HABITAT

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FRONT COVER: *by Maynard Douglas*

INSIDE FRONT COVER: *Ottawa's Union Station, close to the Chateau Laurier and soon to be relocated as part of the National Capital Plan.*

AN URBAN IMPROVEMENT MANUAL

The announcement by the Honourable John R. Nicholson of a $25,000 Federal Government grant for the preparation of an urban improvement manual will be encouraging news to many smaller Canadian municipalities. It is hoped that an imaginative study such as this will not only establish a useful basis for both public and private action but will also act as a timely guide and stimulus to renewal in many of these communities.

The study, which will be undertaken in Charlottetown, has two related objectives. First, the preparation of a manual illustrating how various features of the urban environment in smaller centres may be improved or brought into better relationships with each other. Second, the preparation of proposals for the improvement of the immediate environment of the Fathers of Confederation Memorial Building in Charlottetown. These proposals will be illustrated by display models and will present ideas for the improvement of streets, parking facilities, hydro lines and other municipal or public aspects of the environment. The display will show how the city centre might look after improvement.

Charlottetown, by reason of its size, pattern of development and architectural scale, is considered an exceptionally good subject for case studies which may be applicable in other parts of Canada.

The studies will be undertaken by Professor H. Spence-Sales of McGill University and a team of architectural students. It is expected that the work will be completed during the coming summer.

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their works as souvenirs. The most common of these is the boomerang—created by the Torres Strait Islands or Mainland natives of Queensland.

Both the Commonwealth and State governments of Australia agree that a policy of assimilation provides the best means of advancement for the Aborigines. Assimilation is based on the principle that the only future for the Aboriginal people is for them to merge into, and be received as, full members of a community. This policy is being promoted in order to advance the Aborigines to a position of social, economic and political equality with other Australians by schemes directed towards their education, housing and political advancement.

CANBERRA — THE NATIONAL CAPITAL

Most of my time was spent in Canberra when the blossom and wattle (the national flower) burst forth to create a panorama of colour. Canberra is a beautiful city professionally planned to provide an orderly environment. It is known as "a good place to bring up a family", but is possibly a little too antiseptic for those who have experienced the excitement of King's Cross in Sydney.

The National Capital came into being as the result of an arrangement between the six States when they agreed to federate in 1900. They decided that none of the existing State capital cities would become Australia's administrative centre. After long discussion, it was decided that the Federal Capital would be in New South Wales and not less than 100 miles from Sydney, presumably to satisfy the residents of Melbourne. The Australian Capital Territory, of about 911 square miles in area, and having access to the sea, was taken over by the Commonwealth. A striking feature of the Canberra site then, compared with its appearance today, was the almost complete absence of trees. Now there are more than 3 million trees in the city.

In 1911, the Commonwealth Government arranged an international competition for the design of a city. From the 137 designs submitted the first prize was awarded to Walter Burley Griffin, an architect from Chicago, U.S.A. By 1916 formal approval for a revised Griffin plan was given. To honor him, Lake Burley Griffin, 1,825 feet above sea level and about one mile by two miles long, was created in the centre of the city last year by flooding a former plain of the Molongo River.

Progress of the city building was slow in the initial stages. The two World Wars and the depression of the 1930's interrupted the city's growth. Since the second World War the tempo of development has greatly increased and the rate of population increase is now about 10% yearly. At the beginning of 1964, the population was 75,000. It is estimated the City will have a population exceeding 100,000 by 1968 and over 250,000 by the end of the century.

The National Capital Development Commission was established in 1957 to improve Canberra both as a National Capital and as a place where people live. The Commission, with high standards of civic design and planning, is responsible for the needs of housing, schools and engineering services. All the planned expansion of roads, private enterprises, Government institutional buildings and landscaping is co-ordinated by the Commission. The city, in total, is the planner's challenge.

In Canberra City Square stands an exciting statue called Ethos—"the spirit of the community"—as an expression of the faith of the local community in the City. Ethos depicts a young female clothed in gold embroidered cloth in which are woven the many facets of community life. The figure holds aloft a bursting sun symbolic of the culture and enlightenment available through the National University and research and scientific organizations in the Capital.

In another part of the City, near the Lake, stands what is probably the largest wooden flag pole in Australia. It was donated by Canada as a symbol of good will and its journey from British Columbia was a transportation feat.

As the purpose of my visit was to share with the Commonwealth Department of Housing something of the Canadian National Housing Act, especially as it related to mortgage lending and administration, I naturally found myself sitting in a "hot seat" most of the time answering probing questions from very intelligent and dedicated people. Our communication

was pleasant and I found my answers were being understood until one morning, at a meeting convened by Mr. Jim Nimmo, the genial Secretary (Deputy Minister) of the Department of Housing, and attended by representatives of various banks and Government Departments, I made a reference to urban renewal and public housing. At this point I noticed some squirming and the movement of eyes, formerly focused on me, to other parts of the room. As one does when an awkward moment is sensed I repeated and rephrased the wording of my enthusiasm for public housing, commending them for some of the projects I had seen, couching my language with more vigour and praise. Not long afterwards I learned that "public housing" in Australia is known as "State Housing". The idea of a "public house" has the type of connotation which is unlikely to derive much legislative support for the expenditure of public funds.

Many Australians, in fact, do not believe there are any significant slums in their cities. This is partially true as a very high level of employment (less than 1% unemployed) has restrained the full process of blight. The Victoria Housing Commission, for instance, participates in the slum reclamation of about 12 acres each year. However, redevelopment is now an established operation, particularly in Melbourne, where some dramatic public housing projects have replaced several jaded areas.

Under the circumstances I was largely preoccupied with reviewing various facets of our own Canadian mortgage operation. I believe I learned more about our Canadian experience during this visit than I did about Australian housing; it was a long way from home to do one's homework! But I did have the opportunity to tour that part of Australia which is lapped by the Pacific Ocean. I visited the Commonwealth Experimental Building Station, the Reserve Bank of Australia, housing and land assembly developments, investment dealers, building societies and some slum clearance and public housing projects.

House builders spoke much the same way we do and were bothered by many of the same problems. The multiplicity of steps to have a subdivision approved, the different building codes of some 900 municipalities, down-payment requirements that were too high and skilled workers who "are not what they used to be"—these were some discussion points I had heard before in Canada. It was my impression that the larger builders were particularly anxious to develop subdivisions of better quality and to provide as many amenities as possible.

The construction and framing of a house had several variations from the Canadian operation. Most houses are basementless. Many in the warmer climates are built on wooden or concrete posts, crowned by termite caps, about 6 feet high to provide space for parking, storage and the drying of clothes. Virtually all roofs are clay or concrete tiled. Central heating is still not prevalent. Because of the scarcity of softwoods, framing is mostly in hard woods using smaller dimensional lumber at shorter spans. Hardwood flooring is nailed to the flooring joists from the top with nail heads showing or filled. Clothes closets in the more modestly priced houses are not mandatory. In some houses, even though the car park and expensive wooden fence were in place, the kitchen cupboard cabinets were not installed because it was felt these could be added later by some handyman purchaser. On the other hand there were houses where the whole bedroom wall provided various forms of storage.

HOME OWNERSHIP

Australia has a free enterprise economy in which great emphasis is placed upon providing home ownership. Australia's cities have few apartment houses; the 1961 census revealed that only 8% of all dwellings were flats or apartments. The same census indicated that 52% of all occupied private houses were occupied by the owner, 25% by "purchaser by instalments" and 21% by "tenant"; the corresponding percentages in 1947 were 50%, 9% and 37%.

