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COVER

Maritime Regional Laboratory, National Research Council
*Leslie R. Fairn, Architect*
Photo by Bollinger

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ROYAL ARCHITECTURAL INSTITUTE OF CANADA



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**EDITORIAL AND ADVERTISING OFFICES, 57 QUEEN STREET WEST, TORONTO 1**

# EDITORIAL

IT IS AN HONOUR to be invited to write an editorial for the *Journal*, and I presume it is an indication that I have reached the age of discretion. Therefore, I may be permitted to reminisce over twenty years, and compare the student of architecture during the depression with the dashing undergraduate of today.

There is a noticeable change; and it is mostly for the better. He is now keener and more enthusiastically devoted to the art. The fact that he can see some future in architecture and has a form of union to suggest thoughtfully minimum wage rates may have some influence on his attitude. But, to those who remember the humility with which the student of the early thirties approached architects in the futile search for experience with or without pay, it is a shock to be questioned by today's eager beaver as to how much design he would be doing and whether he will have full control.

However, he is a better equipped student than we were, and he is a better draughtsman in every respect except rendering. I think this is being neglected for beautiful and ingenious models. The average office still must depend on quick sketches and renderings to explain the great majority of their work to the client.

Today's student, also, has a better knowledge of structural design. About all I can remember of my course were many demonstrations of the stresses and strains in a large piece of art gum. We never did seem to get to steel or concrete except by inference. The van der Rohe influence has given our present boy a much greater interest in steel sections, but someone should explain to him the on the site difficulties and cost of such detailing.

The student in my day did have one great advantage. We had a much more thorough course in architectural history and the evolution of design. And, we had no idols to worship. Architectural design, at least in my school, was still national rather than international. We were not disciples of any one individual. How different it is today when work illustrated by schools all over the world shows similar characteristics and influence by members of the Big Four. This idolatry sometimes results in a narrow minded approach which is just as aggravating as the traditionalist who thinks that all progress in design ended in the 18th century. It is also hindering the development of personal expression and one's own philosophy.

However, it is wonderful to be in the position of being able to employ one or two students each summer and have work for them to do. Their keen enthusiastic help is refreshing and stirs up the dust in the whole office inspiring older members to do their best. Let us hope there will be jobs available every spring for many years to come.

G. EVERETT WILSON

*A paper given recently by Professor Russell to the Illuminating Engineering Society in Minneapolis, Minnesota*

# *Light and Colour in Design*

*John A. Russell*

How many of us realize the importance of light and colour in our daily experience? On every hand, ever changing light plays on nature's subtle and complex colour palette, creating atmospheric effects, dynamic colour music and emotional reactions. From the tropics to the arctic, man is captivated by the mysterious glamour of the play of changing light: the long low sunset of the arctic, the hot sultry gold of the limpid jungle atmosphere, the nostalgic gloom of the eclipse, the ominous sky suddenly rent by blinding lightning, – all exert an hypnotic power, dramatic in essence.

The designer who consciously uses light and colour to define, control and enhance his design, – whether it be a teacup, a chair or a whole room, – recognizes that these two elements are closely associated with the other basic elements of design, – line, pattern, texture, form and space.

## What is Design?

We may well ask the fundamental question, "What is design?" If we take the definition, "Design is the orderly arrangement of things for use and beauty," we find the three essentials which have always been emphasized in design: the planned arrangement according to basic principles; the organic quality which stipulates that its form shall be the direct outgrowth of its function or use; the aesthetic quality which generates a sense of visual satisfaction as well as an inner awareness of the meaning of the form.

Robert G. Scott, in his book *Design Fundamentals*, gives us this definition: "Designing means creative action that fulfills its pupose." Here we are reminded that design is the result of "creative action"; in other words, it involves and results from a series of acts or processes in which certain elements are combined according to accepted laws or principles, and the result fulfills the purpose for which it was intended.

This fulfillment of function (the "functional theory" about which we hear so much these days) implies that its form shall express the meaning or intention; that, since it cannot exist apart from the material, the form shall express that material from which it was fashioned; and that the form shall be the logical outcome of the method by which it was built or put together.

Thus it is evident that every design has both an aesthetic and an intellectual aspect. Visually, we see and appreciate the relationships of line and form, pattern and texture, light, shadow and colour; intellectually, we recognize and appreciate the material and structural relationships we know to be there.

## Design in Practice

The practitioner, – the designer who creates for a purpose, – works with basic elements and employs basic principles or rules for their correlation and integration. *The Basic Elements:* line, form or mass, space, texture, pattern, light, colour. *The Basic Principles:* unity, balance, rhythm, harmony, direction, dominance or emphasis, proportion, scale.

Habitually, most of us look at things without really seeing them. We are surrounded by countless objects, patterns and textures. We think we know what each looks like. We have seen millions of leaves, for example; yet when we inspect one closely we find unexpected structural patterns of great beauty.

Much of our knowledge of things depends on touch as well as sight. Our fingers convey impressions of rough and smooth, hard and soft, just as our eyes tell us of form and colour. Every surface has texture, one that is either natural to the material or the result of fabricating or finishing processes.

By considering the object itself, the purpose it must serve, the spirit it should express, the designer determines the material best suited to the task. Whatever the designer's tools and materials, he works with the same basic elements and applies the same basic principles of composition listed above.

The elements of light and colour are, in many ways, the most important. Light is the medium which, through lights and shades, reveals and defines forms in space and surface patterns and textures. Where there is light there is bound to be colour, since light is colour. These two closely interdependent elements are at once visual and emotional in their use: each defines visually; in addition, each expresses or creates a mood, a feeling, a quality.

## Light

Basically, light is, of course, essential for good visibility. In the design of the lighting for any interior, the provision of the right amount and the right kind of light in the right place is the major consideration. Through careful control of the quantity, colour, direction and distribution of light,

the lighting engineer can create just the right seeing conditions for the activities that take place within an area, whether it be a restaurant, a living room, a business office, a corridor, an operating room, or a beauty parlour. Light thereby fulfills its prime function of providing good visibility; but light also has an equally important and parallel function as a creative or expressive element of design.

Light is more than just a convenience by which to see things, a means of revealing or explaining the visual aspects of a form or a design; it is an emotional language with power to induce and maintain moods through its direction, intensity, quality and colour. As an element of spatial design, it unifies, explains and emphasizes forms in space. The shadows it casts define both form and space, underlining the brilliance of the light itself. In themselves, they form patterns and become integral parts of a design, frequently evoking emotional or symbolic ideas.

Light and shadow thus enhance and control the visual appearance of a design, while in a room they establish and maintain an emotional atmosphere consonant with the intended spirit and use of the space.

### Light as Colour

Of the controllable aspects of light, – its quality, quantity, colour, direction and distribution, – colour is often misunderstood and neglected. Although we remember our fundamental physics of light and the experiment in which white light is broken down into its component colour wave lengths by being passed through a prism, we generally fail to connect this phenomenon with the daily experience we call "seeking colour." We think of colour as something we look at, rather than the sensation produced by light reflecting from a surface at a certain speed and wave length which produces the visual reaction we call a colour.

Without light, colour could not exist. In a completely black room, paints have no colour: the colour sensation does not occur until light strikes the paint surface and reflects therefrom into the human eye. If the paint appears to be green, it is because the peculiar consistency of the paint is such that it absorbs all parts of the white light falling on it except the green wave length which, reflected from the surface to the eye, produces the sensation we call green.

Architects and interior designers find these two elements of design, – light and colour, – inseparable; one cannot be planned or controlled without providing for the other, and each exerts a strong influence on the other.

### Colour Definition

The sensation or phenomenon which we call colour can be defined specifically by determining its hue, its value and its chroma. Colour authorities may vary in the terminology, but all recognize (i) that there are characteristics which differentiate one colour from another and therefore determine the name or *hue;* (ii) that colour may vary in the amount of light reflected from its surface and can therefore be described as having a light or dark *value;* and (iii) that colour may vary in its intensity or concentration of pigment, from very strong to very weak or greyed *chroma.*

The study of these three dimensions of colour has led colour authorities to establish certain standards of measurement and comparison which facilitate colour matching and mixing, as well as provide a basis for colour harmony.

### Colour Mixture

Early in the study of colour, time must be spent experimenting with coloured pigment and coloured light to ascertain how each is mixed to produce the infinite variety of hues and colour tonalities. The mixing of complementary pigment colours to produce either greyed chromas of each other or a neutral grey, and the mixing of other pairs of colours to produce the shades between, reveal the need of considering both the values and the chromas of those pigments being mixed. In contrast to the subtraction mixture of pigments (in which each colourant subtracts its opposite from the mixture: light is subtracted from light), the mixing of coloured light becomes an additive process (the wave lengths of the coloured lights add up to produce a new totality of colour for the eye: light is added to light).

### Peculiarities of Human Vision

No colour in nature exists entirely separate from other colours; seen always in conjunction with other colours, it is the relationship of two or more colours which creates the remembered effect. Not only does a strong colour appear to "colour" a weaker one adjacent to it, but the eye itself does a lot of "colouring" as it reports sensation. The physiological process of seeing colour involves actions and reactions within the eye which, in turn, convey to the brain a report about the colour.

The phenomenon of *after-image,* – in which the eye retains an impression of colour seen, which affects those colours seen immediately thereafter, – must always be considered in the juxtaposition of colours in a design. The fact that the eye is always looking for relief from intense colour, causes it to introduce a film of the complementary colour over anything seen immediately afterwards. This may cause an impression of greyness or a sense of colour which actually is not there. This phenomenon accounts for the fact that shadows on coloured surfaces appear to have a complementary hue; hence a roughly textured surface always looks greyer in chroma than a smooth surface of the same colour.

The phenomenon of *irradiation* causes the eye to enlarge the apparent size of the light form seen against a dark background and conversely to contract the dark form seen in front of a light background.

The phenomenon of *fusion* or colour mergence causes the eye to mix the mosaic of two or more colours, melting them into another colour quite unrelated to the parent colours. Landscape painters of the late nineteenth century developed this reliance upon the spectator's eyes to do the mixing in their impressionist paintings to its logical conclusion in their technique of broken colour.

### Visual Appearance of Colour

Not only do we have to anticipate the ways in which the mechanics of human vision will alter the colours being used in a design, but we also have to recognize that colours appear to have certain qualities which convey definite impressions of temperature and space.

*Colour "temperature."* The colours in the red half of the

circle of colour (from purple to greenish yellow) can be described as *warm colours*, – those which are active, cheerful, stimulating and noisy. Such colours bring life, warmth and a glowing richness to any design. They focus attention on an object, a part of a design or the wall of a room, giving that element significance by increasing its apparent size. If used in too great quantities, such warm or hot colours may become irritating and disturbing, creating a sense of conflict or confusion.

The remaining colours on the blue half of the circle are described as *cool colours*, – those which are passive or soothing, tranquil, restful and quiet. They create an atmosphere of rest and relaxation; they extend the range of vision and disperse the attention, separating the parts of a design and making it seem less crowded because of the contraction in the apparent size of each part. Used in large quantities, cool colours may create a cheerless, barren, almost barn-like effect which becomes cold and impersonal.

*Colour "solidity."* Some colours, because of the inherent nature of their appearance, seem to be solid and therefore define the forms on which they occur. Other colours appear vaporous, translucent or transparent, removing the sense of solid plane or form. Thus the reds and earthy colours could be described as form defining colours, while the blues and more ethereal colours could be described as form destroying colours. Generally speaking, the darker values and the more intense chromas will establish the sense of solid form, while the lighter values and the greyer chromas of any colour will create the sense of atmospheric space. Suitability of colour to the object or design becomes very important. The obvious solidity of a bulky, massive chair calls for definite tones of darker value or richer chromas than, say, a light orchid pink upholstery which would create a bulging, balloon-like effect.

*Advancing and retreating colour.* A third "effect" is closely allied to colour temperature and colour solidity, – namely that warm and solid colours not only establish very definitely the planes on which they occur, but they tend to come forward in the composition, – to expand visually the size of the object or to reduce the sense of space in the case of a room. Conversely, cool, powdery or smoky colours tend to destroy solidity, to recede from us, and thus to reduce the apparent size of an object or to expand the sense of space. It thus becomes possible to control the desired effect of length, width or height in a given space. In the small room, for instance, the use of warm tones, like the ever popular amber-buff, will reduce the apparent size of the space by as much as 20 or 25 percent. Visually, the room appears small and cramped; psychologically, it appears stuffy and lacking in freshness.

## Function of Colour

We design objects and enclose spaces with planes, – horizontal, vertical, sloping or curved. Each has its own character and texture. Through the appropriate use of colour we can define not only the form or space, but, by the planes of colour creating that space, we can also direct the movement of people into and through the space.

Furthermore, these planes of colour will help to create and maintain the emotional moods and reactions of these people while they are in the space. It becomes apparent, therefore, that colour fulfills the dual function of defining space and establishing emotional atmosphere. In both these capacities, it is a creative agent, – creating space or defining form on the one hand, and creating mood on the other.

## Colour Psychology

In all the colour qualities and phenomena mentioned thus far, the process of visual transcription and interpretation has been involved. It is the impression which the visual appearance creates and which is transmitted to the individual that defines the form and colour. However, the "seeing" of colour also involves the "feeling" of colour, – the reaction to the emotional connotation of colour. Subtle colour variations and their association with our personal experiences of enjoyment and delight enrich our appreciation of the sensation of colour in a way which no mere optical experience of "seeing" colour can equal.

Individually, we have certain colour preferences, while we find others inimical, depressing or distasteful. Traditionally, we have come to associate certain ideas and qualities with certain colours. Often there is a great variety of conflicting associational ideas: red, for instance, has been connected with early Christian martyrdom, with flags of nations, with robes of church officials, with revolution, with Christmas, with St. Valentine's Day, with Mother's Day, with danger, with the 4th of July, with the R.C.M.P. uniforms.

Furthermore, emotional associations are generally linked with colours: red suggests courage and strength, danger, war or passion; orange conveys a note of warmth, happiness, harvest plenty, laughter and glory; yellow, the colour revered by oriental religions, may suggest sunshine and cheerfulness, or, in its harder tones, cowardice, deceit or decay; green symbolizes victory or safety, and supplies all the satisfying and restful character of the subtle nuances found in nature; blue suggests peace and, although inclined to be "cold," is the most soothing of colours; purple has been reserved traditionally as the badge of royalty.

The designer must understand the psychological reactions to and the associational ideas of colour in order to create the desired effects of gaiety, charm, vibrancy, soothing quiet, freshness, or etc. which a particular space for human occupancy or use may demand.

## Colour Harmony

Much has been written about the combination of colours into harmonious colour schemes, but we should remember that the "rules" are merely guides. The success of any colour scheme depends largely on the many conditions attendant to the situation. Any one colour cannot be a "bad" colour; rather, it is its combination with particular values or chromas of other colours that is unsuccessful.

The arrangement of colours in a design of any kind involves three types on contrast. (i) *Contrasts of value* (light versus grey versus dark) are, of course, basic to visibility: we see things because of light and dark contrast. A great variety of effects, – sharp emphatic accents of black and white, or subtle nuances of tonality in greys, – is to be achieved in the manipulation of values alone. (ii) *Contrasts of chroma* (pure versus greyed colour) produce exciting counterpoints of emphasis through rich intensities

seen against greyed, subtly tinted backgrounds. Thus focus, accent, vibrancy and colour insistance are achieved through the relative power of colours. (iii) *Contrasts of hue* produce the endless variety of colour combinations which seem ever tailor-made to create new and fresh designs and spaces for living. Actually, any colour can be combined successfully through the careful manipulation of their values and chromas in relation to the proportionate areas of each. Nevertheless, it is often helpful to recall certain basic colour combination patterns which usually will produce effective results:

The monochromatic scheme, with values and chromas of one colour.

The analogous scheme, with several neighbours from one part of the colour circle.

The complementary scheme, with the two colours at the opposite ends of any diameter in the colour circle.

The split complementary scheme, with the two neighbors of one of a pair of complements substituted for that colour.

The adjacent complementary scheme, with the neighbour of one of a pair of complements added to the pair.

The analogous complementary scheme, with the complement of one of a group of analogous colours added to the group.

The double complementary scheme, with two pairs of complements.

The triadic scheme, with three colours equidistant on the colour circle.

One must remember that the creation of a harmony of colours depends not only on the colours used, but upon the values and chromatic intensities of those colours as well as upon the proportionate relationships of the areas of those colours. The same fundamental principles of good design must be applied in the planning of the colour scheme as are utilized in the creation of a design itself, – balance, unity, contrast, emphasis, rhythm and repetition.

### Light and Colour

Colour thus becomes a defining or explanatory agent in design as well as an emotional medium capable of establishing and maintaining atmosphere and mood. Having become acquainted with the physical properties of colour itself as well as with the ways we see it and feel its influence, the designer must investigate the interaction of light and colour. What happens when light falls on colour, – how it reacts, is absorbed or reflected; how light is broken into its component parts to create colour; how the colour of light affects the colour on which it falls; how these reactions can be regulated and controlled by foresight and careful planning. Both light and colour are elements of spatial design and act as agents to unify, explain and emphasize forms, patterns and textures in space.

Light, except that proceeding directly from a light source to the eye, is always coloured by reason of its being reflected from coloured surfaces. Colour sensation, as revealed or produced by light reflecting from coloured surfaces, actually precedes form sensation. Thus colour, light and form are inseparable. Too often this fact is overlooked and colour is thought of as an applied disguise without relation to the form it clothes. Design involves the orchestration of colour, form, pattern and texture bathed in and revealed by that impalpable medium, light.

