

JOURNAL

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

Serial No. 300

TORONTO, AUGUST, 1950

Vol. 27. No. 8

PRESIDENT - - - - - J. ROXBURGH SMITH (F)

C O N T E N T S

EDITORIAL - - - - -	250
MODERN LANDSCAPE DESIGN, Christopher Tunnard - -	251
TRANSITION, Thomas D. Church - - - - -	252
DESIGN, UTILITY OR BURLESQUE, Jack Nazar - - - -	255
GARDEN FOR A PRIVATE RESIDENCE IN OTTAWA, ONTARIO, Jack Nazar, Landscape Architect - - - - -	256
THE ARCHITECT'S GARDEN VERSUS THE GARDENER'S GARDEN, J. Austin Floyd - - - - -	258
GARDEN IN FOREST HILL VILLAGE, ONTARIO, Henry Fliess, Architect, J. Austin Floyd, Landscape Architect - - -	260
GROUND COVERS AND THEIR USES, Helen M. Kippax - -	263
APPROACH TO PLANTING, J. V. Stensson - - - - -	266
WHAT DO WE MEAN BY MODERN LANDSCAPE ARCHITECTURE? Garrett Eckbo - - - - -	268
THE GARDEN OF NINETEEN-FIFTY, H. B. Dunnington-Grubb -	272
BUILDING RESEARCH 1950, Robert F. Legget - - - -	275
THE INSTITUTE PAGE - - - - -	279

THE INSTITUTE DOES NOT HOLD ITSELF RESPONSIBLE
FOR THE OPINIONS EXPRESSED BY CONTRIBUTORS

EDITORIAL BOARD

ARTHUR H. EADIE, CHAIRMAN

LANGTON BAKER, Toronto; H. K. BLACK, Regina; F. BRUCE BROWN, Toronto; H. F. BROWN, Toronto; C. S. BURGESS (F), Edmonton; GLADSTONE EVANS, Toronto; LESLIE R. FAIRN (F), Wolfville; GEORGE GIBSON, Toronto; ARTHUR KEITH, Toronto; FRED S. LASSERRE, Vancouver; F. P. MESSCHINO, St. John's; EARLE C. MORGAN, Toronto; H. CLAIRE MOTT (F), Saint John; JAS. A. MURRAY, Toronto; H. E. MURTON, Hamilton; FORSEY PAGE (F), Toronto; JOHN A. RUSSELL (F), Winnipeg; WILSON A. SALTER, St. Catharines; E. J. TURCOTTE, Montreal;

ROBERT M. WILKINSON, Toronto

J. F. SULLIVAN, PUBLISHER

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

SUBSCRIPTION RATES

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

JOURNAL R. A. I. C.

AUGUST 1950

WE have often heard architects and others comment on the changed appearance of the *Journal*. By that we have always assumed that they had noted a change in format and in content. The change in the latter is greater, and more remarkable, because it represents, over a ten year period, a revolution in Canadian taste. The change in the *Journal* is there for all to see and we know, perhaps better than others, that it has come about without interference from the editorial board. There are diehards, among whom we count some of our best friends, who still look with suspicion on modern architecture, and forecast its disappearance like Art Nouveau in the limbo of forgotten things. It is idle, as a rule, to argue that it cannot disappear; that it is an integral part of our 20th century way of life. We can see changes already in the form and detail of modern architecture, and we shall see many more before it becomes, like Gothic, a movement of hemispheric scope. If less and less traditional work appears in the *Journal*, it is because less and less is received.

OVER the last few years, the *Journal* has opened its pages to industrial design and the fine arts, and, in all, the same progressive trend is noticeable. The real designers of this country, in every field, are neither standing still in the present, nor walking back through past centuries. They are going forward. We have often wondered whether the same were true in Canada of the craft of the landscape architect. Tunnard, Church and Eckbo are names that come immediately to mind like Gropius, Neutra or Breuer in the field of architecture, but they are in the United States. Who, we wondered, are their counterparts or disciples in Canada?

STRANGELY enough, the art of the landscape architect, in all countries, has lagged far behind the other arts in the great movement which we are witnessing or participating in. We say strangely enough, because, where the architect has been boldly experimenting in costly permanent materials, the landscape architect has to deal, at any rate in planting, with impermanent, easily altered, relatively inexpensive material. For some reason, the Beaux Arts system of training, and the principles on which it was founded, were more easily jettisoned in architecture than in landscape gardening. The Beaux Arts system is based on symmetry, which is pointless in building or garden if it cannot be seen, or is only half seen. In architecture, the value or futility of symmetry is no longer discussed even on an undergraduate level, but in gardening the battle still rages.

AS we see it, the problem is reduced to this — if the garden is symmetrical it is designed to be seen, and if it is to be seen, it must be viewed from a height provided by windows or terrace. The emphasis is therefore on the being seen rather than the being enjoyed. Another factor which must have been important in the formal axial garden was the pleasure which those using the garden had in being seen themselves. The clothes of courtiers in the gardens of the great and lesser houses of France were, until the Revolution, often no less spectacular than the peacocks that posed on pedestals or preened themselves on lawns.

HOW unsuited today is the drabness of formal attire or the freedom of informal dress against the background of the formal garden! If a 20th century duke in flannels and short sleeved shirt were to be translated to a garden party of Louis XIV, he would most certainly be arrested as a potential assassin or a dangerous lunatic. Our modern dress and way of life are admirably reflected in the informal garden designed like a living room — to be enjoyed in moments of rest and relaxation. As we look back historically, do we not find genius in the English eighteenth century landscape school which our generation was brought up to despise?

THIS *Journal* gives us much pleasure. It is clear that the revolution has taken place in the landscape field. It is more, too, than a revolution in taste — it is a social revolution. The small garden has become worthy of the attention of the most distinguished practitioners of the landscape craft. The skilled ally for whom the architect has been looking, especially in the residential field, has arrived.

Editor

MODERN LANDSCAPE DESIGN

The Growth of a New Art Form

By CHRISTOPHER TUNNARD

UNLIKE architecture, landscape design has had comparatively few revolutions of style. Changes of taste, so violent in their effects on building, have been slower to enter our gardens and parks, so that we are apt to find "old-fashioned" grounds surrounding the most advanced architectural innovations in all periods. Only occasionally have architecture and landscape design changed together . . . Lord Burlington's house and grounds at Chiswick signal the coming of Palladianism and the English landscaped park, for instance, or Sir Edwin Lutyens and Miss Jekyll together creating a new style of house and flower garden. Now again we are seeing one of these rare events: the development of contemporary architecture and landscape architecture, both of which have completely broken with tradition to complement each other in the creation of a new environment.

The growth of modern architecture has been well documented by Pevsner, McGrath and Giedeon, among others, but the story of modern landscape design has yet to be told. Traces of a new approach can be found in the early part of this century, but they are not indicative of any well-formulated philosophy. Nevertheless, the following are some of the signposts to modern landscape design which our historian, when he appears, should not overlook:

1. *The revival of interest in the peasant or cottage garden at the very end of the 19th century, coinciding with the attempt by architects to introduce "native" styles of building in domestic work.* This trend toward simplicity of design and materials paved the way for the "functional" approach, which was to develop more slowly. Jekyll in England and Lichtwark in Germany were advocates of the simple, easily-cared-for plot from which the excesses both of formalism and the picturesque movement were to be banished.

2. *The crusade of Muthesius and Schultze-Naumburg in Germany.* These two, after 1904, tried to persuade the naturalistic school of landscape gardeners, who fought them bitterly, that house and garden were mutually interdependent and that a garden was a series of *Rooms in the Open*, a phrase which was afterwards used to describe their creations. Peter Behrens, one of the pioneers of modern architecture, subscribed to their views. *Rooms in the Open* made much use of lattice-work and pergolas, and the ideas of Art Nouveau penetrated in the form of outdoor lamp standards and balconies. Although the materials bore little relation to those used today, the idea that gardens might be planned in conformance with the inner disposition of the house was a most important step.

3. *The design concepts of Tony Garnier's Industrial City.* Here appeared roof gardens, concrete screens and ramps and a host of other gardening novelties. One of Garnier's early gardens at Lyons is extremely modern both in form and materials; this architect must definitely be considered a pioneer of modern landscape design. There is nothing in Le Corbusier which is not anticipated by Garnier's work. (Incidentally, the discovery of ferro-concrete by a gardener, in the process of strengthening the construction of his fountain basins should not be overlooked as a contribution to modern landscape development, although a still greater debt is of course owed to Monnier by architects).

4. *American work before the 20's: Wright, W. B. Griffin, Greene and Greene, Christian Mulgardt.* While Wright's early garden schemes show no special advances in the use of plant material, his suggestions for the Ladies Home Journal were innovations in siting and arrangement on the city and suburban lot, as were Griffin's model subdivisions at Mason City, Iowa of about the same time. Wright's drawings for the Lake Tahoe summer colony mark the beginnings of an "organic" approach to the use of vegetation, since carried further at Taliesin West,

where the design of the building and of the immediate landscape are perfectly integrated. Before the first World War, Greene and Greene in Pasadena and Christian Mulgardt in San Francisco were experimenting in California. While Mulgardt's garden work, most of which has been destroyed, was closer to the *Rooms in the Open* school, the Greenes' shows a strikingly original use of architectural materials and an almost poetic quality in the handling of trees and water.

5. *Landscape Design and Theory in France after World War I.* A trend toward modernity is noticeable in André Vera's book *Les Jardins*, published in 1919, although this landscape architect's work was and remains extremely mannered and personal. Much more important are the open space concepts of Le Corbusier, who started out with a coldly mechanistic theory of city building, then developed his "radiant" city, and finally came to the idea of the verdant city. This architect showed us how to free the ground, and although his suggestion that untrammelled nature can be brought within the confines of the town is not devoid of overtones of romanticism, he has been the chief modern protagonist of landscape design as a vital part of urban life. But we also owe a debt to the collaboration of Mallet-Stevens and Gabriel Guevrekian (the latter is now at the University of Illinois) who designed and built modern gardens in Paris and in the South of France; in these modern landscape design for the first time seems to crystallize. By 1931, when J. J. Haffner published his *Composition de Jardins*, practice had gone far beyond the slight traces of asymmetry to be found in these theoretical plans.

6. *Modern landscape design in the 30's.* In England, the writer's own work which began before the mid-thirties was closely associated with modern architecture and his book, *Gardens in the Modern Landscape*, was an attempt to put together a working philosophy for the new style. In Scandinavia, Germany and Switzerland, an acceptance of modern architecture had also turned the attention of landscape architects in those countries toward a more functional approach, external evidences of which were to be found in such novelties as play pools, an absence of formalism and a more sparing use of purely decorative elements. In 1937, the San Francisco Exhibition of Landscape Architecture, which featured contributions from Richard Neutra and Thomas Church, marked the beginning of recognition for a contemporary manner in the United States. Since then the work of younger Harvard-trained graduates, Kiley, Eckbo and Rose, has helped to spread the ideas of modern landscape design, and a newer generation still, some of whom are now practising in Canada, we may hope will be given the opportunity to spread it even further.

These then are some signposts along the road. It is now possible to say that modern landscape design is well established, although it has not been as well accepted for public work as has modern architecture, except in certain favoured spots like Rio de Janeiro, where the brilliant painter-plantsman Burle Marx has designed gardens for several public places. This post-war period must, I am convinced, see the introduction of the contemporary idiom into the design of parks, playgrounds and other recreational projects if we are to progress further in our medium. Search the United States and Canada and you will not find a single public park of contemporary design. It is most unfortunate that the newer open spaces in cities are still being treated with sentimentality and in absolute ignorance of the newer techniques of design. It would be an example to all of us if a team of the younger designers in Canada were to be given the task of laying out a new public park. I am sure the result would constitute another milestone in the progress of our art.



Photograph by Maynard L. Parker

All the illustrations in this article are of gardens by Thomas D. Church, Landscape Architect.

TRANSITION

By THOMAS D. CHURCH

THE problem of designing gardens has changed in the past few years. Building costs, as well as the changing attitudes toward a home, have broken the lines that formerly divided house and garden. More and more activities are being forced into smaller and more rigid properties. The landscape architect no longer has a choice between a functional or esthetic approach. Like it or not, the functions of the house have spilled out into the garden and must be provided for.

The economic need for absorbing living into the garden presents a welcome challenge to the landscape architect. Working with more flexible units than the architect, and dealing in structures less costly, he can meet changing conditions more quickly.

There have been changes. The small property has always offered a pretty set pattern of spaces: an open lawn area, a place for shrubbery and flowers, and a place to hang the clothes. Time was when the division of space on the lot consisted of a front yard given over to the public view, two narrow unusable strips on the sides and a rear devoted, according to the whim of the owner, to grass, flowers or just a place to dump the ashes.

But now it's had a number of additional responsibilities thrust upon it, all demanding space and recognition.

See what has happened to make us guard every square foot of the property jealously and apportion it carefully:

1. When the attic and basement disappeared, the garage became the great all-American store room. As a result the family car is being forced into the driveway.



1.

1. The Coleman Garden
2. The Hickingbotham Garden
3. The Keil Garden
4. The Ets-Hokin Garden
5. The McBride Garden

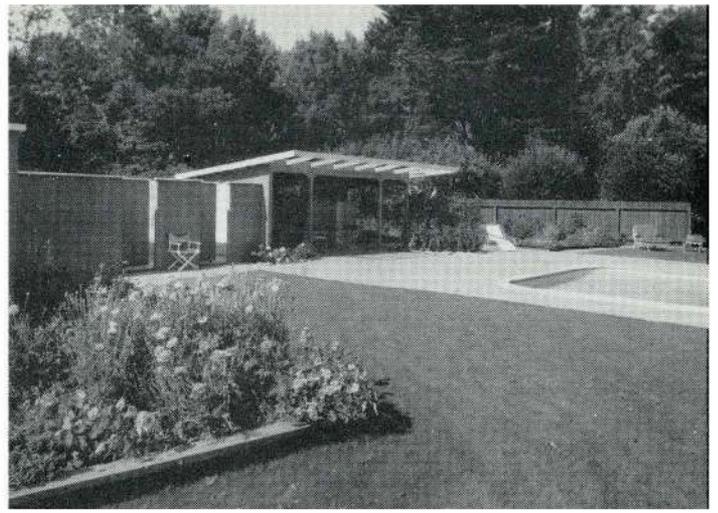
Photograph 1 by Maynard L. Parker
 Photograph 2 by Philip Fein
 Photograph 5 by Rondal Partridge

We must obviously stop being collectors or build additional storage room in the garden. Storage structures can be added to the garage or hidden behind garden fences. Storage walls, built as long screens to give privacy to the terrace or separate the service areas, can provide for firewood, garden tools, cushions and winter storage of garden furniture.

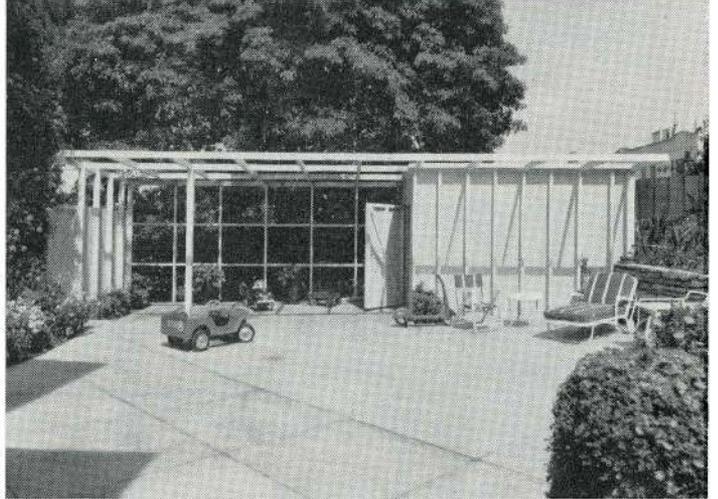
2. The baby is no longer dressed in white and taken around the block in its perambulator for an airing. It is tossed, almost naked, into the sunniest spot in the back yard where there must be enough space for a play pen and sand box. It should be visible from both living room and kitchen.

3. Parlor games are now played in the open; terrace space for outside living and entertaining must be provided. It should accommodate four for bridge or forty after the "Big Game." It should be large enough so guests don't back into the flower beds, but small enough so it doesn't look like a parking lot.

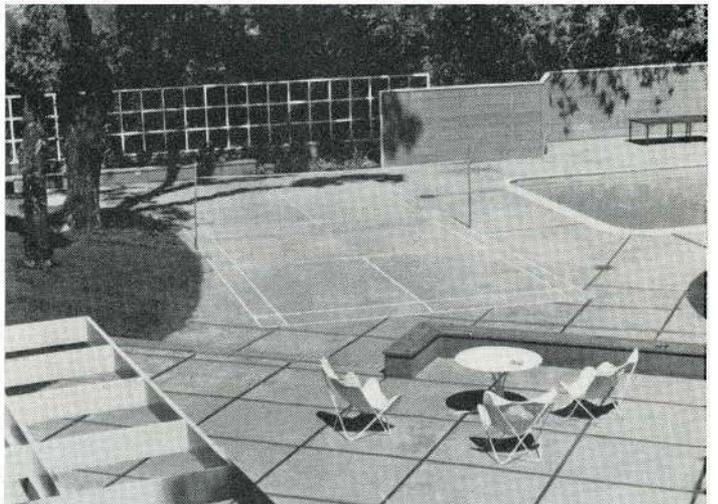
4. Food and drink have come out into the garden. The terrace must have easy access to the pantry for serving. The portable barbecue and portable bar help this situation. If there's too much traffic for this equipment, a supplementary structure can be built. There is no limit to the amenities this arrangement can offer. You can take it simply, with just a roof for shelter and a hot plate to warm the coffee, or you can step up the tempo with a fireplace, a small kitchen and plugs for the toaster and radio.



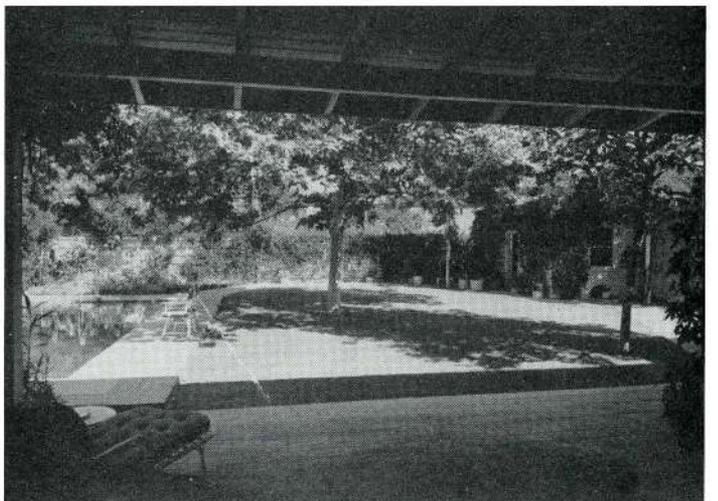
2.



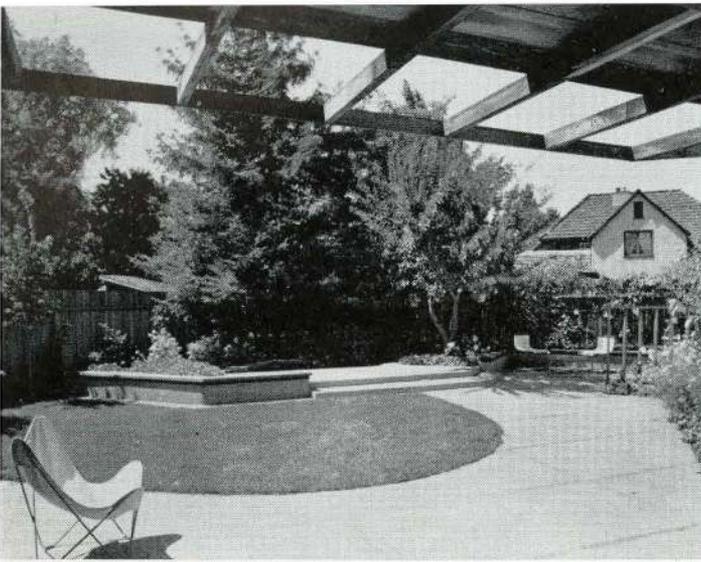
3.



4.



5.

