

JOURNAL

ROYAL ARCHITECTURAL
INSTITUTE OF CANADA



VOL. 22

TORONTO, JULY, 1945

NO. 7



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JOURNAL

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

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"IT has been assumed by the Committee that the great bulk of housing whether publicly, privately or co-operatively owned, will be built by private contractors and corporations. Experience has shown that public housing has been most successful and effective where the design and building of the houses has been organized through the usual professional and construction channels."

SO wrote the Sub-Committee on Housing and Community Planning reporting to the Prime Minister. It can be read in Report No. 4 of the Committee on Reconstruction. We can remember, as a member of the sub-committee, that the subject came up when a fear was expressed that Wartime Housing might continue its activities after peace had been declared. That fear has been justified and Wartime Housing, a Crown company, is now responsible for the design and building of a trial batch of 1,000 houses of which 600 go to Toronto, 200 to Ottawa and 200 to Winnipeg. The government programme, or hope, is that this will be but a sample of the thousands of houses that will be built, for sale or rent, with Federal assistance in the next few years. The committee had another fear that was set at rest when a Minister of the Crown asserted that the Government's investment in houses and public works would be protected by absolute insistence on Town Planning in all areas where a grant for public works was sought. Fifty thousand houses may be built in the next twelve months, and the sketchiest kind of plan of the housing area itself will have to suffice. So far as we know, no city in Canada has an official Master plan of future growth. In 1940, Housing and Town Planning experts saw the seriousness of the situation; in March, 1944, it was emphasized in Report No. 4 of the Committee on Reconstruction, and figures were given to prove it. Today we are at the stage of panic, and any new house on any lot will satisfy the authorities in any level of government. We are embarking on an era of Slum building, not as they were built at the turn of the century by private speculation, and without knowledge of the fate of unplanned communities, but with all the facts before us, with our eyes open and with Government aid.

LACK of large scale planning will be the root cause of most of the evils to come, of blighted suburbs and butchered agricultural land on the periphery of cities, but what of the houses themselves? Crown Companies cannot make a success of housing. They can deal with emergencies, and can house people for an emergency. They have no experience with permanent living which is a complex business requiring the united effort of architects and social workers whose specialized training fit them to deal with people of all ages and conditions. It will be said that this will make confusion worse confounded, but it is not so. It is not too late, if personnel could be released from the Services, to tackle the housing problem through those professions and skills that are prepared to meet it. We need, at the present moment, apartment houses, row houses and semi-detached houses, designed for families of varying sizes, ages and income. Only such housing will take up the shortage, and then, only in a decade. The building of fifty thousand permanent cottages a year for several years may be a home builder's dream, but it is something that no one with any civic pride or feeling for his fellow citizen can contemplate without the gravest misgivings. There is a challenge in the housing crisis to the Government of the country. The architects are the chief experts, the planners and the co-ordinators of large building projects, and they are ready and willing to lend their aid. They, alone, can prevent a waste as staggering as that of war.

THE POST-MODERN HOUSE

By JOSEPH HUDNUT



Bachrach

JOSEPH HUDNUT, Dean of Harvard's Graduate School of Design, is the logical critic to present this provocative philosophy because his own progressiveness, as well as his penetrating mind and persuasive pen, compel attention to the reminder that "houses will still be built out of human hearts." He challenges architects to push forward beyond the "engineered house"—"God forgive us"—to something that will not only facilitate the daily functions of humans, but also illumine their lives.

I HAVE been thinking about that cloudburst of new houses which as soon as the war is ended is going to cover the hills and valleys of New England with so many square miles of pre-fabricated happiness. I have been trying to capture one of these houses in my mind's eye, to construct there its form and features, to give it, if you will pardon me, a local habitation and a name.

In this effort I have not been widely aided by the architectural press. I am shown there the thousand ways in which architects exploit the new inventions of industry. I am made aware of new techniques of planning and the surprising gadgets with which our houses are to be threaded. I perceive also the aesthetic modes which these innovations have occasioned: the perforated box, the glorified woodshed, the house built on a shelf, the house with its bones "dynamically exposed". These excite my imagination; and yet they fail somehow to furnish it with that totality of impression toward which these experiments in structure and physiognomy are or ought to be addressed. It seems to me that these houses with some exceptions have left unexhibited that *idea* which is the essential substance of a house. I do not discover in them that emotional content which might cement their curious shapes, that promise which in architecture is the important aspect of all appearances.

My impression is obviously shared by a very wide public and I think that this circumstance explains in part the persistence with which people, however enamoured of science, cling to the familiar patterns of their houses. Among the soldiers who write letters to me there is, for example, one in New Guinea who asks me to provide the new house which I am to build for him with every labour-saving device known to modern science and every new idea in planning, in building materials and in air conditioning, and who ends his letter with the confident hope that these will not make the slightest change in the design of the house. He has in mind, if I have understood him correctly, a Cape Cod cottage which, upon being opened, will be seen to be a refrigerator-to-live-in. I shouldn't be surprised to learn that his requirements reflect accurately those of the Army, the Navy, the Marines, the WAC, and the WAVES.

Our soldiers and sailors are already sufficiently spoiled with flattery and yet I must admit that here is still another instance in which their prescience overleaps our judgment. Beneath the surface naiveté of my soldier's letter there is expressed an idea which is of critical import to architecture: a very ancient

idea, to be sure, but one which seems to be sometimes forgotten by architects. The total form and ordinance of our houses are not implied in the evolution of building methods or utilities. They do not proceed merely from these; they cannot be imagined wholly from these premises. In the hearts of the people at least they are relevant to something beyond science and the uses of science.

Now I think that this relevance—which our soldier quaintly discovers in the Cape Cod cottage—is obscured in our contemporary practice by two interests: interests which are sometimes related and sometimes distinct. One of these has its source in a professional delight in the swift march of our triumphant technologies; the other in an excessive concern for aesthetic effects for their own sake—and especially in these effects when they are specific to our new methods of construction. There is a very large number of architects nowadays who assume the attitudes and ideals of scientists, finding a sufficient reward for their work in the intellectual satisfactions afforded by technologies. Some of these appear to be quite indifferent to the formal consequences of their constructions, beauty being a flower which will spring unbidden from beneath their earnest feet; while others discover with such an excess of fervor the aesthetic and dramatic possibilities of their new structures that they forget to ask if these are appropriate to the idea to be expressed. There are also architects, highly praised by museum critics, who take little note of science, or indeed of professional competence in general, except as a source of new abstractions in materials and in space, the exciting elements of a precious and very exclusive Heaven.

I am constantly surprised by the vehemence with which architects assert the scientific nature of their activities. They will allow no felicity of form to go unexplained by economic necessity or technical virtuosity. Beauty cannot be enjoyed until justified as a consequence of the slide-rule, and frequently her presence in their calculated halls will be acknowledged only after a heated argument.

The other day, when talking to an architect, I made a most unfortunate slip of the tongue: I called him an artist. He challenged me at once to a duel, saying that the word is one which in our profession no gentleman would use toward another. *Designer* might be said thoughtlessly or in jest, but *artist* admitted of no possible reconciliation.

I am for every change in construction or equipment or organization which will promote comfort or security or economy in the modern house. Nevertheless, there is, I think, an attitude of mind, a valuation or—perhaps more precisely—a way of working which is more important in architecture than our science and which is by no means universal in our practice. I mean that way of working which gives to things made by men and to things done by men qualities beyond those demanded by economic or social or moral expediency, the way

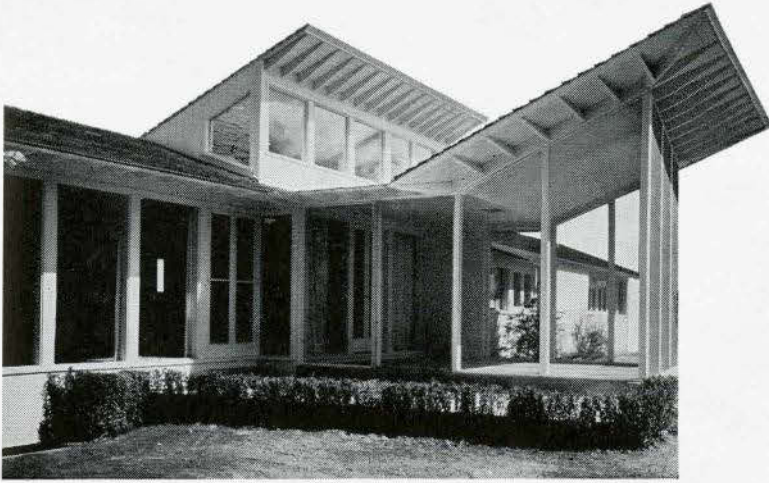
of working which complements utility with the spiritual qualities of form, sequence, rhythm, felt relationships. I mean that kind of making and doing which illumines life, gives it meaning and dignity and which, through education, makes life a common experience. I mean, in short, that search for expression which transforms the science of building into the art of architecture.