Colour schemes are effected by conditions of natural as well as artifical lighting, – by dazzling sunshine, by pale sunlight, by cold clear greyness, by heavy mistiness. Each regional climate has produced its colour patterns: the strong intensity of the colours used in the tropics, the remarkable restraint and clarity of colour as used in the orient, the medium colours and broken tints found in regions of grey misty atmosphere, the radiant and gleaming solidity of colour in the clear vibrant atmosphere of the Rockies.

### Light and Colour on the Stage

Light as a plastic, interpretive medium is best illustrated by the creative work of the twentieth century stage designers.

The stage set is the actor's enviroment; it aids in bringing to life the words and characters of the play; it establishes the mood of the play; it creates the environment for action (the time and place); it not only locates action, but reinforces it and enhances it. Obviously it is not, then, just a fancy, elaborate decorative composition to catch the eye and impress the spectator.

"The performance of a play is a living picture. First, light – the master sculptor – takes for the medium of its art the actor with his natural characteristics changed perhaps by make-up and costume; it raises to prominence the high-lights, and cuts deep into the furrows of shadow to produce that life-like appearance which makes the actor look his best. When all the shadows have been destroyed and there is only light, the actor appears flat and two-dimensional; when the shadows are natural, he immediately comes to life in three dimensions. The director designs his stage pictures by a variety of groupings as the centre of interest changes from one part of the stage to another, from one group to another. As in painting, the light directs attention to the centre of interest, and shadow leaves the unimportant in its place. Balance in the stage picture is maintained by different intensities of light at different places and on different groups of players."

The stage designer no longer maintains intense illumination by which the actor's face can always be seen; rather, he seeks to create a mood. Light becomes an instrument for the creation of many changing moods and compositions within one basic scene design, – the actors form a group of moving sculpture. Such light that casts shadows is capable of arousing emotions by so emphasizing and accenting forms as to give them new force and meaning. Dramatic lighting, that will thus reveal the emotional as well as the significant form, is the expressive medium for the scenic designer. Its unifying power creates the desired fusion of stage floor, scenery and actor.

By reason of the fact that the key of emotion can be established almost immediately by the degree and quality of light pervading a scene, light is more than just a scene painter, – it is a scene builder. Impressions of solidity and immensity can be created by this medium. The emotional power of colour, controlled by chiaroscuro, or plastic light and shade, can create any desired atmosphere which shall reflect at the designer's will the mood of the actor's speech and movements. Plastic light, rich and intense, or soft and caressing, falling on surfaces of varying colour and texture, achieves the desired effects comparable to the fluidity of music.

# *Loss of a Link with Toronto's Past*

*Alan H. Armstrong*

AT SUNRISE on May 17th, 1952, fire destroyed what was once the passenger train shed of the Great Western Railway. It stood on the Esplanade at the foot of Yonge Street in Toronto. Had this great wooden roof survived a few more years, it might have found its place in local architectural histories as a straight-forward early solution to a nineteenth century problem. Possibly the few notes that follow will prompt a surer historical hand to unearth its full account.

The structure was built in 1866, at a time when railway builders were changing the face of eastern Canada with a rapidity and confidence hardly outdone since. The Great Western had been founded for only fourteen years before, when not a mile of railway had been built in what is now Ontario. But Upper Canada was growing by immigration at a rate like that of our own day; and the burning of the Parliament House in Lower Canada made it seem certain that Toronto would be the capital. (It was darkly hinted that Niagara-born Sir Allan MacNab, founder of the Great Western, had lent a hand in engineering the Montreal riots.)

The Great Western carried eastward the farm products of the land north of Lake Erie. At Niagara it was linked with Cornelius Vanderbilt's newly-formed New York Central Railway by the famous suspension bridge—a triumph contemporary with our station. At first, three railways entering Toronto shared uncovered platforms a few blocks west of this building. In the same year as the Great Western opened this more elaborate terminus, Parliament abandoned Toronto for its new quarters in Ottawa. However, aside from becoming Provincial capital the following year, Toronto's future was already assured. Near the station, the 45,000 citizens had some years before erected elegant St. Lawrence Hall (both buildings have been made to serve in their declining years as produce markets). Not far away was built, to the design of our architect, the Academy of Music – better known as the Mechanics' Institute and the birthplace of Toronto's library system. Around the G.W.R station there soon arose the edifices of the leading banks and department stores, covered with magnificence. The names of Toronto's aristocracy are still decipherable on adjacent warehouses.

The station itself consisted primarily of a timber vault. The clear span was of the order of seventy feet, and the length was something like twice that. (Exact dimensions are not available to the present writer.) Clerestorey windows at the springing of the vault lit this great space, with its longitudinal tracks and platforms. The main space was flanked by low aisles; and the columns carrying the main roof were so braced as to suggest flanking arcades. It was perhaps the oldest station of this form in Canada. The high-vaulted train-shed has recently been described by Carroll Meeks (*The Architectural Review,* Sept., 1951) as maturing in the 1850's, and being rendered obsolete by the invention of the smoke-slot roof in 1904. Our Toronto station followed only a few years behind Cubitt's at King's Cross in London. Eighty-seven years ago the leading architects of Toronto were already very up-to-date.

The architect of this notable building was William George Storm, R.C.A. His firm had lately completed the Royal Magnetical Observatory and University College in the same city. He was subsequently a judge in the competition for the Provincial Legislative building, and designed St. James' Cathedral and Victoria University. It was in his office that the first meeting took place leading to the formation of the Ontario Association of Architects, of which he was first registered Member and first President. He was the only son of Thomas Storm, a Lancashire builder who emigrated to Canada in 1830. W. G. Storm died in 1892.

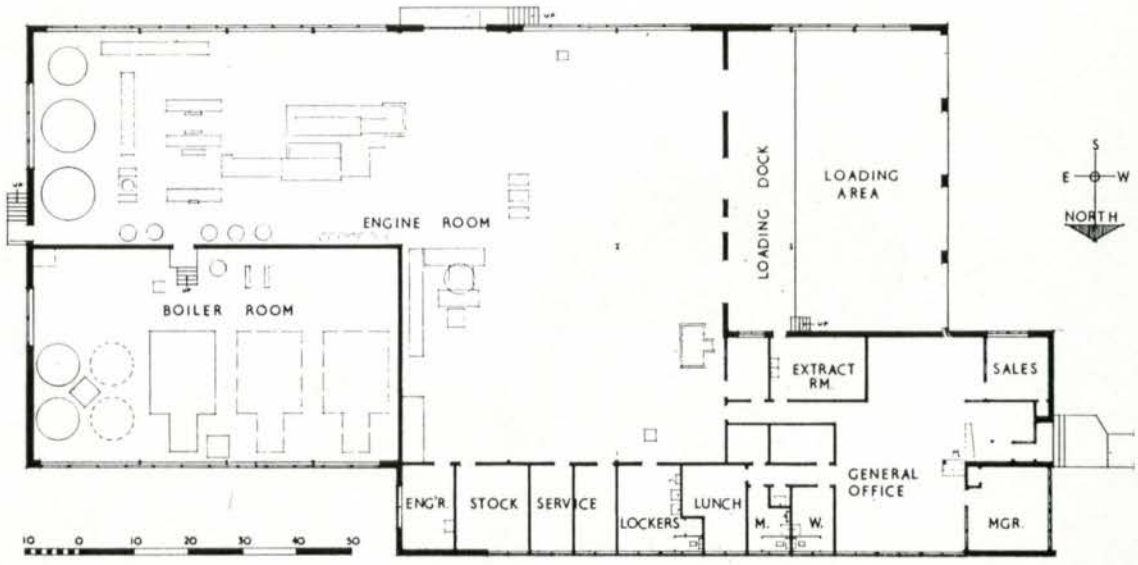
The building destroyed last year was the property of the people of Canada. Its site is now used for automobile parking.

CAPITAL PRESS SERVICE

# *Liquid Carbonic Canadian Corporation Limited, Winnipeg, Manitoba*

*Moody and Moore, Architects*

*Cowin and Co. Ltd., Structural Engineers*
*Pearson Construction Co. Ltd., General Contractors*




*view from south west*

*engine room*

R. G. BLACKWELL

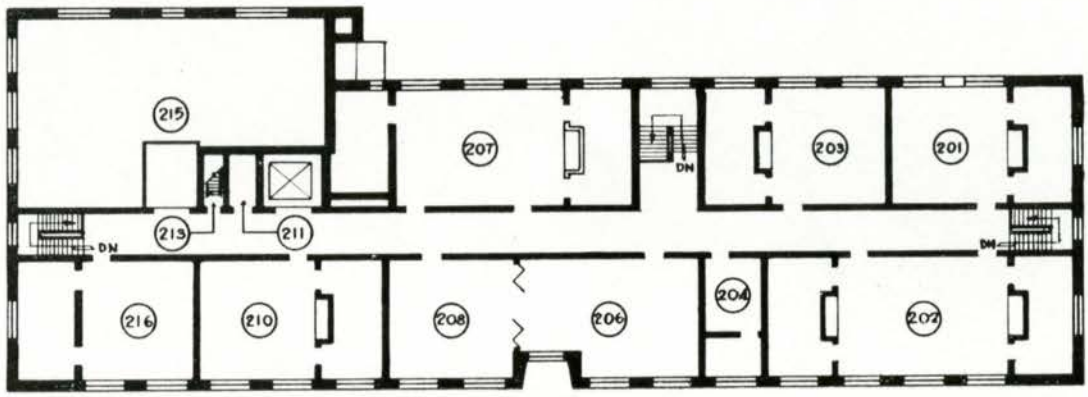
*office*

# *Maritime Regional Laboratory, National Research Council, Halifax, Nova Scotia*

*Leslie R. Fairn, Architect*

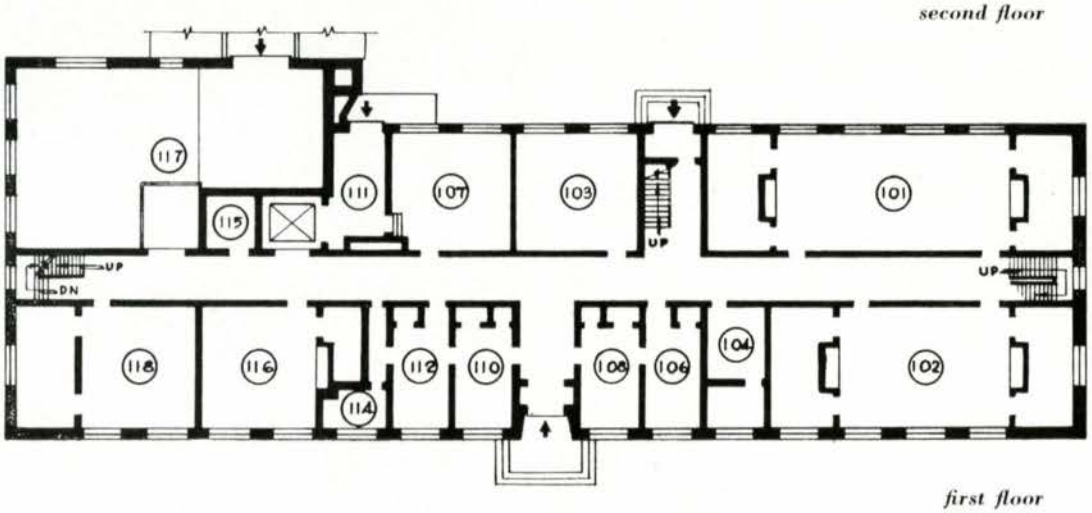
*McDonald Construction Company Limited, General Contractors*

201 Biology
202 Biology
203 Chemical Engineering
204 Men's Wash Room
206 Library
207 Biochemistry
208 Library
210 Physics
211 Janitor's Room
213 Stairway to Penthouse
215 Pilot Plant
216 Physics

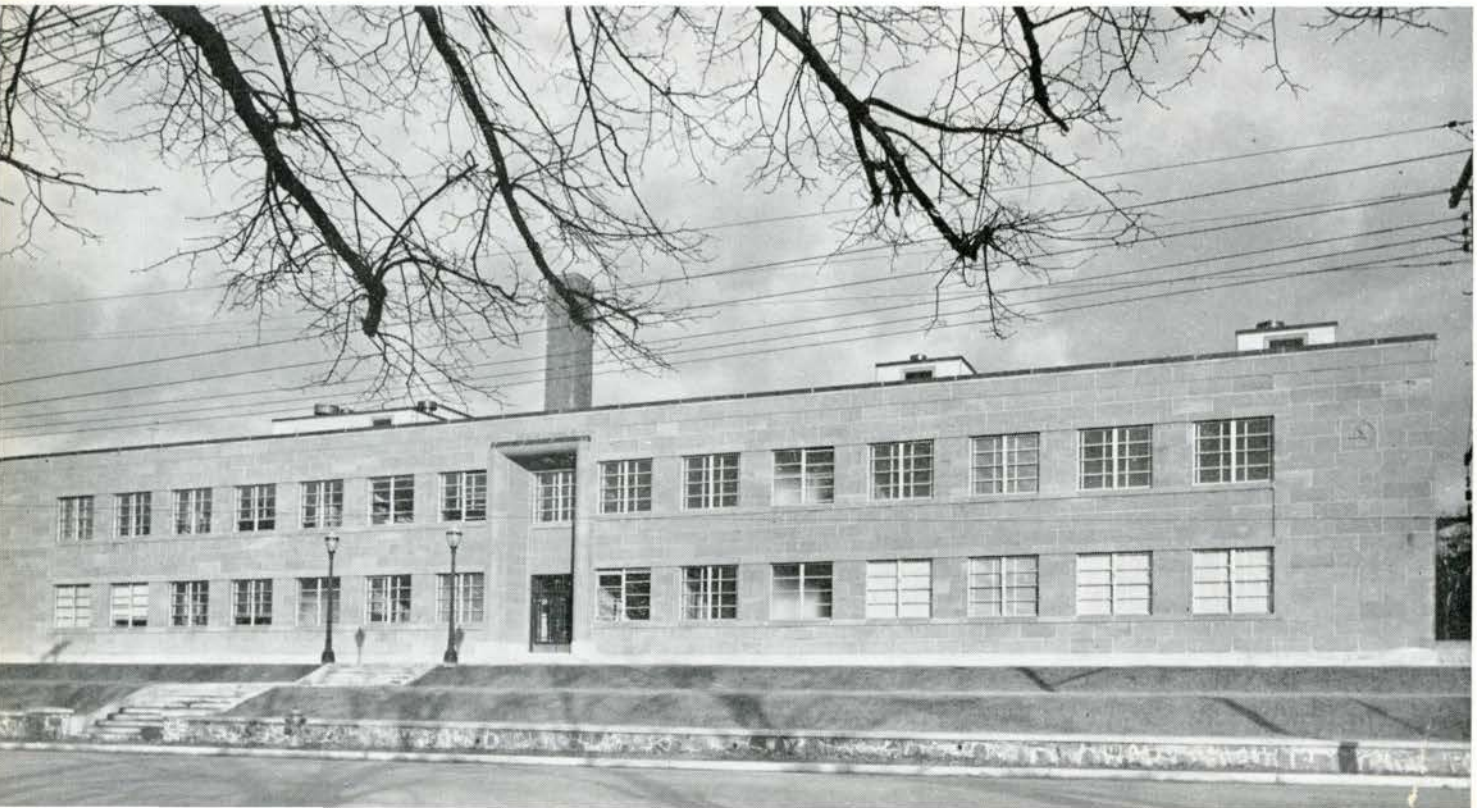



*second floor*

101 Physical Chemistry
102 Organic Chemistry
103 Biochemistry
104 Ladies' Rest Room
106 Director's Office
107 Machine Shop
108 Office
110 Office
111 Storeroom
112 Office
114 Men's Wash Room
115 Electric Control Room
116 Physical Chemistry
117 Pilot Plant
118 Physical Chemistry

