JOURNAL

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

Serial No. 252 TORONTO, AUGUST, 1946 Vol. 23, No. 8

PRESIDENT - - - - - CHARLES DAVID (F)

CONTENTS

Editorial and Advertising Offices - - - - - - 57 Queen Street West, Toronto 1

SUBSCRIPTION RATES

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

R.A.I.C.
JOURNAL
AUGUST 1946

WE have thought lately that there was a parallel between the period of the "phoney" war and the present. Is this not a "phoney" peace, which will usher in an age of real peace prosperity and profitable activity? Certainly this is not the peace we looked for, and architects, like many others, in business as far removed as sewer tile and women's underclothes, will look back on this strange transitional period as a fantastic dream, which could not possibly have any basis in reality in the twentieth century. We are one of those innocents who believed implicitly that Governments, industry and economists had learned a lesson from the depression, and, that as soon as another appeared, even on a distant horizon, a mighty integrated plan would unfold in both hemispheres, and a tragedy like 1929 would be averted. Our disillusionment is manifest when we see no plan for producing materials in a period of prosperity. In the depression, we looked for markets, and, lacking them, plants closed down in North America and in Europe. Today the markets are both here and there, and, for our own people, we cannot find even nails and shirts — let alone motor cars and bath tubs. Strikes have made it worse, but this condition existed long before the strikes. The economists, who were so outspoken after the depression, are strangely, and significantly, silent.

IN the "phoney" peace, one interesting fact has emerged in Toronto. Toronto has discovered that homes cannot be built for wage earners at an economic rent. The fact that many people knew that years ago, and this *Journal* has made it abundantly clear on more than one occasion, is beside the point. It has now been proved Toronto has a salubrious little slum at one end of a large slum, and the facts of life and death in the area were spot-lighted in 1932 by the Bruce Report. It was only recently that Town Planning Reports and a growing social awareness, coupled with overcrowding, induced the City Council to do something about it. Everyone hoped that it would be a model village to which people would come from the ends of the earth. A firm of architects prepared admirable plans, and, we are informed, that prices, based on drawings and specifications, are now available. The lowest rents will be thirty to thirty-five dollars, and, to make matters worse, there is a proposal not to build the whole housing scheme, but to build houses without demolishing the area. Little houses will be spotted through the slum on those patches of dirt where condemned houses once stood. Needless to say, there are people in Council with a conscience who will not allow such a travesty on housing for the lower income groups, but the suggestion has been made. The average rent paid in the slum is twenty dollars, and the new houses would drive the tenants into the next slum and permit the thirty, thirty-five dollar group to occupy them. There are those who argue that child allowances will make up the difference between the rent these people can pay (approximately one-fifth of their income) and the new rent, but we doubt whether the Honourable Brooke Claxton ever had such an idea in mind. He has, at any rate, never stated it. Perhaps, with the real peace, we shall have an intelligent and decent programme of housing. We shall, by bitter experience, have learned that it involves a subsidy.

Editor.

THE TOURIST INDUSTRY IN ONTARIO

By G. A. ROBB

The organization of the tourist industry presents one of the major challenges to planning in Ontario. As one of the industries with the greatest potentials in the province its successful development is of vital interest to all.

An attempt has been made in this report to analyse the situation, clarify the problem, and outline the steps necessary to a successful development of the tourist industry in the Province of Ontario.

TO have a proper understanding of the tourist industry in the Province of Ontario it is necessary to review the natural attractions of the province which go to make Ontario one of the world's vacation paradises. In the rather dry and pedantic words of the Encyclopaedia Britannica, Ontario is described as "a province of Canada having the province of Quebec to the east, the states of New York, Ohio, Michigan, Wisconsin and Minnesota to the south, Manitoba to the west and part of Hudson Bay with James Bay to the north. In most cases the actual boundary lines consist of rivers and lakes." Subsequent paragraphs inform us that Ontario is richly endowed with numerous lakes and rivers, which have the double value of fresh water fishing grounds and natural avenues of communication. As a natural consequence of the good roads, the traffic of American tourists has become a substantial source of provincial income. No other province has drawn so many tourists and drawn from them so large an income. The climate varies greatly as might be expected from its wide range in latitude and the relationship of the great lakes to the southern portion of the province. The northern parts of the province experience long, cold but bright winters while their summers are delightful with much sunshine and some hot days with pleasantly cool nights. Between Georgian Bay and Ottawa the winters are less cold but usually with plenty of snowfall; while the summers are warm. The south west peninsula of Ontario has its climate greatly modified by the lakes which enclose it. The summers are often sultry, but the presence of the lakes prevents the intense heat experienced by the states to the south and west.

All parts of Ontario are well provided with lakes and rivers, the most important chain being that of the St. Lawrence and the Great Lakes with their tributaries, which drain the more populous southern districts. The north-east shores of Lake Huron and its large expansion —Georgian Bay, are fringed with thousands of islands, mostly small, but one of them, Manitoulin Island is eighty miles long and twenty miles wide. In northern Ontario there are innumerable lakes which are often very picturesque forming favourite summer resorts.

With all this heritage of nature it is only natural that the tourist attractions should be many and varied. The primary attraction is of course the hunting and fishing. The boating, sailing, swimming and yachting is very good. With over thirty-five hundred tourist establishments there is varied accommodation with good food and service. The equitable summer climate is of course an attraction in itself. Winter sports as a tourist attraction are now being discovered in the province and there is excellent skiing to attract both the novice and the expert. The province provides an excellent road and hydro service and there are many provincial parks. Travel is easy by road, rail, boat, and air and it is unrestricted. There are many special attractions such as scenic drives, the Martyrs' Shrine, at Midland, the Dionne Quintuplets at North Bay, Niagara Falls, and many historical points of interest. A final attraction is the absence of a sales tax, hospital tax, bridge tolls, and nuisance taxes.

One of the major causes of the tourist trade has been the increase in the standard of living and the increase in leisure time now enjoyed by more people than ever before. The high pressure of modern life makes vacations more of a necessity than ever before. The needed release from this pressure is best supplied by a recess from urban life and a return to the country. Vacations are particularly desirable in the summer when nature is more hospitable.

The American tourists and the domestic tourists form the two main types desiring accommodation in the province. The Americans are very desirable because of the favourable balance of trade they create between the two countries apart from the large amount of money they spend in Ontario. They require accommodation for the following main types of tourist activity:

1. Hunting and fishing.
2. Family vacations.
3. Camping.
4. Conventions.
5. Boat trips.

In the domestic tourist market there has been a large increase in the demand for cheaper types of tourist accommodation as the result of the new provincial government wage and holiday policy. The domestic demand for tourist accommodation parallels that of tourists from the United States.

Ontario was one of the two or three largest beneficiaries of the enormous expansion in tourist trade that followed the first World War. Indeed, this business played a more important part in Canadian and Ontario

economy than it did elsewhere. In Canada the financial receipts averaged about $150 million per annum from non-Canadian tourists for some years prior to World War II and were the third largest of the international trade of this country. Usually they were not much below the amount realized annually from the sale of gold abroad, and in one year, 1937, they actually exceeded the value of gold exported.

Historically, of course, Ontario's development of her tourist trade has been based on her natural attractions coupled with a well developed transportation system. Early development took the form of summer cottages, fishing and hunting camps, and luxury type summer hotels. Increased use of the automobile as a means of travel along with an early development of the highway system opened up new territories to tourist development. Boat trips on the Great Lakes became popular, and summer cottages, tourist lodges, hunting and fishing camps were all part of the tremendous development in tourist accommodation that took place in the province.

There are approximately thirty well-defined areas of tourist development in the Province of Ontario. Some are practically undeveloped as yet while others may be classed as completely developed and even in the stage of decline. A general classification is as follows:

1. St. Lawrence River Area.
2. Rideau Lakes Area.
3. Land of Lakes.
4. Algonquin Provincial District.
5. Lake Nipissing District.
6. Parry Sound – Georgian Bay Area.
7. Muskoka Lakes District.
8. Haliburton Highlands.
9. Huronia.
10. Lake Simcoe.
11. Kawartha Lakes District.
12. Georgian Bay Area.
13. Bruce Peninsula.
14. Bluewater Highway – Lake Huron.
15. Essex County – Sun Parlour.
16. Grand River Valley.
17. Lake Erie Shore.
18. Niagara Frontier.
19. Lake Ontario Shore.
20. Prince Edward County.
21. Manitoulin Island.
22. Sudbury District.
23. Algoma District.
24. Timagimi.
25. Lake Superior.
26. Head of the Lakes District.
27. Quettico Park.
28. Lake of the Woods.
29. James Bay.
30. Nipigon Area.

Ontario enjoys a well developed highway system. Perhaps the most interesting additions in the past few years have been the completion of the Trans-Canada Highway through Northern Ontario linking Kenora with North Bay and the construction of the Queen Elizabeth Way, a four-lane highway, from Toronto to Niagara Falls. Future construction calls for a roadway of this type stretching from Windsor to Montreal and from Toronto to North Bay, as well as extension of existing and proposed secondary roads.

There are an estimated 3,500 tourist establishments in the province. This figure includes everything from the largest urban hotel to the smallest tourist camp. Besides these there are thousands of private summer cottages and camps as well as many camp sites and trailer camps.

The following is a general classification of the types of tourist accommodation available in Ontario:

1. Hotels: (a) Summer.
   (b) Resort, year round operation.
   (c) Urban (conventions).
2. Cottages and Summer Homes.
3. Camps: (a) Hunting and fishing.
   (b) Trailers and tents.
4. Lodges and Cabins.
5. Auto Courts (very few of these).
6. Camp Sites (provincial parks).

One of the most interesting features of the tourist trade is the different means of travel used by tourists, particularly those from the United States. They come to Ontario by means of boat, train, air, automobile and bus.

Of all the visitors to Ontario from the United States, by far the most numerous and most diverse are those travelling by motor car. These motor travellers are divided for statistical purposes into three groups in accordance with the three methods used by the Canadian customs in permitting their entry into Ontario. The two most important of these groups are described as "Non-Permit Local Traffic" and cars travelling on "Travellers Vehicle Permits." In 1941 which was the last complete year before the war cut down on the tourist trade, 1,931,623 motor cars entered Ontario on Non-permit Local Traffic classification. The estimated average expenditure per car for Canada as a whole was $4.50. The Ontario traffic was approximately 73% of that of Canada as a whole in this category so that the estimated expenditure in Ontario from this class would be $8,592,303.00.

Non-Permit Local Traffic consists of cars which are not required to take out formal Customs permits and which are consequently restricted in their travel in Canada. Their stay is limited to 48 hours, they are allowed

to travel within the jurisdiction of the port by which they enter, and they must return to the United States through the same port by which they entered Canada. These regulations mean in effect that the Non-Permit group of traffic includes only those persons who enter Canada for a period of a few hours or less and who travel very short distances in this country. It contains all those casual, local travellers who, as a result of close inter-relationships between urban communities on both sides of the border, have become so numerous. They represent a large portion of the total number of tourist visitors but a small proportion of total tourist expenditures.

