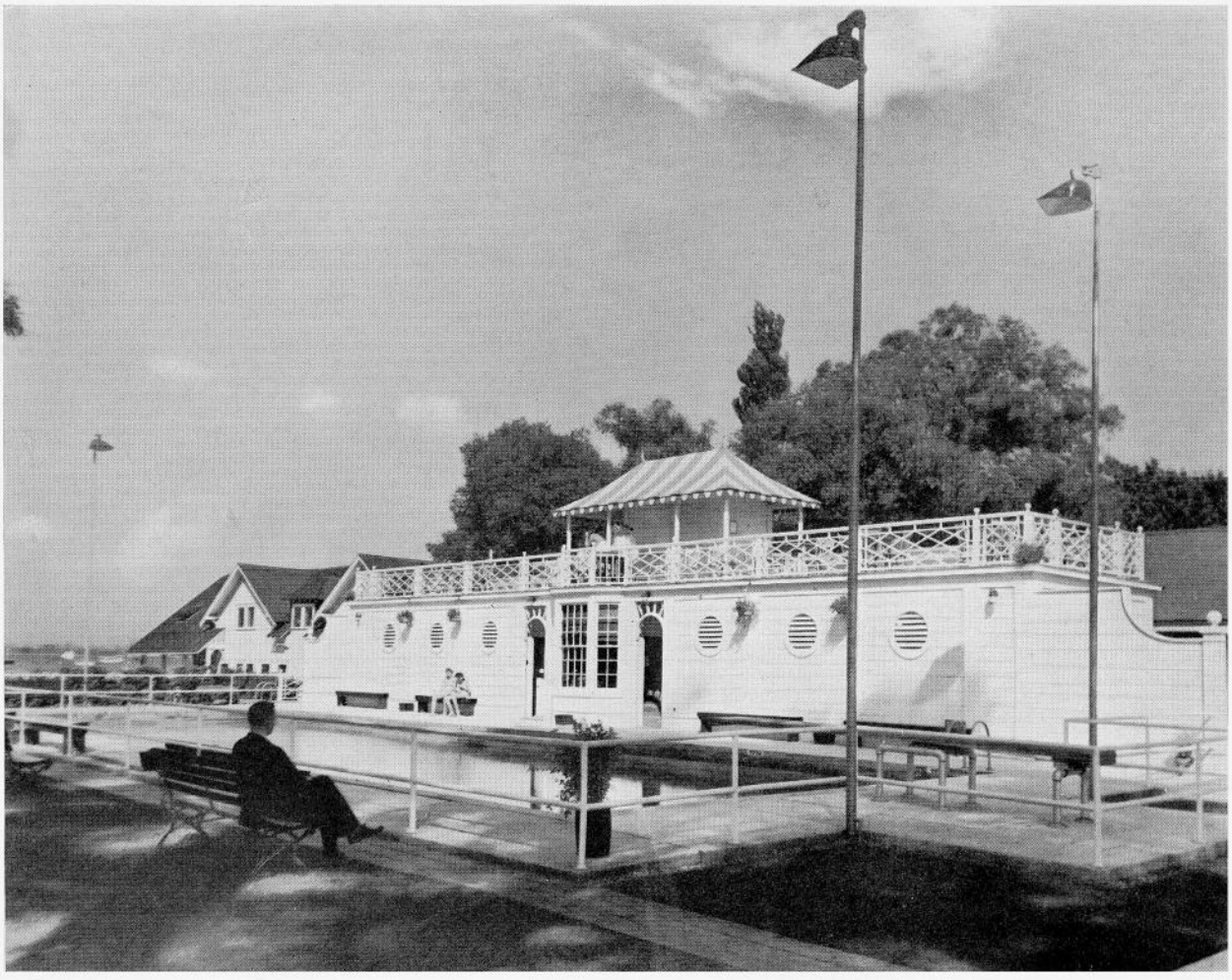


SUMMER HOUSE OF MR. M. R. WADDS, GEORGIAN BAY, ONTARIO

S. B. COON AND SON, ARCHITECTS

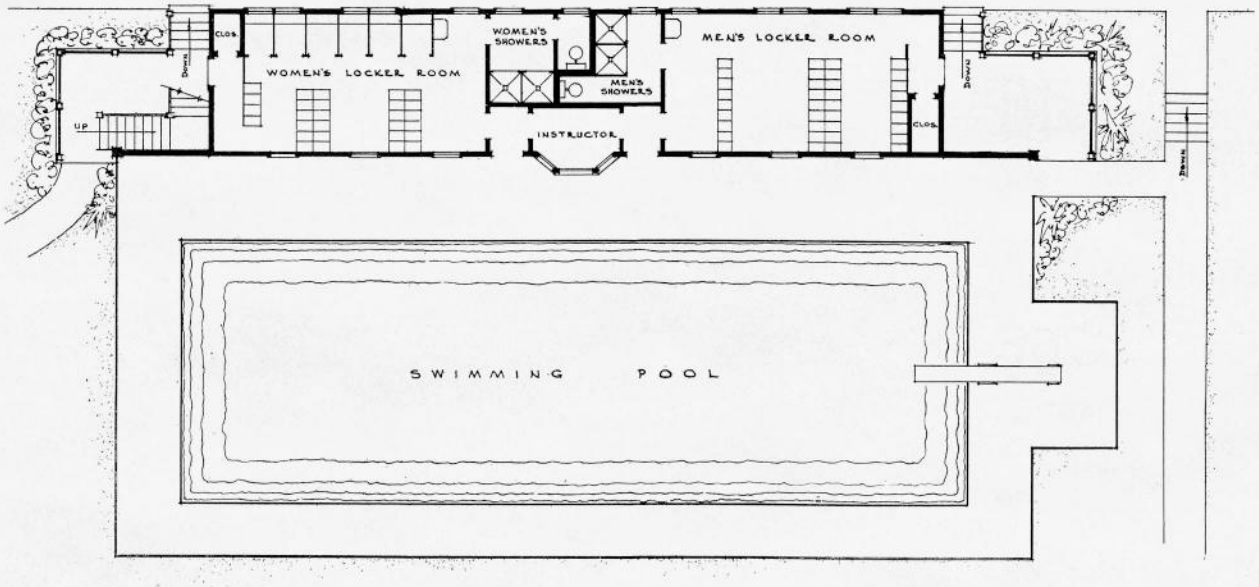
SUMMER HOUSE OF MRS. HERBERT OYLER, PETITE REVERE, NOVA SCOTIA

LESLIE R. FAIRN, ARCHITECT

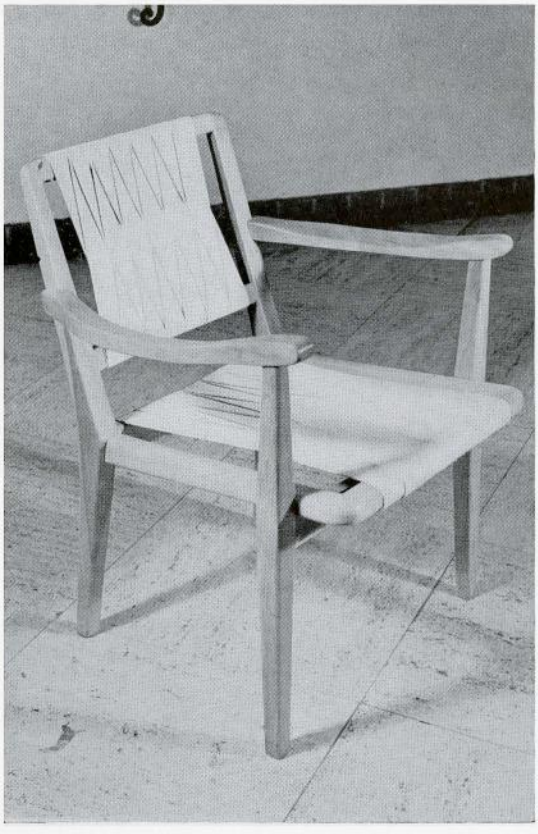


SWIMMING POOL AND BATH HOUSE,
ROYAL CANADIAN YACHT CLUB, TORONTO

MARANI, LAWSON AND MORRIS, ARCHITECTS

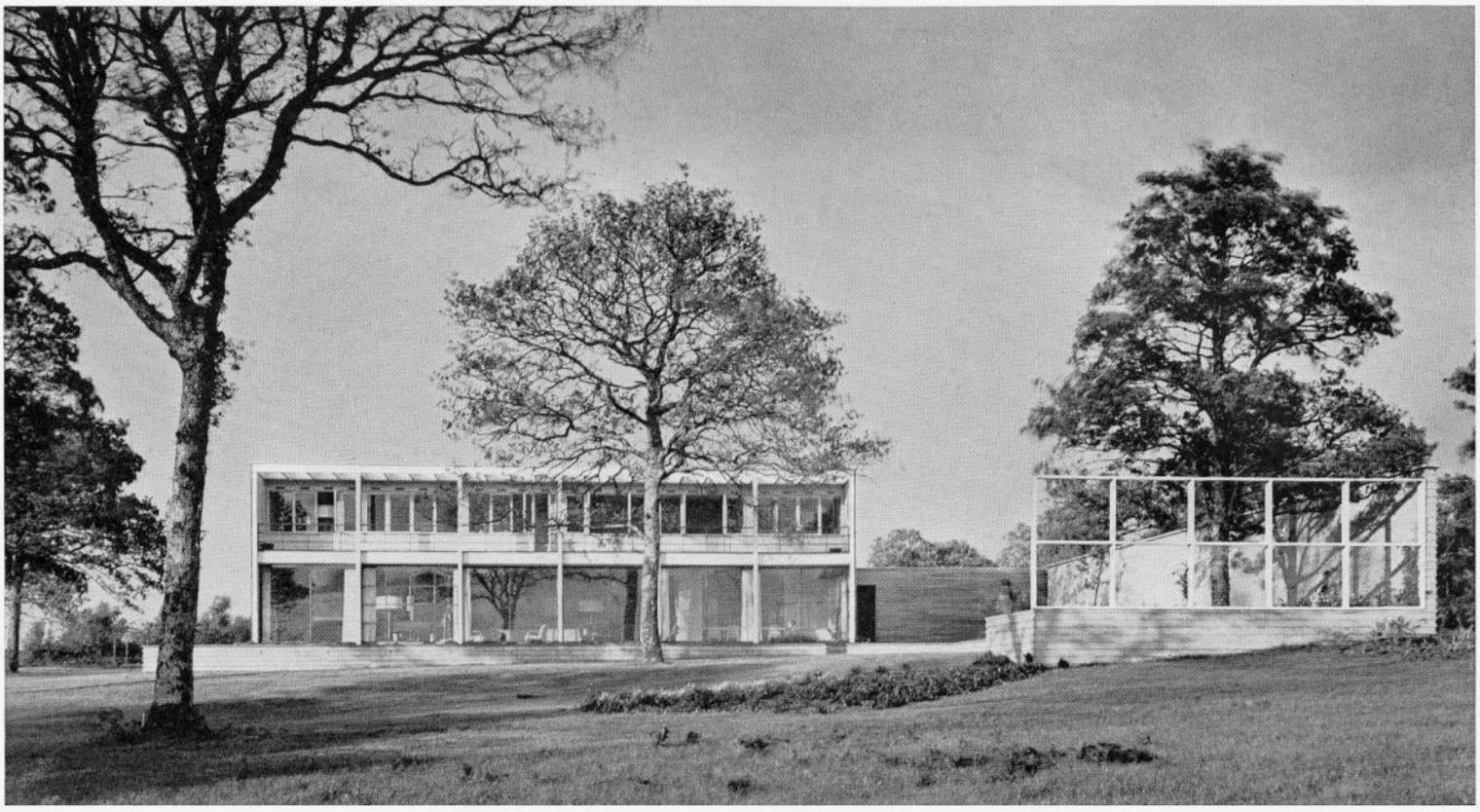


PLAN OF POOL AND BATH HOUSE



SUMMER FURNITURE

Courtesy of The T. Eaton Co., Limited



HOUSE NEAR HALLAND, SUSSEX, ENGLAND

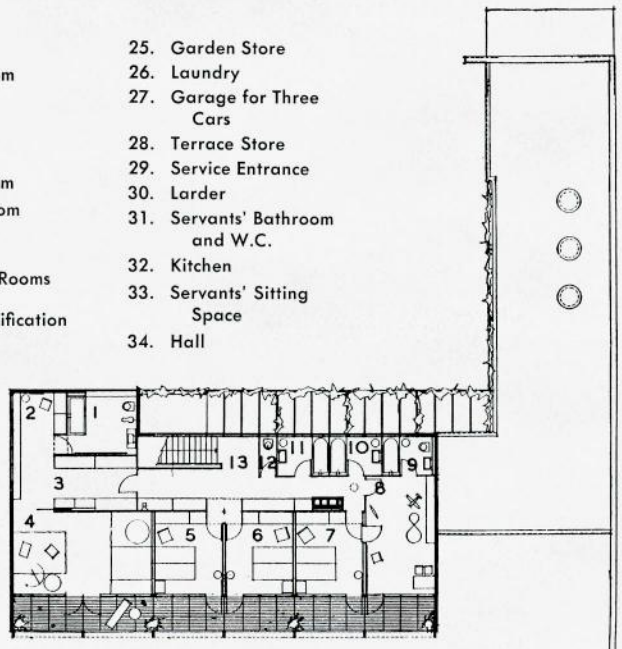
SERGE CHERMAYEFF, ARCHITECT

Courtesy of The Architectural Review.

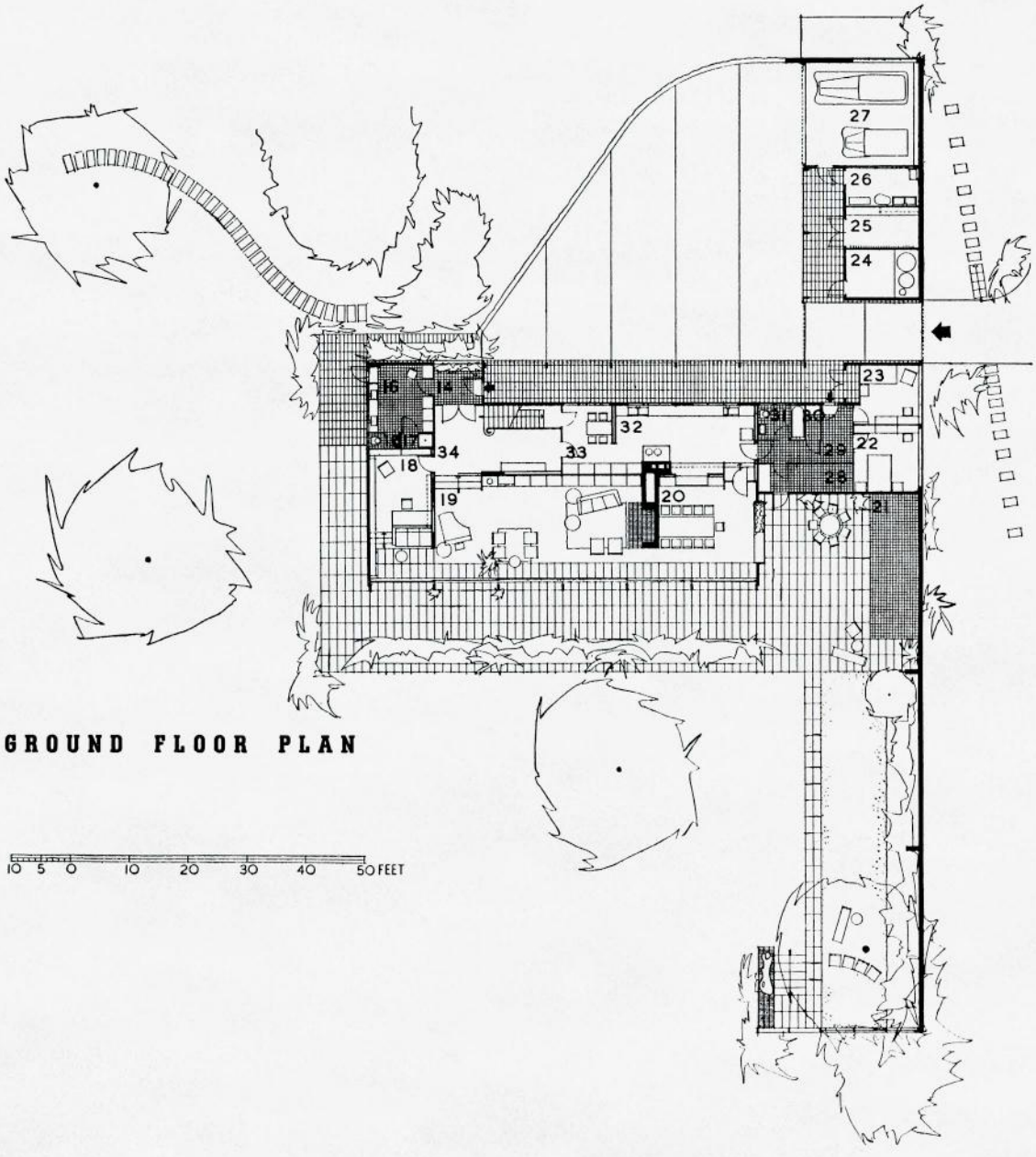
THE LIVING ROOM