If a dinner is to be served, it is art which dresses the meat, determines the order of serving, prepares and arranges the table, establishes and directs the conventions of costume and conversation, and seasons the whole with that ceremony which, long before Lady Macbeth explained it to us, was the best of all possible sauces. If a story is to be told, it is art which gives the events proportion and climax, fortifies them with contrast, tension and the salient word, colours them with metaphor and allusion, and so makes them cognate and kindling to the heart. If a prayer is made, it is art which sets it to music, surrounds it with ancient observances, guards it under the solemn canopies of great cathedrals.

The shapes of all things made by man are determined by their functions, by the laws of materials and the laws of energies, by marketability (sometimes) and the terms of manufacture; but these shapes may also be determined by the need, more ancient and more imperious than your crescent techniques, for some assurance of importance and worth in those things which encompass humanity. That is true also of all forms of doing, of all patterns of work and conduct and pageantry. It is true of the house and of all that takes place in the house; for here among all things made by man is that which presses most immediately upon the spirit—the symbol, the armour, and the hearth of a family. The temple itself grew from this root; and the House of God, which architecture celebrates with her most glorious gifts, is only the simulacrum and crowning affirmation of that spiritual knowledge which illumined first the life of the family and only afterwards the lives of men living in communities.

Here is that *shelter* which man shaped in the earth one hundred thousand years ago, the pit which became the wattle hut, the cave, the mound dwelling, the mandan lodge and the thousand other constructions with which our restless invention has since covered the earth: the *shelter* which in a million forms has accompanied his long upward journey, his companion and shield and outer garment. Here is that *home* which first shaped and disciplined his emotions and over centuries formed and confirmed the habits and valuations upon which human society rests. Here is that *space* which man learned to refashion into patterns conformable to his spirit: the space which he made into architecture.

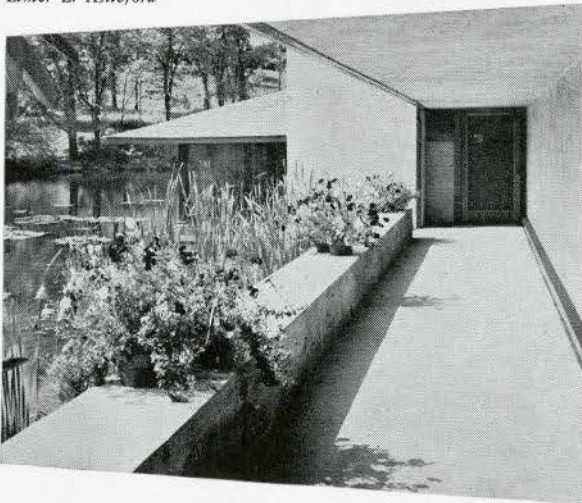
This theme, so lyrical in its essential nature, can be parodied by science. An excess of physiological realism, for example,



Hedrich-Blessing

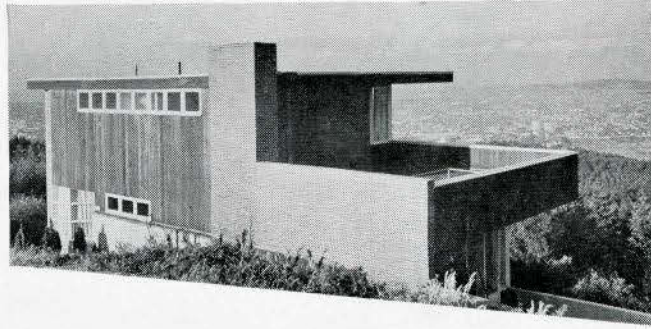
"That mighty cantilever which projects my house over a kitchen yard or a waterfall, the lacustrian vertiginous Lally column, the 'stressed skin' and the flexible wall . . . these strike my eyes but not my heart"

Elmer L. Astleford



can dissemble and disfigure the spirit quite as ingeniously as that excess of sugar which eclecticism in its popular aspect pours over the suburban house. A "fearless affirmation" of the functions of nutrition, dormation, education, procreation and garbage disposal is quite as false a premise for design as that clutter of rambling roofs, huge chimneys, quaint dormers, that prim symmetry of shuttered window and overdoor fanlight, which forms the more decorous disguise of Bronxville and Wellesley Hills; nor have I a firmer faith in the quaint language and high intentions of those sociologists who arrive at architecture through "an analytical study of environmental factors favourable to the living requirements of families considered as instruments of social continuity." I am even less persuaded by biologists: especially those who have created a vegetable humanity to be preserved or cooled or propagated in boxes created for those purposes. I mean those persons who make diagrams and action-photographs showing the impact upon space made by a lady arranging a bouquet or a gentleman dressing for dinner or 3.81 children playing at kiss-in-the-ring—and who then invite architects to fit their rooms around these "basic determinants". My requirements are somewhat more subtle than those of a ripe tomato or a caged hippopotamus, whatever may be the opinion of the Pierce Foundation.

Now I do not advocate a return to the Cape Cod cottage, however implacably technological its interior—still less a return to that harlequinade of Colonial, Regency, French Provincial, Tudor, and Small Italian Villa, the relics and types of our ancestor's inexhaustible inventiveness, which adds such dreary variety to our suburban landscapes. I think we may assume, a soldier's taste notwithstanding, that that adventure is at an end. Yet I sometimes think that the eclectic soul of these suburbs is, by intuition if not by understanding, nearer the heart of architecture than those rigid minds which understand nothing but the economics of shelter and the arid technicalities of construction. Among the architects of the late XIX Century there were no doubt many who were merely experimenters in the science of taste and many who were merely merchant-architects, their shelves well-stocked with marketable prejudices; but are not these the plague of every era? There were also architects in those days who, however they may have leaned upon history, yet conceived their houses as invitations to the spirit. We are at home in these houses even though our world cannot enter with us. Inapposite as they are to our times, they yet represent an art of escape which was at least widely authentic: an art of escape, but nevertheless an art.



I am inclined to explain the persistence of the styles of architecture on some other ground than that of association, although of course that is an important factor. We are not all fools of habit. I think that we overlook the way in which these inherited patterns sometimes recapture the idea once expressed—more eloquently to be sure—by their prototypes. After they have ceased to have any harmony with modern techniques of construction or with modern habits of living they yet speak to us of peace and security, of romantic love and the tender affection of children, of an adventure re-lived a thousand million times; we understand them as we understand a song sung in a language unknown to us. They remain, however alien to the business of life, the elements of an art.

We have developed in our day a new language of structural form. That language is capable of deep eloquence; and yet we use it only infrequently for the purpose of a language. Just as the styles of architecture are detached from modern technologies and by that detachment lose that vitality and vividness which might come from a direct reference to our own times, so our new motives are detached from the idea to be expressed. They have their origin not in the idea but in techniques. We have not yet learned to give them any persuasive meanings. They have interesting aesthetic qualities, they arrest us by their novelty and their theatre, but they have nothing to say to us.

The architects of the Georgia tradition were as solicitous of progress and designed their houses with the same care for serviceability that they spent on the design of a coach, and yet their first consideration was for their way of life. When I visit the streets of Salem I am not so confident as are some of my colleagues that they suffered from a limited range of materials and structural methods. We are too ready to mistake novelty for progress and progress for art. I tell my students that there were noble buildings before the invention of plywood. They listen indulgently but they do not believe me.

We have to defend our house not only against the new techniques of construction but also against the aesthetic forms which these engender. We must remember that techniques have

no inherent values as elements of expression; their competence lies in the way we use them. However they may interest us, they have no place in the design of a house unless they do indeed serve the purposes of the home and are congenial to its temper. When, as often happens, their only virtue is their show, their adventitious nature is soon realized; they are as great a burden to our melody as an excess of ornamentation. That mighty cantilever which projects my house over a kitchen yard or a waterfall, the lacustrian vertiginous Lally column, the "stressed skin" and the flexible wall, the fanaticisms of glass brick, the strange hoverings of my house above the firm earth: these strike my eyes but not my heart. A master can—at his peril—use them; but for human nature's daily use we have still proportion, homely ordinance, quiet wall surfaces, good manners, common sense and love. These also are excellent building materials.

The world will not ask architects to tell it that this is an age of invention, of new excitements and experiences and powers. The airplane, the radio, the V-bomb and the giant works of engineering will give that assurance somewhat more persuasively than the most enormous of our contraptions. Beside the big top of industry our bearded lady will not long astonish the mob.