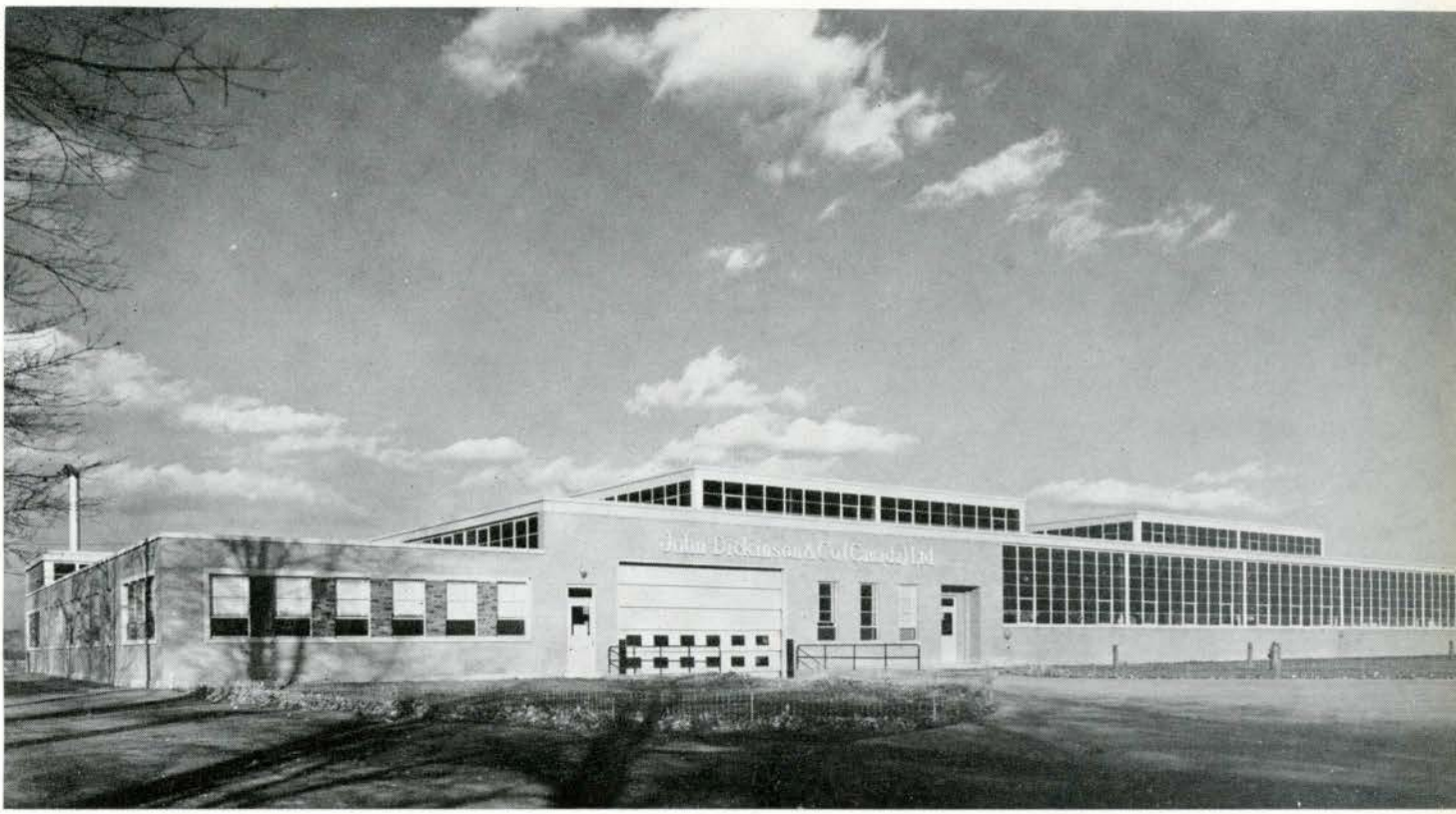



*first floor*



BOLLINGER

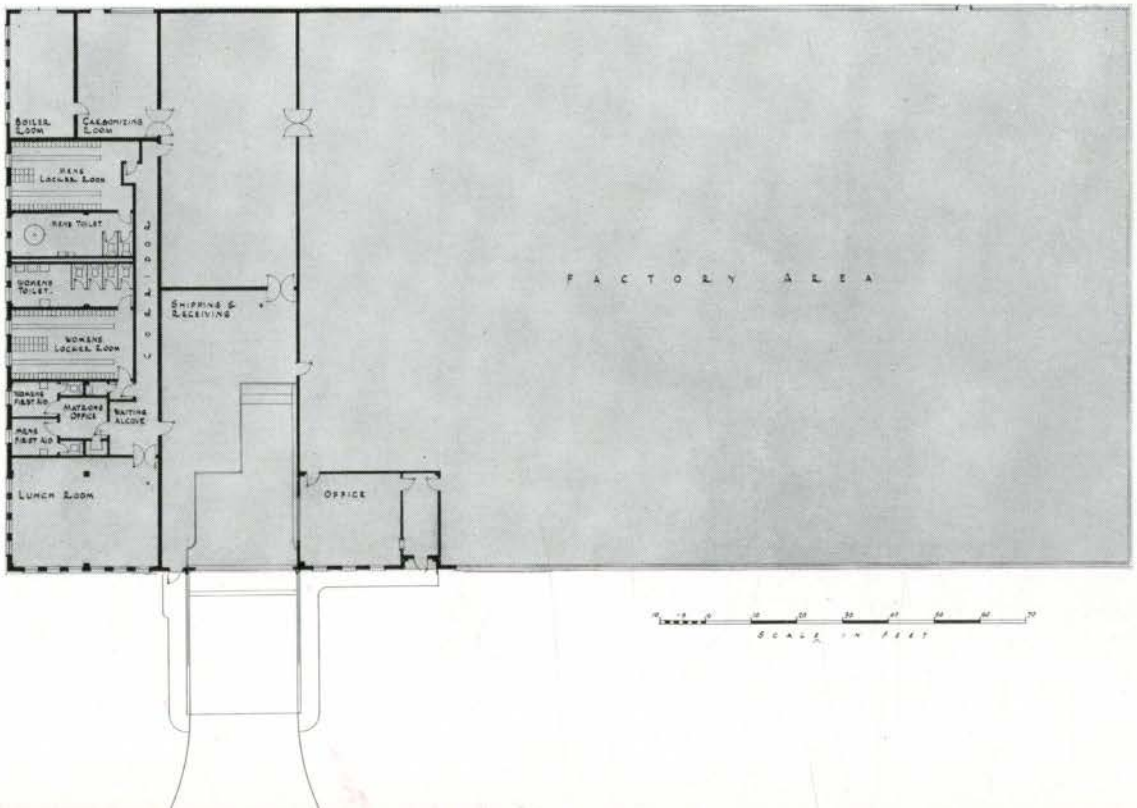
FRANK ADAMS




## *John Dickinson & Co. (Canada) Ltd., Hamilton, Ontario*

*Prack & Prack, Architects*

*W. H. Cooper Construction Company Ltd., General Contractors*

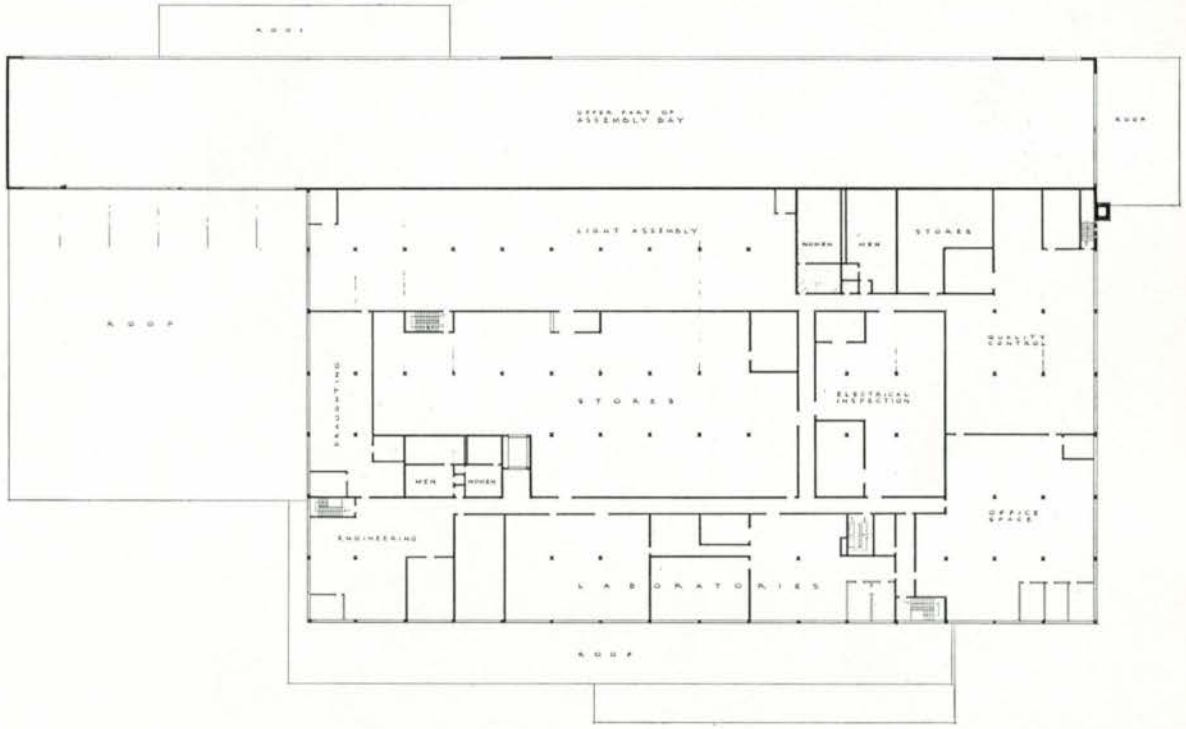


# *Canadian Arsenals Limited, Scarborough, Ontario*

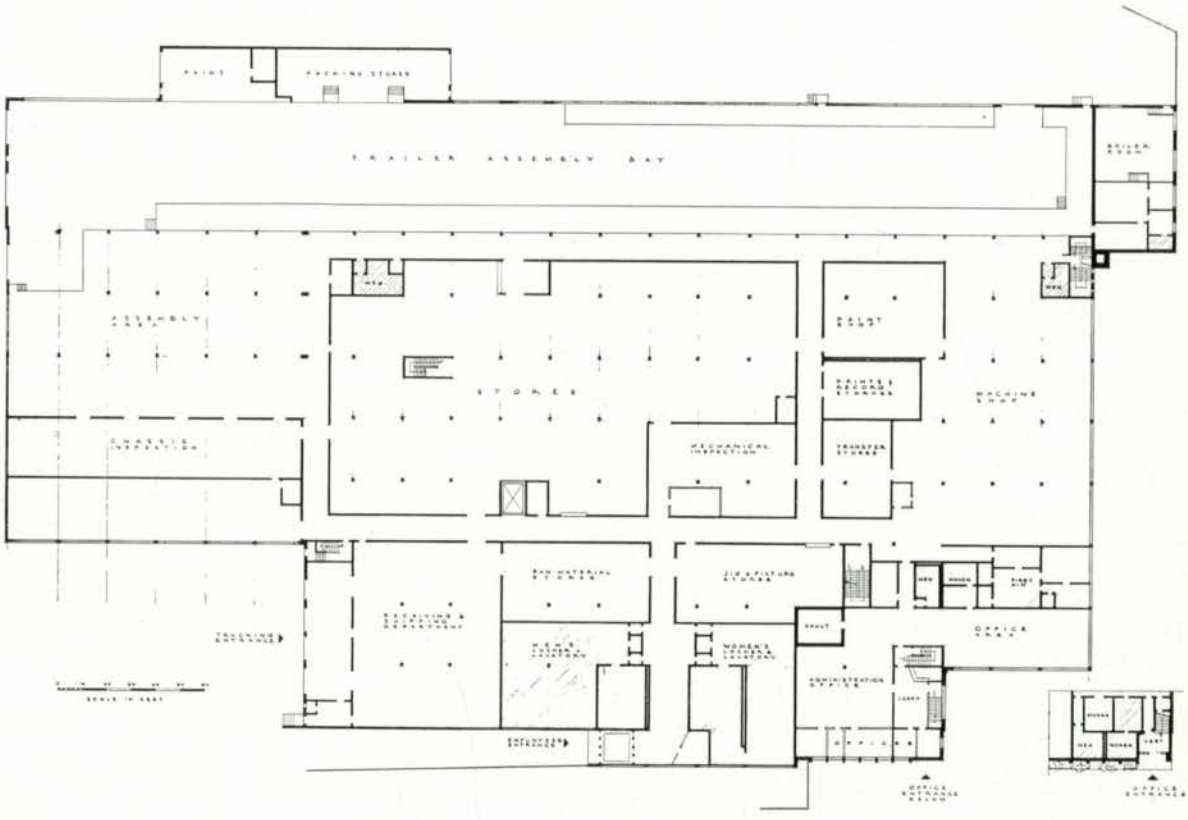
*A. G. Facey, Architect*

*Edgar A. Cross, Consulting Engineer*
*Carter Construction Company Limited, General Contractors*

PANDA




*second floor*




*first floor*

PRINGLE & BOOTH

## *Head Office Building, Dominion Textile Company, Limited, Montreal, Quebec*

*H. Ross Wiggs, Architect*

*Wiggs, Walford, Frost & Lindsay, Consulting Engineers*
*Foundation Company of Canada Limited, General Contractor*

To KEEP PACE with expanding business conditions and because of the need for more adequate space for its administrative staff and for extensive modernization, the Dominion Textile Company Limited decided in 1947 to proceed with plans for a new head office building in Montreal to take the place of the building it had occupied as its headquarters since 1923. The growing trend for many business firms to move uptown and away from the congested areas and traffic conditions around Victoria Square and St James Street, influenced the Company in reaching a decision to purchase a property on Sherbrooke Street West. It was felt that the new location would be more suitable for its office employees, the majority of whom lived in the west end of the city and had no definite ties with the downtown district.

The new site is on Sherbrooke Street West, between St Mark and Fort Streets, and extends through to Lincoln Avenue at the rear. The lot is approximately 119 ft by 200 ft. Lincoln Avenue being some 19 ft lower than Sherbrooke Street, provides easy access to a basement level. The lot on the east side of the site is partly occupied by an L-shaped building, five storeys high, having a 10 ft driveway next to the lot line; that on the west side is unoccupied. This provided an excellent opportunity to make the new building a free-standing structure with windows on all four sides and so secure the maximum of light. A T-shaped plan was adopted with the front portion about 98 ft wide and 66 ft deep, a rear wing 74 ft by 68 ft. Behind this lies an area approximately 50 ft by 119 ft, which serves at present for parking and shipping, and which is the site, if needed, of a

ARNOTT & ROGERS

*Vice-President's Office*

future wing which could be added, converting the plan of the building into an H-shape.

The design and structure of the building are such that, besides looking after present needs, it takes into account the development to be anticipated in coming years. Within the building, flexibility has been the keynote of the design, and care has been taken to provide for any conversion made necessary by growth, development or reorganization. In planning the general layout, a very large proportion (about 82%) of the floor space has been devoted to office areas, with the essential services, such as elevators, stairways, washrooms and vertical shafts for the mechanical and electrical systems, all concentrated more or less in the centre of the building so as to allow the maximum use of windows for offices. Fireproof vaults are provided on nearly all floors. In the washrooms, all the plumbing fixtures are hung on the walls and the metal partitions are suspended from the ceiling so as to leave the floors free from obstruction for easy cleaning. Ceilings are continuous at one level over the length and breadth of all office areas so that partitions, both the so-called permanent as well as the removable sectional metal type, which are erected only up to this over-all ceiling, may be altered at any time without having to go into costly and troublesome structural changes.

### Structural Design

The chief structural elements consist of a reinforced concrete foundation which sits on bed rock, with concrete caissons or piers carried down to solid rock to support the steel columns and a steel frame. This frame rises eight storeys above the Sherbrooke Street level and is then set back for a two-storey penthouse and a water cooling tower on top. The enclosing walls of the building up to the Sherbrooke Street level and the ground floor slab are of reinforced concrete. All the upper floors and roof are of precast Aerocrete slabs. The brick facing of the exterior walls is backed with hollow clay tile, and a vapour barrier is located between the backing and the inside hollow clay tile furring.

All the structural steel in the exterior walls and around the elevator hoistways, stair wells and other floor openings is encased in concrete; elsewhere in hollow clay tile. A 3-inch fill of vermiculite concrete is laid over all Aerocrete floor slabs to accommodate a system of underfloor ducts for electrical and telephone services throughout all office areas. The roof is insulated with 2 inches of Foamglas and covered with tar and gravel roofing. All flashings are of copper.

The interior doors throughout the building are of hollow metal, slab type, set in pressed steel frames. The ceilings in the office areas are also of metal, consisting of perforated pans clipped to a suspended metal furring system which provides a level surface uninterrupted by beams or low sections anywhere. Mineral wool pads are set on top of the metal pans for acoustical purposes. Recessed fluorescent light fixtures, in parallel lines, and circular diffusers for the air conditioning complete the ceiling treatment. All these individual units are easily removable and provide ready access to wiring and air conditioning equipment concealed in the space between the ceiling and the floor above, thus contributing to the flexibility of the building in the event of any change, without the need of ripping out any lath or plaster.

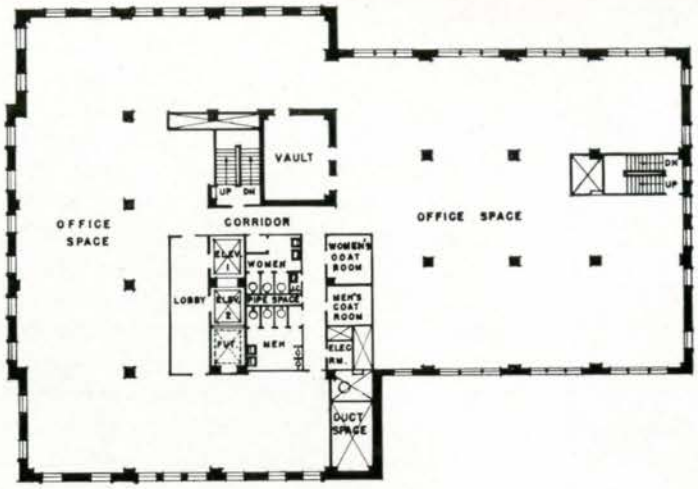
Plaster ceilings occur in the main entrance lobby, all elevator lobbies, the executive offices and in all washrooms. The walls of the washrooms are lined with coloured English wall tile having a matt finish, and the floors are covered with ceramic mosaic tile in a basket weave pattern in colours to blend with the wall tile. Terrazzo in various colour designs is used for the floors of the main entrance lobby, the cafeteria, and for all elevator lobbies and corridors. Oak parquetry flooring is used for the lobby leading to the executive offices, which are carpetted. Elsewhere the floors, other than those in the basement, are covered with a light brown jaspe linoleum with a black linoleum border and coved base set flush with the plaster wall above.

