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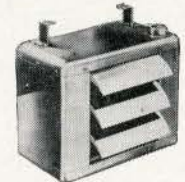
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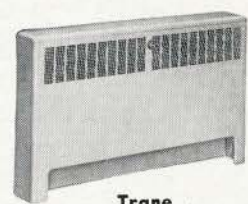
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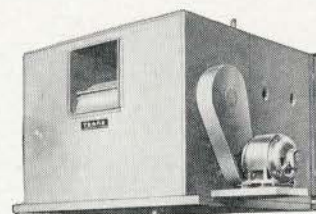
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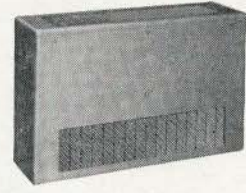
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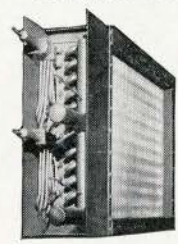
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Toronto September 1951

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EDITORIAL

ONE OF THE exciting things about the profession of architecture is that the most obscure member may, through competition, become a national or world figure over night. It was so forty years ago with Giles Gilbert Scott and Liverpool Cathedral. More recently, Miss Elizabeth Scott won the competition for the Shakespeare Memorial Theatre, and, today, the name of Mr Basil Spence is broadcast to the world as the new architect for Coventry Cathedral. The architect has always responded to the call of the Competition, and it is not his fault if the results have not always been successful. This century has seen a number of weak, vacillating juries who lacked the courage to award the prize to what, to the rest of the world, was the obvious winner. Architects will remember the Chicago Tribune Building which brought no renown to its author, Mr Raymond Hood. On the other hand, architectural bodies vied with each other in doing honour to Mr Saarinen, the second prize winner. Calamitous decisions were those of the Peace Palace at the Hague, and the buildings at Geneva for the League of Nations. Someone has said that the League buildings, in their ineptitude, compared with the bold and brilliant solution of the second prize by Le Corbusier, are themselves symbolic of the weakness of the nations which formed the League.

In all these instances, the plan that would have brought distinction to our age was present, and by sheer merit rose to second place. One can imagine the discussions of the different juries, and the dreadful moment of the vote when the safe and dull was matched against the bold and fine. The whole purpose of competitions is to eliminate the safe and the dull which are common enough characteristics of our public buildings, and it is fair to assume that the modern jury will not be lacking in courage and foresight. Our only reason for saying so is that we have surely passed the stage when a jury would hide behind a façade of archaeology on the grounds that it was safe and tried. Creative design has come to have a meaning even to the "man in the street."

It is of great interest to the architects of Canada that the "competition" idea for public buildings receives encouragement from the Massey Commission. For years we have looked with envy at the list of competitions for buildings all over Britain, and we have seen the competition method of securing the finest in public buildings growing in the Scandinavian countries and in Europe. In Sweden, particularly, the idea of a dull building seems to be abhorrent to government and public alike, and to give a building to an architect to design on any basis but outstanding ability would be unthinkable. Practice and tradition indicate that the best method of discovering ability is by competition. It was only last year (or was it the year before?) that Stockholm invited the architects of the world to help them solve, by competition, a road problem, the successful treatment of which would add dignity and lustre to that city. We should like to think that Toronto, or any other Canadian city, would seek to solve its civic Square and Courts buildings in the same enlightened way, and that from Ottawa should come an endless stream of buildings that will be a challenge to the Canadian architect. No one will doubt that the finest talent in Canada will respond if competitions are made available — one can only pray that the juries will be worthy of the best of the competitors. The advice of the RAIC will probably be sought, and the matter of the jury can be safely left in the Institute's care. Council will be aware of the gravity of its responsibility.

CANBERRA

A GARDEN WITHOUT A CITY

by BENJAMIN HIGGINS

CANADA IS PRESENTLY engaged in planning her national capital, under the general direction of M. Gréber. It is therefore important for Canadians, particularly those actively engaged in developing the plan or in guiding public opinion concerning it, to glean every shred of useful knowledge from the experience of other capital cities, planned or unplanned. Close analogies between the problems of Ottawa and those of other capital cities are not to be expected; the experience of other capitals must be applied to Ottawa only with appropriate reservations and modifications. Nevertheless, examination of the results of planned or planless growth of other capitals should provide a useful store of knowledge to help guide the development of our own capital city.

Canberra, the Australian national capital, provides an example of a city that closely followed its Plan. Canberra started from open space, and every step of its growth has been rigorously controlled in accordance with an almost static scheme. The powers of the planning authorities have been so complete that only the slightest deviation from the official plan has been possible. From this point of view, Canberra is a planners' dream. The lessons of Canberra, therefore, are lessons regarding what may be achieved, and what mistakes may be made, when a Master Plan designed by one professional planner is given legal status, and modified only in detail by subsequent planning authorities.

What should a national capital be? Should it be a metropolitan centre, in which government activities are a minor aspect of the complex life of a great city — a city in which the majority of residents can go about their daily life without being acutely aware that they live in the seat of government, a city like London, Paris, and Rome? There is much to be said for this kind of national capital; it is not well for officers of government to be too much confined to their own society. If Montreal had been the national capital, as well as being a cosmopolitan centre uniting the two major Canadian cultures, and some minor ones as well, what a city it could have been! But that choice — fortunately or unfortunately — is no longer open to Canada. Should the capital then be a city especially created as a seat of government, designed from the start as a thing of beauty, a national monument, like Canberra and New Delhi? This choice also is closed to Canada.

Even if it were agreed that a capital ought to be a seat of government pure and simple, Ottawa has more commercial and industrial development than can be scrapped altogether. Indeed, the unæsthetic and inconvenient nature of this development may prove a more pressing planning problem than the design of public buildings, boulevards, and parks.

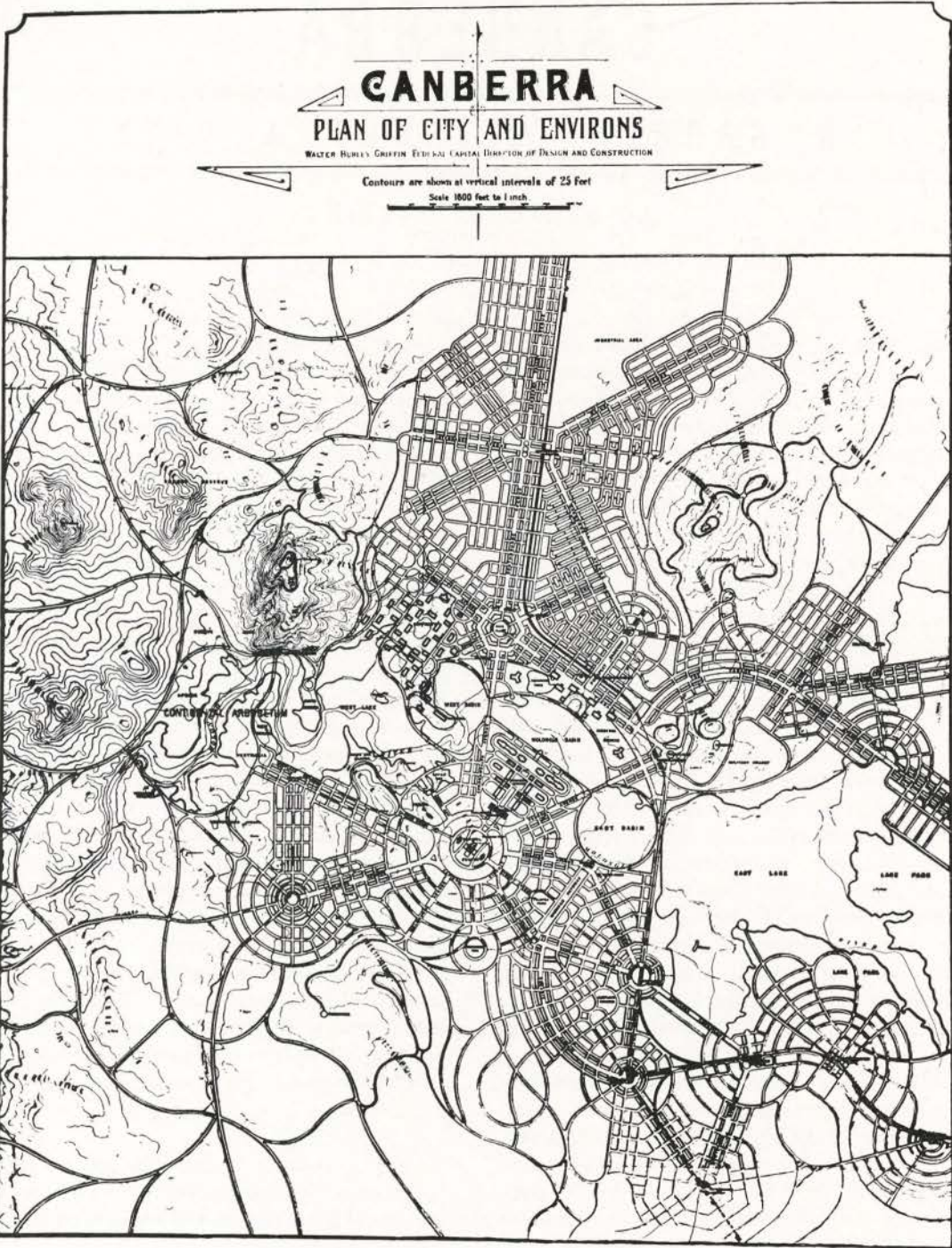
Ottawa is clearly more closely analogous to Canberra, however, than to London. In the cases of both Ottawa and Canberra the choice of site was dictated largely by the need to placate the two major political units entering into the confederation. Jealousy between Victoria and New South Wales precluded the selection of Melbourne or Sydney, just as neither Toronto or Montreal would have been acceptable in Canada.¹ Both sites are graced with hills and rivers, surrounded by attractive and sparsely populated country, affording an opportunity for developing a city of unusual beauty. Neither site is especially convenient in its location; both are very far from some of the major cities, while being fairly close to the centroid of population. In both cases a large area has been set aside as a Capital Territory with a much smaller urban area in the middle. Both cities are being planned along monumental lines, with considerable emphasis on open space, broad boulevards, and the like. Thus, despite the obvious and extremely important differences between the Canberra and Ottawa cases, it may be possible for the planners of Ottawa to learn something from the Canberra experience.

HISTORY OF THE CANBERRA PLAN

Provision for the development of a new national capital was laid down in Section 25 of the Commonwealth Constitution Act of 1900:

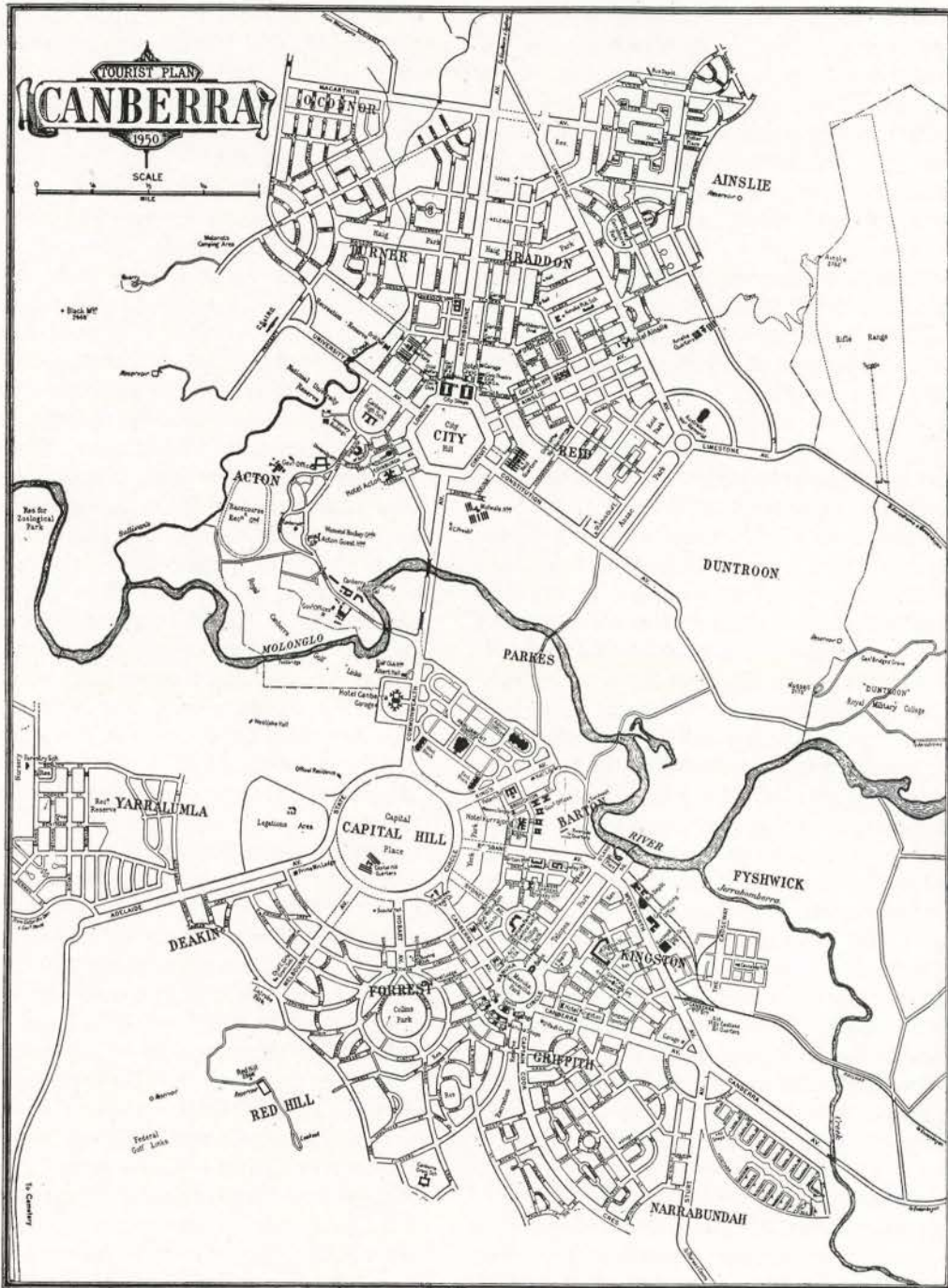
The seat of Government shall be determined by the Parliament, and shall be within a territory which shall have been granted to or acquired by the Commonwealth, and shall be vested in and belong to the Commonwealth, and shall be in the State of New South Wales, and be distant not less than one hundred miles from Sydney . . . Such territory shall contain an area of not less than one hundred square miles. The Parliament shall sit at Melbourne until it meets at the Seat of Government.

The selection of the actual site was a lengthy process. In anticipation of this particular problem of Confederation, the State of New South Wales had set up a Royal Com-



MAP 1

Walter Griffin original Plan for Canberra 1911



MAP 2

Existing Street Map, 1950

mission in 1899 to report on forty sites. In 1903, the new Commonwealth Government appointed a Royal Commission, which reported on various sites, including Dalgety, a village near the present site of Canberra. A year later the Seat of Government Act determined that the site should be within 17 miles of Dalgety, and in 1908 another Seat of Government Act settled on the Yass-Canberra district. An expert Advisory Board proposed the transfer to the Commonwealth of some one thousand square miles of land, and in 1909 an agreement was signed by the Commonwealth and New South Wales affecting this transfer. Finally, a Surveyor's report recommended the present site for the City itself, with the Molonglo River running through the centre.