Any motorist who wishes to remain in Canada more than 48 hours, or to travel beyond the jurisdiction of the port of entry, or to return to the United States by a port other than the one through which he entered Canada, takes out a Traveller's Vehicle Permit for his car, and in this class is included nearly all the important tourist travel by automobile. Information is contained on the permit as to state or country of registration, number of persons in the vehicle, length of stay, type of vehicle, type of visitor, and ports of entry and exit. In addition there is voluntary expenditure questionnaire included on the form. In 1941 there were 757,959 American motorcars entering Ontario on this type of permit. The estimated average expenditure per motor car for this type of tourist for the whole of Canada was $40.04 making the total estimated expenditure for Ontario $30,348,678.00 or approximately 66% of the total number of tourists in this class entering Canada.

Besides the two main groups of motor traffic outlined above, there is a third group which overlaps both of the others. Many Americans who live adjacent to the boundary or who have summer residences in Canada make frequent trips to this country and are regarded as distinct from the casual visitor or ordinary tourist. In order to provide these persons with better service and to facilitate their crossing of the border, the Canadian Customs issue them with Traveller's Vehicle Permits good for periods of six months or more and allow them to retain the permit in their possession until expiry date. During the tenure of the permits these travellers can make as frequent trips as they wish. For purposes of classification these special travellers are divided into three classes: Commuters, Summer Residents and Locals. Among the special groups of travellers, Commuters (persons who commute from American homes to Canadian jobs) and Locals made expenditures at a relatively low rate, considering the frequency of their trips. Summer Residents, on the other hand, spent at the very high rate of $496.08 per car and the estimated expenditure of this group in Ontario was approximately $4,500,000.00.

Although short stay tourists form approximately 87% of the total volume of motor travel, they provide less than 25% of the tourist expenditures of motorists. Tourists on permit who stay three days or more and summer residents account for only 13% of the total volume of traffic but contribute more than 75% of the total expenditures of tourists entering Ontario by motor car. In 1941 the estimated expenditures by United States motorists in Ontario was $32,600,000.00.

Tourists entering Ontario by motor car account for the largest of tourist expenditures. Tourists entering by other means of travel, however, account for sizable expenditures.

In 1941, the last year of normal tourist travel from the United States, 164,235 people entered Ontario by rail and they spent an average of $62.10 for a total expenditure of approximately $10,250,000.00.

In 1941 116,860 tourists entered Ontario by motor bus and their average expenditure was $45.00 for a total of $5,200,000.00.

In 1941, 7,532 tourists entered Ontario by air and their average expenditure was $76.43 for a total of $600,000.00.

Expenditures of tourists on boat travel is estimated at approximately $5,000.000.00.

Expectations are that air travel will show an increase over all other forms of travel due to the opening of new services and lower rates as well as a generally increased use of air travel with all its advantages. In 1941 the total estimated expenditures by United States travellers in Ontario was $56,000,000.00.

War conditions after 1939 forced a marked curtailment of the tourist trade between Ontario and the United States. In Canada the amount spent by visitors from other countries averaged less than $100 million per year in the 1940-44 period. A domestic trade of unprecedented proportions developed, however, in the latter portion of that period. As war strains intensified more than normal rest and recreation became necessary, particularly for industrial workers, who were able to avail themselves of these advantages through higher earnings and statutory vacation permits.

All told domestic holiday expenditures in Canada have been well over $100 million in 1945 and with such American tourists as could visit the country the resorts were kept exceptionally busy. The tourist trade derived from non-Canadian tourists was the first to recover after the war was ended in the Pacific theatre. In the four weeks after the surrender of Japan and the discontinuance of gasoline rationing these visitors increased in Canada by about 1,000,000 over the corresponding period in 1944 and the major portion of this traffic was in Ontario. It is estimated that the number of tourists for all of 1945 was almost equal to the best pre-war year. The relative expenditures combined with those of domestic tourists made last year's tourist business the largest ever enjoyed.

Ontario, a tourist land of exceptional advantages, can attract a larger number of people from other countries than ever before. The greatest field for the development of this international trade is of course in the United States

where holiday expenditures for all purposes of over 50 million people alone have been estimated at close to 5 billion annually. Indeed it is believed by some authorities that tourist expenditures on this entire continent will soon be as much as $10 billion per annum. Canada and Ontario have become better known, however, outside North America because of their war efforts and as a source of a great variety of commodities required the world over with the result that they have a greater tourist attraction to other nations than in the past.

It should be clearly recognized, however, that intensive competition is developing for tourist revenue. At present this competition is confined to Central and South America. It may be expected to extend to Europe and Asia as soon as regular ocean travel service is restored and war damaged countries can offer reasonably good transportation, accommodation and food to go with their distinctive historical advantages. A high world tourist trade is much to be desired but no one country can expect to play host to all people who will wish to travel.

Future trends in the tourist trade point to the further establishment of several already existing types of development as well as at least one new type at present almost unknown in Ontario. These are tabulated as follows:

1. There is at present great interest in the establishment of hunting and fishing lodges in areas in Northern Ontario newly opened to the tourists.
2. Summer hotels of modern design in the more central tourist areas.
3. Summer lodges and cabins. These will be developed in great numbers, especially the luxury type and will be more popular than hotels because of the lower capital investment and ease of expansion.
4. Motor camps. The type to be developed in Ontario is at present almost unknown in this province. They will be modelled after the large luxury type of auto court prevalent in the United States and will be located near large urban centres of population for all year round operation.
5. Resort Hotels. These will be developed for all year round operation to take advantage of the newly developing winter sports movement. These are being developed at Coburg, Huntsville, Collingwood, North Bay, and Timagimi.

It is realized by those interested in the tourist industry of Ontario that transportation and accommodation facilities must be improved as soon as possible.

These facilities have been maintained in as good condition as circumstances would permit during the war but they have been subjected to more than ordinary wear and tear in a period of inadequate replacements.

While overcrowding of all year round traffic routes and hotels, as well as shortages of labour and materials continue, improvement of tourist facilities cannot fully be undertaken. It is expected, however, that a rapid recovery will be made after a period not exceeding one to three years and that normal operation can then be resumed.

To meet this post-war phase of development a most positive and constructive policy is called for on the part of the Province of Ontario. The desired form of required government policy might be best described as one of intelligent control, regulation and development of the tourist industry coupled with an understanding encouragement of private enterprise participating in this development.

The government problem is two-fold. Heretofore only one side of it has been tackled; namely that of publicity in the United States and Canada to attract tourists to Ontario. Very little, however, has been done to control the development of tourist facilities in the province. Thousands of miles of primary and secondary highways have been built to open up areas to tourist development and praiseworthy as this is the complete lack of interest in the scope or type of development resulting from this construction has led to a situation which may best be described as an unfortunate and shameful misuse of our natural heritage of which the best example is probably the Wasaga Beach development in the lower Georgian Bay tourist area.

To correct this condition and to provide the proper supervision and control of the industry the following 8 point programme should be undertaken by the provincial government. The points are as follows:

1. Acquisition by the department of tourists and publicity of the provincial government of adequate base information on the tourist industry.
2. Zoning of areas devoted to tourist development.
3. Regional planning of these areas.
4. Promotion of tourist development in line with area planning and zoning.
5. Sponsorship of a programme to foster proper architectural design of all types of tourist accommodation.
6. Continuance and acceleration of provincial provision of highway, road and hydro facilities.
7. Implementation of a programme to foster higher standards of tourist service.
8. Sponsorship of a general programme of education of the public as well as those actively interested in the tourist trade to promote courtesy and fair dealing.

Amplification of the above points:

1. In the tourist industry as in any other business it is necessary to have a complete and correct store of base information before any competent planning can be undertaken. The information necessary to plan for tourist development is as follows:

(a) A form of land use map showing all present tourist development in the province.

(b) Base maps showing the types and extent of tourist attractions in each area of tourist development.

(c) Studies of past tourist traffic and methods of development.

(d) Calculation of future tourist traffic and trends so that this problem may be met with intelligent foresight.

(e) A study of the tourist industry in other parts of the world so that the lessons learned in its development may be applied to the Ontario industry.

With all this necessary information it would be possible to carry out a complete planning programme. The first step in such a programme is the implementation of:

2. Zoning Legislation: By means of zoning control of tourist areas it would be possible to carry out the following points.

   (a) Immediate cessation of the growth of blight and deterioration in presently developed tourist areas.

   (b) Protection of these tourist areas from uncontrolled growth and unnecessary expansion.

   (c) A floor under the standards of various types of tourist accommodation.

   (d) Proper guidance as to the location and development of new tourist facilities.

Concurrent with zoning of tourist areas is the problem of planning their development. The objective of planning may be stated to be the achievement of a solution to the developmental problems by means of the application of intelligent foresight. What this means in actual terms of development is that the following shall be the main considerations:

3. (a) Determination of the areas topographically suited to different types of accommodation development; hotels, camps, lodges, cottages, etc.

   (b) Extent and location of area improvements such as roads, hydro, telephone, postal facilities, shopping centres, etc.

   (c) Extent, type and location of natural tourist attractions such as fishing, hunting, sailing, boating, hiking and all summer and winter sports possibilities.

   (d) Estimated requirements of various types of tourist accommodation in the tourist areas and also the types of development that will need special encouragement.

   (e) Climate of the tourist area: the length of the seasons, amount of rain, snow, sun and the average mean temperatures.

Upon full consideration of all these points an intelligent plan for a tourist area can be successfully developed.

4. Private enterprise should be encouraged to develop tourist accommodation of such a standard as determined by planning and it will of course be located in the areas so indicated for its development in the master plan. Because of the intelligent study involved in the preparation of the master plan the Department of Tourists and Publicity would be able to offer the most competent of advice in the selection of sites for various types of tourist accommodation to prospective developers and in any event would be able to control all development.

5. The design and planning of tourist accommodation by competent professionals should be encouraged for all types of development from the largest resort hotel to the smallest of summer cottages. Enquiries to the Provincial Government should be directed either to the professional architectural association or to members of the association specializing in that type of work. Competitions should be sponsored to obtain the best designs for cottages, camps, lodges, hotels, etc., and working drawings and specifications of type designs for summer cottages should be made available for a nominal fee.

6. Ontario is fortunate in having a very well developed road and highway system and the progress made in the past should be continued in the future. The development of new tourist areas should be paced by the provision of hydro wherever possible.

7. At present the standard of service and quality of food prevailing in the tourist establishments in the Province of Ontario in all but a pitifully few cases leaves much to be desired, particularly so in the non-luxury trade. The standard could be improved by:

   (a) Special educational and practical training courses in hotel management and catering.

   (b) A courtesy and service education programme among those engaged in the tourist trade.

   (c) Promotion of high standards in cuisine and the development of regional foods and dishes.

   (d) Rigid inspection and licensing of all public tourist accommodation to ensure high standards of health and cleanliness.