Colour schemes throughout the building are modern and restful. Walls are painted in one of four standard colours —green, ivory, grey and peach. The elevator lobbies and service corridors on each floor alternate in these colours. For the most part, walls with western exposure are painted with the cooler colours while on the eastern side the warmer tones are used.

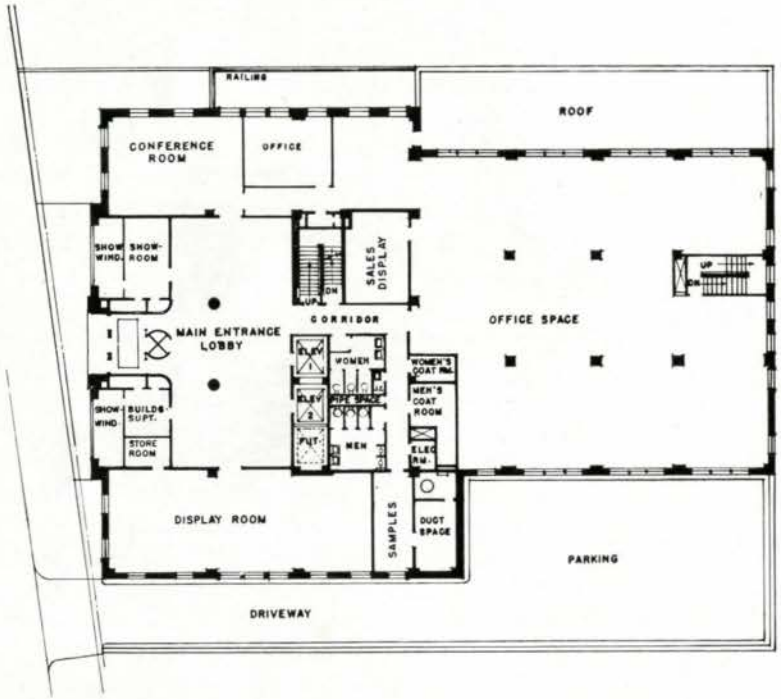
*H. Ross Wiggs*

***Entrance Lobby***

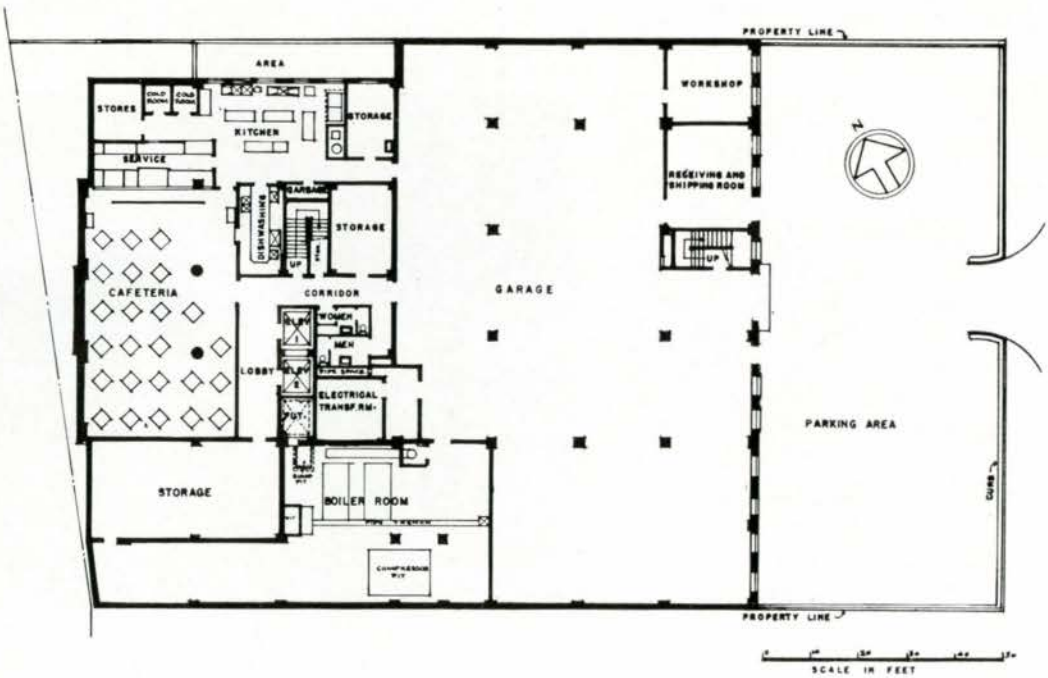
MAX SAUER



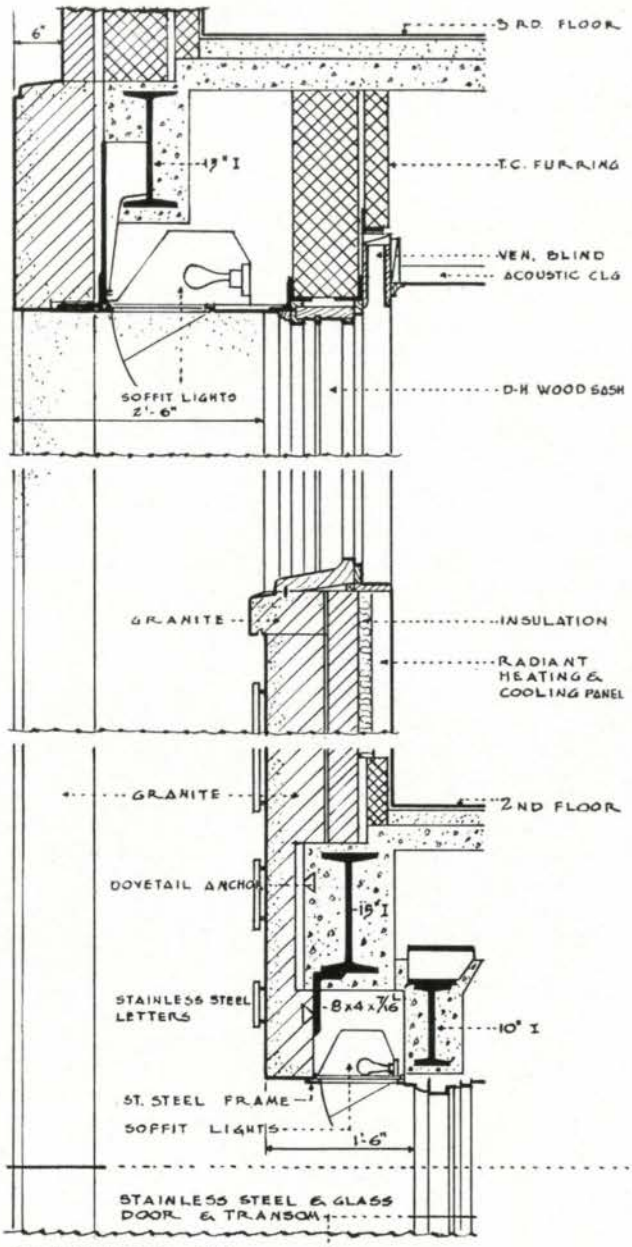

*typical floor*



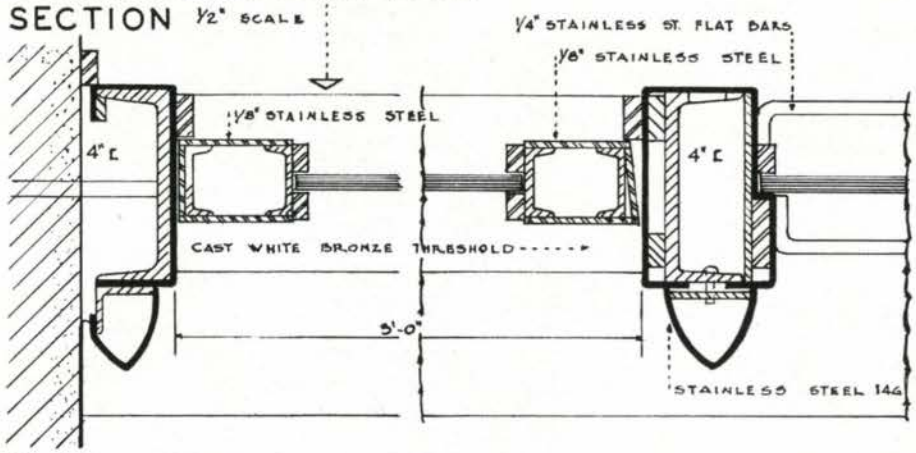

*ground floor*



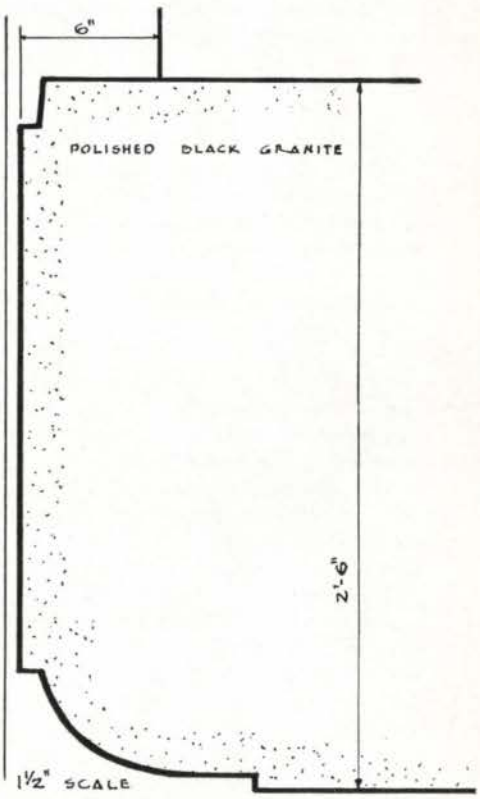

*basement floor*




SECTION ½" SCALE




PLAN AT DOOR 3" SCALE




1½" SCALE

GRANITE PROFILE


# MAIN ENTRANCE

**THE DOMINION TEXTILE COMPANY LIMITED**
**MONTREAL CANADA**

H. ROSS WIGGS
**ARCHITECT**

# *Head Office Building, Dominion Textile Company Limited*

## *Electrical and Mechanical Equipment by G. Lorne Wiggs*

SINCE A COMPREHENSIVE DESCRIPTION of the Dominion Textile Building precedes this article none of the architectural features of the building are referred to herein. The electrical and mechanical equipment of the building has a number of new features incorporated in it which not only make it a fine example of up-to-date engineering practice but which make it one of the most modern office buildings on the continent. The most outstanding feature of this installation is the use of radiant heating and cooling panels combined with a conventional air conditioning system. Radiant heating systems have now been utilized in Canada long enough, and in sufficient buildings, large and small, to prove their value. They have proved that they do provide comfort conditions attainable by few other types of heating installations, and that this is accomplished by an economy of operation maintenance which is appreciably better than other forms of heating. Radiant cooling provides summer comfort conditions, in conjunction with air conditioning, of the same order as those provided by radiant heating in winter. Radiant cooling combined with air conditioning provides a degree of summer comfort rarely attainable by conventional air conditioning alone, in addition to reducing the size of the air conditioning system. Experience with the Dominion Textile system over something more than one heating season and over one entire summer has proved the value of this remarkable installation.

### RADIANT HEATING AND COOLING

In keeping with many other really modern buildings this building is equipped with a radiant heating system but this installation goes a step further, in that the radiant panels are used not only for radiant heating in winter but in summer they are utilized as radiant cooling panels. There are as yet only a very few other buildings on this continent which have adopted this new and noteworthy feature. The radiant heating and cooling is accomplished by the use of extruded aluminum panels whose front faces are smooth but which have copper tubing embedded in their back. In winter warm water is circulated through the copper tubing with the result that the aluminum panels emit radiant heat, while in summer chilled water is circulated through the tubing and the panels then absorb heat mostly by radiant heat transfer.

The extruded aluminum panels were made in Kingston, Ontario, and then brought to Montreal where they were milled, cut to exact length and the copper tubing inserted and expanded into extruded recesses in their rear faces. The radiant panels were installed under the windows. Each panel has an access door cut into the top extrusion, so that easy access to the control valves can be had at any time. The radiant panels and the hot water heat exchangers for the same were so designed that, in winter, the radiant panels would contribute about twenty five percent of the heating required in each room or bay.

In summer, the same panels, when connected to the water chiller of the centrifugal refrigerating machine, provide for a somewhat smaller percentage of the sensible cooling load.

The radiant panels are connected to four different systems, one being for the north west zone, the second for the south west zone, the third for the south east zone and the fourth for the north east zone. Each zone is provided with a steam-heated shell and U-tube convertor of suitable capacity, a circulating pump direct-connected to a motor of appropriate size, and its own pneumatic controls, which are regulated by means of thermocouple attached to one of the windows of the zone controlled.

### DIRECT HEATING

The garage in the basement is heated by means of unit heaters while convectors are installed to heat the display windows and the south stairway, which has one exposed wall with windows in it at each floor. The unit heaters and the convectors are heated by means of low pressure steam, all of which are controlled by means of gradual acting pneumatic room thermostats.

### BOILER INSTALLATION

The boiler room is located in the basement west of the garage and it contains two large steel, low-pressure steam heating boilers, each boiler having a nominal rating of 80 boiler horse power and designed for operation at the maximum of 125% of rating, for heating the building, the domestic hot water, the ventilation heat load and to provide steam for the cafeteria in winter. A small domestic type steel low-pressure steam heating boiler was provided to heat the domestic hot water and to provide steam for the cafeteria in summer.

The three boilers are oil fired, the two larger boilers being equipped with fully automatic horizontal rotary cup burners designed to burn No. 6 or bunker C heavy fuel oil, while the small boiler burns light furnace fuel oil also automatically. Three oil storage tanks are provided to store the fuel oil, one of 1000 Imperial gallons being for light oil while two large tanks of 10,000 Imperial gallons each are used to store the heavy fuel oil.

In the boiler room an instrument panel board is installed, which contains all the gauges and recorders required for the operation of the boiler plant as well as all the switches and controls for the oil burning equipment. A second panel board is provided, which contains the switches for controlling all the motors for the air conditioning equipment and its refrigeration unit. Pilot lights on the board indicate whether the motors are on or off.

A centrifugal refrigerating unit is also installed in the boiler room to chill the water for cooling the radiant panels in summer and for chilling the water for the cooling coils in the air conditioning units. This centrifugal refrigerating unit has a capacity of 208 tons of refrigerating when operating at 5,300 R.P.M., when chilling water from 48.3°F to 40°F and when supplied with cooling water at 85°F. The cooling water for the refrigerating unit is circulated through a forced draft cooling tower located in the penthouse on the roof.

### AIR CONDITIONING AND VENTILATION

The building is equipped with fifteen different air conditioning and ventilation systems of which seven provide complete year-round air conditioning while the remainder are either supply or exhaust mechanical ventilation systems.

At the present time the building receives sun on the whole four sides due to the fact that there is no building west of the Dominion Textile Building. When a projected building is constructed on the vacant lot west of the Dominion Textile Building, it is probable that at times it will shade most of the southwest wall of the building while at other times it will shade only

half of the wall. As a result, the air conditioning system like the radiant heating and cooling installation, is divided up into a number of systems or zones so that, as the sun moves around the building, the temperature of the air supply in each system can be now varied to suit the varying sun load, and when the projected building is constructed the air supply temperatures along the south west wall can then be adjusted to suit the shading from that building. For this reason there are four general air conditioning systems but these are divided up slightly differently to the radiant heating and cooling installation. There are two systems along the south west wall, one being along the front or north portion of that wall and the second along the back or south section of the wall and about one-half of the south east wall. The third system takes care of the offices along the north west wall as well as those on the north half of the north east wall. The fourth system looks after the south half of the north east wall as well as the east third of the south east wall.

These four systems in general provide the air conditioning for all floors from the ground floor to the seventh floor, inclusive, with the exception of the testing laboratory on the seventh floor, which has its own air conditioning system and refrigerating compressor moved from the previous building.

The executive offices on the eighth floor have a separate air conditioning system while the auditorium, also on the eighth floor, has a separate air conditioning system as well. The seventh air conditioning system is that for the cafeteria and kitchens in the basement.

Separate mechanical ventilation systems, designed to either exhaust only or to supply and exhaust air, are installed for the following purposes: kitchen exhaust, toilet and coat room exhaust, storage supply and exhaust, transformer room supply and exhaust, boiler room supply.

The fresh air for most of the building is drawn in on the tenth floor, but there is a second fresh air inlet located at the fifth floor which provides the fresh air supply for the cafeteria air conditioning system and for the ventilation system for the boiler room, garage and transformer room. The fresh air inlet on the tenth floor is provided with one set of preheating coils capable of preheating 28,000 C.F.M. of fresh air from −20°F up to 50°F. A set of preheating coils is also provided for the fresh air supply to the cafeteria, a set for the garage system and a set for the boiler room system.

The seven air conditioning systems, with the exception of the cafeteria system, each consists of successively, an electronic air filter, a cooling coil, an air washer, reheating coils and a supply fan with the necessary control dampers, controls, etc. The unit for the cafeteria is the same as the above but is not provided with an electronic air filter. Each of the systems, including the cafeteria systems, is also provided with a recirculation fan for recirculating about 90% of the conditioned air circulated by the supply fan.