KEY TO PLANS

1. Owner's Bathroom
2. } Owner's Dressing
3. } Room
4. Owner's Bedroom
5. } Guests' Rooms
6. }
7. Night Nursery
8. Day Nursery
9. Nursery Bathrooms
10. } Guests' Bathrooms
11. }
12. W.C.
13. Stair Hall
14. Vestibule
15. Cloak-Room
16. W.C.
17. Shower
18. Study
19. Living-Room
20. Dining-Room
21. Pool
22. } Servants' Rooms
23. }
24. Water Purification Plant
25. Garden Store
26. Laundry
27. Garage for Three Cars
28. Terrace Store
29. Service Entrance
30. Larder
31. Servants' Bathroom and W.C.
32. Kitchen
33. Servants' Sitting Space
34. Hall



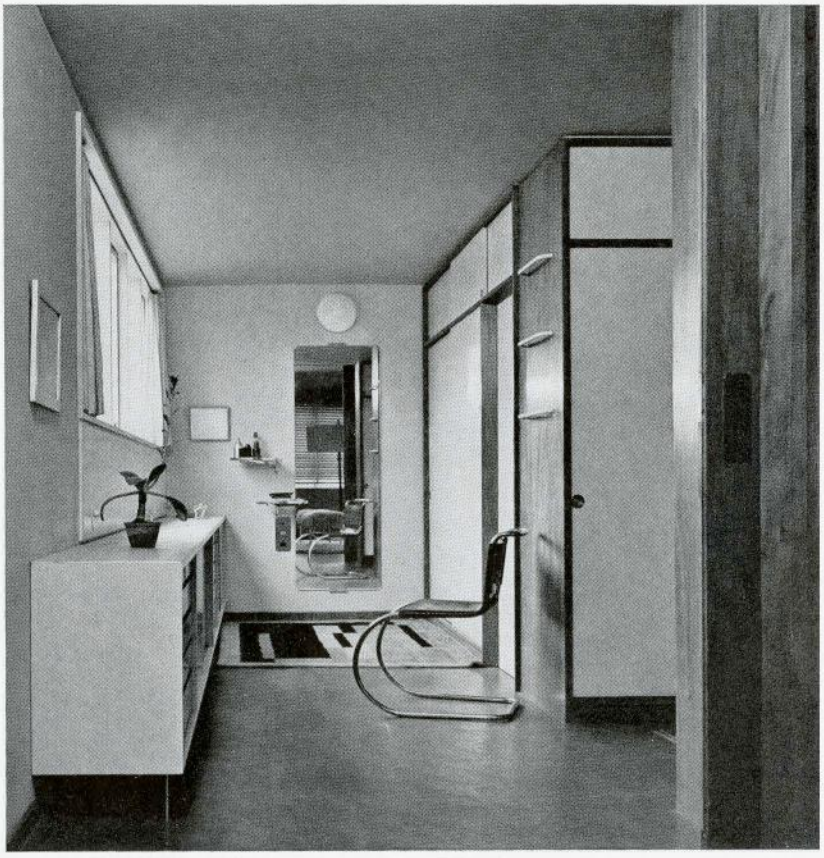
FIRST FLOOR PLAN



GROUND FLOOR PLAN

10 5 0 10 20 30 40 50 FEET

THE MAIN BEDROOM



DRESSING ROOM

CONDENSATION PROBLEMS IN MODERN BUILDINGS[1]