The proportion of home-owner occupied dwellings in Australia appears to be the highest in the world for an essentially urban society. The increase since 1947 has been due to a number of factors. Higher incomes and full employment have made home ownership possible for many who would not previously have considered it. Changes in tastes and social

pressures have worked in the same direction. Also many people have been forced reluctantly into home ownership by the absence of a suitable alternative. At least one-third of the 600,000 privately owned houses which were tenanted in 1947 had been sold by 1961. Home ownership is encouraged by rent control and the tax system. Municipal and water rates (taxes) are allowable deductions in calculating taxable income. On the other hand, for taxation purposes, no depreciation is allowed on buildings. As a further concession there is no tax on the established rent of owner occupied dwellings. The operation of a means test for old age pensioners encourages elderly people to retain or even acquire their own homes. There has therefore been a steady relative decline in the private sector of dwellings available for rent. This decline has been offset somewhat by 100,000 rental houses added to the housing stock by State housing authorities during the period.

THE CONVEYANCING (STRATA TITLES) ACT 1961 —NEW SOUTH WALES

Canada's students of law and mortgage administration are well aware that Sir Robert Torrens, in the 19th century, introduced in South Australia what is now the basis of our Torrens or Land Titles system of land registration. What is not so widely known, even to those in North America who have been studying Condominiums, is the Conveyancing (Strata Titles) Act 1961—N.S.W. This Act is completely novel and can fairly be labelled "Made in Australia". The purpose of the Act, in its own words, is "to facilitate the subdivision of land in Strata and the disposition of titles thereto . . . ". Its design, over simplified, is to provide titles for home units (apartment units). Public pressures for title to home units led to the passage of the Act as the trend towards ownership, rather than rental, of flats in Australia increased.

COMMONWEALTH HOUSING POLICY

Under the Commonwealth Constitution of 1900, the State Governments retained the responsibility for housing. The Commonwealth Government's direct responsibility was limited to housing in its territories and the housing of its employees and defence personnel. Since 1918 the Commonwealth has provided financial assistance under its defence powers for the acquisition of homes by servicemen. The Commonwealth also makes a substantial contribution to the housing in the States through its power to make payments for special purposes and social services. The Commonwealth also directs and assists in the provision of housing within the framework of its general monetary and fiscal policy and within its powers over the operations of various financial institutions such as banks and insurance companies.

As part of his political platform for the general election of November, 1963, Prime Minister Sir Robert Menzies promised two new home finance schemes. When the Liberal-Country Party defeated the Labour Party, the Honourable Leslie H. E. Bury was then appointed as Federal Minister for Housing to implement the Home Savings Grant Scheme and a Housing Loans Insurance Bill. The Minister is responsible for the Department of Housing which also administers the Commonwealth-State Housing Agreement and War Service Homes Act.

HOME SAVINGS GRANT

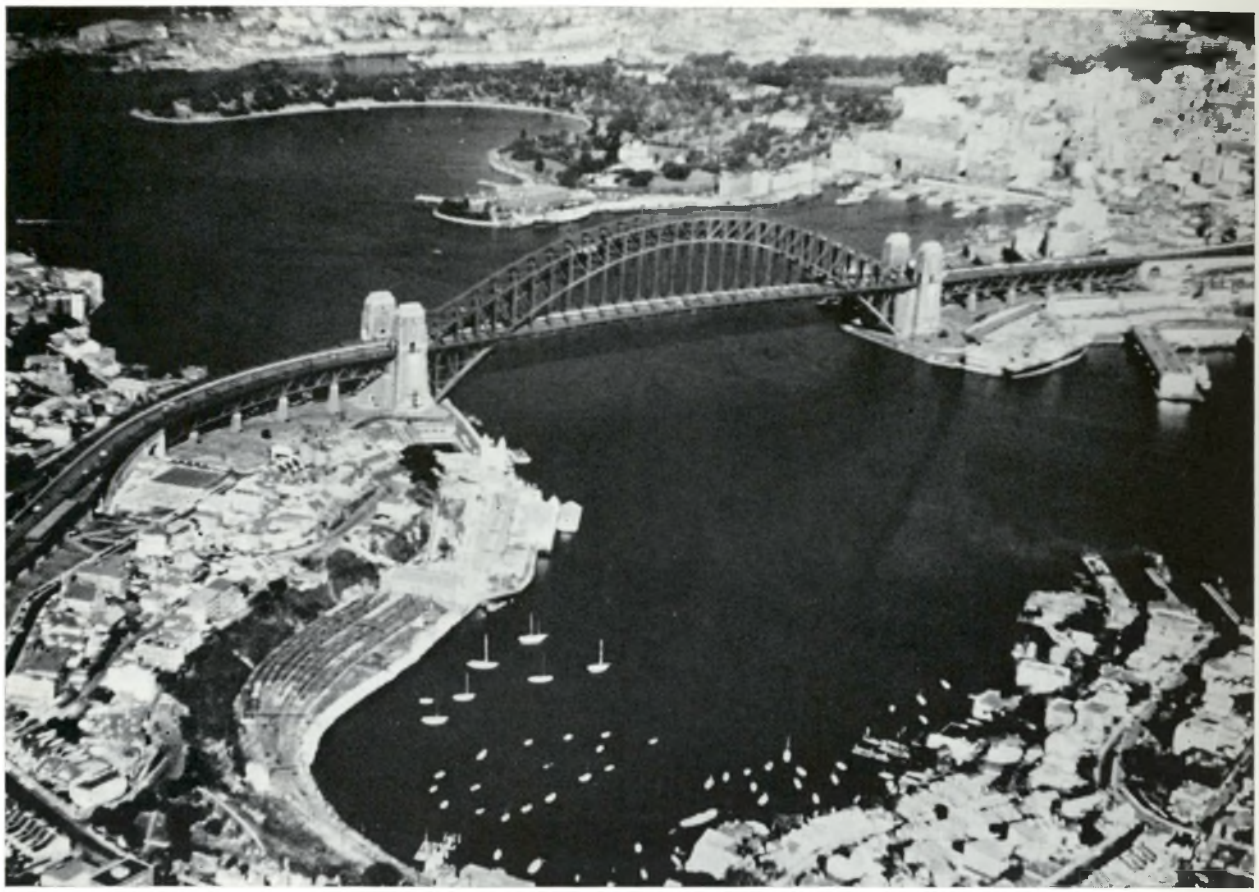
The purpose of this scheme, which commenced operating in July, 1964, is to encourage young people to save for their home either before or after marriage. For this purpose the Commonwealth is offering a grant of £1 for every £3 saved for a home by one or both partners. A person who has lived and saved in Australia for at least three years, is under 36 years of age, does not own a home other than the home for which a grant is claimed and intends to occupy the house as the matrimonial home, is eligible. The period of acceptable savings ends on the date one or both of the individuals concerned enters into a written contract to buy or build a home, or begin its construction as an owner-builder, regardless of whether the couple are married at the time. The maximum grant for a home is £250 payable on savings of £750. It is tax free and payable on smaller amounts.

When Mr. Bury introduced legislation into Parliament he said: "the grant is intended to be a reward for continuous saving over a period of years, not for the deposit of a single lump sum and no further saving." It was the hope that young people would be en-

Commonwealth Housing, Canberra. This home is State owned and rented to a Government employee and his family.
It is not Public Housing.

Brisbane, Queensland. Some Senior Citizen housing in Australia features such semi-detached homes. This particular home is run by St. John's Lutheran Church.

Victoria State Housing, Melbourne. An interesting feature of these apartment buildings are the walk-up entrances. They have since been discontinued in favour of dwellings with modern elevator services.



Sydney from the air showing Lavender Bay, the world famous Harbour Bridge and Circular Quay.

couraged to save for a home as soon as they were in receipt of an income and that they would deposit their savings for this purpose with institutions who lend for housing. As can be imagined, institutions have been anxious to attract this type of saving deposit. Funds made available for the year 1964-65 by the Commonwealth Government for the scheme are £10 million.