8. Public education: courtesy and fair dealing are two of the most important factors in the tourist trade and apply not just to those engaged in the tourist trade but to the citizens of the province as a whole. While they cost nothing in money they are one of the major factors in encouraging the repeat visits of tourists. A publicity programme to further this end should be conducted by the provincial government to promote courtesy.

It is only fair to state at this point that most if not all of the above points are either under consideration or are

being implemented by the Ontario Government. For example a survey of present tourist accommodation in the province is now under way by the Department of Tourists and Publicity. This, however, is purely a voluntary return survey and of an estimated thirty-five hundred tourist establishments in the province twenty-nine hundred have been checked and identified. Of the twenty-nine hundred so far only nine hundred replies have been received. It is expected that this information will be obtained compulsorarily in conjunction with licensing and inspection.

Furthermore the department is planning to establish tourist reception centres at the major border crossing points of Windsor, Niagara Falls, Sault Ste. Marie, Sarnia, and in the Ivy Lea Bridge area.

While I have so far dealt with the more complex problem of improving and controlling the tourist facilities in the province the other side of the government's responsibility to the tourist industry should not be forgotten; namely the publicity programme to attract tourists to the province. The attraction of tourists involves a four-point programme.

(a) A publicity programme conducted in the United States extolling the attractions of Ontario. This could be conducted through the mediums of radio, the press, magazines, and motion pictures. Hollywood should be encouraged to make movies whose locale is based in Ontario. Movie shorts on Ontario's tourist attractions should be distributed in the United States. Tourist associations and tourist development areas should be encouraged to advertise and very welcome indeed is the advertising being carried on at present by trade interests subsidiary to the tourist trade.

(b) Ease of border crossing: efficient handling of tourists at border crossing points by intelligent, courteous Customs officials as well as simplification of necessary forms and papers.

(c) Establishment of reception centres at the major border crossing points to guide, direct, and welcome tourists to Ontario. These centres should be of appropriate contemporary design.

(d) Increased travel facilities: The already well developed road system should be extended. Railway travel should be co-ordinated with tourist travel. A good example of this is in the development of the use of ski trains. The same principle applies to travel by boat, bus, and air. Landing fields should be built in tourist areas and establishment of regular air service with all the major American cities should be a feature of this development.

The revenue from the tourist trade should not be regarded as a windfall. It is a dividend on a large investment in transportation systems, hotels, camps, and public works including highways. The investment in roads alone in the province is enormous. Tourist money, however, is more widely distributed than perhaps is generally appreciated. Many classes apart from the tourist operators themselves, the transportation interests, garage and gasoline station operators, and hotels benefit from this trade. Some years ago the following estimates of the distribution of expenditures in Ontario of American tourists were shown as follows:

Merchandise	26.0%
Restaurants and Cafes	20.5%
Hotels and rooms	17.3%
Auto accessories, gas and oil	11.5%
Theatres and amusements	8.5%
Transportation	7.0%
Confectionery and incidentals	9.2%

Back of these services, however, are many other interests which derive considerable benefit from tourist expenditures. Agriculture has a large market for its products in the food needs of the millions of visitors to this province who are more ready buyers of Canada's surplus cereals, meats, and dairy products than if they remained at home. In other words, these travellers seek out this source of food stuffs instead of the producers having to approach them across national boundaries hedged by trade barriers. Manufacturers, wholesalers and distributors are also busily engaged in processing and delivering food stuffs and other commodities to meet tourist requirements. Moreover, thousands of people find employment in summer trade. Finally most holiday funds are spent in rural areas, and in many of these other income opportunities are distinctly limited.

It is to be hoped that Ontario can develop its tourist industry well beyond its present proportions. Interprovincial travel if continued even on last year's scale would have a stabilizing effect on the provincial and national economy and would contribute more to mutual understanding of sectional ways of living and culture than anything else.

From an external point of view, tourist receipts from other countries should be regarded as quite as important as those from the commodity export trade and therefore as equally vital to a progressive national economy. Further development of this part of Ontario's trade, notwithstanding the difficulties that seem to beset it, would be easier than in opening up larger commodity markets abroad. Moreover, all round expansion of the tourist industry in this province would provide at least as many new jobs for all classes of people as an increase in the commodity export trade.

The natural attractions of Ontario as a tourist land have not been scarred by warfare and they are, therefore, as great tourist assets as ever before. If they can be turned into greater revenue assets, by providing more and better facilities for visitors to enjoy, they will strengthen Ontario and also Canada both economically and politically.

SPECIFICATION SURGERY

By BEN JOHN SMALL

THE desirability of reducing an architectural specification to a true contract document, as graphic and free from extraneous material as an architect's working drawing, has been pretty well established. Largely through the efforts of Horace W. Peaslee, who advanced the principle in the pages of *Pencil Points* as far back as August 1939, many specification writers are now producing "streamlined" documents, useful and legally straightforward.

Writing such specifications is not difficult; once the principles have been established in one's mind, there can be real pleasure in producing a working tool, without having to worry about literary standards. Actually, a specification writer need no more be an accomplished author than a competent draftsman need be a top-flight artist. Each must know construction, materials, and architectural design in the broad sense, and each must be able to translate certain parts of that knowledge into a simple, readable expression which cannot be misinterpreted.

PROCEDURE

The specification writer who wants to approach his task in this way must follow a few simple rules of procedure. First of all, there should be at the head of each subdivision of the specification a general clause which, by its wording, will make unnecessary the repetition, over and over again, of certain routine warnings. This "mandatory provision concentrated in a single governing clause" has been revised from Mr. Peaslee's original suggestion by the National Bureau of Standards, to read as follows: *Mention herein or indication on the drawings of articles, materials, operations, or methods requires that the Contractor provide each item mentioned or indicated (of quality or subject to qualifications noted); perform (according to conditions stated) each operation prescribed; and provide therefor all necessary labour, equipment, and incidentals.* In such a clause you've said the necessary things once and for all; you don't have to keep repeating them through the body of the specifications.

The next step in specification surgery is the total elimination of the "Scope of the Work" or "Work Included" paragraph. This legally dangerous statement of what you intend to describe later on serves no useful purpose. The specifications themselves list and describe materials and methods of construction and make statements, supplementing the working drawings, about the places where these materials and methods are to be used. In the general conditions should appear all the blanket clauses which define the completeness of all work to be done.

Another means of eliminating words which sound impressive but are really worthless is to take full advantage of standard descriptions of materials. There is no danger in referring to ASTM, Federal Specifications, American Standards Association, or similar accepted standard specifications, provided material grades and types have been checked before the reference is made.

NAME NAMES!

The next step in this simplification through reference is to refer to proprietary names. The prejudice against doing this is hard to understand when one considers the number of times specification writers have simply copied the manufacturer's description of a given product. Why not come right out and name it, save time and space, and set up a definite standard, in the "General Conditions," which, together with the inclusion of proprietary names in the body of the specification, will provide a basis against which "equals" can be evaluated?

Once this step has been accepted, further excess words can be eliminated by saying, simply and frankly: *Execute work in accord with manufacturer's printed directions.* If the ABC company's asphalt tile has been specified, by name, as the standard of acceptable material, and the ABC company prints and distributes standard installation directions, there certainly is no need to copy them into the specifications. If the XYZ company's product is proven equal and is finally accepted, then the specifications do not have to be changed; by the few words you have used you have made the XYZ company's installation directions mandatory.

For full protection under this system you should require copies of such directions to accompany any samples submitted, and you can state in the specification performance objectives that you desire—not detailed instructions. By using such a method you give the manufacturer no excuse to void his guarantee provisions if performance bogs down after his own instructions have been faithfully followed. Contradictions between various manufacturer's directions do not concern you, and there is no clearer or surer way to keep specifications *au courant*, abreast of technological developments.

ABBREVIATE

An obvious way to save words is to use the American Standards Association abbreviations. Instead of writing out "National Board of Fire Underwriters" half a dozen

times through the body of the specifications, why not say NBFU? The most commonly used abbreviations are:

AAR—Association of American Railroads
AIEE—American Institute of Electrical Engineers
API—American Petroleum Institute
ASRE—American Society of Refrigerating Engineers
ASTM—American Society for Testing Materials
BMTP—U.S. Bureau of Mines Technical Paper
NBS—National Bureau of Standards
CS—Commercial Standard
FS—Federal Specification
ITE—Institute of Traffic Engineers
BLS—U. S. Bureau of Labor Statistics Bulletin
NBFU—National Board of Fire Underwriters
SPR—Simplified Practice Recommendation

DO NOT USE SENTENCES

Finally we come to the step which seems to be hardest for many specification writers who pride themselves on their ability to write English: the elimination of sentence structure. Throw away the constant references to "the contractor"; eliminate the unnecessary "shall perform", "shall provide," "as noted on the drawings," "according to the plans," "in conformity therewith," and many other hackneyed expressions; drop the articles; save yourself and your builder-readers the nuisance of meaningless weasel words and weasel clauses.

To be specific, do *not* say, "Portland cement shall be in accord with the Standard Specifications of the ASTM C150, Type I, latest edition." Say, instead: *Portland cement—ASTM, C150, Type I.* You don't even have to require that this be the latest edition; your "general conditions" will cover that.

FOR EXAMPLE

Here is a normally short section made even briefer and more to the point:

Section No. 12—Fabric Covering

The "General Conditions" apply to all work of this section. Mention herein or indication on the drawings of articles, materials, operations, or methods requires that the Contractor provide each item mentioned as indicated (of quality or subject to qualifications noted); perform (according to conditions stated) each operation prescribed; and provide therefor all necessary labour, equipment, and incidentals.

1. Materials

[1] (a) Fabric—John Jones Co.'s "Wallskin."

(b) Paste: Size — Standard brand flour paste; best quality glue size, as recommended by fabric manufacturer.

[2] (c) Required samples:

1. 12" by 12" pieces of each required pattern.
2. Paste, glue—one-quart containers.
3. Manufacturer's printed hanging directions—4 copies.

[3] **2. Workmanship**

(a) Condition of plaster surfaces: smooth, true, free from dampness. Cut out and spackle cracks, blisters, and the like.

(b) Apply one coat of glue size.

(c) Hang fabric in accord with manufacturer's printed hanging directions.

(d) Where directed, hang sample installation in one room using required pattern. When approved, such work shall represent standard of workmanship throughout.

3. Salvage

Turn over to Owner all sizeable excess fabric for future patching purposes.

If you have the desire to produce a practical working specification, and you proceed on the basis of the suggestions outlined herein, you will in time find many other ways to reduce wordage, unnecessary work, and possible confusion. You will avoid repetition. You will find yourself developing easy-to-read tables instead of long paragraphs. And finally, you will feel that you are in step with contemporary methods of office practice, a necessary adjunct of progressive design.

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[1] The colour or pattern number would be indicated on drawings under "Colour Schedule" which also indicates affected locations.

[2] "General Conditions" states that samples, where required, shall be submitted in triplicate, describes methods of identification, grade names, seals, and the like.

[3] General workmanship standards, protection, damage to adjacent work are clearly stated in "General Conditions", therefore require no repetition here.