By L. V. TEESDALE

United States Department of Agriculture, Forest Service, in co-operation with the University of Wisconsin

THE conditions under which condensation might develop within walls or in attics of buildings and methods of protection or prevention should be understood by anyone interested in winter air conditioning, particularly for buildings north of the Ohio River The condensation problem is not new, always having been rather common in barns during severe winter weather, but only in recent years has it become a general problem in houses. Water stains on walls and ceilings are the common signs of this condensation, but often the damage is more serious. Stain and decay in sheathing, studs, and roof members; loosened plaster; outside paint failures on siding, and door and window trim; and efflorescence on brick and stone are frequently the result of this condensation. The question naturally arises as to why condensation should be more of a problem today than it used to be. Strange as it may seem, the cause is the result of certain improvements intended to increase the comfort of the occupants and decrease operating expenses. Such improvements include thermal insulation, weather strips, storm sash, caulking around windows and doors, and other means of decreasing heat loss and wind infiltration. Because of the tighter building construction the normal relative humidity within a house so constructed will be higher than in houses less tightly constructed. In addition, as a health and comfort measure, modern homes are usually provided with some means of increasing the normal humidity either through the heating system or by some auxiliary method. These worthy improvements in construction and equipment that increase comfort and health and decrease operating expenses are the factors mainly responsible for the increase in the condensation problem. To enjoy the advantages of such improvements without suffering the disadvantages, certain protective measures should be provided.

Most of the trouble occurs in homes where the relative humidity is maintained at over 40 per cent., in which case there may be evidence of condensation after every cold snap. On the other hand, many homes only show evidence of condensation during or after period of excessively low temperatures, such as occur once in three or four years.

At low temperature, for example, outdoor conditions at zero, air will hold very little water vapour and the vapour pressure is low. Water vapour is added to the atmosphere within a home from many sources, such as cooking, laundry work, bathing, respiration, and evaporation from plants. The vapour pressure inside a house is consequently greater than that outside.

Further, the normal vapour pressure may be supplemented by evaporating water in a furnace pan, water containers on radiators, or some similar system thus increasing the vapour pressure. However, there is a constant outleakage of water vapour, the amount depending upon the tightness of windows and doors, the permeability of wall materials, and upon other factors. Our older types of homes usually were so constructed that the vapour was not retained and low humidities prevailed in cold weather. Where the construction is of a type that minimizes infiltration and resists vapour loss the vapour pressure inside will be proportionately higher than in houses less tightly constructed.

Winter air conditioning means, among other things, maintaining a humidity in the home at some established value

[1] Presented before Conference on Air Conditioning, University of Illinois, Urbana, Ill., March 8-9, 1939.

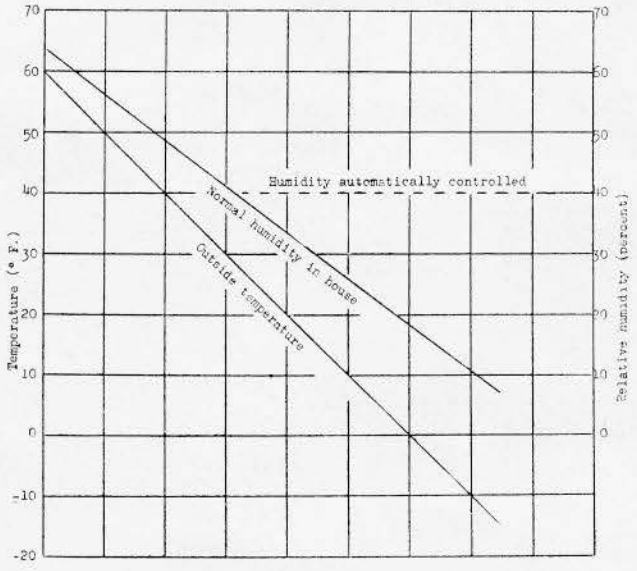


FIGURE 1

Relation of normal humidity within a house to outside temperature. Corresponding temperatures and humidities will be found, on their respective curves, in vertical alignment.

intended to be better suited to health and comfort than the normal humidity just described. The humidity may be raised automatically with a hygrostat in which case the minimum humidity will be relatively constant.

The relative humidity in homes varies widely depending upon a variety of factors, principally outdoor temperatures. The average humidity for varying outside temperatures as determined from the average moisture content of wood samples is illustrated in Figure 1. This illustrates how the relative humidity or vapour pressure inside of the house varies more or less directly with the temperature outside. Also that where automatic humidity control capable only of raising the humidity is used the minimum humidity is fixed during cold weather, but humidity may be higher than the minimum during periods when outside temperatures are mild. The amount of water evaporated from furnace pans in very mild weather is small, but as the outdoor temperature drops the amount increases. For example, in one case only about one quart is used per 24 hours when the outdoor temperatures average 45 degrees Fahrenheit, but 2½ gallons are used when outdoor temperatures are about zero. The amount required to maintain a fixed minimum humidity of 40 per cent. at zero as illustrated in Figure 1 would be very much greater.

To understand the phenomenon of condensation requires a knowledge of the physical laws that apply. A certain amount of water vapour is always present in the atmosphere. The maximum amount of water vapour that can be present depends upon the temperature of the air, being greater at higher temperatures. By definition, air that is completely saturated with water vapour is at its dewpoint temperature, and its relative humidity is 100 per cent. Air not completely saturated with water vapour is above its dewpoint temperature and its relative humidity is less than 100 per cent. Adding water vapour to unsaturated air without changing the temperature of the air will increase the relative humidity and raise the dewpoint temperature. Removing water vapour will have the opposite effects. Raising the temperature of air with-

out changing the amount of water vapour in it will decrease its relative humidity. Lowering the temperature without changing the amount of water vapour will increase the relative humidity till the dewpoint temperature and saturation are reached. Further lowering of the temperature will cause progressive condensation of water vapour from the air.

The use of relative humidity as a measure of the amount of water vapour present in a given atmosphere is not always satisfactory because this relationship varies with the temperature. Hence, it is often more practical to use the vapour pressure of the water vapour for this purpose, since it is a direct measure of the amount of vapour present in the air. This property is commonly expressed in terms of inches of mercury or pounds per square inch.

Condensation will take place on a solid surface below the dewpoint temperature as, for example, the glass surface of a window. Condensation can also take place on materials permeable to vapour if the surface be below the dewpoint temperature.

If adjacent surfaces in a comparatively confined space are at different temperatures, all below the dewpoint of the atmosphere in the space, the surface at the lowest temperature may, through condensation, reduce the dewpoint to its own temperature. The temperatures of the other adjacent surfaces will then be above the new dewpoint and, therefore, incapable of condensing moisture. Eventually, under these conditions, all the condensation would be on the coldest surface.

Vapour may pass through a material composed of a single thickness of homogeneous but permeable substance having one surface either above or below the dewpoint temperature of the atmosphere on the warm side and the other at a lower vapour pressure.

The movement of water vapour is largely independent of air movement and no general circulation of air is necessary to carry the vapour from its source to the condensing surface. Vapour actually moves by diffusion from points of high vapour pressure to zones of lower pressures.

Most building materials, including plaster, wood, concrete, most kinds of brick, and various building papers, are permeable to vapour. The rate of vapour movement from one point to another is more or less proportional to the difference in vapour pressure between the points and inversely proportional to the resistance of the interposed materials. Walls of conventional house construction are composed of a variety of materials varying in permeability. Also the temperature gradients through a wall drop step by step according to the thermal properties of the material and the difference in temperature between the warm interior and the cold exterior. Should the temperature at any point within the wall, as for example, at the inner face of the sheathing, fall below the dewpoint temperature of the room side of the wall, condensation would take place at that point.

A house wall typical of many insulated forms of construction is illustrated in Figure 2-A. This wall has lath and plaster on the inside and sheathing, paper, and bevel siding on the outside. Fill insulation occupies the entire stud space. Indoor conditions are assumed to be: temperature 70° F. and relative humidity 40 per cent.; the dewpoint for these conditions is 44° F. and the water vapour pressure 0.295 inch of mercury. Temperature gradients through the wall are shown in solid black for three outdoor temperatures, namely, 20° F., 0° F., and –20° F. Actual gradients in any individual wall of this type may be expected to be very similar to these. Much work has been done on this subject by many agencies and the facts are well established. Much less work has been done on vapour movement through walls and associated phenomena and we are much less sure of our ground. However, currently collected data indicate that, under the assumed conditions (outside temperature 0° F.), the temperature of the inner face of the sheathing very largely controls the dewpoint within the entire stud space. It appears that condensation upon this face, which is well below the dewpoint of the atmosphere in the room, serves to lower the dewpoint within the stud space. Just how much lowering takes place we do not know for sure. It seems apparent, however, that at the boundary conditions, the dewpoint temperature throughout the stud space would be the temperature of the inner face of the sheathing. The relative humidity gradient corresponding to the illustrated dewpoint gradient is shown as a dot and dash line in the figure.

