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Royal Architectural Institute of Canada

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CONTENTS

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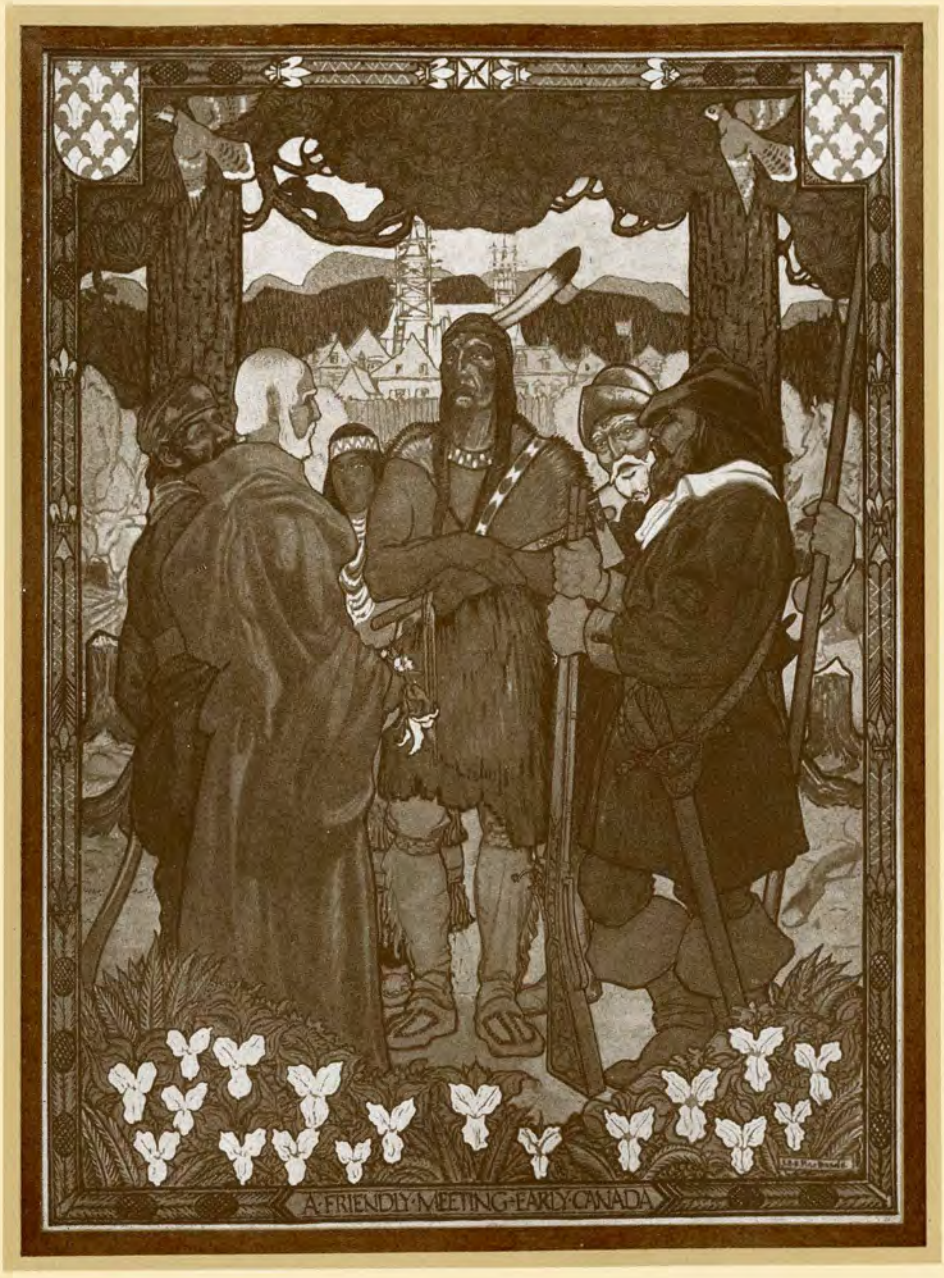


MURAL DECORATIVE PAINTINGS COMPETITION
ROYAL CANADIAN ACADEMY OF ARTS

FIRST PRIZE SKETCH DESIGN

J. E. H. Macdonald, A.R.C.A., O.S.A.

The Journal Royal Architectural Institute of Canada

Volume 2 TORONTO, MAY-JUNE, 1925 Number 3

Editorial

FEATURE ARTICLES IN THIS ISSUE

THIS issue of the JOURNAL is devoted to the Allied Arts and features the decorations of St. Anne's Church, Toronto, by J. E. H. Macdonald, A.R.C.A., also the Craftsmanship of Paul Beau and some of his Wrought Iron Work executed for the Parliament Buildings at Ottawa. It is the hope of the JOURNAL to appeal to the other arts allied with architecture and in time present not only Architecture, the Mother of Arts, but also Sculpture, Paintings, Mural Decorations and Craftsmanship.

MEMBERSHIP LIST

A complete and up-to-date list of all members of the Royal Architectural Institute of Canada is included in this issue. As the Year Book has been discontinued, it is the intention of the Institute to publish the by-laws and list of members each year in one of the early issues of the JOURNAL. Extra copies of the membership list have been printed and can be secured from the Honorary Secretary, Mr. Alcide Chaussé, whenever required.

YEAR BOOK

Our attention has been called to the publishing of the Year Book for 1925 which has not been authorized by the Institute. We take this opportunity of advising all members of the Institute and advertisers that by a resolution passed at the last Convention of the Royal Architectural Institute of Canada, it was decided to discontinue the Year Book, and we therefore disclaim any responsibility for its publication or for the information contained therein.

DES MAISONS A NOUS—BETTER HOMES

A campaign for better housing in Montreal has just been started by "La Presse." The campaign is to encourage citizens to own their own homes. Public bodies have already become interested in the campaign, and if successful, it will without doubt improve housing conditions in the City of Montreal. It has been suggested that in order to attain this result a competition be organized in which architects and engineers would be invited to compete. They would be asked to prepare plans of different types of houses, but adapted as much as possible to local conditions and character of the people. We commend the idea as an excellent one, and we sincerely hope that public spirited men as well as members of the architectural profession will assist in making this campaign a success.

THE ARCHITECTURAL AND ALLIED ARTS EXPOSITION

The article appearing in this issue on the Architectural Exposition held in the Grand Central Palace, New York, recently, gives a rather interesting description of this Exposition. It was without question the largest exhibition of its kind ever held on the American Continent. The American Institute of Architects, and the Architectural League of New York, deserve all the praise that has been given them for organizing such a wonderful display of architectural exhibits as well as sculpture, mural decorations, and other allied arts.

We are proud to say that Canada was well represented by a large exhibit of photographs of outstanding Canadian buildings. Professor P. E. Nobbs and his committee are to be congratulated on their choice of the photographs and the arrangement of them.

We would like to throw out a suggestion that the photographs exhibited at this Exhibition should be brought to the Canadian National Exhibition and exhibited there.

AWARD OF MEDALS BY THE AMERICAN INSTITUTE OF ARCHITECTS

Canadian architects are deeply gratified to learn of the posthumous award made by the American Institute of Architects of its 1925 gold medal to the late Bertram Grosvenor Goodhue at its recent Convention. The late Mr. Goodhue had many Canadian admirers of his distinctive work in Gothic architecture. The 1924 gold medal of the Institute was awarded to Sir Edwin Landseer Lutyens of London, England. Sir Edwin came to New York from India to receive this medal, which was presented to him by Mr. Everett Waid, president of the American Institute of Architects, at the Metropolitan Museum of Art on April 24th, 1925. Sir Edwin Lutyens has for some years been an outstanding figure among the architects of England and has been responsible for many notable buildings throughout the British Empire.

The American Institute of Architects also awarded the gold medal for Educational and Institutional Buildings to Messrs. Sproatt and Rolph of Toronto for Hart House and the Soldiers' Memorial Tower, University of Toronto.

AMENDMENT TO THE ONTARIO ARCHITECTS ACT

The Provincial Legislature of Ontario have amended the Ontario Architects Act of 1890 to the effect that the Council of the Ontario Association of Architects now have authority to prescribe the scope of examinations to be held by the Board of Examiners and the evidence to be furnished by candidates as to their previous training, experience, and good character for admission as members of the Association.

This is a step forward for the profession in Ontario and will result in a more careful supervision of an architect's qualifications.

The Secretary's Page

ALCIDE CHAUSSÉ
Honorary Secretary, Royal Architectural Institute of Canada.

A CABLEGRAM from the Singapore Society of Architects was received by the Honorary Secretary of the Royal Architectural Institute of Canada, requesting immediately copies of all Architects' Registration Laws at present in force in Canada so that they may be of assistance to them in obtaining registration in Singapore.

* * *

The following communications have been received from the Royal Institute of British Architects.

R.I.B.A. COUNCIL SESSION, 1925-26

Under the terms of the new By-law 29, it is provided that the Societies in alliance with the R.I.B.A. in the British Dominions overseas shall be represented on the R.I.B.A. Council as follows:—

"(d) Four representatives of Societies in alliance with the Royal Institute in the British Dominions overseas, that is to say, one representative nominated by the Council of each of the following, viz.:—the Royal Architectural Institute of Canada, the Federal Council of the Australian Institutes of Architects, the New Zealand Institute of Architects, and the Union of South Africa Association of Architects, if and when established.

"Every such representative of Allied Societies in the British Dominions overseas must be a Fellow of the Royal Institute."

The Council will be much obliged if the Council of the Royal Architectural Institute of Canada will proceed to appoint one representative, who must be a Fellow of the Royal Institute.

R.I.B.A. DIPLOMA IN TOWN PLANNING.

The Council of the R.I.B.A., on the recommendation of the Board of Architectural Education, have resolved to accept a modified examination in the case of approved candidates from the Dominions until it is possible to make arrangements to hold the whole examination overseas.

The Council have decided:—

(1) That the Thesis required under Section 2 of the regulations (see form of application) shall be dispensed with and that the modified examination shall consist of the written examination; the candidates being required to make application in the usual way, namely, by submitting in support of their applications:—

(a) An original study illustrated by sketches of an existing town or part of a town.

(b) An original scheme for site planning, town planning or town development with a description.

(c) A written thesis on a subject appertaining to town planning, accompanied by a plan or plans.

(2) That the written examination shall be held under the auspices of the local Dominion Allied Society. The question papers to be sent from the R.I.B.A. and to be practically the same as those used for the examination held in London.

(3) That the examination work of the candidates shall be sent to London for adjudication by the Examiners.

(4) That the R.I.B.A. Town Planning Examiners shall be empowered to require candidates to submit, with their examination work, complete drawings of a scheme.

There would not, of course, be time to hold the examination under this scheme this year, i.e., 1925, as it will be necessary, in view of the fact that the same examination questions will be used, to hold the examination overseas and in England as far as possible at the same time of the year.

I shall be glad if you will let me know whether you wish to conduct the examination on these lines. If you desire to do so, I would suggest that an announcement be made drawing attention to the fact that the examination on the lines indicated above will be held in 1926. Candidates would, of course, in the first instance be required to send their application to be allowed to sit to England.

* * *

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

PRIZES AND STUDENTSHIPS 1925-1926

The following prizes will be offered:—

PRIZES FOR DESIGN

The Tite Prize: a Certificate and £50 for travel and study in Italy. The Soane Medallion and £150 for travel and study abroad. The R.I.B.A. (Henry Jarvis) Travelling Studentship: £250, at the British School at Rome.

SKETCHING AND MEASURED DRAWINGS PRIZE

The Royal Institute Silver Medal and £50 for Measured Drawings.

POST-GRADUATE PRIZES

The Owen Jones Studentship: a Certificate and £100, for the study of ornament and colour decoration. The Royal Institute Silver Medal and £50 for an Essay. The Henry Saxon Snell Prize: a sum of £60. The R.I.B.A. (Alfred Bossom) Travelling Studentship: a Gold Medal and £250 and Silver Medals, for the study of Commercial Architecture in America. The Grissell Gold Medal and £50, for Design and Construction.

OTHER PRIZES

The Ashpitel Prize: £10 (in books). The R.I.B.A. Silver Medal for Recognized Schools. The R.I.B.A. (Archibald Dawnay) Scholarships at the Recognized Schools. The R.I.B.A. Scholarships at the School of Architecture, Cambridge University. The R.I.B.A. (Henry Jarvis) Studentship: £50, at the Architectural Association London School of Architecture. The R.I.B.A. (Howard Colls) Studentship at the Architectural Association London School of Architecture. The R.I.B.A. (Donaldson) Medals at the Bartlett School of Architecture, London University.

The R.I.B.A. Prizes Pamphlet containing the revised regulations and full information on the various Prizes and Studentships and the detailed programmes for the competitions may be obtained (price 1/-) at the R.I.B.A., 9 Conduit Street, London, Eng., W.1.

