

JOURNAL

ROYAL ARCHITECTURAL
INSTITUTE OF CANADA

VOL. 22 TORONTO, MARCH 1945 NO. 3



Mr. ~~Private~~ Jones will come back to coolness!

WHEN Private Jones becomes Mr. Jones again, he will look back on the heat and discomfort of this war as a nightmare long past. For refrigeration and its allied industry, air-conditioning, will be providing him with greater cooling comfort than was dreamed of before the war.

In the home, the apartment block, the office building, the retail store, in the processing and storage of prepared goods—and in many other industrial fields—Mr. Jones will benefit directly from new services which refrigeration and air-conditioning will provide. He may not always be aware of other new fields in which

refrigeration and air-conditioning will be serving but they will be influencing the life of "Mr. Jones" just the same.

Cimco-York engineers are already equipped with new experiences and new refrigeration and air-conditioning equipment to meet these post-war needs. We are proud of the job we are doing in serving the war effort in new, unheard-of ways. You may be sure that it all adds up to one thing—our new ability and desire to serve in the post-war refrigeration and air-conditioning field, and to co-operate fully in advising you on any post-war planning you may undertake.



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JOURNAL

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

Serial No. 235

TORONTO, MARCH, 1945

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“AS the realization grows that schools are intended to provide for the needs of children, rather than the self esteem of the local municipality, and that the desirable aim is to develop the inherent capacities of the children, rather than to crush them into an institutional mould, so the days of the columned portico and monumental massing are slowly receding before the light airy structures of tomorrow. The key notes are open planning and loose grouping of buildings, the buildings themselves being “light” both structurally and in appearance, and designed with a view to facilitating later extensions and internal re-arrangement. The maximum use of daylighting on scientific principles is of the first importance. Larger sites are required, giving greater freedom of planning and increased recreational opportunities.”

THESE are the words of the editor of *Design and Construction*, but the buildings described express the aims of all leading educators in Britain today.

IN Canada we have a different problem of climate and a somewhat different system of education, but it is more than likely that the Departments of Education in many provinces would share the views expressed above. The Province of Ontario has a committee on the Planning, Construction and Equipment of Schools, and on it are twelve architects, engineers and others connected with the building industry whose problem it is to find an answer to the needs of education in the post-war school. Needless to say, they have already found out-moded regulations and conditions in the best of existing schools that require an immediate solution. The difference in light on the outer row of desks to that of the inner row may be greater than 10 to 1. Twenty per cent. of the children may have difficulty, or complete inability to read the writing on the blackboard in spite of the architects' care to tilt the blackboard one way in one room or the reverse way in another. In fact it would seem without further research that a good readable blackboard is merely a happy accident either in Canada or the United States.

WE are aware that too many schools, even in rural areas in Canada, have been built as a monument to the School Board or the architect—in keeping doubtless with the Regulations, but without an intelligent anticipation of future or even existing, trends in education. The editor of *Design and Construction* refers to “the most of dreary Ruskinian seminaries of the last century which are a familiar sight in every town and village; buildings which are flagrantly obsolete yet structurally sound and weathertight”. We have such schools though we have never thought to call them Ruskinian, but if that is the strongest term of reproach that can be applied in England, we subscribe to it. We have called them “fortresses” and “work houses” and, while that is the impression of the spectator, how much worse must it be on the child. Many of our older schools are firetraps that passed an earlier code, if one existed at all, and many are neither waterproof nor structurally sound. The subject is one that is obviously too large for this page, but we would welcome information from architects in Canada on this very pressing problem of the post-war school.

Editor.

THE THIRTY-EIGHTH ANNUAL MEETING OF THE ROYAL ARCHITECTURAL INSTITUTE OF CANADA

THE inaugural session of the Thirty-eighth Annual Meeting of the Royal Architectural Institute of Canada, held in the Ontario College of Pharmacy, Toronto, on Friday, February 23rd, 1945, at 2.00 p.m. Mr. Forsey Page, President, in the Chair.

REPORT OF THE COUNCIL

It is my pleasure and privilege to extend to you, on behalf of your Council, a most cordial welcome to this the Thirty-eighth Annual Meeting of the Royal Architectural Institute of Canada.

As this Report had to be written several weeks in advance of the actual date of this meeting in order to permit of publication, it is entirely within the realm of possibility that the war situation may have changed greatly in the interval. The cumulative effect of the war on the Building Industry however, is subject to no such dramatic change; it is the result of five years of restrictions and controls with an inevitable potential boom unless various levels of government exercise wise restraint in their respective building programmes and refrain from flooding the market with large public works projects that will be bound to interfere with the orderly progress of private enterprise.

As the second largest employer of labour, it is of vital importance to Canadian economy that the Building Industry should be maintained on a large-volume basis, supplemented at intervals, whenever there is indication of slowing-down by private enterprise, by judicious injections of public works projects.

The depression years of the 1930's together with five years wartime restrictions, have combined to produce a housing shortage that must be overcome in the immediate post war years. Not only is there an actual shortage of houses but there are thousands of existing homes in need of substantial repair and renovation. Only 14% of rural homes are equipped with furnaces, 7% with baths and but 20% with electricity. Although these conditions have been accruing for years, the war has accentuated them and has focused the spotlight on them.

However, there is every indication that the success of the Allied cause cannot much longer be deferred; there is every hope that before another Council Report is written many of our confreres will be with us again. I would ask you to stand during the reading of the names of those who will not return to us and who during the past year have paid the supreme sacrifice.

MEMBERS SERVING WITH THE FORCES

KILLED

Cowan, David L., Lieut., R.C.E., Overseas.

MISSING, PRESUMED DEAD

Willis, John A., Capt., Essex Scottish Regiment.

PRISONER OF WAR

Catto, D. E., Lieut.-Colonel, R.R.C.

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 Freeze, D. A., Pilot Officer, R.C.A.F.
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 MacDonald, F. H., Flying Officer, R.C.A.F.
 MacDonald, Lloyd George, Capt., 10th Field Squadron, Italy.
 Matheson, A., Flight Lieut.
 McKernan, Neil C., Sub-Lieut.
 Stevenson, John, Lieut., R.C.E., Overseas.
 Wynn, G. K., Flying Officer, R.C.A.F.

British Columbia

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 Moody, H. H. G., Major, R.C.E.
 Ritchie, Gordon, Wing Commander, R.C.A.F.
 Semmens, H. N., Capt., Winnipeg Grenadiers.
 Rogerson, E. W., Flight Lieut., R.C.A.F.

Ontario

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 Barker, R. J. K., Lieut., R.C.N.V.R. Naval Service Hq., Ottawa.
 Bazeley, Gordon, Flight Lieut., No. 4 Training Command, R.C.A.F.
 Belcourt, Victor P., Lieut., R.C.N.V.R. Naval Service Hq., Ottawa.
 Bell, John T., Major, R.H.L.I., Overseas.
 Black, H. K., Lieut., R.C.N.V.R., H.M.C.S. "Stadacona", c/o Fleet Mail Office, Halifax
 Bolton, Richard E., Lieut-Commander, R.C.N.V.R., Naval Service Hq., Ottawa.
 Brennan, J. F., Major, R.C.A., Ottawa.
 Carroll, Cyril J., Flight Lieut., Western Air Command, R.C.A.F.
 Catto, Ronald W., Lieut.-Colonel, Veterans' Guard Hq., Ottawa.
 Collins, J. H. A., Capt., R.C.E.
 Connor, J. V., Major, R.C.E. Training Centre, Chiliwack, B.C.
 Cupiss, J. P., Flying Officer, R.C.A.F., Neepawa, Manitoba.
 Davison, A. W., Squadron Leader, R.C.A.F. Hq., Overseas.
 Devitt, H. E., Lieut., R.C.E., Overseas.
 Edwardes-Evans, J., Capt., B.E.F., Overseas.

Etherington, F. C., Flying Officer, R.C.A.F., Eastern Air Command.
 Fairfield, Robt. C., Cadet, Royal Navy.
 Fisher, Richard A., Major, Fire Prevention Offices, Hq.
 Fleury, W. E., Major, R.C.E., Overseas.
 Gallaher, Logan V., Lieut., R.C.E.
 Haldenby, E. W., Brigadier, O.C. 9th Infantry Brigade.
 Hughes, H. G., Lieut., R.C.E., Overseas.
 Irwin, N. L., Flying Officer, R.C.A.F.
 Langley, J. B., Lieut., R.C.N.V.R., Naval Service Hq., Ottawa.
 Long, Harle B., Squadron Leader, Western Air Command Hq., R.C.A.F.
 Madill, H. H., Lieut.-Colonel, C.O.T.C., University of Toronto.
 Marani, F. H., Group Capt., R.C.A.F., No. 1 Air Training Command.
 Mathias, F. D., Lieut., R.C.A.
 Maxwell, H. Stirling, Lieut., R.C.N.V.R.
 McLaughlin, H. M., Capt., R.C.E.
 Moorhouse, W. N., D.S.O., E.D., Lieut.-Colonel, R.C.O.C.
 Morgan, H. D. L., Lieut., R.C.N.V.R., Naval Service Hq., Ottawa.
 Pokorny, G. K., Lieut., R.C.A., Overseas.
 Prack, Alvin R, Flying Officer R.C.A.F.
 Pritchard, Gordon B., Flight Lieut., R.C.A.F.
 Ramsay, W. A., Lieut.-Commander, R.C.N.V.R., Naval Service Hq., Ottawa.
 Rieder, A. C., Flight-Lieut., R.C.A.F., Eastern Air Command, Halifax.
 Roper, John B., Commander, R.C.N.V.R., Naval Service Hq., Ottawa.
 Ross, J. K., Capt., D.M.I., N.D.H.Q., Ottawa.
 Schoales, R. D., Capt., No. 2 Light Field Ambulance, R.C.A.M.C., Overseas.
 Scream, Gordon S., Wing Commander, R.C.A.F. Hq., No. 1 Air Command, Trenton.
 Shore, L. E., Major, R.C.E., Central Ordnance Depot.
 Simpson, D. C., Lieut., R.C.N.V.R.
 Sinclair, S. K., Wing Commander, R.C.A.F. Hq., Eastern Air Command, Halifax.
 Smith, J. E. Assheton, Lieut., 15th Field Regiment, Overseas.
 Sugarman, J. B., Lieut., R.C.E.
 Taylor, A. H., Lieut., R.C.N.V.R.
 Templeton, F. O., Lieut., R.C.E.
 Waters, Mackenzie, M.C., V.D., Colonel O.C., 3rd Anti-Tank Regiment, R.C.A.
 Wilkes, F. H., Lieut.-Colonel, Assistant Adjutant General, Pacific Command.
 Wilson, J. D., Capt., 2nd Divisional Signals, R.C.C.S., Overseas.
 Workman, W. H., Flight Lieut., No. 17 E. D., Ottawa.

Quebec

Amos, P. C., Lieut. Commander, R.C.N.V.R.
 Bastien, J. Paul, Major, R.C.O.C.
 Belcourt, Victor P., Lieut., R.C.N.V.R.
 Bolton, Richard E., Lieut. Commander, R.C.N.V.R.
 Cox, E. C., Squadron Leader, R.C.A.F.
 Daoust, Emile, Capt. R.C.E.
 Devitt, Harold E., Lieut., R.C.A.
 Dupere, Roland, Lieut., R.C.A.
 Durnford, A. T. G., Lieut. Commander, R.C.N.V.R.
 Eliasoph, Milton, Lieut., R.C.E.
 Fellowes, N. A., Major, R.H.R.

Freedlander, Philip, Lieut., R.C.E.
 Hawkins, Stuart S., Capt., R.C.E.
 Hughes, H. Gordon, Lieut., O.T.C., E.C.
 Lambert, Paul, Major.
 Long, Harle B., Flying Officer.
 Louis, Max A., 2nd Lieut.
 Mainguy, Maurice, Lieut., R.C.E.
 Martineau, Raymond, Lieut., R.C.E.
 Masson, Gerard, Lieut., R.C.E.
 Mathias, F. D., Lieut., R.C.A.
 Maxwell, H. Stirling, Lieut. Commander, R.C.N.V.R.
 Monette, Ant., Capt.
 Morin, Jacques, Flight Lieut.
 Nobbs, Francis J., Capt., Royal Hussars.
 Peck, George W., Lieut., R.C.N.V.R.
 Roper, John B., Lieut., R.C.N.V.R.
 Ross, John K., Lieut., R.H.R.
 Tourville, R. R., Major, R.C.E.
 Tremblay, E. W., Capt., R.C.A.
 Venne, Gerard, R.S.M.
 Verreault, Louis, Sergeant, R.C.A.F.
 Woolven, James, Lieut., R.C.N.V.R.

Saskatchewan

Black, H. K., Sub-Lieut., Dept. National Defence, Naval Service, Halifax, N.S.
 Martin, F. J., Flight Lieut., R.C.A.F., Newfoundland.
 Stock, Dan H., Second Lieut., R.C.E., Overseas.

It is with the deepest regret that we record the loss through death of seventeen of our members during the past year and I would again ask you to stand during the reading of their names.

H. Henry Bradfield, Toronto, Ontario.
 J. W. Caron, Longueuil, Quebec.
 W. A. Charlton, Toronto, Ontario.
 Alcide Chausse, F.R.A.I.C., Honorary Fellow and Honorary Secretary Emeritus of the R.A.I.C., of Montreal, Quebec.
 John Evans, Galt, Ontario.
 George Fordyce, Calgary, Alberta.
 Peter Henderson, Montreal, Quebec.
 E. A. Leigh, Owen Sound, Ontario.
 Robert B. McGiffin, Lieut.-Colonel, Toronto, Ontario.
 A. E. Nicholson, St. Catharines, Ontario.
 F. Stewart Porte, Toronto, Ontario.
 Walter H. Ratcliffe, Kingston, Ontario.
 Francis B. Reilly, F.R.A.I.C. and Past President of the Saskatchewan Association of Architects, of Regina, Sask.
 Morgan M. Renner, Jordan Station, Ontario.
 Hugh A. Richards, F.R.A.I.C., Ottawa, Ontario.
 Thomas H. Wiley, St. Catharines, Ontario.
 Professor C. H. C. Wright, F.R.A.I.C., Toronto, Ontario.