The amount of condensation that can develop within a wall depends upon the resistance of intervening materials to vapour transfusion, differences in vapour pressure, and time. Ordinary plaster and lath have comparatively low resistance. If the plaster is finished with paint the resistance is increased somewhat. High indoor vapour pressures are associated with high relative humidities and high temperatures. Low outdoor vapour pressures always exist at low temperatures, since even the saturate vapour pressures are low at low temperatures. Weather conditions are not static and the duration of critical conditions varies widely with the time of year and the severity of the weather. During long continued cold spells, such as the six weeks low temperature period in January and February, 1936, the condensation problem becomes acute, a large number of homes being affected. In the winter of 1937-38 there was only one day at Madison, Wis., when the temperature was below zero, though there were about 90 days in which it averaged below 20° F. Though the number of homes affected by condensation would be less during the mild winter conditions, many cases were reported. Where information was available it appears that the minimum humidities in the affected houses exceeded 35 per cent. and generally were higher.

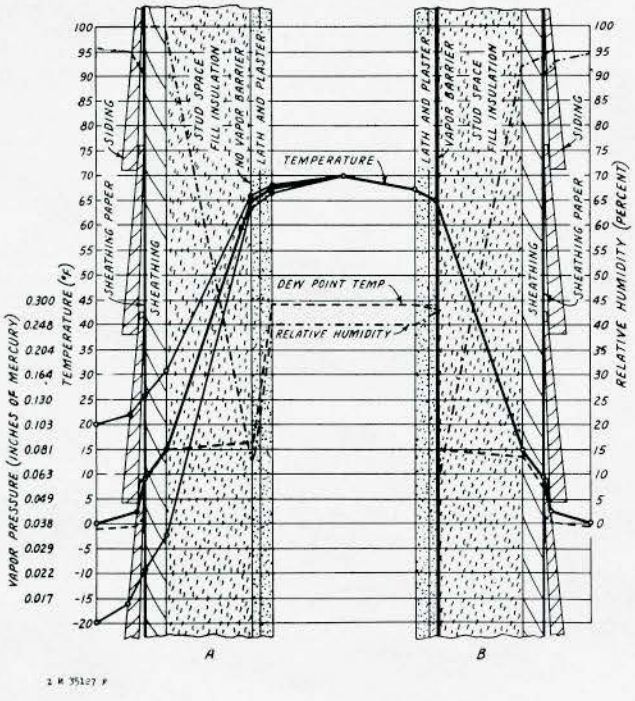


FIGURE 2

Section of conventional frame wall with fill insulation, showing temperature, dewpoint and relative humidity gradients without vapour barrier (Figure 2-A) and with vapour barrier (Figure 2-B).

In Figure 2-A we assumed a boundary condition in which the dewpoint temperature in the stud space was absolutely controlled by the temperature of the inner face of the sheathing, and there was a sharp drop in dewpoint temperature through the lath and plaster. The rate of vapour movement and the rate of condensation on the sheathing would be comparatively high on account of the low vapour resistance of lath and plaster. In Figure 2-B we have placed a vapour barrier between the studs and the lath. This barrier greatly reduces the rate of vapour movement through the wall, and thus very materially reduces the possibility of trouble from condensation. What actually happens to the vapour which finds its way through the barrier depends largely upon the vapour resistance of that part of the wall outside of the studs. If, for instance, the sheathing paper be an excellent vapour barrier, one may expect most of the vapour to condense on the sheathing or sheathing paper, just as it did under the conditions we selected for Figure 2-A. If, on the other hand, the vapour resistance of sheathing paper and siding be very low, most of the vapour may escape to the outside atmosphere without condensation. We have chosen to illustrate this condition in Figure 2-B by showing the dewpoint temperature (the dotted line) as always below the atmospheric temperature. It must be obvious that as close an approach as possible to this ideal condition is desirable from the moisture standpoint, and our present tentative recommendations call for high vapour-resistance on the warm side of the wall, and low vapour-resistance on the cold side. These recommendations will doubtless be modified in detail as we learn more about the whole subject and specially about the extent to which rain driven under the siding by the wind is a factor.

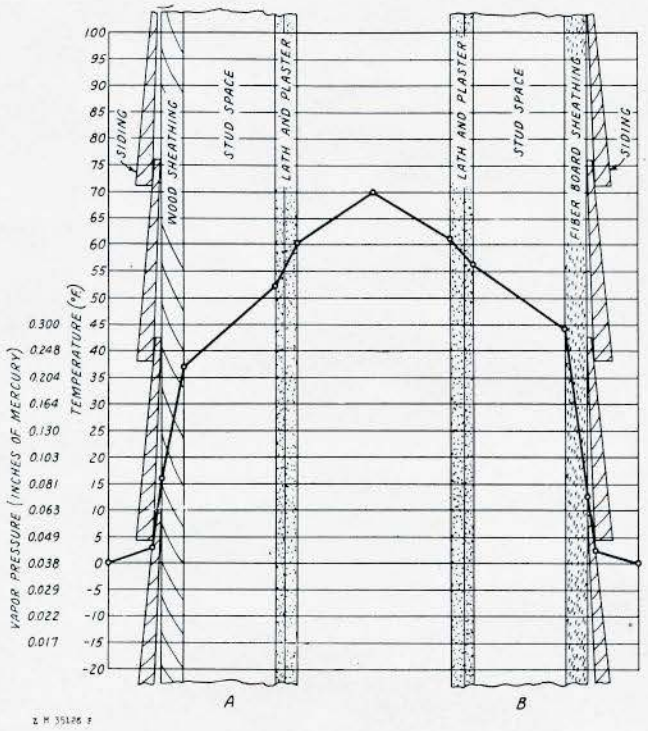


FIGURE 3

Section of conventional frame wall, showing temperature gradient with wood sheathing (Figure 3-A) and with ¾-inch fibreboard sheathing (Figure 3-B).

Figure 3-A shows the calculated temperature gradients through an uninsulated wall and 3-B through a wall having ¾-inch fibreboard sheathing in place of wood sheathing. As the heat loss through walls of those types is greater than through walls containing fill insulation, the sheathing temperatures are higher than those shown on Figure 2-A and, consequently, the vapour pressure differences are reduced accordingly. This in turn means that less condensation would occur at the same outside temperature in walls of these types than where fill insulation is used, other factors being alike.

Tests have been made to determine the comparative vapour resistance of various papers and wall materials used in building construction. Samples were sealed in copper pans containing water and exposed in a room controlled at 80° F. and 30 per cent. relative humidity and weighed regularly for 90 days or more. The values obtained after the rate of loss became constant were calculated on a basis of grains of moisture lost per square foot per hour.

Table 1.—Comparative resistance of various materials to vapour transmission.

Material	*Loss in grains per sq. ft. per hour*
Foil surfaced reflective insulation (double faced)	0.061 – 0.093
Roll roofing—smooth surface—	
40 to 65# per roll 108 sq. ft.	.093 – .123
Asphalt impregnated and surface coated sheathing paper glossy surfaced—	
50# 500 sq. foot roll	.153 – .555
35# 500 sq. foot roll	.123 – 1.480
Duplex or laminated papers 30-30-30	.990 – 1.850
Duplex or laminated papers 30-60-30	.370 – .617
Duplex papers reinforced	.493 – 1.480
Duplex paper coated with metal oxides	.370 – .930
Insulation backup paper, treated	.617 – 2.462
Gypsum lath with aluminum foil backing	.061 – .277
Plaster—wood lath	7.90
Plaster—3 coats lead and oil	2.650 – 2.770
Plaster—3 coats flat wall paint	3.080
Plaster—2 coats aluminum paint	.831
Plaster—fibreboard or gypsum lath	14.20 – 14.80
Slaters felt	3.700 – 18.50
Plywood—¼" Douglas fir, soy bean glue plain	3.080 – 4.620
2 coats asphalt paint	.308
2 coats aluminum paint	.930
½" 5-ply Douglas fir	1.920 – 1.975
¼" 3-ply Douglas fir, art. resin glue	3.080 – 4.620
½" 5-ply Douglas fir, art. resin glue	1.975 – 2.420
Insulating lath and sheathing—board type	18.50 – 24.65
Insulating sheathing, surface coated — 3/16" compressed fibre board	3.640
1" insulating cork blocks	4.440
½" and 1" blanket insulation between coated papers	1.380 – 1.440
4" mineral wood—unprotected	20.950

This is only a partial list of the materials tested up to the present time, and as the tests are incomplete, it will be subject to change as required with further work. Many of the materials have been tested under actual exposure conditions in laboratory test-house wall panels.

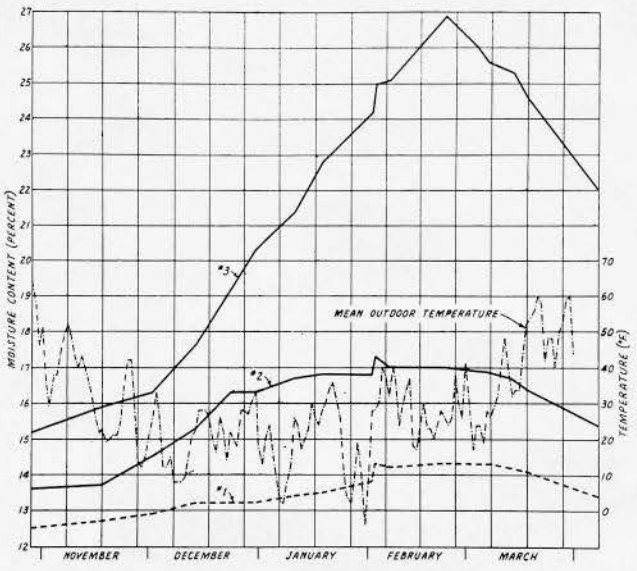


FIGURE 4

Curve showing moisture content of wood sheathing during the winter of 1937-38 in laboratory test house with and without vapour barrier.