A feature, new in office building air conditioning but common in modern textile mill air conditioning, is that the air washer tanks are each constructed with a side extension to accommodate the water strainer and the float for the make-up water float valve, as well as for the various fill, drain, and overflow connections. Thus most of the inspection and maintenance work can be carried out without having to close down and get into the washer proper. Each air washer is equipped with two banks of self-cleaning centrifugal spray nozzles and one bank of flooding nozzles. One circulating pump and motor is provided for the two banks of spray nozzles and another pump and motor for the flooding nozzles. The largest air washer has a capacity of 23,600 C.F.M. while the smallest is rated at 11,400 C.F.M.

The air from the central air conditioning units is circulated through insulated metal ducts to circular ceiling diffusers located about six feet away from the inside surface of the exterior walls and spaced two diffusers per bay. For approximately each two supply diffusers there is provided one return grille. The return grilles are installed in the ceilings and are placed 12 feet to 18 feet closer to the centre of the building than the supply diffusers.

The air supplied to the offices is in excess of that recirculated so that the difference must be mechanically exhausted to the atmosphere or find its own way out to the atmosphere through windows, doors, etc. In this building the air to be exhausted flows from the offices into the corridors, where it flows to the toilets and coat rooms, from whence it is exhausted through the roof to the atmosphere.

### The Automatic Temperature Control System

The system of automatic temperature and humidity control, is just as ingenious as the unique heating and cooling installation. The subdivision of the radiant heating and cooling panels into four zones, facilitates the control of the panels according to the outdoor temperature and sun load on the various exposures. Also, the use of fifteen different air conditioning and ventilating systems is an important aid to adequate temperature and humidity control in each area in the building.

The automatic regulation of the radiant panels is accomplished by a separate arrangement of controlling instruments and valves for the heating and cooling cycles. During the heating season, each of the four zones is regulated by an electronic master controller which resets a submaster thermostat in accordance with the demand for heat, as evidenced by the outdoor temperature and sun load peculiar to the zone. The submaster thermostat, in turn, operates diaphragm valves on the steam lines to the hot water heaters, in proper sequence.

During the cooling season, the master resetting effect of the electronic outdoor controller is shifted to another submaster thermostat which controls three-way mixing valves in such a way as to maintain the proper temperature of the chilled water for the coils in the radiant panels. The three-way mixing valves are installed below the heat exchangers and the circulating pumps immediately below these.

This anticipatory control, for both heating and cooling, produces results which would be impossible to secure with conventional regulation by room thermostats. The thermal lag of the panels, which would prevent close control of temperatures, is avoided by sensing outdoor conditions before they have endured for a sufficient length of time to be translated by an ordinary room thermostat. Thus, the temperature of the panels is brought to the proper level by the time the effect of a change in outdoor temperature is felt in the building.

The automatic regulation of the fifteen air conditioning and ventilating systems is equally interesting. Here, four master outdoor thermostats, two for each season, reset the submaster thermostats which are associated with several of the air conditioning systems. Those submaster thermostats, and other duct thermostats for each system, operate modulating steam valves, during the heating season, on the preheating and reheating coils. During the cooling season, those instruments are automatically shifted to operate cold water valves on the cooling coils. Also, during both seasons, several automatically operated dampers are controlled to pass properly the air through or around the heating and cooling coils, in order to secure immediate response to the demands of the controlling instruments. Automatic humidity control for each system is accomplished, during both heating and cooling, by a humidistat in the air washer discharge. These humidistats, fitted with a dependable animal-horn element, especially effective in sensing small changes in relative humidity, operate valves which determine the moisture content of the air leaving the washer.

According to the manufacturers of the automatic temperature and humidity control system, the installation is one of the most interesting which they have made in Canada. In many particulars, it is totally different from any other and introduces problems which promise to chart new courses in the temperature control industry.

### Electrical System

The design of the electrical system was based on simplicity and flexibility combined with economy to give an up-to-date system, the only exception to this trend being in the executive suite where the basic lighting scheme was replaced by special

lighting more in keeping with the finish and furnishings.

Power supply is at 4000 volts, 3 phase, 4 wire, 60 cycles via underground feeders. The transformer room is located in the basement near the centre of the building and near the boiler, refrigeration and equipment room loads. The transformer room contains the main oil circuit breaker and 3–150 KVA 2300 to 575 volt, 60 cycle, single phase OISC transformers. A separate switchroom adjacent to the transformer room contains the breaker operating handles, secondary switchboard and a dry-type transformer feeding the basement 115 volt load.

The secondary switchboard contains a main 575 volt breaker, meters and distribution breakers. Due to the fact that the local utility does not require separate metering for power and light, the additional cost of duplicate systems was eliminated.

Distribution is at 575 volts via one riser from basement to top penthouse at the central core of the building. The floor area is within the limit where one riser is practical and economical. The main 575 volt riser is a low reactance bus duct designed for the lowest voltage drop. The bus duct runs from basement to penthouse, passing through an electrical distribution room on each intermediate floor. Power panels are tapped off the bus duct in the penthouse to feed the motor loads for elevators, air conditioning equipment, etc. In the electrical room on each floor, breakers located in tap boxes feed dry type 575 to 115/230 volt single phase transformers which in turn feed the lighting panels, which are of the breaker type. This lighting voltage was selected in prefence to the more modern 120/208 volt 3 phase, 4 wire system, mainly because of existing equipment, such as accounting machines, which were to be reused.

Underfloor distribution for telephones and electrical wiring is by means of a metal underfloor double duct system. This system was laid out to give coverage, such that a desk can be located practically anywhere on the floor and it will fall over a duct run. Additional conduit feeders were installed to intermediate junction boxes to eliminate the possibility of feeder shortage.

Lighting is generally by means of recessed fluorescent fixtures. The fixtures were designed to fit the openings in the metal pan ceiling and to fit in flush with the pans and have no finishing flanges. By means of bolts through the fixture and supporting bridges, fixtures can be levelled accurately to the pans with a screwdriver. The fixtures are equipped with separate wiring channels so that if it is desired to remove a fixture to install a partition, the fixture can be removed without changing wiring, the channel and its cover remaining in place. Fixture arrangement is generally two four-foot fixtures, end to end, with a four-foot space between the eight-foot lengths. This means that a partition may be installed every 10 feet without rearranging of lights. This spacing is in concurrence with the architect's modular design to which partitions must conform.

In order to take care of switching of future private offices, empty switch boxes and empty conduits were installed on each side face of each column at the outside wall. Switching is thus easily rearranged by installing these switches and reconnecting fixtures at the ceiling as desired. These have already proved advantageous where partition layouts have been changed. Executive suite lighting combines general lighting from fluorescent in coves with fluorescent or incandescent high lighting at the desks. Main entrance lobby combines a fluorescent cove with incandescent spots. Display and show windows combined fluorescent and incandescent lighting.

A central clock system combines the standard type clock and the main lobby and executive suite skeleton clocks.

Practically all motors in the building can be stopped from a central panel in the basement which contains a stop button and pilot light for each motor. Motors must, however, be started in their respective areas, i.e. boiler equipment room and two penthouses. This insures that occasional inspections of equipment must be made since the operator must be near the equipment when starting up. He can, however, shut down all the motors at night from one central point.

### The Plumbing System

Like the other electrical and mechanical services, the plumbing system also contains a few outstanding features. Of these, the most noticeable is the fact that with the exception of the service sinks and special plumbing fixtures in the kitchen and blue print room, all plumbing fixtures are mounted completely clear of the floor. In addition, all the toilet partitions are suspended from the walls and ceilings, also completely clear of the floor. All the lavatories, water closets and urinals are wall mounted with their supply pipes and drains all wall connected. The water closets are all equipped with foot-operated flush valves concealed in the walls. The urinals are flushed automatically by means of concealed flush tanks. Thus the floors in all the washrooms do not have any places on which dust might collect or which are difficult to clean.

The service sinks are set low in the floors of the cleaners' closets so that the cleaners' wash trucks can be drained into them readily by gravity.

In general, each office floor is provided with a men's and a women's washroom and a cleaners' closet. A pipe space accessible through a normal door serves the plumbing fixtures on each floor and makes all concealed piping easily accessible.

The drainage system consists of the main plumbing stack and separate rainwater leaders, all combining in the basement to drain into the combine storm and sanitary sewer at the back of the building. The kitchen and garage in the basement are provided with three traps and oil separators where necessary and feed into the main sewer.

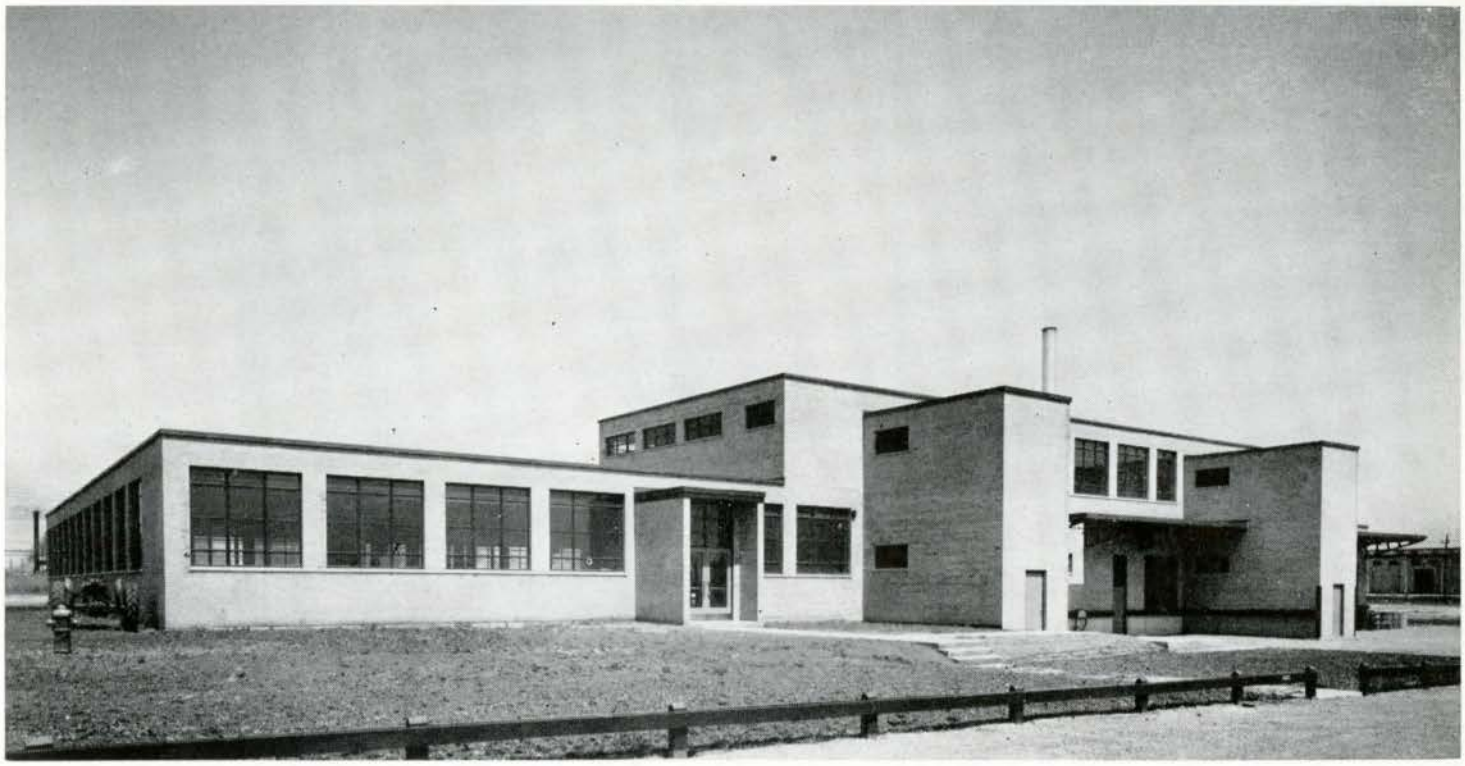
The building is divided into two parts, with the lower portion being served by hot and cold water mains from the city pressure. A separate system feeds the upper floors through a booster pump and two hot water storage tanks are provided, one for each portion. The risers are so arranged and valved that the portion of the building fed from the city pressure can be increased or decreased. All hot and cold water lines are hard drawn copper tubing and there is a recirculating line on the hot water system.

Each floor has a drinking fountain, with glass filler, fed from a chilled water system installed in the equipment area in the basement.

The fire protection system consists of stand-pipes in the stair-wells at the front and rear of the building and of a wet-pipe sprinkler system in the garage and basement store-rooms. There is a booster pump for the stand-pipe system, thereby maintaining adequate pressure at the top floor hose cabinets.

Experience has shown that there is at present sufficient city water pressure to feed all floors of the building but, as the area grows, it is anticipated that the booster system will be put into operation. At present, the lower floors are being fed from the hot and cold water system through a reducing valve station.

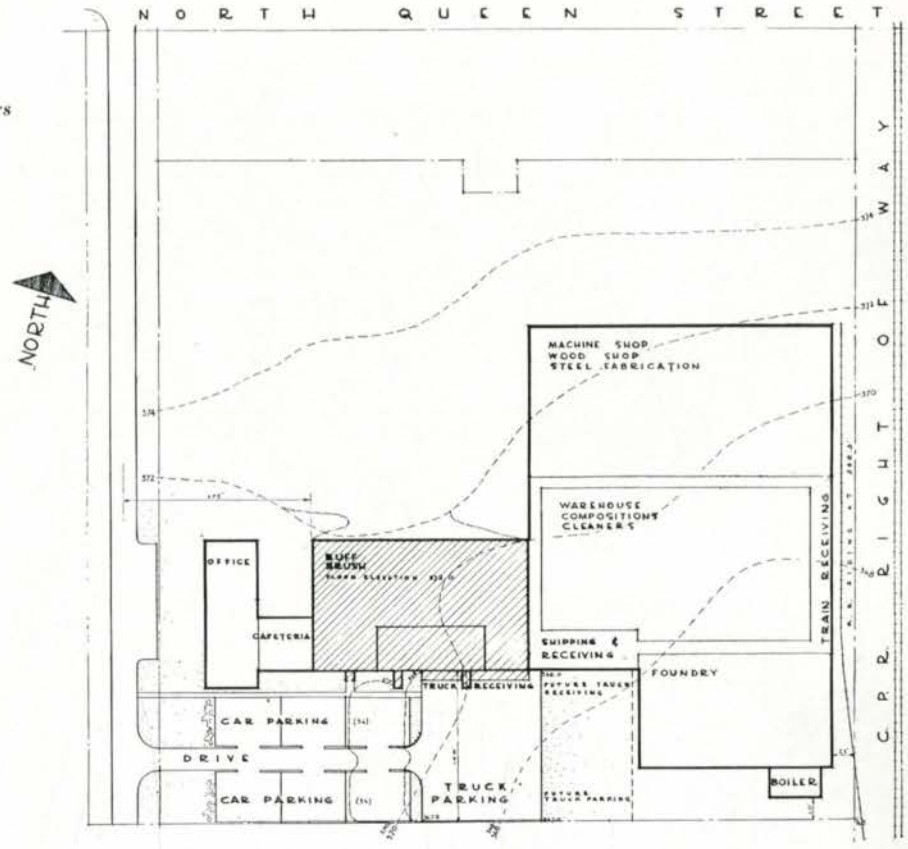
# *Canadian Hanson & Van Winkle Company, Ltd., Toronto, Ontario*



PANDA

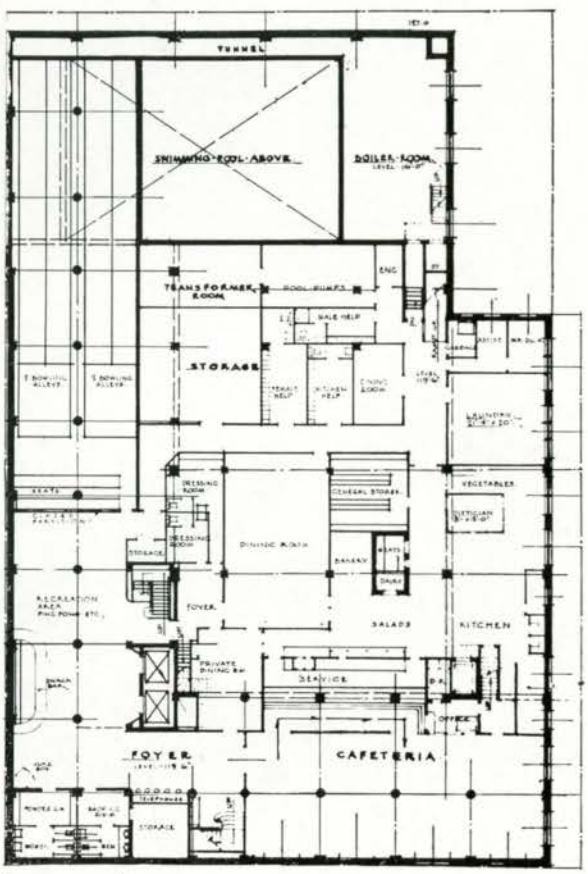
*Shore & Moffat, Architects*

*Frankel Corporation Ltd., Structural Engineers*
*E. A. Jones Limited, Mechanical Engineers*
*W. C. Brennan Contracting Co.,*
*General Contractors*