INTERIOR ST. ANNE'S CHURCH, TORONTO, SHOWING CHANCEL, TWO PENDENTIVES AND PART OF DOME

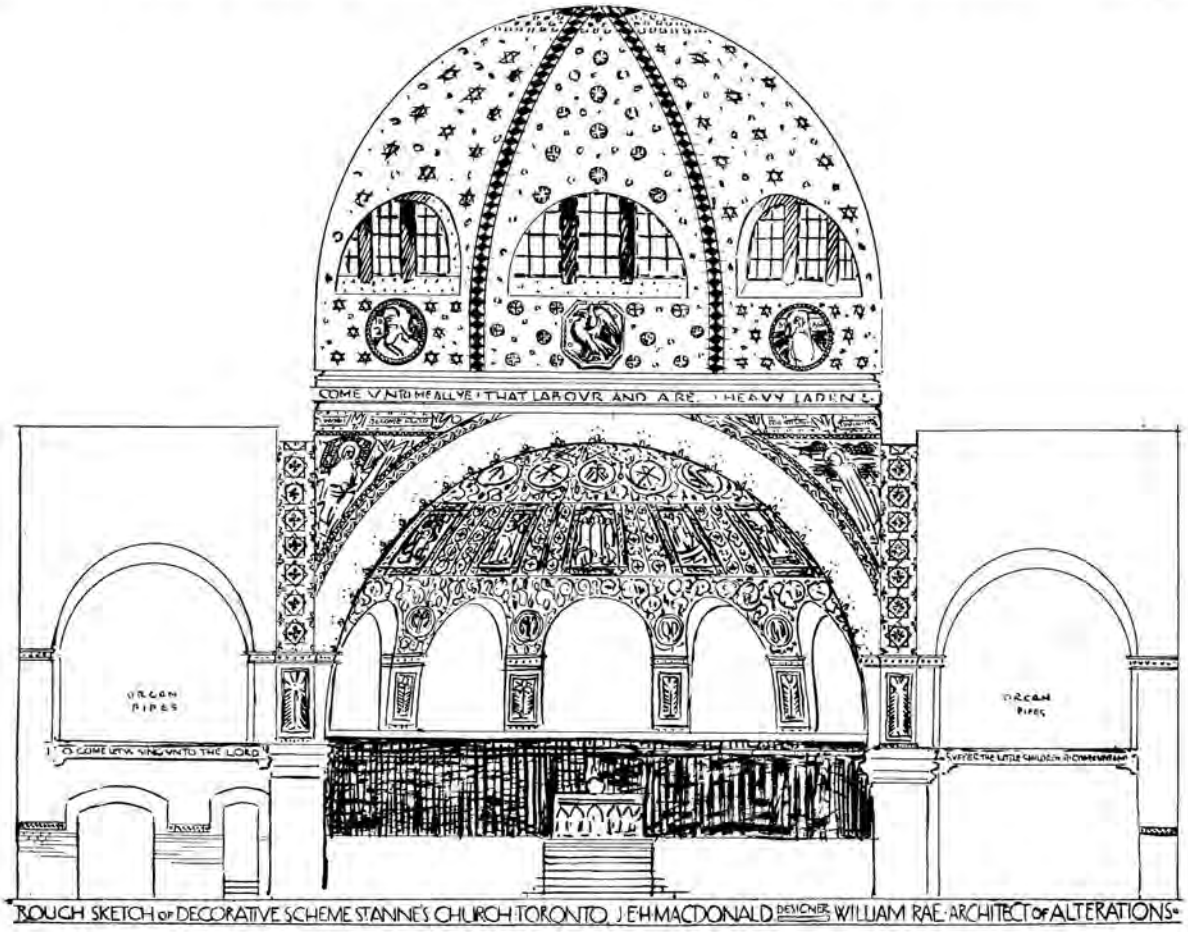
Interior Decorations of St. Anne's Church, Toronto

By J. E. H. MACDONALD, A.R.C.A., O.S.A.

IT'S a far cry from Gladstone Avenue, Toronto, where a big chocolate and ice-cream factory blows a sweet steamy breath over the Church of St. Anne's, to Constantinople and "that marvelous and costly temple, yclept St. Sophie," but there is a connection. The little domed building of St. Anne's could have had no other architectural ancestry, and though time has thrown it far away from the parent stem, through many a changing influence, dwarfing and debasing and mechanizing the great original inspiration, the ancestry remains. Standing under St. Anne's dome, one can imagine something of the grandeur of the dome of St. Sophia, for that lifts itself in dim and starry blue 180 feet above the pavement, or about three times the height of St. Anne's. It is, perhaps, typical of our time, that the factory should overshadow the Church. And who could interpret the deeper significance in a chocolate factory so doing. Nevertheless the Church has its own life. And in the fact that St. Anne's, for instance, has attempted to beautify its interior, there may be a greater significance of inner religious vitality than a hasty comparison of factories and churches might suggest.

This fact seems to connect our busy mechanical period with the far-off poetic days when the church was the soul of the town and its beautifying the ideal of the rich, and the devotion of the artist. Stepping down quickly in time from the great St. Sophia, we have the churches of Ravenna, golden with mosaic, then the chapels and churches of Florence decorated like missals by Giotto and his associates, then the Titan dreams of Michel Angelo and the serene classic nobility of Raphael, when the painting genius of man apparently exhausted itself and gradually sank into decline. A slow revival seems to be taking place in our own times. Beginning in England, most definitely perhaps in the work of the Pre-Raphaelites, it is shown there in many a fine decoration for Town Hall or Exchange or Cathedral. The Americans have done much towards this revival, as they consider mural painting almost a necessity for their important public buildings, and one hears constantly of great commissions to leading artists for the decorations of this or that State Capital or Library. Churches are not often mentioned. They seem to be left more to the trade painter or decorator, repeating mechanically in stencil, the stiff formalities of respectable shop practice.

It is difficult to say how Canada stands. We have such a long way to look from Coast to Coast. We hear rumors of commissions sent abroad for decora-



ROUGH SKETCH, GENERAL SCHEME, ST. ANNE'S DECORATION, LOOKING TOWARDS CHANCEL

tive paintings in new Parliament Buildings east and west, but these works are actually less known to us than the decorations of the Congressional Library at Washington, the Boston Library, or the Cleveland Law Courts. Canada seemingly gets her walls painted, but not decorated. Giotto would be out of a job among us, and Michel Angelo would move from Toronto to New York.

This makes the decoration of St. Anne's interesting to us. No one who had anything to do with the work, remembering the standards of Giotto or Ravenna, would claim great artistic merit for it. But it was a local effort, honestly and enthusiastically made, by a congregation moderate in means and ritual, and should perhaps be described if only for its rarity. So far as I know, St. Anne's is the only Anglican Church in Toronto which has attempted to carry out a complete scheme of pictorial and ornamental decoration. St. Patrick's Roman Catholic Church is completely decorated, and very finely done with good color and design, but its pictorial decoration is not as varied as St. Anne's.

The church is not a new one. It is some fourteen years old and had never been painted. The walls were a brownish concrete color, so dull that they gave no indication of the true architectural form. It was impossible, for instance, to appreciate the height or curving of the dome. To look up into it was just to look into a brown hole, and it was made one of the great aims of the decoration to increase the sense of height of the dome, and to bring out its form. In fact the decoration generally aimed to define and improve the architectural features. The general appearance of the building was greatly improved before decorating, by replastering arches and columns, the enlarging of arches on either side of the chancel over the organ and the removal of a gallery which projected into the body of the church and interfered with a clear view up into the dome, from the main entrance. All this made for solidity and spaciousness.

The style of the building gave the clue to the style of decoration, disregarding the Gothic canopied stained glass windows, etc., but no attempt was made to follow closely any particular example of Byzantine work. It was also thought by those in charge of the work, that the religious feeling of the people of St. Anne's would be best expressed by a style of decoration combining the flat treatment and strong simple coloring of the Byzantine style with the completer illustrative quality of later work, down to Giotto. Certain early conventions of Christian Art were adopted as they were thought to be more in harmony with the evangelical character of the church congregation than later pictorial developments. It was desired to have the whole decoration bright in color, with as much gold as could be reasonably used. Most of it was to be roughly drawn to scale by the designers working in co-operation with the architect in charge. The designer was to have the contract for all the painting and to do everything himself if he wished, but to save time and spread the work and make it more the expression of a growing body of local decorative painters, rather

CHANCEL CEILING, ST. ANNE'S CHURCH, TORONTO
The photograph reverses the values of the decoration as the scroll work is acturally lighter than the blue background

than of an individual, as many as possible were brought into it. The pictorial painting was separated from the flat and ornamental painting and it was done co-operatively but independently, all the associated artists working in their own studios, from small scale designs prepared by the decoration contractor, keeping their work in close harmony with the general design, using the same strength of colors throughout, and drawing on a common stock of materials for their supplies. This gave a share in the work, separated from the flat and ornamental painting, to ten artists, including two sculptors, and it may be said that all enjoyed the experience.

The general scheme of the decoration may be seen

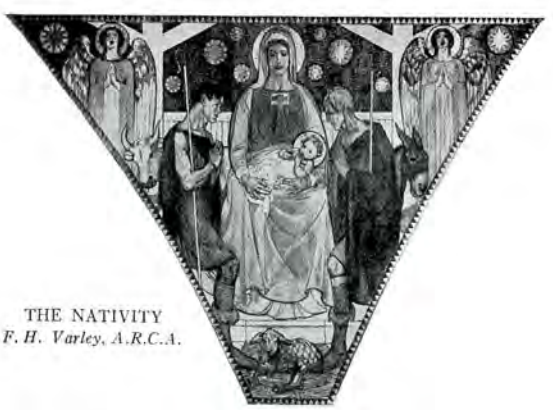
ADORATION OF THE MAGI, *Painting in Chancel, Frank Carmichael*

ENTRY INTO JERUSALEM, *Painting in Chancel, Frank Carmichael*

THE TRANSFIGURATION, *Painting in Chancel, J. E. H. Macdonald, A.R.C.A.*

RAISING OF LAZARUS, *Painting in Chancel, Thoreau Macdonald*

in the rough sketch of the section. This shows it as one faces the chancel on entering the Church by the main door. A limited number of colors were used, and combined or reduced they gave a great variety, but the same color in the same tonality appears somewhere in each decoration. The colors were a Crimson Red, Venetian Red, Yellow Ochre, Ultramarine Blue, Permanent Green, Black, Umber, Ivory White. At St. Anne's one always looks into the dome first. To assist the eye in appreciating its height and concavity, the edges of the eight sections of the octagon were defined by a broad white border carrying a dog-tooth pattern in grey-black. This vibrates up into the centre of the dome, and the varying perspective given by the different angles of the sections puts a lively interest and variety into the simple design. It does its work, and it is impossible now for any one looking up into the dome not to realize its height and curves. The whole dome is colored in a strong tone of the red, with a powdering of various designs—sun and star emblems, the Shield of David, old Byzantine cross devices and Trinity symbols. These are in cream white on the red ground. There is a concentrated clustering of the stars in the centre of the dome, and the old pale glass and thin leading, were replaced by a warm amber with a very heavy lead, greatly enriching the color and strengthening the whole effect by the firm rectangular defining of the panes. The cornice of the dome is in ivory white with a blue middle section on which is a text of strong classic 14-inch Roman letters in gold leaf. Immediately above the cornice a decorative panel is set in each section of the dome. There are four octagonal pieces of plaster modeling in high relief, colored in blue and gold and toned with brown, representing the symbols of the Evangelists, the eagle of St. John, the lion of St. Mark, the angel of St. Matthew and the ox of St. Luke. They are placed between circular painted panels showing colossal heads of the prophets Moses, Isaiah, Jeremiah and Daniel. The powdered symbols of the dome are appropriately placed in relation to these decorations, the Christian emblems forming a background for the Evangelist symbols, the Shield of David and others grouping round the prophet heads.



THE NATIVITY
F. H. Varley, A.R.C.A.

THE ASCENSION
H. S. Stansfield

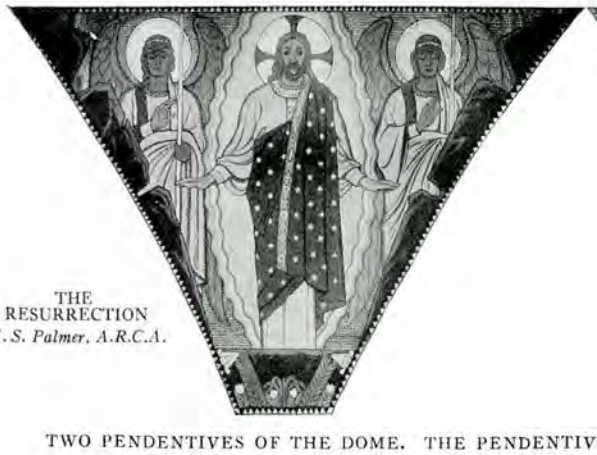
TWO PENDENTIVES OF THE DOME. THE PENDENTIVES ARE THE LARGEST PAINTINGS IN THE SCHEME BEING APPROXIMATELY FIFTEEN FEET WIDE AND TEN FEET HIGH

JESUS IN THE TEMPLE, *Painting in Chancel, Arthur Martin*

THE PALSIED MAN, *Painting in Chancel, Neil Mackechnie*

The four pendentives of the dome are the largest decorations in the Church. The actual size of the pictures themselves is approximately 15 feet wide by 10 feet high. And it is interesting to note in observing the paintings in position that the forward curving of the pendentive surfaces greatly adds to their impressiveness, as it increases the apparent height of the figures. Looking towards the chancel, the Nativity is on the left, the Crucifixion on the right, then the Resurrection and the Ascension. The unified color scheme binds these together though there is great variety in the treatment. They all have narrow borders of the dog-tooth pattern in Venetian Red and Gold, and the backgrounds are in painted gold, lined with Venetian Red, suggesting the mosaic of the ancient work, the halos and other principal parts being in gold leaf. The figures and accessories in these and all the pictures are strongly defined with an outline of Venetian Red which softens and warms the general color effect and sharpens the forms.

The chancel ceiling is in blue with an elaborate vine scroll pattern in ivory white with leaves in Venetian Red and the grape clusters in gold. Below the line of the paintings the color scheme is reversed. Overhead there are large medallions of traditional emblems freely treated—the Tree of Life, the Lamb on the Mount, Greek monograms, etc., all in gold outlined with blue and filled with ivory white. The paintings are set in wide richly ornamental borders of Byzantine discs and entwined scrolls in strong color and gold, and they are narrowed at the top to follow the diminishing lines of the ceiling sections. The subjects are so arranged as to bring out the idea of the Divinity of Christ, the Saviour, Lord and King. Taking the pendentive on either side of the chancel as the beginning and ending of the story, we have the Nativity, and over the south organ arch, the Adoration of the Magi, then Jesus in the Temple, Raising of Lazarus, Stilling the Tempest, Healing of the Palsy, and over the north organ arch, the Entry into Jerusalem, finishing with the pendentive of the Crucifixion. Below the pictures, between the chancel windows, a small circular plaster relief is laid over the joint of the vaulting sections—a Byzan-



THE RESURRECTION
H. S. Palmer, A.R.C.A.

THE CRUCIFIXION
J. E. H. Macdonald A.R.C.A.

TWO PENDENTIVES OF THE DOME. THE PENDENTIVES ARE THE LARGEST PAINTINGS IN THE SCHEME BEING APPROXIMATELY FIFTEEN FEET WIDE AND TEN FEET HIGH

tine peacock and urn design softly colored in grey-blue, grey-green and gold.