Figure 4 shows the moisture content of the sheathing in three test wall panels, differing only in type of vapour barrier used. These walls were of conventional frame construction, lath and plaster, stud space filled with rock wool, wood sheathing, asphalt impregnated and surface coated sheathing paper and siding. Panel No. 1 had a vapour barrier made of aluminum foil mounted on paper; No. 2, asphalt impregnated and surface coated sheathing paper weighing 50 pounds per roll of 500 square feet; and No. 3 had no special barrier. Starting about November 1 the sheathing shows a gradual increase in moisture content for each type, fastest where no barrier is used. Even with a barrier there is a definite pickup until, in the case of No. 2, a moisture content of about 17 per cent. is reached, indicating that the inflow of water vapour exceeds the outflow until a certain balance is obtained. After that time conditions were nearly static until the outside weather conditions moderated and then the outflow exceeded the inflow. Conditions did not become static in the case of No. 3, the moisture continuing to build up until the change in outside temperature raised the sheathing temperature above dewpoint. After that time No. 3 began to dry out. This particular panel was quite badly blue stained, whereas the other two panels were clean and bright. From these data and other observations it appears that for conventional frame walls with fill insulation the permeability of the vapour barrier should not exceed 0.600 grains per square foot per hour on a basis of the values given in Table 1 for houses where humidities are maintained at or about 40 per cent. in normal winter weather having short periods of zero weather. Where exposed to extended periods of weather below zero the vapour barrier should have greater resistance. For walls having less insulation, less resistance is required in the vapour barrier, other factors being alike. However, enough data are not available at this time to establish values for all wall types.

The barrier, when located as described on the warm side of the wall, resists the passage of moisture while it is in the form of vapour and, therefore, before it has a chance to condense into water. Hence, there is no hazard of water forming behind the plaster or other interior wall finish. The barrier also prevents moisture from getting into the wall or attic space during the construction period, particularly during the plastering operation.

For new construction, vapour barriers of highly resistant paper are effective and economical. They should be applied vertically on the interior portion of exterior or exposed side walls with edges lapping on the studs after the insulation is installed and before lathing. Horizontal joints should be made only where backed up with a plate or header. The barrier should be brought up tight against electric fixture outlets, air registers, door and window frames, and other similar openings. If wood lath, metal lath, or other types requiring a plaster key are used the paper should be applied slightly loose so that the plaster can push the barrier back to form the key. Where the ceiling below the attic or roof is insulated the barrier should be applied in a similar manner.

Walls finished with such materials as plywood, fibreboard, plaster board, and the like, should also have the barrier as described. Sheathing paper when used outside of the sheathing in combination with the moisture barriers described should be water resistant, but not very vapour resistant so that the small amount of water vapour that may leak through the barrier can escape outward. We now believe that slaters felt meets this requirement very well.

Some kinds of mineral wool are relatively resistant to water absorption, others are treated to make them resistant to wetting by water. This property, while desirable, does not make these materials resistant to the passage of vapour. Therefore, unless additional vapour-resistance be provided, they should not be considered a source of protection against condensation.

Some types of mineral wool have a vapour-resistant paper back attached to the bat. Tests to date indicate that these papers average somewhat below the resistance previously specified. They are sufficiently resistant, however, to be of definite help in keeping the insulation and the wall dry and to warrant proper care in installation. The wool bat is made to fit between standard stud, joist, and rafter spacing with tabs on the paper which extend out from the bat and are tacked to the studs or rafters. The bat may be cut or forced back to obtain the tabs at the end of the bat. Where the spaces are not standard between studs, such as occurs around windows, doors, and dormers, particular care should be taken to obtain good joints even if it is necessary to use one of the barriers previously described. As yet no suitable provision has been made for sealing the horizontal joints between adjacent bats in the individual stud spaces. Unfortunately we do not know at present just how much protection is needed at this point.

Blanket types of insulation are also available where the insulation is enclosed within a heavy paper covering treated with asphalt. Insulations of this type come in various thicknesses, and the vapor-resistance of the enclosing envelope can be built up to almost any desired point. It is important that this type of insulation be carefully installed so that vapour cannot work through around the edges. The tabs should be nailed to the face of the studs with the insulation looping loosely inward away from the inner face of the wall or if installed between studs it should be fastened in place with wood strips.

Fibreboard sheathing is often used as a substitute for wood sheathing and it may be used either with or without other insulation. When used with other insulation the methods of protection suggested should be followed. When no other insulation is used the need of a moisture barrier is much less, just as with wood sheathing.

Materials embodying the principle of reflective insulation are in use, but opportunity for observation and tests have been limited. One type having metal foil attached to both sides of a heavy sheet of paper is very resistant to vapour and another type composed of a strong paper faced on both

sides with metal oxides is also very effective in resisting vapour transmission.

It is also possible to so construct walls that the vapour could pass outward through sheathing and sheathing paper and escape through openings in the outside wall covering or be carried away by ventilating the space between the sheathing and outside finish. Standard construction does not lend itself to this method of moisture elimination. One possible method for wood siding would be to place 1 by 2 inch furring strips over the sheathing, thus obtaining a vertical ventilating space approximately of ¾ of an inch which should be open to the outside at both the bottom and top of the wall so that air could enter at the bottom and pass out at the top. The openings could be concealed behind, but not covered by mouldings or other treatment at the water table and cornice. Similar ventilation could be adapted to stucco, brick, and stone exteriors. With this method the sheathing paper should be of a type that passes water vapour readily, such as slaters' felt. During periods of protracted cold weather it is quite possible that moisture would accumulate in the wall faster than it could pass through and be removed by ventilation, hence the ventilation method might not assure complete protection. So far, the possibilities in this method have not been thoroughly investigated by the Forest Products Laboratory, though tests are under way.

The practice of installing insulation in existing houses, some of which have been built for many years, is becoming general, adding both to summer and winter comfort of the occupants The occurrence of moisture or condensation in these older houses after insulation is uncommon, largely because such houses are not so tight as new houses, windows fit less snugly and probably have no weather strips. Under such conditions the normal humidity is low. Occasionally, however, these older homes will also show evidence of moisture accumulation and generally when the occupant has made an effort to increase the humidity above normal. Some of the companies that insulate existing houses take off a portion of the outer wall covering and cut a large number of openings in the sheathing through which the insulation is blown. The outer covering is replaced without filling the holes in the sheathing. These openings allow more or less ventilation and are perhaps helpful in allowing vapour to escape outward. Some companies include some form of attic or roof ventilation as a part of their contract.

Positive protection for existing buildings that have a moisture problem or where it is proposed to install winter air conditioning may require some type of barrier on the interior face of exterior walls and on the ceilings below the roof. Ordinary paints of the flat wall, or lead and oil types, do not seem to offer the resistance desired, but two coats of aluminum paint, particularly on smooth plaster, appear to offer reasonably good resistance and permit almost any subsequent method of decoration desired.

The conditions that cause condensation in side walls also occur in attics or under roofs, modified more or less by any ventilation that may be provided or that may occur naturally. Roof-condensation is observed or reported far more frequently than side wall condensation, since it is more in evidence. For example, in a pitched roof house condensation may develop on the roof sheathing during a severe cold spell, forming as frost or ice During subsequent mild weather or under a bright sun the ice melts and water works back through the plaster and spots the ceiling.

The principles that apply to side wall protection also apply to attics, modified somewhat by the type of roof. In new construction it is easy to apply vapour barriers the same as for walls. However, many kinds of roof materials are highly vapour resistant and any vapour passing through the barrier or otherwise reaching the space below the roof cannot escape readily through the roof covering. With pitched roofs, ventilation through louvred openings, windows, or other means will usually take care of the situation. With flat roofs and hip roofs, and where the ceilings are bisected by roof rafters, it is often difficult to provide adequate ventilation. Unless ventilation can be provided for such types of construction, it is not safe to carry high winter humidities.

The question sometimes arises as to the possibility of summer cooling causing condensation in walls. This is very unlikely because the inside temperatures are seldom more than 15 degrees below outside temperatures, so that the possibility of condensation would only occur during periods of extremely high humidity outside. Such a condition would be of rather short duration and would be unimportant.

General Recommendations

For all new houses, especially north of the Ohio River, it is recommended that a suitable vapour barrier be installed on the interior of all exposed walls and in the ceiling below the attic and that some form of attic ventilation also be provided. Further, that any sheathing paper used should be water resistant, but permeable to vapour. The protection afforded will also prevent condensation that might otherwise develop during the construction period, particularly if the house is plastered during cold weather.

For existing houses having no vapour barriers maintain humidities at such point that condensation will not develop in walls and attics. Since conditions in walls cannot be readily determined, the attic, if tight and without ventilation, may be used for observation. In general, the safe humidity inside in relation to outside temperature will correspond roughly with the values given in Figure 1. To maintain higher humidities safely some form of vapour barrier can be applied to the exposed walls and ceilings, such as two coats of aluminum paint. While not offering as much resistance as the more effective barrier, this method should mean that humidities of about 30 per cent. could be maintained in normal winter weather having short periods of zero weather.

The suggestions offered are based upon tests made at the Forest Products Laboratory, part of which are still under way, combined with observation and experience in occupied houses. As further information becomes available additional recommendations and modifications of the present ones will be released.

R. A. I. C. ANNUAL EXHIBITION

Members are again reminded of the above exhibition to be held in Toronto in February, 1940. The Committee is not yet asking for photographs, but members should be taking them if they wish to show. The Exhibition Committee cannot be criticized this year for not giving fair warning.—Editor.