EDITOR'S NOTE: Both the preceding brief explanation and the following example of the contemporary trend toward streamlined specifications owe much to the initial discussion of the subject by Horace W. Peaslee, which appeared in *Pencil Points* for August 1939. Mr. Small, in his duties with the New York City Department of Public Works, and more recently as specification writer for the office of Alfred Hopkins & Associates, has put into practice the principles which Mr. Peaslee then enunciated; and Mr. Beacham, whose office is in Greenville, South Carolina, has been, since publication of Mr. Peaslee's article (to quote him) . . . "inspired to undertake the job of completely revising the basic specifications then in use in our office." To judge by our own correspondence and conversations, and by reports in various architectural journals, professional interest in this subject is intense throughout the country.

We are happy to present the Masonry Specification. If there is sufficient interest in the subject we will publish additional examples from time to time. Mr. Peaslee has had the opportunity to review some of Mr. Beacham's work of this kind, and approves, even though Mr. Beacham has found in practice that the extreme brevity which was at first advocated had in some instances to be modified in order to avoid misunderstandings. Mr. Peaslee and Mr. Beacham join in requesting that we announce that the system and its development may be used at will, without charge. Mr. Beacham further suggests the two following books as containing sound recommendations for specification writers: *Engineering Contracts and Specifications,* by Robert W. Abbett ($2.25) and *A Handbook of English in Engineering Usage,* by A. C. Howell ($2.50), both published by John Wiley and Sons, 440 Fourth Ave., New York City, and available directly from them.

—Reprinted from Progressive Architecture, Pencil Points.

A SIMPLIFIED SPECIFICATION FOR UNIT MASONRY

Prepared by JAMES D. BEACHAM, Architect

D-01. INDEX

D-02. GENERAL REQUIREMENTS

a) **SCOPE OF WORK:** Unit masonry of the several kinds specified or indicated necessary to complete the construction shown on the drawings, together with masonry flashings and other specified items of masonry incidental thereto.

Intent: Mention herein or indication on the drawings of articles, materials, operations, or methods requires that the Contractor provide each item mentioned or indicated, of quality or subject to qualification noted; perform according to conditions stated each operation prescribed; and provide therefor all necessary labour, equipment, and incidentals.

b) **GENERAL CONDITIONS:** See Division A.

Standard specifications; codes: References made herein to standard specifications, and codes, refer to editions in effect at the dates of proposals; such references include current addenda and errata, if any.

Abbreviations: "ASTM" refers to The American Society for Testing Materials; "Fed. Spec." refers to Federal Specifications.

c) **SAMPLES REQUIRED:** Face bricks; facing tile.; glass block; cast stone; mortar aggregates.

d) **CATALOG DATA REQUIRED:** Hollow tile; wall coping; flashing block; flashing material; firebrick.

e) **SHOP DRAWINGS REQUIRED:** Cast stone trim.

D-03. BRICKS

a) **COMMON BRICK:** American standard-size clay or shale brick in accord with ASTM specification C 62, having true faces and sharp, straight edges; free from an objectionable amount of cracks and spalls.

Classes of common brick: Class SW brick used for work in contact with earth; Class MW brick used generally.

Where required: For all construction indicated as "brick" except where face brick is required.

b) **FACE BRICK:** Selected common brick conforming to specified requirements for structural common brick; furnished in medium-to-dark red and brown shades, with salmon-coloured and black bricks excluded; free from an objectionable amount of distortion, warpage, cracks, and other unsightly defects.

Where required: On all exposed exterior surfaces including penthouse walls and chimneys; also for exposed interior surfaces indicated as "face brick."

Brick for window sills: Solid, all-hard, dark coloured face brick.

Special face brick: Bricks formed and burned to the special shapes indicated; otherwise conforming to requirements for the standard-shape face bricks.

Shipping and handling: Face brick shipped and delivered well packed in straw; handled only with tongs or by hand in manner to avoid chipping and other damage.

c) **FIRE BRICK:** Moderate-heat-duty grade conforming to Fed. Spec. HH-B-671.

Where used. Boiler stack.

D-04. FLUE LINING, ETC.

a) **FLUE LINING AND THIMBLES:** Hard-burned fireclay products, free from large or deep cracks, blisters, or other objectionable structural defects.

Size: As indicated or necessary for the mechanical equipment to be installed.

Where required: Where indicated; located at heights shown or directed.

D-05. HOLLOW TILE

a) **STRUCTURAL HOLLOW TILE:** Horizontal-cell clay or shale units of size and design indicated, conforming to ASTM specification C 34; necessary vertical-cell pieces furnished for jambs and corners.

Where required: For back-up in exterior walls below roof level; for interior walls and partitions to extent indicated.

Grade of tile: Grade LBX used for work in contact with earth; grade LB used generally.

Surface finish: Scored where mortar or plaster will be applied; smooth and unglazed where surface will be exposed or painted.

Accessory pieces required: Closures, fitters, and special shapes necessary to preserve the bond and evoid extensive cutting of standard units.

D-06. GYPSUM TILE

a) **GYPSUM PARTITION TILE:** Cored tile conforming to ASTM specification C 52.

Where used: For interior, non-load-bearing partitions and furring at locations indicated.

Prohibited usage: As first course above floor in partitions and furring; for parts of partitions and furring specified to receive mortar finish of Portland cement or lime.

Size of units: 30" long; 12" high; thickness as indicated.

Furring units: Split tile of the thickness indicated.

D-07. TILE WALL-COPING

a) **TILE COPING:** Standard salt-glazed coping with socket joints; sound; free from fractures, cracks, blisters, and warpage.

Size: Of proper width for walls indicated.

Accessory pieces required: Starting pieces; corner pieces; closed-end pieces; special shapes as required.

Where used: Generally, except where coping of other material is specified.

D-08. FLASHING BLOCKS

a) **FLASHING-BLOCK UNITS:** Hard-burned terra cotta material, having a diagonal groove not less than 1½" deep, measured horizontally, designed to receive roofing flashing.

Where used: At intersections of roofs with walls and similar vertical masonry surfaces.

Size of units: Designed to replace and course with two courses of brick.

Accessory pieces required: Units and shapes necessary to provide a continuous flashing groove at all masonry walls.

D-09. GLASS BLOCK UNITS

a) **GLASS BLOCKS:** Partially evacuated structural masonry units of pressed glass similar to those made by the Owens-Illinois Glass Company, complete with standard corner pieces, curved, and other pieces necessary to make a complete installation.

Where used: See drawings.

Accessories required: Continuous, corrosion-resisting, wire mesh strips or other approved metal wall ties every 4th course in height; expansion joint material used where shown or required; all as specified or recommended by the manufacturer of the glass block.

D-10. FACING TILE — (INTERIOR)

a) **GLAZED CERAMIC UNITS:** Clay or shale tile facing units conforming to ASTM specification C 126, having all exposed surfaces uniformly finished with an impervious, durable, burned-on glaze of the designated colour and texture.

Where required: For partitions and interior walls. See "finish schedule" and detail drawings.

Quality, colour and texture: Grade S, standard multi-cored units; absorption test waived; manufacturer's "ivory;" "matt-finish;" corresponding to approved samples.

Types of units: Types I and II, as required; standard stretchers and starters; molded shapes as indicated for caps, corners, jambs etc.

Face sizes: Stretchers 12" x 5" except as otherwise shown; tolerance in face size (all units) not to exceed .15%, plus or minus, of nominal size.

Thickness of units: 4" (nominal) generally; 4" and 2" units, and two 4" units, used together to form double-faced walls of 6" and 8' thickness respectively.

D-11. CAST STONE TRIM

a) **MATERIAL:** Surfaced stone manufactured in accordance with the standard specification of the Cast Stone Institute; the product of an established manufacturer whose material has been previously used on similar work with satisfactory results.

Where required: Exterior ornamental trim and finish consisting of facing, sills, coping, lintels, etc., to extent indicated on drawings.

Surface colour and texture: Similar to Indiana "buff" limestone; exposed surfaces "hand rubbed."

Requirements for shop drawings: Sizes, sections, dimensions, jointing, anchorage, flashing, and setting.

D-12. MORTAR MATERIALS

a) **PORTLAND CEMENT:** A well known American brand conforming to ASTM specification C 150.

b) **MASONRY CEMENT:** Type II in accord with Fed. Spec. SS-C-181.

c) **LIME PASTE:** Made with pulverized quicklime or with hydrated lime conforming to ASTM specifications C 5 or C 141, respectively.

d) **GYPSUM:** Calcined material conforming to ASTM specification C 22.

e) **SAND FOR MORTARS:** Hard, durable, natural sand free from injurious amounts of saline, alkaline, organic, or other deleterious substances.

Grading: From "fine" to "coarse" within the following limits:

Sieve size	Percentage passing each sieve
No. 8	95-100
16	60-100
30	35-70
50	15-35
100	0-15

f) **FIRE CLAY:** Grade C in accord with ASTM specification C 105.

g) **WATER:** Clean and free from deleterious amounts of acids, alkalies, or organic materials; of approved drinkable quality.

D-13. MORTARS

a) **DESIGN OF MIXES:** As determined by the Architect, following approval of the materials proposed for use; volume of aggregate in all mortars at least two times, but not more than three times, the volume of the cementitious materials; bids based on use of the mortar mixes following.

b) **FOR HOLLOW UNITS IN CONTACT WITH EARTH:** I part Portland cement; ¼ part lime paste; not more than 3 parts sand.

c) **FOR BRICK AND STRUCTURAL TILE UNITS, GENERALLY:** 1 part Portland cement; 1 part lime paste; not more than 6 parts sand; **or,** 1 part masonry cement and not more than 3 parts sand.

d) **FACING-TILE MORTAR:** Same as the mortar used for setting brick and structural tile, but using non-staining quality cement; this mortar coloured by addition of non-fading mineral pigment.

e) **STONE-SETTING MORTAR:** Same as mortar for setting brick and structural tile, but using non-staining quality cement.

f) **STONE-POINTING MORTAR:** 1 part non-staining Portland cement to not more than 2½ parts sand; sufficient lime paste added to make a very stiff mixture.

g) **GLASS-BLOCK MORTAR:** 1 part Portland cement; 1 part lime paste; not more than 4½ parts sand.

h) **METHOD OF MIXING MORTARS:** Materials proportioned by volume; Portland cement mortars made by mixing the cement and sand, adding the lime paste, then adding sufficient water to obtain proper working consistency. Masonry cement mortar mixed in accordance with manufacturer's directions.

D-14. FIELD WORKMANSHIP

a) **GENERAL REQUIREMENTS** (applying to all types of units): Watertight construction provided in all exterior masonry. Throughout the work, joints completely filled with the specified mortar.

Condition of beds and units: Clean; all beds and units properly wetted.

Protection of uncompleted work: Top thoroughly covered with watertight material while work thereon is not in progress.