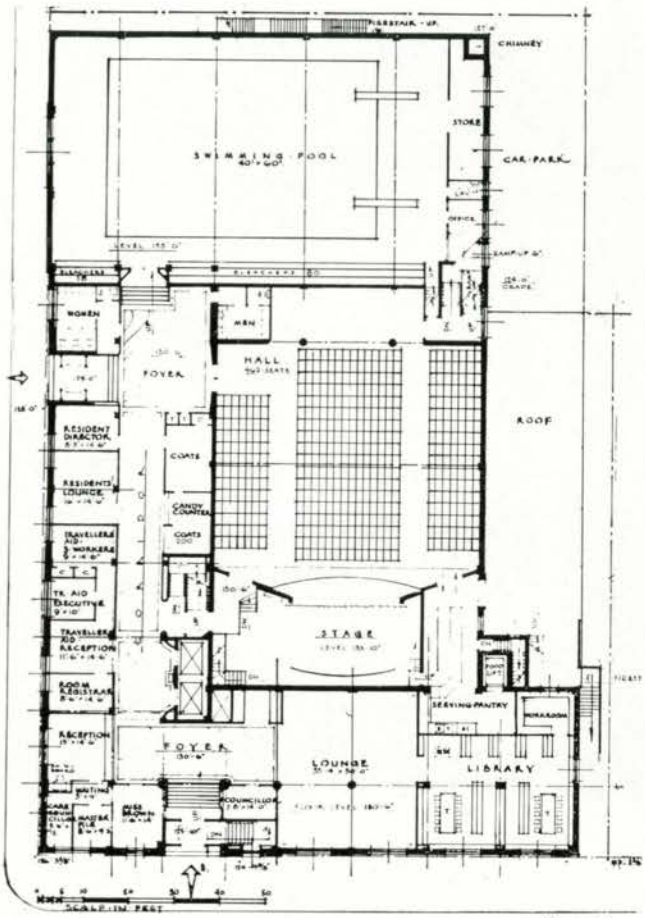



*plot plan*

# *Young Women's Christian Association, Montreal, Quebec*

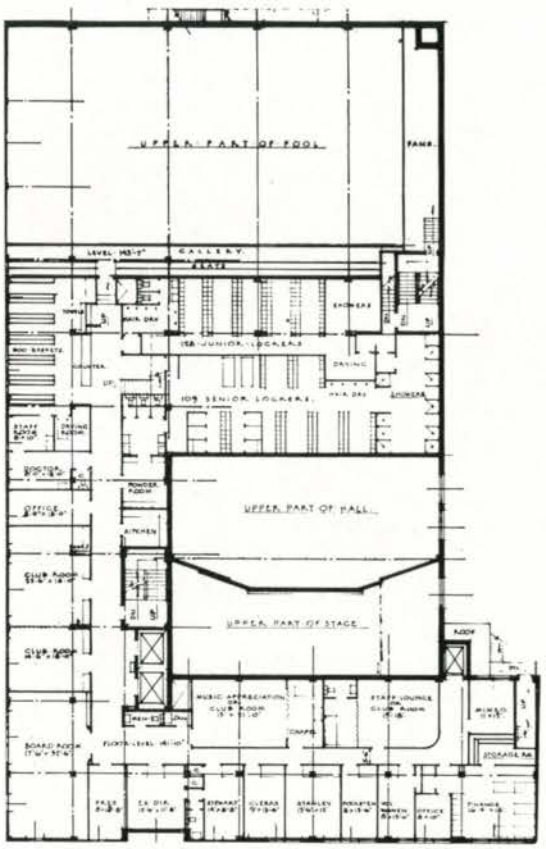



*basement floor*

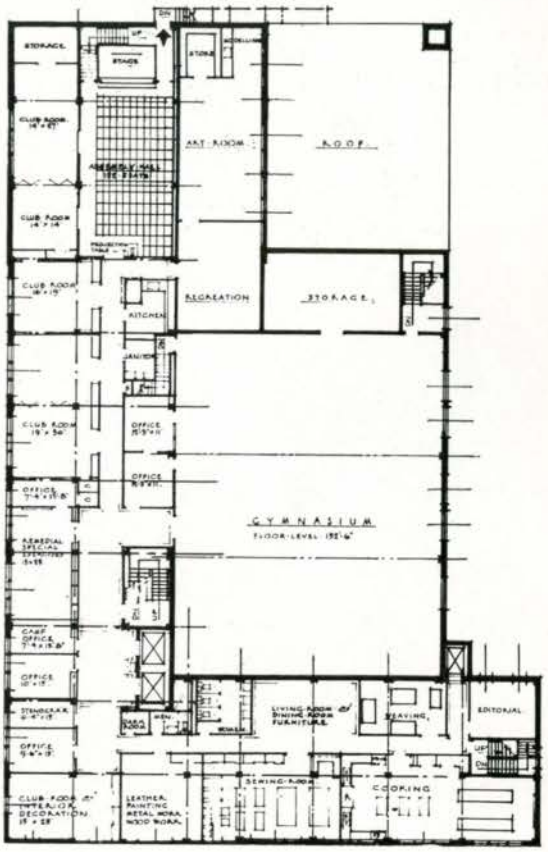



*first floor*

GRAETZ BROS. LIMITED

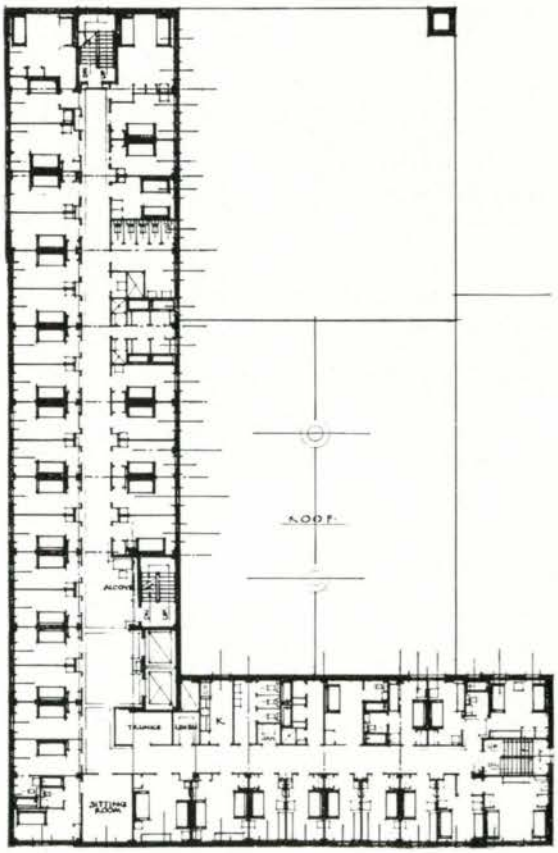



*second floor*



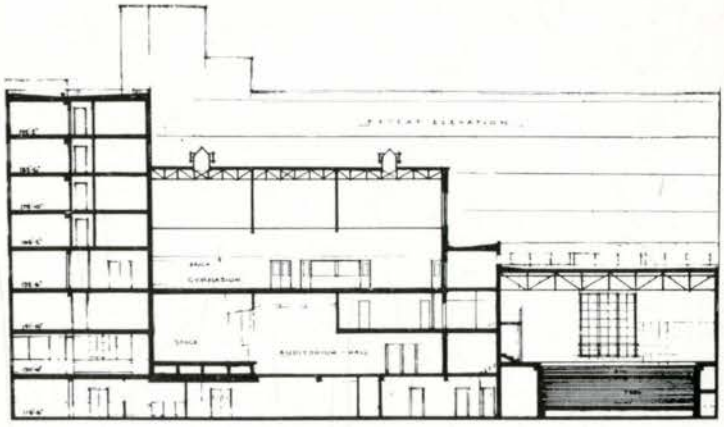

*third floor*

*typical floor*




*A. Leslie Perry, Architect*

*J. Charles Day, Structural Engineer*
*Wiggs, Walford, Frost & Lindsay, Mechanical Engineers*
*Anglin-Norcross Corp. Ltd., General Contractors*



# *The Industrial Landscape*

*J. Austin Floyd*

THE TREND OF INDUSTRIAL DEVELOPMENT, moving onto comparatively large tracts of land beyond the built-up areas of cities, has given the industrialist an opportunity to develop his property graciously and obtain fresh air more easily. Utility of function, as well as a pleasurable aspect within and around the factory buildings, should be the object of the owner now that such an aim is possible.

The uses to which the land may be put, if determined in advance and designed accordingly, will provide a favourable setting for the buildings, an attractive approach, adequate parking facilities and loading areas, as well as provision for the comfort and enjoyment of those employed with the factory.

One of the more noticeable characteristics of the present-day industrial architecture is the horizontal form of the building. This form may be given a suitable setting by a broad expanse of lawn, sloping gently away from the building. The grass areas should be inornate, avoiding the intrusion of planting beds, or other features, which would complicate the grass-cutting operations. One method widely employed to economize on hand-clipping is to edge grass areas with brick, or stone, as shown in the accompanying sketch, Fig. 1.

If grades are steep, making it difficult to maintain grass on the slopes, then a ground cover such as 'periwinkle', 'ajuga', or low-growing shrubs, may replace grass and thus assist maintenance by preventing erosion.

Hedges may be used advantageously to emphasize the clean, horizontal lines of the building, and there are two types of hedging plant-material available for use—evergreen and deciduous. The evergreen variety gives an all-year effect but is difficult to grow where the atmosphere is smoke-laden. The deciduous hedge sheds its leaves in winter and is, therefore, not effective during that season. Material for hedges should be selected as to growth characteristics – e.g. the height of the hedge should approximate the maximum height of the shrub used, unless the shrub is very slow-growing and is easily kept within its bounds. Some examples are as follows:

*Evergreen Hedging:* 12″ to 18″ high – Korean Boxwood, Dwarf Japanese Yew; 4′ to 6′ high – Japanese Yew; over 6′ high – Cedar, Douglas Fir, Spruce.

*Deciduous Hedging:* 12″ to 18″ high – Lodense Privet, Viburnum Nana; 4′ to 6′ high – Amur Privet, Alpine Currant; over 6′ high – Chinese Elm, Laurel, Willow, European Beech.

Trees may be used aesthetically to create a setting for the building and, functionally, to create cooling shade from the hot summer sun. A deciduous tree, located strategically, may shade a solar window in the summer months, and then conveniently shed its leaves to allow the sun to enter during the winter. This principle may be applied to a long row of windows by having a line of trees casting shadow-patterns over them during the summer-time, which may be pleasant to view as well as providing a cooler local atmosphere.

A few examples of trees selected as to form are illustrated:

*Pyramid or columnar* – Lombardy Poplar, Pyramidal Oak.

*Conical and compact* – Pine, Oak, Linden, Chinese Elm.

*Spreading* – Maple, Elm, Ash, Oak.

*Dwarf spreading* – Flowering Crabapple, Hawthorn, Camperdown Elm.

*Flowering trees* – Mountain Ash, Catalpa, Flowering Crabapple, Hawthorn, Magnolia.

The approach should be conveniently located and be gracious in appearance, since it creates the first impression on visitors to the property. It should be designed and planted to emphasize the importance of the entrance, and the driveways need good quality surfacing so that they may be easily maintained both in summer and winter, having good drainage, and offering adequate space for snow removal.

Parking areas for the public should be readily accessible near the main entrance, and be clearly seen. Contrary to popular belief, parking areas can be good-looking. Trees can be grown on them with little or no interruption of the areas' use, as may be seen in the accompanying sketch. Drainage should be directed into planting beds.

The planting beds may be protected by guards, a type of curbing which prevents vehicle tires encroaching on the beds, allowing the front bumper and part of the automobile engine to overhang – Fig. 2; consequently, the planting, except for the trees, should consist of plant-material not exceeding 10″–12″ in height. Surfacing of parking areas and driveways should be considered both from the aspect of original outlay and cost of maintenance.

The most durable surfacing material is concrete which, if applied on a stable sub-base or a well-drained gravel base, will wear indefinitely and require no maintenance. Six inches of concrete are required for driveways and parking areas handling heavy vehicular traffic or loads. Terraces and pedestrian walks require only a four inch thickness.

A good quality asphalt driveway or parking area, requiring little or no maintenance, should possess a concrete base especially if it is to handle heavy loads. An asphalt surface may be lightened in colour by an application of stone dust, dry cement, or stone chips, whilst it is still tacky after construction. Asphalt paint, widely used for street markers, is of good durability and is easily obtainable.

Loading areas for shipping and receiving should be constructed of good hard-surfacing, having ample drainage and

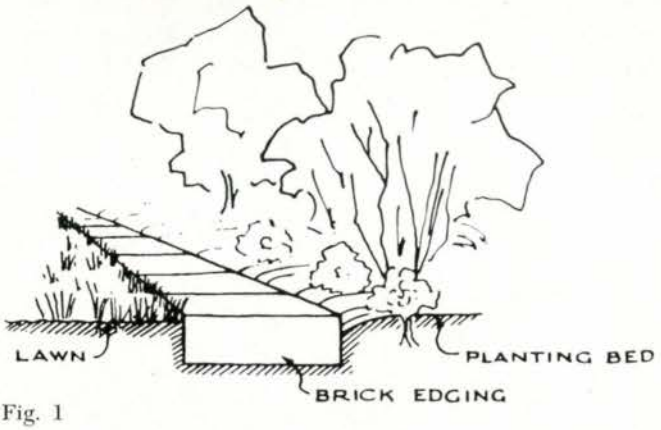



Fig. 1

facilities for easy cleaning. Such areas should be designed to give adequate space for the easy manoeuvring of transport equipment.

Private areas may be designed for outdoor-eating and recreation. The outdoor-dining area, if located near its counterpart facilities inside the building, will be found to be much more serviceable, and a variety of conditions may be created in such an area to increase its usefulness. Hard-surfacing is a "must" if much use is anticipated. Concrete, brick, asphalt, wood, or a combination of these materials are suitable examples – Fig. 3.

A well-drained grass area will allow workers to lie down in cool and restful conditions during non-working periods. Shade should be provided for hot summer weather by deciduous trees, which allow the sun to penetrate on early spring and late fall days.

Air circulation is important in warm weather and complete enclosure should, therefore, be avoided. Removable screens or fences may give flexibility, creating a "sun-trap" in the cool weather of early spring and late fall, but can be removed to allow maximum air penetration in warmer weather.

A proportion of the seating may be provided by permanent, built-in benches, thus reducing the labour of transportation and need for storage of the portable types. Such portable chairs and tables as may be used, can be kept cleaner and be more readily accessible, in a specially designed storage space in the vicinity.

For many years now, the walls of factories, stark, grimy, and dull, have straddled city landscapes with an effusion of smoke and noise and being, in some cases, a necessary evil. The new trend towards the industrialization of areas that once were rural, in which, by careful planning of the surroundings, have been provided a maximum of functional use and aesthetic enjoyment, may well render additional – and this time, welcome – benefit to those neighbourhoods which they will serve.

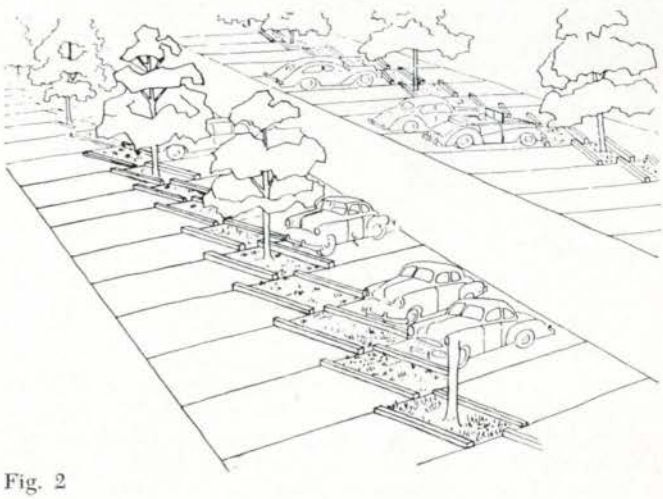
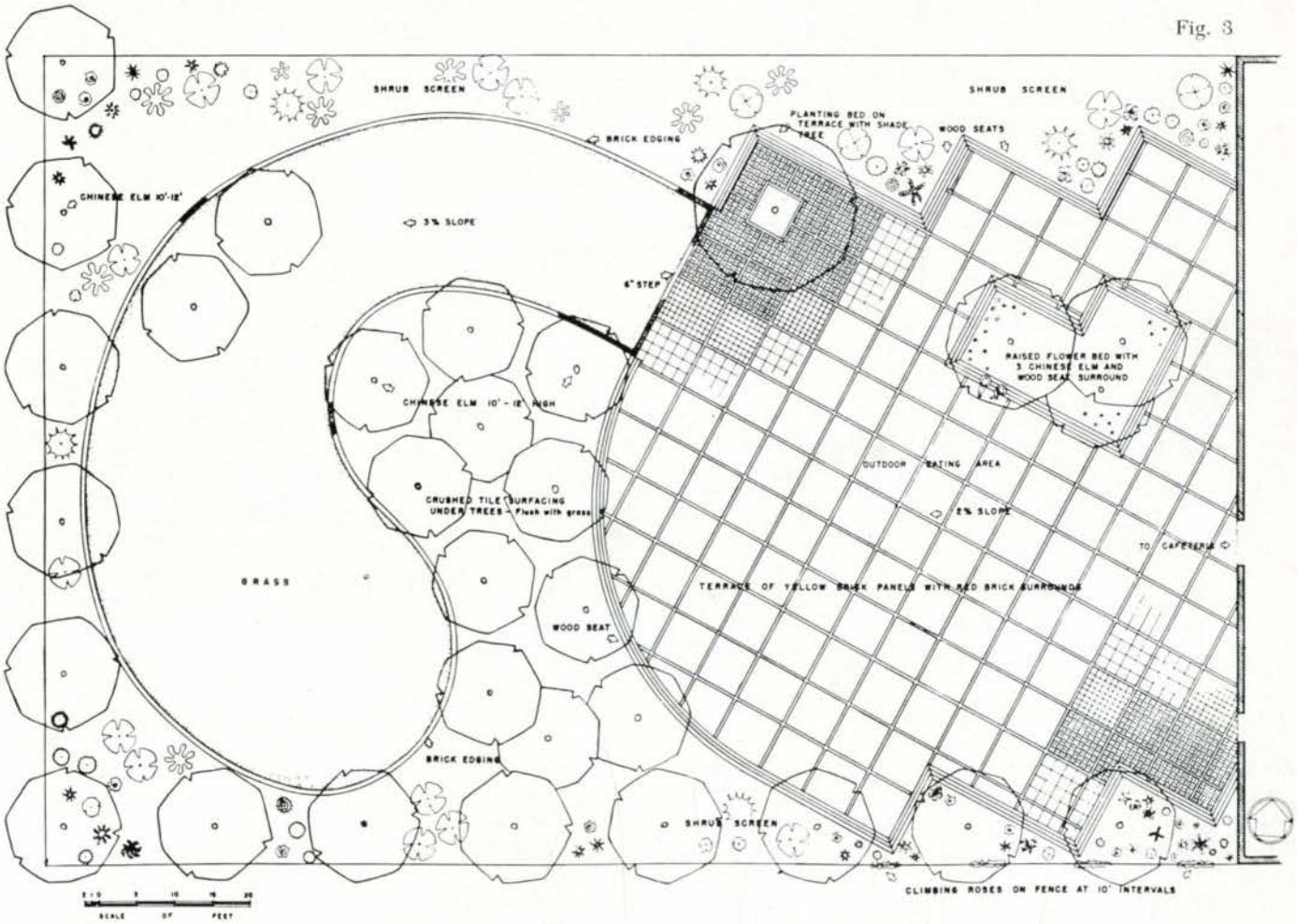


Fig. 2

Fig. 3



*An address delivered at the annual dinner of the Province of Quebec Association of Architects, 1953*

# *Beauty and the Urban Beast*

***Frederick J. Woodbridge***

A PARTICULARLY PLEASANT ASPECT of the honour you have done me in inviting me to be with you here tonight is that you have given me this opportunity of revisiting the land of my fathers. This is a pious act. There is an exhortation in the first verse of the fifty-first chapter of the book of the prophet Isaiah to this effect: "Hearken unto me, ye that seek the Lord; look unto the rock whence ye are hewn, and to the hole of the pit whence ye are digged". Canada is such a rock and it is good to look unto it.