PROVINCIAL PAGE

ALBERTA

The writer of this letter,—appealed to to get photographs of summer cottages and holidaying places in Alberta,—has been unable to obtain material for this purpose. It may be of some interest to give some of the reasons for this.

In the first place, the "Summer Cottage" as understood in the east is of somewhat rare occurrence in this province. When an architect is asked to design some such building it is likely to be at a distance of 200 miles, more or less, from the city in which he works. He may get photographs of the site or he may have been to the spot and have a good general idea of the type of country, but he cannot visit the building during erection and it may be a year or two before he sees the finished building. Indeed, he may never see it. When the building is photographed,—if it ever is photographed,—this is done by snapshots, probably celebrating some purely family occasions and not specifically with a view to displaying the building to advantage.

There are two characteristic ways of holidaying in the province. People with quite young children go to the "lake", that is to say, to one of the many lakes that lie in the folds of the rolling park-lands. Here the cottage is affectionately referred to by its owner as "the shack". Such cottages are of the slenderest construction and, as often as not, they are built by the owner's own hands and such plan as they have is of the owner's own device. This is the most common type of "Summer Cottage". Those who have no children so small as to require a fixed abode go to "the mountains". This means that they tour about amongst the mountain roads, stopping for picnic meals at some of the many roadside camps which furnish simply shelter-cabins, outdoor fireplaces and firewood, and spending the nights,—it may be several successive nights, —at some of the larger camps where there are refreshment rooms and cabins with blankets.

Both types of camps follow the same manner of building, which is the log hut type, though, often enough, this appearance is obtained merely by the use of log-faced siding. The little buildings are set around as the contours of the ground necessitate. With wood shingle or shake roofs and overhanging eaves, these generally harmonize quite well with their rugged surroundings. The variety of design is, perhaps fortunately, not very great. Two or three men, handy with axe and saw, who have done the thing before, can do the thing again and, for the most part, architects are not called in for designs.

There are some alternatives to the above two plans for holidaying, the most notable being in the neighbourhood of Banff and Jasper. These little towns have their tourist camps also, but a number of city people also have their cottages, the most characteristic being those built of logs by Scandinavian lumbermen or in their manner. Since in these places people tend to want more and more the comforts of town life, the cottage built in the usual manner of the Albertan wood-framed and stuccoed suburban house is becoming more common.

Another type of holiday dwelling is the "Dude Ranch". These are generally built in isolated situations among the foothills or mountains by people of considerable means from outside the province, frequently from the United States. They are arranged with ample accommodation for the entertainment of guests, frequently with large horse-stables, so that trail riding may be practised. Others make provision for hunting and fishing as the main entertainments. The "Dude Ranch" is generally of log construction with a great stone fireplace in the main living hall.

—Cecil S. Burgess.

BRITISH COLUMBIA

The Vancouver Chapter of Architects, for several years inactive, has come to life again. It is organized to promote social contact and discussion of common architectural problems among the architects of Vancouver and vicinity. As the older members were anxious to have the younger members take the active part in its organization, Jack Porter of McCarter and Nairne, who was primarily responsible for the re-organization, was named president, Bob Berwick, vice-president and Harry Barratt, secretary, at the first meeting.

After election of officers, Mr. William Fredk. Gardiner, President of the A.I.B.C., gave a detailed account of the R.A.I.C. Annual Meeting and of his interesting discussions and visits with Eastern Canada architects.

At the first dinner meeting of the chapter, Mr. Schofield, architect for the Canadian National Railways, gave a brief sketch of the new Hotel Vancouver, its architectural problems and design. At the following meeting, members of the chapter were the guests of Mr. Schofield at the hotel, where Mr. Schofield explained all the features in detail.

Several large projects are under way at the present time in British Columbia. Work has commenced on the new wing at St. Paul's Hospital, Gardiner & Mercer are the architects. The same firm is now completing work on the Sisters of Charity Hospital. Both projects are in Vancouver. The Federal Post Office at New Westminster is under way, Evans & Son are the architects, and tenders are now being called on the Brock Memorial student's building at the University of British Columbia by Sharp & Thompson, architects.

—Robert A. D. Berwick.

MANITOBA

Their Majesties have now left our shores, with hearts and minds full of appreciation and understanding, a hope that friends have been made, and God's blessings on us all. Those of us who have it to do can return to work. Winnipeg's reception, like the rest of Canada, was splendid. The street decorations served their purpose but lacked co-ordination. The competitive practice of submitting designs for decorations including the cost of erection complete, eliminates the architect from a field in which he might properly be engaged. In Winnipeg, where the architect had been called in, he effectively showed his worth. The Post Office building was exceptionally well handled on a simple, large scale motif, and Mr. E. Parkinson, resident architect for the Dominion Government, and the Van Kirk Decorating Company are to be congratulated. The value of repetition was well demonstrated by two series of banners—one consisting of red, white and blue intermingled—the other a scheme in one colour. The one colour treatment won hands down. It is satisfactory to note that architects were on the job.

A little sum in arithmetic was overlooked when speculators in Winnipeg erected stands for the accommodation of spectators along the Royal route. The twenty-four-mile route, with spectators three deep on each side, would provide space for about 500,000 persons and the man in the street, evidently

sensing the fact that there would be ample room, remained in the street, with the regrettable result that stark and empty stands marred the landscape.

The monthly luncheons of the Association, revived in April after a lapse of many years, are not as well attended as one might wish. Good fellowship is something that cannot be weighed in a material sense and members should grasp the opportunity of furthering it. The buoyant effect of cheery company remains with us. Memories of the weekly luncheons of the Ontario Association at 96 King Street West are still with me from my student days. Such functions are invaluable in creating a clearer understanding amongst members and better ethics are the result. Fraternizing is particularly necessary during these latter years when so many younger men have entered the profession—years which produced relatively more men than commissions.

Consider, if it were practicable, a monthly luncheon of the members from all the provinces. How much there would be to discuss! The variation in our Acts of Incorporation!! Would uniformity in the practice of the profession in Canada be possible? Would it be desirable? Has it a value? Is it worthwhile? Would it strengthen the profession in the eyes of the general public and judiciary? Would we be well advised to give and take a little in order to bring it about? Would harmony result from uniformity? Is harmony of any value? Are our differences insurmountable? Can the differences be tabulated, analyzed and smoothed away? The Council of the Manitoba Association will ask for a discussion on uniformity at the next Annual Meeting of the R.A.I.C. and it is suggested that members acquaint themselves in the meantime with the variations in the several Provincial Acts.

— *W. Percy Over.*

ONTARIO

With commendable promptitude the Toronto Chapter has begun a thorough investigation into the many factors affecting its exhibition, with a view to widening its appeal and increasing its effectiveness as a stimulant of good architecture. In accordance with a resolution of the Annual Meeting a committee was formed, under chairmanship of Leonard Shore, and its report was exhaustively and vigorously discussed at a recent general meeting. There was substantial agreement that the emphasis might well be shifted from the work of architects as individuals to the art of architecture, and that the elimination of awards would be a step in that direction. It was also felt that the work of organizing the exhibition, which has hitherto fallen much too heavily on the shoulders of one or two, should be placed upon a broader basis. This matter was left to the Executive for further consideration. It is expected that once the Chapter Golf Tournament is over, work on the next exhibition will be started in earnest.

Tenders are being taken on substructure for the Bank of Montreal, at King and Bay Streets, Toronto; and we hear that the architects are working at high pressure on drawings for the superstructure.

With few exceptions, architectural life hereabouts resembles a tropical village at high noon. Regrettable as this may be in some ways, the Ontario architect may well be thankful that he does not live in Spain, where an architect has recently been put on trial for his life, charged with designing interior decorations so fantastic as to drive people mad. It is true that the "rooms" so treated were prison cells, and that, unfortunately for him, the occupants were friends of General Franco. But the principle has been established, and henceforth designers in other parts of the world may be held accountable for the effects of their work. After all, interior decoration which makes people mad is by no means confined to Spain.

— *Gladstone Evans.*

QUEBEC

Mr. Jacques Greber, S. A. D. G., Adviser to the Federal Government for the improvement of the City of Ottawa, in addressing last month a meeting of the Montreal City Improvement League, was very emphatic in condemning the building of skyscrapers in the American fashion, which he argued to be a social sin, not a community pride. Mr. Greber held that skyscrapers above a certain logical height are the most deplorable examples of housing congestion, an evil which Town Planning seeks to eliminate. He claimed that the skyscraper was born in Manhattan as a direct result of real estate greed and professional jealousy. "If you wish to see a true vision of the City of the Future," said Mr. Greber, in conclusion, "you should visit Silvershoen in Holland."

Mr. Ernest Cormier is rightly being congratulated for the good work he did in connection with the municipal decorations, which were under his charge. The civic decorations, and those at McGill University, the latter being designed by Professor Percy E. Nobbs, received the highest commendation from both Canadian and American critics.

Mr. Cormier was also largely responsible for the excellent arrangements made for the laying of the foundation stone at the Supreme Court Building at Ottawa. From all accounts this was an occasion Mr. Cormier is not likely to forget. On being introduced to Royalty, Queen Elizabeth, in that gracious manner that she has shown throughout her visit to Canada, speaking in French, congratulated the architect on his building, and discussed the beauties of the site on which the building is being erected. Her Majesty proved herself adept in the handling of the gold trowel, throughout the ceremony of the stone-laying, and gave a very human touch to the whole proceedings in desiring to speak to the three workmen who were responsible for lowering the stone in position.

Professor Ramsay Traquair was given a hearty send-off on the evening of May 29th, when the members of the Council, who were meeting at the time, adjourned for an hour, in order to bid farewell to him at Bonaventure Station, en route to his home of retirement at Guysboro, Nova Scotia.