Above the large window in the south transept is a painting of St. Anne and over the Soldier's Memorial window in the north transept one of St. George.

The coloring of the whole scheme is so distributed as to define the constructive features of the architecture. The side walls and arches are in yellow ivory white, slightly darker in tone than the natural color of the Caen stone used in the columns and chancel front. The ceilings are in blue—a reduced ultramarine, but fairly strong in tone. A stencil pattern in umber, green and ochre, covers the soffits of the dome arches and is brought up a little over the sides of the arches to enrich the edging. The soffits of the vaulting arches are treated everywhere in the red of the dome ceiling and are bordered with an alternating block pattern in blue and gold. A red border is carried round the walls and main windows to soften the transition between the brick work and the light walls. This is stencilled with a small chequer pattern in black accented in corners and at intervals, with a blue oblong or square, carrying one of the ceiling devices of the dome in gold. A panel design of lilies in gold and yellow-white on green is repeated in the design, especially below the wall moulding between the chancel windows, and at the base of the arches. Improvements were made in the lighting of the church. Most of it is now indirect and concealed. This increases the feeling of spaciousness of the interior and the warm glow reflected by the red ceiling of the dome has a very satisfying combination of grandeur and comfort.

One generally has regrets in looking over a past work. Here the regret is not so much that things were done as they were, as that many things were left undone. There are vacancies in the design. The rear part of the church, for instance, seems neglected in comparison with the chancel. Perhaps, after all, our age asserted itself and the neighbor factory nudged the church to "step lively." At all events the work was simplified and hastened so that a six month's filling of the church interior with scaffolding could be ended. One quit the work with more regret than pleasure, for one felt that in the beautifying of this local gathering place—this home for the soul of a wide neighborhood—rector, congregation and workman alike were serving a worthy ideal. Personally, as the general designer, I am glad to have had a share in it, and to acknowledge my thanks to that idealistic rector, Canon Skey, to Mr. Wm. Rae, the Architect in charge of the alterations, to Mr. Baldwin, his partner, who designed detail for the chancel ceiling and elsewhere, and to the associated sculptors and painters, Francis Loring and Florence Wyle, Frank Carmichael, the late Arthur Martin, Neil McKechnie, H. S. Palmer, A.R.C.A., Herbert Stansfield, F. H. Varley, A.R.C.A., Thoreau Macdonald, and James Blomfield, and to Mr. John Keeley, the contractor for the flat and ornamental painting.

THE TEMPEST, *Painting in Chancel, J. E. H. Macdonald, A.R.C.A.*

INTERIOR ST. ANNE'S CHURCH, TORONTO. SHOWING PENDENTIVE AND PART OF CORNICE AND DOME
Pendentive painting, The Resurrection, by H. S. Palmer, A.R.C.A.

ST. ANNE'S CHURCH, TORONTO. PAINTING ON WALL OF TRANSEPT
Thoreau Macdonald

HINGES AND DOOR PULLS ON MAIN ENTRANCE TO SENATE CHAMBER,
PARLIAMENT BUILDINGS, OTTAWA

J. A. Pearson, Architect L. S. Lemasne, Designer Paul Beau, Craftsman

FIRE DOGS AND FENDER, SPEAKER'S STUDY, HOUSE OF COMMONS, OTTAWA

J. A. Pearson, Architect *L. S. Lemasne, Designer* *Paul Beau, Craftsman*

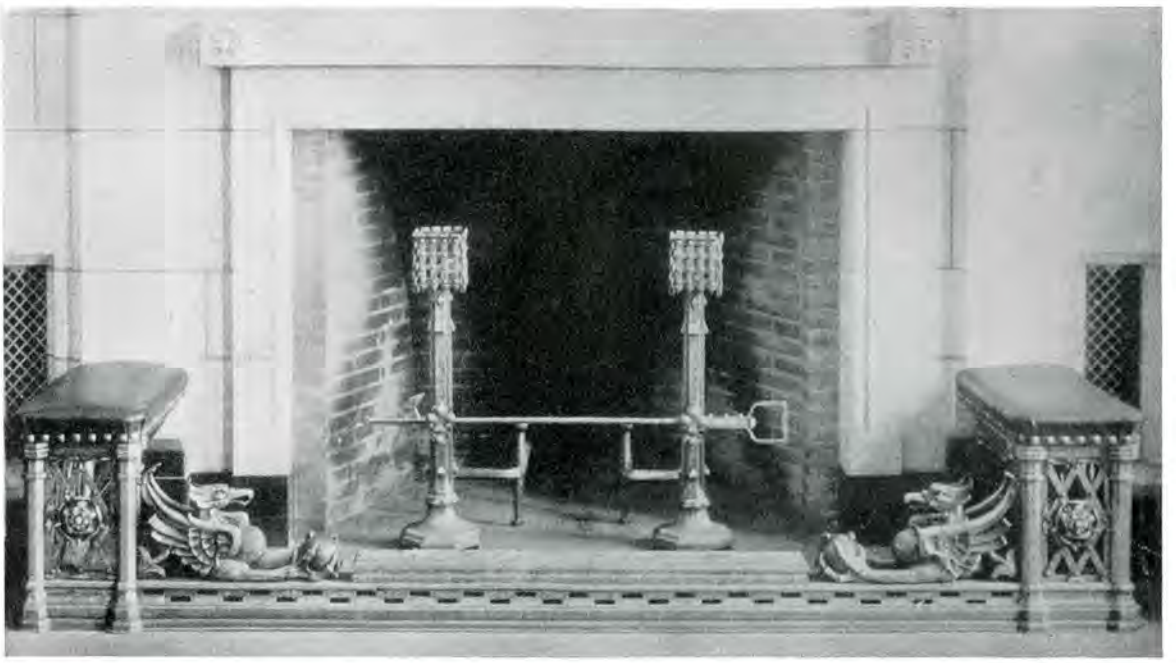


FIG. 1. FORGED IRON FENDER, FIRE DOGS AND POKER, GOVERNMENT LOBBY, PARLIAMENT BUILDINGS, OTTAWA
J.A. Pearson, Architect L.S. Lemasne, Designer Paul Beau, Craftsman

Paul Beau Revives a Lost Art

By JULES TREMBLAY
National Secretary, Canadian Authors' Association

WROUGHT iron is one of the most romantic treasures bequeathed to modern times by Gothic art, as an educational reminder of a period just preceding the Flamboyant and early Renaissance. Craftsmen worked wonders, in continental Europe, shortly after the ogival and arch-butting cathedrals shot their fusiform spires or bluff towers to vertiginous heights. Many were the grills, railings, strong-box, fender and hearth accessories, that exemplified a tendency towards ornament, without impairing a much needed strength. Doors were hinged and locked with devices that could offset the weight of axe or ram. Sword-cutlers and breast-plate beaters, designing steel weapons or pectorals, chased and hammered the ductile substance of iron into complicate forms that shamed their forbears.

From a rivalry between refined workers and smiths adduced to coarser ways, came the successive evolutions of the art. The best men carried their inferiors into line, progress was quickly secured, and public taste, growing with the advance of artists, neglected older traditions. Thus grills of protection became light in style, and harbored heraldic symbols as a means of decoration; fire-dogs abandoned their former nudity, accusing here and there a more elaborate execution. Schools fought for supremacy. France, Germany, Spain kept the lead with differentiated moods; the first had a liking for delicateness of outline; the second thought heavily, and overburdened a motif with gross incise; the third granted a broad interpretation to the ensemble, so that the nature of the metal were well seen. Most of the iron work of France has either badly weathered or sunk under coats of paint, and that prevents a distinctive study outside of the museum. But in Spain the climate has given a uniform hue of bronze to the wrought objects the traveller can review outdoors. The art itself, for years and years, has almost entirely vanished. Commerce claimed quantity rather than a lengthy method entailing quality, and that sufficed to kill artistic incentive.

Now this neglected craft has been honorably revived in Canada, and therein lies a rich cultural vein, the products of which can be admired in the

FIG. 1A. DETAIL OF GRIFFIN, GOVERNMENT LOBBY FENDER

new Parliament Buildings at Ottawa. The craftsman is Mr. Paul Beau, of Montreal, who for the last twenty years has worked the different metals with hammer, chisel and tongs.

How he came to undertake his decorative creations, and later to give his time to the embellishment of halls and galleries of the legislative palace, constitute, with the description of the work itself, an interesting story.

Born in Montreal, a son of the late Charles Beau who had come from France in the early seventies, Paul Beau began his career as a clock-maker. He knew free-hand drawing and modeling. This he supplemented with a close study in the handling of metals. An innate premonition he had that a metal, because of its texture and appearance, could be advantageously used for certain purposes only, if beauty and duration were the desired goals. Travel in Europe and through the eastern States of America opened unimagined vistas to his artistic temperament. Here he saw the metal crafts carried to almost impossible results. Into the secrets of all schools he deeply inquired, but the Spanish method of treatment pleased him most, specially when he chanced to visit the Spanish-American Museum of New York, to which large and rich collections, secured in Europe at tremendous cost, had been willed or given by wealthy men of the States. His brother, Henri

FIG. 1B. DETAIL OF GRIFFIN, GOVERNMENT LOBBY FENDER

FIG. 2. CLUB FENDER, FIRE DOGS AND SCREEN, SPEAKER OF SENATE'S RECEPTION ROOM, PARLIAMENT BUILDINGS, OTTAWA

J.A. Pearson, Architect L.S. Lemasne, Designer, Paul Beau, Craftsman

NO. 3. IRON FENDER WITH BRASS INSERTIONS, OAK WOOD BOX WITH BEATEN IRON MOUNTS
HOUSE OF COMMONS READING ROOM, PARLIAMENT BUILDINGS, OTTAWA
J.A. Pearson, Architect, L.S. Lemasne, Designer Paul Beau, Craftsman

Beau, official painter with the Paris Archives, helped him in his comprehension of artistic facts until he felt that he, also, could emulate the masters of old. What stayed him further in his belief that renewed possibilities existed for metal working, lay at his very hands: for years he had kept a store of antiques in connection with his clock-making. Tests and essays revealed modes of treatment for hot and cold bars or foil, and none of the workable formulas escaped his perspicacity. In thus trying to decipher ancient arcana, he reached an enviable mastery in his calling.

The first notable attempt he brought to a satisfactory point, was a brass lustre of good design and finish. It surprised one of the most critical among Canadian architects, Mr. Maxwell of Montreal, who immediately secured the rare specimen. In a short time Paul Beau's name was known, and important orders came from the old Mount Royal Club (later destroyed by fire). Ever since Mr. Beau has specialized in wrought iron, brass and copper.

When Mr. John A. Pearson, architect, of Toronto (who with Mr. J. O. Marchand of Montreal, as associate, had charge of the Parliament Building contract), wished to have wrought iron congenial to the Gothic style of his edifice, he failed to see anyone in America who had the necessary training and historical background. He was on the eve of a voyage to England, where he thought he could meet specialists. His good fortune brought him in contact with Mr. Paul Beau.

"Such is the nature of the work I wish to have," said he, after seeing a few pieces of the Montrealer's craft.

That was in November or December, 1918. From that day Mr. Beau remained in the service of the Peter Lyall Co., builders, under Mr. Pearson, yet was granted absolute freedom in his work. His shop in Ottawa is to the east of the Senate wing on Parliament Hill.

Here he interprets ideas and creates, within the architectonic scope of the buildings he is to decorate. Apart from his own designs, he has worked out sketches of Messrs. A. S. Lemasne, of London (England), and Thomas Rankin, of the Public Works Department, in accordance with general

FIG. 4. FORGED IRON FIRE DOGS AND POKER WITH SHIELDS AND CROWNS IN BRASS IN SENATE READING ROOM

plans made by either Mr. Pearson, or the Departmental Chief Architect, Mr. R. Wright. Affiliated to no school in particular, Mr. Beau follows his own principles, with a leaning towards the methods of Spanish craftsmen of old.

A score or more of Mr. Beau's works, half of which at least are of his own design and execution, can now be seen in place, complete, save for a few railings that still await their brass or copper crown. Rough sketching is done in hot bar, or sheet, of Swedish iron just come from the mills. Four men attend to that part, and copy from pencil sketches when they can. The modeling, chiselling, chasing, and hammering is done on cold metal. Two finishers there are, besides Mr. Beau—men whom he himself trained from carriage smiths to the more picturesque pursuit of artistry. The great difficulty here seems to be the finding of men who can understand a perspective sketch. Wax, wood, or plaster models are necessary to give a clear idea of relief.

Of course, the trend is gothic, yet some anachronisms are unavoidable, as in the case of the British crown, which naturally differs from the imperial symbol of previous ages. Certain details also have to be rejuvenated, for the first iron adjuncts of wood and stone work were rather blunt. Nevertheless Mr. Beau avoids the tiresome lace-effect of Italian Renaissance, which were out of place here. The architectural tone must not be perverted.

In the Speaker's reception room of the Senate we see (Fig. 2) a club fender with regal and senatorial monograms enclosing, in a three-sided bay, a screen adorned with two griffin handles of an interesting line. Figure 3 shows an oaken wood box strengthened with beaten iron mounts; an iron fender with brass insertions, the whole of which is forged from bars. The floral ornaments are of heavy hammered brass. In the Senators' room, a fender is accompanied by a fire basket of artistic effect. The spark screen is surmounted with an imperial crown of beaten brass. The Speaker's study of the House of Commons possesses, besides the fender and fire-irons, hexagonal shielded dogs of perforated iron, carrying the Tudor rose of brass relief, and crown in sheet brass (Plate page 97).

Railings are effective in design. (Figs. 5 and 6.) That of the Hall leading to the Memorial Tower shows vine claspers and leaves, with the Tudor rose; some of the posts are tortive. A different twist is observed in the open work of the Hall of Fame bridge gallery. A very interesting group of emblems is in the North-East gallery stairway. Tudor rose, thistle, shamrock, fleur de lys and maple leaf (in centre), mark each post with discreet effect.