The passing of these members, who have been active in our Institute, is a very serious loss to the architectural profession and a very personal one to their many friends.

During the period covered by this Report, your Executive has energetically opposed the inclusion of architects in the provisions of Compulsory Bargaining Legislation under P.C. 1003 and in co-operation with the Engineering Institute of Canada and other technical and professional groups has been successful in obtaining exclusion for a limited period. During that interval a proposed Order-in-Council, drawn on parallel

lines to P.C. 1003 has been prepared and submitted to the government. This proposed measure would permit professional personnel to set up their own bargaining agencies. The decision of the government respecting this separate measure is awaited with interest. The thanks of our members are due to Mr. A. J. Hazelgrove for his untiring efforts on their behalf in this important matter.

Our interest in this situation brought to light the fact that no records were available in the R.A.I.C. offices that would indicate the percentage of employed architects in the total membership of the Institute. It was decided, therefore, to prepare a questionnaire, which was sent to all members in Canada. To date some 600 replies have been received, establishing the fact that of 974 architects in Canada, 230, out of 600, are employed. A further classification of employed architects indicates that 131 are employed in some level of government, 96 are employed by corporations and 3 are employed outside the profession. To date the records show that only 25 architects are employed by architects in private practice.

Your Executive was successful in prevailing upon the Department of Soldiers Settlement and Veterans' Land Act to appoint private practising firms in the various provinces to prepare working drawings for the small houses contemplated under this legislation. This is in happy contrast to a previous intention of having such designing done by a government bureau and it should result in more economically and attractively designed houses with those fundamental characteristics associated with various sections of the Dominion.

Our efforts to revive the dormant Town Planning Institute did not meet with that measure of success to which we had all eagerly aspired. After several meetings with charter members of the T.P.I. and after much negotiation, your Institute made definite written proposals calculated to insure its revival but these proved unacceptable. Continued negotiation, however, is proving more encouraging and the matter is being actively pursued. Present indications are that the T.P.I., if revived, will operate as a lay organization, promotional and inspirational rather than technical.

In conformity with the views expressed at the last Annual Meeting and confident that the members of the R.A.I.C. would wish to pay tribute to one who has devoted his life to the interests of the Profession, your Executive offered the Provincial Associations the opportunity to share in a presentation to Sir Ian MacAlister, who retired this past year, after 36 years as Secretary of the R.I.B.A. Honorary Fellowship in the R.A.I.C. was conferred upon Sir Ian and the presentation was made on our behalf by the Rt. Hon. Vincent Massey, Canadian High Commissioner to Great Britain. The ceremony took place in the R.I.B.A. Headquarters, 66 Portland Place, on October 18th. Among the speakers on the occasion were the President, Mr. Percy Thomas, Sir Banister Fletcher, Sir Giles Gilbert Scott, Capt. H. S. Goodhart-Rendal, Mr. L. Sylvester Sullivan, our representative on the Council of the R.I.B.A., and Mr. J. R. McKay, President of the Royal Incorporation of Architects in Scotland.

The years of hard work, the organizing ability, the high purposes and lofty ideals that characterized his long service are not without very special interest to us at this time. When Sir Ian took over the affairs of the R.I.B.A., there were 2,194 members; there are now 9,294. In 1908 there were 17 allied Societies; now there are 21 with 53 branches. In 1908 there was one overseas society; now there are 9 with 25 branches. It was a tremendous work and accomplished largely by the right man in the right place and similar success could be achieved in Canada.

To that end and inspired by Sir Ian's example, your Executive has given much thought to the proposal of establishing per-

manent headquarters of the R.A.I.C. in the National Capitol as contemplated by our Charter and to the selection of a full-time Secretary-Manager. Such a plan envisages substantially increased revenue for the Institute and such additional revenue must of necessity result from the voluntary action of the Provincial Associations. Ample opportunity for adequate discussion of this vital question will be provided during the course of this Annual Meeting.

Your Institute co-operated with 15 other cultural organizations, under the Chairmanship of Mr. Ernest Fosbery, the President of the Royal Canadian Academy, in the preparation and presentation of a Brief to the Advisory Committee of the House of Commons. This Brief urged the setting up of a substantial fund for the establishment of Community Centres and the idea is gaining support in many quarters and is a live topic of discussion in numerous communities.

It was my privilege, as President of the Institute, to make a tour of the Western Provinces this past Fall and I hope sincerely that it may have had some good results and that it may be possible for future Presidents to make similar tours from time to time, both East and West. This first Presidential trip was made with a representative group of the Building Industry, including the President of the Canadian Construction Association, the Vice-President of the Trades and Labour Congress and with representatives of the lumber, steel, brick and tile, cement and electrical interests. Joint meetings with construction and supply personnel and separate meetings with the architects were held, in Port Arthur, Fort William, in Winnipeg, Regina, Calgary, Vancouver, Victoria, Edmonton and Saskatoon. At each City the local architects extended a most cordial welcome to your President, by virtue of his official capacity, and in the Capitol City of each Province the public works programme of the Provincial government was discussed with the Premier and members of the cabinet. No opportunity was lost to impress upon the Premiers the importance of large scale building programmes and it was a matter of genuine satisfaction to me, as I am sure it will be to all of you to know that in several instances private practising architects had been retained for the proposed work. Where that had not already been done, I made the most of the opportunity to encourage the adoption of that policy.

On behalf of the Council I wish to thank President W. J. Abra, of the Ontario Association of Architects, his Council and members, for their co-operation and their delightful hospitality to the R.A.I.C. members on the occasion of this, the Thirty-eighth Annual Meeting in Toronto.

I wish to express my thanks to Mr. Mathers and his Committee on Arrangements for their efforts in planning this Annual Meeting.

We are greatly indebted to the Ontario College of Pharmacy, the Ontario Association of Architects, the Arts and Letters Club, the University Club and the Granite Club for affording us the use of their premises and facilities, all of which contributed to the pleasure and profit of our Annual Meeting.

REPORTS OF STANDING COMMITTEES

ARCHITECTURAL TRAINING

Mr. Murray Brown (F), Chairman of the Committee on Architectural Training, reports as follows:

At the meeting of this Committee held the day prior to the last Annual Meeting, the suggestion of a first year common to both Architectural and Engineering students came in for a great deal of discussion, and was favourably commented on by a number of those present, with the upshot that Professor Leggett was asked to prepare a draft schedule for a first year of University undergraduate study common to both Architectural and Engineering students. This schedule was forwarded to the four

Universities, and the reaction of the Schools was submitted to Professor Legget for consideration. One of these Schools, McGill University, has already put the suggestion into effect. It is felt that anything which will develop co-operation between the Architects and Engineers would be a great advantage.

From this meeting also came the suggestion that a booklet be prepared (somewhat similar to that issued by the Engineering Profession) to guide prospective students who propose to take up the profession of Architecture. This booklet, entitled "The Training of the Architect", has been in preparation for some time by Mr. Hazelgrove and the Chairman. At the forthcoming meeting a draft of this booklet will be submitted for consideration. In this connection, a proposal was also made that the Institute set up a Committee through which students and parents, while the students are still attending High School, could obtain advice regarding the Architectural course, was discussed at some length.

It will be remembered that at the Annual Meeting a small Committee was appointed to bring in a report on the exhibition of students' work, which was submitted to the four Schools for their consideration. This constructive report was well received and should prove of assistance to the Universities in arranging an exhibition which will again take place this year.

ART, SCIENCE AND RESEARCH

Mr. Charles David (F), Chairman of the Committee on Art, Science and Research, reports as follows:

In our report last year, we lamented the scarcity of references submitted to the consideration of this Committee. We hoped for improvement in 1944, especially so in view of the many new materials and devices which are being developed, but our hopes were not realized. The one bright spot in the picture is the matter of Modular Planning in relation to Building Design, to which subject we were attracted by a bulletin issued in the United States.

For centuries buildings have been erected by the assemblage of components which involved cutting and fitting, with resultant high costs and loss of time.

Modular Planning introduces the use of the grid, in the laying out of buildings, and in the development of construction details. It is believed that marked advantages will accrue to the designer in employing this technique, while the use of modular products will bring economies in manufacturing and erection, all of which will benefit the owner.

The Committee is of the opinion that if the profession at large is in sympathy with the application of the modular principle, its development and universal acceptance will give great impetus to the great problems which face the building industry in the post-war years. The success of this matter rests with architects, construction men, and, not least, in the complete co-operation of the makers of building products of all kinds. My Committee appeals to our professional confreres to take an active interest in the advancement of modular standards.

JOINT COMMITTEE, R.A.I.C. AND C.C.A.

Mr. R. S. Morris (F), Chairman of the Joint Committee of the R.A.I.C. and the C.C.A., reports as follows:

I have the honour to report on the activities of this Committee as follows: From time to time during the year this Committee was in touch with the Executive of the C.C.A. and matters of mutual interest were discussed. The C.C.A. was assured of the support of the R.A.I.C. regarding certain recommendations which the former organization made to the Government early in the year. Particular support was given to the recommendation that design expenses should be considered as a current expense in the computation of excess profits taxes.

Our President's trip to the Western Provinces, in company with the President and Secretary of the C.C.A., among others, offered an invaluable opportunity to discuss matters of mutual interest and to lay plans for future co-operation.

DUTY ON PLANS

Mr. Maurice Payette, Chairman of the Committee on Duty on Plans, reports as follows: Few inquiries were received from members of the component Associations, information in these instances was forwarded directly to the individuals.

Construction work carried out from coast to coast, due to war effort, domestic or local needs was not subject to inquiry. Payment of Customs Duty on plans, including technical papers, is collected by authorities especially cautious as to character of drawings and their use in present war-time.

It may be of interest to the membership to recall that actual American Duty on plans sent across the border amounts to 25% of the cost of the production of such plans, whereas Canadian Duty amounts to 22½% on 2½% of the cost of the building to be erected. This matter is being investigated by a Provincial Association and will probably be studied for report during the current year.

EDITORIAL BOARD

Mr. Forsey Page (F), Chairman of the Editorial Board of the *Journal*, reports as follows:

It seems desirable to bring to the notice of the membership at least once a year, in these Reports, that the Editorial Board is composed of at least one representative from each of the Provincial Associations. Normally these members are appointed by the Council on the recommendation of the Board and the only reason for altering that procedure would be the expressed wish of a Provincial Association for the appointment of certain representatives. Any such display of interest is always welcomed.

On the purely physical side the Board has been gratified to see the *Journal* increase in size and it is our sincere belief that it has improved in quality of text and illustrative matter. In so far as we have been able to make it, the *Journal* is the leader of architectural thought in Canada. Often the thoughts expressed are those of the minority but they are views that in general are worth expressing. We appreciate fully that the architects of Canada have wide regional differences in their architectural idiom and that they do not all share the same feelings for modern and traditional architecture and thus we try, in the *Journal*, to maintain a reasonable balance.

During the year under review, the 20th year of publication, approximately 1,317 copies of the *Journal* have been printed monthly, of which some 912 are mailed direct to members of the profession across Canada, some 27 to Fourth and Fifth year students in the Schools of Architecture, about 225 to advertisers and advertising agencies, 85 to paid subscribers outside the profession and the balance are placed at the disposal of the President or made available to the members as extra copies.

The 912 copies which go direct to the architects are the important ones to the advertisers and well they might be for they provide the opportunity for those advertisers to tell their story directly to the men who, in their specifications, control a tremendous volume of purchasing power.

The income of the *Journal* is derived from two sources, the subscriptions of members, which theoretically are paid by the Institute out of membership fees which it receives from Provincial Associations, and from advertising. Actually, during 1943 and 1944 the Institute has not been called upon to make payment of membership subscriptions, that amount having been

off-set against profits. This satisfactory state of affairs means, in reality, that every architect in Canada receives his twelve monthly copies of the *Journal* absolutely free of cost and above and beyond that the Institute receives its share of the profits.

Throughout 1944 the Board has published five Special Numbers, that of March being devoted to Churches, that of June to Town Planning, of August to Hospitals, of November to Schools and of December to the work of Eliel Saarinen. In prospect for 1945 are similar special numbers, that of February will deal with Community Centres and later on in the year, an issue will be devoted to small Houses.

Judging from comments of members, these special numbers have been well received and inquiries are beginning to come in from advertisers as to projected special numbers in which their advertising could be made particularly applicable.

The Board takes this opportunity to express its thanks to the contributors who by their skill, generosity and loyalty made 1944 a successful year, to the Editor for his able and untiring efforts, to the Publisher for his faithful and energetic performance of his important duties and to all its friends and well-wishers for their continued support and interest.

EXHIBITIONS AND AWARDS

Mr. J. Roxburgh Smith (F), Chairman of the Committees on Scholarships and Prizes, Exhibitions and Awards, reports as follows:

At the February meeting of the Executive Committee it was decided to combine these, formerly separate Committees, under one Chairman.

R.A.I.C. Medals were awarded to the following outstanding Graduates of the Schools of Architecture during the year 1944.

Ernest J. Smith, University of Manitoba.

Lieut. C. R. Worsley, University of Toronto.

The presentation of these Medals took place during the course of the November meeting of the Executive Committee, in Toronto. The recipients were introduced by the Chairman, through the medium of biographical sketches and the presentation was completed by President Mr. Forsey Page on behalf of the Institute, with appropriate complimentary ceremonial. This was an opportunity greatly welcomed by the Executive and while the circumstances were fortunate, they were, at the same time, largely fortuitous.

The varying degrees of Professional affiliations after graduation with added geographical realities, have too often contrived in the creation of problems surrounding the presentation of these Medals.

However, a list of alternative suggestions for future ceremonies is now under consideration, in the hope that the changing circumstances will be met in a more definite manner, in accord with the dignity which this Committee feels should accompany the occasion.

The Scholarship Fund continues to grow and an additional investment in War Bonds was made during the year. At the same time, the Fund as a whole, is still far off the mark required, to make the ideal become the greatly to be desired reality!

Committee hopes continue to be entertained that Provincial Associations and the membership at large, will in the near future, give further consideration to this very worthy Professional objective.

In accordance with the adopted wartime policy of the Institute, no Exhibitions of members' work have been held, under its auspices, during the year.