Samples of masonry: Panel of brick and hollow-tile wall work, 12" thick and not less than 4'0" in width and height, laid up in advance of masonry work, for inspection and approval; approved sample panel retained as a standard of the work to follow.

Scaffolds: All face work laid up from scaffolds located on the facing side.

Mason's iron work and masonry flashing: Properly set as the masonry work progresses.

Workmanship (general): All work built true to line; level, square, and plumb. Exposed joints practically uniform in size. Masonry walls and adjoining masonry partitions properly bonded to each other by toothing courses. Brick and hollow block units thoroughly bonded together.

Bed joints; Mortar spread thick. Deep "furrowing" avoided. Finished joints uniformly (approximately) ½" wide.

Head joints: Made with liberal application of mortar on surfaces of the unit to be placed and shoving the unit against the unit previously placed, causing mortar to ooze out at the top and sides of the joint. Contact surfaces of "closure" units and units previously placed given liberal application of mortar; closures "rocked" into place without disturbing the bond of adjacent units. Width of head joints same as required for bed joints.

Wall joints: Made with liberal, continuous application of mortar on the contact surfaces of units in place and units to be placed, and shoving the unit against the work previously placed, causing mortar to ooze out the top and sides of the joint. Wall joints ½" (minimum); ¾" (maximum).

Finish of exposed joints: On exterior, exposed joints tooled in manner providing a compacted, concave surface, the mortar being pressed tightly against adjacent masonry units on both sides of the joint. On interior, exposed joints tooled as indicated or directed.

Prohibited practices in workmanship: "Buttering" corners of units; throwing mortar scrapings into joints; "slushing;" deep or excessive "furrowing" of bed joints; shifting position of units placed by tapping or hammering.

b) **BRICKWORK:** "Common" or "running" bond used (except where pattern work is indicated) with a full-length header course at every 6th course.

c) **FIRE CLAY UNITS:** Substantially bedded and laid up; full, close joints.

d) **HOLLOW TILE WORK:** Material accurately laid out so as to necessitate the minimum amount of cutting of standard units.

Bond of tile work: "One-half" bond.

Head joints: Made by liberal application of mortar on both edges of the unit to be placed.

Reinforcement of bearing points: In bearing joints and where anchors, bolts, etc., project within the cells of hollow tile, such cells filled with 1:2:4 concrete.

e) **HOLLOW TILE LINTELS:** Provided where indicated and where no other type of support is called for.

Reinforcement: Steel bars as indicated, set in well-rodded 1:2:4 concrete or 1:3 Portland cement mortar.

Forming: Lintels pre-cast; where exposed, ½" wide false joints cast between the ends of pieces of tile.

Curing: Lintels water-cured for not less than 7 days before use in wall work.

f) **TILE WALL-COPING:** Units set in full beds of the mortar used for laying up masonry in parapet walls.

End joints: Well filled with the setting mortar.

g) **FLASHING BLOCKS:** Units set in the same manner required for brick setting.

h) **GLASS BLOCK WORK:** Before laying, sills coated with a heavy layer of asphalt emulsion, the coating being allowed to dry before the first mortar bed is placed.

Expansion strips: Required at jambs and heads, below shelf angles, at mullions, and where indicated; continuous; strips so installed that contacts of the edges of the glass block panels with the building structure are avoided.

Setting: Blocks set in the specified mortar, with all joints (except expansion joints) completely filled; mortar kept out of expansion joints; wall ties located as indicated or required and completely embedded in the mortar; ends of ties lapped not less than 6".

Joints: Uniform; width as indicated on detail drawings; exposed surfaces smoothly tooled to a slightly concave, non-porous surface after the mortar reaches its initial set.

Caulking: Oakum rammed between the sides of the blocks and the side of the chase or frame, after the mortar has set, to within not less than ⅜" of the finished surface; recesses thus formed at jambs and heads filled with mastic caulking compound.

i) **FACING-TILE WORK:** Generally, units laid up in accord with requirements for face brickwork; work accurately laid out in each room or space in manner requiring the minimum amount of cutting of standard units.

Bond: End joints located over the centre of the underlying full-length tile; all courses bonded at corners and intersections.

Anchoring: All courses properly anchored to masonry and concrete backing.

Joints: Not more than ⅜" wide; surfaces tooled to a smooth, slightly concave finish.

Closures: Cut at job, with a carborundum saw to straight, clean-cut ends; minimum length of any closure, ¼ the length of the standard stretcher.

Cutting and fitting: Neatly done around pipes, boxes, etc.

j) **SETTING CAST STONE:** Material accurately set by competent stone masons; true to line level and plumb; with full joints of the specified mortar; all sides of stones cleaned and wetted prior to setting; exposed faces kept free of mortar at all times.

Anchors and dowels: Soft steel of sizes and shapes indicated on setting drawings; all zinc-coated or dipped in asphaltum or red lead after fabrication.

Projecting courses and members: Propped up until the anchoring has been built in and sufficient work above is in place to securely hold the projecting work in position.

Heavy blocks: Set only after the mortar in joints below has thoroughly set; ¼" thick lead setting-pellets used in joints where approved or directed.

Bedding: Each piece of stone rested on a full bed of mortar in sufficient amount to fill out to the edges of the piece on all sides; stones adjusted to their beds by striking with a wooden mallet or ram.

Parging: Backs of all stones and exposed sides of all bond stones plastered with not less than ½" thickness of setting mortar; mortar allowed to attain initial set before the masonry backing is built.

Jointing: Face joints uniformly ¼" in width; setting mortar routed out ¾" in depth from face.

Pointing: Stone surfaces at joints thoroughly cleaned and wetted; joints in vertical surfaces completely filled with the specified pointing mortar, packed tight, and rubbed smooth to a concave finish; top and wash joints thoroughly caulked with approved elastic caulking compound of colour to match mortar joints.

D-15. MASONRY FLASHING

a) **FLASHING MATERIAL:** Sheet copper weighing not less than 2 oz. per square foot bonded to and between two layers of coarsely woven, asphalt-saturated cotton fabric by means of a ductile mastic; the entire assemblage corrugated on exposed surfaces in the manner providing a series of grooves running the entire length of each sheet. The material supplied in rolls of the maximum width and length suitable for the usage locations specified.

Acceptable material: Material equal to the flashing described as made by WASCO Flashing Company.

Where required: At window sills, exterior lintels, spandrels, and parapet walls; in positions shown on drawings.

Application: (general): Flashing material installed in manner to protect structural members from moisture and to effectively divert seepage toward the exterior of the construction. On horizontal masonry surfaces, flashing laid in a fresh bed of mortar; other surfaces receiving flashing thoroughtly dry, free from loose materials, and be spotted with plastic cement to hold it in place until the masonry is laid.

Waterproof connections between pieces made by splicing (splitting the two top plies, lapping the metal 4", and coating the contacting surfaces with plastic cement).

Heads and sills: Flashing at lintels carried not less than 6" beyond ends. Material carried under and behind sills, and turned up at the ends, forming a pan.

D-16. CLEANING MASONRY

a) **TREATMENT OF SURFACES:** Masonry joints pointed or repointed where necessary, surfaces thoroughly brushed or scraped free of dirt, excess mortar or plaster, and other foreign materials, all discolourations and other objectionable surface defects thoroughly removed.

Acid treatment: Where necessary to restore original colour, surfaces of exterior masonry, and exposed interior masonry not required to be painted, washed with a suitable muriatic acid solution.

Protection: Materials adjacent to masonry properly protected against staining and other injury during cleaning operations.

AN APPRECIATION: MILTON S. OSBORNE

By JOHN A. RUSSELL

ON May fifteenth Professor Milton S. Osborne left Winnipeg, where he has been Director of the School of Architecture and Fine Arts at The University of Manitoba for the past seventeen years, to take up his new duties as Head of the Department of Architecture at Pennsylvania State College.

Born in Zanesville, Ohio, Professor Osborne received his Bachelor of Architecture at Ohio State University. After working in architectural offices in New York and teaching on the staff of the School of Architecture at Columbia University, he obtained the degree of Master of Science in Architecture at that University. He was then called to the School of Architecture at Alabama Polytechnic Institute where he taught for four years, serving as Acting Head of the School during the fourth year. In the fall of 1929 he came to Winnipeg to become Head of the Department of Architecture at The University of Manitoba.

Professor Osborne has ample cause for pride and satisfaction in the progress of the School of Architecture at Manitoba under his leadership. Its distinguished history is revealed not only in the increasing enrollment, but also in the high standard of instruction and training which has been set and maintained and in the organization of a curriculum which has recognized the importance of both the cultural and technical elements in the training of an architect.

As Director of the School he never lost an opportunity to broaden and enrich, through travel and study, his own and, thereby, the School's experience and activity. On his summer travels, which took him into every Province of Canada, every State in the United States, and to Alaska, Mexico and Europe, he made vivid records of his architectural studies and research through the media of pencil, pastel and water colour. These sketches have been exhibited by many of the principal art galleries of the United States and Canada; and a group of nearly two hundred sketches illustrating the regional development of colonial architecture forms a part of the collection at the Library of Congress in Washington.

While touring England and the Scandinavian and central European countries during the summer of 1938, Professor Osborne studied their latest developments in housing and city planning. During the summers of 1943 and 1944, he worked as City Planner on the Chicago Plan Commission, and, during the past year and a half, as Special Projects Planner for the Metropolitan Plan of Greater Winnipeg.

For his sabbatical year in 1942-43, he received a grant from the Carnegie Corporation for the purpose of studying and reporting upon architectural training in twenty-five American universities.

Membership on the Board of Governors of the Winnipeg Art Gallery Association since its inception, and memberships in the Manitoba Society of Artists, in the Canadian Federation of Artists (Manitoba Region) and on the Housing Committee of the Council of Social Agencies of Greater Winnipeg have enabled him to contribute through practical suggestion and creative example to the cultural life of Winnipeg.

As a past president and frequent council member of the Manitoba Association of Architects, and as a member of the Council of the Royal Architectural Institute of Canada, of its education and professional practice committees and of the editorial board of the Journal, Professor Osborne has made vital contributions to the profession of architecture in Canada. Recognition of this fact came in 1935 with his election as Fellow of the Institute, and in 1944 when he was elected First Vice-President of the R.A.I.C.

Active membership in the American Institute of Architects, participation in the program of the Association of Collegiate Schools of Architecture in the United States, and membership on the Board of Architectural Education of the Royal Institute of British Architects further indicate the breadth and scope of his interests and activities in the professional and educational field.

In recognition of his distinguished record of achievement and influential contribution to the arts and life of Canada, a series of farewell functions were tendered to Professor Osborne in Winnipeg by several university and professional organizations, including the Manitoba Association of Architects. The latter occasion, held at the Royal Alexandra Hotel, bespoke the high regard which the large number present felt for Professor Osborne. Fitting remarks made by the President were followed by the presentation of a silver cigarette case suitably engraved with the crest of the M.A.A.