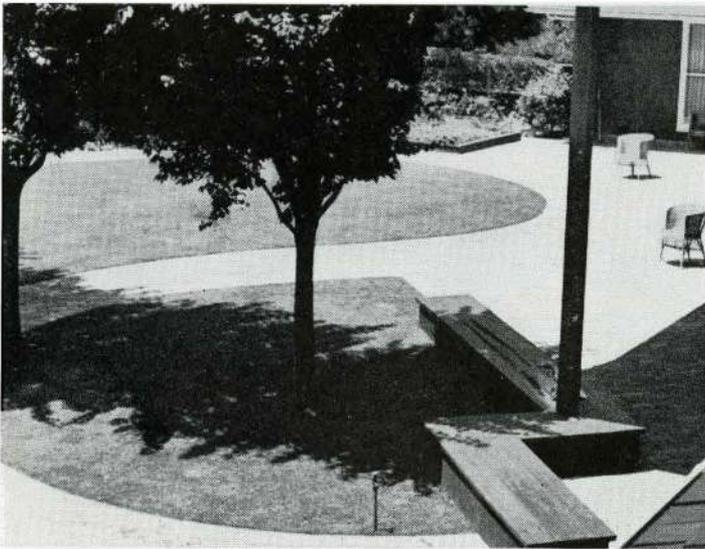


Photograph by Rondal Partridge

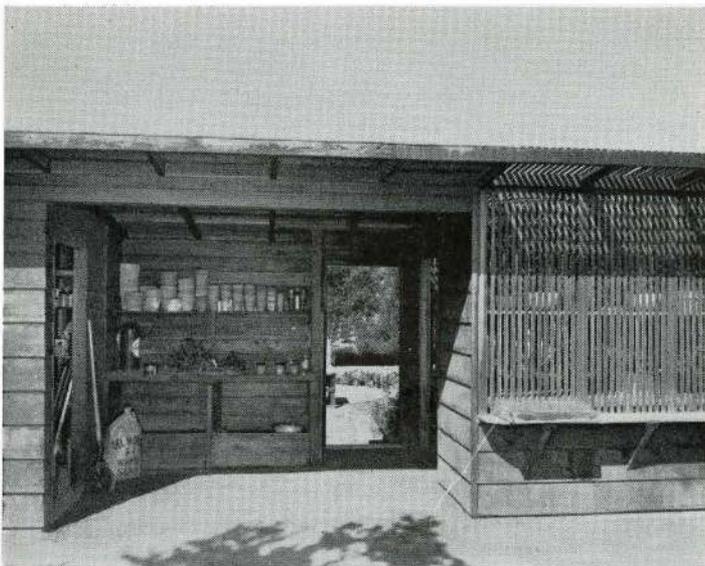
The Evans Garden



The Sullivan Garden



The Corbus Garden



The Sullivan Garden

5. Areas for various sports are demanded by many growing children; requests include badminton, deck tennis, croquet, horse shoes, shuffle board and many others. Swimming pools are now designed to fit into small gardens. Sometimes the driveway can double for badminton and the lawn for croquet.

6. Space must be left for a service yard for clothes drying, garbage cans, and for various miscellaneous items, such as the broken tricycle and the half-dead Christmas azalea, which can be dropped out of sight until you can figure out what to do with them.

7. There is still a minimum amount of gardening to be done, and unless you're happy raising the flat of pansies on the main terrace, you will need a garden service area. At the least this requires a tool closet, potting bench, incinerator and mulch pile. If you like gardening, it might be enlarged to include lathhouse and greenhouse, soil bins, and flower sink.

8. Most people like the idea of returning to the good life long enough to ask for space for some vegetables and a few fruit trees.

If you add the many individual needs, the hobbies which call for special workshops, you have a cross-section of the demands of the average family upon their property. Further, they would like it to be simple to install and easy to maintain. They are convinced that the space around the house can be used to solve their problems. It is not just to be 'landscaped' in the accepted sense of the term, but made to produce living space, play space and work space.

The job of the professional designer is to translate these requirements into a logical and intelligent plan which will produce the maximum in terms of use and beauty. To succeed, his plan must show simplicity of layout, integrity in the use of plant and structural materials, and a sure sense of proportion and form.

If the garden of today sounds like a three-ring circus, remember that it is a complete universe in itself and must provide for every aspect of family living.

DESIGN, UTILITY OR BURLESQUE

By JACK NAZAR

THERE is in every man's mind an ideal—a spider-web of connected opinions—centering on some dominant theme.

To some, the climax of tasteful design can be represented by gothic architecture with its piers, its buttresses, vaulting and windows—laid out in flamboyant representation of the medieval period in which it was introduced. For some there is much charm in an apartment block courtyard where there are four or five benches, and in the center a fountain gaily spurting forth a column of cheer. Others may prefer for themselves an outing in the woods—a grassy swale or a quiet mountain lake, where rigid man-made visual controls do not exist.

Each is a typical illustration of emotional effect upon those who find themselves a part of that picture. In the task of reactivating that certain emotional factor there are two ways of doing it; either repeating the picture or capturing the organism which brings about that sense of satisfaction.

Much of our period architecture was designed with the primary function of impressing its onlookers with the power, greatness or wealth of its builders; Versailles, the pyramids, Taj Mahal; they have numerous though less famous counterparts in this Country. As structures whose design served a definite valuable purpose and provided a pleasing or interesting appearance they were certainly successful. They were fully as useful and modern in objective in their day as the work of Sullivan and L'enfant was in their day, and the work of Church, Niemeyer and Burle Marx is today.

The works of our prominent designers have had their copyists by the multitude and their subsequent efforts have usually met a premature death. This was just as true a hundred years ago as it is in 1950. Examples of "copyright" design could be listed endlessly, and it takes no brilliant mind to grasp their existence. Many of our design schools are forever producing junior versions of Gropius and Wright, and they will likely be doing it for years to come, until the next leading contemporary sounds his horn.

Canadian hotel architecture would likely have been a greater credit to the Country had many of our larger hotels not been so much a physical likeness of each other. Painter's masterful handling of the Banff Springs Hotel and the distinctive, fully native and wholesome treatment of the rockeries and lighted pools at Banff's Administration building are an everlasting achievement of the architectural sciences rather than the popular style. Elsewhere these creations would be completely out of harmony with their surroundings.

How many times have we looked into one of the popular architectural magazines, found a piece of work which we might wish to repeat in some of our own design (in modified form, of course), and stored it away for future use. Probably most of us have. But in that very element is one of the greatest dangers and one of the most commonly misused guides to better independent design. We may not hesitate to criticize others before us who have stolen their design—but how many of us are prepared to accept the face value of our own carbon copy efforts?

It seems this factor—the matter of duplicating the work of others—has been for centuries and likely will be one of the greatest obstacles to progress in the pursuit of design for people who live in the century in which they were born.

By the same means, it is not difficult to isolate the same factors which produced much of our park design; they were

the same outdated malplacéd ideas which created the north end of Gage Park in Hamilton and Central Park in Calgary. Central Park, with its trimmed spruces in grotesque voodoo arrangement, turf and flower panels in dainty geometric layout; an interesting sight from a low flying plane or the top floor of the Public Library adjacent but of what conspicuous value to the residents nearby? This park probably costs more per square yard to maintain than any other in the City and it is doubtful if its use by the citizens is anything but inversely proportional to its cost. In fact the most used portion of the park is set off from the rest somewhat on the south side where folk can sit in the shade and old cronies can gather.

There are compensations in Calgary, however; there is Bowness Park, a very successful and popular commercial recreation development in a wooded area of winding canals and boating lagoons. Queen Victoria Park at Niagara Falls, and its European Renaissance features could be mentioned in a questionable light, although there was an admirable adaptation of the park as a secondary factor to the Falls themselves. The Reformatory grounds at Guelph, with their reservoirs and broad lawns are an excellent example of new and original work made for people to use and not for the convenience of reminiscing historians.

A large housing project was recently constructed in Ottawa. Its basic planning concept is worthy of study. There is little coordination between interior and exterior functions of the buildings and as a result the greatest potential advantages of the site and community living are lost. In addition, the lack of this important relation resulted in unnecessarily high site development costs.

It would have seemed logical in this site layout to have kept all servicing facilities together and completely divorce interior play areas from all vehicular circulation. It seems practical that the service functions of buildings should be conveniently and efficiently related to the streets whereby kitchens are immediately accessible to milk deliveries, the postman, refuse collections, fueling and parking. With kitchens adjacent to the streets, mothers could more conveniently keep an eye on their children where lies their greatest normal cause for fear.

By providing a common lobby within the street side of the buildings, from which independent access could be gained to kitchen, living room and stairs, it would permit the living rooms to open out toward views, planted courtyards and play areas—where building design helps the children to stay away from traffic and neighbors could feel themselves a part of a social organization. Clothes drying facilities could have been set up between building groups or otherwise concealed from the view of the streets. All walks to the far sides of the buildings could have been eliminated; there would be less soil and water pipe to install; and 90% less snow removal problem for each unit. A less costly site development could have been evolved.

There is usually a reason for design. It is either to emulate something done before, or it is meant to serve primarily the cause of living human beings.

By creating a piece of work which steadfastly pursues an appreciation for healthful social intercourse—a design can serve those for whom it is made. The human psyche needs recognition, it requires warmth, amusement, satisfaction and it has a just plain need for making man a full sized image of himself in the face of a vain and grandiose past.

A PRIVATE RESIDENCE IN OTTAWA, ONTARIO.

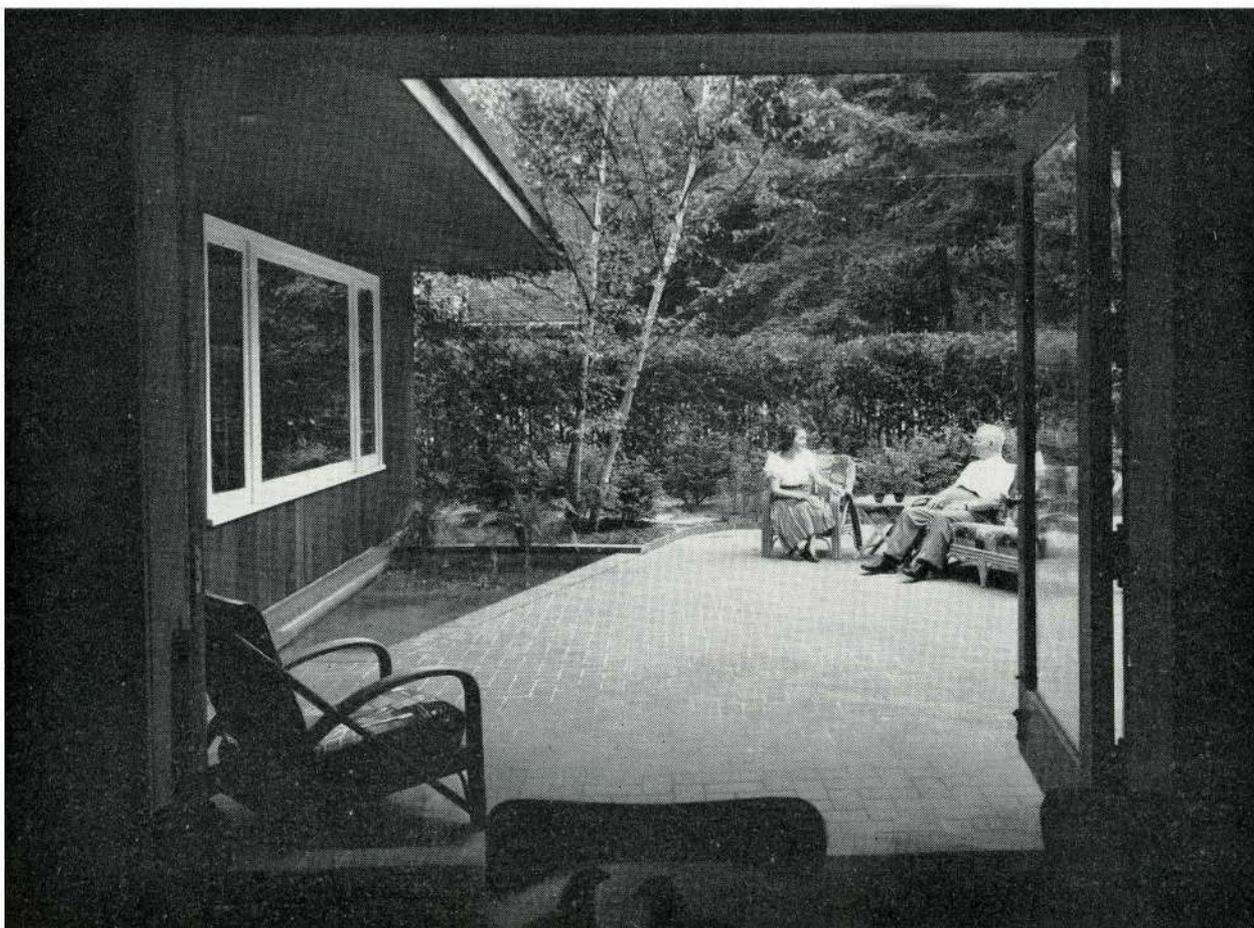
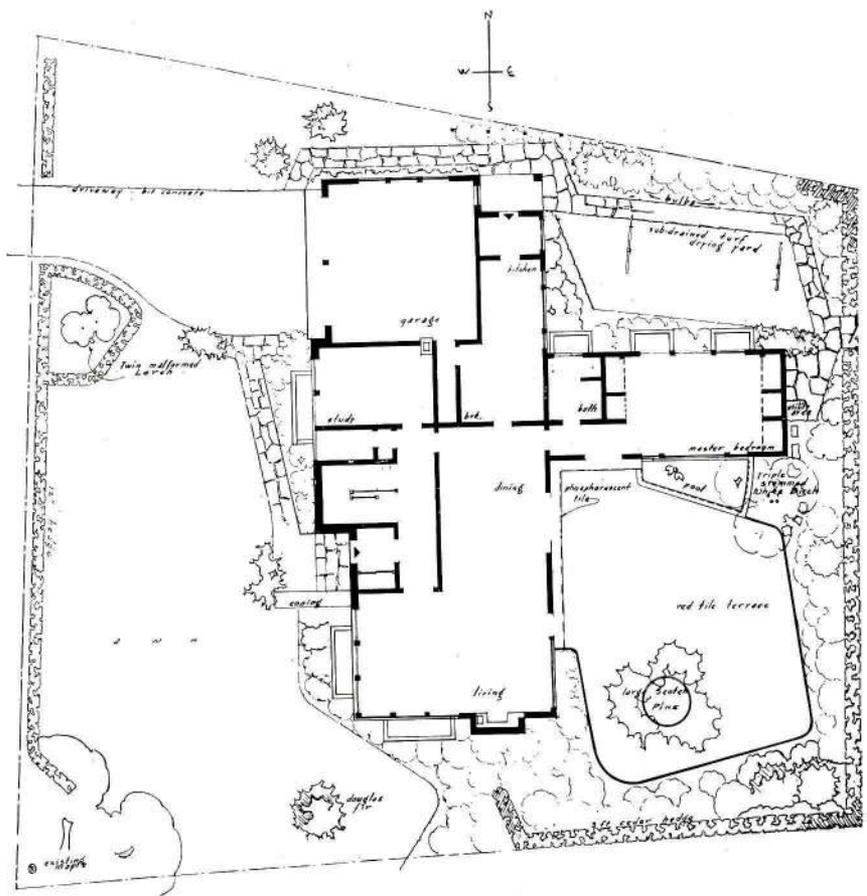
GARDEN BY JACK NAZAR, LANDSCAPE ARCHITECT

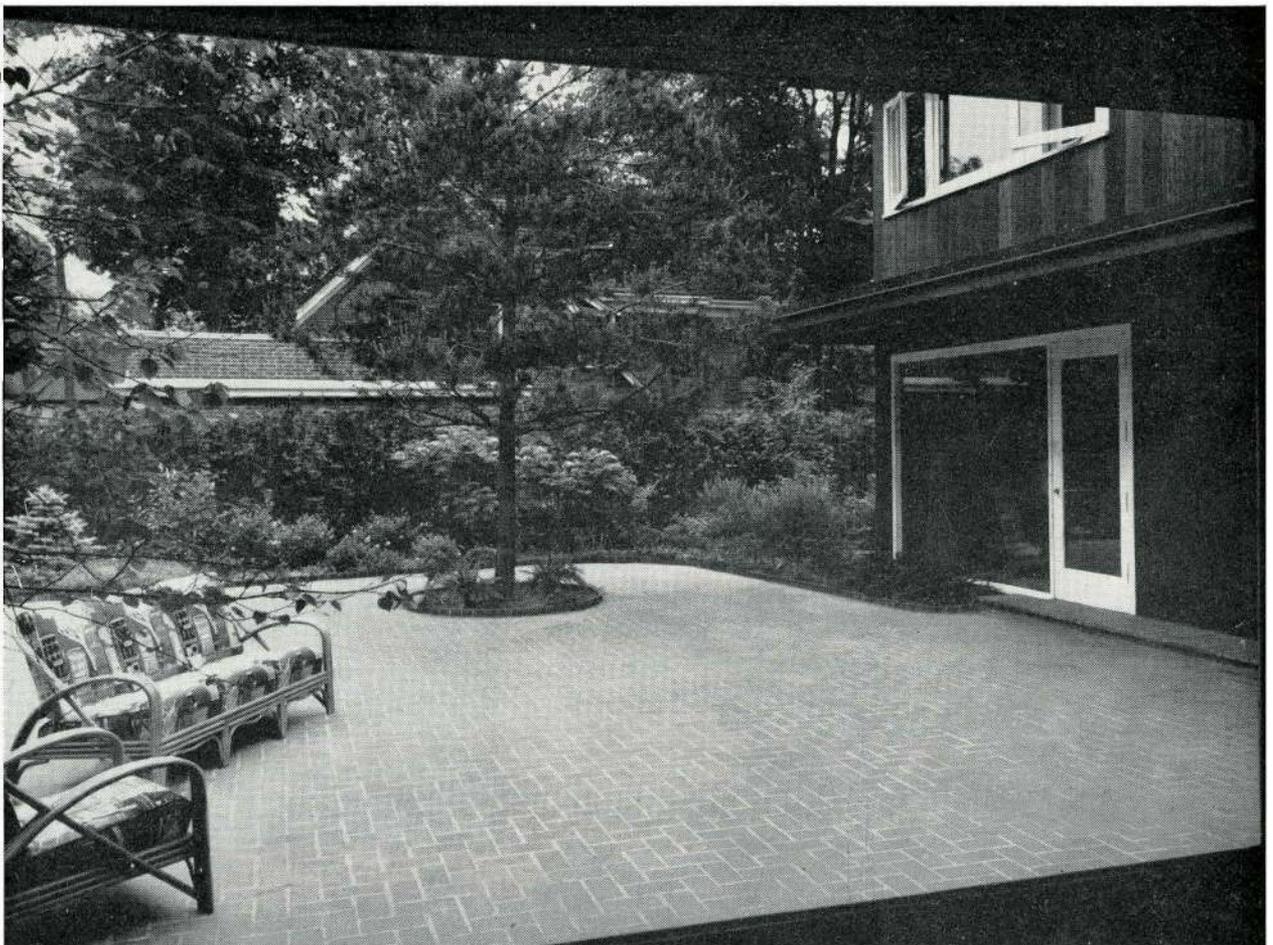
OBJECT OF THE SITE LAYOUT — To produce a harmonious year-round landscaped effect assisting the lines and colors of the architecture and sympathetic to it. An outdoor setting was wanted which could be used at night as well as the day.

POOL — The pool is lighted with three underwater lights having downward refractive amber lenses pointed toward a colored pebble floor. The deep yellow lights attract insects at night, providing food for fish — detaching them from the terrace. Water is divorced from the accident hazard by a strong welded mesh arrangement six inches under the surface. The pool is shaded by overhanging boughs of a large triple-stemmed White Birch. There are three lilies in the pool — one opening during the day and two during the night. Pool overflow is concealed from view by a hidden device at water level under terrace step. Water is fed into pool by a variable jet nozzle which by a twist of the hand can produce seven different shapes of spray; jet, saucer, fan, fountain and others.