POST WAR PLANNING

Mr. Harold Lawson (F), Chairman of the Committee on Post-War Planning, reports as follows:

During the year, several more Canadian cities have authorized the preparation of Master Plans and the undertaking of some Municipal house cleaning in preparation for post-war developments. It is evident that committees which have made most progress in planning will be better prepared for public works programming. Projects to be situated in areas which have been adequately planned, in the opinion of the Minister, will be eligible for loans according to the National Housing Act, 1944.

We note, with pleasure, the conditions of this Act with respect to financing of private and semi-private enterprises and slum clearance. The sore subject of public housing remains untouched, and has to be tackled without delay. Being a political as well as a social problem, we may deplore, but we must also expect some delay in formulation of government policy, in spite of the great urgency for this and all other kinds of housing.

The housing problem is still acute in all large centres. For example, Montreal is in need of immediate construction of 20,000 dwellings, although over 5,000 were erected during 1944. There is every reason to believe that the shortage will be more and more acute for some time to come—perhaps for several years—whether or not war ends in Europe this year. Private enterprise alone cannot meet this increasing need for a long time. Federal, Provincial and Municipal Governments, together with private interests, must accept the responsibility of relieving a part of this shortage with the assistance of public money in the form of construction grants, loans or rent subsidies.

If the recommendation made two years ago by the R.A.I.C. to Right Honourable Mackenzie King had been accepted and acted upon, we would now have functioning a central authority and organization for formulating policies, and co-ordinating all interests in matters such as this. Under its own Ministry it would be free to give concentrated attention to these extraordinary problems now besetting us. There might then have been time to plan before crisis. Now we will be lucky if there is time to plan before catastrophe.

It is true that there was an announcement in all newspapers on June 21st, 1944, that the Federal Government proposed to establish a reconstruction department within the Department of Munitions and Supply. As there has been no further word from the Government, the public is still uninformed of any steps taken or proposed. At this late date, any action is better than none, but an organization for coping with serious post-war problems of many kinds should have its own Ministry, and not be an off-shoot of an existing department.

PROFESSIONAL PRACTICE AND USAGES

Mr. Gordon McL. Pitts (F), Chairman of the Committee on Professional Practice and Usages, reports as follows:

The activities of this Committee have not developed as fully as the Chairman would have wished. There are several matters fundamental to a proper co-ordination and understanding of the practice of the profession by its members, and more particularly by its novitiates, which should be precised at the earliest possible date.

Some time ago, the undersigned prepared a comparison of the various Provincial Acts, but as yet it has not been possible to present these for consideration and publication by the Committee. In the meantime, the Legal Adviser to the Institute is preparing a more technical review and comparison, and in the circumstances, the Committee is taking no further action until his report is received.

The suggestion that a prize be offered to the students of the Architectural Schools, for the best thesis on the legal status of the profession in the various Provinces, has not so far materialized.

Certain publications of our sister profession have recently contained considerable material as to the relative status and professional scope of the Architect and the Engineer. This has been stimulated by the action instituted by the Province of Quebec Association of Architects against an engineer who designed and specified for the construction of a building while not a member of the said Association. The necessity for such an action is of course a matter of regret, but the Council of the appellant Association felt that it had no alternative but to defend the rights of its membership under the law, and that it was its duty and obligation, in the public interest, to effectively administer its Act. The Association was successful in its action in the Lower Court. A more detailed report on the basis of the action and the Judge's findings will be made at a later date.

In considering the Order-in-Council relative to collective bargaining, it seems to be the consensus of opinion of our members across the country, that as Architects are predominantly a practising professional body, collective bargaining is not so essential to our group as it is to one whose membership is more largely composed of the employee class.

PUBLIC INFORMATION

Mr. J. Roxburgh Smith (F), Honorary Secretary of the R.A.I.C., reports as follows:

In the February, 1944, issue of the *R.I.B.A. Journal* there appeared an article by Major Clough Williams-Ellis, M.C., F.R.I.B.A., on the subject of "Architectural Appreciation" which was subsequently published in the *R.A.I.C. Journal*. Inspired by its import, this Committee has corresponded with the Council for Education in the Appreciation of Physical Environment, with the idea of obtaining further information as to procedure, etc., for Canadian benefit. Through the courtesy of the Hon. Sec., Mr. C. B. Willcocks, a series of pamphlets and other literature, covering the progress of the effort in England, have been received. At the present time a digest of these is in course of preparation and during the coming year, it is hoped that some material, designed to suit our own national needs will be developed, for presentation to the various Canadian Educational Authorities. While the Committee is well aware that the subject of "Appreciation of Physical Environment" is by no means new to many educationists in Canada, it feels that the Architectural aspects should receive some more definite support from the Profession.

In the field of Public Information this looks like a worthwhile opportunity and when the call is made for Articles, Talks to the Teaching Profession, Suitable Lectures, etc., it is hoped that the professional response will be in proportion to the importance of the subject.

NATIONAL CONSTRUCTION COUNCIL

Mr. Burwell R. Coon (F), Representative on the National Construction Council, reports as follows:

Mr. John W. Gooch was elected President in May of last year and under his Chairmanship the Council has been very active. The following Architects are at the present time Members of the Council: Messrs. Forsey Page, A. S. Mathers, Gordon M. West, J. H. Craig and Burwell R. Coon.

The Council endorsed a Brief submitted by the Brick and Tile Manufacturers' Association to the National Selective Service, stressing the need for more men in the brick and tile industry.

The Council started reorganizing the Regional Committees of the Council in Halifax, St. John, Montreal, Toronto, Winnipeg, Regina, Calgary, Edmonton and Vancouver; and the Constituent Organizations of the Council were invited to appoint representatives in these centres.

A memorandum on Housing and Town Planning which was prepared by Mr. Mathers at the request of the Executive Committee is now being considered by the Council.

One of the most important activities of the Council was the tour of the Western Provinces made by the President of the Council accompanied by the Presidents of the R.A.I.C., the C.C.A., and representatives of other important Constituent Bodies. Meetings were held with several Regional Committees and conferences were had with several Premiers in the Western Provinces.

After studying the new Government housing legislation, the Council raised some questions with the Minister of Finance with respect to valuation of houses for loan purposes and the Constituent organizations have been asked to submit to the N.C.C. their opinions of the Housing Act and whether or not they wish the Council to take any action.

The Council gave consideration to the standardization of building materials. The Modular System being promoted by the American Institute of Architects was discussed and the Canadian Engineering Standards Association have been urged to study the possibilities of adopting such a system in Canada. Constituent organizations have been requested to discuss this matter at their Annual Meetings.

Since the Hon. Mr. Howe has been appointed the Minister of Reconstruction, the Council has asked for an appointment to discuss with him the Government's proposed reconstruction programme. The Minister has asked for a list of the N.C.C. Regional Committees as he thought they could be of assistance to his Department in connection with construction matters.

CANADIAN STANDARDS ASSOCIATION

Mr. A. J. Hazelgrove (F), representative on the Main Committee of the Canadian Standards Association, reports as follows:

As your representative on the Main Committee of the above body, I have to report that the first six of a series of building material Standards were issued late in 1944. These covered various kinds of brick and structural clay tile, and a detailed description was published in the December issue of the *R.A.I.C. Journal*.

The usefulness of these documents should need no emphasis. They are official National Standards.

The Institute requested the Canadian Standards Association to consider a standard basis for the co-ordination of dimensions of Building Materials and Equipment. Much progress to this end has been made in the United States. The formation and adoption of similar standards suited to Canadian conditions, will eliminate much of the tribulation arising from the unrelated dimensions of many of the pieces and things which go to make up a building.

COLLEGE OF FELLOWS

Mr. A. J. Hazelgrove (F), Registrar of the College of Fellows, reports as follows:

At the Convocation held in the York Club, Toronto, on January 29th, 1944, the following gentlemen were received into the College of Fellows:

Mr. John Martland.
Mr. R. Schofield Morris.
Mr. D. Jerome Spence.

In the present year, the Executive Committee of the Institute recommended certain members for Fellowship and after a ballot of the Fellows, the following gentlemen received favourable votes. They will be received into the College of Fellows at the forthcoming Convocation.

Mr. Hugh R. Allward.
Mr. Robert E. Bostrom.
Mr. Allan George.
Mr. G. Roper Gouinlock.
Mr. Eugene Larose.

It is with regret that we record the passing of Mr. Alcide Chausse, Mr. Francis B. Reilly, Mr. Hugh A. Richards and Professor C. H. C. Wright. We mourn their deaths and honour their memory.

COUNCIL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

Mr. Gordon McL. Pitts (F), Representative on the R.I.B.A. Council, reports as follows:

It is with much pleasure that we report the continued activities of the R.I.B.A. in its many lines of endeavour in the public welfare and in the interest of the profession generally.

The R.A.I.C. was represented on the Council of the R.I.B.A. for the year 1944-1945, by Mr. L. Sylvester Sullivan, F.R.I.B.A., and the undersigned.

While fully discharging its responsibility in the Nation's strenuous war effort of the past year, other important matters closely related to the everyday life and well-being of the community have received careful study and planning.

We have to congratulate Mr. Percy Thomas on a most successful presidential year under difficult conditions, and on his unanimous re-election as President of the Institute for the coming year.

The wide field of activity claiming the attention of the Council and members of the R.I.B.A. is indicated in the following list of Committees:

War Executive Committee (15).
Finance and House Committee (8).
Professional Conduct Committee (6).
Licentiatehip Committee (6).
Royal Gold Medal Committee (15).
Official Architects' Committee (12).
Salaried Members' Committee (15).
Practice Committee (12).
Housing Committee (17).
Lectures Committee (15).
Demobilization Committee (10).
R.I.B.A. Members of the Joint Committee of Architects and Quantity Surveyors (5).
R.I.B.A. Members of the Joint Committee of London Architects and Builders (4).
R.I.B.A. Members of the Joint Tribunal on the Standard Form of Contract (5).
Public Relations Committee (10).
Sessional Papers Committee (8).
Competitions Committee (11).
R.I.B.A. Members on the Joint Consultant Committee of Architects and Builders (7).
Architectural Science Board (19).
Architectural Science Board General Papers Committee (7).
Architectural Science Board Lectures Sub-Committee (7).

The administration of the Institute still remains the responsibility of the War Executive Committee. The regular elections to the Council have been resumed.

It is of special interest to record that the Right Honourable W. L. Mackenzie King, P.C., C.M.G., Prime Minister of Canada, has been elected an Honorary Fellow of the R.I.B.A.

Victor Vesnin, President of the Academy of Architecture of the U.S.S.R. and architect of the famous Dnieper Dam, has been recommended by the Council of the R.I.B.A. to His Majesty the King as recipient of the Royal Gold Medal, 1945.

In the Birthday Honours List, published on June 8th, two members received outstanding awards. Sir Giles Gilbert Scott, R.A., Past President, has been awarded the Order of Merit, becoming the second architect only to receive this great distinction since the Order was founded in 1902.

Professor C. H. Reilly, O.B.E., LL.D., (F), Professor Emeritus of Liverpool University, has been created a Knight Bachelor and is the first teacher of architecture to be so distinguished.

On Wednesday, October 18th, 1944, a presentation was made to Sir Ian and Lady MacAlister in expression of the deep appreciation of his services to the profession, on his retirement from the Secretaryship of the R.I.B.A., an office which he has held with distinction for some thirty-six years. The Provincial Associations and many members of the profession in Canada, were privileged to have a share in this tribute to Sir Ian and Lady MacAlister.

Many distinguished guests were present on this occasion and spoke in glowing terms of Sir Ian's outstanding contribution to the community and the profession. On behalf of the Royal Architectural Institute of Canada, the Right Honourable Vincent Massey, High Commissioner for Canada in Great Britain, presented Sir Ian with the Diploma and Medallion of Honorary Fellowship of the R.A.I.C. and read a letter of appreciation from our President, Mr. Forsey Page.

Turning to matters more directly related to the practice of the profession, the Demobilization Committee presented a report in December, 1944. The Institute is issuing a bi-monthly news letter to all members serving with the Armed Forces and the Allied Societies are requested to furnish suitable items of interest so that those on Active Service may be kept informed of the effort being made at home on their behalf. A suggestion is being developed under which practising members will provide temporary office accommodation for demobilized men returning to practice. The Demobilization Committee has prepared a Memorandum on the number of architects required in Great Britain for the post-war period.

The Institute has discussed with the Ministry of Works, and has approved, a scale of fees for Emergency Conversion of Dwelling Houses into Flats by local authorities.

The Council has also approved a Schedule of Fees for Architectural Services for state-aided housing schemes, excluding multi-storied flats. This also includes a Schedule of Charges for the layout of such schemes. A Schedule has also been prepared for Architectural Fees for state-aided multi-storied flats.

The Housing Committee submitted its final report at the beginning of the year and this report has been approved for publication. This Committee has also been active in presenting an exhibition of American Wartime Housing. The members of the Institute had an opportunity of viewing a factory-made steel house, designed for mass production, aimed at relieving the housing shortage.

The Ministry of Works sent a special Commission to America to investigate building methods and practices on this continent,

which returned with an interesting, if controversial report. At the same time a delegation from the United States visited Great Britain during the year on much the same mission. This interchange of ideas can be expected to produce some constructive results.

Stemming from the above, serious consideration is being given to a Bill to make compulsory the employment of Architects on all new building work. At the same time, representations are being made to the Ministry of Works for a simplification of the procedure for the approval of plans.

It has been decided to make no change in the Scale of Fees for Architectural Services until after the War. The question of equality of pay for men and women architects in Government employ on the basis of equal service, is receiving consideration. At present, there is some twenty per cent. differential between the two sexes.

There is a movement on foot to revive the use of sculpture as applied to buildings, both internally and externally.

The R.I.B.A. has a representative on the War Memorials Advisory Committee.

The Institute, under its various Committees, has held many interesting lectures and discussions on pertinent subjects related to the profession, such as Town-Planning, Housing, Pre-Fabrication, etc. At many of these, Ministers of the Crown have been the principal speakers, or have been in attendance, and the Institute is maintaining a most useful contact with the various Departments of Government. One of the recent lectures of great interest was in connection with the report of the Central Advisory Committee, which has in hand the development of the National Plan.

The R.A.I.C. extends its thanks to Mr. L. Sylvester Sullivan for his good offices as our resident representative on the Council of the R.I.B.A.