It should be understood that I do not despise the gifts of our new sciences; and certainly the architects of the 1920's—Le Corbusier, Oud, Mies van der Rohe, and Gropius—made convincing demonstrations of the utility of these in an art of expression. They used structural inventions not for their own sake or yet for the sake of economy and convenience merely but as elements in a language. Functionalism was a secondary characteristic of their aristocratic art which had as its basic conception, so far as this is related to the home, a search for a form which should exhibit a contemporary phase of that ancient aspect of life. To this end new materials were used, old ones discarded; but the true reliance was not upon these but upon new and significant relationships among architectural elements—among which enclosed space was the prime medium, walls and roofs being used as a means of establishing spatial compositions. To compose in prisms rather than in mass, to

"When I think of all these elements, so varied, so impressive, so unhackneyed, which lie at our hand . . . I am astonished that architects should have need of a science to sustain their role in the life of our times . . . Our forfeit is that we must look (and think) like an engineer. We must have — God forgive us — an engineered house"



Harry Hartman

"A 'fearless affirmation' of the functions of nutrition, dormation, education, procreation and garbage disposal is quite as false a premise for design as that clutter of rambling roofs, huge chimneys, quaint dormers, that prim symmetry of shuttered window and overdoor fanlight, which forms the more decorous disguise of Bronxville and Wellesley Hills"



abolish the facade and deal in total form, to avoid the sense of enclosure, to admit to a precise and scrupulous structure no technique not consonant with the true culture of our day: these were the important methods of an architecture never meant to be definitive or "international"—which offered rather a base from which a new progress might be possible, a principle which should have its peculiar countenance in every nation and in ever clime. I should not venture here to restate a creed already so often stated had not a torrent of recent criticism distorted this architecture into a "cold and uncompromising functionalism," had it not been made the excuse for an arid materialism wholly alien to its intention.

We must rely not upon the wonder and drama of our inventions but upon the qualities, beyond wonder and beyond utility, which we can give them. Take, for example, space. Of all the inventions of modern architecture the new space is, it seems to me, the most likely to attain a deep eloquence. I mean by this not only that we have attained a new command of space but also a new quality of space. Our new structure and our new freedom in planning—a freedom made possible in part at least by the flat roof—has set us free to model space, to define it, to direct its flow and relationships; and at the same time these have given space an ethereal elegance unknown to the historic architectures. Our new structure permits almost every shape and relationship in this space. You may give it what proportion you please. With every change in height and width, in relation to the spaces which open from it, in the direction of the planes which enclose it, you give it a new expression. Modern space can be bent or curved; it can move or be static, rise or press downward, flow through glass walls to join the space of patio or garden, break into fragments around alcoves and galleries, filter through curtains or end abruptly against a stone wall. You may also give it balance and symmetrical rhythms.

If then we wish to express in this new architecture the idea of home, if we wish to say in this persuasive language that this idea accompanies, persistent and eloquent, the forward march of industry and the changing nature of society, we have in the different aspects of space alone a wide vocabulary for that purpose.

I have of course introduced this little dissertation on space in order to illustrate this resourcefulness. I did not intend a treatise. I might with equal relevance have mentioned light



Haskell

which is certainly as felicitous a medium of modern design, or the new materials which offer so diversified a palette of texture and colour, or the forms and energies of our new types of construction, or of the relationships to site and to nature made possible by new principles of planning. There are also the arts of painting and sculpture, of furniture-making, of textiles, metal ware and ceramics—all of which are, or ought to be, harmonious accessories to architecture.

When I think of all these elements, so varied, so impressive, so unhackneyed, which lie at our hand ready to be fused into the patterns of our houses, I am astonished that architects should have need of a science to sustain their role in the life of our times. Science, I sometimes think, is a defense mechanism, at least in part. We were at too great pains a generation ago to advertise the romantic overtones of our art; we must now live down our reputation, only too well-deserved, as decorator and dealer in sentiment; and we display this hair-cloth to reassure those practical-minded who might otherwise prefer the engineer. Our forfeit is that we must look (and think) like an engineer. We must have—God forgive us—an engineered house.

I have heard architects explain with formulae, calculation, diagram and all manner of auricular language, the advantages of the glass wall—of wide areas of plate glass opening on a garden—when all that was necessary was to say that here is one of the loveliest ideas ever entertained by an architect. People who *feel* walls do not need to compute them; and people who are deaf to the rhythms of great squares of glass relieved by quiet areas of light-absorbing wall may as well resign the enjoyment of architecture. Because we are free of those "holes punched in the wall," of that balance and stiff formalism in window openings which proclaim the Georgian mode, because we can admit light where we please and in what quantity we please, we have in effect invented a new kind of light. We can direct light, control its intensity and its colorations; diffuse it over space, throw it in bright splashes against a wall, dissolve it and gather it up in quiet pools; and from those scientists who are at work on new fashions in artificial light we ought to expect not new effi-

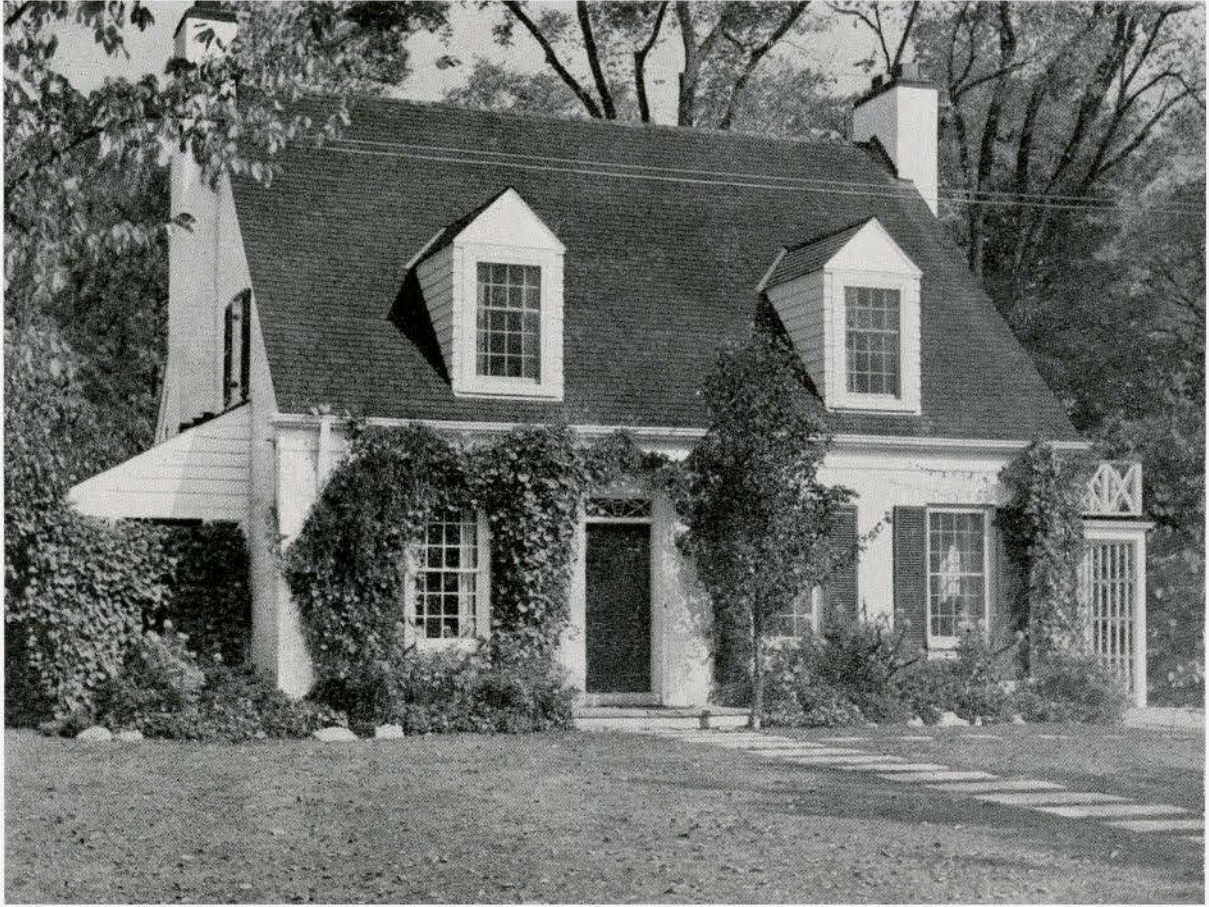
encies merely or new economies merely, but new radiances in living.

Of course I know that modern architecture must adjust its processes to the evolving pattern of industry, that building methods must attain an essential unity with all the other processes by which in this mechanized world materials are assembled and shaped for use. No doubt the wholesale nature of our constructions imposes upon us a monotony and banality beyond that achieved by past architectures—a condition not likely to be remedied by prefabrication—and no doubt our houses, as they conform more closely to our ever-advancing technologies, will escape still further the control of art. Still more inimical to architecture will be those standardizations of thought and idea already widely established in our country; that assembly-line society which stamps men by the millions with mass attitudes and mass ecstasies. Our standards of judgment will be progressively formed by advertisement and the operations convenient to industry.