TERRACE — Red tile edging and floor; sloped for drainage to a vitreous tile catch basin. Entire face of step riser is made visible at night by the use of fluorescent tiling which takes up light in the day and gives it off at night until one or two o'clock in the morning; for dull days, however, it is supplemented by an ultra violet light in the Scotch Pine. Privacy is assured the terrace area by a tall cedar hedge and shrubbery around it. The living room opens out on the terrace, making the two units appear as one.

SERVICE ENTRY — The service entry is separated from the neighbor's rear yard by a redwood grille-type structure built in terraced horizontal lines and covered by evergreen honeysuckle vines.





Photographs by
Monte Everett

THE ARCHITECT'S GARDEN VERSUS THE GARDENER'S GARDEN

By J. AUSTIN FLOYD

THE honest and straight-forward use of architectural materials in the present day garden differs widely in concept from that which was known as the "architect's garden" at the beginning of the century. The designer, at that time, almost completely disregarded the functional use of plant material and considered it only for its decorative value.

Great areas of garden were merely extensions of the architectural materials into the landscape, and plant material was used only to add a touch of colour. The resultant effects were hard cold combinations of brick and stone, and the plant material used added little to the design. The planting was left to gardeners, who were either unsympathetic with the design or lacked an understanding of what was expected of them. A notable exception, however, was the combined gardening effort of Sir Edwin Lutyens and Gertrude Jekyll. Lutyens, an architect, designed the gardens to go with his structures and Miss Jekyll "gave his gardens an interior decoration harmonizing intimately with his own intention and a successful unity of effect was achieved".

There was strong opposition to this type of landscaping, which was advanced by a group, who have been called the "gardening fraternity" or "the gardeners". They went to the other extreme and used only plant material. They refused to incorporate any of the construction materials that had been used too freely by the architects, but in their endeavour to keep to what they considered the natural, they also ignored structural design and the gardens became great conglomerations of horticultural varieties, and the functional use of plant material was disregarded.

Open planning in modern architecture has given a new freedom to the sense of space. "The eye is not confined to the boundaries of individual rooms but is carried on continuous planes from room to room and to the out-of-doors". A material may carry the eye by plane, colour, or texture, from the interior of the house to the garden: these areas although separated physically by glass are integrated visually.

The use of large glass windows or glass walls has given new interest to the garden. Man sees it throughout the entire year, both winter and summer, in rainy weather or fair. His appreciation for the garden may be recognized in his extending of the architectural materials into the garden and allowing the garden to extend into the house in the form of planting beds.

Planting beds have been considered an affection by some, or a cliché of the modern house somewhat in the category of corner windows. However, one feels that this is not so when properly handled. A close integration is gained by continuing the edging or coping of the planting bed on the same line and level from one side of

the glass to the other. If the glass separating the beds is not too close to the level of the soil, it can be kept clean from splashing more easily. It is not practical to grow the same plant material inside as on the outside since differing atmospheric conditions affect the rate of growth of the plant material and the sameness is short lived. An example of a successful planting bed is shown in the illustration of the Toronto Transportation Commission's Coach Terminal on Adelaide Street, Toronto.

The tendency to use architectural materials for urban gardens, where space is at a premium, has caused plant material to take a second place. On large properties, even where space is not a problem, architectural materials are used near the house if they do the job better. The converse is also true, plant materials are used in all cases where they can be used more effectively.

Many gardens exist on city lots, which have been developed, using only plant material. Sod is often thrown down in an effort to cover up the mud quickly and give the place a more settled appearance. Shrubs are then planted for privacy and some flower beds created for colour effect. Perhaps a tree or two are planted to provide shade, in which case care must be taken not to damage them with the lawn-mower or the ponderous footsteps of some absent-minded individual. The resultant effect of such a procedure is as follows:—

Photograph by Panda



Adelaide Street Coach Terminal, Toronto,

John B. Parkin Associates, Architects.

1. Much time and energy is spent, and much expense incurred, to keep grass growing in places where it is frequently used. Hard surfacing should have been provided for sitting-out areas, thus allowing the garden's period of use to be extended into early spring days when, otherwise, it would be too wet or too soft — or both. Grass areas should be confined to sections easily maintained or not too heavily used.
2. Shrubs planted to give privacy are often chosen for their fast-growing qualities. As a result, they are liable to out-grow their bounds, gradually crowding everything, including the owner, back to constrained quarters of the garden. An attractive fence, or wall, will provide an immediate effect of privacy, both summer and winter. If constructed so as to be movable it may be used as a windscreen or adjusted to take advantage of the prevailing breeze during hot weather.

There are many variations to the type of screen used, for example the woven wood screen is light and flexible and the louvered fence is gaining popularity as it blocks vision but allows passage of air; a transparent glass screen will act as a wind screen but allow vision; and a translucent glass screen will allow light to pass through but block the vision.

Sunlight may be controlled by architectural means more readily than in the past. The old fashioned pergola has been replaced by forms of lighter construction in wood and metal; having close relationship with the architecture often giving an interesting shadow pattern on walls and ground surface.

Architectural materials are more costly in the initial outlay but they give an immediate effect and require less maintenance as a rule than plant materials.

Man's inherent love of nature causes him to want growing things around him and it is a biological fundamental that plant-life is a necessity for mankind, since "plants breath into the atmosphere elements needed by animals and absorb from it matter, which, in excess, would poison the animal world".

This may not have such a direct bearing on the small urban property but it increases the desire of the city-dweller for open air breathing spaces where he can find grass, trees and flowers.

Justifying man's love for nature, there are, fortunately, many cases where plant-material can do a job more satisfactorily than architectural structure. For example:—

1. There is no architectural material for ground-cover that is so cooling and restful to the eyes, in brilliant sunshine as grass.
2. There is no architectural form so cooling as the shade of a sizable and well branched tree. Evaporation, off the leaves, on a hot summer's day, reduces the surrounding temperature, causing a column of cool air to drop down pushing the warm air away.
3. A small grove of trees a short distance from the sunny side of a dwelling will cool the space between it and the house. The warm air rises up the sun-lit side of the house and the cool air comes in from beneath the trees.

4. The deciduous tree, when placed strategically in relation to a solar window, will shade it delightfully all summer and conveniently drop its leaves in winter to allow any sunshine to enter.
5. There is no architectural counterpart to the screen-planting that will "effectively bar the passage, not only of wind but also of smoke and dust, and also of sound".
6. There is nothing in architectural materials that can replace the silhouette of trees against the winter sky or the pattern of shadow cast by a tree on a terrace.

Man's love of nature has been almost completely disregarded in the development of down-town areas. Brick, stone and asphalt are gradually covering any green space that is left. However, for every square foot of land that is covered by a building, the same area of roof is formed, which, if turned into a roof garden or landscaped terrace, will not only improve the appearance of the building from above but is sound business as well.

"Progressive industrialists find recreational facilities on commercial roof tops increase working efficiency. Realtors get better rentals for apartments with terraces".⁽¹⁾

Restaurants and many other businesses that open into a garden are more desirable.

Hospital roofs and terraces provide space where "solaria can be combined with planted areas to provide patients with a restful atmosphere".⁽²⁾

Ralph Hancock, the landscape architect, who designed over two acres of roof garden for Rockefeller Center, in 1933, says "The days of penthouse gardening in boxes are over, and miles and miles of roof space in every metropolis remain to be reclaimed by landscape gardening".⁽³⁾

"Landscaping need not be elaborate or prohibitive in upkeep. Pleasant out-door-living effects can be achieved on roofs and terraces with a minimum of planting combined with permanent architectural features. Sun shelters, garden-type paving, decorative walls and fences can form a low-upkeep setting for shrub planting that requires little care". Planting beds for flowers need to be 10 to 12 inches in depth, for shrubs 20 to 24 inches, and for trees 3 to 4 feet. Wet compacted earth weighs 100 to 115 lbs. per cubic foot. Structures at all times must be designed for a wet earth load.⁽⁴⁾

Architectural materials and plant materials may be combined effectively and there should not be any feeling of competition between them. It needs no great knowledge to realize that the balance of nature cannot be disturbed too drastically without causing undesirable elements to appear. It is well known that the wholesale clearing of tree and plant life from the head waters of alluvial rivers will eventually result in the erosion of the soil the waters serve, sometimes even hundreds of miles distant. In the same way, encouragement of plant life as a useful and profitable acquisition to many large buildings can result in benefit to the health, pleasure and interest of mankind equally as much as the garden of a city house.

(1), (2), (3), (4) *The Architectural Forum*, June, 1945, "The City Garden".

GARDEN IN FOREST HILL VILLAGE, ONTARIO

HENRY FLIESS, ARCHITECT

J. AUSTIN FLOYD, LANDSCAPE ARCHITECT

THIS little garden and sunroom once used to be a driveway, and garage. It is the result of a happy collaboration between architect and landscape architect, and a client, who was sympathetic to the ideas that were presented. The designing was lots of fun, and involved many hectic meetings at which ideas were discussed and refined.

The main purpose of this project was to provide an informal background for outdoor living. The client wanted a screened dining and sitting area, a terrace, some lawn, and a flower garden. It was impossible to combine the garden with the living areas of the house, as these face either the street or a narrow side yard. Instead it was decided to convert one of the existing double garages into a sunroom, as this was the only area which could be closely linked with the garden to the south, and was also accessible to the kitchen and hall. The screened sunroom was provided with openings on two sides large enough to establish a relationship with the terrace surrounding it. The floor of the sunroom is in red quarry tile carrying through the colour of the terrace but providing at the same time a variation in pattern.

Informality is one of the keynotes of the garden. In spite of the use of strong architectural lines, the avoidance of the right-angle and parallel lines manage to retain a feeling of informality and further help to increase the apparent size of the garden. The garden is really quite small — only 25 ft. by 65 ft. — but gives the impression of being a much larger space. This impression of space is further created by the layout of the terrace, which is divided into a regular 4 ft. by 4 ft. grid and extends out into the other elements of the garden, thus giving cohesion to the whole. The terrace is closely linked to the sun room and surrounds it on two sides, forming a visual extension of it. The whole garden is shaded from the south by some beautiful chestnuts and therefore makes a cool sitting area in summer. This condition, however, limited the choice of plant material.

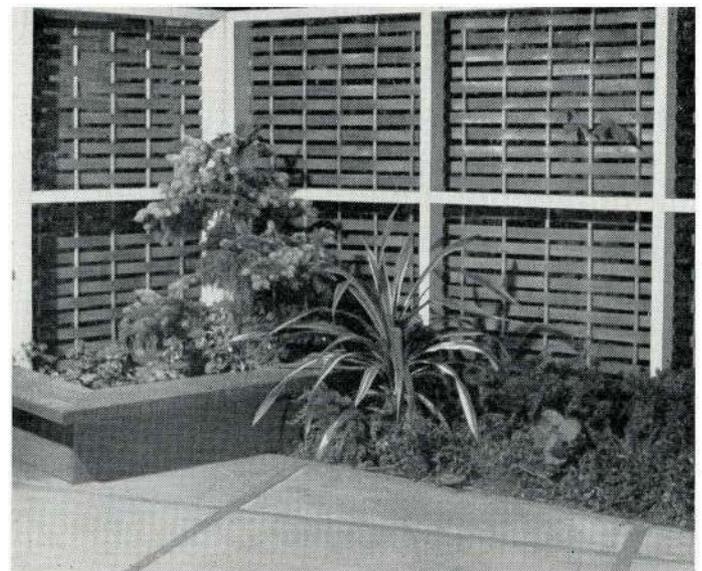
Privacy was an important consideration to make possible the use of the garden for outdoor living in casual attire and it is obtained by a 6 ft. high fence and a row of cedars which, together, completely enclose the garden. Originally it was intended to have part of the fence solid but the municipality's by-laws require one-third of the fence to be open, so a slatted fence was substituted, perhaps to advantage. The slats are painted a dark green and the supporting frame a light green. It is intended to train creepers over the slatted part of the fence and

so provide complete seclusion in a few years. A portion of the fence near the sitting area is built up of cedar strips in a basket-weave pattern to give this part of the fence a contrasting texture.

There is a slight change in grade and this has been accentuated by steps which are carried along the entire border of the terrace. Steps originally led straight up from the driveway to the service yard and these were pushed back to provide a sunken terrace to the west of the sun room and so allow a full height opening on that side. The eye is here gently led down from the upper level by a number of stepped flower beds.

A comparatively large area is taken up by the terrace to provide sufficient space for garden parties and also to keep maintenance problems to a minimum. The terrace is constructed of concrete, terra cotta in colour, and is divided into 4 ft. squares by 2" by 4" cedar strips. Cedar planks are used as a border for flower beds, and brick garden walls are constructed where the flower beds are high and earth must be retained. 2" by 12" cedar planks are used as caps for all the planting boxes and can serve as seats when garden parties are in full swing.

The focal point of the design is the plant box which is placed at the intersection of the fence and the steps and here a picturesque spruce provides a striking silhouette against the dark-brown basket-weave fence.

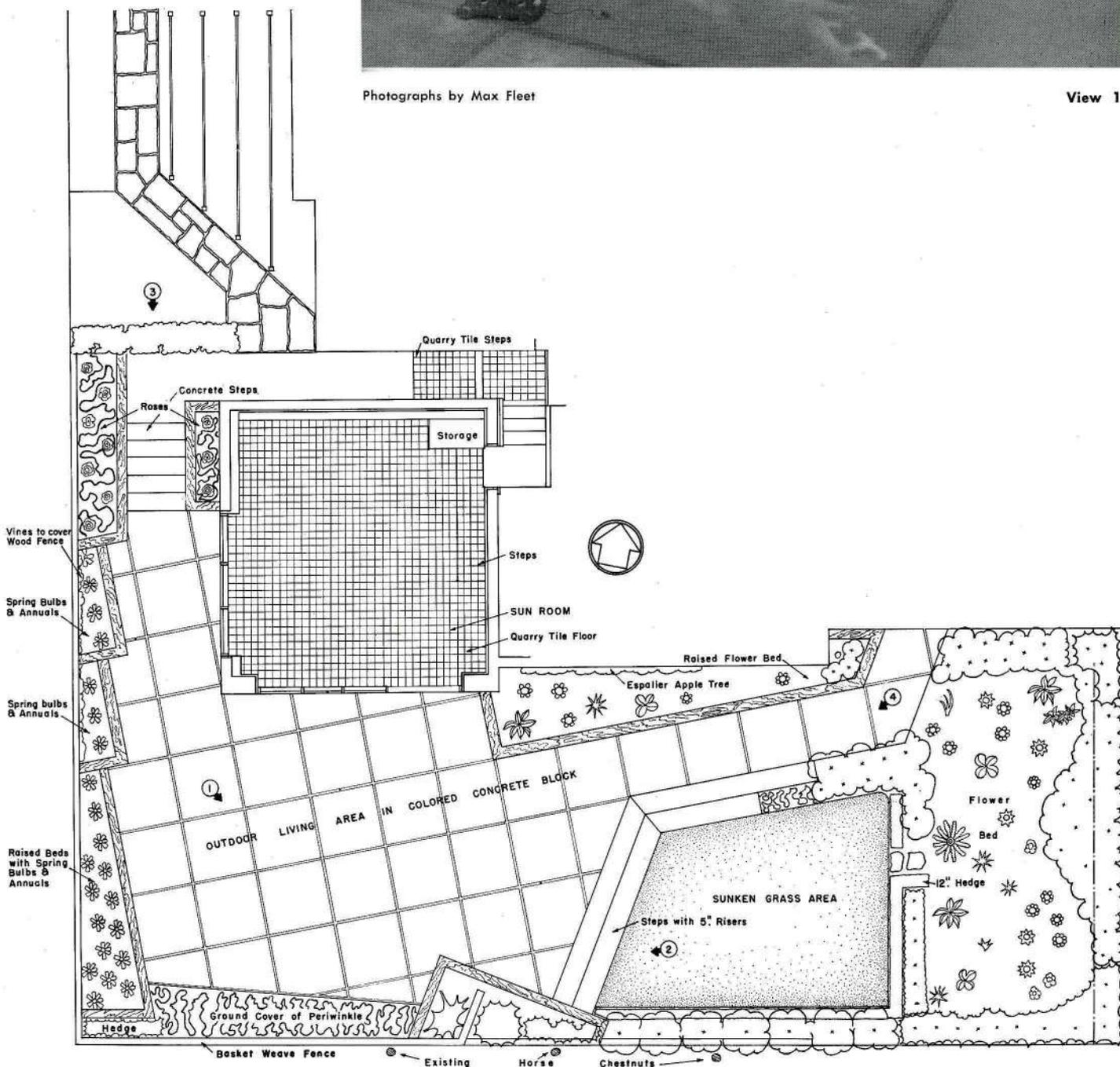


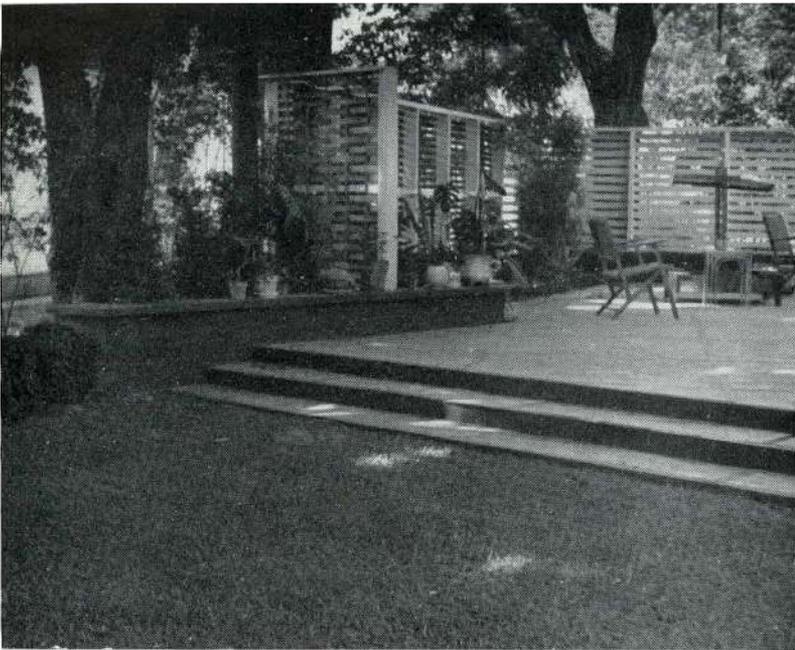
Detail of View I (See Plan)



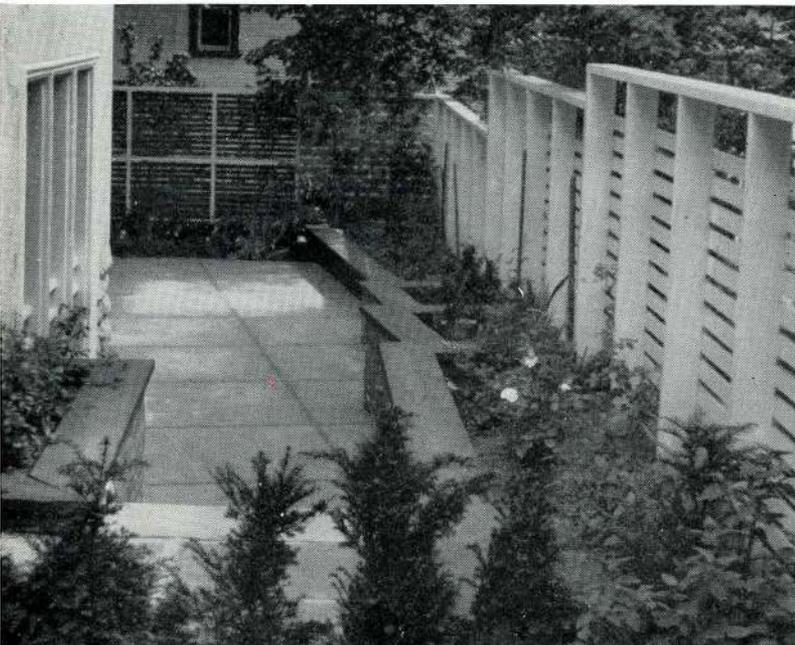
Photographs by Max Fleet

View 1

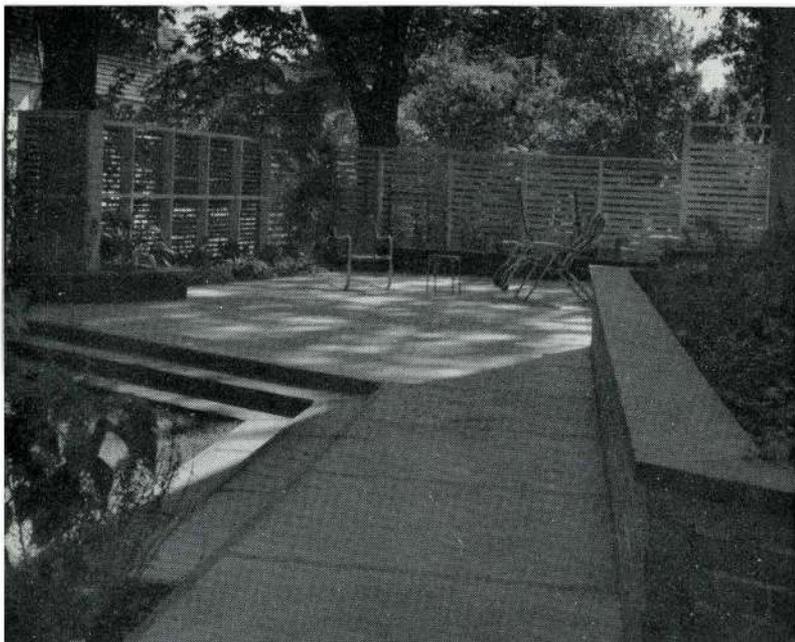




View 2



View 3



View 4

Photographs by Max Fleet

GROUND COVERS AND THEIR USES

By HELEN M. KIPPAX

THE term "Ground cover" means exactly what the word implies; viz: something with which to cover, or clothe, the ground. We dislike large expanses of bare earth and therefore set about to plant something in it which (we fondly hope) will grow into a soft green carpet. The type of "carpet" almost universally used in our part of the world is turf, and for a general covering which must be reasonably comfortable to step on it would be difficult to replace. It is not, however, the answer to all ground cover problems, regardless of circumstances, as we have come to consider it. Turf is composed of thousands of individual little grass plants grown in a solid mass and kept clipped to an even height, and there are few plants which have to take a more severe beating than they do. They are given many a job to do which they are ill-equipped to perform, but for which they put forth a very staunch and brave effort nevertheless. The results vary from indifferent to extremely pathetic, but we cling tenaciously to the practice. Where ground has to be walked on to a limited degree we are at present, at least, largely dependent on turf, but if traffic is either unnecessary or undesirable, much more satisfactory substitutes are available which, for the most part, will look after themselves when once established, and bid fair to do the lawn mower out of a job.