The main entrance to the Senate has doors on which the wrought iron work (Plate page 95) gives a fine example of craftsmanship. The members are many, and great care and skill are necessary to harmoniously balance the whole effect. In the Speaker's study a table reading lamp, glazed with native mica, is not without charm. The Grill of the Senate Chamber is a remembrance of yesteryear. Here the imperial crown is betwixt two halberds, forged and chased from bar iron. The motif is repeated in the two ogives. Figures 1, 1a and 1b indicate a master

FIG. 5. FORGED IRON RAILING, HEAD OF NORTH STAIRWAY

EMBLEMS—TUDOR ROSE, THISTLE, SHAMROCK, FLEUR DE LYS, AND MAPLE LEAF IN CENTRE

stroke in what seems to be a most difficult performance to the lay mind. The two griffins of the fender are hollow—hammered into form, and then chased to give the scaly appearance of the crop and nicely curved tail. The heraldic bird is made in separate parts. The fire-dogs deserve a look. They recall the old custom of portable fire-boxes.

Enumerations such as the above are of course very terse. Many other specimens could be outlined. An inkstand of British Columbia local color, is a fascinating one.

Before a truly Canadian atmosphere prevails in this kind of work, many years may not necessarily pass. The maple leaf, with its wing-like samara, the pine cones, and wheat crown, have been attempted with good success. When Paul Beau's example is followed, Canada will be the richer in the eyes of other nations. Art is a national asset that cannot be overlooked without danger, and the government of whatever color it may chance to be, will do well to encourage the nationalization of artifacts, at any rate in the public buildings of the country. The Dominion may well be proud of Paul Beau's success in lifting beautified movement from a lifeless bar of iron, and in giving a durable inheritance to the future, in this revival of a lost art.

FIG. 6. DETAIL OF WROUGHT IRON RAILING, PARLIAMENT BUILDING, OTTAWA
Richard Wright, Chief Architect, Dept. of Public works T. Rankin, Designer Paul Beau, Craftsman

The New York Architectural and Allied Arts Exposition

BY I. MARKUS
Secretary, Toronto Chapter, Ontario Association of Architects.

THE largest and most artistic Exposition of Architecture and its Allied Arts ever attempted was held at the Grand Central Palace, New York, for two weeks, from April 20th to May 2nd, 1925.

The Exposition was held under the auspices of the American Institute of Architects and the Architectural League of New York. Fifty-five chapters of the American Institute of Architects, twelve foreign countries, and architects, sculptors, mural painters, landscape architects, engineers, schools, craftsmen and manufacturers of building materials and equipment from all parts of the United States as well as other countries exhibited and made every effort to establish a new standard of interest in architecture and building. Grand Central Palace was transformed into a veritable architectural paradise. Not one square foot of the old walls, ceilings or floors was visible. Noted designers contributed their skill toward creating a setting equal to the architectural beauty exhibited.

The Exposition presented an appeal to the public and to all interested in the building industry, as well as to artists, craftsmen, constructors, mechanics and manufacturers. Every element of architecture; landscape setting and town planning; materials of construction; and sculpture and mural decoration; every class of building—monumental, ecclesiastical, commercial, residential; every kind of building material—steel, stone, marble, brick, wood or fabric; every kind of design—architects' drawings of the middle ages, designs of to-day, water colors, details, models, photographs—were all presented in the most comprehensive manner and in the most artistic fashion.

FOREIGN EXHIBITS

Canada, England, France, Germany, Italy, Spain, Sweden, Switzerland, Poland, Mexico, Czecho-Slovakia and the Baltic States sent over priceless exhibits. It is believed to be the largest and finest collection of architectural exhibits ever brought into the United States. England sent over the work of her most famous architects. The original drawings by Sir Gilbert Scott, R.A., of the Liverpool Cathedral; some of the works of Sir Edwin Landseer Lutyens, designer of the famous Queen's Doll House

COURT OF HONOUR AT THE ARCHITECTURAL AND ALLIED ARTS EXPOSITION IN GRAND CENTRAL PALACE, NEW YORK

and winner of the 1924 Gold Medal of the American Institute of Architects, the highest award the Institute can make; works of Sir Robert Lorimer, A.R.A.; Sir Reginald Blomfield, R.A.; Sir Aston Webb, K.C.V.O., and other English architects were shown. Works of Eliel Saarinen, famous Finnish Architect, who was placed second in the competition for the Chicago Tribune Building; Ivan Mestrovic, the Croatian, and many others were also shown. A striking new development in architecture which was considered by many eminent architects as possibly the only new architecture in the world to-day, was shown for the first time in America by the Baltic States.

The University College of London, the Architectural School of London, Liverpool University, the Architectural Association of London, the Royal Institute of British Architects, the Beaux Arts Institute, the American Academy at Rome, the Fontainbleau School of Fine Arts and other foreign schools sent over the winning architectural designs and sculptures of their annual competitions.

THE CANADIAN EXHIBIT

The Canadian Exhibit, which was arranged by a special committee of the Royal Architectural Institute of Canada consisting of Percy E. Nobbs (Chairman), John S. Archibald, A. Beaugrand-Champagne, Henry Sproatt and John M. Lyle, proved a very attractive one. Some of the photographs shown had been previously exhibited at the Wembley Exhibition.

The following is a complete list of the Canadian Exhibits:

Montreal Technical School, Montreal—John S. Archibald, Architect.

Bank of British North America, Montreal—Barott & Blackader, Architects.

Beaconsfield Golf Club Home, Beaconsfield, Pa.—David R. Brown, Architect.

An Office Building, Calgary, Alberta—Brown & Vallance, Architects.

Bathing Pavilion, Toronto, Ont.—A. H. Chapman, Architect.

A Residence, Toronto, Ont.—Charles S. Cobb, Architect.

Canadian Bank of Commerce, Montreal—Darling & Pearson, Architects.

Simcoe Hall, University of Toronto—Darling & Pearson, Architects.

A Residence, Westmount, P.Q.—Robert Findlay, Architect.

A Public School, Toronto, Ont.—D. R. Franklin, Architect.

Interior of St. Cyprian's Church, Montreal—J. Rawson Gardiner, Architect.

Land Titles Office, Toronto—Charles S. Cobb, Architect.

Shaughnessy Building, Montreal—Hutchison, Wood & Miller, Architects.

ONE OF THE MAIN AISLES DESIGNED BY HOWARD GREENLEY AT THE ARCHITECTURAL AND ALLIED ARTS EXPOSITION IN GRAND CENTRAL PALACE, NEW YORK

PORTION OF CANADIAN EXHIBIT AT THE ARCHITECTURAL AND ALLIED ARTS EXPOSITION IN GRAND CENTRAL PALACE, NEW YORK

Baillargeon Express Building, Montreal—Ernest A. Labelle, Architect.

Bank of Nova Scotia, Ottawa, Ont.—John M. Lyle, Architect.

A Furniture Shop, Toronto—John M. Lyle, Architect.

Residence, Victoria, B.C.—S. McLure, Architect.

Church of St. Gunegonde, Montreal—Marchand & Haskell, Architects.

Interior, Chapel of Grand Seminary, Montreal—Marchand & Haskell, Architects.

Residence near Toronto, Ont.—F. H. Marani, Architect.

Legislative Building, Regina, Sask.—E. & W. S. Maxwell, Architects.

Bank Building, Montreal—E. & W. S. Maxwell, Architects.

Residence near Toronto, Ont.—Mathers & Haldenby.

The Synagogue, Westmount, P.Q.—J. Melville Miller, Architect.

Residence at Dorval, P.Q.—Nobbs & Hyde, Architects.

University Club, Montreal, Canada—Nobbs & Hyde, Architects.

A Gardener's Cottage, Winnipeg, Man.—Northwood & Carey, Architects.

Additions to Chateau Frontenac (C.P.R.), Quebec—Mr. Painter, Architect.

Empress Hotel (C.P.R.), Victoria, B.C.—F. M. Rattenbury, Architect.

Public Library, Montreal—Eugene Payette, Architect.

Union Station, Toronto
Interior, Union Station Toronto
} Ross & Macdonald and Hugh C. Jones, Architects; J. M. Lyle, Associate Architect.

Branch Library, Toronto—Shepard & Calvin, Architects.

Legislative Building, Winnipeg, Man.—Frank Simon, Architect.

House of Eden Smith, Toronto—Eden Smith, Architect.

Soldiers' Tower, University of Toronto—Sproatt & Rolph, Architects.

Ridley College Memorial Chapel, St. Catharines, Ont.—Sproatt & Rolph, Architects.

Residence, Como, P.Q.—Philip J. Turner, Architect.

Crane Building, Montreal—Hugh Vallance, Architect.

The Connable House, Toronto—Wickson & Gregg, Architects.

Timothy Eaton Memorial Church, Toronto—Wickson & Gregg, Architects.

SMALL HOMES EXHIBIT

Over three hundred complete sets of plans for modern small homes that can be built for less than $10,000 was a feature of the Exposition. Over one linear mile of floor space was given over to this exhibit.

The drawings were the contributions of well known architects to the Small House Service Bureau, a non-profit-making organization and a branch of the American Institute of Architects, and were at the disposal of the general public. Special houses on a miniature scale, together with a complete model of a small village, also in miniature, were also shown. The largest home that could be built from these plans contained six rooms. A complete set of plans and specifications could be purchased at prices ranging from twenty to thirty dollars or at an average of about five dollars per room.

CITY PLANNING

Included in this Architectural and Allied Arts Exposition was the most comprehensive group of sketches, maps, photographs, including airplane views with indications of proposed changes, and models of replanned American and foreign cities that has ever been assembled.

The Regional Plan of New York and its Environs of the Russell Sage Foundation prepared a huge exhibit occupying 250 feet of floor space showing how the city can be altered to provide for the expected increase in population of the city and its environs to close to 16,000,000 by 1950. Many of the suggested plans involve radical changes. Triple-decked streets, arcaded sidewalks, buildings on a Babylonian scale, and veritable cities within a building are outlined.

More than twenty-five large cities that have already been partially or totally replanned are shown in drawings, colored photographs, and in many cases models, giving a striking contrast of their appearance before and after the work was undertaken.

Three hundred and twenty-five cities in the United States having an aggregate population of 35,000,000 have adopted zoning laws. The replanning of the city of Rheims, France, was also shown.

HUGE SCHOLASTIC EXHIBIT

A feature of the Exhibition was a most comprehensive exhibit of the work of architectural schools. Work of students in over seventeen American colleges who are between the ages of 18 and 25 years were shown. Six foreign schools sent over the works of their students. The winning drawings of the Paris Prize of the Beaux Arts Institute for 1922, 1923 and 1924 were exhibited for the first time. This competition is considered one of the most important student competitions in the United States and its yearly award consists of $3,000, including a two and one-half year scholarship. Strides made in architectural schools during the past twenty years have opened up almost undreamed of opportunities to the young architect. This exhibition afforded a splendid opportunity to study the work of foreign and American schools at one time.

PAINTING AND SCULPTURE

A very fine showing of decorative murals have been assembled.

Among the many eminent mural painters whose works were shown were Fred Dana Marsh, D. Putnam Brinley, Ezra Winter, Edwin Blashfield, Arthur Crisp, J. Mortimer Lichtenauer, Arthur Covey, J. Monroe Hewlett, and among sculptors Robert I. Aitken, Attilo and Furio Piccirili, Chester Beach, Edmond Amateis, A. A. Weinman, Salvatore Bilotti, and others.

Landscape architecture, crafts, and architecture in all its phases were also shown. More than two hundred commercial exhibitors who manufacture practically everything that goes into a home or office building from the chimney to the basement exhibited their products. Heating, lighting and furnishings were exhibited. Stones, marbles, stuccoes, fine woods, mantels, decorative objects of art, paints, painted finishes, wall coverings, tile flooring, upholstered fabric, plumbing fixtures, kitchen and pantry equipment, and other necessities in domestic life were shown.

The Exposition was correspondingly instructive to the building trade and technical professions, tending to develop a better understanding as well as an opportunity to make a survey of the latest and most up-to-date appliances which manufacturers of America have created and placed at the disposal of the building industry.

Structural features such as columns, beams, steel work, tubing, casings and other materials used in building construction were also exhibited.

As a whole, the exhibition was considered by architects to be by far the greatest architectural display ever attempted. Every possibility of a commercial aspect was done away with, as the exhibition committee decided that nothing could be sold or purchased at the exposition.

Mr. D. Everett Waid, president of the American Institute of Architects and chairman of the General Committee of the Exposition, was one of those responsible for bringing to New York the largest architectural exposition in the world.

The direction of the Exposition in its artistic aspects was in the hands of Mr. Howard Greenley. The Court of Honour illustrated herewith provided a wonderful setting for the exhibition. Harvey W. Corbett, president of the Architectural League of New York, was chairman of the Committee on Exhibitions, and Robert W. de Forest, president of the Metropolitan Museum of Art, was chairman of the Advisory Committee.

University Education in Architecture

By PERCY E. NOBBS, M.A., F.R.I.B.A., R.C.A.
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(*Continued from page 71, Mar.-April*)

It is not very difficult to trace the architectural misfortunes of the nineteenth century to the controversies of the eighteenth. The philosophy of one generation gives rise to the shibboleths of the next, and the rules of thumb of the next again. The "line of beauty" was the easy-virtued grandmother of the "dynamic" nonsense which has bewildered some of us of late. But the world grows up, and this is a self-conscious age. The embryo architect (in Canada at least) wants to know why. He is bewildered with a multitude of broken traditions amongst which to exercise a selective taste. The story of æsthetic thought enables him to appraise, and at times discount, the "hard sayings" in the literature of his subject. Moreover, the recent developments of æsthetic theory can afford him some assurance in the exercise of his critical faculties. Such is the case for instructing young architects in the philosophy of art.

We now proceed to a discussion of what this involves. By "theory" for architects is often meant those rules of thumb—"groups of three," "dominant proportions," etc.—which we most habitually apply in composition with respect to buildings of normal size, in normal material, for normal uses—a body of doctrine diluted with much superstition. It is something rather more serious than we have in mind.

Philosophy has not been insensitive to the impact of the enormous scientific advance of the last generation, and as a consequence æsthetic has moved to a new plane of thought. The general problems of artistry cannot to-day be stated without reference to many sciences—physics, physiology, psychology, hedonics, among them.