In 1911, an international competition for a design of the new capital was held. Walter E. Griffin, a Chicago landscape architect, was the winning candidate among 137 entries. Eliel Saarinen of Helsingfors won second prize, and Alfred Agache of Paris was third. The competition and its aftermath seems to have been marred by some unseemly bickering, which may, however, have reflected a certain amount of justified dissatisfaction with the handling of the competition. The Royal Institute of British Architects boycotted the competition because the Minister of Home Affairs reserved the right of final selection. Perhaps in response to this pressure, in 1912 the Minister appointed a Board of Australian technicians to investigate the various plans. The Board found itself unable to recommend adoption of any of the prize winning plans. The Minister ended by buying six plans, from which the Board distilled a new one, not unlike the Griffin plan, but restricted in scope and concentrated on the South side of the river, where Griffin planned to put the main government buildings. It was on this plan that the government began to build in 1913. Then came a new Government, which invited Griffin to come to Australia. Both he and the Board proved uncompromising; the Board was disbanded, and Griffin was appointed Federal Capital Director of Design and Construction. In 1916, after another change of government, a new Royal Commission was appointed to investigate the plan. The Commission approved the Griffin plan, which now had some minor modifications. Griffin's last revision was made in March 1918, and his engagement ended in 1920; but the development of Canberra has followed his plan ever since.

FEATURES OF THE PLAN

While some may regret the removal of the national capital from Australia's magnificent coastline, there can be no doubt that Canberra has a splendid site. As pointed out in the Surveyor's Report recommending the site, the city is "visible on approach for many miles"; it lies "in an amphitheatre of hills." The city has the Australian Alps as a background, and within the Capital territory of 900 square miles there are a number of peaks over five thousand feet high and two over six thousand. Within the city itself there are smaller hills, providing local terminals to vistas and sites for monuments. The whole area is undulating, providing splendid locations for buildings. Through it flows the Molonglo and its two tributaries — a very small river by Canadian standards, but a river

nevertheless, and the basis for the proposed chain of lakes (See Map No. 1). The lowest altitude is 1,500 feet, the annual rainfall is 25 inches, the mean summer temperature is 68 degrees and the mean winter temperature is 42 degrees.

As may be seen from the maps, the basic plan is dumb-bell-shaped. The government centre to the south and the civic centre to the north from the 'bells,' and a broad boulevard about two miles in length forms the handle. Other developments can be regarded as appendages to this basic dumbbell.

The most striking feature of the plan is the enormous amount of open space, especially in the very centre of the city (see photographs following). The area on both sides of the river is completely undeveloped, and the plan calls for the ultimate flooding of this area to provide a series of connected lakes. The impression of openness and space cannot be described — perhaps the photographs will help. From the steps of the Parliament Buildings one looks across miles of open space to the mountains beyond. The same is true of the Civic Centre. Sheep still graze contentedly within a few yards of major office buildings. The plan calls ultimately for an average density of seven persons per acre, as compared to Montreal's average of about thirty (with many areas where the density exceeds 150 persons per acre); but at present the average density in Canberra is less than 0.8 persons per acre in the 'city' area. Because of the enormous amount of completely open country surrounding the city and visible from almost any point in it, the impression of open space is more profound than even these figures suggest. The present city is approximately seven miles by five, (there are 26,880 acres in the 'city' area) and its present population is about 18,000. The population, however, is concentrated mainly in the residential 'dormitory' suburbs appended to each of the 'bells.' The density here appears comparable to that of a middle-class Canadian suburb; but around these dormitories are open fields. The great amount of space devoted to parks and gardens reflects the interests of the landscape architect who designed the city. The main avenues are themselves elongated parks; they are 200 feet wide, and have plantations within them as wide as 100 feet.

Another feature of the plan is its sharp functional divisions. Capital Hill is the main local point of the plan, and on it are the Parliament Buildings and the chief government offices. Only a few government offices are located in other parts of the city, some of them in temporary quarters. The Civic Centre is the commercial centre. Here are most of the shops, specially the larger ones, the post office, the private business offices, the commercial hotels and the like. (The Hotel Canberra, near Capital Hill, has a rather special role; many Members of Parliament live there when Parliament is in session, visiting dignitaries usually stay there, and it is the site of public and semi-public functions.) Apart from the Civic Centre, there is only one shopping centre of any size, much more restricted in scope, located in Kingston, and isolated shops in two or three of the other suburbs. The development to be permitted in the central area of the city is mainly of a public or semi-public nature, and of a kind that will not involve intensive use of space, such as the future National University and

the existing hospital to the west, or the military college to the east.

ADMINISTRATION AND CONTROL

Among the provisions of the Seat of Government (Administration) Act of 1910 was the requirement that the freehold of Crown lands in the Territory could not be sold. Thus the Commonwealth Government exercised control over the use of land by virtue of the simple fact that it owned all the land in the Territory. Two kinds of leases to private undertakings are made. Under the Agricultural Leases Ordinance of 1918, agricultural leases can be made for not more than twenty-five years. They require the extermination of weeds and noxious animals. Between 1918 and 1937, some 40,000 acres in the Territory were leased to veterans, on terms of 5 to 25 years. Under the City Areas Leases Ordinance of 1924, leases can be made for urban purposes up to 99 years, at rentals of five percent per year on unimpaired capital values. The lessee is required to complete the buildings specified in the lease, in accordance with approved plans and designs. Leases may not be transferred without Commonwealth approval. Zones were established for residential, commercial, and light industry uses. Up to June 30, 1938, 81 commercial, 272 residential, and 12 industrial leases had been granted, as well as 15 leases to churches, schools and the like. The majority of civil servants lives in houses built and owned by the Commonwealth, but 20 to 25% of the houses in the city were built by private enterprise, in addition to all commercial, shopping, industrial, banking and insurance buildings. Thus while considerable scope is left for private enterprise, the Commonwealth retains complete control of land use, and no developments inconsistent with the official plan are possible.

The plan was originally administered by the Minister of Home Affairs, as Administrator of the Territory; between 1916 and 1920, it was administered by the Department of Home and Territories, with the Department of Works and Railways responsible for actual construction. Because of the war, little was done in this period. In 1921, a Federal Capital Advisory Committee of five engineering and architectural experts was set up under the Department of Home and Territories to prepare detailed plans for construction, in accordance with the Griffin master plan. Some members of this Committee submitted a report, once again recommending concentration of development on the southern side of the river, but the Government refused to entertain proposals which departed in principle from the Griffin plan. Under the Seat of Government (Administration) Act of 1924, a Federal Capital Commission was created by statute, reporting to the Minister of Home Affairs, and the plan was given legal status. Henceforth, the plan could be changed by the Minister, on the advice of the Commission, only after thirty days notice in the *Official Gazette* and with the approval of both Houses of Parliament. Even a change in the width of a street or the route of a sewer requires this procedure.²

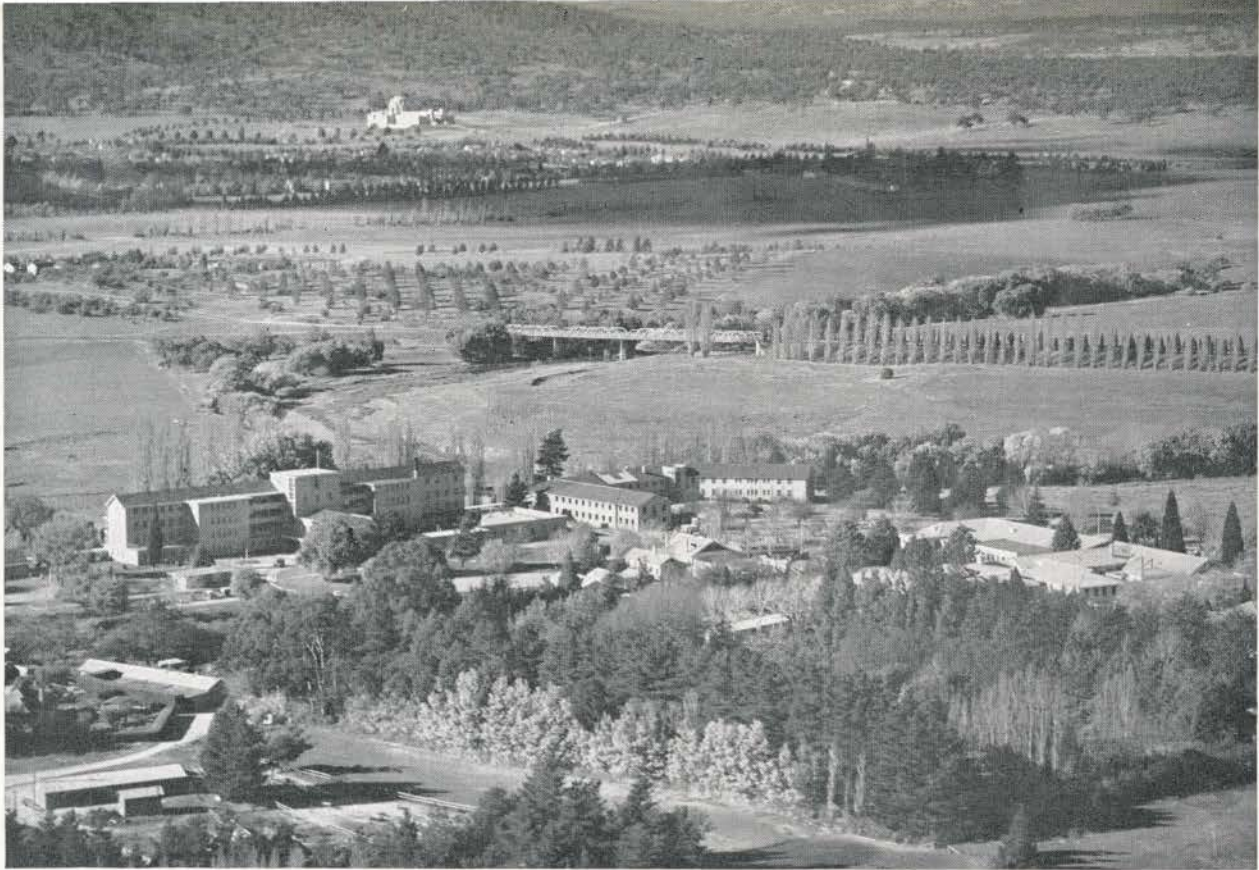
On the other hand, the statutory plan is actually a bare street plan. It does not even contain the indicated locations of public buildings, parks, industrial areas, and the like, shown on the Griffin plan (See Map 1.) Thus, the planning

authorities are really bound by the street plan alone. Of course, there are implicit in the street plan the locations for government buildings, the national university, legations, the civic centre, and other major developments. In practice, the planners are bound to the main principles of the Griffin plan, so far as location of major buildings and zoning are concerned.

The Federal Capital Commission originally consisted of an appointed chairman and two part time members. In 1928, provision was made for the election of a third Commissioner by residents of the Capital Territory. The government which came into power in 1930 revised the administration of the plan once more; general control remained in the hands of the minister of Home Affairs, but the Department of Health was given advisory powers on health matters, and the Department of Works advised on construction. An Advisory Council was set up, consisting of the Secretary of Home Affairs, the Director-General of Health, the Secretary of Works, an appointed Civic Administrator, and three elected residents. Two years later, the departments of Home Affairs and of Works were abolished, and replaced by the Department of the Interior. In 1939 the Government appointed a National Capital Planning and Development Committee, comprised of technical experts, to give general advice on the development of the city. The Committee has remained in existence ever since. Finally, in 1945, the Advisory Council was reorganized; it now comprises the Chief Property Officer and the Assistant Secretary (Civic Administration) from the Department of the Interior, plus one officer from the Department of Health, one from the Department of Works and Housing, and three elected representatives of residents of the district.

REVISIONS OF THE PLAN

The general outline of the plan remains the same as when Griffin submitted his winning entry. There have, however, been several changes in detail. The major revision made by Griffin himself, was the substitution of a through railway line for the loop in his original design. Griffin also reversed an early decision of the Federal Capital Advisory Committee to the effect that "utilitarian development and economy should be the aim in the first stage, leaving for future decades . . . perhaps generations, the evolution of the National City along lines that are architecturally monumental."³ The original plan called for the development of the initial city south of the river, around Capital Hill, leaving the development of the northern 'bell' and its appendages until the growth of population required it. In this way a controlled but natural growth would have been possible. Unfortunately, Griffin began to fear that "vested interests in the initial city would prove inimical to the ultimate realization of his complete design."⁴ Lest the authorities permit continuous growth at the southern end of the city, and never find the courage to leap to the other end of the city and begin development there, it was decided relatively early in the game to start building the Civic Centre. Today, with the population still less than half its expected total, and with much open space at the south, the bulk of new residential building is taking place at the northern end of the city. Much of the



East to west across the city axis. The unlined principal street: Commonwealth Ave and Canberra Community Hospital. The War Memorial appears in the background.

difficulty and inconvenience suffered by the residents of Canberra spring from this decision.

There have been twelve groups of changes in the statutory plan from the time of its adoption to the time of writing. Ten of these were made between 1926 and 1943, one in May of 1950, and one in February of 1951. Revisions A to R of the Group approved in May 1950 are typical of the earlier revisions. Their rather slight nature is shown by the description of them, taken from the Explanatory Memorandum which accompanied the notice of revision.⁵

This set of revisions also, however, contained two changes of considerable significance. The first of these removed the railway from the centre of the city altogether. Griffin apparently did not foresee the development of automobile and bus traffic, and planned the railway as a means of transport within the city. (Ten stations were shown within the city.) With the development of automotive traffic, it is more sensible to locate a railway terminal at the southern end of the city, and remove the railway lines from the closely developed areas of the city. This alteration permits the development of areas adjoining those previously reserved for the railway.

The second major revision was the elimination of the East Lake, which was to have been the largest of the chain of ornamental waters in the Griffin design. According to the Explanatory Memorandum, it is considered that the three large ornamental basins in the centre of the city and the Western Lake would make adequate provision for ornamental waters for the city, and: "... It is inadvisable to continue the provision for the large East Lake for which it may be difficult to provide adequate water supply. Moreover, the flooding of this area would eliminate a large

proportion of the dairy farms upon which Canberra's milk supply substantially relies, besides holding up, for perhaps years, contiguous development. Expert opinion indicates that the omission of East Lake as planned need not adversely affect the beautification of the city and the satisfactory treatment of the Molonglo River above East Basin by means in harmony, from a landscape point of view, with the general spirit of the original design."

Some of the revisions in street plan, while not individually drastic in themselves, add up to significant alterations of the Griffin plan. This comment applies particularly to the development of shopping areas for which Griffin made no specific provision. For example, the Griffin plan shown in Map 1 suggests that Griffin envisaged Manuka Circle as a rather minor shopping centre. As can readily be seen from the map of existing development, Manuka Circle has in fact become the main focal point in the southern end of Canberra at present. In addition to local shops, the football and cricket oval, the ex-service-men's club, the theatre, a Roman Catholic church and school, a garage, and Canberra's only swimming pool are located there.

Other alterations in the nature and location of community centres are in prospect. For example, Griffin's plan (Map 1), shows a focal point at East Lake Circle. At the present time (Map 2), the only structure within 200 yards of this location is a garage, and there is little prospect of further development in the near future. The present planning authorities consider it likely that this circle will be eliminated from the plan altogether at some future date. The Alianthus Circle of the Griffin plan may suffer a similar fate, since the development thus far has been entirely to the north of the projected circle. Moreover, according to the planning authorities, people in Canberra want to go 'down' to the shops in a quite literal sense, and the circle



indicated on the Griffin plan would be on high ground. Consequently, it seems more feasible to locate the shopping area for this Yarralumla suburb on lower ground, nearer the centre of the residential development. Similarly, the building development in O'Connor and Ainslie has taken place at some distance from the junction of Northbourne and MacArthur Avenues, which Griffin apparently envisaged as the focal points for these suburbs, and the present shops are several blocks away from this junction.

Many of the minor revisions that have been made were necessitated because Griffin himself never had time to take full account of the detailed features of the site. Griffin drew his original design on the basis of contour maps and descriptive material, without ever having seen the site. After coming to Australia he made modifications, to take local conditions into account, but never had an opportunity to complete this process. For example, one of the housing allotments in the original plan was located on an old creek bed, which the later planning authorities considered unsuitable for the purpose. Similarly, there have been minor changes in street lay-out to bypass a tributary to Sullivan's Creek, which Griffin had not taken into account. Other revisions of this nature are under discussion. For example, the junction of Kings Avenue and Constitution Avenue may be changed to remove it from the hollow at the junction point on the statutory plan. Similarly, the road of the Causeway may be changed so that the Causeway Bridge will not cross the river at an oblique angle.