What, then, are some of the most obvious circumstances where substitutes for grass would be suitable?

1. Areas in dense shade of low branched trees where grass is sparse and sickly at best.
2. Narrow strips between house and service walk where a lawn mower is difficult to manipulate.
3. Out-of-the-way corners, often at the rear of the property, where it is not necessary to be able to walk very often.
4. Steep slopes where mowing is almost impossible, and where grass soon becomes brown and dry.
5. Areas where traffic is too heavy or concentrated to allow grass plants to survive, as under a gate, or on a terrace equipped with chairs and tables for outdoor living. The appropriate "ground cover" here is not found in the plant world but in some form of attractive paving which can take the wear-and-tear.

These are only a few of the most difficult conditions for lawn maintenance, but if even these were eliminated, no little amount of labor-saving could be instituted, and at the same time we would create an improvement in appearance, for unhealthy growth is always a disturbing element. True, in many cases, with constant care and attention, a measure of success can be achieved, and in

the days of head gardeners with several assistants, this was not difficult to provide. Those days are past and gone, however, and the present-day garden is frequently, looked after entirely by the owner, or at best, by the man who comes once a week to cut the grass. This fact brings emphasis upon one of the most important requisites of this "modern garden" we now talk so much about, i.e. ease of maintenance. The coddling of difficult and delicate subjects is consequently inconsistent and must go by the boards. No more effective point could be found to start this discarding of the weak, and concentrating on the fittest, than in our lawns. Considering the many weary hours spent in their mowing, watering, fertilizing, rolling etc., it is obvious that wherever we can cut down on our lawn areas, especially the difficult ones, the more time can be salvaged for other activities.

Referring back to example No. 1, "Areas in shade of trees" it should be borne in mind that the poor growth of grass here was not entirely due to the lack of sun, but also to the presence of the feeding roots of the tree which extend roughly as far out from the trunk as the "Drip" of the branches, and which, in their zeal for the welfare of the tree they support, steal all the moisture and nourishment from the upper layer of the soil where they work, so that the grass has nothing upon which to feed. In substituting ground covers for grass, then, under these circumstances, it would only be reasonable to give the new plants a good start toward combatting this strong competition by the incorporation in the soil of both fertilizer and a moisture holding medium such as manure, leaf mold or peat moss (the latter being most easily procured as it is available in large or small bales from most seed houses). Given a good start, a healthy growth is possible of such good ground cover plants as *Periwinkle*, *Pachysandra*, *Euonymus vegetus*, *Euonymus coloratus*, *Ajuaga*, *English Ivy*, *Sedum ternatum*, *Violets*, *Moneywort*, besides a great variety of native plants. Indeed Nature gives some of the best examples of the appropriate use of ground covers, and we could do no better than turn to her for a lesson! Is not one of the charms of the open woods (i.e. those not choked up with underbrush) the existence of a luscious green carpet spread in great masses over the ground under the trees? Nature has no lawn mower, and requires no outside assistance in maintenance if left to follow her natural plans. She also has a marvellous appreciation of the system of utilizing a temporary crop if the permanent one is late coming into being in the spring. A well known woods which is carpeted throughout the summer by a solid mass of tiny maple seedlings was visited recently in early spring when, much to the surprise of the visitor,



Pachysandra used as a ground cover instead of grass

who knew it only in summer, the "woods-floor" was found to be completely clothed with the grey-green foliage of the little dicentra known as "Dutchman's Breeches", intermixed with yellow Adder's Tongue, giving a completely different aspect to the hillside. Not a sign was there of the baby maples so prominent last year! A visit two weeks later, however, found the Dutchman's Breeches getting noticeably limp and weak, and the maple seedlings firmly taking over for the summer. For low green carpets we find her making good use of such things as *Violets*, *Foam Flower*, *Bunchberry*, *Creeping Snowberry*, *Bearberry*, *Partridge Berry* etc. according to the soil conditions present in each spot under her control; and for taller ones she has the numerous *Ferns*, *Solomon's Seal*, *False Solomon's Seal*, *Trilliums*, *Jack-in-the-Pulpits*, *Mayapples*, *Bracken*, and others too numerous to mention. She uses them also only if they are quite happy in the area concerned, refusing to waste her time on subjects of indifferent health, and she uses them in sufficiently generous quantities to do the job well! (A point worth emulating).

Many of the above native plants are, of course, not adaptable to our city conditions and should be left in their natural habitat, but *Violets*, *Foam Flower*, *St. John's Wort* and *Ferns* seem quite adaptable. *St. John's Wort*

likes a certain amount of sun, but the others seem able to establish themselves quite contentedly in shady corners of our city gardens.

To ardent gardeners who have wrestled for hours against the ubiquitous weeds which plague our lawns, it will undoubtedly seem like rank heresy to suggest that even *they* might have their uses! In fact they may hold excellent possibilities as ground covers in difficult places provided they are used only when they can be kept within bounds and have no opportunity to escape into flower beds and lawns. There are many spots where their use may be well worth looking into. Some of them, indeed, are quite attractive little plants if it were not for the bitter prejudice we have against them when they force themselves upon us where they are not wanted. Is not one of the main requisites of a ground cover that it shall be able to spread quickly and cover the ground? and that surely is an outstanding characteristic of our common weeds! Two examples come to my mind — one, the *Ground Ivy* (variously known as *Creeping Charlie*, *Gill-over-the-ground*, *Creeping Jennie*). It has an attractive round leaf of a good green, and when allowed to go its own way in a shady, rather damp spot, will make a rich green mat hard to beat. Naturally it must not be used where it can make its way into surrounding lawns or it

will step in and completely take over in double-quick time. The same applies to Moneywort and Sedums, but for narrow strips of ground bordered by concrete or stone (as mentioned in example No. 2) or for out of the way corners where no attempt has been made to keep a mowed lawn (as in example No. 3) or as in example No. 4) — a shady ravine lot where the natural ground cover has been lost during building operations and all kinds of rank untidy growth are taking over, the use of some of our familiar weeds would well bear looking into. If these odd corners and narrow strips are near the residence, a more refined type of covering is appropriate and can be extremely decorative — much more so than grass. If these spots are provided with fertilizer and a good moisture holding material, one can anticipate a healthy growth of such plants as Periwinkle, Pachysandra, Ajuga, Violets, Sedum ternatum, for shady areas, and for sun, other sedums can be used, and such flowering plants as Thyme, Phlox subulata and the attractive little Veronica rupestris, with its lovely blue flowers.

As for the long steep slopes, the absolutely ideal solution does not seem yet to be forthcoming. There are a number of shrubs which will give a good performance if provided with the proper attention in the way of pruning to keep them close to the ground so that they will spread instead of ascend, but on hillsides of considerable extent this is no small task, and if once allowed to get out of bounds they are very much of an undertaking to restore. For large hillside areas some of the plants usually employed are Forsythia suspensa, Regel's Privet, Kerria, Japanese Barberry, Hall's Honeysuckle, Coralberry, Rosa multiflora and Morrow's Honeysuckle. Harking back to the subject of weeds and their possible utilization, I have in mind a somewhat naturalistic residential area in the city where a number of very steep high slopes are thickly clothed with a quite pernicious weed about 12-18" in height, but as it covers these most difficult slopes with a solid green mat where little else would grow, and also holds the steep bank from erosion, which would otherwise be a problem, it is definitely an asset rather than a pest. Whether it was planted on purpose years ago by some intelligent and far-seeing gardener, or whether it has spread here of its own accord from elsewhere I am not prepared to say, but the result is highly satisfactory in that it converts an otherwise steep unsightly embankment into a pleasant green hillside, and requires absolutely no upkeep. To try to purchase plants to cover such a huge area would be well-nigh prohibitive. It spreads by underground runners so will make its way into valuable plantings if given a chance, but I can think of many a bare unsightly ravine lot where the natural growth has been disturbed and lost, where a common weed of this kind could be a veritable boon!

One of the main purposes of ground covers is to lessen maintenance, and, with that in mind the following questions might be given attention:

Do you know a planting-bed where annuals struggle each year (with extremely poor results) to do what is expected of them? Why not discard the idea of having flowers here and fill the bed with Periwinkle, Pachysandra, Lily-of-the-Valley, Violets or Euonymus? If

desired, bulbs can be planted for early spring color when we crave it most, and when they are past why not be content with a simple green carpet which requires practically no care?

Have you a shrub border where hours are spent keeping the ground underneath free of weeds? Why not underplant the shrubs with a ground-cover of any of the above, adding the spring bulbs also if desired? When the shrubs leaf out they will tend to hide the dying foliage of the daffodils or tulips, which are an annual problem.

Is there a shady corner in your perennial border where flowers are always thin and poor, and late coming into bloom? How about discarding the flowers and concentrating on a ground cover of Lily-of-the-Valley, Forget-me-nots, Violets, Solomon's Seal, Ferns etc.?

Is there a spot where you wish to discourage walking across? If the area is covered with something more difficult to walk over, it is quite effective in discouraging traffic. A solid mass of Euonymus vegetus, Periwinkle, or Pachysandra will frequently be effective. It is more in the nature of a psychological barrier, but it often works! Or you may wish to keep passers-by from walking close up to, and peering curiously over, your front hedge into your garden. If a similar ground cover is planted there, extending 6 ft. or more out from the hedge, the temptation is much less pressing.

Have you, perhaps, just a small pocket-handkerchief of a lawn between your house and the street where there is little necessity to walk? Or possibly there is a similar pocket below, or above, a wall or steps where one has to lug the lawn mower every week, and can hardly find room to manipulate it when there? Perhaps you may have some narrow beds on your flagstone terrace along the house wall which you fill faithfully each year with annuals. You go away for the summer, and when you return your petunias are gangly and thin and quite pathetic. Why not fill such beds with a solid mass of rich green shiny Periwinkle or Pachysandra which looks tidy and green almost all year? In the case of Periwinkle there is even the asset of color in spring when it produces bloom of a beautiful soft "periwinkle" blue. Also there are our evergreen ground covers such as the flat and spreading andorra — Juniper and Tamarisk-leaved savin suitable for such areas.

The possibilities for the use of ground covers are becoming more and more apparent as we strive for a reduction in maintenance. It may mean less color in the garden but it also means more time to enjoy it, and unless gardening is a pet hobby and relaxation at the end of the day, few of us relish the idea of spending our precious leisure hours obliterating weeds, watering, mowing and cultivating. A garden which can look after itself as much as possible is worth sacrificing some color for, and an effective answer to that can be found in the use of a suitable choice of ground cover plants in places where easy access is not important, or of the frank use of a good paving, such as flagstone or brick, where concentrated and continuous traffic (as under the gate and at the bottom of steps) wears out the grass and leaves ugly bare spots, too hard for the most tenacious roots to penetrate.

APPROACH TO PLANTING

By J. V. STENSSON

SOME form of planting is, today, the principal expression of man's interest, or lack of it, in matters that belong to gardening. It is a problem which cannot be separated from architectural form since the designer will take a keen interest in supplying an adequate and attractive setting for his handiwork. It may not involve more than a mediocre base planting of shrubs and evergreens, with two uprights flanking the entrance, two at the corners of the building and four spreaders beneath the windows. From this barest minimum the pendulum may swing to the other extreme and, in a few years time, the architect may scarcely recognise his handiwork now screened by massive, free-growing forms. It means that the rate of growth and the habits and ultimate size of the plants selected have not been grasped or, even though understood, subservience has been made to their horticultural aspect and the growing of the rare, the curious and the novel has become the primary aim of gardening.

In cases where the designer has an opportunity to tackle the modern garden, planting features such as tubs, permanent plant boxes, espaliered shrubs and trees trained on walls fences or trellises, ground covers, and mass planting of one material are replacing the intricate shrub and flower borders, fussy foundation planting, the clipped trees and hedges of the traditional predecessor. Rock gardening makes a strong bid to hold its own and a remnant of a glacial moraine, just managing somehow to miss the solar window, has, on more than one occasion, received the blessing of the architect.

Fashion changes more slowly in gardening than architecture, but no longer is the designer restricted to simple shapes of rectangle and circle, right angle and parallel lines. The influence of modern architecture and painting on garden design, though slow at the start, has suddenly released the strings of tradition. The prim old lady has since been rejuvenated, and her offspring of spatial relations hardly recognize their mother. New forms and shapes, the angular, the amoebic, the abstruse exploited to satisfy living requirements, rather than those of the connoisseur, gives to the designer a new freedom and flexibility of particular value where small areas are concerned.

The successful garden depends as much upon its layout for effect as upon its planting, and its function is subsidiary to that of the architectural elements of wall, paving and fence. How best it may give expression to the garden design is the major premise guiding the choice of material. Decorative characteristics of flower, foliage or fruit have an obvious appeal but, for proportional reasons, the rate of growth and ultimate size are more significant factors in determining the choice of material for the basic planting of the garden.

From a structural as well as decorative standpoint, hedges and edgings give a solidity of expression, a clean cut definition of line. They may form the background of

the garden against which the display of less permanent material, bulbs, bedding plants, or other flowers, is much more effective. Solid small-leaved types of plants, close-textured by nature or with slight trimming (the Korean Box, the Dwarf Spruces and Lodense Privet are examples) may provide salient points of interest to the general layout or to the planting detail.

Specimen shrubs and small standard trees with flower, foliage, or growth habit of particular individual merit require plenty of space to look their best. Such plant forms are effectively displayed against an architectural background or the smooth dark background of a hedge, in combination with underplanting of ground covers such as pachysandra, vinca and English Ivy. On larger projects dwarf shrubs may also be used in a similar manner to the low ground covers.

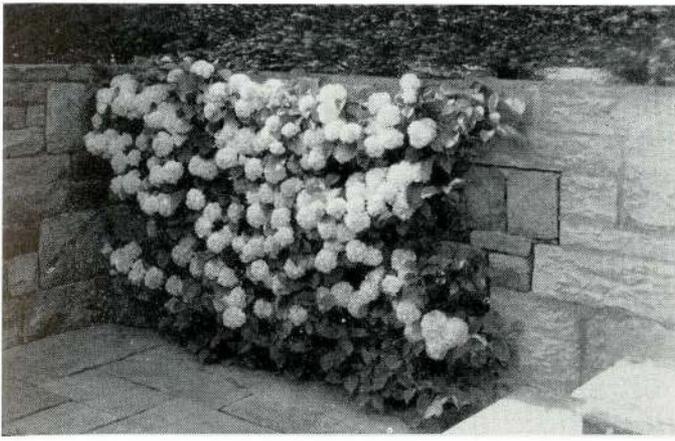
When a large portion of the walls of a modern house rise, uninterruptedly, from the paved terrace at points where planting is advisable, a low clipped hedge, or carefully selected shrubs trained as creeper flat against the wall, is an effective treatment. Such a type of planting is particularly applicable to a restricted space. The displaying of such slow to medium growing shrubs or trees as creepers on an architectural structure has long been practised in England and is recognized as an admirable method of handling plant material in combination with architecture. The one enhances the other. There is little danger of the plants growing out of scale with the building and in conjunction with architecture their appropriateness remains constant over many years. Many shrubs can be trained in this manner. Excellent for this purpose are the Forsythia, the Japanese Quince and the Flowering Crabs. All are a magnificent attraction in bloom.

The drabness of a purely architectural setting, such as a paved terrace surrounded by a masonry wall can be relieved effectively by the introduction of plant material in pots, tubs and boxes. These have a flexibility in that colorful flowers such as bulbs, begonias, chrysanthemums and many annuals may be moved in when in full bloom and removed when out of season.

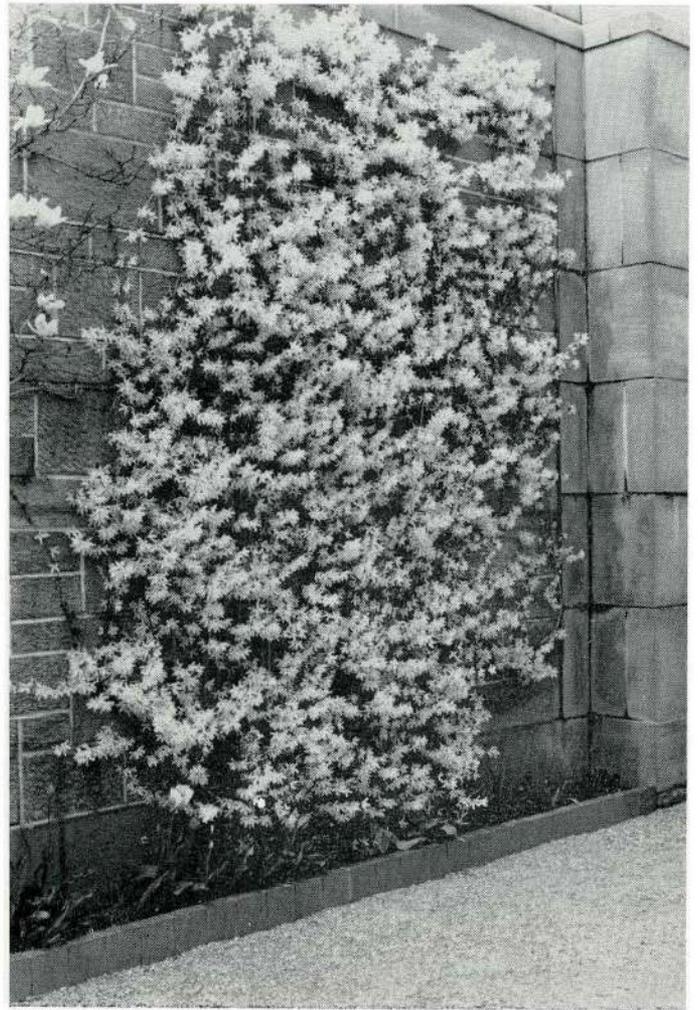
Other plant material used in this manner is that grown for foliage as lush green clipped specimens, or of more striking characteristics as that of *Yucca glauca*, which has a spikey, grass-like growth.