His many friends, former students and professional colleagues join in wishing Professor Osborne many years of useful and fruitful work with the students at Pennsylvania State College. They pay homage to his inspiring leadership of the School of Architecture at Manitoba, to his active participation in fine arts and city planning programs for Winnipeg, and to his contributions to Canada as a whole and to the Royal Architectural Institute of Canada in particular. They will not soon forget the benefits they have derived from association with him.

GEORGE W. CROTHERS LIMITED, LEASIDE, ONTARIO

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PROFESSIONAL OPPORTUNITIES FOR THE ARCHITECT IN CANADA

FROM many different points in the Empire, enquiries are being received by the Royal Architectural Institute of Canada and its members, regarding the prospects of Professional employment and opportunities for practice in Canada. The general outline which follows is an attempt to answer these enquiries.

At the present time, the situation is as elsewhere, rather unsettled and some hesitancy is evident. There is a fairly large volume of work in prospect, which includes the accumulated back-log from the war years.

There is a shortage of experienced draughtsmen. There is also scarcity of both essential materials and skilled workers in some branches of the Building trade. The rapid increase in the cost of construction is causing apprehension, especially in the field of housing. Such are the present conditions. The construction industry anticipates a period of much activity when present difficulties are overcome.

As to the prospects for the newcomer on the scene, it is but fair to point out both the possibilities and the difficulties.

The four Canadian Schools of Architecture are crowded with students. In the natural course of events, most of the graduates of these schools will find places as practising members of the profession, and the numbers should fulfil population demand.

It must be pointed out that Canadian practice follows American rather than English practice, and therefore, both Architects and Architect's assistants emigrating to Canada must be prepared to adapt their background of knowledge and competency to conditions which will have to be thoroughly assimilated if the newcomer expects to succeed.

The conditions referred to include building methods, unfamiliar materials, presentation of drawings and details, the law as it affects architects and building contracts, details of construction as developed to meet climatic conditions, the relation of the Architect and the Contractor, all of which differ in whole or in part from English practice. Knowledge of such things can of course be gained by enrolment in one of the four Architectural Schools, but for the practitioner already qualified in another country, the only practical way to gain sufficient experience of Canadian requirements to qualify for practice in Canada, is to work under a Canadian Architect.

It is not the intention of these remarks to discourage those who are interested, but it would be unfair to minimize the difficulties. Many Architects now practising with success in the Dominion came from other countries, but of these very few came as fully-fledged Architects. Most of them were in their twenties on arrival, and with a thorough background of Old Country training they were not too old to assimilate that knowledge which is necessary to success in any special area of application.

It must also be said that of the Architects of more mature years and experience who emigrated to Canada, some found the way both hard and discouraging because their advanced experience proved a handicap to the necessary adaptability.

Let not these warnings be misunderstood – Canada owes much to Architects from older lands and is not unreceptive to their latter day skills and techniques, which so amply demonstrate that architecture still lives as a creative art. But – the mere transplanting of such skills and such techniques to Canadian soil is not enough. There is a body of sound Canadian practice which has been built up on a basis of local knowledge hardly gained, and any transplanting must be nurtured with the application of that knowledge.

To sum up: Opportunities for the right parties are without doubt present in Canada, but this opinion must be qualified by the warnings before mentioned.

The choice of location is something which only experience and temperament can determine. No country on earth offers a wider choice of climate and amenities.

Architects like other groups include all sorts and conditions of men. Canadian Architects are no exception, but it may fairly be said that the profession as a whole offers a welcome to well trained representatives from all parts of the Empire.

In the final analysis, ability, character, hard work, and a faculty for adjustment are the requirements for success in the practice of Architecture in Canada, as in every other field.

In all Canadian Provinces the practice of Architecture is governed by regulations set up under Provincial law. There are variations in such law, as between Provinces.

It is most desirable that Architects holding certificates to practice in other parts of the Empire should make preliminary enquiry as to their status, if proposing to settle in Canada. Such enquiry should be addressed to the Secretary of the Royal Architectural Institute of Canada, 74 King Street East, Toronto, Ontario, Canada.

The proposed location in Canada should be mentioned and the Institute will then refer the enquiry to the appropriate Provincial Association of Architects for reply.

PROCESSES AND CRAFTSMANSHIP IN STAINED GLASS

By YVONNE WILLIAMS

THE Stained Glass Association of America favours the principle of architectural direction in the matter of the selection and purchase of stained glass.

The architect, in recommending a design, can base his judgment on standards of architectural fitness, even without a knowledge of the craft.

When stained glass is better understood as an art and a craft, and disassociated from literal pictorialism, it will be seen that it could add liveness and vitality to modern design in civic, industrial and private building, as well as in churches.

Stained glass has an eager, well established patronage, and most donors are anxious to be guided by an architect's advice, if he can explain something of the thought and labour which go into the making of a window. Choosing an artist or firm to carry out a work is a first consideration. The plan outlined by the Stained-glass Association as a guide in commissioning a window, is a very sound one. This reads, in part:

"We believe that ideal conditions will prevail when only one craftsman studies the problem with the Architect and owner. This condition fosters mutual confidence as well as the most practical and economical procedure. Should this craftsman fail to satisfy the Architect or owner with his sketches, he should be willing to withdraw, without compensation, thus permitting other craftsmen to enjoy the full co-operation of the owner.

"When more than one craftsman is invited to submit sketches, we urgently recommend issuance of a formal invitation giving the following information:

1. The names of the craftsmen invited.
2. The price per square foot, or the price per window contemplated.
3. The size and number of sketches required.
4. The date on which submissions are to be received.

I would add to this that a fee be paid to all competitors, and that where stained glass is contemplated an architect should recommend a plan to be made in advance to co-ordinate all the windows, under an advisory committee; and (b) that the architect and committee should judge an artist's completed work as well as the design submitted. It is sometimes a help to compare a finished window with the original design submitted for it. In most cases a good artist improves on his first sketch, as he works in the final medium of glass and lead.

There are only six essential operations in the making of a window:

1. Design and working drawing or cartoon
2. Glass cutting
3. Painting
4. Firing
5. Leading
6. Cementing

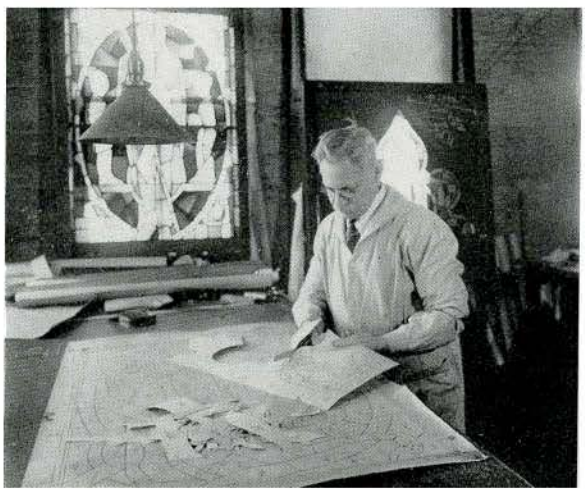
When a window is thought of by all the craftsmen involved as a work of art, each process is slowly carried out, and full of the interest of decision, selection and judgment. In what is called "commercial glass", which has brought such disgrace to the craft, unbelievable economies are practised all along the line. Since these economies have been developed through three or four generations many workers do not know that any other methods are possible. What led to this was the discovery that it took less labour to make a window with sentimental appeal only than one with aesthetic value as well.

Designer and group of Cartoonists at C. J. Connick Associates, Boston.

1. A design to scale and in colour, gives a general impression of the artist's plan. When this is accepted the cartoon is drawn full size from an actual template of the window opening. The real character of the work develops now: the artist is involved with subject, but thinking also of lead lines planned for development of colour, of confirming not contradicting architectural mood, of scale and weight of line proportioned to light and distance. A cartoonist who has been a glass painter will draw not for effect on paper, but for effectiveness on glass, trying to allow for the minimizing effect of refraction and halation of light through glass.

Some designers make an original design and cartoon for each commission, others repeat, wherever encouraged or permitted by donors, to do so.

2. Glass cutting. A carbon copy is made of the lead lines indicated in the cartoon. This is called a cut-line. It is used for sorting and assembling the glass, while a repeat of this on stiff paper is cut up into numbered patterns, each one representing a piece of glass. In making patterns a double-bladed knife or shears is used to discard a strip which allows for the width of the core of lead which will eventually hold the glass together.



Making patterns. In the background unpainted glass on an easel. For painting, lead-lines are drawn on the easel in black. The glass is held in place with drops of hot wax. The graduation of light through antique glass can be seen in this illustration.

Glass being cut to patterns. In the background: a black-lined easel: the coloured design (in this case the Rose at the Cathedral of St. John the Divine, New York) and on the right, a cartoon of one section of the same window.

Colour is not painted on the glass but comes in the material itself. A new piece of glass, therefore, is required whenever there is a change of colour, tone, or texture. A reduction in the number of pieces is a great saving of labour of pattern making, glass selection, cutting, sorting and glazing.

I do not say that all good stained glass is made up of small pieces, but only that the play of colour and light and beauty of lead pattern should be the governing factor, with no limitation for economy's sake.

The glass cutter selects sheets of glass from the range of colours in the studio stacks, and with a wheel tool, cuts a piece to fit each pattern composing the window. An average of twenty to fifty pieces per square foot is usual depending on character of work and distance to be seen.

The original sketch is a quide in choosing glass colour, but a very hard effect can result from following it too literally; because, (a) of increase in scale, (b) a glass-man can keep his colour "fluid" in a way that would be impossible in a sketch on paper.

A Note on Type of Glass Used

The luminous quality of good stained glass is due to a large extent to the refractive quality of hand-made glass. This blown glass is called "Antique pot-metal". Its colours are endless and subtle and each sheet varies in texture, thickness, and variety in the deliberate "imperfection" of bubbles and striations. The best glass is imported from England. Some very fine colours, but in my experience with less textural quality, are made in France, Germany, and the United States. Antique glass costs from $1.00 to $3.00 per square foot plus waste in cutting of 10% to 20%.

Rolled glass, called "cathedral", is often used with Antique, because it costs approximately 30¢ per square foot.

3. *Painting*. Glass painting is the application of an opaque pigment which is fired into the surface of the glass to modify the amount of light which passes through each colour. The amount of pigment applied naturally varies with the exposure of the window, the interior requirements as to light, and the light absorbing quality of different colours. The principle is of an effect of richness from the halation of colour through clear areas over obscured areas. It is in the size, proportion, character and method of distributing these clear areas that individuality of glass painting appears. Only a glass painter recognizes method and means in a window, but the general results of various methods are visible to anyone.

The lines and "shadowings" of paint which are primarily an aesthetic consideration, at the same time define the subject matter of a window. Solid black brush strokes called trace lines, outline faces, figures, and details which give meaning to the theme. A scarcity of trace lines is usually typical of poor work because it shows stinginess in a detail of painting technique, which has a real function in extending the two-dimensionality of lead lines.

For successful glass-painting the pieces of glass, when cut, should be assembled on a plate glass easel, held in place with wax, and worked on while looking through the glass toward the source of light.