The plan is, of course, far from complete, and it is difficult to forecast how much the plan will be changed before the city reaches its projected size. Even the Parliament Building and the main office buildings, substantial as they are, are regarded as temporary structures. The administrative offices (the fourth group shown in the government triangle) are currently under construction, but are not

Parliament House (focus of south "bell") seen beyond the vacant central plain from the War Memorial (eastern edge of north "bell") expected to be ready for use in less than four or five years. The government's building efforts at present are being devoted mainly to the construction of housing units, which are regarded as the major pre-requisite to the transfer of the remaining government departments from Melbourne to Canberra.

CRITICISM OF THE PLAN

The problems associated with the execution of the plan arise from its main features: the emphasis on open space, especially parks, gardens, lakes and boulevards; and its sharp functional divisions. Canberra is unquestionably a beautiful little town; but it must be the most inconvenient little town in the world.

In a city of 18,000 people, it should be possible for a good many residents to live where they can walk easily to their places of work and to the shopping and recreational centres. Others should be able to live near at least one of these focal points. Those who cannot walk easily to the points in the town which play the biggest role in their daily lives ought at least to be able to reach them quickly and easily by public transport.

None of these conditions is met in Canberra. Men working in office buildings in the southern 'bell' and living in a dormitory suburb appended to the northern 'bell' may travel more than five miles from home to office, even if they take the most direct route. If they go by the government-owned bus line they may have even further to go, since most buses do not follow the direct Commonwealth Avenue route from Capital Place to Civic Centre, but follow the winding boulevards which take them by the hospital and the few government offices located near the centre of the city. The service is infrequent outside of

rush hours. Since the population consists almost wholly of civil servants and their families, the pattern of movement within the city is much the same for all families, and the rush hours are very rushed indeed. One cannot count on getting into the first bus that comes along, nor on getting a seat on the first bus that stops. Standing for twenty minutes on a crowded bus after a searingly hot summer's day in a busy and non-air-conditioned office, then walking several blocks across a dusty, sun-baked pasture to your home from the nearest bus-stop, is an exhausting experience. These are inconveniences of a sort which (substituting hot pavement for hot pasture) one expects in a large city, and which many people willingly tolerate for the amenities a large city brings; but it is not what one expects in a town of 18,000 people. Even in going from one office building to another in the course of a normal day's work, a good deal of valuable time and energy is lost in transport.

Griffin, a foreigner to Australia and no sociologist, probably failed to appreciate the importance of differences in national habits and attitudes. Perhaps even in Griffin's Chicago, husband and wife sallied forth together on Saturday afternoon to do the week's shopping. Perhaps even in 1911, some people relied on telephone orders and deliveries during the week, and Griffin may have anticipated the spread of this practice. In Canberra, shops are normally closed on Saturdays after 11.30 a.m., and many are not open on Saturday at all. Moreover, the Australian husband is not trained to share in shopping expeditions; his Saturdays are sacred to the 'pub' and the football grounds. Daily deliveries are almost unheard of. Thus the shopping burden falls on the housewife, and distances are important.

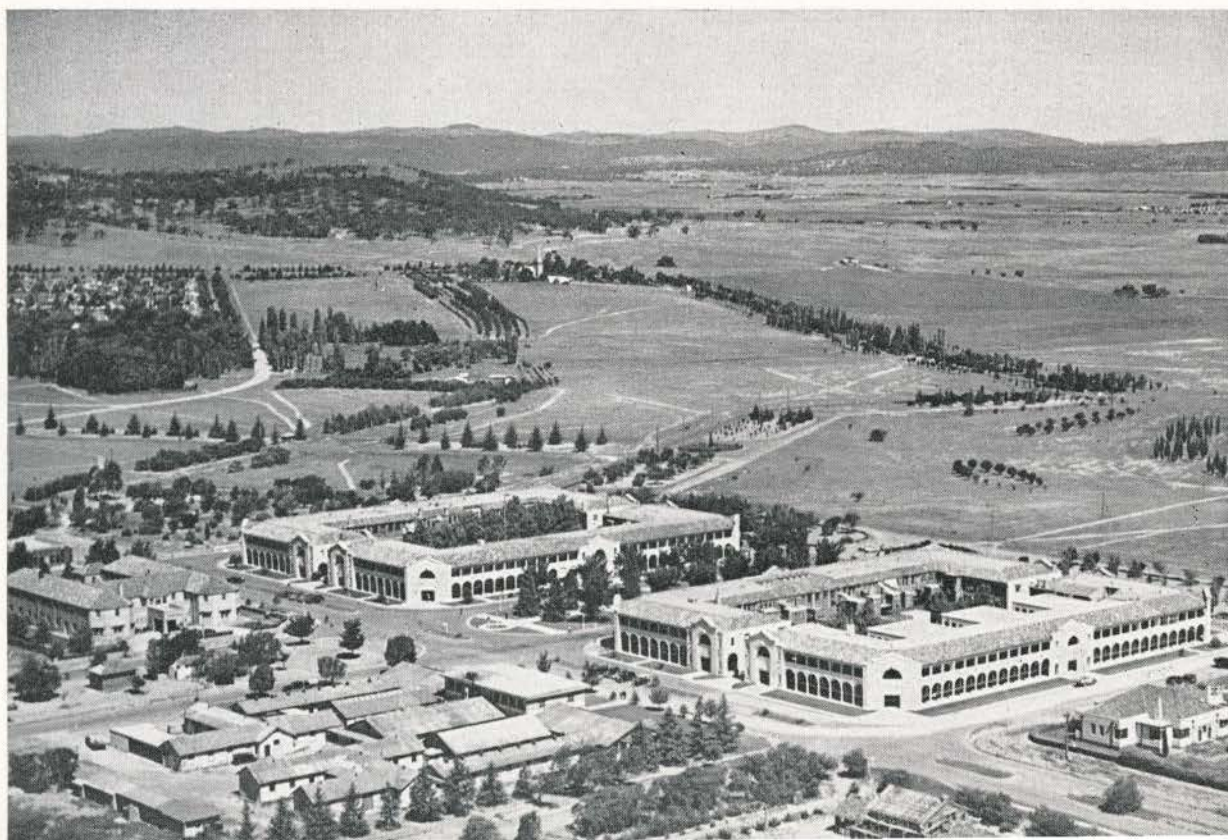
The Canberra housewife may live a mile or more from the nearest shop. She may feel disinclined to battle her way on to a bus during rush hours, even if her house-

The main shopping centre with government offices and hotel in the foreground, comprises an island of development amid undeveloped acres of pasture.

hold duties permit her to do so; at other hours the service is sparse, especially in the residential districts, and in any case the bus route may not come within blocks of her home. As a rule she finds it easier to walk. I once said to the wife of a Canberra friend: "In Canberra, every prospect pleases." She replied: "Not when you have to see the prospects lugging a string bag full of groceries in blazing sun or pouring rain." If it is not merely a matter of bread or baby oil, but one of a new blouse, only the shops in Civic Centre are at all adequate. If the unfortunate housewife lives on the periphery of one of the southern suburbs, her shopping in this case may involve a round trip of nearly fifteen miles.

Once home for dinner, when husband and wife consider visiting friends or seeing a movie (the usual range of evening recreation in this capital city)⁶ the transportation problem arises again. If the family lives on the periphery of one dormitory suburb and the friends on the periphery of another, the visit may involve a trip of six or seven miles each way. If Junior wants to go for a swim at the public swimming pool during the day, he too faces a transport problem. To live comfortably in Canberra, a family needs two cars. Few civil servants or Members of Parliament can afford them; a good many Canberra families can't even afford even one car.

Some of the difficulties with the development of Canberra arise from the fact that Griffin concentrated on the 'Federal Capital' aspects of the plan, to the almost total neglect of the civic aspects. He made no specific provision for the shopping centres, community services, schools, or other focal points. At the same time, his street plan suggests certain ideas concerning the location of focal points. Thus, the present planning authorities have no clearcut guides to location of focal points, but are tied to a street plan which severely limits their freedom in choosing focal points. This situation complicates the adaptation of the plan to developing problems. For example, the Griffin plan shows a ring of small blocks of buildings around the six sides of



Civic Circle (now London Circuit). Griffin apparently intended all these blocks to be used for commercial purposes. The present planners consider it impractical to follow this plan, since the distances between shops would then be so great as to necessitate a bus service around the circuit for the sole purpose of carrying people from one shop to another. In fact (as indicated on Map 2) only two of these proposed blocks have actually been developed. The eastern block, and the east side of the western block, are now given over to shops. The remainder of the northern block contains banks, insurance companies, law offices, airway terminals, a few government offices and Canberra University College.

Traffic problems have already arisen in this area. Northbourne Avenue is the main highway from Sydney. As presently located, it brings the through traffic into the very centre of this main shopping district. During shopping hours, this area is crowded with pedestrians and local vehicular traffic. The through traffic is tied up, the danger of accidents is increased. It would be desirable to route the through traffic around the Civic Centre, but the advanced stage of development in some of the immediately surrounding area makes this solution difficult. Present plans are accordingly aimed at shifting commercial developments to the area north-east of the present shopping area, and use of the undeveloped area at the north-west for other services of a type requiring less local traffic.

Thus despite its open plan, Canberra already has its traffic problems. By the time the population reaches the projected 40,000, serious traffic problems will have emerged, many of which will be the result of Griffin's failure to foresee the development of motor traffic, and the difficulty of adapting his plan to it.

While the rigidity of the statutory plan is the chief source of trouble, not every departure from it has had happy consequences. Some of the 'temporary' deviations, in particular, have created their own problems. Indeed, it could be said that one of the chief problems associated

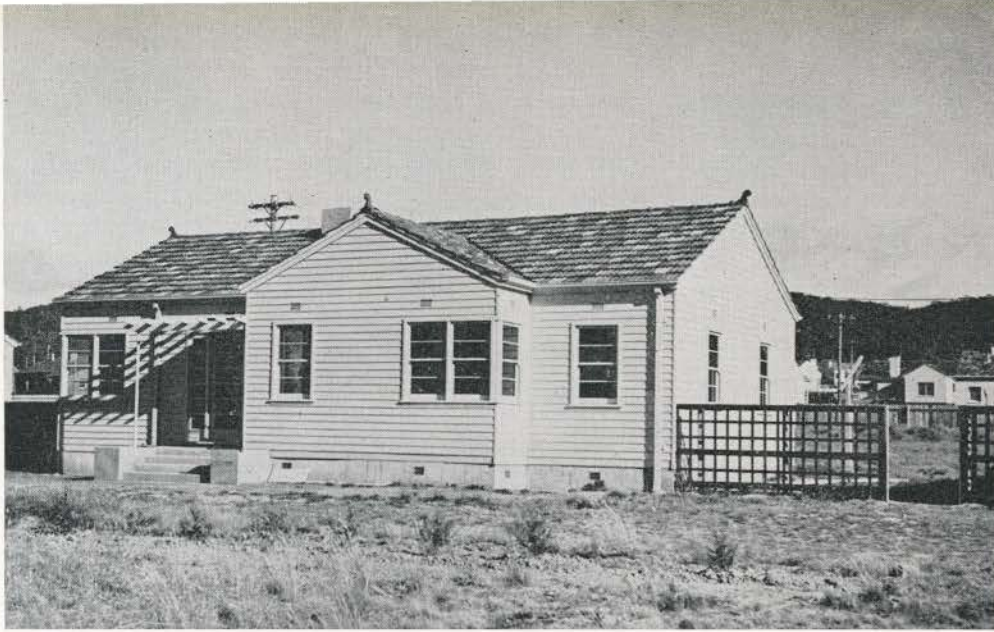
with urban development — slums — occurs in Canberra only where 'temporary' departures from the plan have been made. Two of these slums are temporary housing developments built just after World War I, in an area not ultimately intended for residential building. One of these developments is behind Causeway Hall in Kingston, the other between Westlake Hall and the Legations Area. They consist of small, substandard cottages built in 1920 to provide temporary quarters for the builders brought to Canberra at that time. The Causeway settlement is on the fringe of the present industrial area, where the local sawmills, woodworking shops, etc. are situated. The Westlake settlement is tucked behind a small hill where it is invisible from the main thoroughfares, and some Canberra residents are unaware of its existence. The living conditions there are made all the less satisfactory by the refusal of the Minister of Interior to permit the establishment of shops in the area, on the grounds that the whole project is temporary and to foster further development there would be contrary to the principles of the Griffin plan.

Another type of slum condition is provided by the temporary 'quarters.' These are one-story frame buildings of a barracks type, unattractive in appearance and providing a bare minimum of shelter. There are several of these, at Eastlake, Riverside, Mulwalla, Turner, Reid, Ainsley, and on Capital Hill itself (see Map 2). As one observer expresses it "the worst of these are really bad, and the best have newness as their sole virtue." The prefabricated structures at Narrabundah, also slated for ultimate removal, are a third type of slum or potential slum. With housing accommodation as short as it is, it is unlikely that these substandard housing developments will be removed in the near future.

Housing has the top building priority in Canberra, and residential construction is proceeding in most suburbs.

Ornamentally planted open spaces abound in the residential suburbs. This shows the greater part of the "bell" south-east of Parliament House.





The soil is unrewarding. The great difference between these two houses lies in the tree cover, with gumwoods most prominent.

Unfortunately, the houses being built currently are small, and few indeed are architectural gems (see above l. and r.). Virtually no houses are built with more than three bedrooms, and relatively few with more than two bedrooms. Canberra has a relatively high birth rate, and a good many families have more than two children. Thus as the present large crop of youngsters reach their 'teens, some awkward problems will arise from the limited number of bedrooms.

CONCLUSIONS

One might quibble with the Canberra plan on minor points. Even on æsthetic grounds, differences of opinion might arise. One might question, for example, whether English rose gardens really look well against caked orange soil, and bare brown hills, and whether the native trees and shrubs are not more appropriate. One might point to the bleak monotony and mediocrity of the architecture and street patterns in some of the newer residential suburbs. One might lament the lack of pavement which makes these suburbs dust-bowls in dry weather and seas of mud when it rains. One might question whether sharp functional divisions create the maximum urban charm. But these are details. Griffin and his followers set out to make Canberra a beautiful garden city. Few would deny that they have made Canberra a beautiful garden; but it is a garden without a city.

The specific defects of Canberra as a place to live in can still be remedied by modifying the plan. There is already some move to build up local shopping areas within the residential districts, and to establish corner grocery and drug stores. Such moves encounter opposition from those with vested interests in shops already built in the present centres, and even if these vested interests are not permitted to sway government policy, some redistribution of space in the existing main shopping centres may be necessary if neighbourhood shopping centres are permitted. Blocks of flats for relatively small families could be built in the open space in the centre of town, thus providing many with easy access to office, shops, and recreation. A greater number of diversified, unobnoxious industries could be allowed to locate on the periphery, thus reducing somewhat the dreadful and dangerous sociological uniformity of the city. More through bus routes could

be provided. Some of these modifications are already under discussion, but where they require radical departures from the original plan, it is very doubtful whether they will be carried through.

The important lesson to be learned from Canberra experience, and to be applied to the Ottawa plan, is one of principle rather than one of detail. Canberra illustrates the danger of planning a capital city exclusively as a national monument, without adequate consideration of the interests of the people who are actually going to live and work in it. More broadly, it illustrates the need to plan on the basis of objective principles, rather than on the basis of the taste and opinion of the professional planner as to what a pretty city should look like.

Elsewhere I have defined the purpose of community planning as "to give the people of the community the pattern of land use they want, as indicated by their willingness as individuals or as a group of tax payers to cover its cost, over a period extending as far into the future as useful forecasting permits."

This definition raises serious questions as to just how the market and the polling booth can best be used to discover the wishes of the community with regard to land use; but those wishes can be translated into measurable quantities to a substantial degree, and to do so has the great advantage of making decisions depend on the expressed wishes of the community, which are factors objective to the planner himself. This approach therefore limits the degree to which planning decisions reflect the taste and opinion of planners as mere subjective phenomena.