I shall not imagine for my future house a romantic owner, nor shall I justify this client's preferences as those foibles and aberrations usually referred to as "human nature." No, he shall be a modern owner, a post-modern owner, if such a thing is conceivable. Free from all sentimentality or fantasy or caprice, his vision, his tastes, his habits of thought shall be those most serviceable to a collective-industrial scheme of life; the world shall, if it so pleases him, appear as a system of casual sequences transformed each day by the cumulative miracles of science. Even so, he will claim for himself some inner experiences, free from outward control, unprofaned by the collective conscience. That opportunity, when all the world is socialized, mechanized and standardized, will yet be discoverable in the home. Though his house is the most precise product of machine processes, there will be entrenched within it this ancient loyalty invulnerable against the buffetings of the world.

It will be the architect's task, as it is now, to comprehend that loyalty—to comprehend it more firmly than any one else—and, undefeated by all the armaments of industry, to bring it out in its true and beautiful character. Houses will still be built out of human hearts.

Courtesy *Architectural Record*

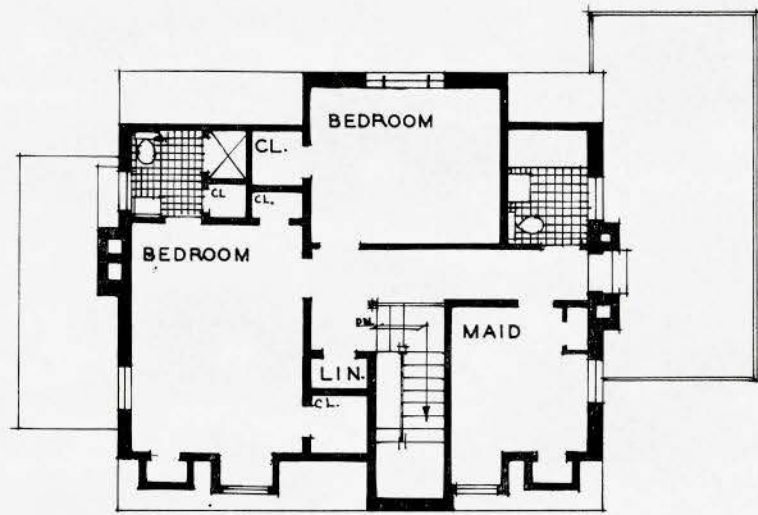


HOUSE OF DR. S. A. MCGREGOR, TORONTO, ONTARIO

PAGE AND STEELE, ARCHITECTS



FIRST FLOOR PLAN

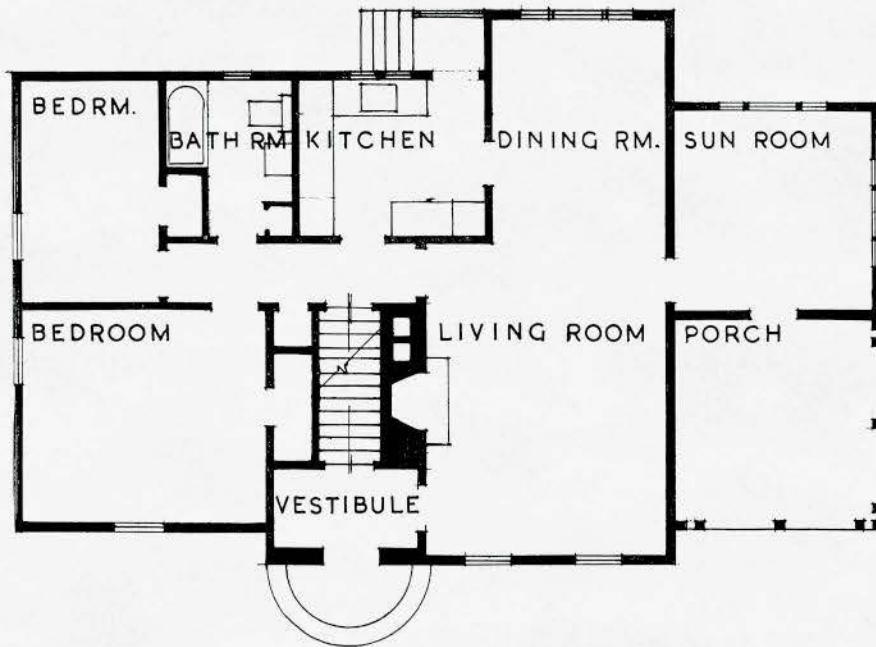


SECOND FLOOR PLAN



HOUSE OF MR. A. R. FERGUSON, GRAVENHURST, ONTARIO

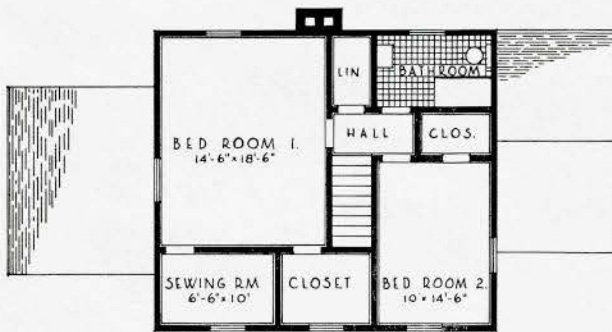
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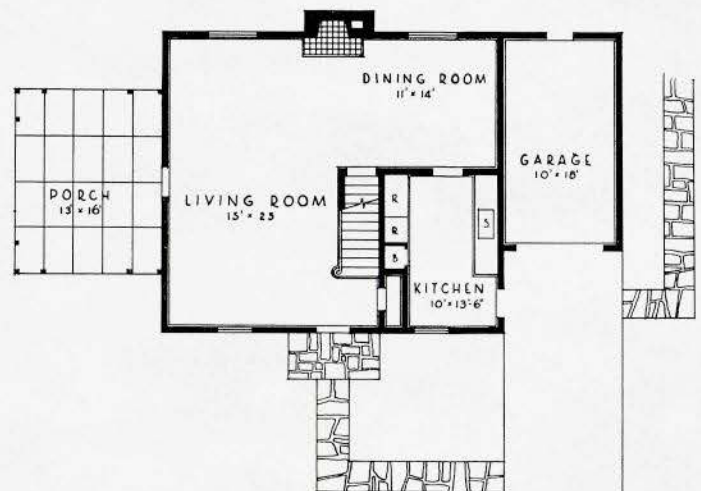