In designing the arrangement of a tiny shrub border or the planting scheme of a great parkway the contrast in form, color and texture is almost unlimited. Care should be taken to ensure a feeling of unity by combining subtlety, continuity and restraint but avoiding dullness.

Differing forms entering into the landscape composition are the columnar, the globose, the spreading, the pendulous, the delicate and graceful, the compact and symmetrical and the irregular and picturesque.



Japanese Snowball (*Viburnum tomentosum sterile*). Handsome foliage as well as flowers.



Golden Bell (*Forsythia intermedia spectabilis*). Shrubs trained in this manner against a wall stay within bounds many years.

In considering the color of foliage the most valuable tones are the greens but gold, silver, red and yellow may be introduced as effective color accents. Examples of these are:—

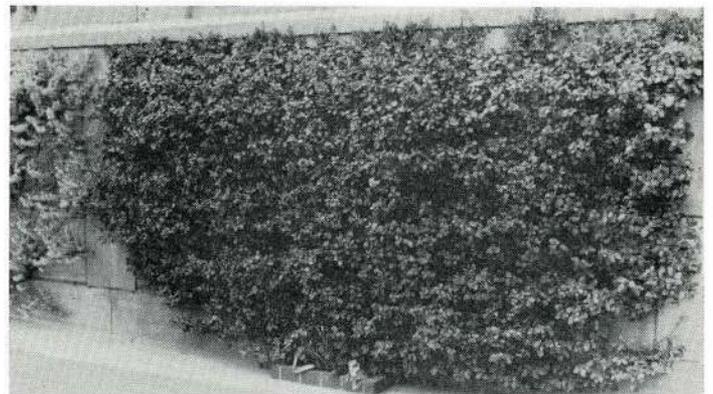
1. The brilliant yellow of *Juniperus depressa nana aurea*, a spreading, low-growing Juniper against the deep green of *Taxus cuspidata nana*, a dwarf, picturesque Japanese yew.
2. In trees, the glistening gold of the *Ulmus carpinifolia aurea*, a pyramidal, golden-leafed elm or the silvery grey of the *Sorbus aria lutescens*, the white Beam tree — a variety of the Mountain Ash — as against the quiet green of the Norway Maple.
3. In shrubs, the silvery white of *Cornus elegantissima*, a variegated dogwood, the lime green of *Philadelphus coronarius aureus* — a variety of mock-orange — the deep red, or purple of *Prunus cerasifera pissardi*, the purple-leaf Plum, or the dark green of *Ligustrum vulgare Lodense* (the common name for which is privet).

These are but a few examples of an endless selection.

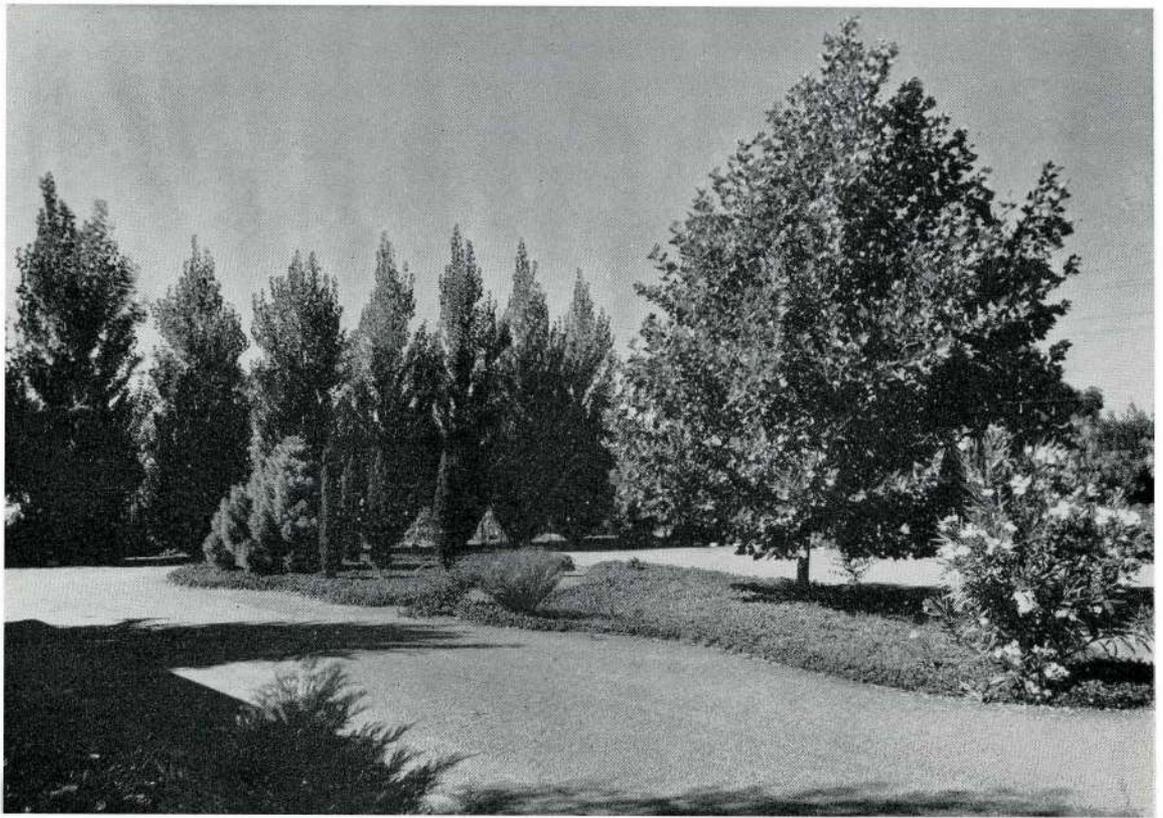
Plant material is often selected from a decorative viewpoint to add to the beauty of the surroundings. However, the designer should consider another important aspect, that of usefulness.

Shade from the sun, shelter from the wind, screening out an undesirable view or obtaining privacy from the public are problems often solved by the use of plant material rather than an architectural element which has not the added charm associated with growing things.

It must always be borne in mind that, in addition to the initial cost of the installation of all plant material, there will always be a yearly maintenance cost for its continuing upkeep. To those people, however, who allow the threat of maintenance costs to influence the original planting, it can be truthfully pointed out that their garden will increase in beauty and value in contrast to the architectural edifice for which it created a setting, and which will deteriorate with time.



Bigleaf Wintercreeper (*Euonymus fortunei vegetus*). One of the few evergreen creepers hardy at Toronto.



Forecourt of Fish Garden
near San Francisco.

All the illustrations in this
article are of Gardens by
Eckbo, Royston and Wil-
liams, Landscape Architects.

WHAT DO WE MEAN BY MODERN LANDSCAPE ARCHITECTURE?

By GARRETT ECKBO

TRADITION is a stream of development — not a series of static pigeonholes. The connection from past through present to future is indestructible. We build in the present on the past toward the future. We generalize about the past in order to vitalize the present and project the future.

The stream of tradition is not regular, steady or even. It is filled with irregularity and changes of pace — sometimes rushing, sometimes meandering; sometimes full of tumultuous falls and rapids, sometimes stagnant and stale; having many tributaries of varying character, and finding its way toward the future through uncharted territory filled with lagoons, bayous and box canyons.

Those who attempt to freeze tradition into a precise series of accomplished periods are attempting to convert the stream into a series of static reservoirs. The more liberal of them may concede a system of controlled locks between the reservoirs, but their concept is essentially the same. However, the stream will not be blocked. If it finds the normal channels (education, professional discussion, ordinary construction) blocked or sterilized, it will find new channels over, under or around through unexpected seams or faults or unexplored valleys. Having thus bypassed the trap set for it, tradition will burst forth with renewed vigor. This, perhaps oversimplified, may be considered a description of the modern movement in the arts in the 20th century, as described by such authorities as Pevsner, Giedion, Moholy-Nagy, Wright, Corbusier and many others.

Thus the serious and intelligent modern artist does not reject tradition, he only rejects imitation of past segments in the stream. The true stream we are describing as having escaped the traps of the academies and the formula collectors includes many elements beyond those most obviously "modern": all sorts of flexible and developing work, however conservative in appearance, in which serious effort is made to understand the nature and problems of our times. Furthermore, some of those elements considered most "modern" and advanced are at least in serious danger of isolating themselves from the main stream and coming to rest in the shallows of individual narcissism. Most typical of this tendency is pure abstract or non-objective painting. It has begun to wear thin its role as an experimental laboratory of art form and spatial experience, and is moving toward the sterility of all art which fails to grasp the intimate, vital and complex relation between imagination and reality. In fact, it has become a trap for those unwary landscape architects who use "abstraction" as a source of plan patterns. Two-dimensional patterns on the ground are the curse of landscape design, whether "modern" or "traditional". After all, the axial patterns of the formal tradition are as completely "abstract" and "non-objective" as any more "modern" patterns. Landscape plans must be projections of three-dimensional space experience, not carpets to be laid on the ground.

Now, what do we mean by "modern" landscape architecture? First, what do we mean by landscape architecture?

In the broadest definition the landscape is everything one can see from a given station point or series of them, and thus is compounded of building and landscape development. This is the truest and most functional definition because it is closest to actual human experience. The division of jurisdiction over this landscape, first into units of real estate by property lines, and then into zones of design by the professional division of labor and its consequent popular division of thought, cannot destroy the continuity of the landscape. They do however confuse it and place a series of obstacles in the way of the production of harmony in our visual environment. Most of our landscapes, particularly as they become more urban, have been held in a state of anarchy by these obstacles.

The field of landscape architecture, as it is generally practised, and including commercial and amateur as well as professional activities, covers humanized landscapes lying between buildings and engineered structures on the one hand and wild nature on the other, and developed primarily as living space for people. In the narrow sense this is gardens and parks (private and public open spaces). In the broad definition it is the outdoor landscape wherever people go to work or play. Implicit in this definition is a balanced ratio between people and space. Too much space conspicuously consumed by too few people contrasts unfavorably with the conspicuous consumption of many people by inadequate and congested urban spaces. The former will of course become less objectionable as the latter moves toward improvement.

The detailed work of landscape architecture is concerned with relations between the elements which make up the landscape: ground forms, buildings and other structures, water elements, trees, shrubs, grass, herbaceous material, rock forms. The typical landscape problem is the relation between one or more buildings and their sites, i.e. the open space and other elements around them. This problem of necessity includes also the relations between this building-site unit and the surrounding landscape; urban, rural or primeval. The other typical landscape problem, park space, is not concerned with relations between specific buildings and sites, but rather with compensating for all the urban sites whose building coverage is too high, and for all the unused raw land which for some reason cannot be developed. Thus parks are really an extension of the problem of relating building to site, at the collective scale of the community.

In the course of working out relations between man-made buildings and natural sites landscape architecture becomes a kind of direct physical expression of the relations between man and nature. Thus the official theory that there are two kinds of design, formal and informal, and that these two do not mix, is really a theory that man and nature are incompatible and cannot live harmoniously together. The advocates of formal design want to demonstrate man's domination over nature, by forcing architecture on the landscape. The advocates of informal design, on the other hand, seem to apologize for man's presence in the landscape with their theory that Art must be concealed by forcing the landscape on architecture.



Photograph by Julius Shulman
Garden in Beverly Hills

Now for "modern" landscape architecture. Our field is the last of the arts to recognize the need for bringing its thinking up to date with the world around it. The excuse that the Industrial Revolution had no effect on landscape materials has until recently served to postpone re-examination of our theory and practise. However, it has become painfully evident that the old tried and true formulae — pictures, beautification, naturalization — are quite inadequate in relation to an architecture which rejects both pictures and beautification in the search for functionalism and spatial richness. Insofar as this architecture has risen in response to social demands and possibilities it has made it clear that, whether or not they are related to the most modern buildings, the old theories of landscape design are unable to solve today's problems in complete and satisfying forms. Why do we say this?

Three concepts have consistently appeared in modern art and design throughout the first half of the 20th century: space, materials, people. These are results of the general function of advanced art forms as expanders of the boundaries of human experience, even as advanced science expands the boundaries of human knowledge.

The essence of the space concept is the consideration of the voids or air spaces in the design as positive elements, to be shaped for their own sakes, rather than as negative by-products of the arrangement of solids. While art has always been forced to work in terms of solid: void relations the new ways of seeing the world produced by the Industrial Revolution and all subsequent developments have made possible new and richer space concepts. The advance from Renaissance perspective to more complex and subtle developments of space on the picture plane is detailed for us by Kepes. The



Photograph by Dean Stone

Terrace and plant box in garden near San Francisco

advance from the massive sculpture of history to the spatial concepts of modern carving and constructivism is described by Valentiner and Moholy-Nagy. The advance from the massive architecture of pre-industrial times to the spatial fantasies of Wright and Corbusier is well known to all of us. In the light of such developments how can landscape architecture cling to the Renaissance perspective of bilateral axial symmetry?

The materials concept is not new in history. It has always been basic to good craftsmanship. It simply demands that the forms in which materials are used be derived primarily from their own nature and potentialities. This is opposed to the standard tendency of "formal" design to distort the nature of materials by forcing them into arbitrary, preconceived, abstract forms and patterns. The materials concept is the reverse of abstraction — it is the practical and realistic implementation of abstract spatial concepts.

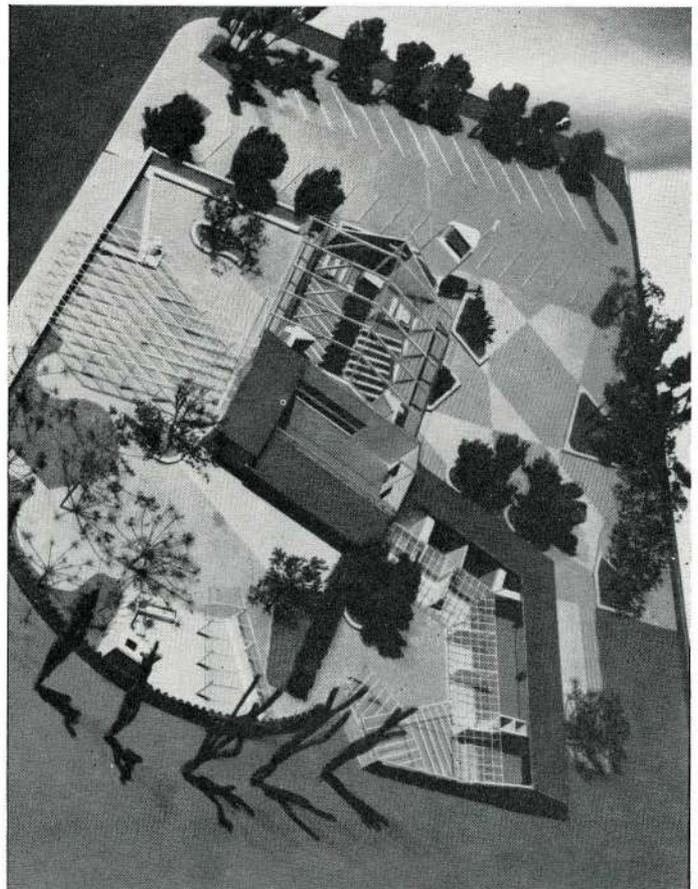
The human concept is present in the arts today in terms of the controversy, "Is art for art's sake, or for people?" — to which we might add, "If for people, which? The majority, or a minority?" While this controversy has yet to be resolved, its existence is a healthy sign. We can no longer justify forms lacking human content without considerable soul-searching. All the great gardens of history, which have been considered our primary inspiration, have been exactly that — abstract formal (whether "formal" or "informal") patterns lacking the vitality of balanced human content and use.

If we consider the relations between these three basic concepts of modern thought in the arts and the official landscape theory of the opposition of formal and informal styles, we find the reasons for the inadequacy of this

theory. "Formal" axial space concepts are oversimplified, arbitrary, mechanical and unrealistic (or "abstract") because they are divorced from the world around them. "Informal" or naturalistic space concepts, while freer, richer, and closer to our search for free-flowing space, are likewise rendered mechanical and mediocre by their rejection of geometry as being "unnatural". In doing this they move from a rational toward a mystical approach, which at best may cover serious and sensitive work, but at worst serves as a screen for every sort of lazy, sloppy, shoddy, hackneyed and irresponsible scattering of plants and other elements about open space.

The materials concepts of "formal" landscape design are generally, though not always, arbitrary efforts to force materials to fit preconceived abstract forms with little reference to their native qualities. Even where trees are not trimmed geometrically they are expected to be straight symmetrical standard trees. This childish concept, that regular trees are for "formal" designs while irregular trees are "informal", frustrates all design processes before they begin. Until we are able to plant regular trees in irregular arrangements, and irregular trees in regular arrangements, we are still in the kindergarten of design. While "naturalistic design" is generally sympathetic to the nature of materials it has a tendency to romanticize about their "wild" "ragged" or "free" qualities, ignoring both their fundamentally geometric structure, and man's fundamental role as the improver of the raw materials provided by wild nature.

The human concepts of the official theories are more difficult to evaluate, perhaps because there is so much hypocrisy in most of our thinking about people. (By this

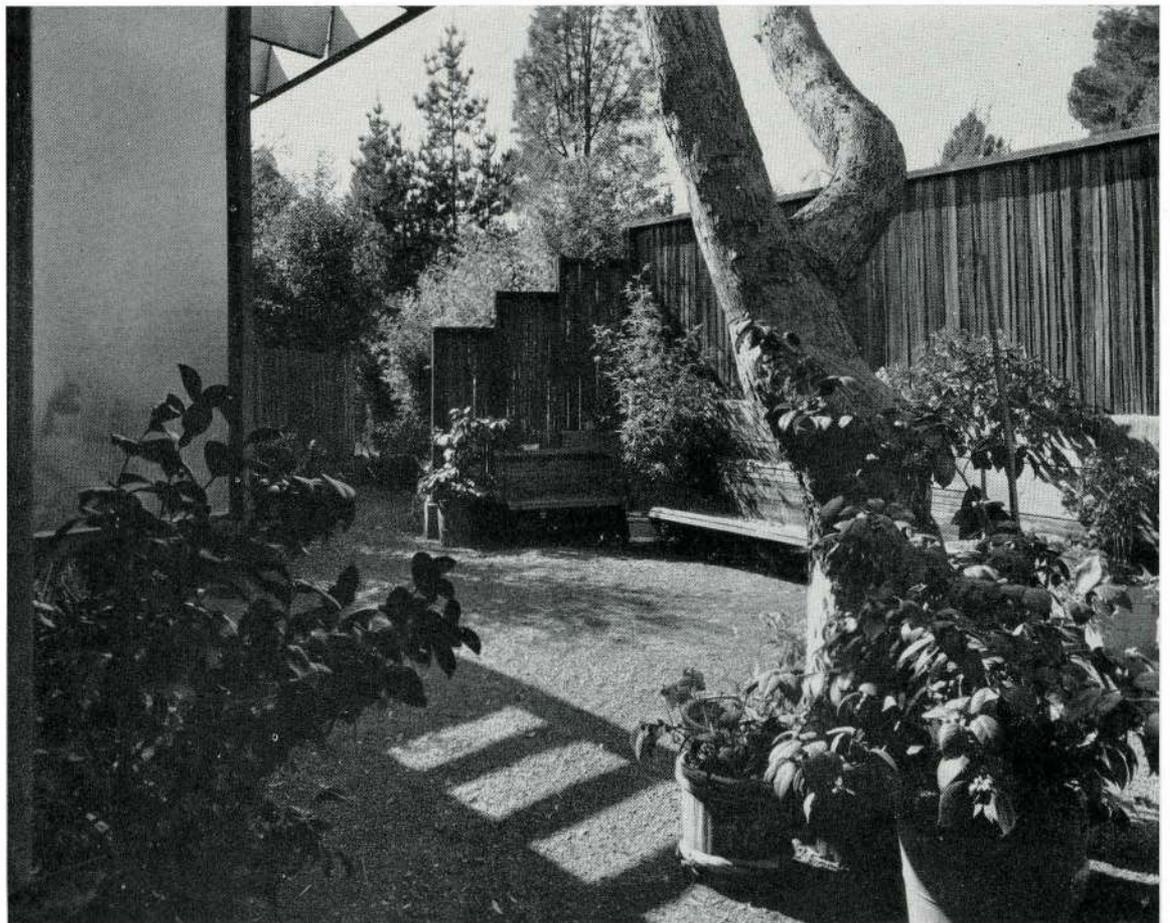


Model of Baldwin Hills Church, Los Angeles
Robert Alexander, Architect

I mean that although we say in loud voices that we live in free democracies, secretly most of us consider ourselves superior to the majority of common men and women.) "Formal patterns are generally used today as expressions of public authority or private ostentation (except in small gardens where they are considered more efficient). This in spite of the fact that historically both formal and informal patterns were used both authoritatively and ostentatiously. But we have set up the "informal naturalistic" park, following Olmsted's meadow formulations, as being the pattern most able to absorb quantities of common people in the most restful and refreshing fashion. This, with the provision that our "informality" is oversimplified and mechanically irregular in its rejection of geometry, is doubtless still correct.