HOUSING LOANS INSURANCE CORPORATION

While the Home Savings Grant would undoubtedly assist many young people to accumulate the necessary deposit (down payment) for the acquisition of a home, the level of first mortgage loans for many would still be too low. Maximum conventional loans tend to be around £3500 for new houses selling on an average price of £5000. In 1945-46 the average cost (excluding land) of all houses completed in Australia was £950; by 1961-62 it was £3500; the rise in land prices was much more rapid.

The demand for mortgage money has been greater than supply, something well known to Canadians seeking this type of financing in the late 1950's. In theory, lenders could have equated demand and supply by raising the interest rate, but as this was considered socially undesirable, they rationed their funds by being selective about security and lending at a low loan-to-value ratio. This led a "fringe" group of lending institutions to serve unsatisfied borrowers at interest rates twice or even three times that charged by building societies, banks and life offices. Secondary finance expressed itself in the form of second mortgages or personal loans by "hire-purchase" (personal finance) companies. About this situation, the Prime Minister in a policy speech in November 1963, said:

> "There is the problem, which bears heavily upon many people of filling, frequently on oppressive terms of borrowing, the gap between available housing loans, and the buying need of the purchaser. Among these people are many—sometimes overlooked—who want a house which is in size or quality better than the average. We must not encourage too much uniformity of dwellings in a refreshingly individualistic country.

"To meet this problem, we will assist the obtaining of low deposit loans related to the income and reasonable credit-worthiness of the borrower. We will do this by a system of insurance by a National Housing Insurance Corporation.

"Loans, the subject of the guarantee, would extend to something like three times the borrower's established income, with some reasonable total ceiling. The Government will, up to a high percentage of valuation, ranging up to 95% in appropriate cases, insure the repayment of such loans by approved lenders at approved rates of interest, which, under guarantee, should be reasonable."

One year later, on November 12th, 1964, Mr. Bury moved that a Bill to establish a Housing Loans Insurance Corporation to insure lenders against losses arising out of the making of loans for housing be read a second time. The Bill empowers the Corporation to insure loans made for the erection of homes, the purchase of existing homes, additions to homes, the repair and improvement of homes and the discharge and re-financing of existing mortgages on homes. Mortgage Loan Insurance is also intended to encourage stimulation of a secondary mortgage market by private enterprise and to attract additional overseas capital into the Australian house building industry. As a condition of the insurance, sound standards of construction will be established and it is hoped to increase the efficiency and reduce the costs of the industry by a set of uniform standards. The scheme has been influenced by Canadian experience and is similar to the approach taken in our National Housing Act. Obviously we wish Australians well in its implementation. Apart from these two new housing schemes in Australia it might be appropriate to add a word or two about existing ones.

WAR SERVICE HOMES

Under the War Service Homes Act, 1918-1962, the Commonwealth Government assists in the provision of homes for Australian ex-servicemen and their female dependents. Financing is made available for the purchase or construction of homes either existing or new. The War Service Homes Division of the Department of Housing assists by assembling land and selling lots, constructing houses for sale or, if a purchaser wishes to make his own arrangements, provide for him a full architectural service by preparing individual plans and specifications, call tenders, enter into a contract for the erection of a home and supervise its construction.

The maximum loan available is £3500 which may be paid over a period of 45 years, or 50 years in the case of a widow or widowed mother of an ex-serviceman. The subsidized interest rate is 3¾% and the minimum down payment in most cases is 10%. The Commonwealth allotment for 1964-65 for these loans is £35 million. The number of loans outstanding is about the same as the portfolio of direct loans made by Canada's Central Mortgage and Housing Corporation. Currently, new homes assisted by this Division represent about 6% of housing starts.

CONSTRUCTION BY STATE HOUSING AUTHORITIES FOR FAMILIES OF LOW AND MODERATE INCOME

This is a Commonwealth-State agreement whereby the Commonwealth, after determination by the Australian Loan Council (consisting of the Treasurer of the Commonwealth and the Premiers of the six States) advances funds to the States for housing. Loans are repayable at an interest rate fixed at 1% less than the long-term bond rate at the time the advances are made. Since 1962 the agreement rate has varied from 3½% to 4%. The term of repayment is 53 years.

To promote home ownership, at least 30% of the funds advanced must be allocated to building societies, or other approved lending institutions, for lending to home builders and purchasers. The remainder of the advances to each State from the Commonwealth is available for the erection of dwellings by the State Housing Authority either for rental or sale in accordance with the State's own policy. Another provision of the agreement is that the Commonwealth can stipulate that a portion of advances—usually in the form of supplementary advances to the States—be set aside to provide dwellings for serving members of the armed forces.

In the eight years, from July 1, 1956 to July 30,

1964, over 116,000 dwellings were financed under the agreement.

About 12% of all new dwellings constructed in Australia are built by the States under this housing agreement for families of low income; a further 7% are also financed by building societies and other institutions from finances provided under this agreement. Probably an additional 5% of housing starts are initiated by State Housing Authorities by means of their own funds. For the year 1964-65 about £51 million has been allocated for State Housing and a further £6 million for supplementary service housing.

MAJOR PRIVATE LENDING INSTITUTIONS

(*a*) *Savings Banks*

Various institutions helped in the record number of 107,387 housing starts last year. Of the total number of housing loans by major private lending institutions considerably more than half were by the savings banks—the largest depositories of private savings. Under Commonwealth legislation, private savings banks are bound to invest at least 65% of their funds in government securities and various liquid and semi-liquid assets. The remaining amount is available for housing loans and other purposes. About 20% of the savings banks' funds are now invested in housing and this proportion is rising slowly. The average interest rate charged is 5%

(*b*) *Trading Banks*

This group includes the Commonwealth Trading Bank (Commonwealth owned) and seven private trading banks. These banks are inclined to specialize in financing existing houses and in short term bridging loans to builders. Mortgage loans to builders are usually discharged in Australia and not assigned or transferred to first purchasers.

(*c*) *Co-operative Terminating Building Societies*

A Terminating Society is financed by one loan from a State Government or a private lending institution. This loan is shared among the members of the society who, for a society financed by a total loan of £100,000, might number about thirty. Each member repays his loan over a period of about 30 years on a "credit foncier" basis. The repayments are made by the society to the lending institution. After the loans have been fully paid the society terminates and goes out of existence. Assisted by low interest loans under the Housing Agreement and from relatively cheap bank loans, the terminating societies are able to lend at about 5%.

Another type of building society is the Starr-Bowkett Society, the first of which was established in New South Wales in 1868. They represent a simple form of co-operation to provide interest free loans for housing purposes. A number of people decide to contribute a certain sum each week to a common pool. When a sufficient sum has accumulated lots are drawn to determine who will receive the first loan, and so on. When all members have received loans the society begins to "wind up", a process that usually takes about eight years. The usefulness of Starr-Bowkett societies has been reduced by the growth of other home-financing institutions and the main attraction now for many members is the speculative one.

(*d*) *Permanent Building Societies*

Permanent Building Societies obtain capital from deposits and contributions to share capital made by private individuals and lending institutions. As these societies have to pay up to 6% interest on the money they borrow, their own lending rate is the 6%—9% range.

(*e*) *Other Private Institutions*

Other sources of finance include life insurance companies who have only invested about 12% of their assets in housing as well as Friendly Societies, Pension Funds and, of course, private individuals.

CONCLUSION

It is often the inclination of a visitor to another country to set himself up as a self-appointed expert on it. The brevity of my tour disqualifies me from this easy temptation. However, the warmth of my welcome and the friendliness of my hosts certainly enables me to speak authoritatively about Australian hospitality; it resembles the country—warm, expansive and rich. My recollections return again and again to the people I met and the friends I made. They have given me a store of memories I will not forget. ✦✦✦

Note: £ indicates £A (Australian).