This approach applies with as much force to a capital city as to any other. However, in the case of a capital city, there is a special problem in defining the 'community' whose interests are to be served. Can the 'community' be limited to actual residents? Can a capital city be planned solely to provide legislators, civil servants and other residents a pleasant, healthy, and efficient environment in which to live and work? Or must it also be planned so as to impress foreigners and visitors from other parts of the country with its beauty?

It is clear that non-residents have an interest in a capital city in a way that does not pertain to other cities. The

Australian official photographs have been used throughout this article.



people of Canada as a whole would like to have a capital of which they can be proud. The development of a capital city is not paid for by residents alone, but by citizens of the country as a whole. It is therefore reasonable, and within the scope of the above definition of purposes of planning, to give the people of Canada as well as the residents of Ottawa some voice in the final choice of a plan for Ottawa, and in its modifications as time goes by. Such a voice can be assured by stimulating wide public discussion of the plan and giving Parliament ultimate control over its adoption and modification. But it is surely obvious that the people living in a capital city are the ones most directly concerned with its development. It is to the advantage of the whole nation to have a satisfactory working and living environment for those who constitute its government, and even visitors to a capital city soon become aware of its functional defects, however beautiful it may be. It follows that special efforts should be made to obtain reactions to the plan from residents of Ottawa and the Capital Territory, and that Municipal Governments in the Territory should have a strong voice in the adoption and modification of the plan.

The primary lesson to be learned from Canberra experience, then, is the importance of treating a capital city as a place in which to work and live — more than as a place at which to look — and of seeking as direct an expression as can be obtained of the wishes of the residents as to how they want their city to develop. Expression of the wishes of non-residents regarding the development of their capital should also be sought, but should be given less weight than the wishes of those who are in daily contact with the problems of the city.

The secondary lesson is that for a capital city to be at once a pleasant place in which to live and work and a national monument of beauty and dignity, its planning must take the form of directed growth rather than forced growth. Whatever may be the evils attending the unregulated growth of a city, it at least reflects the wishes of some members of the community; when these wishes accord with those of the community as a whole, they should not be interfered with to provide some professional planner an opportunity to give expression to his own taste in cities. It is not merely a matter of applying

generally accepted democratic principles; it is even more a matter of wide differences in taste and opinion among planners, and the need for an objective criterion for resolving them. I can think of no objective criterion more satisfactory than the expressed wishes of the community. These wishes will change as the city evolves. Consequently, in sharp contrast to the Canberra plan, the plan should be a dynamic one, subject to continuous revision in broad outline as well as in detail, as new problems arise and new tastes develop.

Canberra also provides certain lessons regarding details of planning. First, open space, broad boulevards, and large parks and gardens may be attractive in appearance, but they frustrate the main reason for urban development: the convenience of having facilities for a variety of activities in a relatively small area. Second, a 'static' plan, adopted once and for all and subject to change only through the cumbersome machinery of approval by both Houses of Parliament, is apt to lag farther and farther behind changing needs; perhaps a special Parliamentary Committee might be set up to discuss revisions with the professional planners, with only major revisions submitted to the test of Parliament as a whole. The referendum device might be used to obtain periodic indications of the wishes of the community concerning the plan. Third, because of the greater homogeneity of the patterns of work and play in a capital city than in other cities, the problem of congestion and traffic control is greater than in other cities of comparable size, and so requires even more careful attention than in those cities.

Finally, if co-operation of the experts in the country is to be obtained, their advice must be sought from the beginning and continuously thereafter. The Canberra experience shows the importance of a thorough understanding of the habits and attitudes of the society for which the plan is designed, if the result is to be satisfactory. On the whole, the plan developed by the Board of Australian technicians in 1912 seems a better plan than the Griffin plan finally adopted; by concentrating the *early* development of the city on the south side of the river, a directed natural growth could have been achieved that would have avoided most of the major difficulties created by the present plan. At least it would have been an

Australian plan, and if a plan is to be imperfect, it causes less dissatisfaction if it can be regarded as a product of the people of the country itself.

NOTES

¹ The attitude expressed in a recent pamphlet issued by the Australian Department of Interior (*Historical and Descriptive Notes on Canberra and the Australian Capital Territory*, Canberra 1940, p. 2) is typical of the attitudes of our own fathers of confederation: "It is surely self-evident that the Parliament and the Executive of the Commonwealth should be in a position to function freely at the Seat of Government in the interests of the nation, without any interferences or domination, and independent of State protection. Thus it was important that the Seat of Government should not be in the midst of the large population of the Capital City of any State."

² The form of notification is illustrated by the following example:

AUSTRALIAN CAPITAL TERRITORY

Seat of Government (Administration) Act 1910-1947

NOTICE OF INTENTION TO VARY THE PLAN OF LAYOUT OF THE CITY OF CANBERRA AND ITS ENVIRONS

In pursuance of the powers conferred on me by the provisions of section 12A of the *Seat of Government (Administration) Act 1910-1947*, I, Hubert Lawrence Anthony, Minister of State acting for and on behalf of the Minister of State for the Interior, do hereby give notice of my intention at the expiration of thirty (30) days from the date hereof to vary the plan of layout of the City of Canberra and its environs in the manner and to the extent shown on the plan hereunder.

Dated at Canberra this twenty-fifth day of January, One thousand nine hundred and fifty-one.

H. L. ANTHONY

For and on behalf of the Minister of State
for the Interior.

(*Commonwealth Gazette* 209 for 1951, page 306, February 1.)

When the revision is approved, another notice appears, in the following form:

AUSTRALIAN CAPITAL TERRITORY

Seat of Government (Administration) Act 1910-1947

NOTICE OF VARIATION OF THE PLAN OF LAYOUT OF THE CITY OF CANBERRA AND ITS ENVIRONS

In pursuance of the powers conferred on me by the provisions of section 12A of the *Seat of Government (Administration) Act 1910-1947*, I, Philip Albert McBride, Minister of State for the Interior, do hereby order that the plan of layout of the City of Canberra and its Environs shall be varied in the manner and to the extent shown on the plan on the following page.

Dated at Canberra this fourth day of May, 1950.

P. A. MCBRIDE, Minister of State for the Interior.

(*Commonwealth Gazette*, 26 for 11 May, 1950, page 1056.)

³ *Handbook for Canberra*, op. cit. p. 31

⁴ *Handbook for Canberra*, op. cit. p. 27

⁵ The descriptions are as follows:

Variation A. This variation consists of a slight alteration in the position of the existing streets and the provision of additional streets in accordance with the scheme of sub-division for residential purposes, conforming with the topography.

Variation B. By this variation, a short unnecessary street is eliminated, thus affording a better sub-divisional scheme for the section for residential purposes.

Variation C. This variation consists of the elimination of certain sub-divisional streets and their replacement by other streets in accordance with an amendment of the divisional plan to provide for more

effective and convenient planning for residential purposes and also for the location and arrangement of community facilities.

Variation D. Consists of two parts:—(a) the elimination of an unnecessary street through a park area and (b) the provision of an internal street for the purpose of obtaining building frontages for allotments in a residential area.

Variation E. Provides for the introduction of new streets for housing and sub-divisional purposes.

Variation F. Provides for the elimination of certain streets and their replacement by new streets for more convenient planning for residential purposes.

Variation G. Provides for the elimination of a short street and its replacement by a crescent for greater convenience in arranging sub-divisional allotments for housing purposes.

Variation H. Comprises the elimination of certain streets and the provision of new streets in keeping with a revision of the planning to suit the topography and the economic disposition of sites for larger and smaller residential buildings, and also the provision of a suitable area for school purposes.

Variation J. Comprises the introduction of two small crescents to provide for housing frontages and partly enclosed garden features.

Variation K. This variation provides for the elimination of a short street and portion of another street to facilitate sub-divisional planning, and for the introduction of new streets to provide frontages for residential purposes.

Variation L. Comprises an extension of the existing street to provide additional frontages for housing allotments and for convenient connection therefrom to other existing streets.

Variation M. Provides for a sub-divisional street to obtain frontages for residential allotments.

Variation N. Provides for the elimination of a sub-division designed for smaller industries for which it is proposed to make provision elsewhere, and for the introduction of a short street to provide direct access to a main avenue.

Variation O. This variation provides for the elimination of a street, now unnecessary, through an area which has been developed for playing fields.

Variation P. Provides for the elimination of a street which is inconvenient for planning and badly located from the point of view of the topography, and for its replacement by a street more suitably located. It also provides for the temporary development of sub-divisional streets for the purpose of a workmen's housing area consisting of pre-fabricated dwellings.

Variation Q. Consists of the provision of a sub-divisional street to obtain frontages for residential allotments.

Variation R. Comprises the elimination of certain streets and the provision of new streets in accordance with the sub-divisional plan for residential purposes which is more economic, convenient, and in conformity with the topography.

The necessity for these variations arises from sub-divisional requirements which do not traverse any cardinal principle of the approved City Plan.

⁶ None of the buildings proposed for Griffin's recreational group (Map No. 1, Capital Terrace, just north east of Molonglo Basin) has been built, or is planned for early construction. It may be that this fact distresses the Australians less than the foreign visitor. As one observer has put it, "Griffin had a very non-Australian idea of recreation, as the buildings are intended to house recreational activities of the non-athletic type, such as art galleries, museums, little theatres, etc. . . ." My own impression was that many civil servants, having been trained abroad and having lived in Australia's great metropolitan centres, missed such cultural amenities very much indeed. It is probably true, however, that a great number of Canberra residents would have missed more keenly the race tracks, fennis courts, football and cricket, for which Griffin made no provision, and for which somewhat inadequate provision has been made by his successors.

⁷ B. Higgins, "Towards a Science of Community Planning," *Journal of the American Institute of Planners*, Winter, 1950.

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ONLY HALF AN ARCHITECTURE

IN THIS THESIS I have no wish to imply that function is not a very necessary content of architecture. I aim, instead, to show that function taken by itself is an insufficient basis for what is properly claimed as an art. In this sense it may be thought that what follows is merely "beating a dead horse." But it does not seem to me that the "horse" is dead yet. The emphasis is still laid on utility in planning, structure, materials and expression. Emphasis on this one half of architecture — the technique, has, and still is, hindering the development of the other half — the art. We are only at the beginning of mechanization and standardization in the building industry and unless we are prepared by a proper attitude towards the larger purpose of architecture, its onetime art will not be regained.

It should also be stated that these criticisms apply mainly to the architectural scene nearby and not to those parts of the world where other attitudes seem to prevail — notably Northern Europe and South America.

THE ARCHITECTURE

I, who of late to Heaven had paid
But scant and casual worship, while I strayed
In bond to crazy science, now perforce
Tack right-about, and seek my ancient course.

Horace. Odes I, XXIV
(Sir Edward Marsh's translation)

It is obvious enough that architecture reflects the attitude of society towards its present, its past and its future. This attitude is a complex of many elements but within it can generally be found one dominating theme representing the collective purpose of a people. Such a theme has influenced the nature of every historic style. Although it will not necessarily predetermine the quality of architecture, it, at least, provides the boundaries of the art and the architect to be understood must remain within them. The architect may therefore in one society be free to expand his art on the widest plain of the human spirit and yet in another be limited to but one small corner of it. There are exceptional men, of course, at all times who will not be limited by prevailing attitudes but their own objectives are beyond the comprehension of society and will therefore have little effect upon it. The average, however, cannot see beyond their immediate surroundings and will always work inside the fence of understanding. It is the average architect moreover who makes architectural innovation into style and he will produce it — austere or flamboyant, sober or gay, aspiring or complacent — in direct relation to

prevailing demands.

Of all the desires that make up our contemporary civilization by far the strongest is that for material well-being. It is expressed through politics in the new socialism, through economics in mass production and in the new religion — science. Our attitude towards them is directly related to the details of existence — such details being considered as sufficient or important in themselves rather than as means of achieving loftier ends. We have a fine collection of tools but as yet no clear idea of what we should make with them.

This emphasis on means rather than ends could not be better exemplified than by the ever growing influence of science and scientists on our thinking. Now science is a servant of man and must always be so. It can, however, only be kept in its proper place by a society whose values are of sufficient breadth and altitude to subdue its assertions of omniscience. But our material approach to life plays right into the hands of the scientist. We worship him because he has done so much for us. And because we are not equipped by training to talk the same language with him we cannot question or criticize him. In fact, his utterances are often accepted with somewhat the same confident misinterpretation as were those of the Delphic oracle in the ancient world. We are much impressed by slide rules, strange magic words and by what is called the 'scientific method.' We are not quite sure what the last is but the scientists believe it is wonderful and we are quite willing to agree with them when we are told "the future of our civilization depends on the widening spread and deepening hold on the scientific habit of mind." In spite of John Dewey's assertion, clear thinking and common sense as human activities are not creations of the modern scientist! I do not wish to suggest that the scientist is an essentially evil species, but I do believe he has a false idea of the relative importance of his own efforts and is quite willing to assert his position as master while it is in fact only and always that of a servant. Unhappily, however, there are many only too anxious to stretch the responsibilities of science as far as possible. "What science may do for men is not enough. This must become subordinate to what science may do to men." This was said by the late general secretary to the American Association for the Advancement of Science. Here is a frightening preview of a Frankenstein world. Servant becomes master and means fuse into ends.

Our architecture, being an expression of our beliefs, and

achievements, is also subject to the confusion of ends and means that arises from such materialism. For if it be considered as an art then surely it must have a wider theme than that of material well-being. But this is unfortunately not the case with us. Our battle cries and slogans all emphasize this material attitude. The new architecture "arises from an accurate analysis of the needs of modern society." It "expresses the spirit of the machine age." It "makes full use of new materials and techniques." There is no indication here of ends but only of means. The achievements of great architecture in the past have taken place because of a strong desire for certain specific expression and the tools of building were developed to that end. But we have our eyes fixed on the tools without knowing what the finished product should express beyond efficiency and some rather ill-defined feelings about the age in which we live.

It may be unfair to judge an architecture at this moment in its growth, or even our attitude toward life, but this is the soil in which our architecture has been planted and the roots will always influence the tree no matter what suns will shine or winds blow later on. If the intellectual, emotional and spiritual qualities that architecture has in its power to give were ever needed, they are now.

We are now devoid of loftier values because of political, social and economic unrest. But there may come a time when the material details of existence will recede into the background and higher values will achieve dominance. Society will then demand and get from architecture what is not demanded or provided now — architecture as an art.

THE ARCHITECT

Science is a good piece of furniture for a man to have in an upper chamber provided he has common sense on the ground floor.

Oliver Wendell Holmes

In the great architectural periods of the past the designer of buildings generally had the advantage of working within certain well established boundaries. These at least provided a framework for the limited vision of the average practitioner regardless of their nature or extent. Nowadays, there are unfortunately no such convenient paddocks of taste and we either have to grope round ourselves or stay within earshot of the revolution's echoing battle cries. For the majority the latter is the safer course and our collective architectural 'philosophy' still springs very largely from that revolt. Of these echoes by far the most insistent is the somewhat limited but nevertheless dominant idea of function. J. M. Richards in the ARCHITECTURAL REVIEW has already pointed to the need of some known track for the 'rank and file architect' to travel on and the necessity of it is very clear. But the more important consideration is whether this particular track goes in the right direction or indeed if it can go very far in any direction.

The effect of this upon the architect is that besides being subject to the material demands of the society to which he belongs, his own approach to the profession is not on a very much higher level. The client will not often ask of his architect more than an efficient and economical solution to his problem. And the architect, having a somewhat similar attitude to building, will probably consider such a solution adequate. Not only does this dual approach to architecture

tend to reduce the status of the profession in the eyes of the public, but it also induces a kind of spiritual atrophy in the mind of the architect. The results of this condition can be seen in the growth of architecture as a business and in the popular misconception of the relation between client and architect — that of master and servant. The extension of this idea is the assumption that the architect, being subject to a profit motive similar to that of his client, will therefore not have any architectural convictions to prevent him from doing exactly what he is asked to do.