HOUSE OF MR. W. G. ARMSTRONG, OAKVILLE, ONTARIO

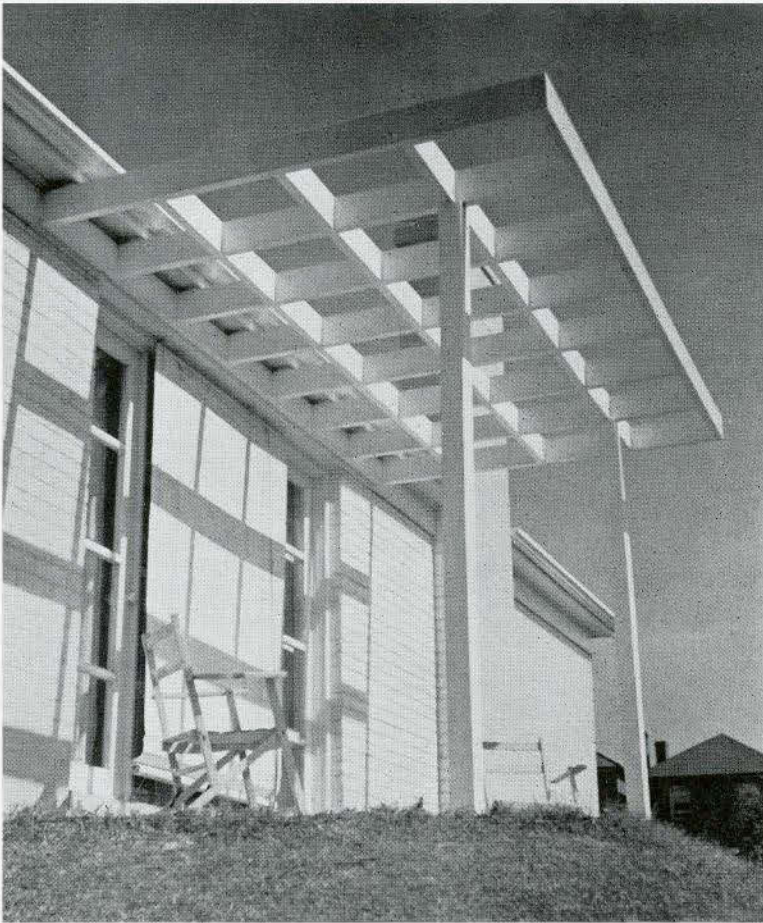
N. A. ARMSTRONG, ARCHITECT



SECOND FLOOR PLAN



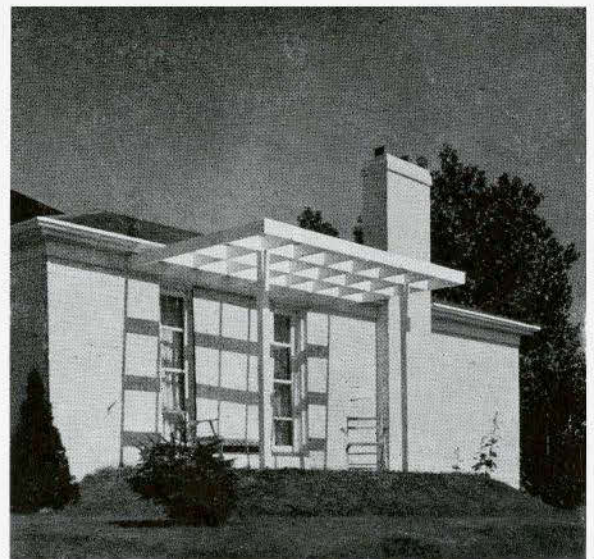
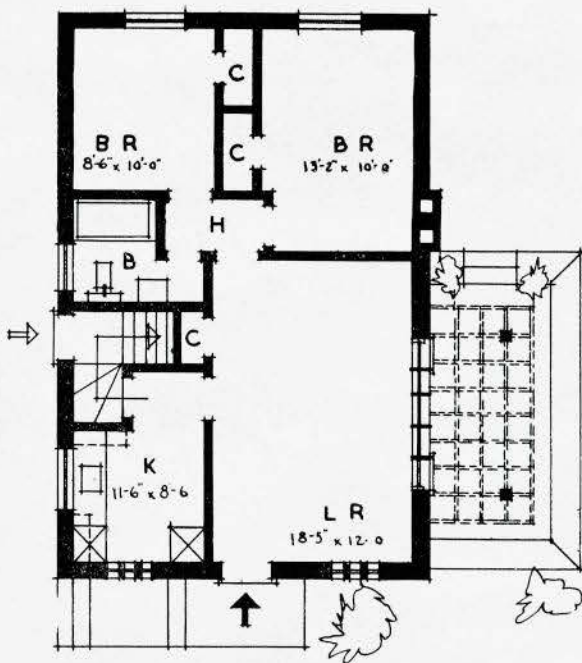
FIRST FLOOR PLAN



H O U S E O F M R . H . G . B O C K

S W A N S E A , O N T A R I O

J O H N B . P A R K I N , A R C H I T E C T

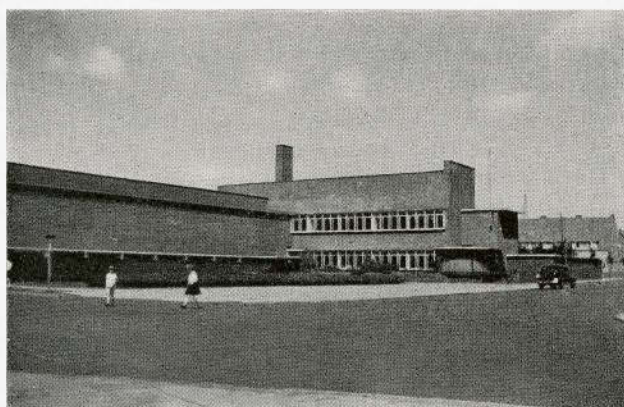




HOUSING AND SCHOOLS

IN HILVERSUM, HOLLAND

BY A. S. MATHERS



PREFABRICATED EXTERIOR WALLS, AIR-SEALED BUILDINGS AND COLOUR TREATMENT

By JAMES A. MURRAY

Mechanically assembled wall of light weight building units and steel studs. Weight of completely finished wall with high insulating value — fifteen pounds per square foot.

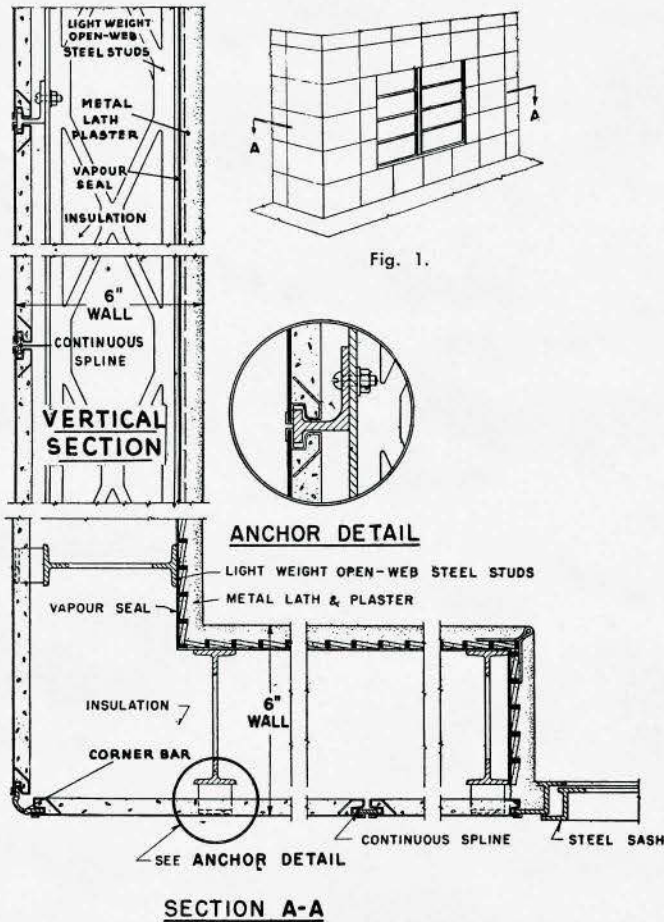


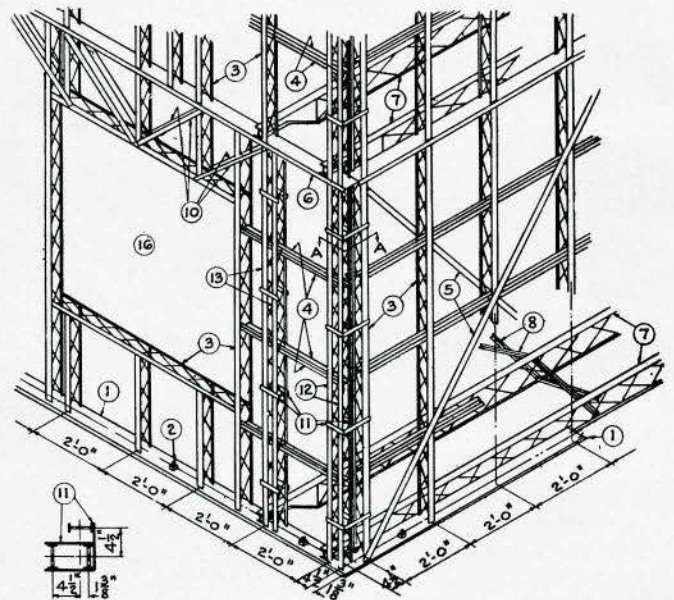
Fig. 2.

Prefabricated Exterior Walls

Mechanical assembly is something new in permanent, fire-resisting exterior wall construction.

Mechanical assembly methods compared with the universally used mortar joint as a method of wall assembly constitutes a departure in building construction which may have far-reaching effect.

To be able to assemble, take apart and re-assemble walls of a building in the same manner as is a motor car opens new opportunities in construction technique. The significance of these opportunities lies, not so much in providing the rather unusual possibility of taking a building apart, but rather in emphasizing two definite advantages — first, increased speed of construction; second, the closing-in of a building irrespective of zero weather conditions without endangering the strength of the completed wall.



TYPICAL CORNER FRAMING

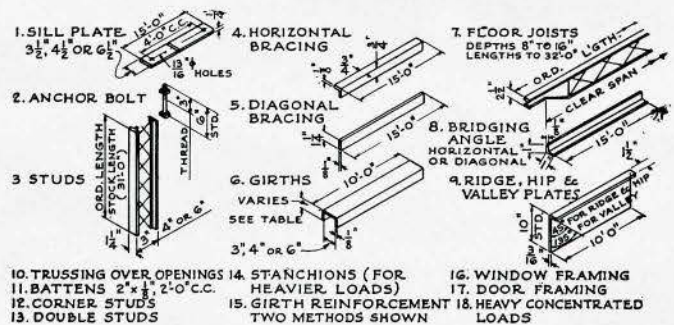


Fig. 3.

These results are achieved in a new integrated building exterior wall unit and construction system manufactured and assembled from glass, steel and concrete.