FINANCIAL REPORT

The following is a summary of the Report of the Honorary Treasurer, Mr. Chas. David, as confirmed by the Auditor:

Revenue:

Pro rata contributions received from Component Societies		\$5,106.50
Sale of Contract Forms		169.47
Sundry Receipts		20.00
Re "The Journal, R.A.I.C."		1,436.89
Total Revenue		\$6,732.86

Expenditures:

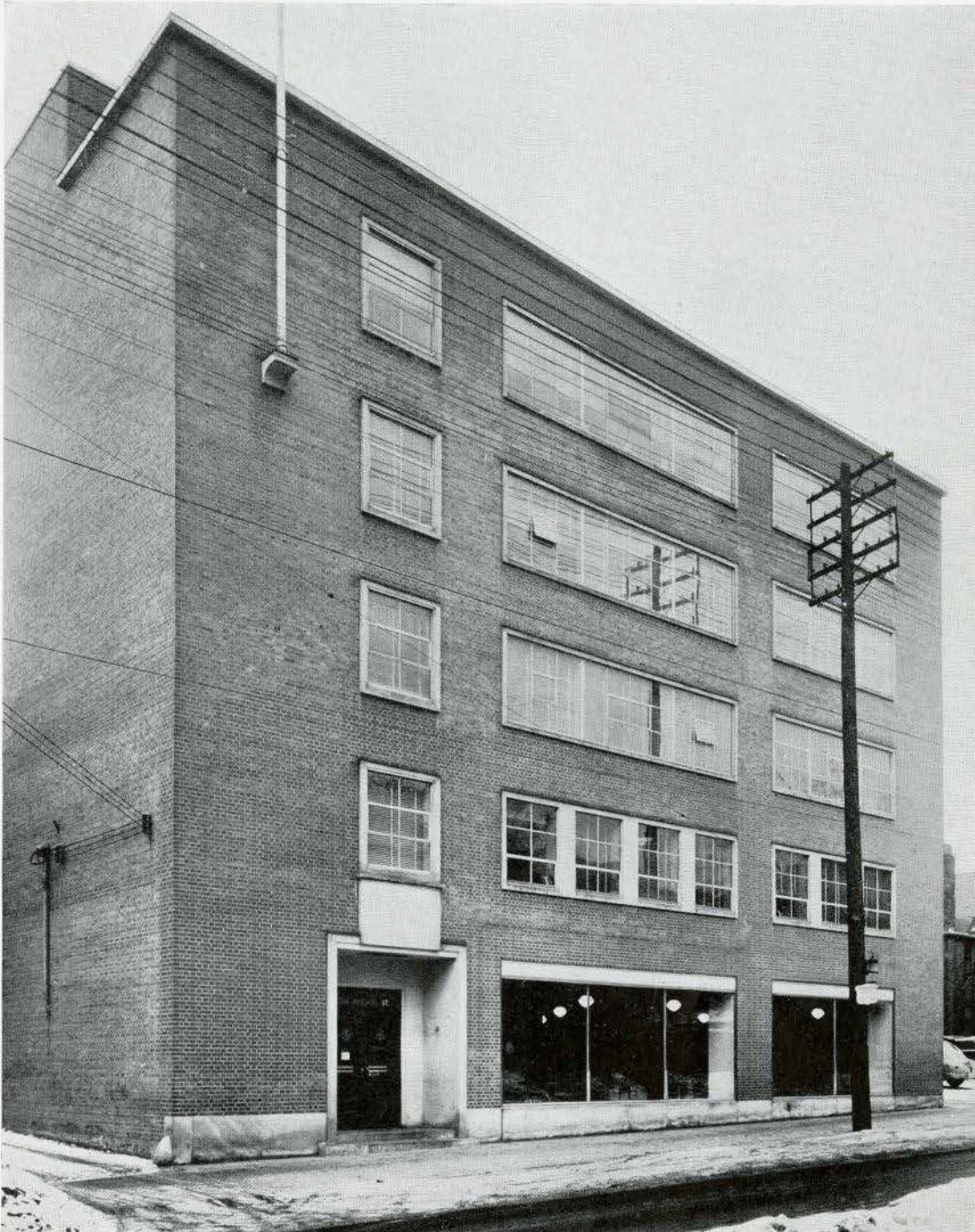
Secretary's Salary	\$1,288.40
Convention Expenses	862.11
Travelling Expenses	529.53
Rent—Toronto	\$168.00
O.A.A. Board Room	50.00
P.Q.A.A. Board Room	50.00
Mrs. Chausse	45.00
	313.00
National Construction Council	100.00
Printing, Stationery and Office Supplies	454.12
Telephone, Telegrams, etc.	258.23
Legal Expense	105.95
Insurance	11.76
Audit Fee	50.00
Architectural Training Funds	56.45
Sundry Expense	229.28
Total General Expenditure	\$4,258.83
Provision for depreciation of furniture and fixtures —Toronto Office	\$ 38.08
	\$4,296.91
General Surplus	\$2,435.95
Assets in Cash and Bonds are as Follows:	
In General Fund	\$5,878.39
In Capital Fund	7,882.66
In Scholarship Fund	4,859.62
	\$18,620.67

During the year just passed, the Institute has lost one of its most respected and beloved members in the death of Mr. Alcide Chausse, who was Honorary Secretary Emeritus at the time of his death and who had been so largely responsible for the creation of the Institute in its present form. His prodigious efforts, his wisdom and tact, his gracious manner, all these attributes with which he was so richly endowed, made his services to the Institute such that his memory will be cherished for many a long year. As your president and on your behalf, I pay grateful and respectful tribute to Mr. Alcide Chausse.

In submitting this report on the activities of your Council, may I express my thanks to the members of the Council, the Chairmen and members of Committees, the Editor of the *Journal* and his associates, the Presidents, Officers and Councils of our Provincial Associations, and especially to the members of the Executive of the Council and the Secretary, all of whom have laboured so earnestly and faithfully in the interests of the Institute and have given so freely of their time and talents to its promotion as an active and constructive force in our national life.

FORSEY PAGE, *President.*





INGRAM AND BELL LIMITED, TORONTO, ONTARIO

GORDON ADAMSON, ARCHITECT, NOW OF THE FIRM OF ADAMSON AND MORGAN

First two storeys of original building constructed in 1913. Three additional storeys added in 1919. The original building is represented by bay at right side of photo. New work consisted of refacing original building and adding that portion to left of first bay, also removing wall between new and old buildings at all floors and renovating old building.

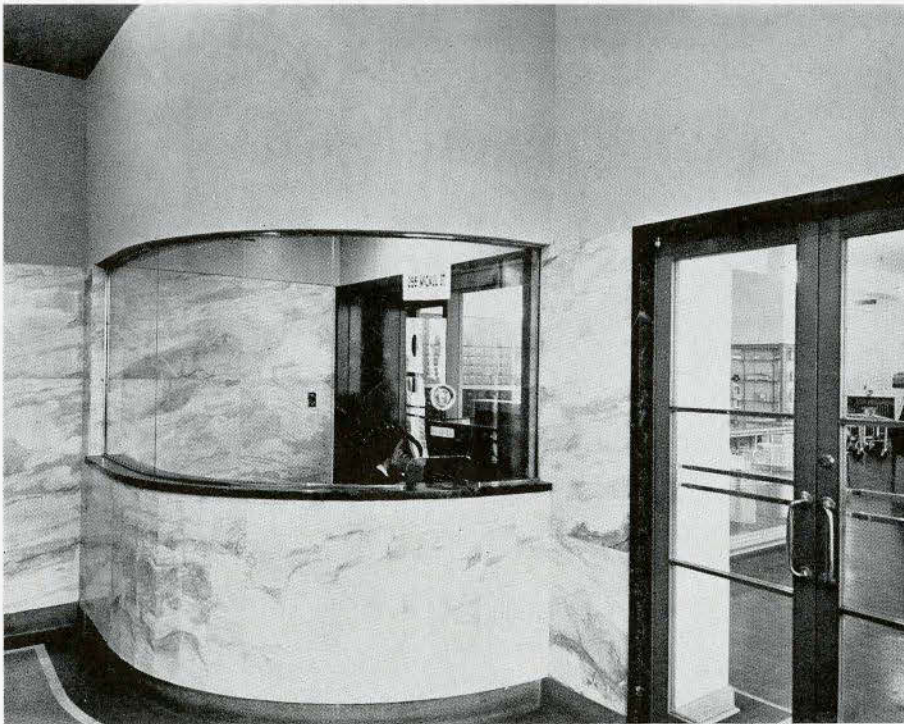
CONSTRUCTION OUTLINE—ORIGINAL BUILDING— Steel columns and beams, loadbearing brick walls and laminated wood floors and roof. **NEW BUILDING—** Frame—floors and roof, reinforced concrete. **WALL CONSTRUCTION—** Pressed red clay brick with loadbearing hollow clay tile backing. Indiana buff limestone for main entrance and trim. **WINDOWS—** Front elevation and executive offices, steel sash. Plant windows—wood casements. General office—glass block. **SHEET METAL—** Copper for built-in flashings, galvanized

sheet steel elsewhere. **ROOF—** Tar, felt and gravel over 1" insulating roof board. **FLOOR FINISHES—** Showroom, general and executive offices and First Aid department, asphalt tile. **PLANT—** Cold mastic finish over laminated wood floors, armoured finish concrete elsewhere. **INTERIOR DOORS AND TRIM—** Birch, Kalomein and hollow metal. **WALL FINISHES—** In general and executive offices and showroom, plaster painted. In Plant, masonry painted. **CEILING—** In showroom, painted plaster; in offices, perforated acoustic tile; in plant, concrete painted. **HEATING—** Steam, mechanical ventilation in showroom and offices. **LIGHTING—** Offices and laboratory, 25 cycle fluorescent, the balance incandescent.

Gordon L. Wallace—Structural Engineer, R. P. Allsop—Mechanical Engineer, Jackson-Lewis Company Limited—General Contractors.



STAIR HALL, SECOND FLOOR

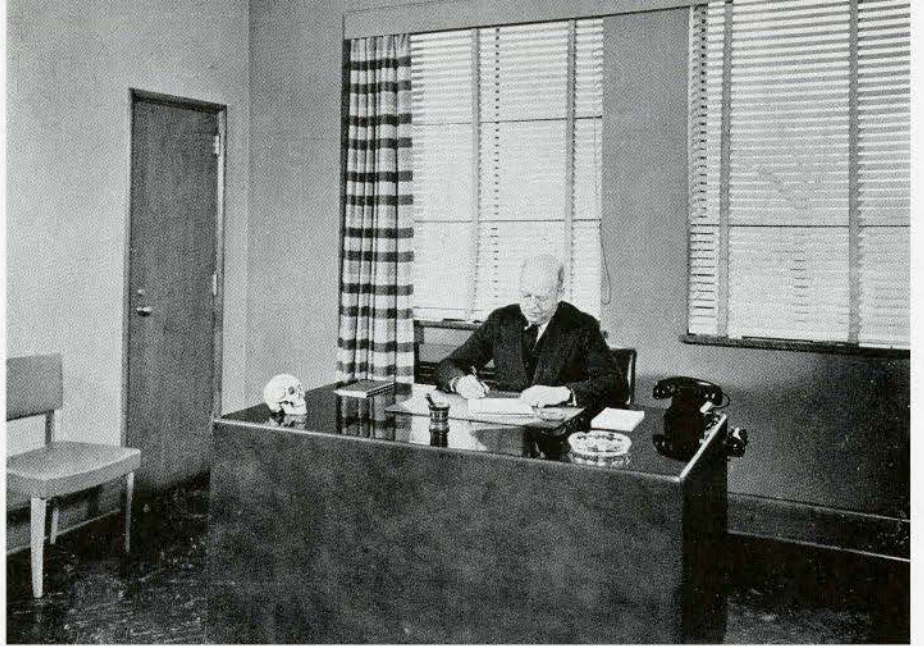


ENTRANCE FOYER



SHOWROOM

GENERAL MANAGER'S OFFICE

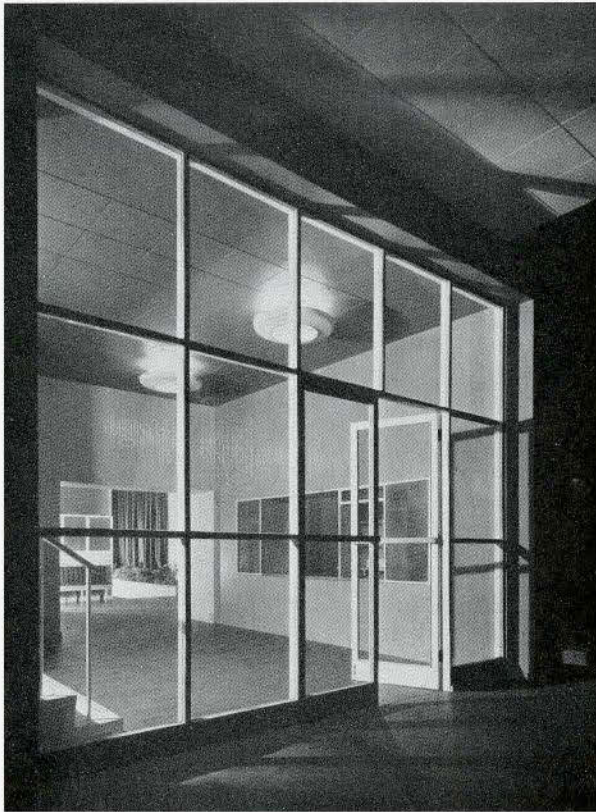


GENERAL OFFICE



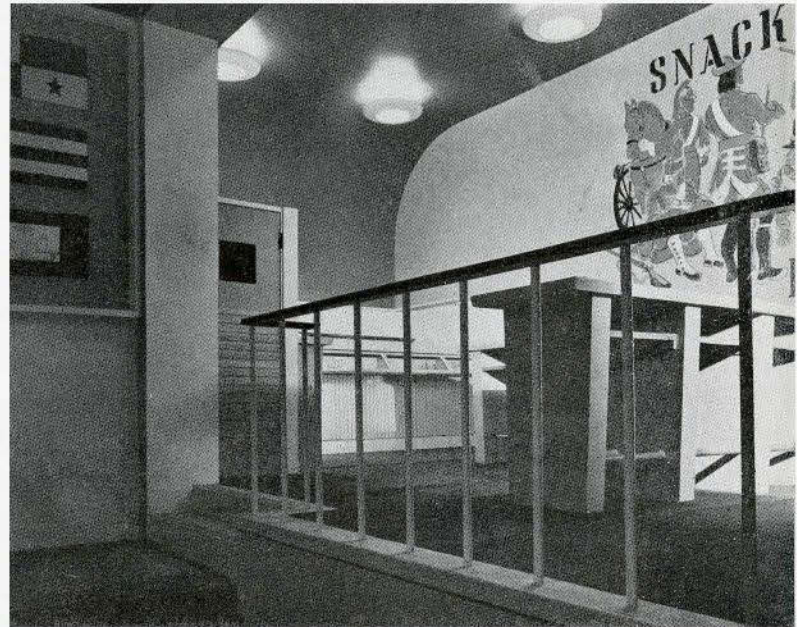
LABORATORY





CAFETERIA AND LOBBY

THE ONTARIO SERVICES CLUB
LOWER REGENT STREET,
LONDON, ENGLAND



SNACK BAR



ELEVATION AND ENTRANCE

THE PROBLEM

The basic problem consisted of altering an existing building, largely unused for some years owing to war damage, for use as a Services Club. The Architects for the whole building, which includes a basement cafeteria, lounges, writing rooms and a women's club, were Messrs. Reid & Paisley, F.F.R.I.B.A. The project has been sponsored by the Government of Ontario.