Incidentally, it may be mentioned that the mechanistic aspects of sound and colour are now well within the realm of hypothetical thought. Form still remains illusive in so far as there is neither physical nor physiological hypothesis yet attempted, which

suggests hedonic values independent of understanding and memory. Now a good deal of serious architectural theorizing has been done on the assumption that one shape was more agreeable than another *per se*, hence the lucubrations of such light-hearted astrologers as Vitruvius, Serlio and Hambidge.

Much theoretic instruction, of which the student of architecture is regarded as the legitimate victim, fails to recognize that such a problem with respect to the appreciation of form exists at all. It is, after all, only the accidental facts that Greek columns are of the shapes they are and that there is a profusion of them that make the calling of any more into being artistically worth while, and the same would be equally true if the accidental facts had resulted in complete inversion of caps and bases. Only very primitive words, after all, retain their onomatopoetic character: so with architecture, forms are generated in use and then absorbed in linguistic.

An appreciation of the several limitations of the practical, the æsthetic and hedonic compels the acceptance of the last as the sole field in which an architect's artistic training can be the subject of precept. The teacher can do little to implant a well-filled mind rooted in such depth of character as the student possesses beyond contriving adequate time and opportunity. The reading of poetry may here be quite as useful as the measuring of monuments. As to the practical, the position of the architect is precisely the same as that of the civil or mechanical engineer and of the Creator of the Universe, for that matter. What the practical provides is the raw material—cells of certain shape, size and structure, functionally related, to be arranged, distributed, counterposed, and so become eloquent in form. The architectural problem is ever solved in terms of engineering, or pure design—synthesis of function, material and process—before it is the raw material for artistry. If such a discipline is to be imposed in the training in design a little philosophical study will be helpful in opening the student's mind to its acceptance.

Now that æsthetic is at last out of the realm of "quintessential phantasy" there is a further usefulness for it as an essential subject of an architect's education. It is very usual for the student in embracing his professional training to find his interest in architectural monuments superseded by interests in how they were built, how they were drawn, thought out, planned, and conceived. Now, it is one thing to be overwhelmed by the sight of a ship or a cathedral in silhouette, let us say, and quite another to be overwhelmed by the sense of its intricacy, its laborious growth, its stresses and strains. The student is apt to mistake this awakened interest in artistry for an improvement or development of his interest in art—his power of response to modulated matter. Of course, great artists are often miserable critics, but there is, nevertheless, much to be said for keeping the student alive to æsthetic satisfaction. The man in the street that is his ultimate public can only appreciate architecture, if at all, in this simple and direct way for which habituation to a tradition is a help, but an open heart is an essential.

Now, an acquaintance with the æsthetic problem does help the student to realize this difference between art and artistry. The mechanism for the production of power, and the power itself, are more often confused in the matter of a picture than a pulp mill.

VI. DESIGN

The school has the advantage of the office in affording training in design, within certain limits, however. The school designs will not be executed—there is, therefore, all the more reason why the final drawings should bear some verisimilitude to solid objects under atmospheric effects and natural illumination. The school design will never be tendered on; there is therefore no reason why the exuberance and spaciousness of youth should not have full play, more especially as economy of effect is something we come by only with long experience. The school designs will enshrine the masters' instead of the students' ideals, if evolved with that oscillation of attention and balancing of considerations so usual in actual work; the artifice of the preliminary sketch done in seclusion is therefore enjoined. If the result is frequently balderdash, at least effort in concentration is stimulated.

One thing the school can do very well is to habituate the student to work in stages. The stages the school prescribes may not be the stages the graduate will follow, but the habit of clean and clear thinking fostered by a rigid mental discipline is an asset in after life—procedure, step by step, towards solution, and thence step by step to execution.

The stages recommended (as far as the idiosyncrasy of the subject and of the student will permit) are as follows:—

1. *The sketch*, in seclusion with previous announcement of the subject in the case of advanced problems. It may be observed that no problems can arise which could not be set forth within the framework of the following headings:—Subject, accommodation, site, materials, climate.

2. *The review*, at which the whole class hears a frank discussion of each solution offered, the student explaining his intentions and the instructor acting the part of captious client or devil's advocate.

3. *The revision* of the sketch, embodying the specific advice offered and the more general understanding of the various bearings of the problem derived from the review. In the case of an unsatisfactory first sketch this is a fresh attempt and marking accordingly. Up to this point the problem is worked for the most part in plan, only the roughest indications of section and elevation being employed.

4. *The development* of sections and elevations from the revised sketch plan.

5. *The modification* of plans and elevations to harmonize.

6. *The conversion* of the drawings into terms of construction—points of support, bays, trusses, etc.

7. *Documents* likely to be suggestive are next sought out, the solution being now quite established. When the student can't or won't find what will help him the instructor does so.

8. *Working out* is now possible, and it often happens that wholesome neglect to enable the student to find his own way is the best method of instruction at this stage. Some final expurgation and amendment is, of course, in order.

9. *The preparation* of the finished drawings may often be regarded as a separate undertaking from the design. A time limit is essential; it should be brief. To draw well a man must draw fast, and there is only one way to learn and that is to try.

As to the problems for a course of four sessions, covering the second, third, fourth and fifth years with increasing weekly time allowances, the following disposition suggests itself:

Second year: Simple monumental problems, large and small, but many.

Third year: At least a dozen domestic problems, worked in plan only, ranging from workmen's houses to mansions, followed by three problems worked out in plan, elevation and section.

Fourth year: Six varied minor public building problems—say three in plan only, the rest in plan, elevation and section, and one of them carried into working drawings.

Fifth year: Two or three varied problems on difficult sites and one large problem involving grouping of many elements, and last of all a one-week test design without assistance.

It is, in the writer's experience, far more desirable that numerous problems should be carried to the point of solution by a systematic process involving tabulation of dimensions, diagrams of connections, arrangement relative to aspect and prospect, translation into structure, and so on, than the complete and thorough working out of a lesser number. This multiplication of problems and the reviewing it involves is, of course, exacting on the fertility of resource of the instructor.

Working drawings are not the affair of a school of architecture except in so far as their preparation may be used to teach construction. The office is the only place in which to become expert in this. So with specification writing and practice, the principles only can be expounded; skill is to be obtained through office experience.

But in the design of buildings the school may seek to develop a real skill in solution and a tolerable standard of presentation. Without some facility in draughtsmanship there can, of course, be no admittance to the training in design.

In conclusion, we will put in words what the reader has no doubt already perceived to be our view as to the strict limits within which instruction in architectural design can be helpful. We regard the set problem as the excuse, occasion, opportunity for æsthetic activity. Its practical and graceful solution is a matter almost entirely of engineering in which imagination is bound by practical limits. Assistance to a rational solution is in order, to the point of providing a rational solution if necessary. In the development of the solved architectural problem into what can be seen by the man in the street, or inside the structure, the student follows his own bent, taste, whim, inspiration—call it what you will. That is his affair, and the result is mood. Till the instructor can apprehend some mood in the student's work he must stand aside, but as soon as it is palpable he must use his superior technical experience to give it emphasis, force, and character.

The teacher in architectural design has to make direct contribution to the logic of the student's opportunity, and to the hedonic of the student's materialization, but the æsthetic of the student's experience should only be very indirectly stimulated if at all. It may be possible to demonstrate from the past and from the present that this element is a most potent thing in human life; on occasion one may even invoke philosophy and science to satisfy an aspirant that he has mistaken his vocation. Style teaching is useless, for then both the true content and the materialization are prescribed and the occasion or opportunity alone requires solution. *The problems of a current style must be solved outside the walls of the schools.*

VII. ORNAMENT AND DECORATION

Ornament and decoration, as æsthetic phenomena of the past, are of course susceptible of study by the historic method. This approach reveals a continuous natural evolution of the sentiment which is the impulse of decorative effort, of the technical methods for embodying motif in material, and of the generation of decoration from process itself. From these phenomena a philosophy or theory of ornament and decoration can be deduced. But the historical approach also reveals another agency at work—artificial influence, through commerce, war, migration—the reactions of cultures. These two agencies will continue to operate as long as human hearts beat.

Now the young ornamentalist cannot be too well trained in the appreciation of these natural aspects of the ornament of the past, and in the critical analysis of the ornament of to-day in the light of the principles of significance and technique.

A familiarity with the chronological cycles of cultural reaction is of little or no value to him in his vocational life, whatever it may be for the tradesman, the connoisseur and the archæologist. It is, indeed, a pity that Mayer's *Handbook of Ornament* was ever compiled. The most precious thing in the English tradition of our time is that material sensitiveness of which William Morris and Professor W. R. Lethaby have been the exponents.

We cannot too emphatically state our view that the problem for the ornamentalist is not merely the apportionment of enrichment aptly distributed in relation to fabric or object, but that it involves the acceptance or the conception of a sentiment followed by its appropriately ordered elaboration in theme and materialization—rhetoric, in a word. Now rhetoric in shaped stone or spoken word does not permit of vain repetition, far less of promiscuous quotation. The classical dictionary and the lives of the saints have their counterparts in ancient buildings.

Poesy has long since shed the habit of the inane classical allusion, but in architecture it lingers under the name of "tripe," and we have an unphilosophical historical method to thank for the nauseating frequency of its occurrence. Rickards, with all his genius in design, was trashy as an ornamentalist.

The artist's approach to the study of ornament and decoration is through craft and trade and materials—granite remains granite, whether in Egypt or Quebec—whether 1900 B.C. or 1900 A.D., and chisels, brushes, hammers and modelling tools remain more potent than historical knowledge in the determination of detailed form.

VIII. THE CANADIAN STUDENT

At this point, and it may be in explanation of what has been said above, the reader's attention is invited for a few moments to the problem of the Canadian student. The teaching of the principles of architecture for Canadian purposes presents some

interesting difficulties. Neither what is done in England, nor in Europe for that matter, nor what they do in the United States (nor even those glorious achievements in design which are in England erroneously believed to be typical of all that is done there) will apply to our Canadian problems without serious modification. The architectural past is all but negligible in Canada, the architectural present is quite important in terms of tons, dollars and cubic contents per head of the population, and the architectural future is full of interesting problems and possibilities. We must admit that our contact with the full tide of American culture is at once overwhelming and disruptive.

The students we have encountered here usually come to college utterly unsophisticated in their architectural taste, quite inexperienced in the graces of environment, yet most ready and willing to work their heads off at their allotted tasks in design. That time soon comes for most of them, before they have realized what design means, when an alternative treatment of theme has to be suggested or imposed by those charged with this great responsibility.

Instructors in older lands, when called upon to do this thing in the course of their teaching, usually find the victim acquiescent, perhaps appreciative. His mind is impregnated with some familiar system of expression in form in virtue of which he accepts a better syntax. But we have had to do with industrious, alert, and wholly lovable young artists who frequently receive our first suggestion with a look of bewildered disappointment, and being brought up to take nothing for granted, and to get their money's worth, they ask "Why?" Life in contact with these "whys" breeds a certain contempt for all empirical doctrine, and a sense of impatience with the *petitio principii* and *obiter dicta* appropriate to a like occasion where a more docile breed is concerned. With such it may suffice to invoke the monuments of the past. "Why?" and we have been compelled to ransack a dozen occult sciences for an answer; "Why?" and the founts of human emotion and the mainsprings of human action have had to be investigated; "Why?" and we have been compelled to explore the nature of light and the machinery of the eye for an answer.

Oh, for the brazen assurance of Cellini and his friends, with their "rules of art," or that academic digestion competent to deal with a Vignola swallowed whole, and only feel the better for the gulp. No, there is nothing for it. Every time one takes up impious blue pencil to desecrate the first fruits of the untutored imagination essaying monumentalities there will be a "Why," and these whys need answers in accord with their sincerity.

Historic precedent means little to those who have never clapped direct eyes on one of the masterpieces of the seventeenth century giants, but cold reason, natural science, and, in obdurate cases, the rhetoric of Croce as a last resort, have all been found effective in restoring such discipline as is necessary in order that the work may continue.

Thus do we professors maintain ourselves in the likeness of Olympians in what the non-teaching members of the profession fondly suppose to be our "quiet seats above the thunder, in undying bliss and knowledge of our own supremacy" while exploring the gulfs of our ignorance.

Structural Service Department

EDITED BY FRANK P. MARTIN

Member Saskatchewan Association of Architects

WALL INSULATION

By B. R. GREIG, B.Sc.

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Member of the Royal Architectural Institute of Canada

(*Continued from page 74, Mar.-April*)

WALL RESISTIVITY TO THE FLOW OF HEAT

WHEN building a house, one of the main factors is to build it so that it will be warm in winter and cool in summer; in other words, so that the walls will have a high resistivity to the flow of heat through them.

In this country where we put on double windows and doors in the preparation for the winter months, nothing is done with the walls. Occasionally some of the smaller houses will be seen "banked," i.e., earth raised around the foundation walls, but this is not usual in the better built houses. It has been shown by the tests that the most expensive houses are not always the warmest. For example, compare Houses 1 and 2 with 6 and 7. No. 1 cost $1.90 and No. 2 $1.67 per square foot of wall, and yet Nos. 6 and 7 are much warmer than either 1 or 2.

Due consideration should, of course, be given to the fire risk of 6 and 7, also to the upkeep, such as painting and renewals.

The first thing, then, is the selection of materials which are poor conductors of heat. In the appendix is given the conductivity of a number of building materials. Probably next in importance to the selection of the materials is the way in which these materials are assembled in the wall. If a good non-conductor of heat is selected, such as wood, it is not so important; but when materials such as stone, brick or concrete are used, then it is very important that consideration be given to the type of construction if a warm building is to be secured.

It has long been conceded that, next to a vacuum, a dead air space is the best insulator; by a dead air space is meant one in which circulation or convection currents are entirely stopped. The report of tests made at the Bureau of Standards, Washington, by Dickenson and Van Dusen, states: "Important variations of the apparent conduction through air spaces occur with changes of width, although it has often been assumed that all air spaces have the same con-

duction. To represent these changes adequately, a very large number of tests have been made with air spaces of many different widths from 1-16″ to 3″. For very narrow spaces (less than 3-8″) the resistance to the passage of heat increases almost in proportion to the thickness. Beyond this, the resistance increases less rapidly until it reaches a maximum beyond which a greater thickness offers less resistance to the passage of heat."