Although the fault lies primarily within the standards of our society, the architect too is culpable. By training and purpose he is presumably equipped to see his function and that of his art in the broadest perspective. But this he does not seem to do. The demands of materialism and the growing complexity of his craft lead him into ever narrowing channels of thought which are not broad enough to allow the development of those aspects of architecture which, in the past, have ensured its position as an art.

The result of such preoccupation can best be seen in the uncertainty with which the modern architect approaches any problem not strictly contained within the limits of his creed. He has no rules to guide him other than the concept of function. There is no grammar of ornament or standard of taste. Nor can he find guidance in established architectural character for that too is in the process of taking new shape.

Within the safe logic of function there is room for only a very limited aesthetic — the expression of material facts purely and simply. But this after all is little more than an extension of technique into craft which cannot be considered as the basis for an art. The architect may indeed be half-conscious of the inadequacy of function as a philosophy of design but, by external influence, training and position in society, he is restrained from escape.

So long as the architect considers himself compelled to follow in the wake of society, his architecture can only reflect in a negative way the requirements of that society. But architecture is more than this. It is also a concrete manifestation of aims. We do, it is true, have certain general ideas regarding an ideal environment but owing to our immediate material objectives rarely see their fulfilment. Such realization of these rather vague aims can only take place if the architectural profession fully comprehend their nature and adopt an attitude consistent with their attainment. This attitude will not always be in accord with that more generally held, for the architect must be capable of leadership. In the same way, his architecture, in the absence of demand, may have to create demand. For only by infusing art into architecture once more may it provide those benefits of art so badly needed for the human spirit. To this end our aesthetic should be directed frankly to the layman and not to a professional audience as there is a tendency to do now. We must reassess the *philosophy* of the new architecture, see it for what it is, — a chest full of tools; decide what we are going to make with them and do so.

THE LAYMAN

... for in the end artists are more flattered to receive the applause and admiration of their fellow citizens than the approval and payment of a master.

Sismondi

If architecture be primarily an art rather than a science—and I believe it to be so—then the position of the spectator is vitally important. No art can thrive without him. Without active, critical participation and general support it soon becomes isolated from life. Art exists for man in that it provides a path to emotional and intellectual experience beyond his own, but if man neglects the art, the art will also ignore man. The artist therefore needs at least the interest of society, for it is inertia and indifference that are the major enemies of art. Without such a feeling of mutual respect art flees to her ivory tower and society is poorer for her going. In architecture the effect of this separation is an aesthetic expressing the personal *philosophy* of the designer and directed over the heads of his proper public to a professional audience.

With music, painting and sculpture I am not immediately concerned and these may possibly now claim a certain degree of public support. So should architecture, for by its very nature it has an advantage over these other arts which, paradoxically, has decreased rather than increased public interest in it as an art. While it is more than easy to evade the art gallery and the concert hall, to escape from architecture would require considerable and rather drastic effort. We live in it, we learn in it, we work in it, and we often play in it. The paradox lies in our attitude to those containers of our daily existence. For while, unlike the other arts, architecture is on exhibition everywhere at all times we are hardly aware of it. We know that purposes of different buildings and think of them only as fulfilling those purposes, quite forgetting that they are in themselves worthy of praise or condemnation on entirely other grounds. This has not always been so. Even in the scattered ugliness of the 19th century there was, to judge from some buildings, a demand for, and a somewhat distorted appreciation of, qualities in architecture above and beyond the requirements of utility. A sentence from the catalogue for the Great Exhibition of 1851 is enough to show how they thought.

... the grace with which the charm of decoration has been super-added to so utilitarian a structure serves to show that mindful as the English habitually are of the practical and economical they are by no means indifferent to the beautiful in the Fine Arts.

Now, however, both client and spectator seem to be totally indifferent to the less practical aspects of building and modern architecture has not, apparently, encouraged them to be otherwise—concentrating as it does on material considerations. The appeal of function is obvious as everyone sees the need of efficiency. (It is easier to convince the voter of a new traffic plan than the importance of having a civic square.) But the appeal of the new aesthetic is more restricted in spite of the fact that it has grown out of utility and should therefore be relatively easy to understand. It is not widely understood yet. In spite of the simple logic of its *philosophy* it still prompts mistrust. It is an architect's aesthetic primarily because its growth has never been subject to the constant awareness of a public, and as such, shows the signs of professional introspection.

The cure for this ill is twofold. One—the education of the public to an awareness of architecture as an art and, two—a change of heart in the profession. This is not a

matter of reviving a lost art for its own sake, but rather of reviving it for the sake of the fuller life it will give to man. This can only be done if we open his eyes to the potentialities of architecture as an art for his own enjoyment.

THE ART

The art of that completely mechanized civilization can never, if it is to be an art, arise from the purely rational solution of functional problems.

Herbert Read

In our architecture, the functional principle has acquired such a stature that it has become an integral part of its art as well as its science. Indeed it is still believed by far too many that utility does, in some strange way, automatically determine an adequate aesthetic. This link between art and engineering found expression in Sullivan's slogan—"Form follows function." This cliché has worked hard in the cause of modern architecture but it is only a half-truth—a will-o-the-wisp which many have mistaken for a pilot light. It is certainly true that form should reflect function for that is character, and buildings should clearly reveal their purpose. But this statement has also come to imply that efficiency and beauty are synonymous terms. The analogy of such objects as the spoon and axe helve are, of course, rushed into support of the thesis but it is forgotten that these have been subject to refinement through centuries of use and that we are thoroughly familiar with them. Such a procedure and such a reaction cannot be achieved in a building which sets an immediate problem and requires an immediate solution with no chance of later correction. It is further quite obvious that there are many objects of great efficiency and little beauty. The human stomach might be one.

It follows then that something else must happen after function has been satisfied and before beauty is reached. This something else lies outside the provinces of science and her minion engineering. It is the imprint of a will to have beauty and the talent to achieve it. This is where technique ends and architecture begins.

At no time since the first recognizable styles have the structures of man been considered as not having some purpose higher than pure utility. Function, it is true, must always be satisfied, for without it the art of architecture has no reality as such. But the shifts of emphasis in the past have always allowed the art its proper due in accordance with contemporary values. There is no sharp division between the material and the more abstract approaches to function and, in much of the architecture of the past, the latter was considered of equal or greater importance. After all, the body has a way of overlooking minor discomforts and inefficiency when the mind considers other factors dominant, as Vanbrugh, for one, made quite clear at Blenheim. We suffer the inconvenience of living in old houses when their beauty enriches our existence and of working in functionally out of date buildings when their atmosphere of tradition and dignity contributes something to our own lives. The material function of such old structures is relatively short lived but because they were designed to be beautiful in themselves they will, if good and subject to the erratic changes of taste, satisfy the spiritual function as long as they stand. It follows also that if a

building is designed only to satisfy the material function, those using it are alone able to appreciate even the utilitarian success of the design. But if that building is a successful example of the ART of architecture, it may be enjoyed not only by those who use it but also by all those who see it.

Today we refuse to admit our inadequacy in terms of the past but such arrogance will do us no good. We must face the fact that our idea of building is primarily, though there are signs of change, one of function and being so is still, in my opinion limited as architecture.

As this architecture has its foundations in the materialism of the new society and having no ready-made standards of beauty, it was natural enough, at the outset to seek inspiration from the engineer, the machine and the unexplored possibilities of materials, old and new. In the zeal of revolt and in the enthusiasm to reveal the blank honesty of the new order, pure form was the most fitting and dramatic medium to express it. After all structure is, in its visual aspect, essentially geometry as is the product of the machine. Materials can best be seen when they are devoid of ornament. What better way could there be than to say all this in the language of pure form? Pure form is still the dominant outward expression of our architecture and is likely to remain so because the crafts that made enrichment possible in the past are quickly disappearing under the hammer blows of the machine. They cannot be revived and it would not be right if they could. We must make the best of what we have. The question is rather whether pure form is sufficient in itself as a means of providing understandable beauty and if not, what can we, in the circumstances, do to make our architecture more complete?

First of all it should be said that architecture as an art must earn the respect of the untutored spectator, give him pleasure and enrich his existence. It generally takes some time before the aesthetic of a new architecture can make such a contribution but even so, can the abstraction of unadorned geometry ever fulfil the needs of the average mind and spirit? By its very nature such an aesthetic has the rather inhuman and intellectual conception of beauty as it was thought of by the Greek philosophers – the beauty of geometric perfection. No ordinary mind can surely feel at home in such cold, dry air. It demands a rather rare kind of intellect – the sort of intellect that professes deep and lasting pleasure in a Hepworth or a Noguchi.

Pure form is perhaps more suited to architecture than the other arts for after all it is no more than that when stripped bare, but even here it has its limitations. A complete art must stir the emotions, satisfy but yet intrigue the intellect and somewhere touch the spirit. And yet all this must be within reach of the untrained mind and have the quality of providing *continual* enjoyment. Although it would be wrong to say that our aesthetic does not give some emotional and intellectual pleasure, I feel that it is mainly understood only by those who have knowledge of its principles – in other words the architects and a few interested laymen. The rest may appreciate its logic and be moved by its drama but these are short-lived and insufficient pleasures if they are felt at all. Certainly there is drama in the machine perfection of the blank wall and quivering cantilever but such drama seen again and again

becomes boring for there is not enough variety to keep the eye busy and satisfied in its searchings. Detail not only provides a foil to emphasize the bones of architecture but also gives continual interest and variety to the intellect.

Pure form is, I believe, inadequate from the spectator's point of view but it is at the same time a difficult aesthetic medium for the architect, requiring as it does a sensitive and subtle understanding of proportion and the use of materials to retain their geometric simplicity against the effects of weather and time. In fact it seems wrong that buildings should be designed to resist those mellowing changes in their fabric that have contributed so much beauty to the architecture of other times. Our materials will, however, tend to come more and more from the machine rather than nature – so we must accept to a certain extent the loss of nature's patina on building. But we need not also deny our architecture ornament.

Modern architecture has eschewed ornament since its infancy in the belief that it did not belong in an industrialized society. It was first supposed and it is a belief still widely held that the texture and colour of materials were adequate replacements for the mouldings and carvings of earlier styles. Indeed, these are important ingredients in any design but are they adequate in themselves? I do not believe so, for surfaces and lines must be capable of providing continued interest and enjoyment in an unlimited number of ways from a distance and from close up. Nor do materials by themselves provide the element of man's intellect essential to architectural detail. We must therefore find ways of achieving this with the means at our disposal.

The two sources to which we may look for assistance of this sort are the machine and the creative worker. Neither has yet been fully mobilized in the service of architecture, largely because of the down to earth, practical attitude of both architect and layman to this art.

The essential contribution of the machine is the production in large numbers of objects of standardized design and as such is the very anti-thesis of art. There is, however, even in this, a chance for the architect. There are many objects, perhaps just side products of the factory or even designed for other uses, which when incorporated with imagination in the flesh and bones of building, could help to give it the necessary embellishment. Moreover, the machine has produced its special brand of craftsmen operating in their own small establishments. Perhaps this kind of craftsmanship will live on, under the direction of architects, make its own contribution. Even in large scale industry where standardized units are made for use in building there is much room for improvement. We must learn to use the machine for our purposes and not let it run us. In his own sphere, only the architect knows what the machine can and should do. By his indifference to it he is leaving an increasing proportion of his art to the industrial engineer. We must learn to appreciate more what the machine can do for us in a non-utilitarian sense.

While the machine undeniably determines contemporary architectural form, its qualities of austere elegance and inhuman precision are limited as a complete aesthetic. In them, the all important reference to the mind and hand of man is lacking. The machine is a dehumanizing middle-

man. We cannot recall humanism and enrichment by forcing moribund building crafts. But although the utilitarian function of many crafts has gone down in face of industry, the recent revival of them in a purely decorative capacity has placed them in the sphere of minor arts in almost indistinguishable alliance with the painters and sculptors. The source for architectural enrichment provided by this ever growing band has as yet hardly been tapped. Of their potential contribution to architecture there can hardly be any doubt. As the product of human hand and human mind, their work can act as foil to factory exactness, as enrichment to bare plane and straight line, as whimsy when needed, as accents to emphasize any desired spirit or effect. In fact how can any real architecture carry on without such assistance? Indeed, the collaboration between architect and artist in building will give life and meaning to all the arts involved and provide a meeting ground for the layman and his arts.

It is quite obvious that we cannot and should not suddenly decide that, in this or that building, we shall now put ART. This would be an entirely false approach. The architect must see himself and his architecture as each really is. The average architect is neither an innovator nor a technician and his architecture is neither an art for the few nor just a necessity for the many.

The architect, now lost in function and a welter of new forms will have to recognize that neither he nor his techniques are most important. It is rather the effect of his buildings upon the human environment that should now deserve his attention. The personality of the designer is, after all, secondary to the personality of the design. He — the average architect — will also have to accept the fact that he is an eclectic in that he applies forms derived by

others. There need be no shame in this for harmony and style will never be achieved through individualism. Not only is the ungifted innovator responsible for much of present architectural bad taste but even on a higher level of purpose a personal architectural is limited in its understanding. There is indeed, wisdom in Lethaby's remark that "art which is only one man deep cannot go very far."

By thus accepting and using recognized forms, rather than searching always for new ones, the architect will then be able to refine and embellish what is still only the raw material of an architecture. Furthermore, only by the repetition and use in different ways of such forms will this architecture ever have meaning for society as a whole. But the repetition of recognized elements is not enough in itself. The architect will have to aim his design at the heart and mind of the layman. The architect must be a little less of the dietician and a little more of the chef. We have had enough carrot juice and cottage cheese. The need is now Chambertin and soufflé.

He must learn again to use the tools and tricks of his job to create emotional and intellectual experience for the spectator. He may even have to overemphasize effects, as does the actor on the stage, to win his new audience. In this sense an architecture of caricature may be necessary at first but refinement will follow when designer and spectator are together again. To induce this consciousness of architecture as an art, the designer must free himself and others of their reluctance to *waste* space, and possibly money, on pure effect. The spirit rather than the letter of function should be the concern of architecture. For we are chameleons and our lives will never be very rich in colour, interest or meaning if we deny those qualities to our architectural environment.

RICHARD J. NEUTRA

U.S. ARCHITECTURE IN A LIFETIME

When a mother watches her child grow up, it is not an unmitigated pleasure. Her heart lingers on with the baby, and in her relationship to the child she is always a little "behind the times." She mistakenly tends to see it and treat it as it used to be, as it was a year or two earlier, sweet and innocent. We do need a fresh view for every stage of development.

The Americas, North and South, have tremendously grown in my life-time. Their growth has been both impressive and shocking to mother countries, who often shudder at the sight of such increase in material strength and pride, which may have their bitter ending, as parents see such things. But vulgar materialism, not at all limited to the United States, is so much more easily noted and conspicuous than spiritual growth. American architecture, the spirit of design and planning have paralleled other developments and have gone through an interesting evolution within these last three decades which I can remember — and remember not merely as an innocent bystander and onlooker.

A person who desires to recollect the architectural scene, which surrounded my young practice in the early 'twenties, can see what it looked like on library shelves, in the back-numbers of those yellowed magazines, which proudly displayed the newest buildings of that day. The then current monuments had not yet superseded the Woolworth Building of Lower Manhattan and other boom architecture of the time before America had entered the first world war.