The whole of the ground floor, illustrated on these pages, including the street frontage, was designed by Misha Black of Design Research Unit (associated architects, Bronck Katz and Kenneth Bayes, A.R.I.B.A.).

The specific problem here was to produce an exterior and ground floor, as an introduction to the Club, as far removed as possible from barrack hut conditions, while working within wartime restrictions on materials and labour.

THE SOLUTION

The use of colour has been the most important factor in an attempt to obtain a sense of gaiety and, at the same time, achieve some feeling of architectural form and proportion.

Colour has been used to accentuate the decorative elements, as, for example, in the flags along the Jermyn Street elevation, the coloured initial letters on the outside fascia, the dead white coat of arms on the red wall of the waiting room, the flowers by the information room window, the frieze of painted ply flags in semi-relief above the cafeteria servery, and the mural painting by Tom Gentleman in the snack bar.

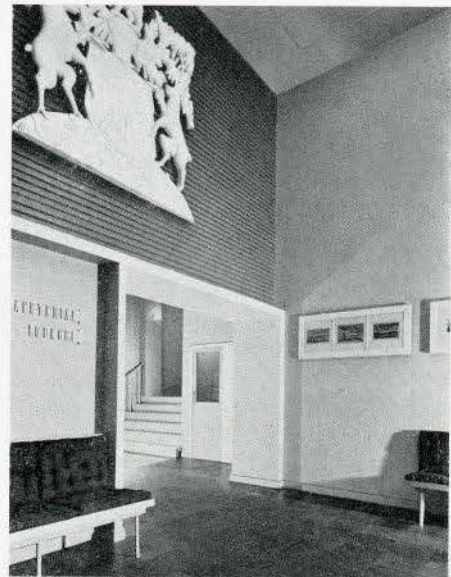
Colour has been used too in a more subtle way to co-ordinate the series of oddly proportioned rooms which the problem presented. (Only in one case, the cloaks lobby, was it practicable to change the proportions, where a false ceiling was constructed). The lightness of the information-waiting space and its loftiness, of which advantage is taken by the large map mural, are contrasted in the adjoining cloaks lobby by a low blue ceiling and sombre wall colouring. This again leads, through a glazed screen, into the cafeteria which, by contrast to the lobby, gives an impression of being light and airy; off which, with further contrast, is the snack bar with its warm light reflected from a terracotta ceiling, coved down to end walls of the same colour.

War-time restrictions necessitated the minimum use of timber and the elimination of all materials which could not be obtained from stock without having to apply for licences for replacement. This has necessitated a divergence from normal structural methods to the extent of using fibrous plaster, instead of wood or metal, for such varied elements as flower boxes, counter fronts, light fittings, jamb linings and architraves. Plaster has also been used as a decorative material for coats of arms in low relief and for wall surfaces of various finishes, for example, the horizontal louvred texture of the walls in the information-waiting space, saw-toothed in section. The stand-up counters in the snack bar are of rendered brick with 2-inch concrete slab tops faced tiles and edged in terrazo.

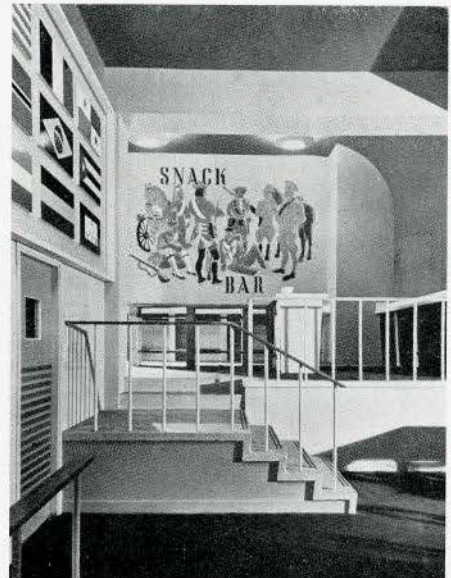
The minimum of new work was done on the outside elevations. The existing plate glass windows were left where possible, new standard steel windows being inserted where ventilation was required. To limit the interest of the elevations to the lower part of the building, and to produce some kind of order, the elevations were divided into units, each containing windows and cement rendered infilling, set into the existing stone surround, and plinth painted "back" in dark brown.

Polished cork has been used for floors, internal window sills and notice boards. Built-in settees have cushions of blue hessian with red buttons. The large map mural of Canada is photographically enlarged from a standard map and stained in atlas colours.

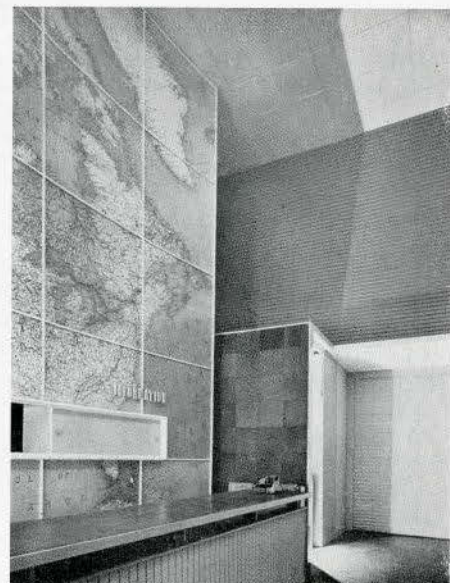
All lettering is in a new type specially designed by David Caplan for the job.



WAITING ROOM



SNACK BAR



INFORMATION ROOM

THE PREFABRICATED HOUSE INDUSTRY

By E. G. FALUDI and CATHERINE CHARD

INTRODUCTION—GENERAL PICTURE

In both the United States and England there are now large organizations producing or preparing to produce either—

- (a) Sections of buildings that can be assembled into a standardized house or,
- (b) Building units that permit the assembly of houses without limitations as to size or plan.

These house parts are being produced from a variety of materials such as, solid timber, plywood, fibreboards, sheet metal, concrete slabs. A new British plan for post-war production of prefabricated houses has approached the problem through the channel of firms representing five major British industries, *i.e.* aircraft plywood, steel tubing, light alloys, iron and steel. This interest in prefabrication of houses has grown out of the urgent need of aiding war production by housing factory workers and out of the acute overall housing shortage. In Great Britain the latter is simply the result of destruction due to the air war, while in the United States and Canada it is due to the slack building period which occurred during the pre-war depression.

In Great Britain the prefabricated house industry is new and developing, being forced to deal with an emergency situation. In the United States and Canada it is at present in a stagnant position because industry is not at the moment pressing the demand for additional housing for its workers. It is a fact that the American and Canadian prefabrication factories are decreasing their output or have stopped production completely. The main reason is that the government authorities are not issuing new orders for defence production as in the first three years of the war. At the same time, no building materials are available for large scale production for the private housing market.

This does not mean, however, that those industries have given up this business for the future. On the contrary, they are preparing with great interest schemes and products aimed at the capture of the post-war market when a special demand will call for houses of all possible types.

Disorganization of Residential Construction Industry

These firms are attracted to housing because of the existence of a wide market and because of the fact that the building industry in the housing field is totally unorganized. All the major processes of residential construction remain the same as they were when labour cost was lower than it is today. Convincing proof of this is offered by the fact that the average man-hour productivity in American industry increased 60 per cent. in the first thirty years of this century. Some of the increases due to the introduction of machine methods were as great as 300 per cent. The residential construction industry, however, showed no gain at all. In fact, it is frequently asserted that the man-hour productivity actually declined. A house is still a hand-made product produced by an increasingly complex group of specialists. These specialists—carpenters, masons, electricians and so on—frequently represent sub-contracts that are loosely co-ordinated by a person acting as a general contractor. Each group deals on a level of retail trade. Each group has its own overhead in office maintenance, advertising, cost estimating and contingencies. Each group deals with a separate group of material supply houses. Each material supply house has its own overhead.

Individual builders are thus caught in a web of complex relationships with manufacturers, dealers, labourers and buy-

ers. Instead of the integration which would make for cheaper houses and more steady employment, there is a lack of standardization, with attendant localization of operations and backwardness in technology. This is the situation which the prefabricator attacks with the weapon of efficiency methods.

An understanding of the subject requires the review of:

- A. The Post-War Housing Market in Canada.
- B. The Production Capacity of the Canadian Building Industry.
- C. Prefabricated House Production in Britain, the United States and Canada.

A. POST-WAR CANADIAN HOUSING MARKET

Machine power and man power notwithstanding, an industry is no bigger than its market. Hence, it is essential to look at the housing market before venturing to discuss any attack upon the field.

Curtis Report

The most significant statement to be made on Canadian housing needs is that given by the Curtis Report (the final report of the sub-committee on Housing and Community Planning, under the Advisory Committee on Reconstruction), March 24th, 1944. On page 151 of this Report, following a discussion of the matter in considerable detail, the Committee gives a table showing the needs of a Canadian Housing Programme for the first ten years of such an effort. The Committee states that in the first ten years of an effective minimum housing programme, we should provide for 606,000 urban, non-farm homes and, in addition, should provide for 94,000 homes in farm areas, or a total of 700,000.

Adamson

A second official reference is contained in a statement made by A. R. Adamson, Member for York West, in the House of Commons, February 18th, 1943. (Hansard, Vol. LXXXI, No. 16, p. 545): "It has been further estimated in Washington, officially, by Frederick M. Babcock, that Canada must build in the ten-year period subsequent to the war between 750,000 and a million houses, in order to maintain a reasonable standard of living".

Dominion Bureau of Statistics

The Dominion Bureau of Statistics gives an idea of the scale of the problem by the following comparison:

In Canada in 27 cities of over 30,000 population, there were 150,000 crowded households (less than one room per person) in June, 1941. To give a separate home to each family in these 27 cities would require housing accommodation equivalent to that of Ottawa, Hamilton, London and Calgary combined.

House Building in Pre-War Period

The sagging of the building curve in Canada in the pre-war period was indisputably due to the Business Depression. Even under the policy of encouraging building and house renovation pursued by the Federal Government through the agency of the National Housing Act, only 2.8 houses per 100 families were built in Canada between the years 1930 and 1937, whereas in England and Sweden in the same period the number of houses built by unassisted private enterprise alone was 16.5 and 26.3 per hundred families respectively.

In view of such facts it is very evident that the building industry will be called upon to carry responsibility for large-scale employment. Housing is looked to by economists as a backbone industry in the structure of the post-war Canadian pattern.

B. PRODUCTION CAPACITY OF THE CANADIAN BUILDING INDUSTRY

Workers Required by Building Industry for Proposed Housing Programme

The problems of the Canadian building industry are in the order of their importance, labour, transportation and materials. And of these, the most critical, by far, is the labour factor. Consider the following figures extracted from "The Labour Value of the Building Dollar", (by O. J. Firestone, October, 1943), a publication of the Housing Administration, Department of Finance, Ottawa. An analysis based on the construction of more than 25,000 housing units, shows that each dwelling provided, on the average, about 2,300 man-hours of on-site and about 3,000 man-hours of off-site employment, or a total of 5,300 man-hours in all. With this average as a basis, a 50,000 unit programme (a very minimum consideration in view of the 70,000 housing units per year per 10 years recommended by the Curtis Report) would provide 265 million man-hours; or, if the average working year is taken to consist of 2,000 man-hours, employment for 133,000 men.

Workers Available in Building Trades

But how many workers trained in the building trade are available in Canada? In eight years, from 1935 to 1943, the total residential construction undertaken under the National Housing Act provided employment for only about 8,250 men per year on an average. If we assume that the total residential construction in Canada was even as high as ten times that built under the N.H.A., still the number of workers employed on house building during those pre-war years was only about 82,500 at a maximum.

The post-war housing programme needs, we have seen, at least 133,000 workers and the maximum number we can expect to draw on is 82,500. Hence, we have a deficiency of at least 51,000 workers in the building industry.

Curtis Report. Training of Workers in Building Trade

But the gravity of the situation is much more pressing as evidenced by the Report of the Curtis Committee which states on page 155: "According to the National Registration of 1940, about 37 per cent. of all skilled construction workers are over 50 years of age, the proportion being considerably higher for some occupational groups, e.g., bricklayers. Apprenticeship training was only on a small scale before the war, and little has been done since, so that the aging process of construction craftsmen is continuing."

Some experts, on the other hand, assume that the capacity of the building industry will be raised by the conversion of skilled labour from war industries. It is true that the aircraft and ship building industries have provided opportunities for training a large amount of unskilled labour in the working of wood and plywood products. But, whatever this training has produced it is factory work, aided greatly by machines and the advantages of mass production organization. It is dangerous, therefore, because of these considerations, to assume that such war-trained labour will be able to contribute very much to the conventional building trade with its outdoor weather conditions and lack of production technique.