The basic fault with the standard "formal and informal" patterns is that, being mechanical and preconceived patterns taught and used by minds too lazy or inhibited to conceive fresh ones, they provide only minimum mechanical experiences of space and materials for the people who will use them. This fact is obvious all around us — before entering at least 90% of the parks and gardens in North America, and probably also western Europe, one knows and can predict exactly what sort of forms, patterns, arrangements, materials and experiences will be encountered. Thus all freshness of sensation is eliminated. It has gotten so bad that the fine historical parks and gardens, which were the prototypes for this orgy of eclecticism, have been spoiled for us by it. Now when we see a photo of the Generalife or the Villa Medici we sigh resignedly, "Another Spanish/Renaissance garden."

We have got to learn that the vitality and productivity of any art lie, first, in solving specific problems in relation to specific local conditions without reference to preconceived forms, and second in working the rich and fertile ground *between* the theoretical extremes of a given field rather than clinging frantically to one or the other like a shipwrecked sailor. This means, for instance, that painting which is *both* abstract and representational has more vitality than *either* of the extremes of non-objectivity or photographic reproduction. Thus it means that architecture, sculpture or landscape design which are both romantic and classical, *both* formal and informal, *both* regular and irregular, *both* geometric and biologic will be richer, more vital and more human than the sterility of either extreme. This does not mean that we make a hash of forms which are *neither* formal nor informal, but rather that we develop endless sensitive combinations of forms and arrangements containing the best of both traditions, with strength, clarity, coherence, contrast and articulation of parts. Thus we can have informal geometry, regular naturalism, irregular order, biologic regularity. It means that, instead of two standard ways to solve the average landscape problem there are any number of ways, derived from careful analysis of people, space, materials and local conditions, and based on a general sympathetic absorption of the world which is around us in space and behind us in time. When we understand that the Japanese garden far from being quaint, picturesque or naturalistic, is the most highly refined, most sensitive, most organized, and therefore *most* formal landscape expression in history, we may be ready to go forward with our own problems on their own terms.



Small hillside garden
in Maine County

THE GARDEN OF NINETEEN-FIFTY

By H. B. DUNINGTON-GRUBB

TO make one really appreciate one's choice of landscape architecture as a profession, I suggest winter travel. To the landscape architect, during the gradual transition from an arctic to a temperate climate, as the car speeds southward, neither architectural nor horticultural interest flag.

At Cincinnati, the Terrace Plaza Hotel; the great layout in front of their much dated modern station; the treatment of the central park strips in the downtown avenues, suggesting ideas for University Avenue, still register in one's memory.

A sharp lookout is needed to catch the slow horticultural change. Hollies and Cherry Laurels begin to replace Yews as evergreens. We admire streets planted with magnificent evergreen trees (*Magnolia grandiflora*). Although the country, even as far down as Eastern Texas, still seems to resemble parts of Ontario, the Pines are not our Pines nor are the Oaks our Oaks.

In the maelstrom of the stupendous industrial revolution going on today, a plant so delicate as garden design has little chance of finding soil where it can flourish and bloom. Peoples' minds are occupied with dieselization, super highways, jet airliners, and all the problems arising out of the mushroom growth of vast new cities. As the pace increases the prospect of permanence decreases. Why spend money and energy on the design of parks and gardens when the land may soon be needed for clover leaf intersections, hospitals, or industrial housing? It is understandable, perhaps, that the desperately urgent needs of traffic should take precedence over beautification at the moment. We are also becoming reconciled to the policy of converting our parks and open spaces into bleak and ugly sports fields to the exclusion of the majority whose need is rest amidst attractive surroundings. In time a change will come in our sense of values.

In a trip of six thousand miles around the Eastern, Southern, and Western boundaries of the United States, it is astonishing how little there is of interest in the way of well designed public parks and gardens for the professional tourist to study.

When the clerk at the desk at Fort Worth, Texas, saw our profession on the register he said it was too bad it happened to be winter. Otherwise, we might have taken a look at their famous rose garden of which all the citizens were so very proud. In spite of their "winter", and previous disappointment when following up such tips, to the rose garden we went. To our great surprise and joy we found a most scholarly layout of public gardens in the old tradition by those most capable landscape architects, Messrs. Hare and Hare of Kansas City. Scale, levels and detail were all excellently handled. From the pavilion and high stone terraces at the upper level a wide slope with diagonal paved walks leads down to the wide lower rose garden terrace with its formal pool and informal small lake beyond at the lowest level. The scale and quality of the enclosing boundary plantations were beyond praise.

The achievement of producing such public gardens as these calls for an authority with the power and inclination to vote funds for architectural gardening, together with the ability to select professional designers possessing enough training and natural talent to do the job. This is so unusual a combination that it is not surprising that there are so very few public gardens of this class to be found in America. Apart from this example our attention was directed mostly to private gardens.

One does not get far on such a trip without realizing that the architectural taste of the West is much less conservative than that of Toronto. The "ranch house" is giving place to the "flat top." Wood is being replaced by steel and glass. The daring Californian public appears to be ready to accept, and even demand, the very latest innovations in contemporary house design, so much so that the speculative builder is beginning to produce "flat tops" with the most disastrous results and at considerable risk of turning the new style into a "nine day rage." Styles of both house and garden design are now so fluid that one has a feeling that in ten years' time they may be doing something very different from what one sees today.

The School of Landscape Architecture of the University of California at Berkeley has an enrollment of seventy students. Since direction passed into the able leadership of Professors Royston and Vaughan in '47, when the contemporary style of design was adopted, there has been a most astonishing change in the character of the work being produced. However little one may understand the motives prompting some of the designs being turned out for housing, recreation parks, and private gardens, there is unquestionably a great increase in enthusiasm, and a feeling amongst modern youth that whole new fields are opened up for exploration, and that at last a contemporary style of garden design is making its appearance. As the graduates of this, and other American landscape schools, seem to be having no difficulty in making a living, it would seem that it ought to be unnecessary for Canadians to have to go to the States to obtain training in landscape architecture. Surely one of the universities of this Country, say University of British Columbia, ought to be able to offer a course leading to a degree.

At my age I find it more difficult to understand the Californian solution for today's problems in the design of gardens than in that of houses. A prominent architect in Beverly Hills told us that he liked to have reasons for doing things. Those reasons seem to be more easily discovered in the case of a house than in the case of the contemporary garden. The provision of the greatest amount of use value at the smallest cost would furnish a reason for most problems of house design and lead to a satisfactory solution. The objectives in garden planning however are not always quite so obvious. In addition to its use value the garden should act as a decorative setting for the house and most of its horticultural furniture is introduced for decorative reasons only.

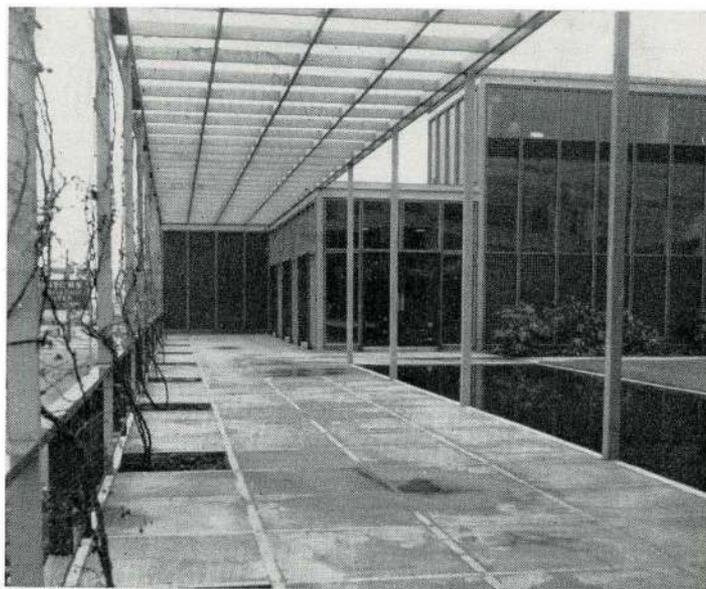
Like the late Eighteenth Century revolution that ushered in the age of romanticism and swept away the traditional garden the present movement recognizes the need for something different. To see the modern movement in art applied to garden design is an experience, and I must frankly admit that I am no more capable of understanding some of the examples we saw than I am of appreciating, or finding reasons for, the solid geometry of an abstract painting. My inability to grasp the significance and purpose of so much of what I saw would certainly limit the value of any criticism I might attempt to offer.

The recent work that the younger Californian designers sent us out to visit was on a very small scale compared with that of the older landscape architects who had been dealing with palaces earlier in the century. These new small contemporary gardens rely more on structural than on horticultural material for effect. Considerable ingenuity is evident in the design of fences, treillage, pavements, retaining walls, and open pergola roofs. Although redwood predominates a large range of materials from panels of beer bottles in a brick wall to corrugated asbestos are being used.

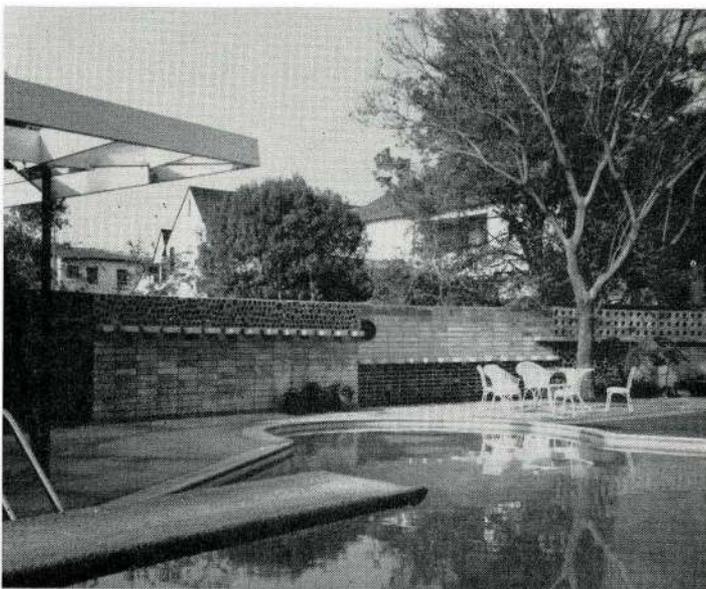
A determination to do something original, and break away from stereotyped traditional forms, requires energy and courage, and makes for progress. Existing property lines are not accepted. New interior boundaries will be needed to accomplish the preconceived shape of the swimming pool and garden enclosures at the cost of some unavoidable loss of space. Rectangular and parallel lines are often avoided and curves are frequently substituted.

Ever since the "landscape school" took over nearly two hundred years ago the profession of landscape architecture has suffered from an inferiority complex. In an attempt to exclude the layman and the amateur from the field it has been necessary to maintain propaganda to get it accepted as an extremely complex and difficult art to be practiced only by high priests. From 1750 on abstruse treatises of the most bewildering logic have followed one upon another to the great confusion of the public. Even today the blast continues. Consider this example of 1949:—"The design of a living garden is based on an understanding of visible movement. A random placing of spatial forces will open the visual experience. But if these points are haphazardly arranged they will not reach a balanced constellation within which they are working equal in strength and opposite in direction within the sphere of one idea. When these forces and their induced background are of equal visual quality and spatial strength a balance will be reached but without tension it becomes static." That is a hard saying. Personally I'm far too old to have any hope of ever "reaching a balanced constellation."

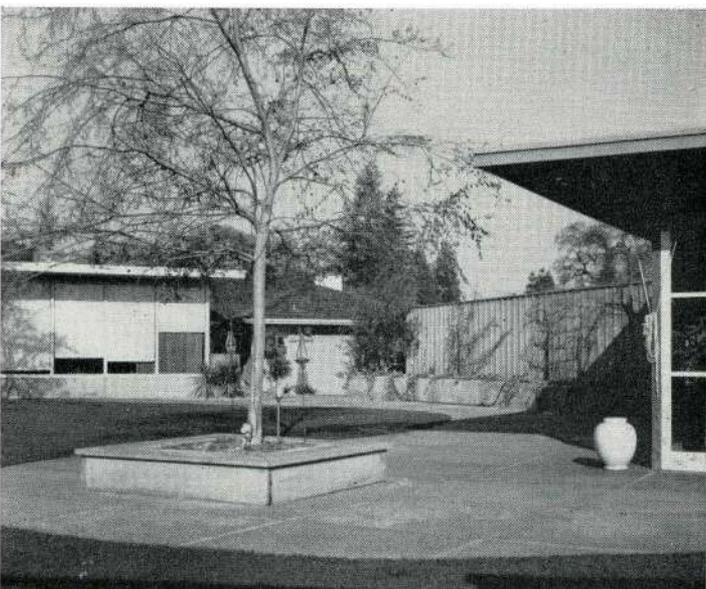
Summing up, we saw no tendency whatever towards the acceptance of Corbusier's idea of a house cut off from contact with the ground. On the contrary the house of 1950 is so much part of the ground that house and garden must soon become one unit of design. The barrier between indoor and outdoor living is beginning to disappear.



The tourist centre at Portland, Oregon, by John Yeon, Architect. A simple and dignified treatment.



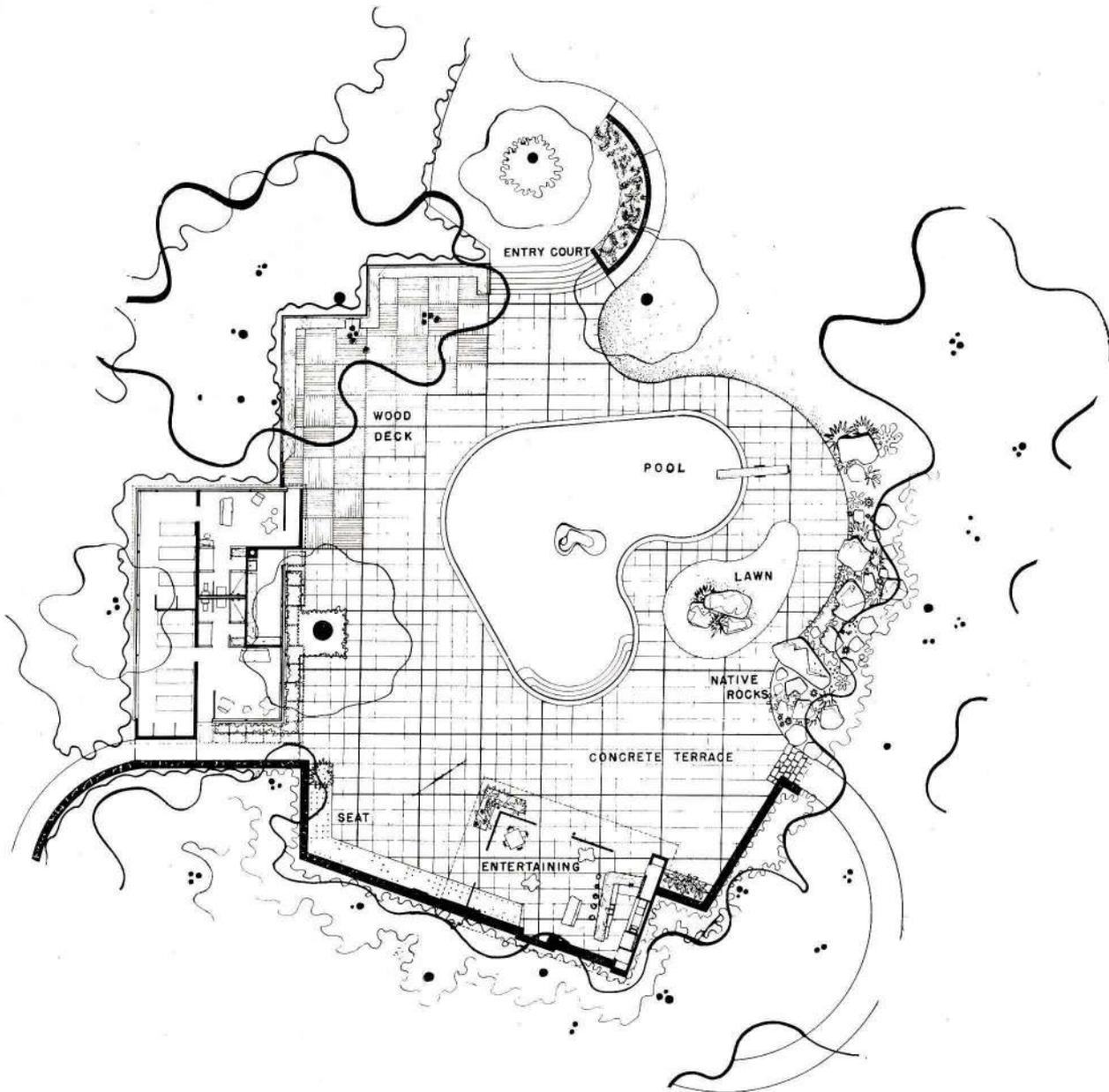
A garden in Beverly Hills, California, by Eckbo, Royston & Williams, Landscape Architects. The Californian garden of 1950 uses a large range of materials and often substitutes curves for rectangular lines.



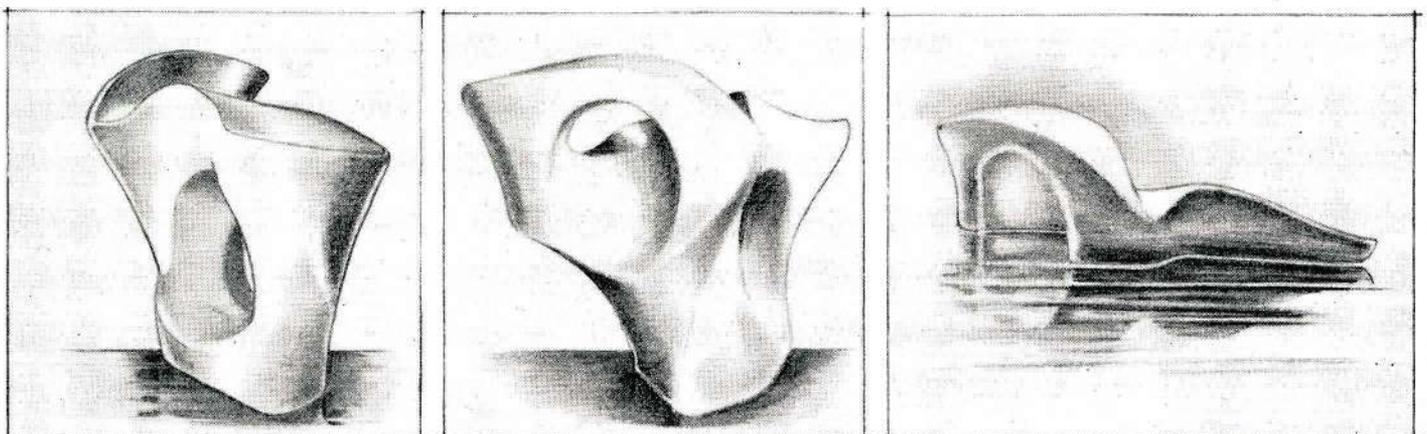
A garden in San Francisco, by Eckbo, Royston & Williams, Landscape Architects. The contemporary garden relies more on structural than horticultural furnishing for its effect.