The problem of carrying on and developing the work of the School of Architecture has been studied during recent months by the University Authorities, assisted by leading members of the architectural profession.

The most immediate problem concerns the work of the School during the Session 1939-40, pending the selection of a new Professor of Architecture. Professor Philip J. Turner has been appointed as Acting-Director of the School for next session. A Committee has been appointed to act with him, as a Board of Advisers, and to be responsible for the policy of the School. The members of this Committee are as follows:

Ernest I. Barott (D.F.A., Syracuse);

Harold L. Fetherstonhaugh, President R.A.I.C.;

J. Cecil McDougall, Architect;

Percy E. Nobbs, Professor of Design, McGill University.

The appointment of such a Board of Advisers emphasizes the intention of the University to foster the work of the School, to strengthen the links with the profession, and to utilize as fully as possible, for the benefit of the School, all the resources available.

The necessary steps have also been taken for the selection of a new Professor of Architecture.

This programme of development accentuates the purpose of the University to continue and amplify instruction in the School of Architecture.

— *Philip J. Turner.*

BOOK REVIEW

"GARDENS IN THE MODERN LANDSCAPE"

By Christopher Tunnard. The Architectural Press, London, S.W.1. Price, 15/-

Out of the yearning of a generation condemned to live in industrial cities has grown the need for a new kind of relationship with the landscape which is the natural world around us. As long as the land was in the care of the farmer his purely "functional" approach to the materials of his craft produced not only our food, but also a landscape of inevitable and unself-conscious beauty: the proportions and texture of a field, the materials of its enclosing fences, the pattern of vineyard and orchard, the terrestrial curves of a western grain field. But the anxiety of the townsman to lavish his nostalgic sentiments upon the landscape has usually caused nature to retreat and beauty to wither at his touch. The "gaucheries" of the landscape gardener with his blue spruces, rockeries and assorted horticultural varieties have horrified us all. We are only now becoming dimly aware that the very survival of our urban culture may depend upon a harmonious relationship between Town and Country, between Building and Open Space, between Work and Recreation, between Art and Nature. The aesthetic principles of this relationship continually elude us.

In a book entitled "Gardens in the Modern Landscape" Mr. Christopher Tunnard casts a searching light into the obscure depths of this elusive problem. Since Thomas Sharp's "Town and Countryside" this is the most profound enquiry into a subject which has particularly affected England. It cannot be said that this book is either well organised or conclusive; it contains some of those didactic statements which escape from someone who is trying zealously to persuade his own uncertainty as much as that of his readers. But it is the work of a mind which has perceived the universal relationship between all the Arts and the modern world in which they must together find expression.

As a designer Mr. Tunnard belongs to no School, neither Naturalistic nor Formal. He condemns the imposition of arbitrary axial patterns upon topography as "snobbish" and is glad that the culture which lauded the axial vista "has begun to suffer a deserved eclipse". On the other hand he recognizes that a picture which attempts to "imitate" nature and a building which attempts to "imitate" a style of the past and a rock-garden which "imitates" nature are all purely representational and must therefore be excluded from the category of Art. Works of Landscape Architecture must be original creative compositions the design of which must arise out of and express the use to which they are to be put. The author is naturally drawn towards the Japanese with their sensitive appreciation of plant forms, their subtle feeling for the disposition of the elements of a garden composition; they alone seem to have achieved that fusion of art and nature, of building and landscape, of town and country, which we are all seeking. (The popular appropriation of Japanese garden ornaments has arisen, of course, out of a confusion between motifs and motives.)

Readers of the *Architectural Review* who are familiar with Mr. Tunnard's work in collaboration with Mr. Raymond McGrath and Mr. Serge Chemayeff will be aware that the author's literary abilities are not divorced from practical accomplishment. The book is profusely illustrated and deals with more aspects of the subject than it is possible to suggest in a review. It should undoubtedly be in the possession of all who are interested in the ultimate implications of modern design.

— *Humphrey Carver.*

THE SCHOOL OF ARCHITECTURE, 1939-40

McGILL UNIVERSITY, MONTREAL, CANADA

PENDING the appointment to the Macdonald Chair of Architecture of a successor to Professor Ramsay Traquair, the School of Architecture will be administered during the Session 1939-40 under Professor Philip J. Turner, F.R.I.B.A., F.R.A.I.C., as Acting Director. An Advisory Committee has been constituted to determine the policy of the School. The membership is as follows:—

Philip J. Turner, Acting Director (Chairman).

Ernest Brown, M.Sc., M.Eng., Dean of the Faculty of Engineering.

Percy E. Nobbs, M.A. (Edin.), R.C.A., F.R.I.B.A., F.R.A.I.C., Professor of Design in the School of Architecture.

Ernest I. Barott, D.F.A., R.C.A., F.R.I.B.A., F.R.A.I.C.

Harold L. Fetherstonhaugh, B. Arch., F.R.I.B.A., F.R.A.I.C., President of the Royal Architectural Institute of Canada.

J. Cecil McDougall, B. Arch., B. Sc., F.R.I.B.A., F.R.A.I.C.

For the Session 1939-40 the Teaching Staff of the School has been augmented by the appointment of Mr. John Bland, B. Arch., A.R.I.B.A., A.M.T.P.I. Mr. Bland graduated from McGill University in 1933. He is an Associate Member of the Town Planning Institute of London, obtaining his Diploma in Town Planning with honours, at the Architectural Association in 1937. In addition to carrying on a private practice, Mr. Bland, as a member of the staff of that School, has given instruction in Town Planning and has acted as Research Officer in the Library.

Plans for the Year Include:—

(1) The resumption of the Summer Sketching School in September, 1939.

(2) Instruction in Freehand and Colour work to be given at the Ecole des Beaux Arts.

(3) Adjudication of designs by the Advisory Committee assisted by other prominent architects of the city.

(4) Guidance in research work at the Blackader Library.

(5) Lectures on Town and Regional planning, office administration, interior decoration and the allied arts, acoustics and electrical equipment of buildings.

(6) Special lectures by leading architects and engineers visiting the school.

(7) The continuous study, with illustrated notes, of buildings in the course of erection.

Details of the entrance requirements and fees, and of the courses offered in the School, are given in the Announcement of the Faculty of Engineering which may be obtained from the Registrar's Office.

. . . . .

Enquiries regarding the Courses of the School should be addressed to the Acting Director, McGill University, Montreal.

TO THE GREAT ARCHITECT OF THE UNIVERS-ITY

(with a present of a corkscrew and three pot-holders inscribed "Forget-me-not")

Alas! once more we hear the dismal bell:
'Tis for Traquair it tolls its dreary knell.
The dreaded summons bids us be prepared
To solemnize the passing of the Laird.
O grant me, Muse, audacity spectacular
To dree his weird in guid braid Scots vernacular!
His lyart haffets we nae mair sall see,
Nae mair his sonsie gruntle, wae is me!
(These words may, aiblins, sound like disrespect;
Their sentiment however's quite correct).

He leaves us for the land of his devotion,
To live henceforth a sober Nova-Scotian.
Yet fit it is that one with his addiction
To masterpieces of detective fiction,
A Scot, devoted to New Scotland Yard,
Should for New Scotland feel such deep regard.
The laird departs for Guysboro: but who knows
How long he's destined to remain a Bluenose?
Perhaps, while in that land he sits alone
And listens to the plaintive bagpipes' drone,
While, as the waves beat fierce on beach and rock,
He feeds on haggis, brose, and bubblyjock—
Perhaps the thought of Montreal's good cheer
Will tempt him to rejoin his cronies here.

Meanwhile this corkscrew sometimes may remind
The laird of loving friends he's left behind:
And each time from the stove he lifts a pot,
He'll read the words sincere: Forget-me-not.

Note:—This was written by Professor Woodhead at a kitchen "shower" tendered Professor R. Traquair by Professor and Mrs. Porter.

NOTICES

The Secretary would like the names of members who intend being present at the Fifteenth International Congress of Architects in Washington from September 24th to 30th, 1939. If sufficient members are promised, arrangements may be made for organization as a group and possible reduction in fares, etc. Please write Miss C. Mitchell immediately on this matter.

An Architectural Exhibition is to be arranged in connexion with the 41st convention of the International Hospital Association to be held in Toronto, September 19 to 29, 1939. Members of the Institute who wish to exhibit photographs, drawings, or models should communicate as soon as possible with W. L. Somerville, 30 Bloor Street West, Toronto, Ontario, giving a list of material available with approximate dimensions.

TUNE — "THE MASSACRE OF THE MACPHERSON"

By T. H. MATTHEWS, *Registrar of McGill University*

King Solomon the wise
In Hades said to Solon
You don't need brains our size
For simply shovelling coal on;
And so they gave, that pair,
Their universal knowledge
To a student named Traquair
In Edinboro College.

So when he grew up
He 'gan to write and lecture
On Neo-Grecian dress
And Gothic architecture,
On heraldry and trout,
He published his researches
On silversmiths and stars,
And French-Canadian Churches.

He painted like Vermeer,
He drew like Tintoretto,
He wrote amusing plays,
Composed a neat libretto.
He had the gifts of style
Of Pater, Poe, and Zola,
He also tootled Bach
Upon the pianola.

He analyzed with skill
Our morals and our manners,
He gave McGill its flag
And scouting boys their banners:
On women and their dress
His articles pedantic
Were bought by the reviews,
Including the *Atlantic.*

Then let us toast Traquair,
That man of wisdom mellow,
For when you toast Traquair
You toast a charming fellow.
Here's hoping he may have
A wonderful vacation,
So rise, my friends, and drink
This toast with acclamation.

Read at a dinner given Professor Traquair on May 8th, 1939.

The Editor,
Journal of the R.A.I.C.,
57 Queen Street West, Toronto.