This was a favorite quotation of my father who was born in the neighbouring Province of Ontario. His father took him across the river into Michigan before he was of age. So he eventually became a citizen of the United States and, I think, a good one. But he used to say that one of the saddest moments of his life was when, in taking the oath of allegiance, he had to foreswear all foreign princes, powers, potentates, etc., and *especially* her Britannic Majesty Queen Victoria. He felt that this "especially" was unnecessarily drastic and harsh.

Thus I lay claim to a degree of common heritage with you. There are probably other things in our backgrounds which we have shared. In our youth many of us were doubtless brought up on some of the more famous fairy stories. I remember vividly how I used to devour a series of books edited in England by Andrew Lang, one of which was the Blue Fairy Book. There were fairy books of almost every colour in the rainbow, but the Blue Fairy Book was the first. In it was a retelling of the story of Beauty and the Beast. This was originally a French story, La Belle et La Bête by Madame de Villeneuve. By this combined French and British ancestry it has a certain appropriateness for me to use here in the Province of Quebec.

The story is familiar. A beautiful girl, in order to save her father and family, agrees to go and live in the fabulous castle of a horrible beast into whose power her father had fallen. With fear and trembling she does so. Every luxury is lavished upon her and the beast actually treats her kindly and with the utmost consideration. He remains, however, terrifyingly monstrous, so when he asks Beauty to marry him, she naturally refuses. Every night she dreams of a handsome Prince who urges her not to trust in appearances. After a long time she persuades the Beast to allow her to go home. She does this promising faithfully to return to the Beast by a certain time because he tells her if she breaks her promise, she will find him dead. She is almost late coming back. The poor Beast is at death's door. She is broken-hearted, tells him she loves him and will marry him. Immediately he is transformed into the handsome Prince of her dreams and they live happily ever after.

Now it seems to me that this story can be taken as a kind of parable by those of us who are interested in cities. A city is something like the beast in this tale. It is wealthy, often fabulously so. It is powerful: it affords unheard of luxury. But uncared for, it is hideously ugly, monstrous, and terrifying.

Analogies often require considerable stretching and I suppose we would not presume to identify ourselves with Beauty in this story. But as architects we are or ought to be identified with beauty in life, in buildings and in cities. Beauty was a devoted girl and cared enough for the Beast to transform him into a handsome Prince. There was a time, you recall, when this devotion seemed to involve great sacrifice.

The people who live in and work in cities should care enough to turn an urban beast into a noble metropolis even if it seems as if considerable sacrifice is involved. There is no doubt that to the degree the transformation is accomplished, to that degree will they live happily ever after. But this sacrifice often seems too great and the complications and obstacles insurmountable. Someone must keep indefatigably at this job of education, exhortation, guidance and example. I suppose that usually means us, the architects, who are Beauty's champions.

All this has been pretty general. In a talk like this, it would be presumptuous to try to offer any panaceas and futile to try and give technical solutions. I am sure I have much more to learn from you than you from me. You might, however, be interested in some of the matters and some of the experiences we have had in New York which illustrate the problems. To begin with, New York is, of course, five cities, four of which, taken individually, would each rank among the largest on our continent. Brooklyn, the Bronx, and Queens, each has its own peculiar characteristics and all are different from Manhattan. I live and work in Manhattan. Parts of the other boroughs seem as strange as a foreign land. The other four boroughs all have large tracts of vacant land and room for expansion. Manhattan must tear down before it can build anything. This is a natural deterrent to large scale projects, but there are examples which prove that it is not insurmountable and that a well conceived bold venture justifies itself.

I think it is safe to say that there has not been a truly major street change in Manhattan since 1876 when Lexington and Madison Avenues were opened half way between Third and Fourth (or Park Avenue) and between Fourth and Fifth. This was on the occasion of the Centenary of our Independence. I am, of course, excluding the development of the peripheral drive and parkways, the bridge and tunnel approaches, etc. So there is tremendous inertia to overcome in opening up vistas, parks, boulevards, and plazas.

When the United Nations first began to develop its present site on the East River, the Civic Design Committee of the New York Chapter of the American Institute of Architects made an intensive study of the surrounding area. The Committee prepared a report with maps and perspectives for new zoning, traffic of all kinds, land use, etc. including a proposed new crosstown boulevard as a fitting approach to the U.N. The report was hailed by the press and by civic organizations but the municipal government did nothing about it. It was obvious that land condemnation, construction of streets and service, landscaping and the rest would cost "too much". What is "too much"? Radio City has shown what happens when a bold, brilliant large scale undertaking is carried out. It is a tremendous success, a show place of the city and a delight to all.

When the grounds of the United Nations are completely landscaped you will see another area which will be beautiful, glamorous and exciting. No matter what you think of the buildings themselves, the plaza and garden south of the Assembly and west of the Secretariat already give promise of being one of the most attractive spots in town.

The Housing Authority and various of the great insurance

companies have built numerous housing groups of varying degrees of austerity or elegance. In the low cost range some of the architecture itself is pretty grim. In other categories some examples are still grim and others less so. One of the most successful is the New York Life Insurance Company's Fresh Meadows Housing out near the edge of Queens on Long Island. The land is spacious, large trees have been preserved and most of the buildings are only two or three storeys high. The general effect is very pleasant. Even in the grimmer examples the fact that there is space around the buildings does much to take the curse off.

In mid-Manhattan there have recently been completed and are now under construction an impressive number of office buildings all twenty or so stories high. They are all strikingly similar in design with facades chiefly of glass and shining metal, usually with a strong horizontal emphasis. The ribbon window has certainly come into its own. As office buildings, these new structures are undoubtedly an improvement on the massive masonry adaptations of palazzi and their comparatively modest height makes more sense than a similar agglomeration of Empire State Buildings. But they still exemplify a tendency of long standing which is surely and not so slowly strangling our streets with congestion. It doesn't help much and it is difficult to understand the economies that make it profitable to tear down the Ritz Carlton Hotel and replace it with a bigger building devoted to offices. The latest case of this sort is the present demolition of the quite lovely and gracious galleries of Duveen Brothers, at Fifth Avenue and Fifty-Six Street, to give way to a sixteen storey air-conditioned office building on that exceedingly narrow plot.

I suppose the most spectacular and most talked of new building we have is Lever House. In many ways it is an encouraging experiment, although I am told it is already too small for Lever Brothers. By and large I find it quite handsome, particularly the mass and colour of the upper shaft. Among its particular virtues are the large open areas at street level and the fact that, although the entire plot is covered by the building, only a small area is occupied by the tower. Not only does all the office space have plenty of light and air, but so do the neighbours. From the treatment of the street level open space, I think one can learn a lesson. The "noble" sacrifice (presumably offset by public relations value) of rentable area seems to me to fall flat. All the open spaces and even the court with its little garden seem lifeless. What a difference it would make if there were a small cafe, a florist, a jeweller's shop or a smart modiste to give gaiety and animation to this little "galleria". The great "Gallerias" of Naples, Rome and Milan, the rue de Rivoli, or our own Radio City, show conclusively how important and how attractive activity and life can make such places.

Lever House illustrates a principle which is receiving much attention in New York. By restricting the height of the lower floors which occupy the entire lot, and the area of the upper floors which are the bulk of the building, the light and air for all concerned is greatly increased. Generally speaking our present zoning laws make it difficult, or impossible, to accomplish this. Furthermore, our present zoning law, first adopted in 1916, has been amended so many times and has become so complicated that it requires an expert to tell what is or is not permissible. Even the language is obscure – an excellent example of "Gobbledygook"! About five years ago, the New York City Planning Commission employed a firm of experts to make an exhaustive study of the city and to prepare a proposal for a completely new zoning resolution. The study revealed, among other striking facts, that if the areas now zoned for residence throughout the city were developed to the fullest extent now allowed, living accommodations for 70,000,000 people could be provided within the city. If the area zoned for business and commerce were similarly developed, working facilities for some 320,000,000 people could be made. Obviously the law exercises no control over density of population. The traffic of all sorts in our streets and transportation system shows how bad this situation is.

The proposed zoning would have a simple overall formula, controlling bulk by some multiple of the land area called a Floor Area Ratio with the highest permitted bulk provided by a building with a floor area fifteen times the area of the land it occupies. Thus, in the densest area, one could build a thirty-storey building occupying one half the land. This type of control has been widely acclaimed.

Another interesting device in the proposed resolution is a formula for averaging the angle of the plane drawn from the centre of a street behind which the upper floors of a building must be set back. This would permit the development of such buildings as Lever House. By keeping part of the building low, one is permitted to go to a greater height before setbacks than is now required.

There are, of course, many interesting features such as a new principle for determining light access to required windows and greatly increased requirements for off-street parking and usable open spaces.

A major improvement is the substitution of a single map for the present system of three, one for height districts, one for use districts, and one for area districts. The new map will be divided into districts designated by letters and a number from which one can tell at a glance what is permissible in each district. Thus, in a C-4 district, the highest bulk commercial district, one may build 15 times the area of the lot, use an average angle of light obstruction of 73 degrees, a maximum angle of 78 degrees etc. Broadly speaking, any more restricted use may be applied in a less restricted area. Residence is naturally the most restricted use, but residences would be excluded from manufacturing and industrial districts. It has been found that the intrusion of residences into our presently unrestricted areas has eventually caused such areas to become unsuitable for industry.

This is no time to go into greater detail, but I think you probably have some idea of the rather drastic character of the proposals. As might be expected, the A.I.A. and numerous civic organizations have generally supported them. In the public hearings which are currently being held, the real estate people, and some property owners, have raised various objections. The chief objections all boil down to the complaint that the new law would prevent owners from building as big a building on their land as is now possible – as if that was not one of the main points of the entire project.

This illustrates what I meant earlier by the need for a willingness to make apparent sacrifices. I say apparent because I am convinced that a reduction in density is one of the absolute necessities not only for creating more attractive cities but more lasting values. If uncontrolled development produces such density that a city strangles itself, obviously real estate values are going to depreciate and even vanish.

Most of last year I spent in Italy and had the opportunity to see much of the astonishing growth of the great Italian Cities. Some, such as Rome and Milan, seem to be mushrooming without much overall planning and little control. One does not have to be a great prophet to foretell that they will suffer from the same mistakes we have made. Others like Palermo, and even Venice, are proceeding according to carefully worked out plans with a strict control over density.

Before coming up here, I did a little homework in the Avery Library at Columbia University so as not to be entirely ignorant of what is going on in your country. I was greatly impressed with what I saw of city planning as well as many very handsome new buildings. I looked with some care and great interest at the report prepared under the direction of Mr Gréber for your national capital city of Ottawa, that is a beautiful and thrilling project. It contains bold proposals and inspiring concepts. I sincerely hope that nothing will interfere with the ultimate realization of a plan which should produce one of the finest cities in the world.

Of course, sacrifice will be necessary, difficulties will at time seem overwhelming, but let us not be terrified by appearances, but be steadfast and devoted like Beauty. As her champions, let us transform the Beast and make the dream reality.

# NEWS FROM THE INSTITUTE

## ALBERTA

The city of Edmonton has a system of Community Leagues all its own with a number of features of special interest at this time when community leagues are rapidly acquiring an important position in the life and economy of cities. This city has over forty officially recognized community leagues. These have all grown out of a special local social need. Grown-ups are too apt to think that work is a prime necessity of life. Wiser childhood recognizes that play is the important function of living. In a climate where the trees are leafless for six months during which the little snow that we have does not furnish sufficient entertainment, skating becomes a vital necessity. Group after group has approached the city council with a request for some open space which they may flood and beside which they may put up a shelter for the changing of boots and for an occasional warm-up, preferably accompanied by drafts of cold cokes. To these requests the city fathers have always lent a sympathetic fatherly ear, not only allotting the needed space but contributing also a proportion of the water and light required. Fostering the leagues is an established city policy.

The areas of land, thus set aside, have varied in size according to what could be found available in each district. A number have a full residential block of about three and one third acres. These are leased for a dollar a year on a ten-year basis. At first these areas may have seemed excessive for all that was immediately wanted; but the gatherings of parents and children which they occasioned soon roused further ambitions. In summer the rinks were readily convertible into tennis courts. The shacks became club houses, sometimes with dressing rooms with showers and with a room where club meetings might be held for business or for the more important function of family gossiping. It has now become a general ambition to erect halls for film shows, lectures and dances. Occasionally they became centres for Boy Scout meetings, for classes in handicrafts, for children's games, dramatics and other activities. They have, in fact, become institutions of considerable public value. One or two have built curling rinks or laid out bowling lawns.

The organization of the leagues has some curious anomalies. With only a ten-year lease some have erected buildings and laid out facilities exceeding fifty thousand dollars in value. Yet at the end of ten years the city may terminate the lease without obligation to pay anything for these improvements. This is evidence of the faith that these are really leases in perpetuity; but this condition definitely limits the value of the buildings as security in financing further extensions or improvements.

Under each league clubs are formed for fancy skating, tennis, lawn bowling, etc. Membership of the league is optional and the fee is small. For playing rights in any of the clubs a larger fee is charged. These club fees and admission charges to entertainments form the somewhat inadequate main-stay of the league's finances. Membership of the clubs is not confined to the members of the league or to residents of the particular district in which a league is situated. Any person may join any of the clubs or any league on paying the club fee.

The city leaves the management entirely to the leagues themselves, stipulating only that the ground shall be used for recreational purposes. The Parks Commission of the city will supply, on request, trees for which the leagues must dig holes for planting and the city will do the planting. The league must then give the proper care. The Recreation Commission of the city will supply, free of charge, teachers to superintend open-air kindergarten instruction for small children and in many cases has also supplied tots' playground equipment.

Representatives from the leagues form a "Federation of Community Leagues." The function of this body is not the control of the management of the individual leagues but is one of mutual counsel regarding their objectives and their welfare. Leagues may bring to the Federation notice of any troubles arising in their districts and the Federation may either suggest ways of overcoming these, or it may present a case to the city with more careful thought and wider outlook than an individual league can give to it. New leagues apply to the Federation which advises them, sponsors them and authorizes them as officially recognized leagues. Each league makes a small annual contribution to the Federation which keeps two film projectors in constant circulation amongst those leagues that possess halls for meetings.

The financing of the leagues is a strenuous business involving house to house canvassing. None is in affluent circumstances. The recent strict enforcement of laws against the raffling of cars or other valuable articles puts a stop to one of the principal means hitherto employed for raising building funds. Well-to-do citizens who could best afford their support are generally more interested in their own golf, tennis or other private sport clubs of which there are many in the city. The league members are largely of a class whose family expenses strain their resources. Yet the contribution of the community leagues to health and good citizenship is very great, and the idea is gaining ground that each league should be supported by taxation on a local and plebiscite basis.

*Cecil S. Burgess*

## ONTARIO

In the Provincial Letter, Toronto's problems probably should not be presented as representative of those of On-

tario as a whole. As compared with other urban areas, our difficulties are frequently those of kind rather than degree. If our provincial brethren will forgive us (and we use the term "provincial" in no patronizing sense) we would like to draw attention to a small facet of architectural cussedness in a big city.