The sections should be painted and fired twice, which means spending a surprising amount of time on sorting and assembling, aside from actual painting. There are short-cuts possible here when the work does not count as an art. Control of light by a coarse all-over stipple, or a monotonous shadow-and-highlight technique makes it possible for a painter to cover large areas very quickly. Sometimes all of a window is treated like this "on the bench", with only the hands and heads of figures "fussed over" to make them "realistic". In countries where commercial glass firms still exist, heads and hands are sent away to "experts" to be painted. This is called in the trade "farming out the flesh".

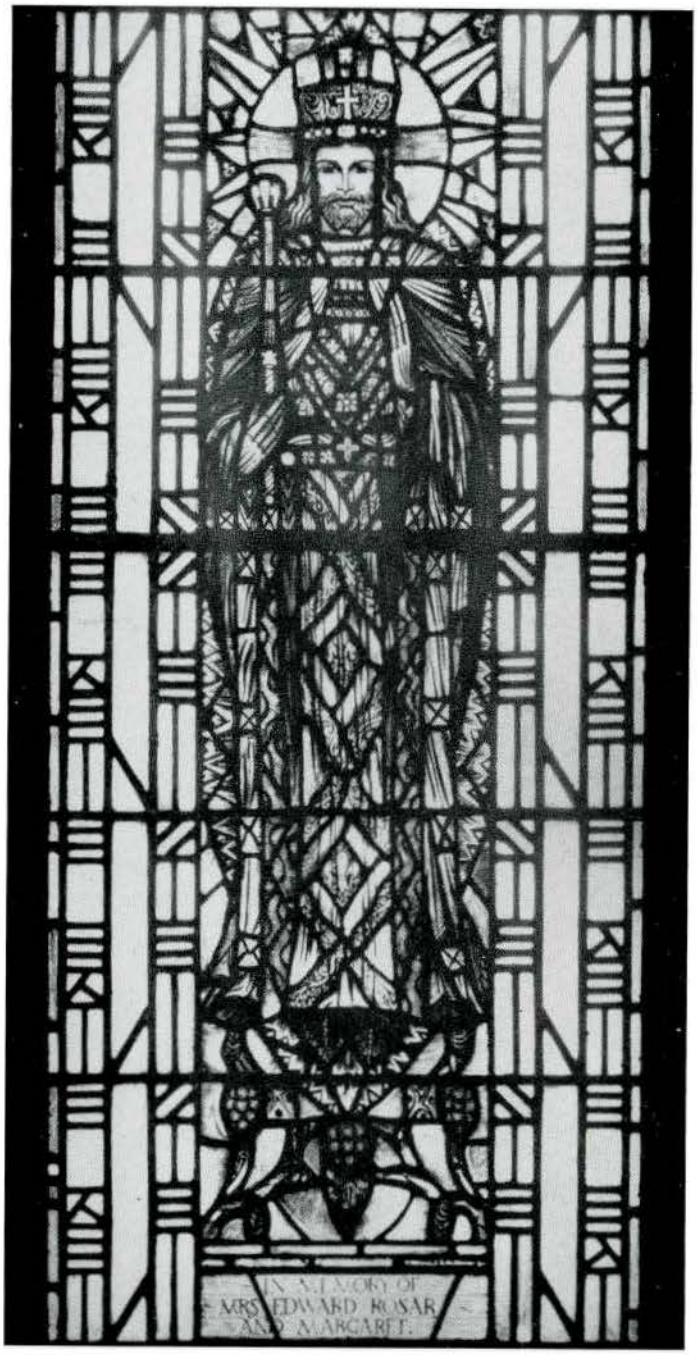
4. *Firing.* The pieces of glass are laid on trays bedded with whiting or chalk and brought gradually to a temperature where the pigment — itself a compound of glass and oxides — fuses into the surface. This is approximately 1,200°F. It is rare for any firm to offer work badly fired.

5. *Glazing.* Each section of glass is assembled on the cut line, and beginning at one corner the glazier bends and cuts the lead came to fit around the various pieces and hold them together. Finally, the cuts in lead are soldered on both sides. Leads of various widths can be used. A well designed window makes a lead pattern which is decorative in itself, making it quite possible to judge the quality of stained glass before entering a building. Windows made of only large pieces of glass are naturally much easier to glaze, and use less weight of lead and solder.

6. *Cementing.* After glazing a mastic cement is forced into the lead to make the window weather-proof.

7. *Installation.* The window is installed in sections with an iron T-bar supporting each section every three or four feet. To strengthen the window against wind pressure these should be reinforced by iron saddle-bars every foot. On very wide windows (over three feet) further iron armatures may be necessary.

Acknowledgment — All photographs used are from the Studio of Charles Connick Associates, Boston, Mass.



ST. MICHAEL'S HOSPITAL CHAPEL, TORONTO

W. L. SOMERVILLE, ARCHITECT

STAINED GLASS WINDOWS BY YVONNE WILLIAMS

☆ ☆ ☆

CONTRIBUTORS TO THIS ISSUE

Yvonne Williams has had a stained-glass studio in Toronto since 1932, and during that time has written and lectured on glass, and carried out commissions in many Canadian cities, from Montreal to the West Coast.

Her training included The Ontario College of Art, graduating as Medallist, 1926; The Charles Connick Studios, Boston, 1928, 30, and studies in England and France.

George A. Robb is a native of Branchton, near Galt, Ontario. He graduated, this year, from the School of Architecture, University of Toronto. In 1942 he won the Ontario Association of Architects' Scholarship. A written thesis is required in the fifth year on a subject of the Student's own choice. Mr. Robb's study of the Tourist Industry in Ontario is published here.

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

☆ ☆ ☆

AEDIFICAVIT

H. K. BLACK

Mr. H. K. Black is both an Architect and a qualified Structural Engineer. In his academic training in Architecture at the University of Toronto, he took the structural option and graduated in 1935. He is now a member of the Saskatchewan Association of Architects, the Ontario Association of Architects and is registered as a Professional Engineer in the Province of Saskatchewan.

Mr. Black's professional career to date has been divided between Architectural and Structural Engineering. In 1935 he started work with the Prairie Farm Rehabilitation Office preparing designs for dams and irrigation work. In 1937 he practiced as an Architect in Regina and later in the same year he was associated with J. B. Parkin, Architect, Toronto. In the following year he worked with Chapman & Oxley, Architects.

In 1939 Mr. Black went on tour, visiting Hospitals, unfortunately not for professional reasons but as a patient. The convalescent period and later recurrence of the old ailment gave him a few troublesome years. Nevertheless, during this time he worked for Gordon Wallace, Consulting Structural Engineer, Toronto.

No amount of persuasion on the part of Mr. Black could convince the Army physicians that he was other than a very poor risk. Therefore, during the first part of the war, he was forced to limit his war efforts to working for the Naval Service, first, in the Ottawa Group under Mr. Cecil Burgess and Mr. Hazelgrove, and later with the Civil Service.

In 1943 he contrived to slip by the Navy M.O. and was permitted to enter the ranks of the Wavy Navy. He served as Base Planning Officer for the East Coast. The Naval work was interesting and varied, designing everything from preliminary work on buildings for Shore Establishments, a full size mock up of a German submarine to re-locating the Admiral's washroom.

Upon discharge, Mr. Black returned to Regina and reopened his office. Like every other Architect he has found that nearly everybody wants to build something.

ALBERTA

The rectangular lay-out has been adopted by most of the newer cities of this continent with a faith in the rightness of the thing that is often pathetic. In at least two cases that have recently come to the writer's notice a curiously fatuous variant of the principle has been made. Probably this has occurred in others. In these instances the original town has been laid out rectangularly regardless of contours that called aloud against the system. But the streets and avenues were divergent from the cardinal points of the compass. When the towns outgrew their original area farther extensions were needed and made. At that time the new areas have been set out strictly north and south, east and west, with what practical advantage is not apparent. The result has been many most awkward junctions of streets. Misfits, of course, occur all along the junctions of old and new. Inasmuch as this introduces some forced variety into the dull monotony of the right angled system, it might have resulted in some advantages. But these advantages being somewhat difficult to arrange, these junctions have for the most part been given up as problems hopeless of decent solution.

On looking over the situation in each case it becomes glaringly evident that the simple faith in straight lines and right angles has resulted in the squandering of the finest natural opportunities for really beautiful effects. Where the brow of a hill overlooking a valley called for a sweeping driveway and the descent could be made by beautiful and easy gradients diagonal to the hillside, the wretched network struggles over the ground with the most awkward gradients and to the total destruction of the whole natural landscape. Here and there slopes that have proved intractible are left in small scattered patches to weeds, or even used as dumps, where terraced gardens of reasonable extent might have made the place a joy. Frequently also riversides whose natural beauty might have been expected to stay the destroyer's hand have suffered in the same way apparently in the faith that somehow right angles are an improvement upon nature.

Perhaps this too common calamity may be in some part due to the fact that the lay-out of new cities is put in the hands of engineers whose sole preoccupation has been with the simplest technical devices in the provision of certain services. It is perhaps the easiest way to lay out sewers and power services, on paper at least, in straight lines, although it does not appear to be highly scientific to keep turning even these at right angles.

A rectangular system suits fairly well a shopping district of limited extent. It is easy to find one's way about it. Even so, straight business streets cannot compare as regards pleasurable shopping with the sweeping ring streets of some older cities. In residential districts it is the dullest possible arrangement and creates a situation in which the privacy appropriate to residence becomes almost impossible. The rectangular arrangement has a certain artificial convenience in a street numbering system. Streets themselves can be regularly numbered from east to west and avenues from north to south. In this way, given any house number, one can with a little mental calculation place a particular house with considerable accuracy. Broadly speaking this is true. Nature in the form of a winding river or other natural obstacle frequently plays havoc with this theoretical perfection. Even, however, supposing this advantage to have its service, is it reasonable to take the joy out of life simply to make it easier to locate a property? Surely the major amenities of living are more to be prized than a system that offers only this minor convenience. Is human happiness to be martyred on a gridiron?

Cecil S. Burgess.

ONTARIO

Many uncomplimentary things have been said and written about the shortcomings, architectural and otherwise, of our Canadian cities, towns, villages and countryside, most of which are undoubtedly true or will be so in the near future if we continue at the rate and in the direction we are now going. But in His divine wisdom the Supreme Architect wisely provided a measure of relief for mankind from such blights by including in His plans the bright idea of changing seasons; winter, spring, summer and autumn. To each of us the seasons bring their own special pleasures and petty annoyances, but to architects as an esoteric group there must be a commonly shared feeling of relief as summer unfolds her verdant and soothing screen throughout our cities and over the countryside, relieving us for at least four months from winter's icely uncompromising and unflattering revelation of our major and minor errors. If we architects were really the planners we profess to be, then surely we would so arrange matters that our rare periods of escape would not coincide with the one season of the year during which living in our cities is most tolerable and pleasant. But since convention and state have both decreed that summertime must be vacation-time, and your correspondent is a strict conformist if nothing else, possibly a slight digression from architectural trivia of a purely provincial bias to a few of international interest will be understood and appreciated at this time of the year.