I myself did not know big promoters and politicians and calmly lived with common people. Adolph Loos, my hero of plain *savoir vivre*, had earlier lived with the same kind of American human beings at the time of the Columbian World's Fair. He had brought them close to my heart in many of his anecdotes, so wonderfully told, when I was a young student, devoted to him. There was something inspiring in these common people who had come from so many places, and labored hard and in a vigorous whirl to form and fit a new tradition. Adolph Loos,

When W. Boesiger and publisher Girsberger, Zurich, began preparation of their comprehensive illustrated book on Richard Neutra and invited a contribution from him, he drafted the following article but withheld it later from inclusion, as Dr Siegfried Giedion, the noted cultural historian, had meanwhile agreed with the publisher to write the introduction of the book. (RICHARD NEUTRA, PROJECTS AND BUILDINGS by Willy Boesiger, with an introduction by Siegfried Giedion, Girsberger Publishers, Zurich, 1951.)

who as a thinker among architects, gave perhaps a pragmatic turn to what I had admired from childhood on in the new design of Otto Wagner, had made me an American of choice and aspiration, ten years before I saw the country in the flesh. But here was a continent with a few individuals perhaps lost in its vast expanse, isolated and aware of a great cultural default in the huge mass of ubiquitous building activity. Sullivan and Wright themselves had to feel bitterly dismayed about the lack of followership. It was an isolation hardly imaginable now — like the loneliness of a small band of explorers finding themselves frightfully alone in the wastes of the Antarctic.

Nevertheless, it was then that, whistling in the dark, I began to write a most hopeful book¹ on how Americans build over an entire continent, in contrast to a Europe, divided by so many tedious duty boundaries and antagonisms. America built, as I saw it, with a tremendous supply industry to back it up, with a well studied, unsurpassed system of neatly documenting projects in advance — but with an urgent need to restaff its “Design Department.”

Here were native geniuses of design, who had been neglected and obliterated by the big architectural office that reigned supreme. With little, if any, practical proof on hand, I predicted that merely to conclude from the strength, ingenuity and the continent wide market of American building industry, this country would take a lead also in modern design, which depends so much on exactly these circumstances. Twenty-five years later, this controversial prediction, so feebly founded in 1925, has come true, and designers of modern stripe are perhaps more numerous in the United States than anywhere — and there are more clients who accept their designs, however well or poorly done.

But in those early days whatever could be considered as contemporary design, spread very slowly and almost like a nefarious and underground conspiracy. The West Coast was reached earlier than the East. In my first and second book on America's building² I illustrated with care the work of Irving Gill, admiring youngest disciple of Sullivan, both of whom I had the privilege of knowing before their lonely deaths. I sought out Gill's buildings, redrew for a record their plans which had been destroyed by fire. I photographed and first published them, as well



MARTIN SHUTTER



as those of R. M. Schindler, the originally gifted pupil of Frank Lloyd Wright, who himself had to find his first recognition abroad.

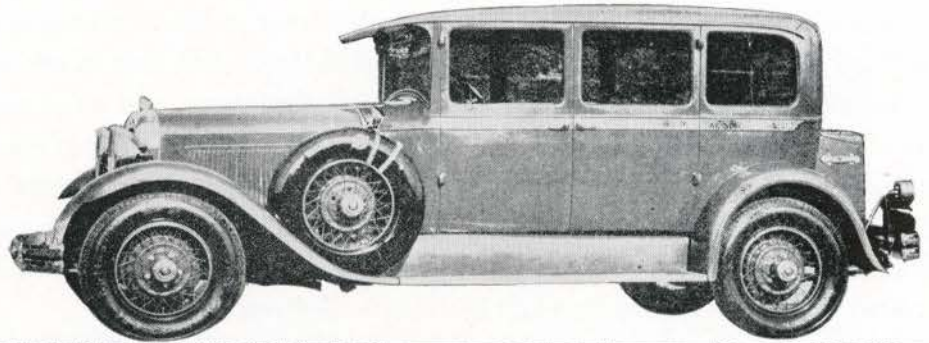
I started to teach, but no college would have me. In an old Victorian residence, "The Academy of Modern Art" was set up, and I found four or five students. Harwell Hamilton Harris, then a very young sculptor, and Gregory Ain, who had dropped his regular studies in dismay, were among them, and they soon joined my small office in loyal effort.

But generally, college students began to give me extra-curricular and cordial attention like Raphael Soriano from Rhodus, and others, in ever increasing number. At the end of the 'twenties, the Museum of Modern Art was founded, and Philip Johnson, befriended by the architectural historian Hitchcock, prepared in 1929 an exhibition right in the cultural import harbour of New York. The exhibition then set out to tour an even more amazed back country. In the East and Middle West, Loenberg, Holm and Lescaze had already started teaching and lecturing, and soon George Howe supported the new movement in practice and with the pen. While Hitler set the stage for the second world war, teachers of great personality and ability left Europe to organize architectural schools, and arrived in significant positions in the East and Middle West of America. But the weight of practical realizations remained for a while yet at the West Coast, enlisting talent and spreading North to the Bay region of San Francisco, to Portland, to Seattle, even to British Columbia, and again East across the Rockies to Chicago and Dallas — but always broadening its original toe hold in the mild climate of Southern California.

Here a remarkable magazine, *ARTS AND ARCHITECTURE* had begun to give it a continuous showing. After two-thousand years of nordic interludes, architecture again had received a vital impetus from a subtropical region. And this impetus could broaden because a private, interior climate within a transparent enclosure was now much more man made and more under control than heretofore.



It is interesting to recall the architecture of the fruitful years just preceding the great depression. The Bauhaus by Gropius (1926), the Tugendhat House in Czechoslovakia by Mies van der Rohe (1930), and the interiors shown at left and on the cover (1928) by Neutra. We are inclined to forget how industrial design lagged behind architecture and its furnishings. How great was the lag is indicated in the contrast between the interior of the house, and the smart new Studebaker of the same date, shown below.



The leadership of the big offices had in those years become increasingly challenged, at least in design, by the small scale pioneer who won awards in national competitions and the interest of readers, editors of magazines and even of the advertisers of new building materials and supply. His struggle against rejection and ridicule was sometimes gruesome, but more and more people thought it noble and worth the sacrifice.

By the middle of the 'thirties, I was permitted to build over an area which would have seemed immense to a European. One job rose on an island in the North Atlantic ocean, another at the mouth of the Rio Grande at the Southern tip of Texas. When a galaxy of contemporary designers began to spring up in these vast areas, their clients were more easily convinced because they had now at least seen pictures of such projects and their realizations. Wherever I flew or drove, I could enter without much gate-crashing, any house that seemed somewhat modern; the owners were friendly to open their door, saying they had followed my efforts, and proudly showed me what they themselves had achieved against the odds of local bank appraising and official building ordinances. Often one of my former assistants or apprentices was the designer, or someone who had over long distance seen our buildings in illustrations and cherished his book of clippings.

In 1932, I had built a house with the unexpected generous help of C. Van Der Leeuw, patron of modern architecture who also invited me for lectures in Holland. This research house showed no sign of depreciation or obsolescence through two decades. At last, hard boiled "practical" men became convinced; the investment in contemporary design was proven safe to many minds. It offered even good investment, liquidable investment; sales prices after ten, fifteen, twenty years were a multiple of original costs. Buildings of this design were found a more stable value in a quick-changing world than the most celebrated automobile models of 1930, or any other year. Banks, building and loan associations, insurance companies began to make loans on this sort of project and even to build their own offices in a contemporary manner.

The long ago prophecy of *HOW AMERICA BUILDS*, that an industrially advanced country could not but turn contemporary, had come true.

And now the typical old-established, well-organized architectural office of North American metropolises, which also had so hopefully been described in my book finally swung into line, *staffed itself from the new schools and began to modernize the country on a big scale.*

The pioneering of the small offices may be at an end; it was an interlude of this last quarter-century. The systematic organization of the big American office, operating over wide stretches of the planet, has resumed its power; its scope is large in everything. It serves big business, big politics and a far-flung armament.

The individual plays a humble role in this world of large affairs. My own career, although it led me to large scale planning in state, city, and neighborhood, cannot pose as a directly usable prototype for a young man starting out today into this profession of broad social service. But at least mine has been a career which is most transparent, not complicated or clouded by the favors of influential "contacts," or by business or political acumen, so often characteristic but difficult to gauge for outsiders and even assistants. Any one of the many young men who have joined me could see how this career ticked its way, and what made it tick, from that moment long ago when I knew no one in the vast strange land, or was known to him, until today when that early loneliness is only a dark memory like a puzzling dream.

Grave world events have continually interfered with the course of my life as with the natural evolution of contemporary building. Probably this has been so in most periods of the past, however placid and successful they may look from a distance.

The fate of great planning work and individual man himself, human fate has been sandwiched between wars and great worldly disasters. A Periclean age bogged down in twenty years of war. Ruins (and sagas) must help to compose even the memory of great cultural settings which once had been convincingly fused by design.

It must in modesty be recognized that independent individuality rarely has its chance in building design. Great geniuses in architecture, often nameless, have been men who saw and acknowledged the interwoven potentials of their time. They certainly have been sparked by other great minds, not necessarily architects, but minds who from various vantage points had illuminated the contemporary scene. And the contemporary scene itself, with all its shortcomings, is always the great over-all stimulus.

In periods of accelerated transition like the Renaissance or the past century, and decades with their avalanche of industrial progress, architects' careers can show a universality which later on may have to flicker down. Young men, who study architecture today may have to be different from us older men, by choosing specialized paths. A generation ago an architectural pioneer had to be also a sociologist and city planner, a designer of prefabrication, of lighting fixtures, furniture, gardens and colour schemes. Today, specialists have developed from his seeds — even from his sowing of wild oats. These trained specialists have now sound grounds to advise him. I for one am happy to think that we have helped raise not followers of a universal career — which under the new circumstances perhaps can hardly be followed — but a crop of new expert professions, be it now in the design of hospitals, housing and school building, or of heating, lighting and integrated fabrication — every new field so different and emancipated from long traditional concepts. We can be deeply happy to see our pupils overtake us; there is nothing more gratifying at the ending of a life than having been granted to move spirits and in turn see them move the world.

Yet, all the new energies and dynamics may not yield a concerted movement, that much advertised movement of progress. Only conflict and wasteful dissipation may ensue, unless the intricate and basic, the biological human needs of soul-and-body are thoughtfully honored by

THE HEALTHHOUSE was erected for the purpose of demonstration and research :

on habitational planning, well related to nature
on the application of progressive and fire resistant construction to this aim

on the use of speedy and up-to-date working methods according to well calculated time schedules

on the proper coordination and interlocking of modern building material and supply

on the installation of equipment, plain practical furniture and finishes of latest date

on the formation of costs

The results of this research are to be made applicable to the production and lead to the prefabricated of the moderately sized and priced dwelling structure for the large mass of consumers.

The structure erected on the largely loose ground of a steep hillside called for special foundation methods and circular dams to support the earth.

The interior finishes are washable fabric throughout and the equipment of the service quarters is largely electrified and labor saving. Hydraulically controlled doors, signal and phone system, distance controlled loud speakers are included in the plans.

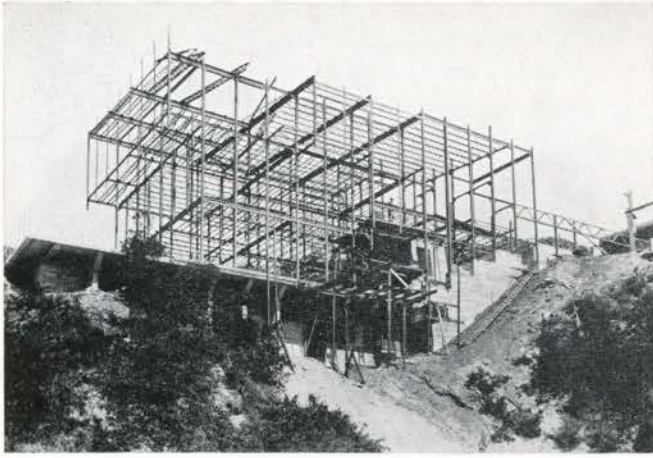
over-all planners so as to make survival safe under our ever new and changing circumstances of life.

If permitted to see my life telescoped and humbly sum up results and aspirations to which I have devoted time, substance and sacrifice, I would say I tried to throw bridges — bridges of understanding and for unified action. As an architect, I was burningly interested in bridging the gap between Europe and the Americas where I lived and worked. When in Asia, I thought it was time that the occident and the orient should meet, rather than clash. I had ideas of reconciliation between the nordic and the subtropical, which once in Greece, or Crete, or Egypt, had happily dominated design ideas, but now was unduly under the domination of a Northern brand of civilization. Time seemed ripe to grant new influence to the regions of radiant sunshine.

Again I wanted to pass the bridge from our complex engineering to organic satisfaction. And I have thought the gap may be bridged between dense urban and forgotten rural life, between industrial strongholds like the United States, which must be made helpful to others, and peoples who, like those of Puerto Rico and so many others now, struggle to rise from the sorry colonialism of the past.

The architect and planner, not as a provincial, but as a cosmopolitan of understanding heart, may perhaps, I felt, contribute more to world peace and a balanced picture of the planetary community, than could any persuasive words. Design shall be based on "empathy." The faithful in-feeling into the human needs of environment can profoundly aid the survival of the race.

¹HOW AMERICA BUILDS: WIE BAUT AMERIKA. J. Hofmann, Stuttgart. The book quickly sold out and was reviewed and read around the globe from Tokyo to Buenos Aires and Paris.



1927

HEALTH HOUSE

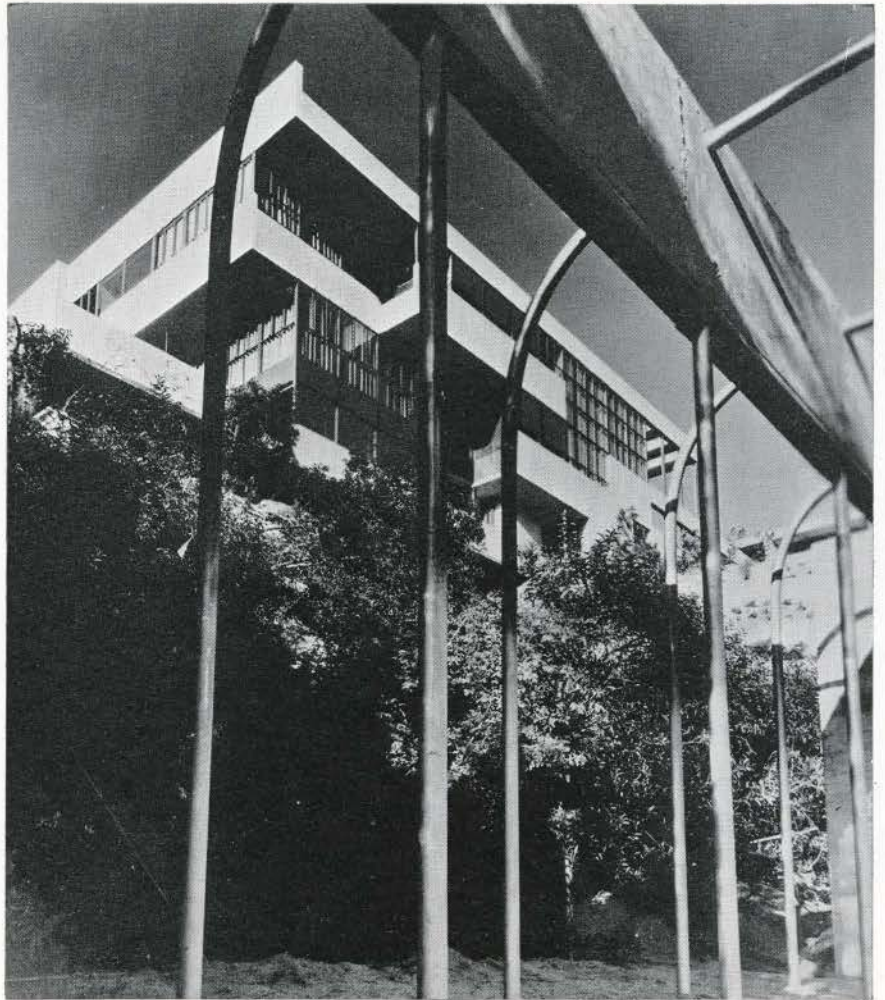
GRIFFITH PARK

LOS ANGELES, CALIFORNIA

Steelframe with standardized spacing of supports and lengths of girders to fit standard triple steel casements, which form an integral part of the skeleton. All floor projections suspended from roof level. Floor construction: prefabricated electrically welded light-weight barjoists, which permit short cut diagonal runs of electrical and plumbing pipes. Erection of steel-skeleton in 40 working