From their report, it appears that plain convection plays no appreciable part in air spaces less than 3-8″ thick, when the height does not exceed 8″. Professor J. C. Peebles corroborates this. He states; "For heights of 8″, the critical thickness is ½″, while for a height of 2′, the critical thickness is 1″."

It has been shown in the tests of Houses 6 and 8 that the convection currents are responsible for a large loss of heat. When these convection currents were stopped, or at least largely stopped, by filling the space with planer shavings, the heat loss was cut down over 40 per cent.

It is also recognized that each new surface that is in the path of the flow of heat offers a considerable resistance. Not only does it give a break in the continuity of the material, but at each surface there is a thin film of dead air imprisoned, which offers its resistance to the flow of heat. To make this point clear, a diagram of the results of the tests conducted with House No. 8 is shown in Fig. 3.

This figure shows the resistivity of the different wall constructions. The resistivity being taken as equal to $\frac{1}{K}$.

As pointed out in a bulletin by Willard and Lichty, there is an air envelope in contact with each exposed surface that offers a resistance to the flow of heat. This air envelope is shown by the dotted sectioning in the figure, and is supposed to be more or less a dead air space. In the Test 8-2, the 2 x 6″ studs were sheathed on the outside with 1″ shiplap, one ply each of building and tar paper and bevel siding; there was nothing on the inside or between the studs. The value of $K = .368$, and the resistivity $(R) = \frac{1}{.368} = 2.71$. This is represented by the height A″ B. The heat gradient might be represented by the heavy line AB. We know, however, that this is not correct, and what probably is more nearly correct, would be that shown by the dotted line 1, 2, 3, 4, 5, 6, 7, 8. Here we have taken the resistivity of the wood: For example, from points 3 to 4 represents to scale the resistivity of the siding; and from 5 to 6 that of the shiplap, as taken from authentic data as to the conductivity of the wood. The balance of the resistivity must be made up by the air envelopes on both inner and outer surfaces and the breaks in the continuity of the materials, and the air on their surfaces, somewhat as shown.

Again, in Test 8-3 the inside of the studs were covered with 1″ shiplap; the value of $K = .268$, and the resistivity $(R) = \frac{1}{.268} = 3.72$. This is represented by the height from A ″ to C, and the heat gradient by the heavy line ABC, or more correctly by the dotted line 1, 2, 3, ... 9, 10, 11, 12, 13, 14. Here, again, the dotted line from 11 to 12 represents the resistivity of the shiplap, and the balance of the resistivity is made up as shown by the air envelopes.

Similarly it may be shown as in Test 8-4, where the space between the studs was filled with planer shavings, that the resistivity of the wall had been greatly increased; note the value of the dead air space as compared with one in which the convection currents are free to occur by the difference in the slopes of the lines 8 to 9 and 8 to 15; also note that the total resistance is increased from the height from C to D, an increase of 43 per cent.

The remaining tests are shown running from datum line AA to points E and F for the materials tested.

Where planer shavings are used, every care should be taken to keep them dry. They should be fairly coarse, as would be given off by a planer taking a heavy cut. The life of the planer shavings would be increased if they were creosoted, as this tends to prevent rotting should moisture gain access to them. They are preferable to sawdust, as sawdust has a tendency to pack too tightly and not allow as much air in the wall; also sawdust is more subject to rotting. The shavings should be well tamped down. They should be used in the roof as well as in the walls.

Attention is also drawn to tests with House No. 9. Here the continuity of the concrete wall is broken by two ply of Insulite, which is a very porous material. This greatly increased the resistivity of this wall without taking very much from the strength. In the west, a large proportion of the houses are built on concrete foundations. The resistivity of these walls can be greatly increased by placing insulating material in the wall, and at no very great expense. It could be put from the sill to a foot or two below ground level—if not down to the wall footings—thus making the basements, and consequently the house, much warmer. The heat that is used in keeping the basement from freezing could then—in part, at any rate—be used upstairs.

It would seem by the test of House No. 4 that the insulating material is more effective when placed on the inside of the house than when used on the outside. In this test, exactly the same materials were used; yet, when on the inside, it showed a saving of 24 per cent. over the outside installation.

Theoretically, the resistivity of a wall should not be affected by the order in which the insulating materials are placed in the wall. This statement is based on the assumption that the only difference between inside and outside conditions is that of temperature. It is very probable that had Tests 4-2 and 4-3 been run inside a building surrounded by still air, the results would have been different from those obtained. During these tests, the wind velocity averaged about nine miles per hour, and although every care was taken to make the tar paper covering efficient, there must have been considerable change of air in the Flaxlinum. When the insulating material was used on the inside, the wind was not there to affect it. This points to the importance of having the outside surfaces of our buildings impervious to air infiltration.

This is also demonstrated by the tests on House No. 1, where the wallpaper was added. It is believed

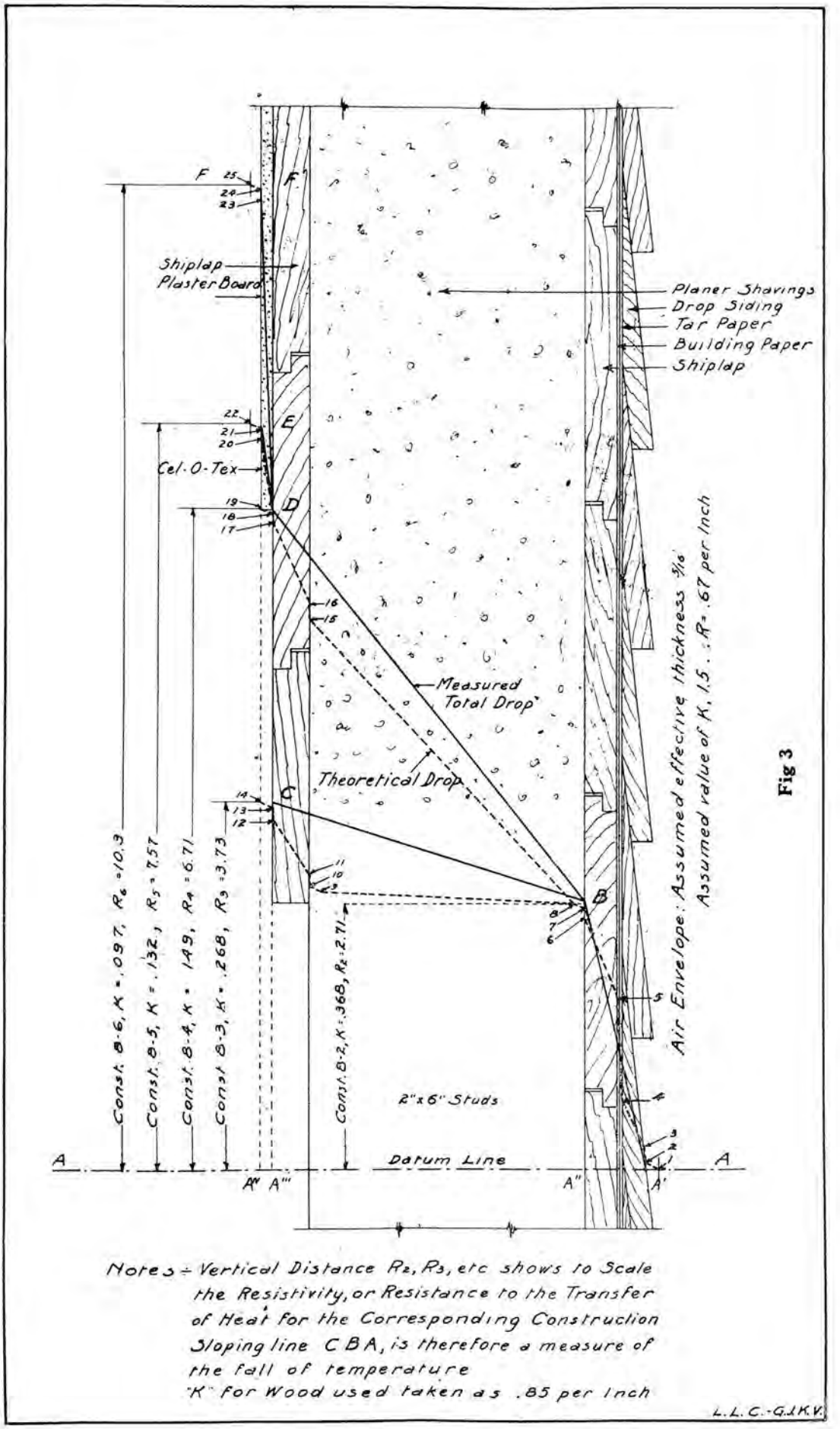

Fig 3

Notes :- Vertical Distance R_2, R_3, etc shows to Scale the Resistivity, or Resistance to the Transfer of Heat for the Corresponding Construction Sloping line C B A, is therefore a measure of the fall of temperature
"K" for Wood used taken as .85 per Inch

L. L. C.-G. J. K. V.

that the increased resistivity of 17.8 was not solely due to the resistivity of the paper, but in part to the sealing up of the surface of the plaster and stopping infiltration.

It is also borne out in Tests 8-5 and 8-6. The materials used on the inside of the wall in Test 8-5 were of a porous nature, while that in 8-6 was also of a porous nature; but with heavy paper pasted on each side of it, thus making it very difficult for infiltration to occur.

The following list of values for K for various materials and constructions is given for convenience of reference. In using these figures, the test conditions under which they have been obtained should be borne in mind.

SECTION I.

The University of Saskatchewan tests were, as far as possible, made under practical conditions, i.e., the houses were located in the open and subjected to the varying weather conditions of the province. All the figures given for these tests are the averages for continuous runs of more than a week.

SECTION II.

The University of Toronto tests were made under laboratory conditions of approximately constant temperature, with no wind or sunshine. Tests could therefore be duplicated with little or no variation. However, the effect of exposure to varying weather conditions could not be determined.

SECTION III.

The values given in this section were obtained by averaging the values obtained by different experimentors. Many of the results are the averages of five references, but in a few cases only one reference could be found.

SECTION IV.

These values are given by the Bureau of Standards, Washington, D.C., and have been obtained under laboratory conditions. These figures are for the *conductivity only* of various materials. The effects of convection currents and surfaces which are factors of great importance, must be considered when using these conductivity data.

SECTION I.

Results for University of Saskatchewan Test Houses

(K is given as the heat loss per hour per square foot of wall area per degree Fahrenheit difference between inside and outside temperatures.)

(All descriptions are in order from outside to inside.)

	K
House No. 1—	
Construction No. 1-1:	
12″ brick, 1′ x 2″ strapping, wood lath and plaster	.314
Construction No. 1-2:	
Above construction with wallpaper inside	.258
House No. 2—	
Construction 2-1:	
4″ brick, 8″ hollow tile, (air spaces horizontal)	.342
House No. 3—	
Construction No. 3-1:	
Cement stucco on metal lath, 1′ x 2″ strapping, 4″ brick, plaster	.438
House No. 4—	
Construction No. 4-1:	
Cement stucco, 4″ brick and plaster	.708
Construction No. 4-2:	
Above with tar paper over Flaxlinum on outside, tar paper outside	.307
Construction No. 4-3:	
Above with Flaxlinum and tar paper removed and placed on inside wall, tar paper inside	.232
House No. 5—	
Construction No. 5-1:	
Cement stucco, 2 coats; 8″ tile (air spaces horizontal), plaster	.446
House No. 6—	
Construction No. 6-1:	
Drop siding, tar paper, 1″ shiplap, 4″ studs, 1″ shiplap, building paper, 1′ x 2″ strapping, wood lath and plaster	.194
Construction No. 6-2:	
Above construction with planer shavings in wall space	.112
House No. 7—	
Construction No. 7-1:	
2 coats cement stucco, and 3 coats inside on metal lath, 8″ planer shavings, 2 coats plaster on metal lath	.151
House No. 8—	
Construction No. 8-1:	
1″ shiplap, 6″ planer shavings, Flaxlinum	.170
Construction No. 8-2 (entirely rebuilt):	
1″ drop siding, tar paper, building paper, 1″ shiplap, 6″ studs	.368
Construction No. 8-3:	
Above with 1″ shiplap inside on studs	.268
Construction No. 8-4:	
Above with planer shavings in wall space	.149
Construction No. 8-5:	
Above with Cel-O-Tex on inside	.132
Construction No. 8-6:	
Above with Cel-O-Tex replaced by plaster board	.097
House No. 9—	
Construction No. 9-1:	
3″ concrete, 2 ply ½″ Insulite, 3″ concrete	.344
Construction No. 9-2:	
Same as No. 9-1 with Flaxlinum on inside wall	.158
Construction No. 9-3:	
Same as No. 9-1 with Flaxlinum replaced by Cel-O-Tex	.177
Construction No. 9-4:	
Above with cement floor paint on outside wall	.162
Construction No. 9-5:	
Above with Cel-O-Tex replaced by Johns-Manville hair felt	.151

SECTION II.