Choice of terrain for a vacation depends upon a number of personal factors, some of which are always beyond one's control. If at all possible the selected spot should provide among other things those unusual stimuli and innocent pleasures that the home pasture does not offer or cannot afford. Thus it is that Washington, D.C., has been for many years the mecca for those architect-ichthyophagists able to wend their way south of the snorter. Unfortunately the temptation to perform prodigious feats of ichthyophagy upon arrival in the capital is so irresistible that the ensuing defeats tend to weaken one's ability fully to appreciate what has been accomplished in the field of architecture. However, the sea-

soned visitor knows through bitter experience that something resembling a balance between food, drink, the weather and transportation is a prime requisite for sight-seeing and therefore takes due precautions in advance, usually in the form of a bottle of antacid.

Gothic enthusiasts will be cheered to know that several more blocks of limestone and a few more yards of wrought-iron screens have been added to the Cathedral since the virtual completion of the north transept during the war. After some forty odd years of effort the south transept, the nave from the crossing to the west front, and the great west front itself remain untouched. Like the majority of Washington's monuments, the Cathedral is such an immense project that one is apt to overlook the fact that the portions already erected represent an enormous outlay of time and treasure. At the moment this outlay has been some what marred by our engineering colleagues who have strung festoons of P/A amplifiers on high and around the bases of the great piers, much to the annoyance of the Bishop et al.

Although the central diamond forming the heart of the city remains very much as it was, there have been one or two noteworthy and several less noteworthy additions since 1939. Of the latter it is to be hoped that the temporary structures erected both sides of the reflecting pool and linked together by a perfectly functional overhead passage or "bridge of size" (with apologies), will soon disappear. Of the former the most interesting and at the same time depressing monuments are the new National Gallery of Art and the Jefferson Memorial.

In the National Gallery of Art protagonists of the twentieth-century school of classical architecture have irrefragable evidence in support of their theories. Until such time as Saarinen's proposed building is completed directly across the Mall giving us an apposite means of comparing the basically different work of two of the great masters of our time, it is difficult to imagine a more beautiful or fit building for its purpose than the late John Russel Pope's masterpiece. The old saw about architecture being frozen music is most apt in this instance if one can reconcile the thought with an average temperature of ninety-seven degrees.

The Jefferson Memorial is a most remarkable and admirable example of the degree of perfection to which the marble-setters' art can be carried.

One of the most intriguing and at the same time baffling developments of recent vintage is to be seen and experienced across the Potomac in Virginia. On an alternately level and rolling site spreading over hundreds of acres the Federal Government has built a most extraordinary network of arterial and secondary highways leading to and from the new airport, the Pentagon, Arlington, Mount Vernon, and a number of enormous housing developments. As the road system appears to have been designed on the theory that the shortest time required to proceed from one point to another is by route of the largest possible arc connecting the said two points, what used to be a simple five minute drive from the fourteenth street bridge to the Lee house now consists, if the slightest error in circling is made, of anywhere from a one hour to a half-day tour of Virginia. At one point in the proceedings it seemed quicker to go to Richmond for a drink than to Washington. There is a local resident who maintains that after several years of effort he still remains defeated by the maze of cloverleaves, under passes, over passes, by passes, and half immelmen he is supposed to unravel in proceeding to and from his cliff dwelling in Virginia. In self-defence he patronizes the bus services exclusively and rarely ventures out at night alone.

Among other redeeming features the landscaping of this whole area from Arlington to Mount Vernon is a masterly piece of work. With an initiated driver at the helm it is possible to relax and enjoy what must surely be one of the most extensive and successful examples of co-operation between man and nature on record. Federal authority has seen to it that not a single billboard or hotdog stand remains to remind the traveller of the age in which he struggles.

D. G. W. McRae.

LETTER TO THE EDITOR

The June issue carried an Ontario "Provincial Report", the text of which suggests that the architect to-day is too busy to attend to the needs of the small home owner, and that the "answer to the problem" is the Small House Bureau. As there is a growing misapprehension on this subject, may I be given the opportunity to air the view of an architect whose practice is largely housing.

There is a tendency on the part of the commercial and industrial architect to overlook the fact that a substantial part of the profession is engaged almost exclusively in the design of houses. Even when operating comparatively large practices, these latter do not achieve the spotlight enjoyed by designers of more monumental structures and seldom seek office in the Association.

Hence, it often happens that sub-committees are formed on housing, the members of which have had little contact with this highly specialized field.

Admittedly housing is not so remunerative, but also is not so subject to fluctuation, as was proved in the depression years, when the top flight commercial architects weathered the storm by the simple, if callous, expedient of dispensing with their staffs, whereas a sufficiently constant volume of houses were designed to keep most housing architects busy.

It is a branch of the profession which has more human interest than any other, and in which many happy contacts are made; yet this is the branch which well-meaning members wish to hand over to bureaucracy. Past experience of the profession with schemes of this type invariably ended with the public acquiring valuable architectural service at little cost to themselves, but at

considerable expenditure of time and talent by the profession.

The Dominion Housing Act competition of some years ago was a classic example by which the products of the best brains of the profession were sold over the counter at $10.00. Not only was their magnanimity not appreciated by the public, but the $10.00 fee was set up in the minds of the public as the commercial value of a good set of plans.

This may not have greatly concerned the industrial architect, but those offices whose practice was largely domestic had – and still have – a constant fight to preserve the statutory fee against this impossible competition.

Now that the battle has turned in favour of "architectural service" – after much effort and publicity by the profession – the peculiar penchant of the architectural profession for self-destruction again urges it to cast itself fervently under the juggernaut of "public service".

We have aided and abetted in setting up the government in the architectural profession, supplied it with assistants, and even preliminary stocks, completely reckless as to its future effect in competition with the profession. It is only since this trend has spread to government designed building of the "monumental" type that the ruling powers of the profession have become alarmed.

Unless it can be shown – to those most intimately concerned – that the idea behind the "'Small Housing Bureau" is not the old fallacy of "something for the public for nothing", I feel the housing architects should oppose the scheme with all the power at their command.

Where is standardization to end? Why not "Standard" factories, schools, churches, banks, etc.? Is not housing only the thin edge of the wedge of standardization?

The public has now begun to ask for architectural service. In the name of common sense, let us not send them back to a Bureau for a "standard plan at a price"!

Yours truly,

N. L. Irwin.

BOOK REVIEW

HEATING AND VENTILATING FOR ARCHITECTS AND BUILDERS
By R. K. Cornell, published by Paul Elek Limited, London England, Price 7/6. 57 pages, 33 cuts.

The author attempts to cover in fifty odd pages the entire field of heating, air conditioning and domestic hot water supply, with an introduction to thermodynamics, and an outline of economic considerations thrown in for good measure. This goal is rendered more difficult by the author's occasional leaning to verbosity, his lack of proper evaluation and co-ordination of the subject matter and defective syntax. He also insists on using inadequately stated and even wrongly interpreted engineering terms.

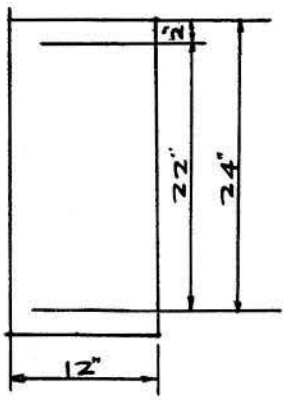
A glossary which states that "if there is a difference in condition of various layers of a body in weight . . . particles will move around until all have acquired the same condition", also that "sensible heat . . . is the greatest quantity of heat which can be held by a body without changing state", and that "humidity is the condition of the atmosphere in relation to the water vapour it contains" can not inspire confidence.

All these shortcomings are augmented for readers in the Americas by the fact that the British heating practice and its usages differ from those of this continent even more than its engineering terminology. The ultimate result is a booklet which belies its architecturally appealing wrapper and could not even be recommended to a reasonably ambitious apprentice in the building trades.

Karel R. Rybka.

☆ ☆ ☆

EXAMPLE OF A LOGICAL METHOD OF CALCULATING COMPRESSION REINFORCEMENT IN REINFORCED CONCRETE BEAMS



GIVEN

$fs = 20{,}000\#$ p.s.i.
$fc = 800\#$ p.s.i.
$n = 15$ p.s.i.
$b = 12''$
$d = 24''$
$d^1 = 2'$
$M = 1{,}500{,}000$ in. lbs.

$RM = Kbd^2 = 131.2 \times 12 \times 576 = 906{,}854$ in. lbs.

$As = p.b.d. = .0075 \times 12 \times 24 = 2.16\square''$

M for Comp. Steel $= 1{,}500.000 - 906{,}854 = 593{,}146$ in. lbs.

$kd = .375 \times 24 = 9''$

fc^1, 2" below top $= \dfrac{300 \times 7}{9} = 622.2\#$ p.s.i.

$fs^1 = fc^1(n-1) = 622.2 \times 14 = 8{,}711\#$ p.s.i.

$$As^1 = \frac{M}{fs^1 (d - d^1)} = \frac{593{,}146}{8{,}711 \times 22} = \underline{\underline{3.09\square''}}$$

Additional Tension Steel ,as usual.

$$As = \frac{M}{fs\,(d - d^1)} = \frac{593{,}146}{20{,}000 \times 22} = 1.35\square''$$

Total $As = 2.16 + 1.35 = \underline{\underline{3.51\square''}}$

W. B. Hackett.

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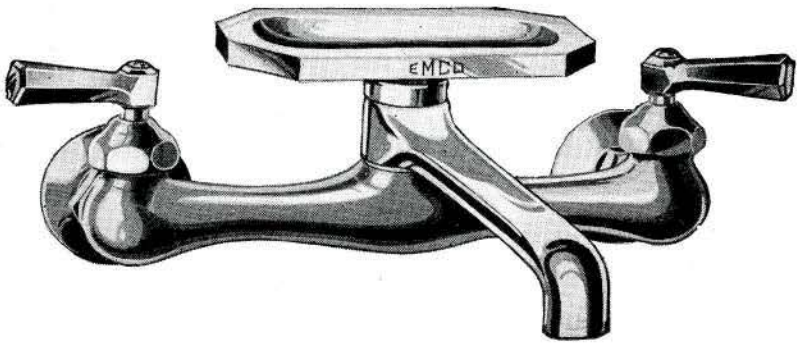

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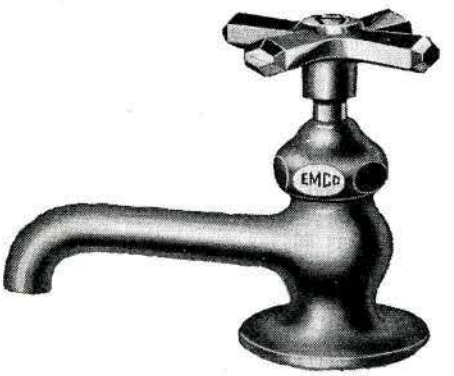

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