Shortage of Skilled Building Craftsmen

However, even if we assume that the war industries have trained a number of carpenters that may be absorbed into the building industry, still building craftsmen, that is, masons, bricklayers, plasterers, tile-layers, glaziers, painters, roofers and sheet metal workers have not been trained in the past years in the numbers required if the post-war building programme is to be developed solely on conventional lines. These trades

account for 24.4 per cent. of normal labour costs. (Firestone, page 29, Table 8).

We may be led by these considerations to conclude that the situation of the labour market, the availability of carpenters and the lack of bricklayers and so on, will encourage greatly the construction of houses in wood or derivative products.

Obstacles to Wood Construction

Against this is an obstacle in the shortage of timber created partly by an exhaustion due to war time exploitation and partly by the green, wet lumber with which the timber market is now flooded. A third obstacle must also be considered, namely, the large commitments in the exportation of timber that have been made by the Canadian Government to the British Government and which become effective upon the conclusion of the war. This lack of skilled labour in the building trades and the drain on timber supplies will compel the building industry to re-orientate itself towards the production techniques allowed by the materials available. It seems that the possibility of replacing conventional materials will encourage the dominating use of plywood and fibreboards and minimize the use of structural timber.

Importance of Factory Techniques to Reduce Man-Hours in Building

The labour question is a tremendous factor in prefabrication. It is one of the big reasons for the push in that direction so noticeable in Britain with its severe labour shortage in the building trades. As noted above, an average of 2,300 man-hours of on-site labour is needed to build an ordinary dwelling. Experience shows that only about 1,000 man-hours will be needed to build and assemble a factory-made house if the production is on any kind of a reasonable scale.

It is only fair to state that no accurate estimates of cost savings due to the economic use of labour have been made in the United States or Canada; this factor being so entirely dependent on the efficiency of the individual factory organization.

Evident Savings Accomplished by Factory Methods

- The most evident savings have been those achieved by—
- (1) Mass purchasing—the builder's volume controlling the prices paid for materials.
 - (2) Reduced erection time and particularly, total speed of production.
 - (3) Reduction of losses in materials and waste of time due to weather conditions.

C. PREFABRICATED HOUSE

(a) PRODUCTION IN ENGLAND

Post-War Housing Requirements

The British building industry has been tremendously stimulated by the announced government policy of building some 4,000,000 houses within 12 years after the construction of houses is generally resumed. The immediate need for a half million emergency houses for returning men has forced the application of mass production on the conservative British building trade. Out of this impact, created by emergency, has come the urge towards new construction methods that is such a driving force on the British market today.

British prefabrication systems are characterized by two features—

- (a) They are almost invariably "panel" systems—that is, a structural frame with panel infilling.
- (b) They use diverse materials—concrete, metal, composites rather than wood, because of Britain's lack of lumber.

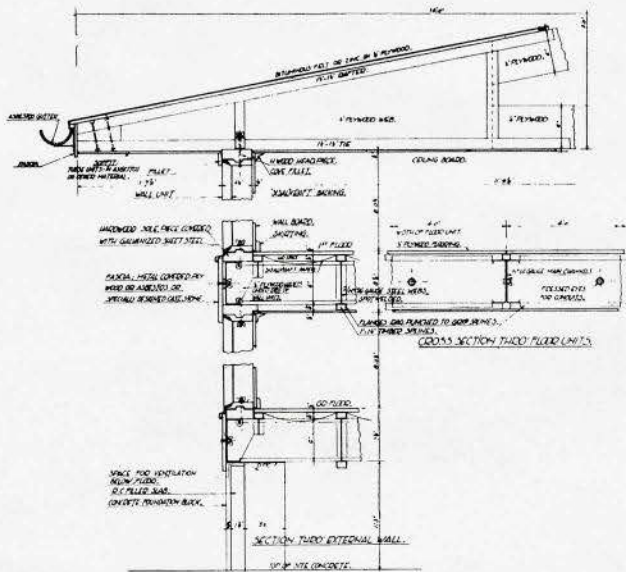


Fig. 1—Tarran System of Construction—Structural details for two-storey house.

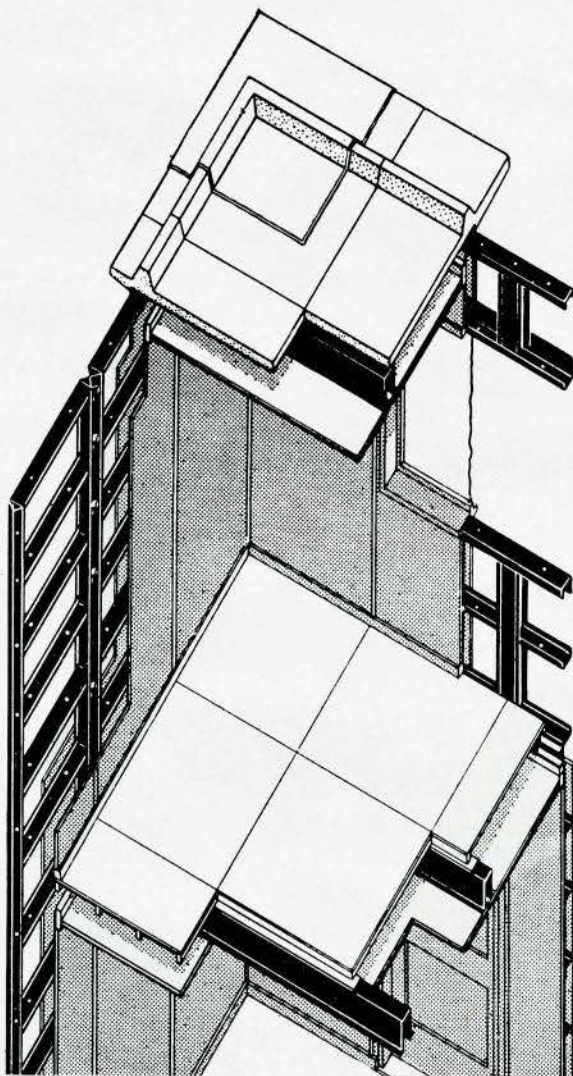


Fig. 2—Axonometric Drawing showing the Braithwaite Unit Construction System—The system employs a grid dimension of 3'-2".

Some of the typical systems are:

THE PORTAL HOUSE or "Churchill Villa"—an all-steel house designed by the British Ministry of Works. From the single steel unit holding the bathroom and kitchen equipment to the steel wall panels with built-in steel windows, every part of the house can be built in one factory and, with only minor exceptions, from one material. The house is totally a government project. It will be leased to tenants by local authorities; its life will be limited to 10 years by government license. A living room, two bedrooms, kitchen and bathroom are packed into 616 square feet. Sheet steel wall panels are backed by heat reflecting aluminum foil and lined on the inside with steel or plywood; joints are mastic sealed. Wood flooring is screwed directly to the steel joists of the floor. Pressed metal joists of the slightly pitched roof correspond to widths of wall panels.

Operations at the job site reduce to five simple steps: A concrete slab is laid and bolted; services and drains installed; floor sections are laid and bolted; central storage wall and bathroom-kitchen unit are placed in position; walls are bolted and erected; the roof is placed. Five tons of pressed steel go into this house which is scheduled to be produced for 2,219 dollars.

THE TARRAN HOUSE developed by Robert G. Tarran, Hull, England, aims at an entirely different object than does the steel government house. The system plans for a structure with a hundred years' durability. The entire process of building a Tarran house, including foundations, can be carried out in seven days—one day for drains, one for foundations, one for erection, two for interior finishing, and one for painting and decorating. A demonstration house contains three bedrooms, a living room, kitchen, bathroom and laundry. (Fig. 1.)

Foundations are comprised of a simple levelled concrete raft 4" thick on properly prepared ground with pier blocks and filler panels. Floors are of steel channel frames with joists of pressed steel or laminated timber; size of units approximately 12' x 4'. Flooring can be of laminated resin bonded timber on hard fibre board. Ceilings are formed with plasterboard, plywood or other suitable lining as required. Walls are composed of units 1'-4" wide by storey height (normally 8') having a reinforced cast stone or concrete panel in laminated resin bonded timber frames. The external finish to the units is waterproofed and may be of any colour and have the finish of granite chippings. The joints to the wall units are made with an asphaltic asbestos-wool jointing material similar to the caulking of a ship's deck. This is fixed to the Units in the factory and sealed by an electrically heated caulking tool when walling is complete. Roof can be flat, partly pitched and flat, or pitched to about 12 degrees. The roof units are in sizes up to 4' x 16'. They are covered with bituminous roofing felt. Boarding to receive roofing finish is of 8 mm. resin bonded laminated timber. Internal wall units are of resin bonded laminated timber covered with plywood or plasterboards.

All cupboards and fittings are prebuilt and are delivered to the site in the same manner as wall panels.

THE BRAITHWAITE SYSTEM is a unit construction system which can build up from a one-floor cottage to a three-storey flat structure. As the Tarran House this system is designed for permanent use. It employs a grid system the basis of dimension of which is 3'-2". All parts in the house are related to this grid and are standardized accordingly—frames, beams, roof slabs, external cladding, etc. These standardized parts are applicable to all plans adhering to the grid. (Fig. 2 and Fig. 3.)

The foundations are composed of continuous concrete walls about one foot in width. "In situ" concrete is placed in forms standardized to suit both level and sloping sites. Oversite concrete 3" thick covers the area within the outer walls. Stanchion holes 9" deep are left in the walls to receive the legs of the frames which are later grouted in. The ground floor is suspended on steel beams in the same way as the first floor, and is so placed that the cavity beneath it can be effectively ventilated. Steel frames extend continuously to the full height of

the house. These frames provide for suitable window and door openings and are of two widths 3'-2" and 6'-4" and are spot welded cold rolled steel. Beams are inverted U's designed to carry specified load at a spacing of 3'-2" on a maximum span of 12'-8". Erection is accomplished with welded-in nuts so that the erector needs to handle only a bolt. Roof slabs are of light-weight cellular concrete in standard grid sizes, 2½" thick, reinforced with steel mesh and finished with bituminous roofing material. Outside slabs overhang the walls and are anchored against uplift by bolting to the steel beams. Windows in either steel or timber can be fixed into the standard openings. Fibre-board and cellular plywood are provided for ceilings. All boards are ½" thick, 3'-1½" in width and in lengths covering the full width of rooms—they attach to the steel beams by either timber cover strips or a standard metal cover strip. Insulating plywoods, fibreboard and glazed asbestos cement are used for internal lining—the sheets extending from floor to ceiling. Picture rail and skirting are timber. Three possible materials are used for exterior cladding: asbestos cement, brick and enamelled sheet steel. Asbestos cement and enamelled steel sheets are formed with vertical fluting on the exterior face. Brickwork, 4½" thick is built close to the outer face of the steel frames with waterproof building paper between. The cladding sheets are attached to the steel frames by patented spring clips in zinc, extending the full length of the sheet. Two sheets are placed with a ½" gap between them. The spring clip is pressed into the gap. The legs of the clip open up under the impact of a mallet to engage the legs of the frame cleats. Insulation is slag wool, rockwool, or aluminum foil except where insulated plywood is used as an interior covering.

FOAMED SLAG system developed in Glasgow, Scotland, uses waste material, a by-product of local steel and iron works, mixed with cement and forms this material into slabs for a pre-fabricated structure. For external use the slabs are roughcast, 6" thick and have recesses for tying. They are moulded mainly into three forms, window panel, with a wide blank for window fittings, solid panel, and right angle (corner section). Internal walls are 4" thick. The biggest units yet used are 10' wide and 8'-8" high. The assembly system requires roads, sewers, etc., to be laid in the normal way. A concrete underbuilding carries the ground floor of standardized commercial type hollow, reinforced concrete beams. A crane site is next selected from which slabs can be deposited accurately and easily to any point over the ground floor base, the units being interlocked by recessed spaces and dog ties. First floor and roof are also of precast concrete. External walls can be given any desirable finish. Internal walls are plastered direct.

Seco System

Another well-known British system is the SECO method. The structural framework is of plywood beams, girders and columns of hollow box sections. The panels covering the structure are aero-concrete slabs encased in wood frames. (Fig. 4 and Fig. 5.)

C. (b) AMERICAN PREFABRICATION

Post-War Housing Needs

The current potential market for the low cost house in the United States may be conservatively estimated at 3,000,000 units which at the present rate of production (245,000 in 1938) would occupy the building industry for 12 years. American prefabrication has developed under this challenge in two directions:

- (a) as a panel system
- (b) as a sectional system

The dominating materials are wood and steel.

Panel Systems

- (a) American Panel Systems:

A very typical and normal type of American prefabrication



Fig. 3—Braithwaite Prototype Houses at Hendon—No. 1 house has a total floor area of 960 sq. ft., and No. 2 of 800 sq. ft.

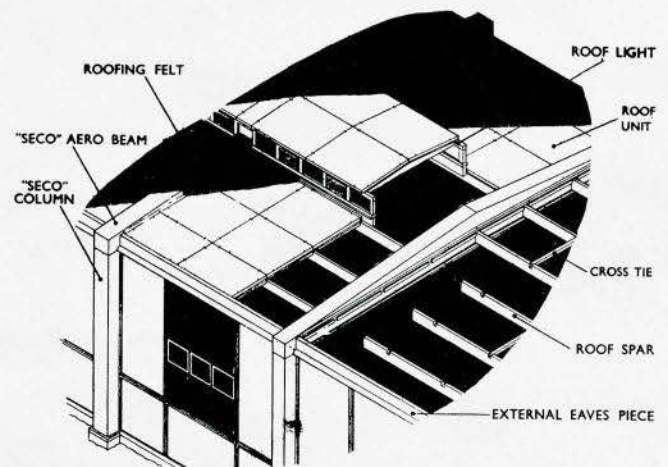


Fig. 4—Uni-Seco Structures—Typical roof construction.