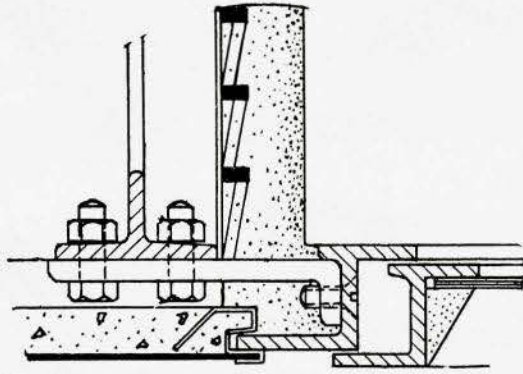
Glass in the form of porcelain enamel is fused into a steel plate at high temperature giving the steel plate colour and full weather protection.

The steel plate forming the face of the building unit is anchored by special edging and welded anchors to a steel mesh reinforcement which combines with a concrete backing to give rigidity of form to the building unit.

The units can be made to any shape and size up to 20 square feet. For ease in erection, however, an area of six to seven square feet is good practice to follow in general design. The thickness of the unit is one-half an inch. (See Fig. 1.)

A unit of this area supported and attached to steel studs at four points will stand a load of 80 pounds to the square foot without appreciable deflection. (See Figs. 1, 2 and 3.)

The wind load is carried by the steel studs to the floor beams or columns of the building. (See Figs. 2 and 3.)



DETAIL SHOWING ATTACHMENT OF WINDOW AND DOOR FRAMES TO STEEL STUD

Fig. 4.



DETAIL OF BACK AND FRONT VERTICAL JOINT OF COPING, ALSO EXPANSION JOINT OF BUILDING UNIT

Fig. 5.

The building units as detailed above form the exterior face of the wall. Plaster on metal lath with an air-seal from the interior face of the wall. Steel studs between give lateral support and the interior space of the wall is fitted with insulating material. (See Fig. 2.)

The wall is airtight to a degree that eliminates condensation sufficiently that the insulation remains dry.

This exterior wall, in fact, duplicates the wall construction of domestic electric refrigerators used in our homes, by the hundreds of thousands, which walls, without exception, give a satisfactory performance as far as insulation and air-tightness are concerned.

Expansion and contraction take place at the jointing between the building facing units without stressing the supports. (See Fig. 5.)

Window and door installations are extremely simple and effective. (See Fig. 4.)

The coping detail is worthy of study. (See Figs. 5, 6, 7 and 8.)

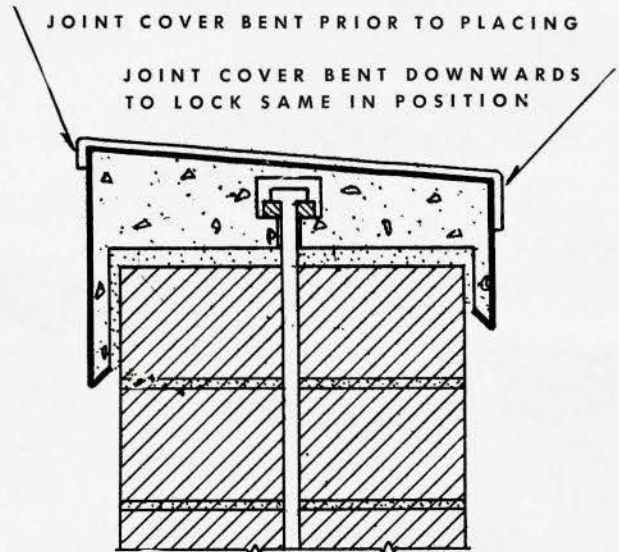
Curves, corners and angles are provided for in simple detail so that any architectural design of building front can be economically built. (See Section AA, Fig. 2.)

Stress analysis can be readily made for every part of this new wall construction to determine the loads carried and factor of safety provided.

For house construction 2" x 4" wooden studs may be used instead of steel studs to reduce costs.

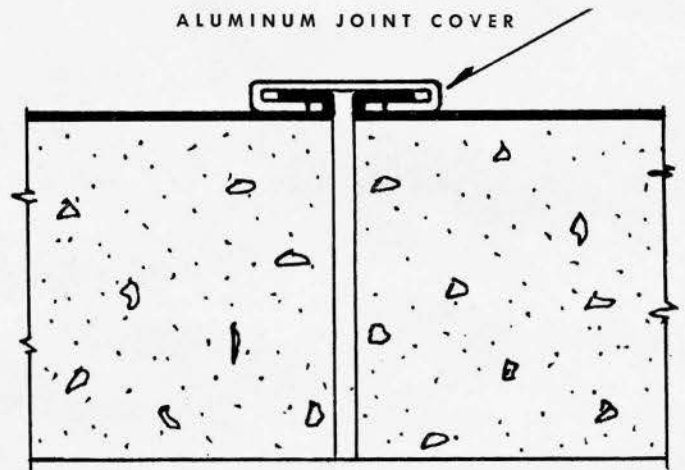
The lightness of the building facing unit and the wall construction will facilitate the placing of the columns carrying the building wall back from the street line, as continuous beams supporting the interior can be economically extended to carry the outer walls in cantilever. Thus columns may be eliminated from the exterior walls giving complete freedom to their architectural treatment.

Structural economy can be obtained by providing symmetrical footings for the outer line of columns compared to the necessity of providing cantilever footings for columns located on the building line.



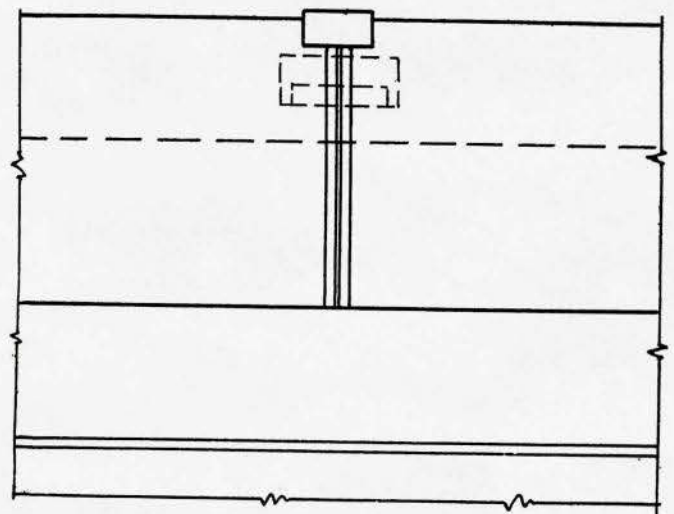
CROSS SECTION THROUGH COPING

Fig. 6.



LONGITUDINAL SECTION THROUGH COPING SHOWING JOINT

Fig. 7.



FRONT ELEVATION OF COPING

Fig. 8.

Air-Sealed Buildings

The importance of an air seal to definitely stop the passage of air is a very important feature not only in the outer and inner wall surfaces but in all parts of a building.

Evidence exists, in any building of recognized present-day construction, that walls breathe, that is, permit the through passage of air carrying with it moisture and dirt.

The porous surfaces on the inside and outside of the walls, as ordinarily constructed, filter this dirt out of the air which permeates the wall, thus making the surface difficult to maintain in a clean condition.

Some people reverence the antique appearance of the dirt-ingrained surfaces, particularly on the exterior of buildings but modern ideas are changing this opinion. The new wall facing building units described herein provide air-sealed surfaces which can be maintained easily and economically. Any dirt deposit is superficial on a non-absorbent surface and can be wiped off with a damp cloth at any time. The new lustre of such a building can therefore be permanently maintained.

The interior decoration on air-sealed construction will remain in good condition probably five times longer than the same decoration on standard construction.

Condensation and re-evaporation cause heat losses and discomfort, which are eliminated in air-sealed construction.

With regard to air-sealed construction at and below ground line, it is known that due to the rise and fall of ground water in the earth, air is drawn into the soil and driven out again.

By this action foul air permeates through the basement or ground floor into a building and creates a condition of foul air, coldness and dampness within the building.

An air-sealed basement or ground floor will justify its cost in heat saving effected and will eliminate this trouble.

A medical report, however, is necessary to reveal the illnesses attributable to dampness, cold, and foul air infiltration in buildings which are not air-sealed. A careful study of this problem is certain to prove enlightening to the general public.

Colour Treatment

We all know, whether consciously or unconsciously, that our actions and innermost reactions are influenced by certain colours. We all react in a similar manner, particularly where colours have been properly combined. We react to those colours which are drab and depressing to us; we react to those colours which are relaxing and we react to those colours that cheer us, refresh us and inspire us.

It can be said that in the interior of buildings full scope has been available to the architect to give excellent results and to afford relaxation or brightness in good taste to the public.