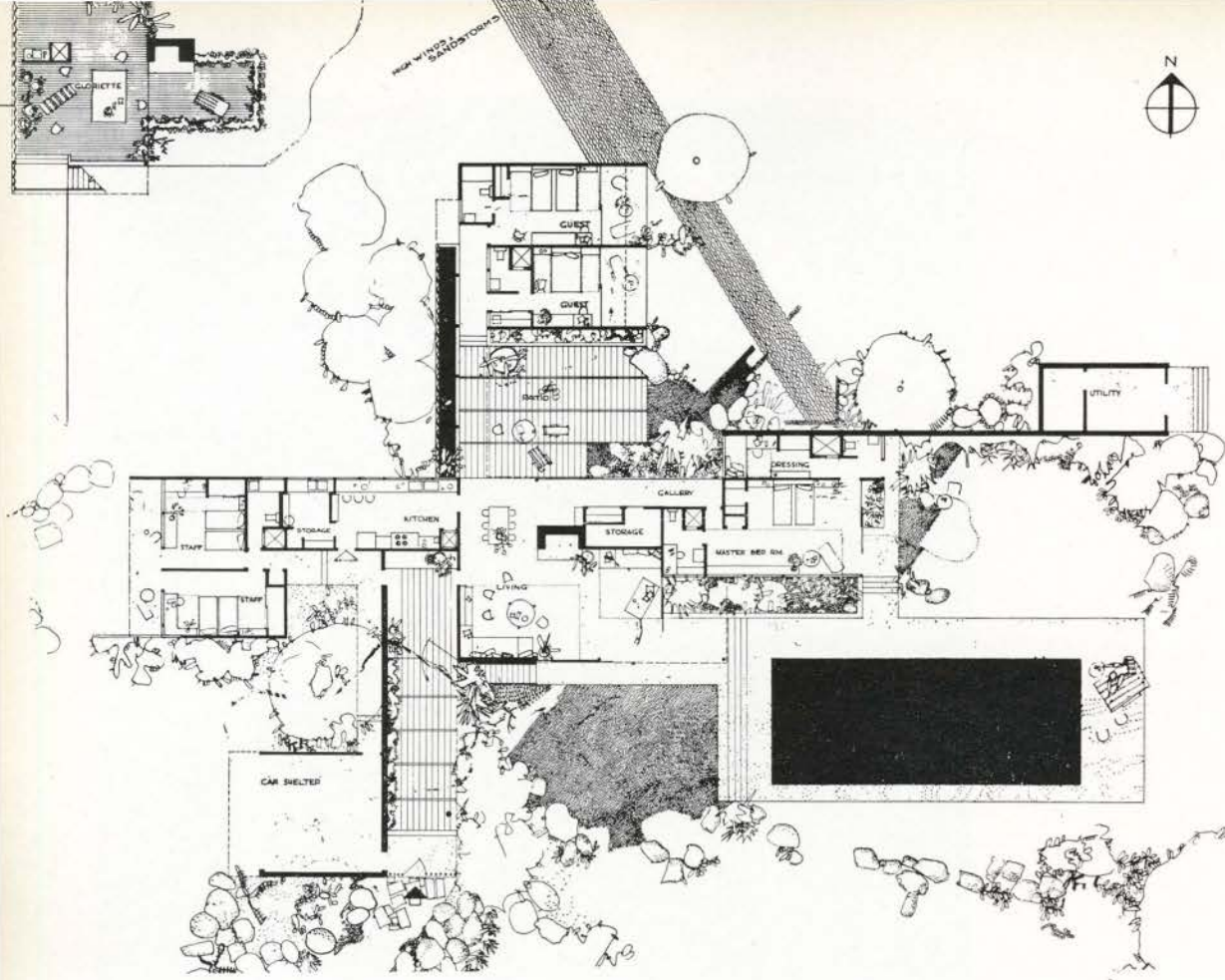
hours. Outside walls of expanded metal reinforced. 36 mm shot concrete applied by air compression gun over a backform of 8 mm felt covered gypsum slabs, in 32 working hours. Concrete materials mechanically mixed and shot through 60 mm length of hose. Entire job to 3 mm exactness of execution. By this method wood form work was eliminated.





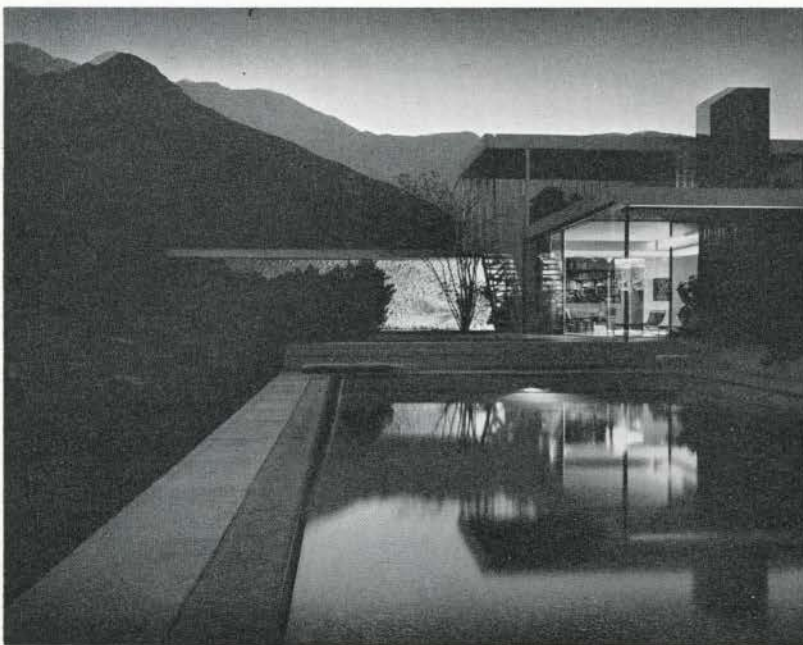
*The photograph at left and all subsequent photos in this article are
by Julius Shulman*

The structure is equipped with differentiated outdoor play and recreational grounds, tennis court, wading pool, outdoor stage, gymnastic court, etc. It is erected on a landscaped and terraced hill slope, adjoining a public park. Exposures are chosen for best exposure and shaded by roof overhangs to control direct radiation during the hours of the day, the prevalent direction of cooling summer breezes has been taken into account. The view of the two main fronts comprises the Pacific Ocean with a part of the nightly illuminated city in the valley foreground, and the ranges of the Santa Monica mountains to the northwest. The lowest floor level surrounds a swimming pool, which partly extends out from underneath the building adjoining a playroom, dressing rooms and showers. The pool porch, adorned by flowering vegetation and endowed with an outdoor fireplace, commands the same view as the living quarters, and serves similar but more informal social purposes. The uppermost floor contains private quarters and outdoor sleeping porches with bathrooms. With the exception of the suspended swimming pool hanging in a reinforced concrete framework, the building is constructed as a steel skeleton with Gunite or air compressed concrete shell insulated on its interior.



1947

HOUSE IN COLORADO
DESERT

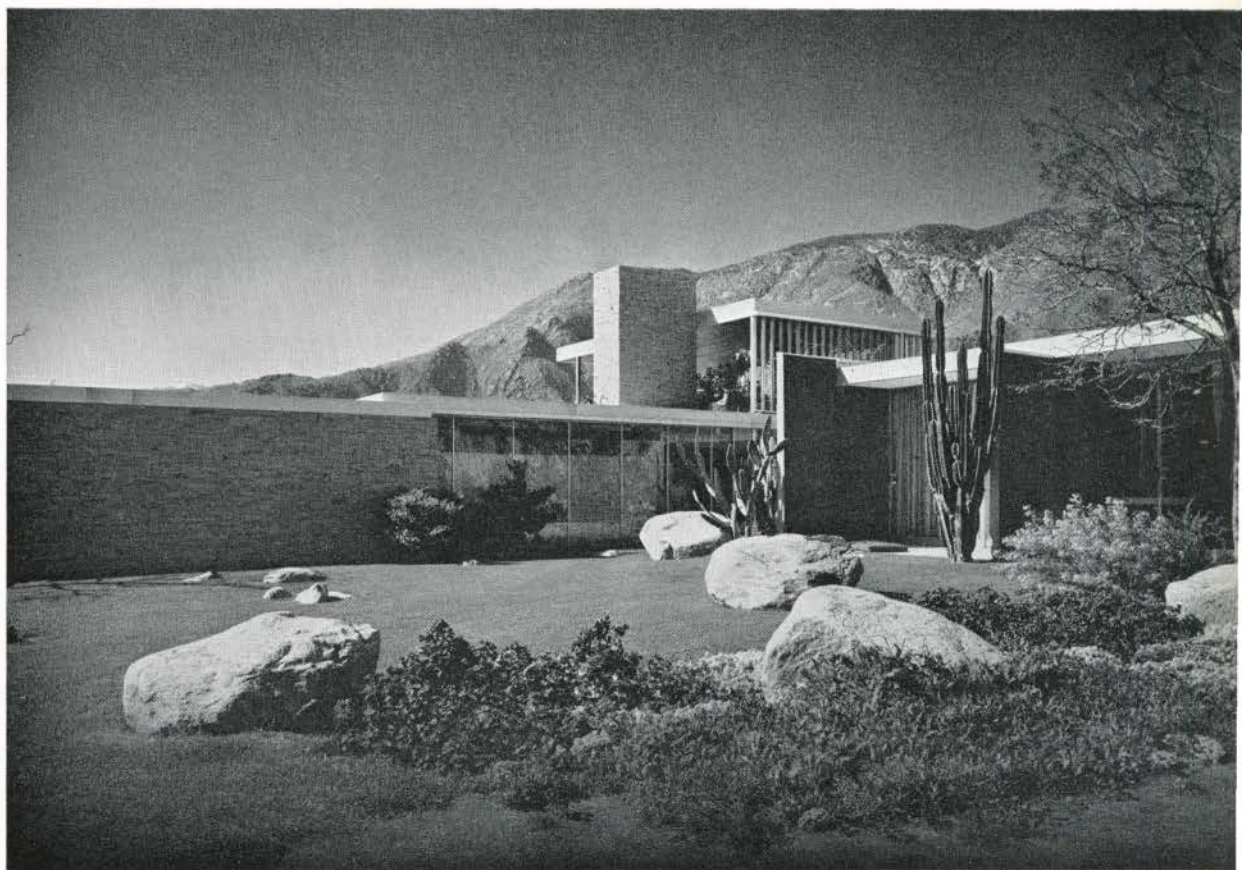


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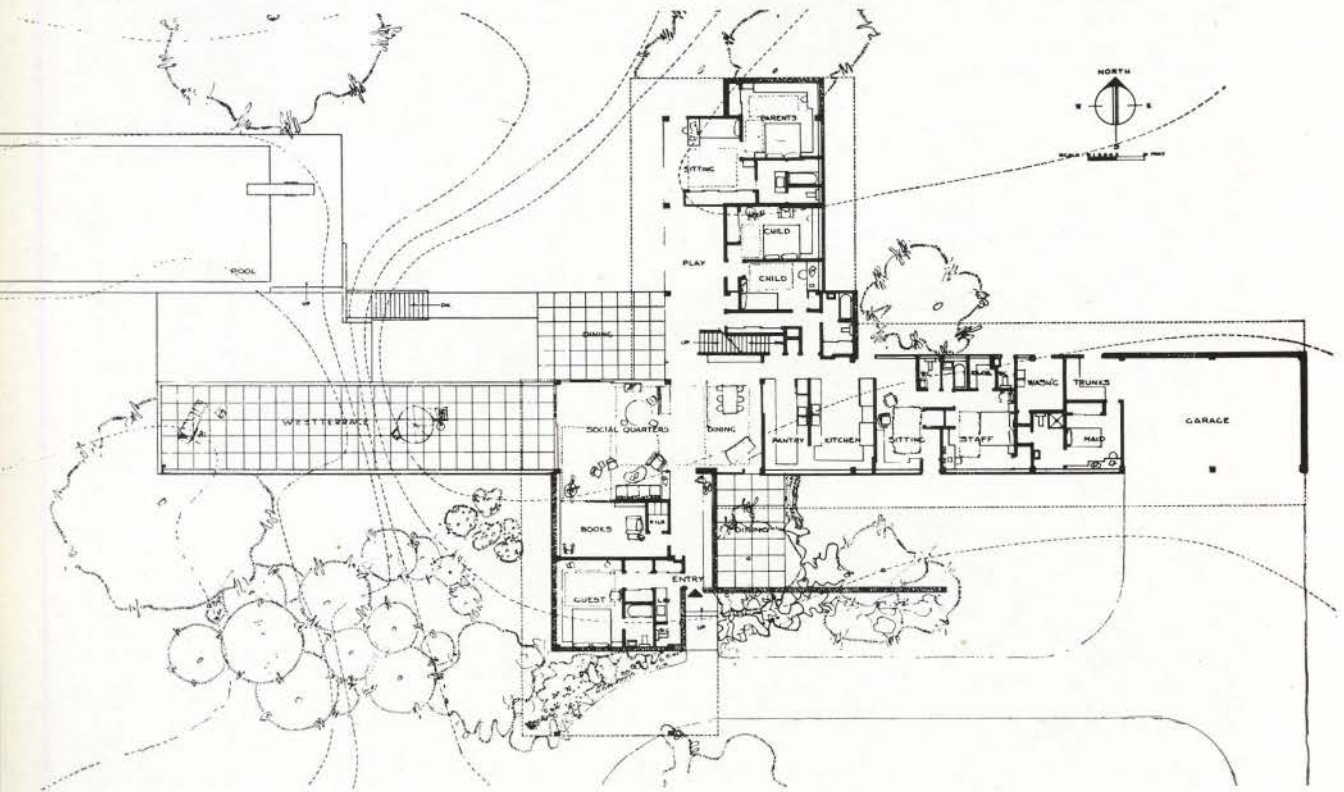
1. Lighting composes brighter water reflected shapes and dark silhouettes of mountain- and roof lines.
2. From the private quarters at right the owners reach easily the pool for a morning swim. But on windstill days the water reflects strikingly the light silvery simplicity of the structure under the blue sky, or the moving white clouds.
3. View over guest patio toward southwest.



2



3



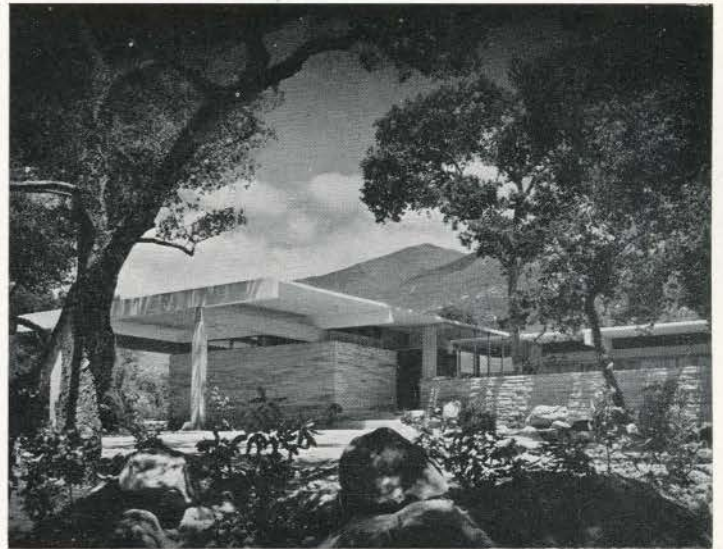


2

1948

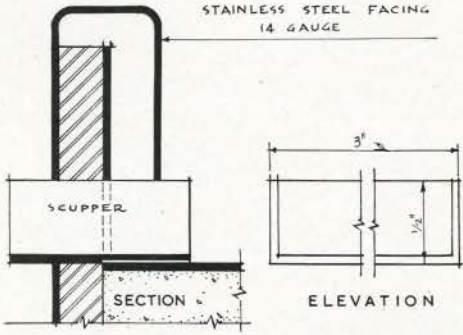
HOUSE IN MONTECITO CALIFORNIA

1. View from ottoman in livingroom into mountainous landscape in rear. Radiantly heated open terrace at left, seen through open sliding door and protective overhang at right.
2. Irregular flagstone steps lead from lower garden to dining terrace and ocean view terrace at left. A softly colored planting of succulents at left of stairway provides an enchanting foreground for the view out of living quarters.
3. View from entrance drive, showing native stone wall and thin concrete slab roof resting on concrete piers. Mountain in background is contraposed by this geometricity.