SKETCHES ARE BY THE AUTHO

The Saguenay from Chicoutimi.

CHICOUTIMI '64

by Stuart Wilson,
Professor of Architecture, McGill University

The great "cap" or crannied stone shoulder rose out of the cold water of the Saguenay. If I dug down into the rucksack for folding stool and color-box, a pipe-rail would neatly block the view. A glance behind, across the road, showed steep hill and houses with whale-like institution on top. That would be the place. Once up there, cliffs and headland would be seen against broad river and distant Laurentians.

Windows opening and suspicious female eyes following. Shrug off curiosity of cottage dwellers, continue climbing upwards.

In the long grass, heels thrust into hillside, flip out pots, pans, water-bottle and brush. A fast disappearing sun and a chill in the air. First visitor, an elderly, tentative gentleman, perhaps a gardener or caretaker, polite. "Ah, a painting." His eyes shone with curiosity. Do not disturb. Second visitor, a nun of high standing, a mother-superior. In a more understanding way she made the same observation, and asked,

Salon de Beauté.

"You tremble while you work?"

"No," I replied, "I vibrate."

"Ah-ha!" Smiling, "J'aime ça."

"I like that."

So indeed, do all "les Saguenéens", especially in Chicoutimi.

The big river with its "crans" and "caps" also began with a shake. A vibration split the old skin of the earth into a fiord. A crack through the forests leads deep-sea boats into an empire in the heart of Quebec. The boats go as far as Port Alfred and Chicoutimi to, "where it is deep". Beyond, at the head of the Saguenay, the land levels to form a dish with flat Lake St. John like a five dollar gold piece in the centre.

Twelve or so miles from Chicoutimi the dam and power-plant of Shipshaw lie buried in the trees. Nearby is the neat company town of Arvida. Rising out of the northern landscape, like Thor's castle, Arvida's plant trails smoke and smog in a long dusky plume through the sky.

A white Swedish cargo ship with a graceful hull unloads at Chicoutimi dock. Previously a shining red and black oil boat replenished large, steel, oil tanks on flat land near the harbour.

In the evening eccentric bearded Swedish seamen drink at the waterfront dive. A Jamaican sailor jitters and jives with the girls. An Indonesian sits amidst the throbbing noise, drinks quietly and smiles inscrutably.

On the other side of the hill leading down from the principal street and commercial area, Rue Racine, is the city's smartest night club, a hotel grill-room full every evening with young ladies and their escorts. They chat, dance to sweet music and sit at small tables lit by concealed lighting and phosphorescent murals depicting glamourous northern scenes.

Moonlight shines on the hill above, and on the cupola-capped twin towers and rugged stone walls of Chicoutimi Cathedral, built in the eighteen seventies by Msgr. Dominique Racine. The church sits quietly on dark lawns above bright lights of hotels. Sunday morning well dressed people press through the triple-arched portico to mass.

In a hotel on Rue Racine is a large painting depicting Chicoutimi. The work is by Arthur Villeneuve, Chicoutimi's barber-artist. Painted in 1963, and priced at eight hundred dollars, the title is "Traversier entre Chicoutimi-Ste. Anne", or "Ferry Between Chicoutimi-Ste. Anne". The view is of yesteryear when a ferry crossed the river from a bay known as "le Bassin".

Villeneuve is a self-taught artist, much respected in his home-town. He exhibited at Montreal in a barber-shop. He likes a joke, and says his wife wouldn't let him buy canvas so he painted the walls of his Chicoutimi house, floor-to-ceiling. In one room even the ceiling is painted. The place crawls with animation. His wife charges admission. A year or so ago the TV people turned up and filmed the house.

Villeneuve says he doesn't concentrate on perspective too much, because what with painting and barbering, he is tired. Instead he paints things the way he feels they must be.

In his work, people are not the same scale as the landscape but larger than life. Hands and noses are prominent. The stance of a figure suggests vitality. Nobody is still, but moving, waving, gesticulating, talking.

His landscape is an endless landscape. Insensate is sensate. Inertness merges into life. Beasts and bogies in the woods. Rocks and stone,—smelling, looking, hearing and feeling. Spirits in the bright-hued rocks restrained by glossy black outlines.

Late into the night the sailor's bar and grill

trembles and vibrates. Tight jeans and bulky sweaters, teddy-bear silhouettes, sleek black leather coats and white leather dresses, swing and shake together. The place is lively. It is of a different class, out-of-bounds for respectability.

Chicoutimi folks are proud, expensively and fashionably dressed. On the move, not a minute to lose. Young folks clad only in the finest. Light-hearted, even frivolous. Stylized female hair-do's, like Aubrey Beardsley women or actresses on Japanese prints.

The cabman has said, "Sont fier, s'ils n'ont pas de l'argent, ils vivent sur le credit". But everyone is prosperous.

At night a continuous row of headlights parades down Racine. To cross the street requires determination and sobriety amidst dazzle. Motor-cycles and scooters snort up hills. Adolescent girls with flowing hair held down with crash helmets swish from school to home on Vespas.

Inclined streets lead off Racine. Down to the railway lines, oil tanks and Saguenay waterfront or up past balconies, box-like houses. Older vernacular houses in Chicoutimi have as many, if not more, balconies as the French-Canadian house further south. But the effect is different. Chicoutimi houses are sharper. Welded steel tubing, perforated metal or corrugated plastic are employed with ingenuity and skill to replace the wooden details of older balconies.

Plastic balcony roofs which tint the sun's rays blue, green or pink, encircle white houses. Bright exotic colors make harsh contrasts.

Balconies are for rocking-chairs or children. A whole family can sit happily in the warm summer air. Children play on them, or in the sloping yards of the houses. Charming, long-haired, big-eyed girls with puppies or pussy-cats in their arms. Noisy boys with curious minds.

Kid's voices raised in excitement, chattering from balconies or rising skywards from yards and streets. Voices moving nervously from corner to corner.

To paint or draw in the streets leads to social commitment, linguistic practice and youthful 'rapport'.

"Why are you drawing that?"

"Parce que je l'aime."

Short silence.

"Oh look, he is drawing the house of Monsieur

Rivière Moulin

Bouchard!"

"And the old one next door, too."

"Are you going to make a painting in color, later?"

"Pourquoi, pas."

"Ah-ha he is going to make a painting."

"Chi-ga, est-ce que tu sais, do you know you are difficult to see through?"

"Quoi?"

"Ote-toé de là. Get out of the way", they cry to the little boy appreciatively examining the upside-down drawing. He moves aside a little sheepishly, but grinning.

Climb steep streets. Saguenay and cliffs shine beyond rooftops, and from narrow spaces between houses. Higher. Beyond is the north bank with the old village of St. Anne de Saguenay, now the city of Chicoutimi-Nord. The steeple of St. Anne and a cross up on a headland dominate lines of roof-tops climbing in the trees. Traffic flows over a steel bridge connecting "ville" with "cité".

A down-river north bank road rises higher and higher to the top of Cap Saint-François, a cliff-walled stone escarpment opposite eastern Chicoutimi and the little municipality of Rivière-du-Moulin. New construction lines the road and pock-marks the landscape.

In Chicoutimi itself the land levels out at the top of the escarpment. A wide plateau sweeps to the wilderness, interrupted only by Mont St. Clair, a small mountain crowned by TV station and the antenna, a tall finger-like construction known as "la lanterne". At the edge of the high flat lands overlooking the city is a typical residential suburb, home of bourgeois and middle-class. New, clean, asphalt roads lead between neat lawns. Clipped hedges surround ranch-burghers and split-levellers. Trim and neat though often trite. Shaven lawns and crisp flower beds edge the forest.

Most Chicoutimi street-names are of French-Canadian origin. Streets recall the names of prominent citizens, discoverers, missioners or traders. The names of William Price and Arthur Buies do not entirely fit into this category.