However, in the exterior treatment of buildings the architect has been limited to drabness by the lack of permanence of any attempt at colour in materials available up to the present time.

The development of the wall facing and construction system in porcelain enamel, stainless steel, etc., now makes it possible for the architect to employ any colour or combination of colours in a completely permanent treatment for the exterior of buildings.

A field for design in buildings of all kinds is now open to architects to produce sleek, highly finished, clean lined structures which will give impressive results at economical cost combined with permanence and low maintenance.



LETTER from F/O John P. A. Cupiss, now stationed at Dawson Creek, B.C.

"Really enjoy receiving the R.A.I.C. Journal. Am at present trying to refresh myself by following a reading course on Town Planning and Interior Decoration provided by the Canadian Legion. Being near a small town such as Dawson Creek which has really gone through a 'Boom' one appreciates more than ever the necessity of the Government—either Provincial or Federal—providing properly trained personnel to guide these places in Town Planning.

"This village is in a valley, and to the North is a hillside which should have created the Class A residential district—however. Realtors created a sub-division—no thought of contours and controls—result 'shack town'. A quarter mile away is a saw-mill. The town or village Commission are trying to restore order from chaos, but their's is a tough job. During the boom, when the Americans moved in, the village lost its golf course, tennis courts, curling rink, and what have you.

"A beautiful 'eyesore' is the NAR station, which like 'Topsy', 'just grewed'—and grewed—that was OK then; but now, with victory in sight the railway is proceeding to put a partial basement under it to provide heating space. Why, oh, why, do the railways not consider the village or town and rebuild with a decent—not necessarily costly—building. In travels through the 'States' I've seen some very good examples of these small stations properly and attractively designed. I believe it would certainly warrant an article in *The Journal*. Why not have each

Province submit a report with possible solutions and designs of new stations—also pictures of existing interiors and exteriors—also outline the amount of funds required to carry out such a replacement over a period of five or ten years with estimated employment direct and indirect.

"Will be looking for such a report in the *Journal*—in the, shall we say, September issue?"

COLOMBO CATHEDRAL COMPETITION

The Colombo New Cathedral Committee, in association with the Standing Committee of the Diocesan Council of the Church of Ceylon, invites architects who are qualified Members of the Royal Institute of British Architects or Allied Bodies to submit in competition designs for the proposed Cathedral of The Holy Cross, together with Bishop's House, Divinity School, Diocesan Hall and Offices, in Colombo, on a site adjoining Buller's Road in that city. The competition will be organized by the Royal Society of Arts, London, on behalf of the Colombo New Cathedral Committee.

Premiums: £500, £200 and £100.

Last day for submitting designs: 31st December, 1946.

Last day for questions: 28th February, 1946.

Assessor: Sir Giles Gilbert Scott, O.M., R.A., 3, Field Court, Gray's Inn, London, W.C.1.

Conditions of Competition may be obtained on application to The Secretary, The Royal Society of Arts, 6, John Adam Street, Adelphi, London, W.C.2. Deposit £1.

THE PROVINCIAL PAGE

ALBERTA

There is a school of town planning that advocates more urbanity in town residences. In effect this means rows of attached buildings or terraces. There may very well be districts in large cities where this is to be preferred. The idea is based on the "regency" schemes in Britain and on similar continental work. There are many existing examples of this sort of work which, from an architectural point of view, are very fine. Architects are therefore naturally strongly influenced by the idea. But there are elements in our social structure and modern aspirations which pull strongly in a different way. These fine terraces assume large scale residential building of a fairly uniform character and they may become tiresome without the fine open squares with which they were usually associated. The intense individualism of our present society is averse from this.

There is also a persistent hankering after the introduction of natural surroundings, which attaches people to the system by which each one builds whatsoever shape of house he will, with set backs from the front street and from side and rear boundaries. So strong is this sentiment that in many towns there are no terrace houses and some, by their bylaws, even prohibit them. From an architectural point of view this may seem to create a hopeless situation. But from a landscape point of view it is far from hopeless. The separate individual house becomes practically hidden from the broad general view by the bushes and trees around the houses, and when, farther, the street is boulevarded with strips of grass planted with lines of trees on each side the effect, though rather rural than urban is pleasant and liveable. This arrangement may be accused of being extremely uneconomical of ground. The answer to that accusation is that the creation of agreeable circumstances of living outweighs the financial consideration. In plain words that it is well worth the cost.

The desire to retain natural surroundings is deeply based in human nature. It is worth considering how far it may be carried with advantage assuming that the resulting benefit is worth the cost in area given to it. We have had impressive advocacies of more light and more fresh air. Why not for more of growing nature?

There are problems of unsightliness that can be solved by relaxing somewhat our pinch-ground policies. One of the most obvious of these is that of school playgrounds. These are much too often of the most dreary and objectionable appearance. Much has been done in introducing a wholesome cheerfulness into the school buildings themselves but, on the whole, the playground has been neglected. It seems peculiarly deplorable that the immediate environment of the youth of our country during a large part of their time is so desolate of beauty. It is true that a small area close to the school building is sometimes carefully tended but this is quite insufficient to give a pleasant air to the whole place. A farther planting of a protected belt of about twenty-five feet in width around the whole of the school grounds would go a long way to redeeming the situation. This, of course, would involve a large area of ground. But what really is the use for ground? Would it not be well worth the cost?

The same argument applies in many cases to public car parking places. Given some generosity in the matter of area these could be made pleasant places to those whose desire for beauty will not suffer the exclusion from green growing things. These people are many and their instinct is a healthy one. Does not the future hold some hope for the satisfaction of their desires? We may speak of the great cost of such a method of planning. This is a somewhat artificial financial matter that would have great compensations in healthy living and, after all, "there is no wealth but life."

Related to the question of making a setting for playing places and of car parkings is the question of surfacing these spaces. Grass is sometimes attempted in children's playgrounds and nothing could be better if the grass would grow there, but in school playgrounds it inevitably gets tramped out over most of the area and neglected in the odd corners presenting a more woeful appearance than if it had never been tried. Gravel seems to be the next resort with bad results to knees and clothes and a nuisance from dust. Asphalt besides being expensive, has too hard a surface. Is there no satisfactory treatment of shale that would give satisfaction in all respects including that of colour? The problem has probably been solved in regard to tennis courts, but these are of small area. A solution is required that will apply to the greater area of playgrounds.

Cecil S. Burgess

ONTARIO

For a number of years the spirit of contemporary design has been gaining ground both in public acceptance and within the ranks of the architectural profession. This fact is quite striking when one compares the architectural magazines of today with those of the early 1930's. The trend is clearly indicated in spite of the severe limitations on private construction during the war.

As might be expected, competitive designs are still two jumps ahead of most executed work. In fact some of the most recent competition winners are so far advanced that in all probability it will take science and industry some time to catch up with them.

With one exception, the Canadian architectural schools accepted the principles of modern design some eight or ten years ago. It would now be difficult to find a really young architect who would willingly sit down and design a Tudor house, or even a Georgian one, if you wanted it.

A great many of these recent graduates are now in the armed services, or bent over drafting boards in that Mecca of Canadian talent which was Ottawa. But the exodus is beginning. We may expect to see the results of this teaching as soon as men and materials are available for peacetime construction. New, "modern" houses will spring up on all sides. How shall we judge them? What makes a modern house "modern" anyway?

Consider the characteristics of contemporary house design:

Walls of Glass?

A house can lay no claim to modernity on this count alone. A glance through Banister Fletcher reminds us that the Elizabethan "long gallery" can still compete on equal

terms with any modern building when it comes down to a question of sheer glass area.

The Free Plan?

What could possibly be freer than the Great Hall of the medieval manor house? When one room serves for the sleeping, living, eating and cooking of the family, guests and servants, the canon of "flexible space" must surely be satisfied.

Prefabrication?

People who labour under the misapprehension that this is a new idea obviously are not Bible students. Solomon's Temple was prefabricated!

"And the house, when it was in building, was built of stone *made ready before it was brought thither*: so that there was neither hammer nor axe nor any tool of iron heard in the house, while it was in building."—I Kings, 6, 7.

Houses set up on Posts?

This is the most ancient dodge of all. In prehistoric times "lake dwellings" were common in many parts of Europe. In Austria, Hungary, and notably Switzerland, whole villages were built upon huge platforms set on piles driven into the lake bottoms. By the sixteenth century the Irish had caught onto the idea. It is standard practice today in the lakes and swamps of Sumatra.

Radiant Heating?

Certainly not a twentieth-century invention. The Romans used radiant heating in both walls and floors of their great public baths.

The "Solar House"?

Ah, the solar house. Surely this is something new. But let us see what Socrates said about house design.