THE COVER is a detail of the swimming pool on the property of Mr. Dewey Donnell, of Sonoma, California, as designed by Thomas D. Church. "Projects of this nature are the ultimate in the experience of any landscape architect: a sympathetic client, an exciting site, a chance to collaborate with architect, sculptor, mosaicist and a reasonable budget to achieve the co-ordinated result. This relationship is far too rare in a time when collaborative efforts are most to be desired and encouraged. Important, too, is the immediate result obtainable by the extensive use of form and structure in relation to existing planting rather than the three to five year wait normally expected when the effect depends upon planting alone for the final result." Particular notice should be taken of the sculptural piece by Adaline Kent, which is not only an interesting form but is also useful in creating a centre of attention for those using the pool, acting as a slide and an incentive to swim under water by means of an aperture beneath water level, as shown in the accompanying sketches. It possesses a similar aesthetic appeal to objects in a goldfish bowl, which allow fish to swim through them.

J. Austin Floyd



The sculpture in the swimming pool is by Miss Adaline Kent (sketched by J. Austin Floyd)



BUILDING RESEARCH 1950

By ROBERT F. LEGGET

Director of Building Research, National Research Council

Explanatory Note:

The National Research Council of Canada set up in 1947 a new Division of Building Research, to provide a research service for the construction industry. A general statement on the origin of the Division and the work anticipated was presented by its Director at the 41st Annual Meeting of the Royal Architectural Institute of Canada held in Ottawa, on 24 February, 1948. This statement was printed in the *Journal* for April, 1948, pages 111 to 116. At the 43rd Annual Assembly of the Institute held in Winnipeg, a brief progress report on the work of the Division was presented by the Director in an informal talk at the opening luncheon of the meeting, also held on 24 February. The following is a record of the information then presented to the assembled members and their guests. The Division hopes to start publication of regular progress reports later this year.

IT is now two years since I had the privilege of reporting to the Royal Architectural Institute of Canada on the initiation by the National Research Council of its new Division of Building Research. The start of a new organization such as this is necessarily a slow matter. Progress has, however, been somewhat slower than was hoped due to a continuing difficulty in recruiting the necessary special staff, coupled with the ever increasing demands upon the Division for information regarding building practice and for the carrying out of specific investigations into building problems.

The association of the currently popular word "research" with an operation such as building, which is of such common concern, has led to the development of keen interest in the work of the Division and, somewhat naturally, to some misconceptions as to what the Division is to do. Some popular ideas about the Division were recently brought to mind when reading again that remarkable book containing the record of the travels of Marco Polo. All who know this wonderful tale will remember that when the intrepid traveller reached the city of Samarcand he was told the following local legend:

"Not long ago, a prince named Zagatai, who was own brother to the (then reigning) grand khan, became a convert to Christianity; greatly to the delight of the Christian inhabitants of the place, who under the favour and protection of the prince, proceeded to build a church, and dedicated it to St. John the Baptist. It was so constructed that all the weight of the roof (being circular) should rest upon a column in the centre, and beneath this, as a base, they fixed a square stone, which, with the permission of the prince, they had taken from a temple belonging to the Mohammedans who dared not to prevent them from so doing. But upon the death of Zagatai, his son who succeeded him showing no disposition to

become a Christian, the Mussulmans had influence enough to obtain from him an order that their opponents should restore to them the stone they had appropriated; and although the latter offered to pay them a compensation in money, they refused to listen to the proposal, because they hoped that its removal would occasion the church to tumble down. In this difficulty the afflicted Christians had no other resource than with tears and humility to recommend themselves to the protection of the glorious St. John the Baptist. When the day arrived on which they were about to make restitution of the stone, it came to pass that through the intercession of the Saint, the pillar raised itself from its base to the height of three palms, in order to facilitate the removal of the stone; and in that situation, without any kind of support, it remains to the present day."

There appear to be some who view the work which they think the Division of Building Research should do as not dissimilar in character from this somewhat unusual structural achievement so lucidly described by Marco Polo.

The work which the Division has done has been of a much more mundane character. As I pointed out two years ago, the Division is attempting to develop still further the building research which has been carried out in Canada from the earliest days of construction in this country. Just before this luncheon I heard, from one of the senior members of the Institute, of experiments which were done with building walls in an Ontario city twenty years before the Division was founded. This is but one example of the work which led the way to the formation of the Division. With a national organization devoted entirely to building research it has, however, now been possible to coordinate what appear to be the principal overall needs in Canada for such investigations. It is a pleasure to report to you briefly upon the direction in which the Division is travelling.

Enough has been done to make clear the major tasks upon which the Division should work in its concentration upon building problems which must be studied in Canada, due to local conditions. These include fire research, the special problems of building in the north, soil and foundation studies, snow and ice research, and finally what may be called generally the enclosure of buildings with special reference to Canadian climatic conditions.

This last field of activity includes the vital matter of housing research in which members of the Royal Architectural Institute of Canada are especially interested. In this field the Division cooperates closely with Central Mortgage and Housing Corporation, which it serves as a research wing. Although it has not been possible to initiate very much in the way of new housing investiga-

tions, more than one-half of the time of the staff of the Division is taken up with assisting the Corporation with its many operating technical problems.

You will note that I use the expression "technical problems" to distinguish the work which we are doing in the housing field from other important aspects of housing research such as those concerned with social problems, architectural planning and town planning. By agreement, these aspects of housing work in relation to its own activities are being attended to by the staff of the Corporation.

In view of the singularly cordial and close relations which we have with the staff of Central Mortgage and Housing Corporation, I almost hesitate to say even a word more on the subject of planning. Recently, however, in some chance reading I came across the following statement which seems to be relevant to the planning of some Canadian municipalities: — "The arrangement of private houses is considered to be more agreeable and generally more convenient, if the streets are regularly laid out . . . but for security in war the antiquated mode of building, which made it difficult to get out of a town and for assailants to find their way in, is preferable. A city should therefore adopt both plans of building . . . thus security and beauty will be combined." Some of you will recognize this as quite an accurate description of the way in which a few of our municipalities appear to have been planned. It is not therefore surprising to find that the statement comes from Aristotle's "Politics" (the quotation being from the Jowett translation).

I have noted with much interest the definition of architecture given in the exhibition which is on view at this assembly — "The Control of Space". You will see that we are attempting to assist you with the technical means for controlling space. We already know that there are many problems which lie ahead of us in this field alone.

Some surveys of houses in operation have been carried out and these have revealed serious problems of condensation brought about by improved standards of insulation and construction. So serious are condensation problems in modern house building in Canada that the Division last year arranged for the carrying out of a special eight-week test in the climatology of Pennsylvania State College. A small test building insulated with three different types of insulation was subjected for eight weeks to outside conditions becoming progressively colder, finishing with two weeks at -20°F . In the meantime, normal living conditions were maintained inside the building. At the conclusion of the test much valuable information was obtained and this is now being processed, to be published later this year as a Research Paper of the Division. The project threw new light on condensation problems and it will assist the Division in the planning of its own research facilities in Ottawa.

The development of special laboratory facilities at the Division's Regional Station at Saskatoon is progressing satisfactorily. Later this year it will be possible, for the first time in Canada, to subject large complete wall sections to controlled laboratory testing for thermal and vapour penetration investigations. For some time it has been clear that while such laboratory studies will be of

great use in building research, outside test facilities should also be developed in order that new materials and new methods of construction may be tested under actual climatic conditions. Accordingly at both Saskatoon and Ottawa test hut installations have been constructed. The first test huts are now built and in operation. At Saskatoon there will be six huts and at Ottawa nine huts, one at each place being identical so that work in the two locations may be correlated. The huts can scarcely be regarded as aesthetically satisfying, but we know already that they are going to provide a most useful means of investigation.

In conjunction with each test hut installation complete meteorological records are being taken, since all outside research work and investigations in actual buildings must be correlated with the local climatic conditions. The importance of weather in connection with all aspects of building has been recognized by the Division from its inception. Discussions have been proceeding for some time with the Meteorological Service of Canada with regard to a cooperative program of climatological research. In this city and at this time, with the temperature outside this hotel so far below zero, it is hardly necessary to stress the importance of climatic conditions! I do wish to assure you that they are being fully recognized and will always occupy a prominent position in connection with our work in building research.

It was therefore encouraging to the Division to find that the first conference organized by the Building Research Advisory Board of the American National Research Council was a research correlation conference on "Weather and the Building Industry". I had the pleasure of attending this conference and participated in its proceedings. The conference was linked with another project involving appreciation of weather, this being the climatological research program sponsored by that unusual American magazine "House Beautiful". I commend to your attention the publications which are now coming out as a result of this remarkable project.

In all these discussions on weather in relation to building some new things have been said and many well recognized facts reassessed. One statement which I have so far missed in these deliberations is that which comes from an essay by a writer who is a particular favourite of engineers. Writing on building, this famous man had the following to say with reference to the detailed location of houses: — "Cast it also that you may have rooms both for summer and winter; shady for summer and warm for winter. You shall have sometimes houses so full of glass that one can not tell where to become to be out of the sun or cold." This somewhat cryptic comment on a certain trend in the architecture of modern houses has almost a topical touch, and yet the writer of these words was Francis Bacon.

In the same essay occurs the following interesting statement: — "Houses are built to live in, and not to look on; therefore let use be preferred before uniformity, except where both may be had. Leave the goodly fabrics of houses for beauty only to the enchanted palaces of the poets, who build them with small cost." Somewhat naturally, in our continuing search for suitable personnel for the staff of the Division of Building Research we are

particularly anxious to get into touch with any Canadian poet who has found the answer to the low cost housing problem. Would that such a man could be found.

As you can well imagine, gentlemen, the further we progress in our studies the more clear does it become that there is no short cut to the low cost housing problem. Reduction of house costs in Canada is going to call for long continued efforts on the part of many groups and by approaching the problem from many directions, building research into the technical aspects of house building being only one. Another related approach is from the direction of local building regulations. I should therefore report to you briefly on the progress we are making with our work on the National Building Code under the guidance and to the direction of the Associate Committee on the National Building Code, of which Fellows of this Institute are members. You all know of the meeting of building officials which we had last year to consider the administration of building regulations and the directions in which our first work should proceed. This meeting was so successful that it is to be repeated in April of this year, by which time we shall have produced a final draft of a small Code for Residential Construction. We shall be able to report to this meeting upon successful discussions with representatives of the Provinces and we shall have for discussion a final suggestion regarding the framework and arrangement into which the revision of the main National Building Code must be fitted.

This is slow work, but we have been more than encouraged by the progress made and by the response we have received particularly from the municipalities of Canada, well over one hundred of which now use the National Building Code in one way or another in connection with their local building regulations. It will be a long time before we can record much progress in the direction of obtaining any great degree of uniformity in Building Codes across Canada, particularly since these must always be local ordinances. We shall still continue to hear building regulations blamed by the uninformed for many of the current housing problems in Canada. Such complaints, as you can imagine, are no new thing. In a recently published book written by a friend of mine (Dr. Esther Clark Wright) on "The Saint John River", the following statement occurs: — "Officers and men addressed a petition to the governor protesting against the setting of August first as the date for commencing a building and asked that 'they be not restricted to the mode prescribed' which evidently referred to the regulation that all outhouses were to be fixed in the rear of dwelling houses, no thatched roofs were to be allowed, and no cross lanes or alleys." This complaint has a familiar ring to it despite the fact that it was made in February, 1785.

As work on the National Building Code is developed, the value of having it associated with the Building Research organization has become abundantly clear. Correspondingly, the need for a central library of information regarding all aspects of building has become increasingly evident. It is therefore a pleasure to report to you on the development of what is going to be a most important part of the activities of the Division. We are calling this branch of our activities Building Practice.

This term is being used to include the development of the best library on building which we can assemble, working in close association with the Main Library of the National Research Council. It includes also the handling of all the enquiries regarding building which come to the Council either directly to the Division or through the Technical Information Service. Despite the fact that the Division has so far eschewed publicity, we are already receiving more enquiries than we can properly handle. Those which have been received make clear the value to all of our future work which a critical study of our enquiries is going to give.

The Building Practice part of the Division will also be responsible for the handling of our publications. Those of you who have had any experience with the production of publications will not be surprised at the fact that we have not yet started general public distribution of the few publications which we have been able to prepare. Before publications are released generally, we must have a complete working system developed for their efficient handling and distribution. This work is well advanced. Within a few months we hope to release the first of our popular Better Building Bulletins which Mr. Amos was kind enough to mention in his report to you from your own Research Committee. I have with me copies of the shorter reports on Modular Coordination and Vermiculite which were promised to Mr. Amos. Copies of these can now be sent to any members who are interested. Members of the Institute may rest assured that they will be kept fully advised of our publications when they are available. We naturally look forward to the privilege of contributing occasionally papers for the consideration of the Editorial Board of your own *Journal*.

Time does not permit of my mentioning in any detail our work in connection with foundations and soil mechanics, but this too is closely linked with our housing studies. We are hoping to start this year a study of houses built on flat slab foundations. We have not yet started our work on fire research but our plans for this work are in being; it can start as soon as we have personnel available. Accommodation for the Division has been something of a problem, but I am glad to be able to say that we look forward to the start of construction of a building of our own during 1950 on the grounds of the Montreal Road Laboratories of the Council in Ottawa.

This has been a brief and very sketchy progress report in which I have attempted to mention those aspects of our work which I think will be of special interest to members of the Institute, our liaison with which is something which we value most highly. May I emphasize again that our Division is merely one unit of a much larger team concerned with the steady advance of good building in Canada. We hope to make a useful contribution and so to extend still further those earlier studies of building problems to which I have already made reference. One vital word only has not yet received mention. My older architectural friends will be thinking that it is something which, in our youthful vigour, we are overlooking. The word is Experience. I have left it for mention in these closing words in order to assure you, with all the emphasis at my command, that in all our work we are and will continue to be acutely conscious

(Continued on Page 282)



ROYAL ARCHITECTURAL INSTITUTE OF CANADA

OFFICERS

PRESIDENT J. ROXBURGH SMITH (F)
 FIRST VICE-PRESIDENT H. H. SIMMONDS SECOND VICE-PRESIDENT H. CLAIRE MOTT (F)
 HONORARY SECRETARY HAROLD LAWSON (F) HONORARY TREASURER R. SCHOFIELD MORRIS (F)
 PAST-PRESIDENT A. J. HAZELGROVE (F)
 SECRETARY MISS MARY L. BILTON

1323 Bay Street, Toronto

COUNCIL

S. PATRICK BIRLEY, WILLIAM FREDK. GARDINER (F), H. H. SIMMONDS, F. L. TOWNLEY British Columbia
 T. GORDON ABERDEEN, CECIL S. BURGESS (F), G. K. WYNN Alberta
 DAN H. STOCK, JOHN C. WEBSTER Saskatchewan
 DENNIS H. CARTER, G. LESLIE RUSSELL, PROF. R. SELLORS Manitoba
 Ontario
 VICTOR J. BLACKWELL (F), JAS. H. CRAIG (F), A. J. HAZELGROVE (F), D. E. KERTLAND (F),
 CHARLES LENZ, R. S. MORRIS (F), W. BRUCE RIDDELL (F), LEONARD E. SHORE, HARLAND STEELE (F)
 Quebec
 L. N. AUDET (F), CHAS. DAVID (F), HAROLD LAWSON (F), J. C. MEADOWCROFT (F),
 A. J. C. PAINE (F), MAURICE PAYETTE (F), J. ROXBURGH SMITH (F), EMILE VENNE (F)
 R. DUSCHESNES, H. CLAIRE MOTT (F) New Brunswick
 A. E. PRIEST Nova Scotia
 F. A. COLBOURNE, JOHN E. HOSKINS Newfoundland

EDITORIAL BOARD REPRESENTATIVES

British Columbia: FRED LASSERRE, Chairman; R. A. D. BERWICK, WILLIAM FREDK. GARDINER (F),
 R. R. McKEE PETER THORNTON JOHN WADE
 Alberta: C. S. BURGESS (F), Chairman; M. C. DEWAR, MARY L. IMRIE, PETER L. RULE
 Saskatchewan: H. K. BLACK, Chairman; F. J. MARTIN, DAN H. STOCK, JOHN C. WEBSTER
 Manitoba: J. A. RUSSELL (F), Chairman; H. H. G. MOODY, ERIC THRIFT
 Ontario: JAS. A. MURRAY, Chairman; ALAN ARMSTRONG, WATSON BALHARRIE, L. Y. McINTOSH
 ALVIN R. PRACK, HARRY P. SMITH, A. B. SCOTT, J. B. SUTTON, PETER TILLMAN, WILLIAM WATSON
 Quebec: E. J. TURCOTTE, Chairman; LOUIS N. AUDET (F), JOHN BLAND, LEONCE DESGAGNE,
 N. A. FELLOWES, ARTHUR LACOURSIERE, LUCIEN MAINGUY, PIERRE MORENCY
 LOUIS VERRAULT, BRUCE H. WRIGHT (F).
 New Brunswick: H. CLAIRE MOTT (F), Chairman; W. W. ALWARD, J. K. GILLIES, D. JONSSON
 Nova Scotia: LESLIE R. FAIRN (F), Chairman; ALLAN DUFFUS, A. E. PRIEST, J. H. WHITFORD
 Newfoundland: F. P. MESCHINO

INCORPORATED BY THE DOMINION PARLIAMENT 16th JUNE, 1908, 1st APRIL, 1912, AND 14th JUNE, 1929

NEWS FROM THE INSTITUTE

THE PRESIDENT REPORTS

In our own particular parochial environment we have always been inclined to rate the capital city of the U.S.A. in the category of "far away places" which we have heard the radio drooling about. However, it becomes increasingly evident that the modern overhead form of travelling is fast changing these far away notions. This, perhaps belated, conclusion was only strengthened when we glimpsed the variety of state identification labels worn by delegates, from all parts of the land of the free!

The far off state of mind indicated, arises from our visit to the Annual Convention of the American Institute of Architects.

We had the honour of being not only a guest but also a foreign delegate, "both for the first time", in Washington, D.C. To mention that the Convention was a large one is no over-statement and according to credible sources, it was the largest gathering of Architects ever, which is definitely in accord with established tradition.

Being a gathering of Architects, it was to be expected that some of its characteristics would resemble our own Annual, but the scale and number of items on the four-day programme was a pupil-popping phenomenon!

It is highly probable that you may have read the details, reported at length, in the U.S. Architectural Press.

Even so, we now feel safely enough on our own base, to offer a few observations for benefit or otherwise of our R.A.I.C. cohorts.

Quite apart from our admitted national extraction, our attention was arrested by the first item on the orders of the day — REGISTRATION FEE (the caps are not ours), we won't divulge the amount but it was fairly substantial and we pass the insinuation for cogitation.

Adding to the upset, the Treasurer's Report in terms of receipts and expenditures was something to remember.

In the same vein, Annual Dues, which have been increased, are more or less on a graded scale, according to income, which sounds like the reincarnation of an old idea around the Component Societies!

Enough, for material considerations!

The general trend of the Convention discussion was directed towards the necessity for Urban and Regional Planning, not entirely novel but serious, although in the disposition of the words we consider the horse is still behind the cart.

A mere glance beyond the boundaries of almost any city is proof enough!

On with the Convention — the number of Symposia presented, followed by Discussion Panels, amounted to about fifteen, by our own count!

Many of these took place concurrently but even with the large number of delegates, there appeared to be no confusion excepting the mental processes of making up

one's mind — you took your choice and if your prevailing taste called for some aspects of "Modern Town Planning" you just missed the "Accounting for Architects"!

This latter item has been specially created by the A.I.A., and could be given serious consideration, on this side of the line. Mingled with the Symposia, were bus trips, Special Exhibitions of Architect-interest and Garden Parties, while the spring-time clouds threatened without dampening the professional ardour, to any marked degree!

By way of visual education, we rubbered on a bus tour of recent Washington Housing Developments.

Indoors, the Report of the Board of Directors contained much of interest to the profession at large. The Status of the profession in relation to National conditions was thoughtfully reviewed, in conjunction with the part which Architects might assume in matters of National defense, should necessity arise! At the same time lack of professional concern in International implications, was regretted!

In the matter of Public Relations, the A.I.A. is fully alive to the necessity of an effective programme.

The opinion prevails that the work previously done by professional P.R. Counsel can be carried on more effectively and more economically by their own Departmental Staff who are becoming increasingly cognisant of the problems, peculiar to architectural practice.

Four projects considered of positive value are receiving attention at Institute level.

1. A manual of P.R. for Architects.
2. A pamphlet on the Services of an Architect.
3. Revision of a Booklet — Architecture, A Profession, A Career.
4. The possible production of a film short dramatising the all-over functions of the Architect.