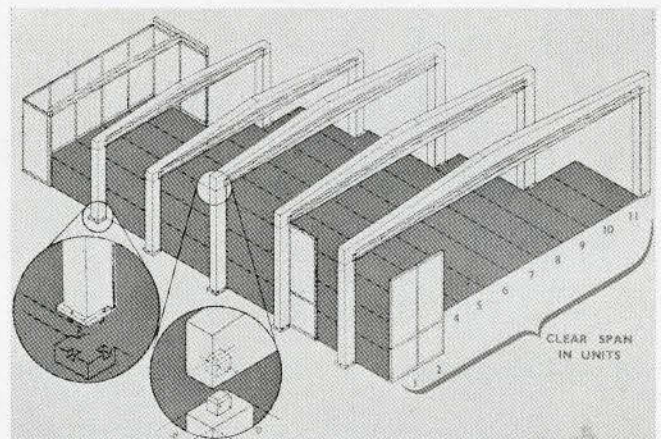


Fig. 5—Uni-Seco Structures—"Aero" Beams and Columns—scientifically designed hollow units built up from plywood in order to achieve strength coupled with lightness and economy in materials.



Fig. 6—Plan of "Cemesto" House developed by the John B. Pierce Foundation and built by the Celotex Corp. for the Glen Martin war housing project.

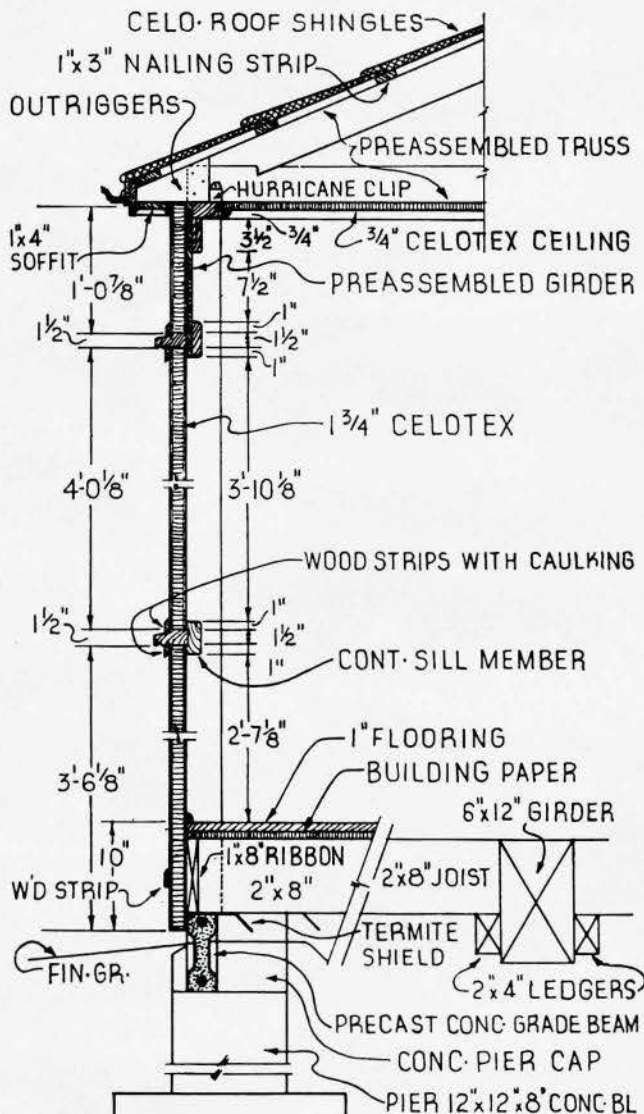


Fig. 7—Section through the "Cemesto" House—The exterior wall is a club sandwich with filling of insulating board between protecting layers of asbestos cement, weighs 4.9 lbs. per sq. ft., and is 1 3/4" thick —concrete footings 2'-0" x 2'-0" x 1'-0".

is the wood panel construction—a method developed largely as a result of the development of sheet materials—plywood, fibreboard, plaster and gypsum board and other wall finishes in thin sheets of large sizes. Most of the early systems were based on the use of the 4' x 8' wall and fibreboards available at the time. Today the majority of these systems employ larger panels.

THE HOMASOTE CO. of Trenton, N.J., was one of the first sheet material manufacturers to realize the possibilities in pre-fabrication as an outlet for its product. In 1936 the Homasote Company developed a system of prefabrication through wall, floor and roof panels assembled on jig tables in local lumber yards and using Homasote's extra large 8' x 14' sheets to create jointless room-sized panels. On the basis of a rather similar plan the DOUGLAS FIR PLYWOOD ASSOCIATION in 1939 projected a system for use in local lumber yards in which room-sized sections were preassembled with plywood as an interior finish and exterior sheathing materials. Conventional 2" x 4" framing was used and interior finish was glued in place. Doors and windows were framed into the wall section in the shop. Ceilings were assembled in room-size panels with a light 1" x 2" frame and connections were formed with 1/4" plywood splines slipped into slots in the framing members. Precut joists and rafters were used and shingles or clapboard siding was applied at the site. Companies applying this system worked out scarfed connections to join the 4' x 8' plywood sheets into larger panels and special covering of cotton duck was used sometimes to cover the joints and grain of the wood and thus provide a proper surface for painting. Floors were frequently finished with hardwood flooring over the plywood sub flooring.

This type of construction employed what is sometimes called "conventional" prefabrication. The basic structure of the typical wood frame house remains unchanged. Structurally the finished house is practically indistinguishable from the ordinary frame house.

Stressed Skin Construction

An advance in panel construction was made by the application of the "Stressed skin" principle of aircraft construction to prefabrication of house panels. With the development of large size sheet materials, which constitute two-way membranes of enormous tensional strength, and with the improved method of attaching such materials practicable under shop conditions, it became possible for the first time to consider the entire cross section of wall or floor, including all the materials used for whatever purpose, as a single integrated structural unit—usually that most efficient of structural forms—the hollow box. One of the first examples of this fact was demonstrated by the U.S. FOREST PRODUCTS LABORATORY in an experimental house built in 1935. It was a one-storey structure with walls 2" thick. It used 4' x 8' stressed skin panel units made up of two sheets of 1/4" plywood glued to 1 3/8" x 3/4" ribs. Floor and roof panels, spanning 12' had 2" x 6" ribs on 22" centres with top skin of 5/8" plywood and bottom skin 3/8" thickness. These experiments of the F.P.L. demonstrated conclusively that the quantity of material used in the conventional frame house could be reduced by more than one-half and at the same time the completed structure made considerably stronger than necessary through a combination of factory assembly of panel units.

Horizontal Panel Construction

Another approach to the problem was developed by the John Pierce Foundation in 1941 for the CELOTEX CORPORATION: and has been used extensively for war housing. (Fig. 6 and Fig. 7.) This system employs the horizontal panel. Sheets of laminated asbestos cement surfaced insulating board (Cemesto board) 1 3/4" thick are assembled into panels extending horizontally over 12-foot spans between 4" x 4" posts and are used as

fillers between window units. Floors were carried on 2" x 8", l-shaped precast concrete beams; running from pier to pier to form the foundation. To carry the pitched roof the top horizontal panel of insulating board was backed up with $\frac{5}{8}$ " plywood to form a girder. Preassembled wood trusses from 2" x 4" were used to span the entire width of the house and eliminate the need for interior bearing partitions. The roof itself consisted of giant shingles formed from insulation board pre-covered with mineral surfaced roofing nailed to shingle lath.

MULTIPURPOSE PANEL SYSTEM

One of the most recently developed systems of prefabricated construction is that of the GENERAL PANEL CORPORATION, New York, employing a panel unit that is neither vertical nor horizontal but may be used in either position. This system employs six standard panels—wall, door, window, floor, ceiling and roof units—all constructed on substantially the same standard frame. Two, three or four of these panels can be connected around a common axis without upsetting the spacing of the system's vertical-horizontal design module. All panels are connected to each other by means of rather complex "wedge connectors" by hammering. The system uses a 3'-4" module. Columns, girders, joists and staircases have been developed to meet the normal standard connection of panels. The panels have a thickness of about 3" and are faced externally with vertical boarding.

(b) THE SECTIONAL OR MOBILE SYSTEM

A basically different type of prefabrication which has developed in an important manner in the United States is that used in the so-called mobile house. Such houses are built in completely assembled sections and transported by truck or trailer to the site where two, three or four units or sections may be joined together to form a finished house. Such houses must be strong enough to meet the special conditions imposed in transit and at the same time must be as light as possible to facilitate movement.

T.V.A. HOUSES

An excellent example of this is the two-piece mobile unit developed by the T.V.A. war workers' housing. In shipment each of the halves of this house is a separate structure, open on one side and carried on a small four-wheeled trailer. The floor must not only carry the entire weight of the structure but is placed on its wood post girder foundations in such a way that the walls overhang the foundations by several feet. Most of the vertical support for the roof on the open sides of the unit is provided by small plywood cupboards strategically located and formed from plywood sheets glued at the corners to create, in effect, channel-shaped columns. Virtually all the finish material is resin bonded plywood and contributes strength and stiffness to the structure besides the functions of sheathing and finishing. (Fig. 8, Fig. 9 and Fig. 10.)

Another sectional house is that developed by the PALACE CORPORATION, a metal trailer type section containing all-service equipment, is transported to the site. Extra floors, ceilings and walls are folded against a core of this expandable house which when unfolded becomes a 24' x 26', five-roomed house.

The most interesting feature of the American prefabricated picture is the entry of big industrial corporations into the field. The two billion dollar UNITED STATES STEEL CORPORATION, the biggest steel producer in the world, recently purchased a substantial interest in the GUNNISON HOUSING CORPORATION of New Albany, one of the leading prefabricated companies. Gunnison at present produces a comparatively simple panel system on the stressed skin principle. Exteriors are sheathed with clapboard or shingles on the site. But this firm experimented with metal construction as early as 1932.

Also, GOODYEAR TIRE AND RUBBER COMPANY has stepped

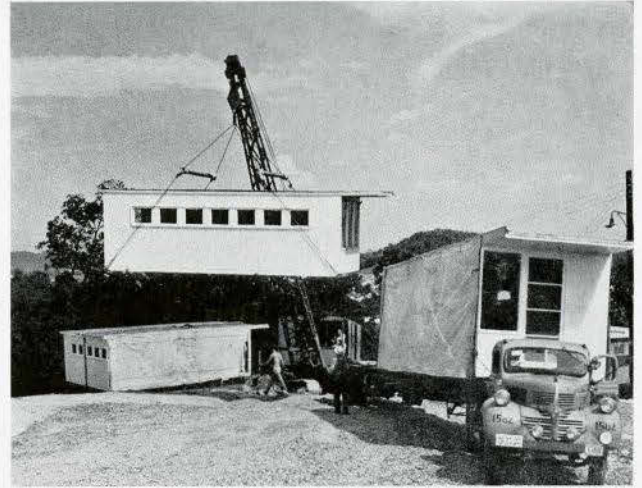


Fig. 8—T.V.A. Sectional Type Plywood House—A crane lifts a house section off a truck preparatory to placing it on the foundation at left. After unloaded adjacent to the two sections previously placed, a trained assembly crew will take over and make the house ready for occupancy in a few hours.

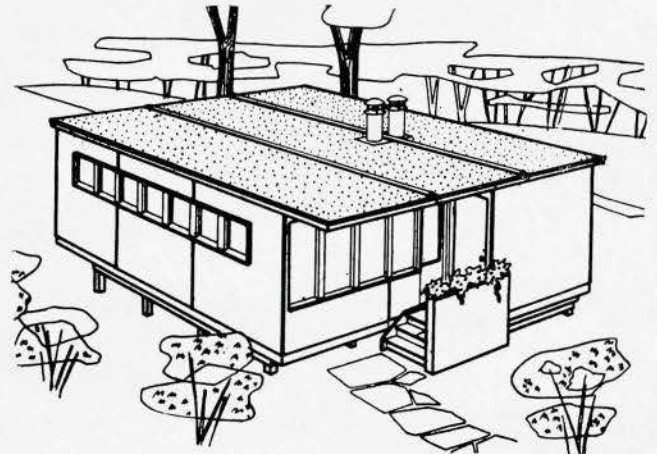


Fig. 9—T.V.A.—Shulte 3-Bedroom House has been used in various war housing projects.



Fig. 10—Living Room of a T.V.A. House with plywood wall finish and linoleum flooring.

actively into the field by creating a subsidiary organization to manufacture low cost houses to sell around \$2,000.

C. (c) COMPARISON OF ENGLISH AND AMERICAN PREFABRICATED SYSTEMS

English Systems as Permanent Structures

It is very apparent in comparing the development of methods of factory house building in Britain and the United States that the pressure of the English situation has resulted in a very different attitude towards the problem. The most important fact is the insistence on the permanent character of their structures of English manufacturers. This is not true, however, of the government agencies which are concerned only with the emergency housing problem. An advanced attitude is expressed by the Braithwaite Company, for example. They consider their system as simply an extension of accepted building practice—an advance in the technique of building. In this connection they say:

"For years it has been accepted practice to prefabricate sections of steel frames when erecting large industrial buildings, office blocks or blocks of flats. But in so far as ordinary house construction is concerned, the process stopped short at such components as door-frames, stairways and window frames. The Braithwaite system aims at extending the process to its logical conclusion, utilizing to the maximum modern methods of production but bearing in mind the need for variety and individual expression in the home. We avoid the word 'prefabrication' in describing the method because it has come to suggest something temporary or make-shift. We would strongly emphasize at the outset that Braithwaite houses are as permanent as normal brick or stone houses."

American Demountable Non-Permanent Structures

It can be readily seen that this application is very distant from the approach, for instance, of the T.V.A. which had initially as its problem, the provision of shelter for construction workers on dam and other public works projects. The object was the setting up of little communities that could be easily disbanded. The system of light sectional structures transportable by truck, requiring minimum assembly and reducing all jointing and finishing work to smallest scale, was obviously admirably suited to the specifications. In the war-time housing which saw the greatest impetus given to prefabrication in the United States, again the problem was restricted to something of an admittedly temporary nature, which could satisfy the all-important factor of speed. In this atmosphere prefabrication in the United States developed and is developing.

The realization that prefabrication can be simply an extension of the process of producing building materials in the factory has not yet, in general, touched the American market.

In following this argument it is at once obvious why the British methods have developed as panel systems. The process of producing permanent building parts cannot conceivably jump immediately from units the size of bricks, concrete blocks, hollow tile and so on to units the size of whole house sections or units of room-sized walls. Hence, the perfection of the panel of rather limited size for wall, roof or floor.