No. of Test	*Description of Material Tested*	K
1.	8″ hollow concrete block wall, not plastered, air spaces empty	0.630
2.	8″ hollow concrete block wall, not plastered, air spaces filled with sawdust	0.438
3.	8″ hollow concrete block wall, plastered both sides, air space filled with sawdust	.342
4.	8″ hollow concrete block wall, plastered both sides, air space empty	.506
5.	8″ hollow concrete block wall, plastered both sides, air space filled with gravel	.385
6.	8″ hollow concrete block wall, plastered both sides, air spaces empty. One layer of flooring felt on high temperature side of wall	.263
7.	8″ hollow concrete block wall, plastered both sides, air space empty. One layer of tarred building paper on high temperature side of wall	.258
8.	8″ hollow concrete block wall, plastered both sides, air space empty. One layer of asphalt paper on high temperature side of wall	.263
9.	Brick wall without plaster, 9″	.392
10.	Brick wall without plaster, 9″	.397
11.	7¾″ hollow tile without plaster, air space empty	.416
12.	7¾″ hollow tile without plaster, air space filled with gravel	.355
1.	12″ tile wall laid with hollow spaces horizontal	.295
2.	12″ tile wall as above with one layer of paper on high temperature side of wall	.210
3.	12″ tile wall as above with paper removed and one coat of dehydratine painted on high temperature side of wall	.206
4.	12″ wall as above, but plastered both sides, plaster ⅝″ thick	.179
5.	New 12″ tile wall built with hollow spaces vertical and directly over each other	.322
6.	12″ wall as above with one coat dehydratine on high temperature side	.250
7.	12″ wall as above but plastered both sides, plaster ⅝″ thick	.228

	K
1. 1 ply oil paper, .001 thick, 5.4. lbs. per 100 sq. ft	1.39
2. 1 ply Clinasat waterproof building paper, 10.4 lbs. per 100 sq. ft.	1.21
3. Wall shown on sketch No. 2, marked "D," 6" planer shavings	.276
7. 1 layer of hair felt held together between two sheets of thin paper	.578
9. 3" cork wall made up of two layers 1½" thick, with one layer of paper between the 1½" layers of cork	.130
10. The preceding test repeated	.131
1. Corrugated galvanized iron wall supported on 2 x 4 frames	1.2
2. Wall made up of corrugated galvanized iron on one side of 2 x 4 frame and ⅞ T. & G. spruce sheathing on other side	.55
3. Beaver board, 3-16" thick	.83
4. Linabestos wall board 3-16" thick, dark red in color, made of asbestos and concrete	1.315
5. Asbestos lumber 3-16" thick	1.14
6. Asbestos corrugated sheathing	1.13
7. Asbestos shingles laid on one layer paper and ⅞ T. & G. sheathing, laid 7" to the weather, size of shingles 16 x 16 x 3-16	.442

SECTION III.

Average of values given for K by various authorities for specified constructions. All values given include surface effects for constructions indicated.

	Average K
4" brick, plain	.53
8" brick, plain	.39
12" brick, plain	.29
16" brick, plain	.24
20" brick, plain	.21
4" brick, plastered on one side	.54
8" brick, plastered on one side	.37
12" brick, plastered on one side	.28
16" brick, plastered on one side	.23
20" brick, plastered on one side	.20
4" brick, furred and plastered inside	.37
8" brick, furred and plastered inside	.26
12" brick, furred and plastered inside	.20
16" brick, furred and plastered inside	.17
20" brick, furred and plastered inside	.16
4" hollow tile, plain	.64
6" hollow tile, plain	.57
8" hollow tile, plain	.40
10" hollow tile, plain	.34
12" hollow tile, plain	.26
4" hollow tile, plastered inside	.57
6" hollow tile, plastered inside	.50
8" hollow tile, plastered inside	.36
10" hollow tile, plastered inside	.29
12" hollow tile, plastered inside	.23
4" hollow tile, both sides plastered	.39
6" hollow tile, both sides plastered	.33
8" hollow tile, both sides plastered	.29
10" hollow tile, both sides plastered	.26
12" hollow tile, both sides plastered	.23
4" concrete, plain	.75
6" concrete, plain	.62
8" concrete, plain	.59
10" concrete, plain	.52
12" concrete, plain	.46
4" concrete, plastered inside	.9
6" concrete, plastered inside	.77
8" concrete, plastered inside	.64
10" concrete, plastered inside	.59
12" concrete, plastered inside	.51

(These figures are from one authority only, whose figures are higher than the average for the preceding constructions. This accounts for a higher value where a lower one would be looked for.)

	Average K
4" concrete, furred and plastered inside	.52
8" concrete, furred and plastered inside	.42
12" concrete, furred and plastered inside	.31
Clap board, paper sheathing	.50
Clap board, paper sheathing, lath, and plaster	.25
Clap board, sheathing, brick fill, wood lath and plaster	.25
Clap board, sheathing, sawdust fill, lath and plaster	.21
Clap board, paper sheathing, sawdust fill, lath and plaster	.14
Stucco on wood lath, studs, wood lath, stucco	.57
Above with metal lath	.64
Corrugated iron on studs	1.50
Corrugated iron, ½" pine boards	.47
Corrugated iron, 1" pine boards	.38
Corrugated iron, 1" board paper, 1" board	.24
Pine boards only:	
½" pine boards only	.77
1" pine boards only	.51
1½" pine boards only	.43
2" pine boards only	.36

SECTION IV.

Conductivity per inch of thickness per square foot per degree Fahrenheit per hour; surface effects eliminated.

Dead air space	.175
Pure wool	.261
Keystone hair (confined in paper)	.271
Mineral wool	.277
Cork board, no binder	.28
Cotton wool, loosely packed	.287
Insulite, wood pulp	.296
Ground cork	.296
Linofelt, vegetable fibre	.30
Granulated cork	.312
Cabots quilt	.321
Flaxlinum	.329
Fibrofelt	.329
Wool felt	.362
Leth board	.379
Sawdust	.4
Planer shavings	.417
Wall board	.458
Air cell, ½" corrugated asbestos paper	.458
Air cell, 1" corrugated asbestos paper	.50
Asbestos paper	.50
Magnesia board	.50
85% Magnesia	.508
Infusonal earth	.583
Balsa wood	.583
Fire Felt sheet (asbestos sheet coated with cement)	.583
Cypress	.666
Fuller's earth	.708
Asphalt roofing	.708
White pine	.791
Asbestos mill board	.833
Mahogany	.916
Insulex, asbestos and plaster	.916
Virginia pine, across grain	.958
Oak, across grain	1.00
Wood, fir dressed one side	1.0
Hard maple	1.125
Glass, double	1.5
Parowax	1.58
Roofing tile, plastered	1.68
Glass, single	2.06
Gypsum plaster	2.25
Hollow tile	2.3
Pine, long fibre	2.4
Asbestos wood	2.71
Hollow tile, plastered both sides	3.0
Brick wall, dry	4.0
Brick wall with moisture, average condition	5.0
Roofing tile, 2" tile	5.3
Plaster	8.0
Concrete, 1-2-4	8.3
Sandstone	9.0
Soil, clay or sand, damp	11.0

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MACVICAR, D. N., A.R.C.A. ..... 628 Union Ave., Montreal
MACDONALD, R. H., B. ARCH. ..... 1 Belmont St., Monrteal
MARCHAND, J. O., D.P.L.G.F. ..... 294 Ste-Catherine Est, Montreal
MARROTTE, EDGAR S., B. ARCH. . 2042 Morris Ave., New York City
MAXWELL, W. S., R.C.A. ..... 360 Beaver Hall Square, Montreal
McDOUGALL, J. CECIL, A.R.I.B.A., B.SC., B.ARCH. 85 Osborne, Montreal
McLAREN, T., A.R.I.B.A. ..... 264 Beaver Hall Hill, Montreal
MEADOWCROFT, J. C. ..... Apt. 9, 102 Chomedy, Montreal
MERCURE, ALBERT ..... 713 Mont-Royal Est, Montreal
MILLER, J. M., A.R.C.A. ..... 364 Dorchester West, Montreal
MILOT, J. GEO. ..... 441 St-Hubert, Montreal
MITCHELL, C. A. ..... 304 University, Montreal
MITCHELL, C. GORDON ..... R. 434, Old Birks Bldg., Montreal
MONETTE, G. A. ..... 83 Ouest, Craig, Montreal
MORISSETTE, J. A. ..... 21 d'Aaiguillon, Quebec
NOBBS, P. E., M.A., F.R.I.B.A., R.C.A. . 14 Phillips Square, Montreal
OUELLET, J. P. ..... 28 rue Ste-Famille, Quebec
PAINE, A. J. C., B. ARCH. ..... Sun Life Bldg., Montreal
PAINCHAUD, D. E. ..... 218 Chatham, Montreal
PARANT, LOUIS ..... 502 Ste-Catherine Est, Montreal
PAYETTE, EUGENE ..... 103 St-Francois-Xavier, Montreal
PEACOCK, T. R., F.R.I.B.A. ..... 81 St-Peter, Quebec
PEARSON, J. A. ..... 2 Leader Lane, Toronto
PECK, HUGH A., B. ARCH. ..... 128 Bleury, Montreal
PEDEN, FRANK, B.SC. ..... 4a McGill College Ave., Montreal
PEPIN, E. ..... 210 Amherst, Montreal
PERRAM, HUGH C. ..... 607 Union Bank Bldg., Los Angeles, Calif.
PERRAULT, JEAN JULIEN, B. ARCH. . 5300 Avenue du Parc, Montreal
PICHE, ALP. ..... 33 Belmont, Montreal
PILON, J. E. ..... 2 Chateauguay, Hull, P. Q.
PITTS, GORDON McL., M.SC., B. ARCH. 360 Beaver Hall Sq., Montreal
POIVERT, JULES, PROF. ..... 1277 St-Hubert, Montreal
POST, WILLIAMS ..... 101 Park Ave., New York
POST, J. OTIS ..... 101 Park Ave., New York
POTVIN, ALFRED ..... 26 St-Jacques, Montreal
POULIN, J. AIME ..... 54 Birch St., Sherbrooke
PRAIRIE, EDGAR, L.R.I.B.A. ..... 706 Est Ste-Catherine, Montreal
RAINE, HERBERT, A.R.C.A. ..... New Birks Bldg., Montreal
RAY, A. G., A.R.I.B.A. ..... 495 Lansdown Ave., Westmount
RAYMOND, E. P. ..... 58 Cote du Palais, Quebec
REA, KENNETH G., F.R.I.B.A. ..... 285 Beaver Hall Hill, Montreal
REEVES, C. A. ..... Immeuble Power, Montreal
RICHARDSON, W. S. ..... 101 Park Avenue, New York
RITCHIE, S. D. ..... 360 Beaver Hall Square, Montreal
ROBB, FRED. G., B.ARCH. ..... 127 Stanley, Montreal
ROBERT, J. ANTONIO ..... 293 Workman, Montreal
ROBITAILLE, LUDGER ..... Ch. 30, Lindsay Bldg., Quebec
ROSS, G. A., F.R.I.B.A. ..... 1 Belmont St., Montreal
ROUSSEAU, ALB. ..... University of Michigan, Ann Arbor, Mich.
RYE, R. C. ..... 4074 Tupper, Westmount
SARRA-BOURNET, LUCIEN ..... 95 34eme Ave., Lachine
SAWYER, JOS. ..... 407 Guy, Montreal
SAXE, CHAS., R.C.A. ..... 364 Dorchester W., Montreal
SCOTT, R. ALLAN, B. ARCH. ..... P.O. Box 14, Valleyfield
SHENNAN, DAVID ..... 326 Beaver Hall Hill, Montreal
SHOREY, H. E., B. ARCH. ..... 360 Beaver Hall Square, Montreal
SIMARD, ROLLAND A. ..... 180 St-Jacques, Montreal
SMITH, J. ROXBURGH ..... 85 Osborne, Montreal
SMITH, J. S. ..... 776 Sherbrooke W., Montreal
SINGER, PAUL ..... 414 Roselyn, Montreal
SPENCE, D. JEROME ..... 246 Beaver Hall Hill, Montreal
ST-JEAN, E. ..... 43 Cote Place d'Armes, Montreal
ST-LOUIS, A. ..... 80 St-Gabriel, Montreal
ST-LOUIS, J. C. ..... 80 St-Gabriel, Montreal
STEVENS, E. F. ..... 45 Newbury St., Boston, Mass.
STAVELEY, EDW. B. ..... 92 St. Peter, Quebec
STEVENS, E. F. ..... 9 Park St., Boston, Mass.
STEWART, GEORGE M. ..... 274 Union Ave., Montreal
TETLEY, C. R., A.R.I.B.A. ..... 240 Beaver Hall Hill, Montreal
THOMPSON, G. D., B. ARCH. ..... 65 McGill College, Montreal
TRAQUAIR, RAMSAY, M.A., F.R.I.B.A. . McGill University, Montreal
TRUDEL, Z. ..... 230a St-Andre, Montreal
TRUDEL, AD. ..... 24 St-Jean, Quebec
TURCOTTE, E. J. ..... 360 Beaver Hall Square, Montreal
TURGEON, J. O. ..... 55 St-Francois-Xavier, Montreal
TURNER, PHILIP J., F.R.I.B.A. ..... 274 Beaver Hall Hill, Montreal
VALLANCE, HUGH ..... 128 Bleury, Montreal

Province of Quebec (Continued)

VANIER, J. F. ..... 590 Ave. Union, Montreal
VAUTRIN, IRENEE ..... 30 St-Jacques, Montreal
VENNE, ALPH ..... 99 St-Jacques, Montreal
VENNE, JOS ..... 402 Plessis, Montreal
VENNE, LUDGER ..... 85 Osborne, Montreal
VENNE, EMILE ..... 402 Plessis, Montreal
VENNE, ADRIEN ..... 402 Plessis, Montreal
VIAU, J. D. ..... 99 St-Jacques, Montreal
VINCENT, ARTHUR ..... 15 St-Laurent, Montreal
WARREN, W. ..... 16 East 47th St., New York
WHITE, GEO. W. ..... 4a McGill College, Montreal
WOOD, A. CAMPBELL, B, ARCH. ..... 86 Notre Dame West, Montreal
WOOD, GEO. W. ..... 86 Notre Dame W., Montreal