All this will have a familiar ring, in R.A.I.C. ears!

At the State level, Chapters are being encouraged to deal with local publicity. Thirty Chapters and five state organisations have publications of their own, directed at News and P. R.

Relations with the Federal Government were explored and while the dangers of authority becoming too involved in the Construction Industry were recognized, it was felt that there was room for some Federal entity concerned with policy recommendations on Public Works and Construction.

Sub-Professional activities in the field of, so called, unimportant works, was presented for professional attention. The implications of failure to comprehend that all buildings, great or small, are of high professional import and the continuous encroachment on the fringes of Architectural Practice was becoming a serious affair.

The acquisition of Octagon House and the erection of a new office building in conjunction, appear to have done much to consolidate the A.I.A. Their staff, we understand, numbers thirty-five. While we can still dream of references which keep recurring in our annual Assembly Minutes!

To our Schools, we would mention that a "Students Forum" was on the programme and "Remarks by a Student Delegate", were heard above the Symposia, during the Convention.

More intimately we might mention that the A.I.A. are contemplating the creation of a College of Fellows!

Highlight of the Annual Dinner was the presentation of the A.I.A. Gold Medal to Sir Patrick Abercrombie, M.A., F.R.I.B.A., M.T.P.I. Judging from the ovation he received the award was a popular one despite his references to the Congressional Library as a "blooper". Of course, he is not alone in this respect!

It interested us to note that the Annual Dinner took place on the Friday night and was followed by a clean-up business Session on Saturday forenoon which was well attended, notwithstanding the Friday night!

Following the Convention, for the really seasoned delegates, there was a post-convention trip to Bermuda, to Williamsburg and by way of repose, a tour of Washington Gardens.

During our visit we were fortunate in having our Honorary Treasurer as our right-hand man and sometimes our left, due to the fact that we unfortunately lived in different hotels.

In the aftermath we joined him at a pleasant dinner for two, in a Terrace Restaurant, overlooking the shipping on the Potomac with the "Robert E. Lee" moored en face!

No! we didn't see the Cherry-blossoms but can vouch for the cherry-stone clams!

Sunday morning we paid our respects at the important National Shrines but gave up when we reached Huey Long in an obviously semi-ready bronze business suit!

In all, it was an experience, which should be absorbed by every President, at least once!

The renewing of old acquaintance, acquiring of new from State to State, meeting well-known names in person, the general and private hospitality — all en famille.

There were of course other items of worth but in the interests of the Typesetters' Union and also of our own necessity, we adjourn, sine die!

Banner still wave!

J. Roxburgh Smith

LETTER TO THE SECRETARY

Dear Miss Bilton:

The members of the Canadian Construction Association have noted with concern an increasing tendency among a growing number of architects, in calling tenders for privately-owned projects, to request general contractors to provide a 10% security deposit cheque.

It is felt that you will appreciate that this is a practice which has long been recognized by the Architectural profession as not justified or desirable in the case of general contracts for private owners,

This matter has been considered by the Management Committee of the C. C. A. and I have been asked to advise you that it is not the intention of contractor members of the Association to provide such security deposits to private owners. As an alternative, it is suggested that tenders provide for contract bonds to be paid for by the owner. This is a common and accepted practice, which will afford adequate protection to the owner.

It would be appreciated if you would kindly inform your members of the views of the Association in this matter.

Yours very truly,
(sgd.) R. G. Johnson, General Manager,
Canadian Construction Association.

EMPLOYMENT OPPORTUNITIES

Enquiries from Associates and Students of the R.I.B.A., one British architect and one Dutch architect who is presently residing in South Africa, have been received in recent months at the Institute office. Any members interested in offering employment to these men, may receive further information on application to the Secretary of the Institute.

NATIONAL COMMISSION OF CULTURE OF THE ARGENTINE REPUBLIC OFFERS TWO SCHOLARSHIPS

An invitation has been extended to the Institute by the Argentine Ambassador to Canada, Sr. Agustin Nores Martinez, to select and present candidates who might be interested in two Scholarships offered by the National Commission of Culture of the Argentine Republic. The aims of the National Commission of Culture and the Argentine Embassy in extending this Argentine invitation to the Royal Architectural Institute of Canada are to receive its collaboration for the fulfilment of the high purpose for an exchange of and the promotion of closer cultural relations between Canada and Argentina.

Summary of Regulations for American Scholarships: The National Commission of Culture establishes scholarships for intellectual citizens of the American nations in order that they may attend centres of study and research in the Republic of Argentina. The duration of the scholarships will not be granted to students nor for the completion of post-graduate courses, but to professionals, artists and research workers, of known and acknowledged authority in their field, whose tasks in the execution of their scholarships will be of positive and mutual benefit to the culture of both countries. The Candidates should be over 25 years of age and under 45. They should be natives of the country which nominates them. They will have to submit interim reports to the Commission, and a general report when the period of duration of the scholarship has come to an end.

The particulars of each scholarship candidate, the list of works completed, and other pertinent details, as well as a declaration of the motives and a detailed plan of the proposed work which is to be realized in Argentina will have to be forwarded to the Commission before October 31st, together with the names of the candidates nominated. Accordingly, all members interested in applying for these scholarships are requested to get in touch with the Secretary of the Institute immediately,

and not later than September 30th, supplying as many particulars as possible in compliance with this announcement, whereupon supplementary information will be supplied by the Institute office to the scholarship candidates.

These scholarships may apply to any branch of scientific research or artistic creation, including also any matter of technical or economical research of use for the development of the American countries, as, for instance, problems concerning the exploitation of its riches, the utilization of its natural resources or the improvement of its social institutions.

COMPETITION

Coventry Cathedral

The Reconstruction Committee invite architects who are British subjects practising in the United Kingdom, the British Commonwealth and Eire to submit designs in competition for a proposed new Cathedral, Chapel of Unity and Christian Service Centre to be erected on a site in the centre of Coventry.

The Royal Institute of British Architects have nominated Sir Percy Thomas, LL.D., D.L., P.P.R.I.B.A.; Mr. Edward Maufe, R.A., M.A. (Oxon), LL.D., F.F.R.I.B.A., and Mr. Howard Robertson, M.C., A.R.A., F.R.I.B.A., S.A.D.G., to act as Assessors. Premiums of £2,000, £1,500 and £1,000 will be paid to the authors of the designs placed first, second and third respectively.

The Schedule of Conditions and particulars of site, etc., will be ready for issue about the beginning of October, and in the meantime intending competitors should make application to Captain N. T. Thurston, M.C., Secretary to the Reconstruction Committee, 22 Bayley Lane, Coventry, enclosing a deposit of two guineas, which will be returned upon receipt of a bona fide design or upon the return of the Competition documents within one month of receipt of the Answers to Questions.

The latest date for application for the Conditions is October 30th, 1950, and the closing date for the receipt of designs the 2nd July, 1951.

22 Bayley Lane,
Coventry.
27th July, 1950.

N. T. Thurston,
Secretary to
Coventry Cathedral
Reconstruction Committee.

ALBERTA

In the English *Architectural Review* of last June there was published a survey of architectural training written by Nikolaus Pevsner. This was simply an account of various methods in practice on the continent of Europe, in England and in the United States. In this article Pevsner offers no criticism and makes no recommendations of his own. The differences in the training of architects are shown to be fairly wide not only from country to country but also within the various countries themselves. In presenting the situation Pevsner quotes opinions from teachers and from students which contain some arguments for or against certain methods of training.

From the article itself and still more from the preface to the article by R. Fourneaux Jordan it appears to be

strongly felt that architectural training is due for a thorough revolution. Yet throughout all the schools there is an acceptance of the broad underlying basis that guided the older methods of training, that the art of architecture is a culmination arising from the co-ordination of all the existing activities comprised in the erection of buildings. These activities, however, have developed, have increased in number and have undergone such vast changes that it is essential to take full account of them in the training of students. A century ago only a comparatively small number of handicrafts had to be taken into account. Handicraft still retains its high value but occupies only a small place amongst the architect's many interests. There has been a revolution in the methods of processing natural materials which almost amounts to the creation of new materials and of new forms, some of which are of great service. Besides the changes in the materials employed there have been even greater changes in the conception of the services which buildings may render to human needs. Research in the physical sciences has suggested ways and means by which buildings may be better adapted to health and well-being by more efficient lighting, warming, ventilation, acoustics, facilities for greater cleanliness and for ease and convenience in the home, the office and the factory.

A multitude of these and other developments, many of them still imperfectly realized, have flooded in to the sphere of the architect. He has to cope with them all. In some of the problems involved he can call in the co-operation of professions specially trained in one branch or another. But, throughout it all, it is his business to be the single co-ordinator of the whole work. This labour of co-ordinating many services so that they shall result in a well organized product,—a product giving satisfaction by the efficient working of all its components is the especial duty of the architect. The accomplished work must satisfy not only the persons who occupy and use it but must also give evidence of being a work well done, the right thing in the right place.

The architectural student presents himself desiring to be trained so as to become adequate to this complex task,—much more complex than can be expressed in a short summary. This is the problem of architectural training. It is inevitable that various minds should approach the solution in very different ways.

Whatever may be proposed in the matter of improving the education of architects, there are three stages which it must pass through,—elementary education as in the public and high schools, special courses such as are given in the universities and finally actual office practice. Of these stages that of actual practice is the one in which the greatest amount of knowledge of facts is acquired. The volume of these is so great that without a sound previous course in the nature of the content the architect will labour heavily with his problems. The student taking special courses requires to come to them equipped with an earlier acquired clear understanding of basic mathematical conceptions and of natural laws without an easy familiarity with which he can never feel at home in the varied problems with which he will later be faced.

Cecil S. Burgess

of the fact that experience must always condition our work and be one of our principal guides.

If I go further I shall merely be saying what others have said in times past and in words more lucid than I can hope to frame. May I therefore close with words not my own but with another quotation from Francis Bacon, my respect for whom is indicated by this further reference to his writing. And just as he did not hesitate to bring his famous essay on "Innovations" to a close by quoting from Holy Writ, may I repeat his words and his quotation, as I assure you that we shall not forget his wise admonition to the effect that: — "It were good, therefore that men in their innovations would follow the example of time itself, which indeed inovateth greatly, but quietly and by degrees scarce to be perceived."—"We make a stand upon the ancient way, and then look about us, and discover what is the straight and right way, and so to walk in it."

CONTRIBUTORS TO THIS ISSUE

Thomas D. Church

Entered University of California in 1918, planning to be a lawyer. As a result of a two-unit filler course in landscape design he switched his vocation, graduating in landscape architecture. Worked his way through Harvard, graduating as a Master of Landscape Architecture. Won Sheldon Travelling Scholarship and studied gardens in Italy, France and Spain, subsequently teaching for two years at Ohio State. His work centres mostly around the San Francisco Bay area.

Garrett Eckbo

Born in Cooperstown, N. Y., of Norwegian-American descent, he received his Bachelor of Science in landscape design at University of California, Berkeley, in 1935, and M.L.A. at Harvard University in 1938. Is in charge of landscape design in the School of Architecture, at University of Southern California. Has recently published a book "Landscape for Living", by the F. W. Dodge Corporation of New York City. Has had very extensive practise in group housing developments and gardens in the firm of Eckbo, Royston and Williams.

Henry Fliess

Graduated from School of Architecture of the University of Toronto. Worked in a number of architectural offices in Toronto. Now a member of the staff of the University of Toronto and practising architecture in Toronto.

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.

Planning Assistant to John Layng, Architect and Town

Planner, for two years and, at present, Planning Assistant to the Director of Planning, Toronto City Planning Board. Part time lecturer at School of Architecture, University of Toronto.

H. B. Dunington-Grubb

Is a Landscape Architect, practising in Toronto under the firm name of Dunington-Grubb & Stensson. Graduated in landscape architecture Cornell University, 1908. Subsequent training with Thomas H. Mawson & Sons, Landscape Architects, London, England.

Helen M. Kippax

Received professional training in the United States, and remained in that country altogether about ten years, working in the offices of Pitkin and Mott, Landscape Architects, in Cleveland, and also in New York City in the office of Ellen Shipman, both of which entailed landscape work in various parts of the country from Long Island to Wisconsin. In 1932 returned in Canada, and opened own office in Toronto, where she has been practising since that time. The Canadian Society of Landscape Architects was organized shortly after that, a veteran organization — she was a charter member. Has been doing, chiefly, private gardens, but also a few industrial, park, cemetery and church landscape problems.

Robert F. Legget

Graduated in civil engineering from the University of Liverpool in 1925 and came to Canada in 1929. He was appointed the first Director of the N.R.C. Division of Building Research in 1947, following eleven years in civil engineering and heavy construction work and eleven more years in teaching and consulting practice. He is the author of "Geology and Engineering" and joint author of "Modern Railroad Structures". In 1943 he prepared a report on architectural education in Canada for the R.A.I.C.

Jack Nazar

Born in Calgary. Educated in elementary and high schools of Calgary; Ontario Agricultural College, B.S.A.; Harvard University, Graduate School of Design, M.L.A.; Eugene Dodd Medal; Olmsted Brothers, Brookline; Massachusetts State Housing Board, Principal Engineer and Landscape Architect; private practice in Watertown, Massachusetts.

J. V. Stensson

Landscape Architect, trained at the School of Architecture, University of Toronto, and School of Landscape Architecture, Harvard University; is a member of the firm of Dunington-Grubb & Stensson.

Christopher Tunnard

Born 1910 at Victoria, British Columbia. Educated in Canada and England. Practised as landscape architect in London, until 1939. Served briefly in Canadian Army. Author of "Gardens in the Modern Landscape". Now a Director of Planning Studies at Yale University. This year on a Guggenheim Fellowship to write a book about Town Planning.

ACKNOWLEDGMENT

The Editorial Board wishes to express its very great appreciation of the work of **Mr. J. Austin Floyd**. It is evident that he has not only put much work in this issue himself, but he has persuaded his distinguished conferees on both sides of the border to follow his example. We are greatly indebted both to him and to them.

Editor

OBITUARY

ROBERT G. HEUGHAN

It is with genuine regret that we record the death on May 3rd, 1950, of Robert G. Heughan, M.R.A.I.C. With his passing, one more link is broken with an era of intense building activity in Montreal and Toronto dating from 1910 to the start of the great depression, interrupted only by the upheaval consequent to the war of 1914-18, a period during which he left his mark on many important structures.

He came to Montreal from Kilmarnock, Scotland, where he received his schooling and early training in architecture. After a short period in the Architectural Department of the C.P.R. he went West with the former Chief Architect, W. S. Painter, to work in the field on the design of Lake Louise and Banff Hotels; this experience undoubtedly developed much of the initiative that served him so well in later years.

The building recession in the early years of the First World War forced him, in company with many others in the profession, to join the great trek south to the U.S.A. His heart, however, was in Montreal and, after a short sojourn in Albany and Detroit, he seized the first opportunity of returning to Montreal to the office of Ross & Macdonald. There his skill in design and rendering carved out a place which he retained until his death. A few of the jobs on which his ability as a designer is indicated are—Royal York Hotel in Toronto, Mount Royal Hotel, Dominion Square Building, Holt Renfrew Building and the Cenotaph in Montreal (the latter won in competition) and Price Building in Quebec. In the reorganization following the death of both original partners, he became a member of the firm of Ross, Paterson, Townsend and Heughan.

Took little part in the activities of Architectural Associations, being handicapped by indifferent health, but for many years he gave of his time to the municipality of St. Lambert in performing the work of assessor and served on the committee reviewing plans submitted for building permits.

Gentlemanly by nature, he was beloved by all who were associated with him and the host of friends who journeyed to St. Andrew's Church in St. Lambert to pay their last respects, attest the high regard in which he was held by the architectural fraternity and the building trades generally.

J. W. W.

ELIEL SAARINEN

20 August, 1873 . . . 30 June, 1950.

A great career in architecture has come to an end.

Eliel Saarinen was a creator of beauty, a master of form.

His fertile mind ranged the whole wide field of Design. In city planning, in architecture, in the creation of small everyday things, no problem was too vast for his imagination, nor any detail too small to be touched with distinction by his hand.

Eliel Saarinen was a great architect in the truest sense of the word—a *master-builder*.

During his lifetime a revolution in architecture was accomplished. In this revolution his work occupies a position of peculiar significance. Alvar Aalto has called him a "bridge-builder", a consistent link between past and present. Though he must rank with the pioneers of contemporary architecture, in his own work there was no sharp break with the past, no denial of genuine traditions, no time of awkward self-consciousness.

He deplored the blind adherence to dead forms, the unthinking servility to sentimentality and convention. Yet he held a true reverence for the lessons of the past, respected good buildings of any period, loved fine craftsmanship and natural materials. All this is evident in his work.

In the years of transition, when the work of his contemporaries was sometimes raw and mechanical in its stark truthfulness, his buildings remained serene and beautiful.

Eliel Saarinen never rested on his laurels. Each new commission was a fresh challenge. Each completed work a synthesis of logical planning, clean expressive form, sensitive use of materials and color. Throughout a long and active career he never designed a mediocre building. Many are rated justly as masterpieces. Yet each building, superlative in itself, was but a stepping stone in the measured progress of his architectural philosophy. To analyse the spirit of the age, to interpret this spirit in significant form, and to change with a changing world, this was his credo.

By nature quiet and reserved, Eliel Saarinen the teacher was tolerant and understanding. His greatest lesson was the example of his own works.

"This building," he would say, "was my solution to this particular problem, in this particular place, at that particular time." No more.

His pupils soon learned that the master offered no royal road to architectural dexterity. He taught principles, not dogma. His influence was subtle, not obvious. His pupils were encouraged to think for themselves, to dig beneath the surface, to discriminate between fact and formula. In the never-ending search for form, Saarinen was student as well as master.

Saarinen the man will never be forgotten by those who knew him. Saarinen the architect will live as long as there are people to look upon his works.

Kent Barker

Facts by Pilkington about Glass FOR ARCHITECTURAL STUDENTS

NO. **45** INSTALLATIONS
INSULUX

AN EXAMPLE OF INSULUX IN A CANADIAN SCHOOL

The primary reason for the use of Insulux light-directing glass block in classroom fenestration is not alone *more* light, but better light. Just as a child seated at the far side of the average classroom gets too little light, the child sitting next the window gets too much, because of glare.

Light carried into a room through Insulux light-directing glass block is *different* light because the blocks are prismatic in structure. Every child enjoys almost equal light.

Insulux glass block also provides insulation, permitting larger window areas without increased heating costs.



COUNTY HIGH SCHOOL, VAL D'OR, QUEBEC

**To secure maximum benefit from Insulux light-directing glass block,
the following basic principles should be incorporated . . .**

- 1** Be sure to select only light-directing or prismatic glass block — other types are not recommended for classroom lighting.
- 2** Glass areas should extend from the rear wall to the front wall with piers or columns held to a minimum.
- 3** The vision-strip should extend from the sill to a point approximately 6' above the floor.
- 4** Glass block panels should extend from the top of the vision-strip to the ceiling.
- 5** Decoration schemes should be uniform. The use of lighter colours in the upper part of the room is especially important. The ceiling should have a reflectivity of at least 80%; the upper wall not less than 65%.
- 6** While the use of light colours in the lower part of the room is less important than in the upper, furniture, tack boards, chalkboards and floor should be as light as practicable.
- 7** Artificial lighting fixtures should be adequate to provide supplementary light on dark days. Rows of fixtures should run parallel to the fenestration and should be switched independently for economical performance.

For further technical details on Insulux glass block please refer to pages 19, 20 and 21 of this series. Reprints together with binder in which to keep them may be obtained by writing to our Head Office — 165 Bloor Street East, TORONTO, Ontario.



Pilkington Glass LIMITED

• HEAD OFFICE — 165 BLOOR ST. E. TORONTO, ONTARIO • BRANCHES: SAINT JOHN, N.B., HALIFAX, MONTREAL, ROUYN, KINGSTON, TORONTO, HAMILTON, ST. CATHARINES, LONDON, FORT WILLIAM, WINNIPEG, REGINA, CALGARY, EDMONTON, VANCOUVER
• AGENTS: KITCHENER: TAIT GLASS CO. LTD. • VICTORIA: O'NEIL GLASS and PAINT, LIMITED • PETERS & SONS, ST. JOHNS, AGENTS IN NEWFOUNDLAND SINCE 1890.