William Price was known as the King of the Saguenay and was a founder of the Price dynasty. He opened up the forests and began the famous Price Brothers lumber and pulp-wood industries which once formed the base of Chicoutimi's commerce, but which was now moved to the adjacent twin-towns of Jonquière-Kenogami. The Price works were located on the Chicoutimi River which formerly tumbled over a forty-foot waterfall into "le Bassin", which then served as the harbour of Chicoutimi.

The river was dammed and harnessed for electric power in the twenties. The concrete dam, powerhouse and adjacent bridge form a well-designed group of structures. The plant buildings further up the Chicoutimi River, built in the eighteen eighties, were solidly constructed of stone, and they still stand, partially rented out, but largely empty and unused.

Arthur Buies is another matter. Of Scottish-French descent, he was raised in his youth by two maternal aunts. Brought up in Rimouski, he was educated in the best seminaries.

Ardent, turbulent, romantic, passionate and sharp-witted, he became an outspoken French-Canadian patriot. Although few listened during his lifetime, 1840-1901, he pioneered by his writings many later attitudes and foretold the desires of a future Quebec.

He declaimed against comfortable lassitude and servility. He was against an intellectual conformism instilled by education and encouraged by authority. Impetuosity led him into the advocacy of a freedom which was unacceptable to a religious and social hierarchy.

He loved the land and wrote a number of works concerning various Quebec regions, among which was "Le Saguenay et la Vallée du Lac St. Jean", an historical geographical, industrial and agricultural study. The motto of the work was "Emparons-nous du Sol" or, "Let us take and develop the land."

Arthur Buies was one of Canada's early regionalists and deserves to be honored by Chicoutimi.

One wonders how he would have liked Chicoutimi today: harnessed power; automotive movement; instantaneous communication; mass-production; metal, glass, plastic and concrete buildings; the new light-hearted churches with their frank use of materials and open, clear interiors; the sense of destiny of a new and rapidly changing society. ✦✦✦

ESQUISSES RÉALISÉES PAR L'AUTEUR

Vue de la cathédrale prise du bord de la rivière

CHICOUTIMI '64

par Stuart Wilson
professeur d'architecture à l'université McGill

La haute falaise ou le promontoire de roche crevassée émerge des eaux froides de la rivière Saguenay. En me penchant pour sortir mon pliant et ma boîte de couleurs, je constate qu'une seule traverse de la clôture suffit à me bloquer complètement cette vue magnifique. Je regarde de l'autre côté de la route. J'y vois une colline escarpée et des maisons qui semblent écrasées par la masse d'une institution religieuse qui se trouve derrière. Tiens, me dis-je, voilà l'endroit qu'il me faut. De là, les falaises et le promontoire avec la rivière et les lointaines Laurentides comme fond m'offriraient une excellente vue d'ensemble.

Des fenêtres s'ouvrent et j'ai le sentiment que des femmes m'observent d'un œil méfiant. Feignant d'ignorer la curiosité des habitants des chalets, je poursuis mon ascension.

Dans les hautes herbes, les talons plantés dans le flanc de la colline, je me mets en frais de sortir pots, cuvettes, bouteilles d'eau et pinceaux. Le soleil baisse rapidement et l'air commence à se rafraîchir. Un

premier curieux se présente; c'est un homme âgé, quelque peu hésitant, sans doute un jardinier ou un concierge. "Tiens, une peinture, observe-t-il poliment, les yeux remplis de curiosité." Je demeure coi. Un deuxième visiteur, cette fois-ci une religieuse d'apparence notable, sans doute la Mère supérieure. D'un air plus entendu, elle fait la même observation que le premier visiteur, et me demande:

"Vous tremblez en travaillant?"

"Non, je vibre!"

"Ah! Ah! J'aime ça, termine-t-elle en souriant."

Ce sentiment est en effet commun à tous les Saguenéens, particulièrement à Chicoutimi.

Cette grande rivière avec ses échancrures et ses caps est née d'une secousse sismique. Le séisme fendit la vieille écorce terrestre pour en faire un fiord. Cette immense tranchée à travers les forêts conduit les bateaux de mer dans un vaste empire, au cœur même du Québec. Les navires peuvent se rendre jusqu'à Port-Alfred et à Chicoutimi, dont le nom tire son origine d'une expression indienne qui signifie "où l'eau est profonde". Plus haut, à la source du Saguenay, la terre s'aplanit en forme d'une assiette au centre de laquelle le lac Saint-Jean ressemble à une pièce en or de cinq dollars qu'on y aurait déposée.

A quelque douze milles de Chicoutimi et dissimulés dans la forêt, il y a le barrage et la centrale électrique de Shipshaw. Tout près, s'élève la jolie ville fermée d'Arvida. Se dressant au-dessus du paysage nordique comme le château de Thor, les usines d'Arvida laissent s'échapper des traînées de fumée et de vapeur qui montent dans le ciel en longs panaches opaques.

Un cargo suédois tout blanc à la coque élégante, décharge sa cargaison au quai de Chicoutimi. A peine quelques heures avant, un pétrolier aux brillantes couleurs rouge et noir avait rempli les immenses réservoirs d'acier qui se dressent sur les terres basses à proximité du port.

Dans la soirée, des marins suédois à la barbe rousse, blonde ou noire, trinquent au bar riverain. Un matelot jamaïquain saute et danse avec entrain en compagnie de jeunes filles. Assis au milieu de ce trépignement, un Indonésien boit en silence et affiche un sourire inscrutable.

De l'autre côté de la colline, en descendant la rue Racine, la principale artère et le centre commercial de la ville, on arrive à la boîte de nuit la plus chic de l'endroit, un bar-salon qui se remplit tous les soirs de jeunes femmes et de leur cavalier. Ils conversent, dansent au son mélodieux d'un orchestre ou s'assoient à de petites tables, sous l'éclairage indirect de lampes

La maison de monsieur Bouchard

dissimulées et de peintures murales phosphorescentes qui représentent de magnifiques scènes du Nord.

La lune éclaire le haut de la colline ainsi que les coupoles jumelées et les murs de pierre brute de la cathédrale de Chicoutimi, construite au XVIII[e] siècle par Mgr Dominique Racine. Le temple se dresse paisiblement au milieu des pelouses obscurcies, au-dessus de la lumière vive des hôtels. Le dimanche matin, une foule de fidèles endimanchés s'engouffrent par les trois portiques de la cathédrale pour assister à la messe.

Un hôtel de la rue Racine affiche un grand tableau de la ville de Chicoutimi. C'est l'œuvre de monsieur Arthur Villeneuve, le coiffeur-artiste de l'endroit. Cette peinture, réalisée en 1963 et évaluée à huit cents dollars, a pour titre "Le Traversier entre Chicoutimi et Ste-Anne". Elle représente une scène d'antan, lorsqu'un traversier faisait la navette entre une baie appelée "le bassin" et la rive opposée de la rivière.

Monsieur Villeneuve est un artiste autodidacte très respecté dans sa ville natale. Il a déjà exposé ses œuvres dans un salon de coiffure de Montréal. Il dit en plaisantant que c'est parce que son épouse ne l'avait pas laissé acheter des toiles qu'il a déployé ses talents sur les murs de sa maison, du parquet au plafond. Il a même peint le plafond d'une des pièces de la maison. L'intérieur de sa maison semble fourmiller d'activité. Madame Villeneuve exige un droit d'entrée à qui veut voir ces peintures. Il y a environ un an des réalisateurs de la télévision sont venus filmer la maison.

Monsieur Villeneuve dit qu'il ne s'efforce pas outre mesure de suivre les règles de la perspective, car à force de peindre et d'exercer son métier de coiffeur, il est épuisé. Il peint plutôt ses sujets de la façon qu'il les voit.