Yonge Street has long caused both layman and professional to hang their respective heads because of its dull ugliness. Any opportunity to diminish this condition is normally welcomed by architects, preferably by razing the offending structures and replacing them with others dedicated to sweetness and light. But in recent times the problem of building on Yonge Street has been complicated by a number of considerations. This scribe has encountered three such in one prospective building, any one of which is sufficient to upset the project completely. This trinity we list as follows without any attempt to indicate their relative impact: the subway and its surface appendages, the Yonge Street widening by-law and the City Zoning by-law.

As for the subway, it is safe to say that all Torontonians look forward with interest to the inauguration of the rapid transit system scheduled for the early part of 1954, whether they are patrons of the T.T.C. or wage a daily battle into and out of the city's core by motor car. The problems incidental to burrowing under streets and buildings are legion. Some extremely difficult and spectacular piling, excavation, and underpinning has been executed. We recently encountered a T.T.C. man engaged in the painstaking (and apparently necessary) task of having photographs taken of the plaster cracks in buildings which have settled due to subway excavation. In certain sections the T.T.C. has disposed of land bordering on Yonge Street to purchasers who wish to erect buildings on the cleared site, but the transit authority has made the sale with the proviso that right of access to the surface may be had at a later time if it so desires. In laying out shop and office space, this factor obviously adds to the planning problem and no owner finds any satisfaction in the uncertainty this condition presents.

No one would deny that as a traffic artery, Yonge Street ranks only as a chronic irritation. Most citizens would agree that a program of widening is desirable – unless these worthies have store or office premises in the line of march. The prospect of losing a depth of 20 feet over an entire frontage is calculated to raise the blood pressure of most owners – and compensation never seems to be adequate. The proposal to widen Yonge Street from Terauley to Heath poses another problem for the architect. The owner will receive compensation only for a temporary building on the first storey if erected since the passing of the by-law. If a multistorey building is to be erected to the present street line, it will be demolished when widening takes place to a depth of 20 feet, but with no compensation for the investment in building structure above the ground floor. In present planning all features such as stairs, elevators, boiler room and stack must be placed behind the 20 foot line. Predictions as to when the widening will take place vary from five to twenty years – or never!

To roar into our fair city and out again at the dizzy speed of 12 m.p.h. is bad enough, but in between lies the problem of parking. The Zoning by-law, scheduled to come into effect October 15th, 1953, aims to have space set aside on each new building project in certain areas for parking purposes. The ratio of parking area required to rentable space is one to five. The economics of restricted land coverage or indoor parking become an immediate consideration and in many cases may present too knotty a problem to unravel.

Future subway easements, Yonge Street widening, zoning requirements – all these add up to but one figure – a large architectural headache. Oh to design a building for Main Street!

*W. G. Raymore*

## REPORT OF THE 21st ANNUAL MEETING OF THE NOVA SCOTIA ASSOCIATION OF ARCHITECTS

Haligonians had an opportunity for ten days to see the drawings submitted by the participants for the 1952 competition for the Massey Medals in Architecture. The exhibition was on display at the Halifax Memorial Library for a week, and was then removed to the Lord Nelson Hotel for three days. The public was cordially invited to see the exhibition, through newspaper advertisements sponsored by the N.S.A.A., and by an exceptionally good write-up in the press. Credit for the successful showing of the exhibition is due to our President, C. D. Davison; to our Secretary, C. A. E. Fowler, for the press notices; to F. C. Ford and his helpers for setting up the exhibits; to the Halifax Memorial Library and the Lord Nelson Hotel for providing the space.

Our 21st Annual Meeting, held in the Lord Nelson Hotel, Halifax, N.S., on May 29th, was one of the most successful held by the Association, the members present taking an active part in the transaction of the business.

A Press Committee was elected, consisting of J. D. Dumaresq, Chairman; A. F. Duffus and A. E. Priest, their duties being Public Relations and articles for the R.A.I.C. *Journal*.

W. M. Brown (F) and A. E. Priest (F), delegates to the R.A.I.C. 46th Annual Assembly, gave the members word pictures of the proceedings and suggested that the members should make an effort in the future to attend.

Resolutions were presented, expressing the appreciation of the Association to the Ministerial Association of Halifax area and the Community Planning Association for their efforts to arouse public interest in housing problems and town and city improvement.

The Association commended the Premier of Nova Scotia, the Honourable A. L. Macdonald, and his government for making available to the Nova Scotia Housing Commission first mortgage loans for the co-operative housing companies in this province for the past sixteen years.

A resolution recommending that more consideration should be given to public safety by those responsible for drafting building regulations, issuing building permits and carrying out inspections of buildings; and that no building permits should be issued that were not in strict accordance with the provisions of The Theatres, Cinematographs and Amusements Act, The Nova Scotia Architects Act, local building regulations and the National Building Code, was

passed.

Brought to the attention of the meeting was an editorial that appeared in The Halifax Herald, May 24, 1933, as follows:

AN URGENT NEED

"Stipendiary Magistrate Barnhill, of Halifax, and R. H. Murray, K.C., Crown Prosecutor, join in favoring "compulsory periodical inspection of buildings by an independent public official.

This is a public service that should be established and maintained in a high state of efficiency with the safety of human lives and valuable property involved, the inspection of buildings could not be made too rigid, and the wishes of the public will be met if such an inspection is provided for without any further delay."

On July 6th, 1933, another Halifax Herald editorial was published,

COMPULSORY BUILDING INSPECTION

"In handing down his finding yesterday in the Redmond building crash, Magistrate Barnhill strongly urged that inspection of buildings be made compulsory and it is hoped that the authorities will pay heed to his recommendation.

Although blame for the catastrophe could not properly be placed on the shoulders of any one person it is, nevertheless, a fact that the lives of four men were snuffed out because they were obliged to work in a building that was unsafe. Such a condition never should have been. Steps should be taken immediately to see that like conditions do not prevail again. It is far more important that human life should be safeguarded than that someone should be saved a few dollars in the construction or reconstruction of a building."

The Council members elected for the ensuing year are: C. D. Davison, President re-elected; A. F. Duffus, Vice-President re-elected; C. A. E. Fowler, Secretary-Treasurer re-elected; A. E. Priest re-elected; J. P. Dumaresq re-elected; R. M. Peck re-elected; D. A. Webber.

Following the reception the annual dinner was held. Four new members were presented with membership certificates, and the Association was entertained by the Robert Alban Players.

*A. E. Priest*

## CONTRIBUTORS TO THIS ISSUE

**Alan H. Armstrong** was born in Toronto and trained in the School of Architecture there. After graduate work at Toronto and New York Universities, he entered the R.C.N.V.R. In 1946, he was appointed to Central Mortgage and Housing Corporation, and, until 1952, served as Secretary of the Community Planning Association of Canada and editor of its publication. He is now Assistant General Supervisor of the Public Housing Division, C.M.H.C. Has belonged to the Ottawa Chapter of the Ontario Association of Architects, the Architectural Research Group of Ottawa, the Architectural Conservancy of Ontario, the Planning Committee of this Institute, and the Ottawa advisory committee to the Editorial Board of the *Journal*.

**J. Austin Floyd** graduated as Bachelor of Science of Agriculture, University of Manitoba, 1935, majoring in Horticulture. Practised Landscape Gardening for three years in Ontario. Completed degree of Master of Landscape Architecture at School of Design, Harvard University, 1946, the second and third years being on scholarship. At present, he is Planning Assistant to the Director of Planning, Toronto City Planning Board, and part time lecturer at the School of Architecture, University of Toronto.

**John A. Russell** is a native of New England, born in New Hampshire, received his Bachelor and Master Degrees in Architecture from Massachusetts Institute of Technology. He received a Diploma in Architecture from the Fontainebleau School of Fine Arts, Paris, France.

He is now Professor of Architecture and Director of the School of Architecture at the University of Manitoba. Along with his duties as a teacher and consultant in architecture, he has taken an active interest in designs for the theatre through such groups as the Winnipeg Ballet, the Winnipeg Little Theatre, University productions, civic pageants, and the Banff School of Fine Arts. He received the Canadian Drama Award in 1940 for his contributions in this field.

He is a Fellow of the Royal Architectural Institute of Canada and a Member of its Council and of the A.I.A. Also, Past President of the Manitoba Association of Architects.

**G. Lorne Wiggs,** consulting engineer, was born in Quebec and graduated from McGill University in 1921. He entered private practice in 1929 and is now senior partner of Wiggs, Walford, Frost and Lindsay, consulting engineers having offices in Montreal and Toronto. He is Honorary Secretary-Treasurer of the Corporation of Professional Engineers of Quebec. He is a member of the Association of Professional Engineers of Ontario, of the Association of Consulting Engineers of Canada, the Engineering Institute of Canada, the American Society of Heating and Ventilating Engineers, the American Society of Mechanical Engineers. He is a recognized authority on radiant heating and cooling and on air conditioning.

**H. Ross Wiggs** was educated at Ridley College, McGill University and Massachusetts Institute of Technology from which he graduated in Architecture in 1922. He served in France with the 10th Siege Battery (McGill) in the First World War. After graduating, he spent four years in New York City with H. T. Lindeberg and Alfred C. Bossom, then in Montreal with David R. Brown, H. L. Fetherstonhaugh and Kenneth G. Rae. He started his own practice in 1933, and he is Past President of the Province of Quebec Association of Architects. He was elected an Associate of the Royal Canadian Academy of Arts in 1944, and to Fellowships of the Royal Institute of British Architects, and the Royal Architectural Institute of Canada in 1953.

**Frederick J. Woodbridge,** B.A. Amherst, 1921; B. Arch. Columbia, 1923; Rome Prize, 1923; American Academy Rome, 1923-25; University of Michigan, Boyer Research Fellow in Classical Archaeology, 1925. Four years with

McKinn, Mead and White; thirteen years as a principal with Evans, Moore and Woodbridge; now Adams and Woodbridge, New York. Mr. Woodbridge has recently returned from Italy where, for two years, he has been Associate Architect at the American Academy holding a Fullbright Fellowship.

## NOTICE

The R.A.I.C. is making available to all members, at a nominal charge of $1.00 per set, a bound set of R.A.I.C. Documents. This set consists of a foreword with a list of contents, reprints in English and French of three legal articles about R.A.I.C. Documents by the R.A.I.C.'s Solicitor, and also sample copies of the latest editions, including the French editions, of all documents which are used professionally.

The main purposes of doing this are to help members to familiarize themselves with these documents and also to make available a complete booklet for ready reference.

Members are urged to take advantage of this offer by sending their orders to the R.A.I.C. Executive Offices, 88 Metcalfe Street, Ottawa.

*C. J. G. Carroll, Secretary*

## LETTER TO THE EDITOR

Sir:

In the May issue of the *Journal* an advertisement by the Edwards Company listed the firm of Stevenson & Dewar as architects for the new Calgary General Hospital and they headed their advertisement "No Divided Responsibility Here".

We wish to point out that the office of W. L. Somerville was the architect for the Hospital and this office divided responsibilities by associating with Messrs. Stevenson & Dewar of Calgary, who were supervising architects.

Yours very truly,
*N. H. McMurrich*
*for W. L. Somerville, McMurrich & Oxley*

## BOOK REVIEWS

SCHOOLS FOR THE VERY YOUNG by Heinrich H. Waechter and Elisabeth Waechter. Published by the Architectural Record, New York. Price $6.50.

This study is concerned with the physical surroundings necessary for the education of the young child from two to six years— so-called "pre-school" training. The author, a member of the faculty of the University of Oregon School of Architecture, and his wife have made a detailed study in the last ten years of this particular problem, partly with the assistance of an Edward Langley Scholarship.

Architects these days are besieged by publishers with increasingly long lists of "new" books, many of them concerned with the more specialized fields of practice. Despite having viewed a very great number of these on school planning, the reviewer is not aware of any other book which so thoroughly covers the problem of school design for the very young from kindergarten and nursery schools down.

The good index and bibliography should be of real assistance to the reader interested in specific points or in further information. Unfortunately, like so many of the architectural books now being published in North America, this one suffers in appearance from the "choppy" character which results from a wide variation in the origin of illustrations, and even from a not too clear reproduction of photographs. The format and typography of this book might also have been improved by giving a free hand to the designers who produce some of the handsome Sweet's Catalogues for the same publishers.

*John C. Parkin*

MODERN FLUORESCENT LIGHTING by A. D. S. Atkinson, AMIE, FIES. Published by George Newnes Ltd., London, England. Price $3.25.

This new publication on the subject of lighting, written by one of our British colleagues, is an unfortunate attempt to put the whole subject of fluorescent lighting plus some aspects of incandescent lighting into a small 150 page volume, advertised as "the most up-to-date and comprehensive work on the subject." On reading the list of contents, your reviewer was inclined to agree with the advertisement, but on reading into the text, was disappointed.

The initial chapter, describing the operation and characteristics of fluorescent lamps is interesting to those who know nothing about them and who might be interested in being a trouble-shooter on these lamps.

The remainder of the book is a series of brief statements of the "facts of light" as they would be known by any Canadian architectural graduate from a first rate university course. Some direct application information is given, but in its limited scope, is completely without originality.

The technical data presented, excepting the room-index and utilization co-efficient tables, are entirely restricted to British standards, and are therefore of little use to the Canadian architect or engineer.

It is the reviewer's opinion that this publication is of general interest, but would add little to the technical library of the Canadian architect, and nothing to that of the Canadian lighting engineer.

*E. L. Dodington*

# Facts by Pilkington about Glass

**VOL. 3** **No. 7**

**Installations Throughout the World**

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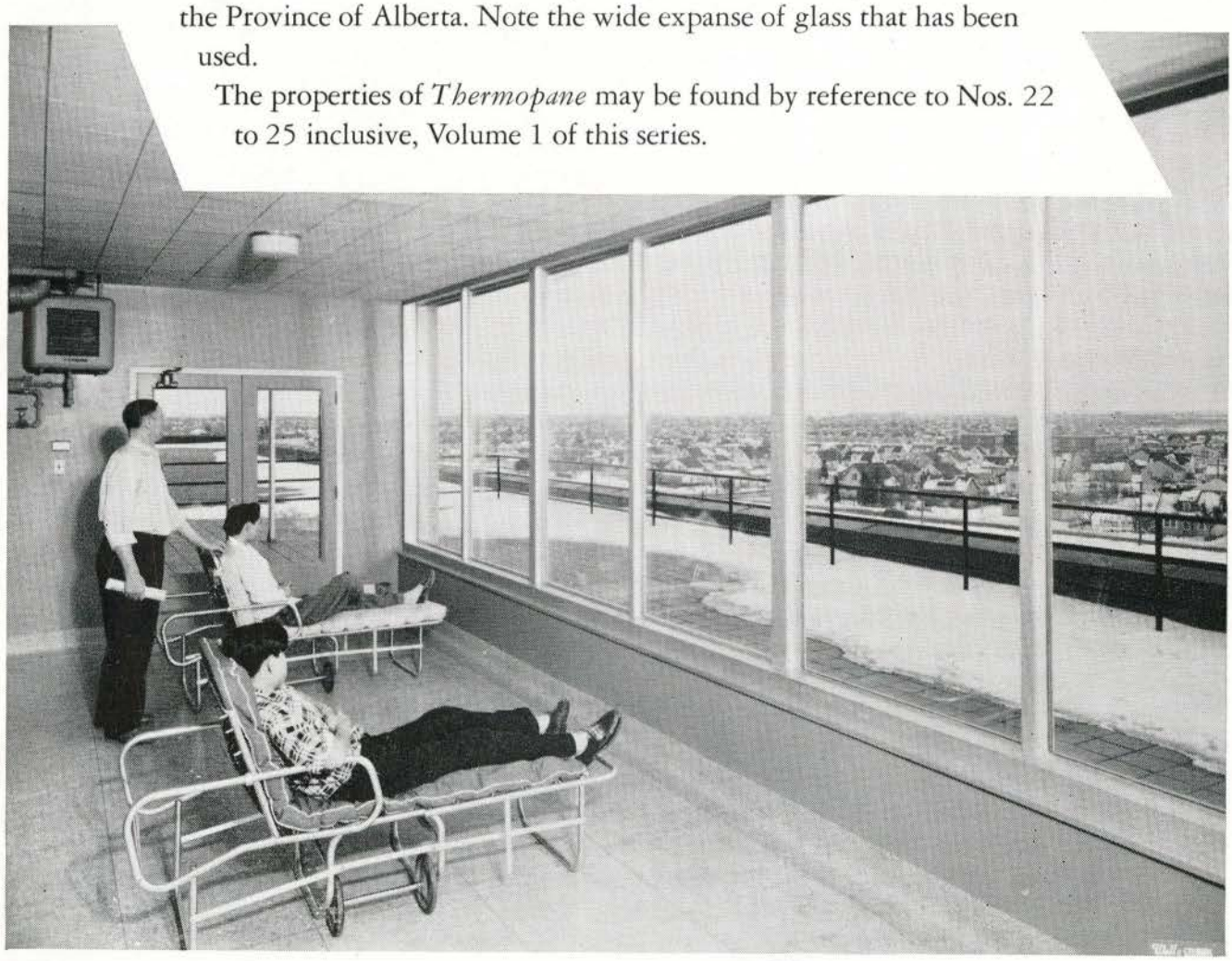

Pilkington Glass LIMITED

HEAD OFFICE — 165 BLOOR ST. E., TORONTO, ONTARIO

This is one of a series of data sheets compiled by the technical department of Pilkington Glass for the information of architectural students.