3

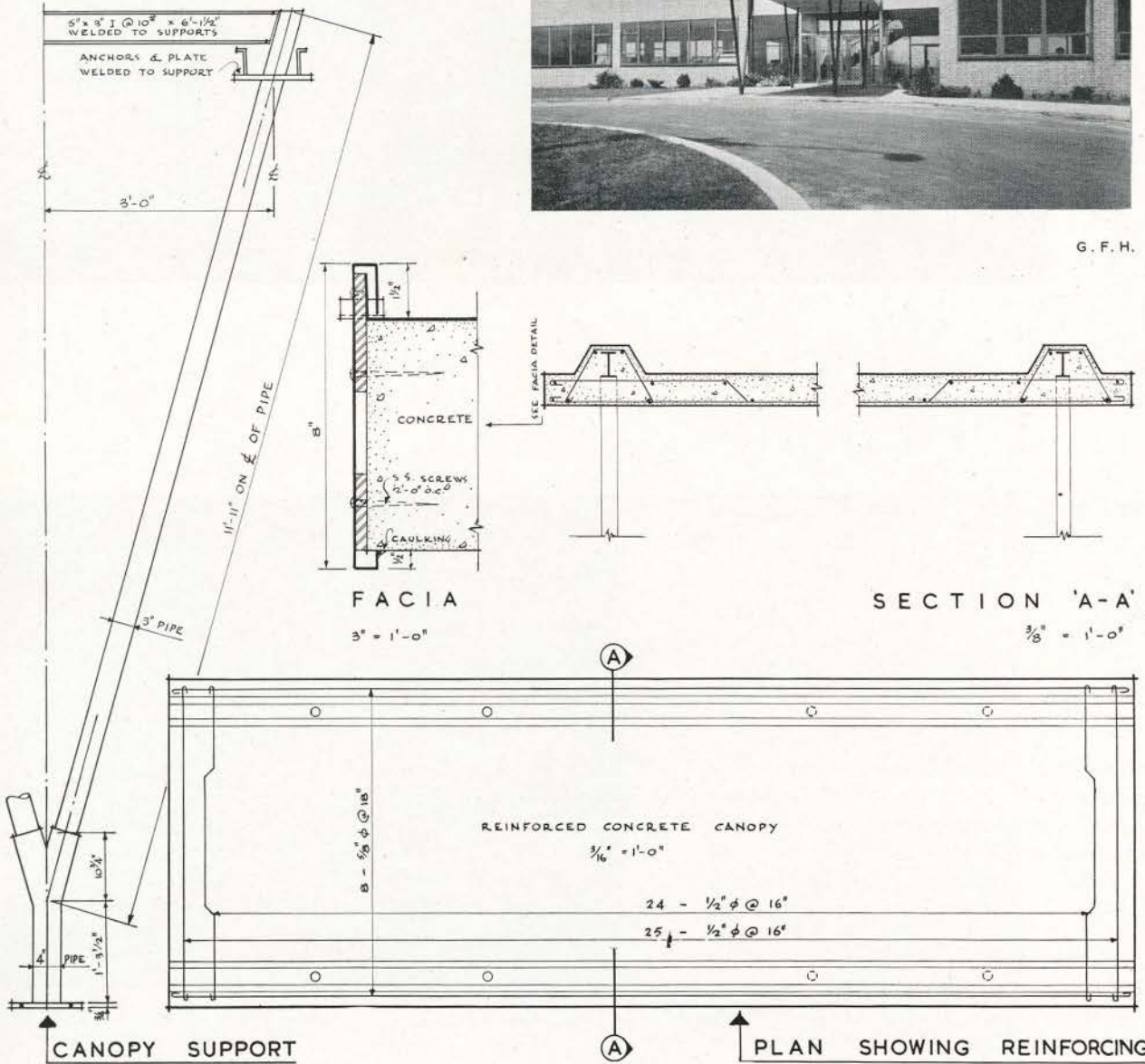
SELECTED DETAIL



FULL SIZE DETAIL OF SCUPPER



G. F. H.



CANOPY DETAILS

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NEWS FROM THE INSTITUTE

RAIC College of Fellows Scholarship

Applications for the 1951 RAIC College of Fellows' Scholarship must be forwarded to the Secretary of the Institute this year by December 1st, 1951. Members will recall that the first award of the College of Fellows' Scholarship was made in the year 1950 and that subsequent awards were to be announced every second year. Its value is \$1500, and its purpose, the advancement of architectural knowledge through travel, study or research. The Scholarship is open to Canadian citizens who have graduated from a Canadian School of Architecture, and who have taken their entire architectural course at a Canadian School or Schools. Applications for the award must be made within five years of the date of graduation, and candidates for the 1952 award must submit their applications to the Institute Office by December 1st, 1951.

The full Conditions of Award, together with the formal Application Form, may be obtained from the Secretary of the Institute, and any inquiries concerning the Scholarship should be addressed to the Institute Office. Announcement of the 1952 award, if any, will be made at the Annual Dinner of the Institute which is to take place on May 3rd, 1952.

Applications are invited from members of the Institute who qualify under the conditions, and who wish to apply for the Scholarship. In addition, it would be very much appreciated by the Officers of the College of Fellows, if members of the Institute would assist in the distribution of the above information by drawing it to the attention of any architectural graduates, who would be qualified to apply for the award, although they have not yet attained membership in the Institute.

RAIC Annual General Assembly 1952

This year the Institute is pleased to announce that the RAIC has been able to accept an invitation, several times extended within recent years by the Council of The Architectural Institute of British Columbia, to hold an annual meeting in the city of Vancouver. The date set for the 45th Annual General Assembly of the RAIC is April 30th to May 3rd, 1952. It is considered that this would be a more favourable time of year for a visit to British Columbia, and the Council has, for this reason, decided to hold the Assembly in the Spring instead of earlier in the year as has been customary in the past.

The AIBC is looking forward to welcoming many members of the RAIC to the Province of British Columbia, particularly, since this will be the first time in the history of either Institute, that the British Columbia members have had an opportunity to act as hosts at an annual meeting of The Royal Architectural Institute of Canada. A Convention Committee, under the chairmanship of Mr John S. Porter, has already been appointed by the AIBC

Council, and plans are being initiated to ensure a successful Assembly and the full enjoyment of their visit to British Columbia by all members attending from other provinces.

A Code for Dwelling Construction

The Associate Committee on the National Building Code has prepared a booklet, entitled a CODE FOR DWELLING CONSTRUCTION FOR BUILDINGS HOUSING ONE OR TWO FAMILIES, containing the minimum standards to regulate the erection and provide for the safety of buildings, and is an abridged version of the National Building Code, as published in 1941, with changes only of an editorial character. The National Code is at present being revised. As soon as the revised edition has been published, this abridgement will be similarly revised. It is the hope of the Committee that, in the interim, the small code will prove of public service even in its present form. The Code for Dwelling Construction is planned as an advisory document for the use of municipalities and other organizations which need such a code for the control of their building operations. The book is available through the Division of Building Research, National Research Council, is numbered NRC-2261 and costs twenty-five cents.

Pilkington Glass Scholarship

The Pilkington Glass Scholarship which is open to all graduating Canadian architectural students has been won this year by Mr H. P. V. Massey of the University of Toronto.

Before entering the School of Architecture Mr Massey obtained his B.A. degree from Oxford University. He has been an outstanding student throughout his entire course, having obtained honours in each year. Amongst other awards, he received the Ontario Association of Architects' Scholarship in his second year and the RAIC Medal and the Architectural Guild Gold Medal in his final year.

During the war, Mr Massey was with the RCAF overseas from 1939-1945 during which he was awarded the *Croix de Guerre*.

The Pilkington Scholarship will enable Mr Massey to study in England and Europe for a year and is valued at \$1500 plus all travelling expenses to and from England. This is the fifth year in which it has been awarded. Mr Grossman was the 1950 winner and he will soon be returning to Canada from Europe in which he has visited many countries including some in the Near East.

Mr C. A. Tiers, the second prize winner (\$100) came this year from the University of British Columbia, and the third prize winner (\$50) is Mr J. Rowan of McGill University.

The judges for the Scholarship were as follows:

Mr R. T. Affleck for McGill University
 Mr J. C. Parkin for the University of Toronto
 Mr G. Pokorny for the University of B.C.
 Mr L. Shore for the University of Manitoba

ALBERTA

In the RAIC JOURNAL and elsewhere there is an increase of thoughtful articles which deal directly or indirectly with an examination of present day tendencies of art in general and of architecture in particular. It is being realized that, whilst there has been in the past fifty years a revolution in architectural aims and methods, the results are on the whole far from attaining that excellence of which the early revolutionists felt confident. More especially, the general urban scene has become confusion worse confounded. At the turn of the century many irrational elements were retained in the common practice of architecture which have been banished from the common practice of today. But the minor insanities of the past seem to have been replaced by some disturbing insanities in the present.

Inevitably, discussions of this subject become engaged in contrasting certain two qualities for which, according to the temperament or to the particular circumstances of the writer, various terms are employed. It may help to clarify matters to set down a list of such contrasting terms and to consider what the relationship between them. The following may serve as a sample which could probably be improved upon or extended indefinitely:

Heart	Head
Beauty	Utility
Art	Science
Sentiment	Reason
Romance	Classicism
Decoration	Function
Custom	Invention
Craftsmanship	Machine Use

On either side of the balance there is no element that can be dispensed with in the arts. Any argument that unduly weighs down the scale on one side or the other leads to a false conclusion. Nor does the equal balancing of these two functions of the will and reason provide any prescription for the production of a work of art. The free and healthy exercise of either, even to the exclusion of the other may have a result that is pure delight. But humanity hungers to be nourished by both, whether together or separately. The two elements in each case are not opposites, the one contradicting the other. They are simply different qualities each of which is an essential element of human life. The most comprehensive pair is that of heart and head representing will and reason. It is the duty of all to "have a heart" and of each of us to use his head. The one is the energizing force, the other the directing guide. If we use one without the other the result may be chaos or inhumanity. On the one side we have that certain sparkling thing which moves the spirit to action and on the other that which guides us to the efficient fulfilment of the will.

Similar contrasting functions enter into political and philosophical discussions. In politics we have persuasion

set against compulsion and, favouring persuasion, we yet cannot do without the rod. We have democracy, the will of the people, which must nevertheless be directed by the reason of the capable leader.

We need not, however, concern ourselves overmuch with the intricacies of debate or argument. At our present stage the rational qualities have taken an undue lead making the product of our arts confused and unsatisfying. The aim must be to install more of that joy of life which results from the free exercise of heart into our work. If the rational side retains too great a preponderance it will be a dull world in which we shall feel that "by iron chains of law confined each must fulfil the cycle of his destiny." The cure for our ills will probably not come from the high-ups, who strain their reasoning, but from the common men who follow their excellent noses doing what the common human instinct and common intelligence bids them without too much of the mere ambition to excel their neighbours.

Cecil S. Burgess

CONTRIBUTORS TO THIS ISSUE

Benjamin Higgins was born in London, Ontario, in 1912 and became a naturalized American citizen in 1940. He is at present Bronfman Professor of Economics at McGill University, and a Member of Employment Section, International Labor Office. He has had wide experience as an economist, as a writer, and as a member of various planning authorities. He has a Ph.D. from the University of Minnesota, and other degrees from Harvard University, the London School of Economics, and the University of Western Ontario. He is Chief Economist of the United Nations Technical Assistance Mission to Libya, charged with preparing an Economic and Social Development Plan for the country.

Hart Massey was born in 1918. He is a graduate of Oxford University (B.A.) and of the University of Toronto (B.Arch.) While at the School of Architecture, the University of Toronto, he was awarded the OAA Scholarship (1948), the Toronto Brick prize (1949), the RAIC Medal, the Architectural Guild Gold Medal, and the Pilkington Scholarship (1951).

Richard Neutra, although born in Vienna, considers himself an American architect. He has practised since 1923 on this continent and his constructions and layouts in housing, school construction, large scale planning projects and commercial structures have brought him many national prizes. He was invited to lecture in many universities in the USA, Europe, South America and Japan. He has written four books: two published in Europe, one recently in Brazil in English and Portuguese, ARCHITECTURE OF SOCIAL CONCERN, and one in 1951 in New York, MYSTERY AND REALITIES OF THE SITE. A comprehensive monograph about his work has just been published in Switzerland in French, German, English.

Facts by Pilkington about Glass

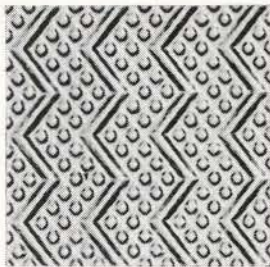
FOR ARCHITECTURAL STUDENTS

VOL. 2 — No. 5
FIGURED
GLASSES

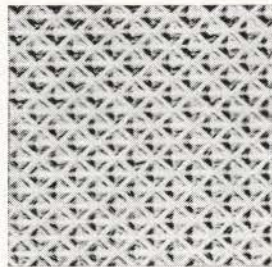
THERE are many varieties of figured and patterned glasses, and for the imaginative architect there are as many uses. In to-day's brighter buildings the demand is always for more light, more space. Whatever the building — the home, office, factory, warehouse, school, hospital, church or theatre — figured glasses provide more space through increased lighting, and at the same time preserves privacy.

Figured glasses are designed with several ideas in mind. The glass must be decorative, must allow degrees of obscuration without

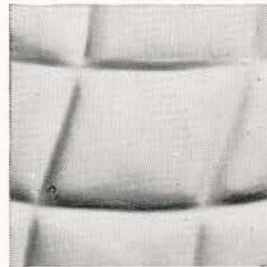
losing much light. The pattern must be such that it does not render the glass difficult to clean, with many tiny ridges and crevices to catch and collect dust and dirt. From time to time new patterns are produced to meet changing styles, needs and tastes. In Volume 1 of this series, pages 6 and 7 illustrate a number of patterns. Here to complete your reference are all the patterns produced since that time. These figured rolled glasses are $\frac{1}{8}$ " thick, weigh 1.625 lbs. per sq. ft. and are available in sizes up to a maximum of 120" to 48".



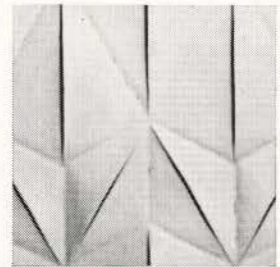
ARGENT
High diffusion
Very high obscuration



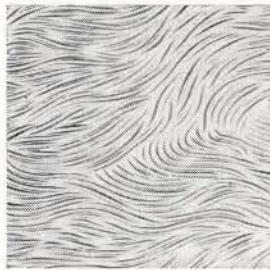
BOREALIS
High diffusion
Very high obscuration



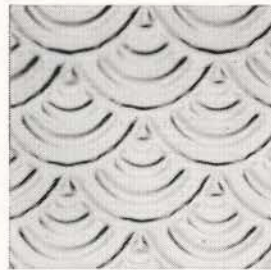
CROSS FLEXON
Low diffusion
Medium obscuration



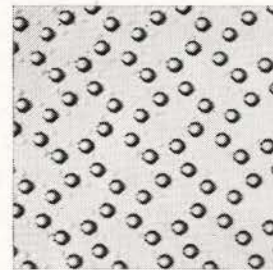
HARLEQUIN
Low diffusion
Medium obscuration



MERSEY
Medium diffusion
High obscuration



RADIANT
Medium diffusion
Very high obscuration



CHANCE FESTIVAL
Medium diffusion
High obscuration

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