Dans ses tableaux les personnages ne sont pas à la même échelle que le paysage, mais plus grands que nature. Les mains et les nez sont démesurés. La posture de ses personnages évoque l'idée d'un tableau vivant. Personne ne semble rester en place; on croirait que tout le monde remue, s'agite, gesticule et parle.

Les paysages paraissent sans fin. L'insensé devient sensé. L'inertie semble s'animer. Des bêtes et des épouvantails surgissent des bois. Les rochers et les pierres deviennent des êtres animés qui sentent, voient, entendent et éprouvent des sentiments. Les rochers vivement colorés, évoquent l'idée de fantômes retenus par les lignes noires lustrées du tableau.

Jusqu'à une heure tardive, le bar des matelots tremble et vibre. Pantalons de coutil trop étroits et chandails trop amples, silhouettes d'ours en peluche, vestes de cuir noir et robes de cuir blanc, tout ce fouillis tourbillonne et saute ensemble à une allure rythmée. L'endroit est plutôt gai que chic. C'est le rendez-vous d'une classe différente que les gens qui se prétendent respectables ne fréquentent pas.

Les gens de Chicoutimi sont fiers et s'habillent coûteusement et à la dernière mode. Ils se pressent continuellement comme s'ils n'avaient pas une seule minute à perdre. Les jeunes gens sont bien mis, ont le cœur léger, et même frivole. Les coiffures féminines sont stylisées comme celles des femmes ou des actrices de l'illustrateur de style japonais Aubrey Beardsley.

"Ces gens sont fiers, m'a confié mon chauffeur de taxi, quand ils n'ont pas d'argent, ils vivent sur le crédit." Mais, tous m'ont paru tellement prospères.

Le soir, une ligne continue de phares défilent dans la rue Racine. Il faut être bien déterminé et surtout n'être pas ivre pour traverser la rue au milieu de cet éblouissement. Des motos et des scooters grimpent les pentes en pétaradant. Des adolescentes montées sur leur Vespas, la chevelure flottante et retenue par un casque protecteur, passent en trombe, en se rendant de la maison à l'école.

De la rue Racine, des rues en pente conduisent en bas vers les chemins de fer, les réservoirs d'huile et la rivière Saguenay ou en haut vers des rangées de maisons de forme cubique, munies de balcons. Ces anciennes maisons, d'un style propre à la région de Chicoutimi, ont autant, sinon plus, de balcons que les maisons canadiennes-françaises, un peu plus loin au sud. Mais là s'arrête la ressemblance. Les maisons de Chicoutimi ont un style plus accentué. On y a employé avec ingéniosité et adresse des tubes d'acier soudés, du métal perforé ou du plastique ondulé pour remplacer les éléments en bois des anciens balcons.

Les toits en plastique des balcons qui entourent les maisons blanches, teignent la lumière solaire en

bleu, vert ou rose. Des couleurs aussi brillamment exotiques ne peuvent qu'ajouter à la sévérité des contrastes.

On se sert normalement des balcons pour se bercer ou pour y parquer les enfants. Toute la famille peut s'y réunir pour jouir de l'air tiède de l'été.

Des groupes d'enfants s'ébattent sur les balcons ou dans les jardins en pente des maisons. De charmantes fillettes, aux grands yeux et à la chevelure tombante, tiennent des petits chiens et des minets dans leurs bras; des garçonnets à l'esprit curieux les observent.

Des voix d'enfants qui s'excitent au jeu fusent des balcons, des cours ou de la rue. Des éclats de voix se répercutent nerveusement d'un coin de rue à l'autre.

On ne peut peindre ou dessiner ainsi en pleine rue sans que cela ne donne lieu à des engagements sociaux, à des exercices de linguistique ou à des rapports avec la jeunesse.

"Pourquoi dessinez-vous cela?

Parce que je l'aime."

Une brève période de silence s'ensuit.

"Oh! regarde! Il dessine la maison de monsieur Bouchard!

Et la vieille maison d'à côté également.

Allez-vous en faire une peinture plus tard?"

"Pourquoi pas?"

"Ah! Ah! Il va en faire une peinture!"

"Comment le sais-tu?" Te rends-tu compte que tu nous bloques la vue?"

"Quoi?"

"Ôte-toi de là! Lance-t-on au gamin qui examine ma toile, la tête en bas. Ce dernier s'écarte d'un air un peu embarrassé, mais en souriant.

Je remonte la rue escarpée. Le Saguenay et ses falaises brillent par-dessus les toits et entre les espaces étroits qui séparent les maisons. Un peu plus haut, j'aperçois au loin la rive nord et l'ancien village de Sainte-Anne du Saguenay, devenu depuis la ville de Chicoutimi-Nord. Le clocher de la paroisse Sainte-Anne et une croix plantée au sommet du cap dominent la ligne d'horizon des toits qui se perdent dans les arbres. Des files de voitures traversent le pont qui relie les deux villes.

Sur la rive nord, une route qui mène à la rivière gravit les flancs de la colline pour finalement atteindre le sommet du cap Saint-François, un promontoire recailleux dont les côtés escarpés font face au secteur est de Chicoutimi et à la petite municipalité de Rivière-du-Moulin. De nouvelles constructions bordent cette route et défigurent le paysage.

A chicoutimi même, le terrain s'aplanit au sommet de l'escarpement. Un vaste plateau s'étend jusqu'à la forêt vierge; cette vue n'est brisée que par la présence du Mont St-Clair, une colline surmontée du poste local de télévision et de son antenne, une haute tour en forme d'aiguille qu'on appelle là-bas "la lanterne". En bordure de ce plateau s'élève une banlieue typique qui a vue sur la ville et qui constitue le secteur résidentiel de la bourgeoisie et de la classe moyenne. Les entrées de cour entrecoupent les pelouses bien entretenues. Des haies bien taillées entourent les bungalows et les maisons jumelées. Ces demeures sont coquettes et propres, mais souvent d'un style banal. Des pelouses fraîchement tondues et parsemées de plates-bandes de fleurs bordent la forêt.

Les noms des rues de Chicoutimi sont pour la plupart d'origine française. Ils nous rappellent des citoyens illustres, des découvreurs, des missionnaires ou d'anciens traitants. Les noms de William Price et d'Arthur Buies ne semblent pas appartenir entièrement à ces catégories.

Fondateur de la dynastie qui porte son nom, William Price était connu comme le roi du Saguenay. Il ouvrit les forêts de la région à l'industrie du bois de construction et de la pâte à papier et construisit les célèbres usines Price Brothers qui ont longtemps constitué la principale industrie de Chicoutimi et qui ont depuis été déménagées à proximité des villes jumelles de Jonquière-Kénogami. Les usines Price étaient situées sur la rivière Chicoutimi dont les eaux se précipitaient jadis d'une hauteur de quarante pieds dans "le bassin" qui servait alors de port à la ville de Chicoutimi.

Au cours des années 20 on a construit un barrage en aval de la rivière ainsi qu'une centrale électrique. La digue de béton, la station génératrice et le pont avoisinant constituent un ensemble bien conçu de

constructions. C'est un peu plus loin en amont de la rivière Chicoutimi que furent érigés entre 1880 et 1890 les bâtiments de l'usine; solidement construits de pierre, ces bâtiments sont encore debout, loués en partie, mais pour la plupart vacants et hors d'usage.

L'histoire d'Arthur Buies est toute autre chose. De descendance franco-écossaise, il fut élevé par deux tantes maternelles. Il reçut sa formation à Rimouski et fréquenta les meilleurs séminaires.

Ardent, turbulent, romantique, passionné et l'esprit vif, il devint un ardent patriote du Canada français. Bien qu'on l'ait peu écouté durant sa vie, 1840-1901, il propagea par ses écrits un bon nombre d'attitudes qui ont été adoptées plus tard et présagea les futurs désirs de la province de Québec.