Province of Saskatchewan

BUNYARD, R. G. ..... Hammond Bldg., Moose Jaw
BLACKWOOD, ROBT. ..... Detroit
BROWN, DAVID R. ..... Southam Bldg., Montreal, Que.
CARMICHAEL, THOS. ..... Grayson Bldg., Moose Jaw
CLEMESHA, F. CHAPMAN ..... Ocean Beach, Santiago, Calif.
COXALL, CHARLES ..... Parliament Bldgs., Regina
DAWSON, HAROLD ..... 113 Peter St., Port Arthur, Ont.
DELAY, EMILE ..... Western Trust Bldg., Regina
DUNNING, N. MAX ..... 1210 Kimball Bldg., Chicago, Ill.
FORTIN, JOS. E. ..... 121 Christophe Colombe, Montreal, Que.
GREIG, PROF. A. R. ..... University of Sask., Saskatoon
GILBERT, EDWARD J. ..... Dept. Public Works, Regina
HACKETT, CHAS. M. ..... Florence, Ala.
HYNES, J. P. ..... 73 King St. W Toronto, Ont.
ILLINGWORTH, A. J. A. ..... Public Works Secretariat, Bombay, India
JARRET, GEO. J. ..... Weyburn
MARTIN, FRANK P. ..... Imperial Bank Bldg., Saskatoon
Morrison, J. M. ..... Bowerman, Bldg., Saskatoon
McLEOD, JOHN D. ..... Doncaster, Eng.
NOBBS, P. E. ..... 14 Phillips Sq., Montreal, Que.
O'LEARY, F. J. ..... Soldiers' Settlement Board, Prince Albert
PUNTIN, J. H. ..... Darke Block, Regina
PORTNALL, F. H. ..... Credit Foncier Bldg., Regina
PRATT, R. B. ..... Elec. Rly. Chambers, Winnipeg, Man.
ROWLEY, A. J. ..... 801 Manning Ave., Toronto, Ont.
REILLY, W. R. ..... Westman Chambers, Regina
REILLY, F. B. ..... Westman Chambers, Regina
RUSSEL, J. H. G. ..... McArthur Bldg., Winnipeg, Man.
STEPHENSON, G. J. ..... Dom. Dept. Public Works, Regina
SHARON, M. W. ..... Provincial Architect, Regina
STOREY, STAN E. ..... McCallum Hill Bldg., Regina
SWAN, WM. ..... Punnichy
STEWART, HUGH. Vancouver, B.C., British Isles Public School Club
SEMMENS, JOHN N. ..... Great West Perm. Bldg., Winnipeg, Man.
THOMPSON, R. M. ..... Bank Nova Scotia Bldg., Saskatoon
THOMPSON, NORMAN L. ..... Dominion Bank Bldg., Moose Jaw
TURNBULL, F. L. ..... 453 Glenwood Ave., Grand Rapids, Mich.
VAN EGMOND, W. G. ..... McCallum Hill Bldg., Regina
VALLANCE, HUGH ..... Southam Bldg., Montreal, Que.
WARBURTON, JOS. ..... Westman Chambers, Regina
WEBSTER, DAVE ..... C.P.R. Bldg., Saskatoon

Province of Prince Edward Island

BAKER, GEORGE ..... Summerside
CHAPPELL, C. B. ..... Des Brissy Block, Charlottetown

Province of Nova Scotia

BUSCH, WALTER J. ..... 60 Bedford Row, Halifax
BOOTH, J. H. ..... P.O. Box 131, North Sydney
DUMARESQ, S. P. ..... Royal Bank Bldg., Halifax
FAIRN, LESLIE R. ..... Aylesford
GATES, HERBERT E. ..... 149 Hollis St., Halifax
JOHNSON, J. A. ..... Halifax
McKEAN, MELVILLE ..... Antigonish
SPENCER, FREEMAN ..... Glace Bay

Province of New Brunswick

ANDERSON, A. E. ..... St. John
BRODIE, F. NEIL ..... 42 Princess St., St. John
FRECHETTE, RENE A. ..... 30 Bonaccord St., Moncton
SINCENNES, ALBERT ..... Moncton
REID, W. E. ..... Riverside
WILCKS, THOS. R. ..... Moncton

Newfoundland

BUTLER, W. P. ..... Head McBride's Hill, St. John's
GREENE, W. H. ..... P.O. Box 161, St. John's

Reports on Activities of Provincial Associations

EDITOR'S NOTE

Secretaries of Provincial Associations and Ontario Chapters will pleased be advised that all reports of their activities to be inserted in the next issue of the R.A.I.C. Journal must be mailed to the office of publication, 160 Richmond St. West, Toronto, not later than June 20th, 1925.

The British Columbia Association of Architects

Secretary

Fred L. Townley, 325 Homer Street, Vancouver

THE Architectural Institute of British Columbia held a luncheon on Monday, April 20th, at 12.30 p.m., in the Hotel Vancouver, the guest of honor being Mr. Allen S. Walker, lecturer from the University of London, England, who was in Vancouver for a short time while on a lecturing tour.

Mr. Walker gave a short address on architecture generally to the well attended and keenly interested gathering of architects, engineers and art devotees at this luncheon, and proved himself to be a remarkably fluent speaker.

In the absence of President G. L. T. Sharp, Architect S. M. Eveleigh, past president, presided, and introduced the guest of honor.

A "Tea Time" lecture between the hours of five and six p.m. was also given on "English Cathedrals" by Mr. Walker in the Technical School here, a special invitation being given to school teachers and students.

The usual Council Meeting of the Architectural Institute of B. C. took place on Friday evening, March 27th, 1925, in the office of the Institute, 325 Homer St., Vancouver, B.C.

The Manitoba Association of Architects

Secretary

E. Fitz Munn, P.O. Box 1404, Winnipeg

The Manitoba Association of Architects held their annual meeting in the architectural department of the university. The retiring president, D. A. Ross, opened the meeting by an address outlining the activities of the association for the past year. He stated that endeavors had been made to secure joint quarters with the Engineers, Surveyors and Electrical Associations. Several propositions had been considered, but no final decision had been reached.

A committee had been appointed to act in an advisory capacity on the Design Committee of the Winnipeg War Memorial. This committee had drawn up the programme for the competition for the memorial, which would be advertised as soon as the site had been definitely decided on. Another committee was working in conjunction with the professional engineers, fire underwriters and builders' exchange to assist the city engineer in revising the building by-law of Winnipeg. When the new by-law becomes effective the result will be a better class of construction and structural supervision of buildings.

A luncheon was tendered at the Marlborough Hotel to the six graduating students of the architectural course in the university. It is regretted that economic conditions have forced these young men to leave their native province, but it is hoped that they may be able to return before many years have passed enriched by their experiences while away.

A vote of thanks was tendered to Professor Stoughton for the excellent work done under his direction in the architectural department of the university. The scholarship of $100 to this department was again renewed.

A change in the schedule of charges has been adopted, which, in a condensed form, now read:

Public buildings, office buildings, banks and ordinary buildings, six per cent.

Factories, warehouses and storage buildings, five per cent.

Residences, six to eight per cent.

Alterations, eight per cent.

Additions costing $10,000.00 or over involving practically no structural changes to the existing work, to be classed as new work.

Reconstruction, eight per cent.

Officers of the Manitoba Association of Architects for 1925 are as follows: President, Mr. J. H. G. Russell; Vice-President, Mr. J. Manuel; Councillors, D. W. Bellhouse, C. S. Bridgman, Wm. Fingland, W. P. Over, G. Parfitt, J. H. G. Russell, J. N. Semmens.

Ontario Association of Architects

Secretary

R. B. Wolsey, 96 King Street W., Toronto

During the past session of the Ontario Legislation, an Act was passed to amend the Architects Act of 1890 to conform to present conditions. With the establishment of a Department of Architecture at the University of Toronto, the Association discontinued its educational classes and examination of students, and all preliminary training was transferred to the university.

As regards application for membership in the Association, the Council has been given authority to prescribe the scope of examinations to be held by the board of examiners and the evidence to be furnished by candidates as to their previous training, experience and good character. Also with regard to the government and discipline of the members.

Within the last couple of weeks the Association had occasion to write to the Minister of Public Works of Ontario, calling his attention to the following advertisement in the "Contract Record": "Haileybury, Ont. Tenders will be called shortly on a hotel to cost $150,000; architect, J. M. Philip."

Mr. Philip is general clerk of works in the Works Department, resident in Haileybury.

The Hon. Geo. S. Henry has replied that "The Mayor of Haileybury asked Mr. Philip to prepare for him a sketch of an elevation for a proposed hotel. This sketch was being used in a prospectus that was issued in the stock-selling campaign. Mr. Philip's name was on the plan, which he prepared as a matter of courtesy for the town officials. He has nothing whatever to do with the building, which I understand is being erected by some American hotel company. I trust that this will clear the air, as it is not the policy of the department to interfere with the work that legitimately belongs to architects of the province."

The Ontario Association of Architects' Scholarship to students in the Architectural Department of the University of Toronto, has been awarded to Charles H. Brooks in his first year. He is a son of William Brooks, Grand Secretary of the Independent Order of Foresters.

Toronto Architectural Guild Silver Medals have been awarded to E. C. Horwood, son of J. C. B. Horwood, the well known architect; and to J. Ryrie, son of Mrs. Harry Ryrie; Bronze Medal to Walter H. Steele, son of Mr. Herbert W. Steele, the contractor, all in their fourth year.

HAMILTON CHAPTER, O.A.A.

Secretary

R. E. McDonnell, 48 Home Bank Bldg., Hamilton, Ont.

On May 15th the Hamilton Chapter will hold the last meeting of the season.

Our luncheon on April 17th was largely attended, and the speaker of the day was Mr. C. S. Scott, who gave us a very interesting address on the English Cathedrals, which was, in fact, so much appreciated by our Chapter, that the consensus of opinion seemed to be that Mr. Scott should be asked to repeat his lecture at some future date before the Council.

TORONTO CHAPTER O.A.A.

Secretary

I. Markus, 223 Howard Park Ave.

A deputation from the Toronto Chapter appeared before the Ontario Railway Board on Wednesday, April 15th, with reference to the widening of Bloor Street. Mr. J. H. Craig acted as spokesman for the deputation and pointed out to the Railway Board the advisability of extending the width of Bloor Street to 86 feet as originally planned.

A special meeting and dinner was held on Friday evening, April 24th, at the Arts and Letters Club, at which Mrs. H. B. Dunington Grubb gave a very interesting talk on landscape architecture, and with the aid of lantern slides showed many examples of landscape architecture. Mrs. Grubb pleaded for greater co-operation between the architect and the landscape architect. A short play was also presented at this meeting by Mr. Fred Jacobs of The Mail and Empire and Farnum Barton, entitled "An Architect's Revenge," which was thoroughly enjoyed by the members present.

Mr. MacKenzie Waters also presented a rather humorous explanation and description of a no-room apartment house, which, together with the aid of special drawings which he had prepared, gave the members a rather interesting layout of a so-called modern apartment house.

Correspondence

The Journal is not responsible for statements or opinions expressed by correspondents.

All correspondence should be addressed to "The Editor, 160 West Richmond Street, Toronto," and must be signed by the correspondent. When a correspondent desires to use a non-de-plume he may do so provided he gives his name to the editor.

May 8th, 1925.

The Editor, The JOURNAL, R.A.I.C.

Dear Sir:—

I read with considerable interest Mr. Wickson's letter in the last number of the JOURNAL. I was glad to see that someone had at last adopted a definite stand in defence of the traditional ethics of the Architectural Profession.

There is no doubt in my mind that the methods used by some Architects in their attempts to obtain work, is doing irreparable harm to the standing of Architects, as professional men. One of the most disheartening features of this whole business is the persistence with which some individuals and some firms strive to get work away from other Architects who are already commissioned to do the work.

I know of one firm of Architects who were employed to prepare sketches for a school in the ordinary way. Imagine their disgust and annoyance, when after having completed their sketches, they discovered that some of their fellow members in the Association had approached the board and had asked for, and been given, permission to submit sketches and estimates of cost, free of charge. The first firm was forced, in order to hold their own clients, to spend a great deal of time and money on propaganda. The result was that their legitimate profit on this building was eaten up before working drawings were commenced. This was the first and the last school job that that firm has handled; they are cured.

Mr. Wickson has said practically everything that I would like to say. I will, however, add that I think one should have from four to five years experience in a good office before attempting to handle a job alone. A few years seasoning is absolutely necessary. Half-baked Architects produce half-baked buildings, and half-baked buildings will never bring clients into one's office, without the aid of a lassoo.

Yours very truly,
A. S. MATHERS.

Award in the Competition for the Table Rock House at Niagara Falls

MESSRS. FINDLAY & FOULIS of Sault Ste. Marie were awarded first prize in the competition for the Table Rock House at Niagara Falls for the Queen Victoria Park Commission. The building will cost approximately one-quarter of a million dollars and the winners of the first prize will have charge of its erection. The second prize of $600.00 was awarded to Messrs. Sandford Smith & Everett, Architects, of Toronto, and the third prize of $400.00 was awarded to Mr. F. H. Marani, also of Toronto.

Announcements

Mr. G. M. Miller, Architect, has removed his offices to 71 Mutual Street, Toronto.

* * *

Mr. Bruce Wright, Architect, has opened an office at 96 Bloor St. West, Toronto.

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Gordon Lyman, Architect, announces the removal of his office to 84 Victoria Street, Montreal.

* * *

Mathers & Haldenby, Architects, announce the removal of their offices to 96 Bloor St. West, Toronto.

* * *

Craig & Madill, Architects, announce the removal of their offices to 96 Bloor Street West, Toronto.

* * *

Mr. R. B. McGiffin, Architect, is now located in his new offices at 96 Bloor Street West, Toronto.

* * *

Sandford Smith & Everett, Architects, announce the removal of their offices to 25 Melinda Street, Toronto.

* * *

The Sarnia Bridge Company, Ltd., of Sarnia, Ontario, have opened a Toronto office in the Federal Building. This office is in charge of Mr. Clarke J. Madgett, and is particularly to take care of the sale of Massillon Bar Joists for Fireproof Floor and Roof Construction for this section of the province.

The Ontario Gypsum Company, Limited, Paris, Ont., announce the formation of a construction department with Mr. F. S. Bridges in charge. Mr. Bridges is well and favorably known to the architectural and construction profession of Eastern Canada, having for many years been connected with the gypsum business, making a specialty of gypsum floor and roof installation. This new department is formed with the idea of bringing in closer accord the architect, the general contractor and the manufacturer, and is ready to confer with architects on the installation of gypsum roofs or gypsum floors. A branch office has been opened at 811 Federal Building, Toronto, Ont.

* * *

At a meeting of the directors of the Robert Mitchell Company, Limited, of Montreal, held on May 2nd, it was announced by Allan Mitchell, president of the firm, that the directors had decided to offer a block of the stock to the officials and employees of the company for purchase on the partial payment plan. This allotment was quickly taken up, and further blocks are to be so appropriated at intervals in the future. This action is but one of the manifestations of the democratic policy of this old firm. The employees have an elective body known as the "Shop Committee" which represents their interests to the management. Group insurance has been adopted and a Mutual Benefit Society within the plant looks to the welfare of all employees.