C. (d) THE CANADIAN PREFABRICATION SYSTEMS

The Canadian prefabrication systems have developed under the same conditions as the American systems. Always initially as temporary structures, suitable for summer camps and emergency wartime housing. The firms actively engaged in the business are:

THE HOMASOTE COMPANY (Canada) Ltd., at Lachute, Quebec, is producing cottage type dwelling. They are sold through the Montreal department store, Henry Morgan and Company, f.o.b. the factory at Lachute where they are made by local labour. They are designed especially for the Laurentian

sporting trade—as summer cottages and ski cabins. Homasote provides a shell of a house. Painting, plumbing, erection, transportation and lighting is extra. The following prices are quoted under the above conditions: 1,450 dollars for the largest, 10', 0" x 13', 9" living room, two bedrooms, kitchen and bathroom; 1,150 dollars for living room, bedroom, kitchen; 850 dollars for living room, two bedrooms; 650 dollars for living room, kitchen and bathroom.

The construction system is identical with its American counterpart utilizing large (8' x 14') sheets of Homasote board on wood frame.

PREFABRICATED BUILDINGS LTD., Vancouver, B.C., manufacture according to the LOXTAVE patented system, summer camps and bungalows which they have converted to wartime housing uses. The system is developed in solid timber construction by means of wood joints, formed by special saw cuts on T. and G. principle.

CANADIAN WOODEN AIRCRAFT, Toronto, Ont., are preparing to build an experimental house in 1945 which is an adaptation of the T.V.A. truckable house—in Douglas Fir plywood, on the stressed skin principle with minimum dimensioned studding.

COCKSHUTT factory is building an experimental house in plywood and timber. Floor panels are developed on the cellular principle.

HALLIDAY HOUSE, Burlington, Ontario, produce sectional houses in solid timber. They are developed in two sections, one larger than the other—the smaller containing service elements, the larger the living areas. They are erected on flat cars for delivery to site.

Conclusion—Probable System for Canadian Market

The Canadian and, indeed, the American market, is very much in the running for a system of prefabrication which aims at a permanent structure but developed in wood or derivative products, as a prototype of the more advanced British systems but without their insistence on steel and concrete products.

An interesting note on the Canadian situation is the announcement by the Soldiers' Settlement Board, which proposes to build 50,000 houses under the Veterans' Land Act. The following statement is made (Financial Post, December 2nd, 1944).

"The principle of prefabricated panels has not been discarded, but we prefer to use the result of further experimentation and development along lines adapted to the variations in Canadian climate."

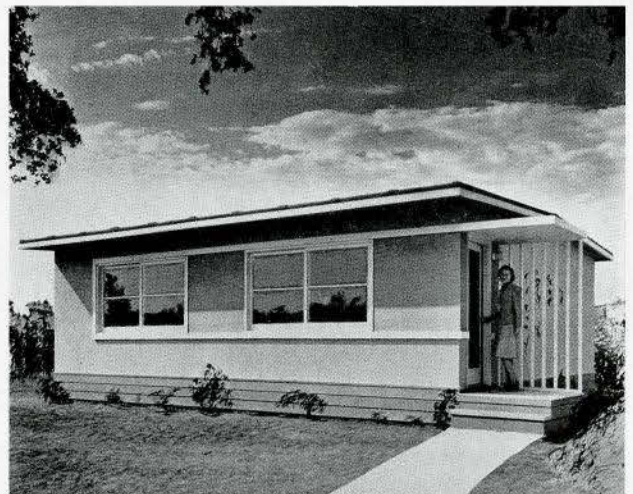


Fig. 11—Prefabricated Plywood House built under the Federal Housing Authority in Los Angeles, Calif.—2,000 of this type have been built in a war housing project.

THE PROVINCIAL PAGE

ALBERTA

President's Address

On this, the Thirty-eighth Anniversary of Incorporation, it is again my very great privilege and pleasure to greet you and to extend to you a warm welcome to our Thirty-fourth Annual Meeting. To those of our new members who are attending an Annual Meeting for the first time, I extend a special welcome. I can assure you that we want you to feel at home amongst us, and I invite you to take part of our deliberations. You are now a part of this Association, and therefore it is your privilege to share in the discussion of any matter that may be under consideration. I trust that you will not hesitate to exercise your right. For the sixth consecutive year we meet under the horrible conditions imposed upon us by this ghastly war, yet we can be thankful that our Country has thus far been spared all the cruelties and horrors that are attendant upon bombing and the horrible destruction and waste through invasion.

It is with feelings of deep gratitude that I appear before you on this, my sixth year as your President, as the affairs of your Association have been such as to require the utmost perspicuity during the year just past. Many peculiar problems have had to be met, but with the co-operation of your Council each one has been settled, or is in the process of being settled in accordance with our Regulations.

Necrology

During the year the grim reaper took away from us one of our oldest and most highly respected members in the person of George Fordyce, who has gone to that "undiscovered country from whose bourne no traveller returns." Our hearts go out in sympathy to the bereaved ones that are left behind to mourn the loss. I now ask you to rise and pay a silent tribute to departed merit.

"Peace and rest at length have come,
All the day's long toil is past,
And each heart is whispering, Home,
Home at last."

Visit of President R.A.I.C.

In October last we had the pleasure of welcoming in our midst Mr. Forsey Page, President of the R.A.I.C., and I feel that I am voicing the sentiments of our whole membership when I say that we were more than glad to have him in our midst, so that he might have an opportunity of becoming better acquainted with each and every one; also that we might be permitted to hear his message. I am certain that this visit will have a far-reaching effect on the whole profession at large, and this Association in particular.

Council Meetings

Eight regular meetings and two special meetings, or a total of ten meetings of your Council have been held during the year. Copies of the minutes of these meetings have been sent to each member, from which it could be seen that many matters of the utmost importance to the profession have been discussed. It would, therefore, be superfluous here for me to enlarge on these items as nothing can be gained by mere repetition. The moral, however, to be drawn from a perusal of these minutes, appears to me to be a lack of unity within our ranks. May I be pardoned if I endeavour briefly to develop this subject which might be considered in the same category as the cardinal virtues of our profession. As a fitting illustration for the topic

I am reminded of the Medallion that was designed for the "British Empire Exhibition, 1924." As you look at the Medallion you see at the left Britannia sitting on a chair placed on a dais; in her left hand in place of the usual trident, she holds out the small figure of a female holding out in its left hand a laurel wreath. Facing Britannia, five female figures, symbolic of various parts of the Empire are seen—Africa holding the Lion; Canada the Beaver; India the Elephant; Australia the Kangaroo and New Zealand the Lamb; the whole representing the British Commonwealth of Nations. On the reverse side of the Medallion is found the following motto: "Make all sure we are one." Briefly the theme is Unity.

The certainty that we are *one* ensures Unity, Unanimity and Concord. Unity is vital, unity is very necessary. Unity is highly important. Unity is absolutely essential to the best interest of each individual as well as our Association as a whole. Wherever it is in evidence; wherever it obtains and wherever it is uppermost in the minds of individuals, the results are far-reaching in every line of endeavour. I think we must agree that Unity or Oneness is inseparable from all the traditions of our profession, that it is an essential part of all the ethics of the profession, for without that union of purpose which it signifies we shall be unable to attain the high purposes of our calling, and so disunion steps in.

Let us examine this phase of the subject for a moment. If we allow disunion to creep in we shall find ourselves hopelessly separated from the high ideals and traditions of the Profession. Disunion would disintegrate all the essential parts of those things we value most in the practice of our calling, and it would be impossible to attain the best in all those things that are associated with our profession.

With disunion we shall be so hopelessly disunited as to destroy the continuity, the unity or the union of all that we cherish. In other words there would be no traditions or landmarks if you will, left for us, and we would then be divorced from everything that we value most in our profession.

And so, ladies and gentlemen, "United we stand—divided we fall." None would doubt the wisdom of this statement. Let us then, in the words of the motto on the medallion I have referred to, "Make all sure we are One." For, in the words of Edwin Markham:

"The crest and crowning of all good,
Life's final star, is Brotherhood."

I cannot close without some slight reference to those who have so kindly assisted me during the past year. To the various members of the Council, who gave of their time unstintingly, I express my appreciation for their kindly co-operation and assistance, and for their painstaking attention to the various matters that came before us. In particular I wish to pay a tribute of thanks to our Secretary for his untiring efforts and the patient manner he exhibited in looking after the various affairs of the Association, as well as his kindly assistance in every circumstance.

Conclusion

In the foregoing remarks I have endeavoured to present to you the facts of the year's working as I see them. During this year I have endeavoured to serve to the best of my ability. However, such service will not be very efficacious if it stops at the officers elected to serve for the year, no matter how well they may have carried out their duties. The welfare of the Association, and all that it stands for, must appeal to and be

adopted by every one of its members, for then and then only can we present a united front to overcome all our difficulties as they may arise. And so I close with the words of Theodore C. Williams:

"Life is a voyage. The winds of life come strong
From every point; yet each will speed the course along,
If thou with steady hand when tempests blow
Canst keep thy course aright and never once let go."

J. Martland, Pres.

MANITOBA

At the Annual Meeting held at the Fort Garry Hotel, Winnipeg in January last, Mr. George G. Teeter was elected President, and Mr. Lawrence J. Green, Vice-President. Following are the other members of the 1945 Council: Neil K. Brown, C. W. U. Chivers, Wm. Fingland, R. E. Moore, E. Fitz Munn, M. S. Osborne and G. Parfitt.

A welcome was given to Mrs. H. M. Lord, being the first lady to become an Architect in Manitoba.

An interesting report was given by Professor Osborne in connection with the Department of Architecture and Fine Arts at the University of Manitoba. He reported a very satisfactory condition as regards enrolment, being eighty-two altogether: 50 in Architecture and 32 in Interior Decoration. Sixteen years ago, there were about thirty. He was pleased to report that the R.A.I.C. medal had been won this year by Ernest Smith. The Association voted to continue the Scholarship to the Student receiving the highest aggregate of marks in the third year. Also that an additional scholarship be granted to the Student in the second year with the highest aggregate marks.

It was decided to raise the Annual dues of the Association from \$15.00 to \$25.00, to cover additional expenses that may be incurred during the year.

The matter of Contractors preparing their own plans was fully discussed, and the Council were instructed to find out if it would be possible to change our Act to limit such practices. This brought up the matter of advertising as a means of educating the public to the value of Architect's services, and a committee was appointed to study this question and to report on a scheme of Provincial advertising.

A resolution was also passed to take up the matter with the Institute to determine if advertising throughout the Dominion would be possible.

The President regretted the passing of Percy Over and John Woodman, two members who had been actively connected with the early history of the Association, both their names being mentioned in the inaugural meeting of the Association on May 15, 1906.

Following the Annual Meeting, a dinner was held at which thirty-six sat down. The guests were Dean E. P. Fetherstonhaugh, of the University of Manitoba; Mr. J. F. Hyde, Surveyors Association; Mr. Rivington, Professional Engineers; Mr. H. M. White, Winnipeg Builder's Exchange. Also students of The Architectural Department of The University of Manitoba.

E. Fitz Munn.

ONTARIO

Apparently one of the privileges of a Provincial President of Architects' Association is to carry the ball when there is no one else left to throw it to, so I find myself left responsible for this month's letter, and with very little time left before publication.

As most of my time this year so far has been taken up preparing for, and presiding at the Annual Meeting of the O.A.A., held in Toronto on the 27th of January, it seems to me that it will be good policy for me to outline some of the outstanding features of that meeting.

The difficulties of making suitable arrangements elsewhere led us to the decision to hold all our meetings and functions at the King Edward Hotel. This proved to be a very happy choice; our members had a much better opportunity to fraternize, and everybody seemed to take full advantage of the opportunity, and a splendid feeling of friendliness prevailed throughout the whole day.

One of the big results of the Business session in the morning was the unanimous decision of the Association to support the R.A.I.C. in any move for expansion of their usefulness, by establishing a Head Office in Ottawa, and a regular full time National Secretary or Manager, and to raise the fees when necessary, to accomplish this desirable forward movement.

Another step forward was made in the adoption of the Housing and Town Planning Committee's splendid report, which included recommendations that will be far reaching if, as, and when, they are fully carried out.

This Committee have done a very complete and extensive work and are planning further advances and improvements that will meet with the wholehearted approval of the Profession generally.

The members of our Joint Committee of the O.A.A. and the Professional Engineers of Ontario, reported progress and very good co-operation between the two bodies. Since the Annual Meeting there have been other satisfactory conferences of this Joint Committee, which promise further definite improvement in our relations.

A new departure was reported in a conference between representatives of our Association, and the General Contractors' Association; many items of mutual interest were discussed, and we can expect good results for all parties to ensue from these meetings. We made a particularly happy choice of speakers for the Annual Meeting. At luncheon, Mr. J. Lance Rumble gave a humorous address on Post War Planning. This was real relaxation after the morning session, and surely convinced everyone present that there was a lot of time, talent and money wasted in futile discussion of this subject.

A pleasing and instructive feature of the afternoon was the presentation of a paper on "War Time Construction Activities in the U.S.S.R." This was prepared by Mr. P. P. Novojilov, New York Representative of the Soviet Government Purchasing Commission. In his absence, which was due to illness, the paper was read by Miss Seamens. A Russian lady Architect, Mrs. Altzov, was also present and after the paper was read, answered questions relating to conditions in her country.

Professor R. F. Legget gave us a very interesting and informative address — "The future of Architect-Engineer Relations."

At the Annual Dinner, held in the evening, Professor K. Grant Crawford, of Queen's University, spoke on "Housing and Municipal Government."

Both these addresses were timely and worth while, and we have hopes of them being published in "The Journal."

Presentation of the Medal Winners from the University of Toronto, and Certificates to the newly elected Members of the O.A.A. was also a pleasant feature of the Dinner.

Mr. J. P. Hynes was inducted in the Office of Secretary Emeritus of the Association, and presented with a Silver Salver, suitably engraved for the occasion. The presentation was made by Gordon A. West, F.R.A.I.C.

Mr. Merrill Cameron, Chairman of the Ottawa Chapter, contributed several delightful Tenor Solos, accompanied by Gladstone Evans at the piano.

Judging by comments, everyone present seems to have enjoyed a pleasant and profitable day.

W. J. Abra.