Il déclama contre les sentiments de lassitude accommodante et de servilité de l'époque. Il se prononça contre le conformisme intellectuel dont on était imprégné dans les maisons d'éducation et que les pouvoirs publics encourageaient. Son impétuosité le porta même à se faire l'avocat de la liberté, ce qui était inacceptable aux yeux des diverses hiérarchies religieuses et sociales de ce temps-là.

Il aimait sa terre natale et il a écrit un certain nombre d'ouvrages sur diverses régions du Québec; on compte parmi ses œuvres "Le Saguenay et la Vallée du lac St-Jean", qui est une étude sur l'histoire, la géographie, l'industrie et l'agriculture de ce coin du Québec. La devise de cet ouvrage est "Emparons-nous du Sol".

Arthur Buies compte parmi les premiers régionalistes canadiens et mérite d'être honoré par la ville de Chicoutimi.

On peut se demander comment il aurait aimé la ville de Chicoutimi d'aujourd'hui, avec ses pouvoirs hydro-électriques, l'automatisation, les communications instantanées, la fabrication en série, les métaux, le verre, le plastique, ses bâtiments de béton, ses nouvelles églises au style gai, où l'emploi libre des matériaux a donné lieu à des intérieurs spacieux et éclairés, qui semblent symboliser la destinée d'une société nouvelle et en plein essor. ✦✦✦

ELLIOT LAKE

by R. G. Bucksar

The people of Canada have two great qualities: a pioneering spirit and an inherent faith in their country. These, coupled with the vast mineral resources of the country can be numbered among the greatest of Canadian assets. Moreover, these legacies, the tangible and the intangible, have had a steady influence in the development of Canada's northland during the last century.

The frontier has always been settled by men in search of a better way of life. Men of vision, strength, and courage who pushed the wilderness back until Canada extended A Mari Usque Ad Mare. In this manner, a thin-ribboned group of settlements, commonly called the "ecumene", spread along the American border. From these early settlements came the pioneers who pushed northward into the awesome unexplored areas of this nation.

Although this has been of great benefit to the nation as a whole, it has not always been vital enough to prevent the gradual "illness and eventual interment" of many of Canada's frontier boom towns. Dawson City is only one of the examples of this phenomenon. In the heady days of 1898, Dawson's population numbered 25,000, but soon after the major gold resources payed out, this glamorous area became another ghost town.

First considerations in these frontier settlements were given to high dollar-per-ounce items, such as precious minerals. Little if any thought was given to base minerals because of transportation problems. Transportation is vital along the frontier. Without it, ore bodies cannot be discovered, men and equipment cannot be brought on to the site, and the ore cannot be brought out for industrial consumption.

One of several mines at Elliot Lake. The production of uranium was the sole basis of the town's economy when it was founded.

As the more valuable ore bodies were depleted in one area, the miners moved on in the relentless search for easy wealth. The tarpaper shacks and tent cities were quickly abandoned as the frontier moved forward. Only the maps were changed—new names: Whitehorse, Dawson City, Cassiar, and others appeared, where once vast areas had been identified as "unexplored".

Meanwhile, Canada's industrial centres had expanded and the need for basic minerals at last became evident. Transport facilities were also improved and enlarged, making it possible to claim the cents-per-ton minerals that had been casually ignored in the past.

New settlements were born of this need and the modern boom town has a different emphasis on development as it gains personality, individuality, and permanency. Today miners and merchants bring their families, open schools, build houses and churches and give the town stability. Although situated in the middle of a vast frontier, it has the nucleus to "give the thing substance".

In the pre-dawn of the atomic era, little consideration was given to uranium ore, for only the government could mine the mineral in Canada. With little promise of personal gain, miners and prospectors ignored the mineral. With the first explosion of an atomic bomb at White Sands, New Mexico, in July, 1945 and its subsequent wartime use at Hiroshima and Nagasaki that same year, the world suddenly became aware of the atomic age and the significance of uranium.

Grave concern was given to the control of the bomb following World War II. The "Haves" were complacent while the "Have-nots" became alarmed at being inadequately armed for future warfare. In 1947, the Baruch Plan attempted to organize an agency which could control raw fissionable materials. But the agency failed, the controls were taken off, and the rush was on.

Both the American and Canadian agencies offered great financial rewards to those finding uranium deposits. Prospectors roamed far afield in search of the precious mineral. The discovery of the Blind River-Elliott Lake claims was something of a press agent's dream. A sample of uranium-bearing conglomerate from the region had been left in the assayers office at Sault Ste. Marie in 1931. Twenty-two years later Frank Joubin found the sample, and with only remote clues he began the search for the uranium lode. After the discovery of the ore body, the weeks that followed were cloaked in secrecy.

To confuse others, a "back-door staking bee", as it was commonly called, was put into play. Miners, prospectors, and common labourers were flown in to stake claims for the company. No one was landed directly on the site. All planes were directed away from the claims area prior to landing, so that the deposit and its location could be kept secret until the actual exploitation got underway.

Yet behind all the excitement of discovery, it soon became evident that Elliot Lake was not going to be another Dawson City. The mining companies already held the overall control of the area. Now what was needed was a model development in place of the familiar shack-lined streets typical of yester-year. Detailed examination was given to every phase of the proposed development prior to the erection of any permanent, man-made structures. These things had to be done because two mines were already in operation and definite plans for further mine development had already been evolved.

The Federal government first proposed that individual company communities be located in close proximity to the operating mines. Perhaps the main advantage of this plan was the functional limitation of housing to mine employees and their families, with the companies assuming the financial responsibility of erection and maintenance of the housing units from funds provided in the negotiated contracts. After careful study, a committee, representing the mining companies and the Ontario provincial Departments of Mines; Economics and Development; Lands and Forests; Municipal Affairs; Education and Welfare decided in favor of a single, central community.

The committee believed that this concept would offer many advantages over two or more sustained communities. The single community would eliminate

The boom period at Elliot Lake attracted miners from across the country. With housing scarce several thousand trailers provide accommodation on mine properties.

costly duplication of essential municipal services, allowing for higher standards in a central town. This high-standard public community would be socially more desirable than several, small community, company towns. Moreover, it was considered that a central community, supported by several mines, would presumably be longer-lived than the single mine villages and this, in turn, would simplify amortization periods for both municipal services and housing construction.

Economic conditions were in part responsible for the decision. Investors felt that this was the beginning of the "Atomic Age", and there was no need to fear the traditional "five year phobia" which generally plagues mine development. "Conservative" estimates of the day revealed that Elliot Lake contained approximately 25% of the world's supply of uranium. With this base and the prospect of seemingly unlimited opportunity, large scale development was necessary.

After surveying the many thousands of acres which lay in close proximity to the extensive Z-like formation of the uranium-bearing conglomerate rock, a site was selected by the committee members. Topographical mapping, soil testing, and ground water studies were completed and the area bounded by Elliot, Nordic, and Horne Lakes was turned over to the Ontario Department of Economics and Development.

The town was laid out using information found in the original surveys. Five neighbourhoods, with one central shopping area and two industrial areas, were planned without the necessary allowances for unseen contingencies. Poor liaison and administrative problems soon led to difficulties for the contractors developing the project.

Fortunately for the contractors, the construction was on a cost-plus basis. Many unforeseen problems presented themselves as the work progressed. For example, hundreds of tons of rock had to be blasted and moved because plans did not allow for site alteration. Indeed it has been said that the foundations of several individual dwellings cost more than twenty thousand dollars. The cost was great, construction rapid (if extravagant), and further planning and liaison negligible.