Dear Sir,—

A recent news item tells how the design of a Yugoslav architect caused Spanish prisoners to become blind and insane. The item has a headline, "Demand death by garroting for torturer".

The possible spread of such an idea is causing uneasiness in certain quarters.

Yours,

N. or M.

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Curry, S. G., 64 Warren Road, Toronto, Ont.
Massey, The Honourable Vincent, P.C., LL.D., M.A., High Commissioner for Canada, 33 Portman Sq., London, W. 1, England.
Unwin, Sir Raymond, Dr. Tech. (Prague), D.Arch. (Toronto), Wyldes, North End, Hampstead, London, England.
Willingdon, The Most Honourable The Marquess, P.C., G.C.S.I., G.C.M.G., G.C.I.E., G.B.E., 5 Lygon Place, Grosvenor Gardens, London, England.

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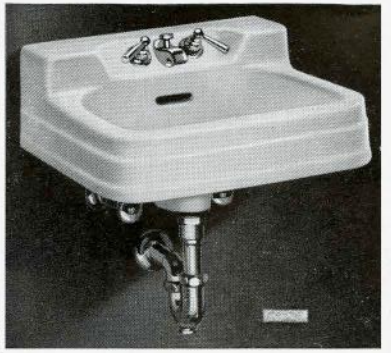
the latest creation in modern lavatory design

NEUDAY LAVATORY WITH LEGS

This model is supplied with slender chromium-plated metal legs; also with or without towel bars. A strikingly handsome fixture.

NEUDAY CABINET LAVATORY

Roomy all-steel cabinet provides generous storage facilities. Front corners are of modern tri-bevelled design. Finish is lovely enamel.



NEUDAY WALL LAVATORY

Size of lavatory 17 x 19 inches; basin, 10½ x 15½ inches. Deep panelled apron. All exposed metal parts are chromium plated. Ideal for small bathrooms.

"NEUDAY" has *everything:* Roominess, convenience of operation, beauty — all combined into a compact, moderately-priced unit. Many of its features are found only in the most expensive lavatories: low shelf back . . . large rectangular basin . . . patented sanitary overflow . . . comfort-angle control panel, etc. All "NEUDAY" models are available in ACID RESISTING porcelain enamelled cast iron in white or colour. Consult your supplier or write us for complete information.

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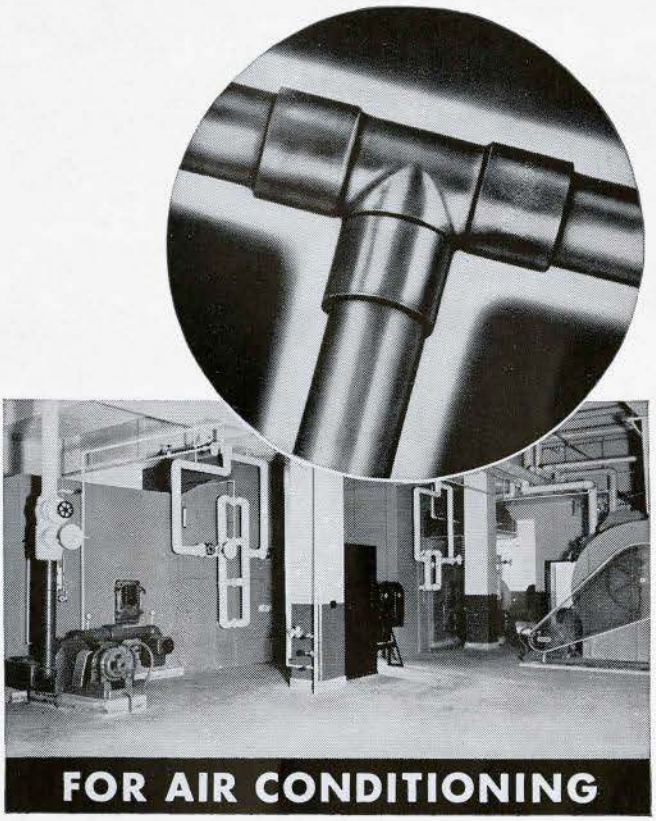

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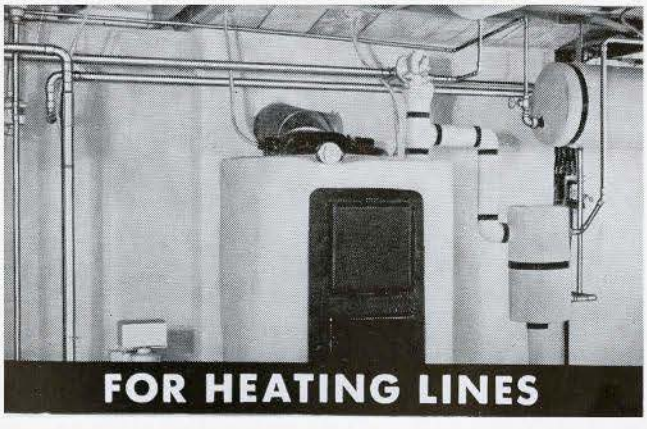

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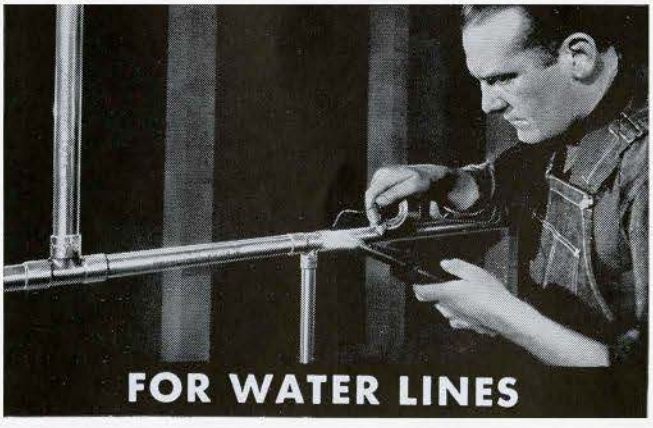

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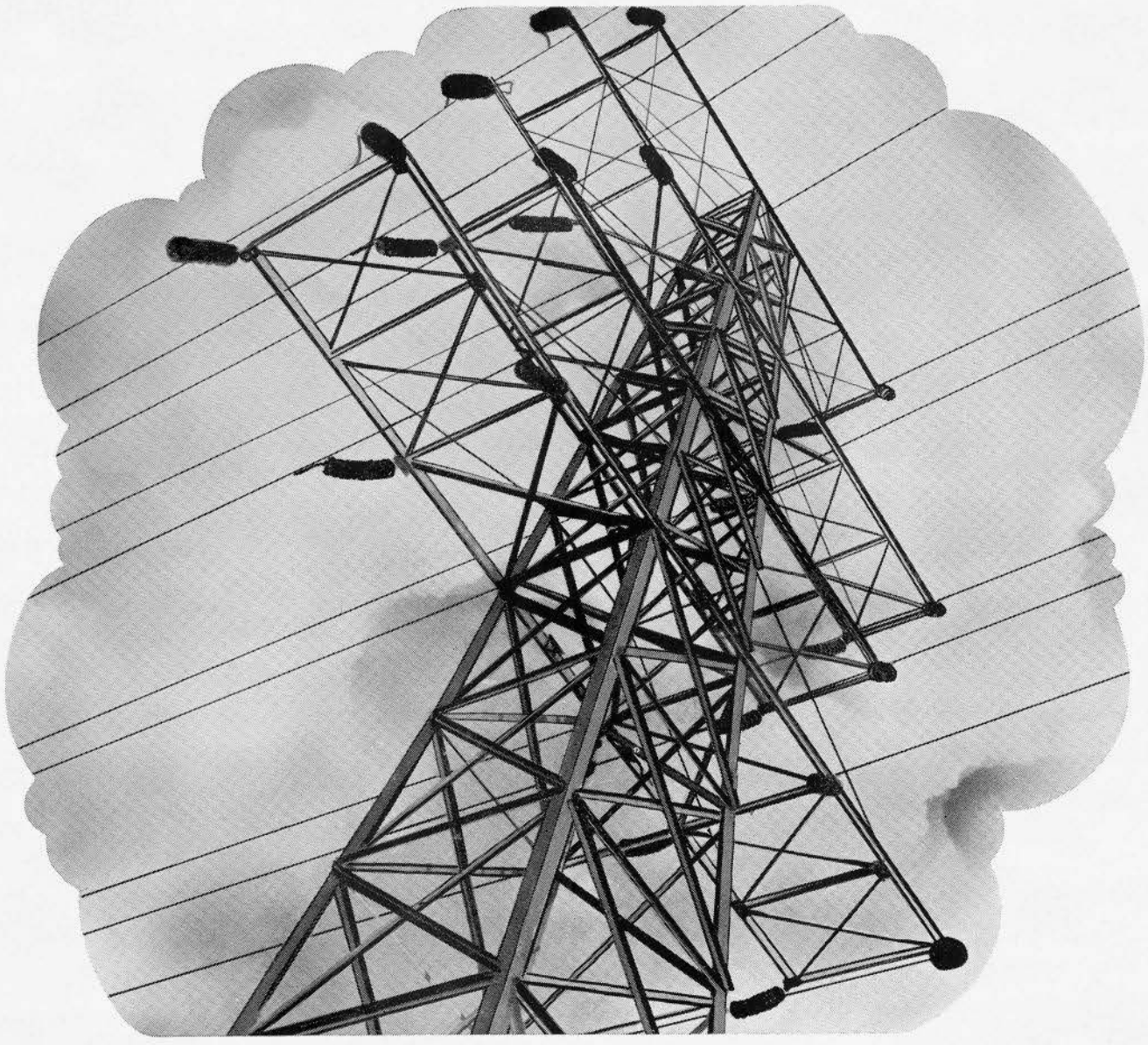

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