Socrates claimed that houses should be built for both utility and beauty. His listeners agreed that it was pleasant to have a house cool in summer and warm in winter. He then expounded his ideas on domestic architecture in the following terms:

"Now, in houses with a south aspect, the sun's rays penetrate into the porticoes in winter, but in summer the path of the sun is right over our heads and above the roof so that there is shade. If, then, this is the best arrangement, we should build the south side loftier, to get the winter sun, and the north side lower, to keep out the cold winds. In short, the house in which the dweller can find a pleasant retreat at all seasons, and store his belongings safely, is presumably at once the pleasantest and the most beautiful."—*Memorabilia of Xenophon*, Quoted in Professor Ludwig Hilberseimer's recent book "The New City".

So even the solar house is not quite the radical innovation we had supposed it to be.

But *something* must distinguish the truly modern house from its predecessors! Have we made no progress at all? Yes, indeed, for the house of today does possess certain notable features, exclusively its own. No other age managed to produce the electric clocks, vacuum cleaners, oil-burners, washing machines, refrigerators and gas-fired egg-timers that help to make life so complicated.

Mechanical gadgets must be the hallmark of modern design, for these are the only elements in the contemporary house that we cannot find in some form in some other period of history.

Inevitable Conclusion:

General Electric and the Consumers' Gas Company are the fathers of modern architecture.

Kent Barker.

GENERAL MOTORS COMPETITION AWARDS

A major award of \$5,000 and an honourable mention with a prize of \$250 were won by Canadians in the General Motors design competition for dealer establishments conducted for General Motors by the Architectural Forum magazine. Total prizes amounted to \$55,000.

J. B. Langley, Ottawa, was awarded the major prize of \$5,000 for his submission of a design for establishment dealing in commercial vehicles exclusively. Honourable mention and a prize of \$250 was given E. C. Valee, Montreal, also for an establishment dealing exclusively in commercial vehicles.

The five top prize winners, of \$5,000 each, and the type of dealer establishment in which their winning submissions fell, are: Robert T. Coolidge and D. C. Byrd, Cambridge, Mass., passenger car exclusively, large size; Read Weber, Jay S. Unger, Taina Waisman, Sidney L. Katz and Victor Elmaleh, New York City, a group entry, passenger car and commercial, medium size; L. B. Hockaday and T. J. Prichard, Cambridge, Mass., passenger car and commercial, average size; J. B. Langley, Ottawa, Ont., commercial exclusively; Gordon J. Carr, New York City, design detail, structural and decorative. The last named classification is additional to the four planning projects in the competition.

The contest was sponsored by General Motors to aid automotive dealers in obtaining new ideas for inclusion in post-war building plans. The winning submissions will be made available to dealers to help them in expressing their functional needs to architects, contractors and builders and also to provide the building industry with plans and ideas for more serviceable and attractive dealer establishments.

The submissions were judged at Yale University by Timothy L. Pflueger, San Francisco Architect, who acted as chairman of the judging committee; Alfred G. Shaw, Chicago; Richard M. Bennet, Yale University; Dean William W. Wurster, Massachusetts Institute of Technology; Robert W. Dowling, New York; Hugh Potter, Houston, Texas; and Wallace K. Harrison, New York.

☆ ☆ ☆

Lieutenant J. B. Langley is at present with the Department of Naval Services, Ottawa. He is a graduate of the School of Architecture, University of Toronto, and while there won the Toronto Brick Company's First Prize, the Darling and Pearson Prize, and the Architectural Guild Gold Medal. In the fall of 1940, he won the Langley Scholarship, which he used in the study of organization in large architectural offices in the United States. Since graduation, he has won several prizes in connexion with small house building. We offer him our heartiest congratulations on his latest achievement.

Editor.

THE NEW SECRETARY OF THE R. I. B. A.

Took an active part in the operations which resulted in the passing of the Architects' Registration Acts of 1931 and 1938; responsible under direction of Premises Committee, under the chairmanship of the late Maurice Webb, for organizing the competition for the R. I. B. A. new building and acted as Secretary of the Premises Committee during building operations; largely responsible for organizing the move from Conduit Street to Portland Place, the opening of the new building there



CYRIL DOUGLAS SPRAGG

by King George V and Queen Mary in 1934 and for the R.I.B.A. Centenary Conference which followed. These are a few of the things done by Mr. Cyril Douglas Spragg while closely associated with Sir Ian MacAlister in all the outstanding events and developments of the R.I.B.A. in the last twenty years—the growth of membership, the growth of allied societies, and the development of the Institute from being virtually a select London Club to becoming the central organization of architects in the whole of the British Commonwealth of Nations, including in its membership and that of its forty-eight allied societies in Great Britain and the Dominions and Colonies almost all qualified architects of standing.

Born at Newbury, Berkshire, in 1894, and educated at Christ's Hospital, Mr. Spragg entered the service of the R.I.B.A. in 1913. The following year he enlisted in the Queen's Westminster Rifles, and served in France, Salonica and Palestine. Demobilized in 1919, he returned to the R.I.B.A. and in 1926 was appointed Assistant Secretary in succession to Mr. H. Godfrey Evans, who became Assistant Secretary of the Chartered Surveyors' Institution. From September, 1939 to 1943, Mr. Spragg acted as Secretary of the Board of Architectural Education in the absence of M. Everard Haynes on military service, was appointed Acting Secretary of the R.I.B.A. on the retirement of Sir Ian MacAlister at the end of 1943, and Secretary on March 13 of this year. His work as joint secretary or R.I.B.A. representative on tribunals and committees has given him close contact with Government Departments, and other sections of the building industry. A bachelor, an original member of LDV and Platoon Commander in the Home Guard, he lives at Ashford, Middlesex.

THE RESTORATION OF SOVIET MEMORIALS TO CULTURE

By V. Yermilov

(The following interesting account of Reconstruction in Russia has been supplied to the *Journal* by the Embassy of the U.S.S.R. at Ottawa. A few minor amplifications of the text have been made to clarify what was originally in telegraphic form. *Raymond Card.*)

Increasing attention is being paid by people prominent in Soviet science and art to the problems of the restoration of famous buildings and works destroyed or damaged by the German vandals.

A very sound beginning has been made in this field in the ancient city of Novgorod, world-famous for its fine architecture. The cathedral of Saint Sophia, which existed for nine hundred years, was built by Peter Mironek, a native of Novgorod, and an architect of unusual and original talent. Other famous buildings here were the cathedrals of Saint Anthony's Monastery, Saint George and Nikolodvouische.

Many of the most beautiful works of old Russian art were done away with by the Fascist vandals. The vaulting in some Novgorod churches was decorated with frescoes which were in an excellent state of preservation. These, Germans reduced to heaps of rubble, and priceless works of art were irrevocably lost to the world.

With a view to restoring and preserving the memory of these things, all possible information, plans, elevations and photographs are being assembled and detailed descriptions are being compiled.

Following the decision of the government, work will begin this year on an enormous scale for the restoration of the Novgorod Kremlin. A planning and restoration workshop is being organized and a school with a three years' course of training for craftsmen-restorers. Architects, artists, archaeologists, historians, engineers and scholars engaged in researches on art have been drawn into this work. At the same time, archaeological excavations will be made in the grounds of the Novgorod Kremlin. The cathedral of Saint Sophia, the pride and glory of Russian architecture, will be restored in the first place.

Ruined cities are not only to be rebuilt, but are to be restored to new life. Stalingrad will arise in greater splendour. Competitions for designs for a central square and monument to Stalingrad's heroic defenders have just closed.

They were organized by the Committee for Architectural Affairs and by the Soviet Architects' Union. More than 60 designs and drawings were submitted by architects in Moscow, Stalingrad, Sverdlovsk and Evan, capitol of Soviet Armenia, and Baku, capitol of Soviet Azerbaijan. All cities and peoples of the multi-national Soviet Union want to see it restored as soon as possible—restored and beautiful, a mighty shining stronghold on the Volga.

In the prize-winning designs a fine architectural ensemble of a central square with a monument to the city's defenders includes the river as part of the composition. Wide spaces, light and yet impressive monumental buildings, form a whole that is at once graceful and monumental: qualities that have always distinguished Russian national architecture.



Sectional Steel NESTING BARGES

Another NEW Product by
HAMILTON BRIDGE
for the United Nations

In addition to Engineering, Fabrication, and Erection of structural steel, Hamilton Bridge was called upon to use their skill and facilities for the production of Armoured Vehicle Hulls. To these varied operations has now been added quantity production of Sectional Steel Nesting Barges. An illustrated leaflet is available on request.

Hamilton Bridge will devote their increased resources to further developing Canadian economy by adding to the variety of Canadian manufactured products.



1. Assembled Barge in Plant

2. Complete Barge Nested on Freight Car

3. Barge Being Assembled

4. Barge Afloat—Hatch Covers Removed

5. Under way

Designed by Hans. H. Doe
Outboard Motors manufactured by
Sherbrooke Machineries Limited

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