The first days had all the earmarks of earlier boom developments. Since the mines preceded the townsite, rudimentary facilities were needed to house the first miners, construction workers and businesses. Temporary stores were located in trailers while shacks and tents were to be found everywhere as the construction went on. Housing was scarce and expensive. One-room cabins were renting for $50.00 to $125.00 a week. Meanwhile, the worker turnover during the first few months was tremendous as itinerents pocketed big stakes and moved on.

To add to the confusion, mortgage companies refused to invest in Elliot Lake developments. Past experience had led them to accept the theory of the "five year phobia". They rejected the vast potential of the mineral and would not offer mortgage financing. The mining companies had to assume the responsibility of house construction and financing in order to create a permanent working force.

In a further attempt to stabilize the working force, the first houses were sold to miners with families. A

Modern housing typical of the kind constructed during the initial period of prosperity.

Elliot Lake in August, 1959. The scene could well be the suburb of any large Canadian city. It was described "in awe and wonder as a frontier monument to Le Corbusier and Frank Lloyd Wright". Three months later the U.S. Atomic Energy Commission announced it would not purchase additional uranium from Canada.

contract with the Rio Tinto Company Ltd., allowed for the return of property during a specified period in the event of a setback in production. Return sales were subject to a schedule. The homes were owned by virtue of employment, and had to be returned if the owner ceased work within a two year period.

As a consequence of these arrangements many miners became speculators. They waited until the expiration date had passed and sold the property to private buyers at a considerable profit. Later agreements with the miners stipulated that the property must revert to the mortgagee until 1962, and later this date was extended to 1966.

Housing was scarce during most of the boom period, and the situation lent itself to serious health problems. Speculators rented out spare rooms and crudely partitioned basements in new homes. In a number of instances partitions consisted of blankets strung on clothes lines. In extreme cases a single dwelling could house an additional five families or twenty single workers.

Severe fines and penalties failed to discourage some of these "apartment house barons." The business was too lucrative to turn aside. Constant vigilance by health and police officials was necessary to enforce practical health measures. Police officials themselves did not always have the necessary facilities during "overflow periods." A Saturday night raid of the jail proved rewarding to a local health officer who discovered some twenty-five prisoners sharing the

same cell. Unable to condone the practice, he ordered the prisoners released and the jail condemned until an appropriate investigation could be made.

However, the end result was a community of which all Canada could be proud . . . as long as the economy was self-sustaining. It was described "in awe and wonder as a frontier monument to Le Corbusier and Frank Lloyd Wright." The town had a look of permanency and could well be imagined a suburb of Toronto, Montreal, or Ottawa. The newness of the frontier and the convenience of suburbia, combined with high wages, attracted hundreds of miners and their families to Elliot Lake.

There were no hard core ethnic groups here as in "Old Canada." No neighborhood barriers were to be found. Italian, Hungarian, Scotsman, or anyone of the many other groups found throughout Canada were living here in close harmony. Men who were victims of the then recent Hungarian Revolution blended well with the decendants of the original United Empire Loyalists and New France. Each had a new role in a new community. Surely this was a new Canada. A Canada which represented those "From Sea to Sea".

The many contemporary problems of the community were suddenly overshadowed by the American Atomic Energy Commission announcement on November 6, 1959 that "the U.S. Atomic Energy Commission will not be in a position to exercise its options to purchase additional Canadian uranium concentrate in the post 1962 period, but has agreed to a stretch-out arrangement with Canada during the period after March 31, 1963."

It was further stated that there was a common understanding of Canada's problem and "noted that Canada's action in making uranium available has made a major contribution to the defense of the free world." It was also pointed out that the current commitment for uranium purchase was in excess of current needs and that "the present situation of oversupply is due largely to the rapid expansion of domestic production during the few years."

A Canadian government announcement added another blow to the industry:

> "In the light of the present circumstances, the Government has withdrawn its offer first made on March 16th, 1948 to buy uranium under the Published Price Schedule. In fact, no uranium has been purchased under this offer during the eleven years in which it has been open, and would not be feasible to keep it open any longer, as there is no immediate prospect of a market for substantially more uranium than is already under contract."

It soon became evident that the community had been founded and was sustained upon a single-base economy. Cries of "governmental betrayal" were heard. A crash program was established in an attempt to bring in industry but the program was not successful. Original planning did not allow adequate space for any large scale operation away from the mine sites. The south industrial area contained the only sites for building. On checking water supplies it was evident that necessary water was not available for any large mechanized industry. The only areas containing water in sufficient quantities were too far removed and not industrially zoned.

Unemployment presented problems only in the overall economy. Statistics of those unemployed in Elliot Lake varied little from month to month. In fact there was virtually no unemployment, for once out of work the miner was quickly forced to move elsewhere. He simply could not afford to remain in the area when there appeared to be little future for the town.

Those miners who had the buy-back arrangement were indeed fortunate, but not all Elliot Lake residents were so lucky. Those who did not work for the Rio Tinto mines purchased their homes and businesses at a gamble. Without buy-back agreements, they could sell their homes whenever they desired as long as there was a purchasing market. After the close of mining operations, it was these individuals who suffered the most. They could not sell their homes as there were no purchasers at hand. Their only choice was to lock up, send the keys to the mortgage company, and sadly walk away without monetary reimbursement.

Elliot Lake Population Statistics

Date	*Population*
1959	25,000
1960	24,887
1961	15,690
1962	11,105
1963	10,622
1964 (July estimate)	8,700
1965 (Estimate)	(5,500)

The major problem associated with the development of the mines was the "crash program" forced by the United States' urgent need for fissionable materials, which caused a tremendous capital outlay and over-run by the mining companies. Believing that Canada was the only major uranium centre in the Free World, the possibilities appeared unlimited. However, before maximum production was reached in Elliot Lake the American mine interests in the Colorado Plateau had begun operations. American legislative appeals were for the purchase of domestic rather than Canadian ores.

The termination of the contracts perhaps only speeded up an eventuality. Although the Elliot Lake mines produced some 24% of the world's supply during its period of operation, the supplies were fast dwindling. This is shown in the fact that only three of the total 11 mines which were operating in the area still have sufficient ore to operate at a large scale.

As in most frontier settlements, where a single-base economy predominates on the landscape, the "spring which perhaps was stretched too far" must contract. In this contraction there is the possibility of future stabilization with other industries. Today, Elliot Lake cannot support the population of five years ago simply because there is a lack of investment capital and adequate facilities which might attract industry. Correction of the mistakes of the early years must be rectified for other industries to succeed.

The transportation facilities which proved to be adequate for the high dollar items of the past are no longer suitable today. The "one-way" road to the south is a great limitation to industrial development. A road must be made to the north. This is currently under way with the "Roads to Resources Program", but even this may prove to be inadequate for proper development of the area. A railway is needed to give the region stability. Adequate railway facilities can provide cheap transportation for future mining operations, woods operations and industry which may become attracted to Elliot Lake. These transport modes will need to be connected to the Great Lakes, where port facilities can be established.

Elliot Lake has character, substance and potential wealth, but these can be used only through the development of an adequate transport network which will connect the town with other facilities and relieve its present isolation.

RÉSUMÉ

The original problems of Elliot Lake were primarily concerned with the lack of common facilities. Rapid expansion and the investment of monies was not a major concern. The only thought was to channel all efforts toward what apparently seemed to be an ever-increasing need for uranium. The contemporary problems which evolved from this growth pattern were complex and many. The desire to become owners and partners in the New Canada overrode common logic. Individual investment was extremely heavy. Little concern or forethought was given to tomorrow and the expiration of the contracts. In a relatively short period of time, settlers transformed a portion of the wilderness into a modern suburbia.

And so the shadow of the Atomic Age fell, for a while, on a remote area of the Canadian northland. Where it fell it gave birth to a town which, with its anxieties and aspirations, has become a product of the age which created it. ✦✦✦

This article is Professor Bucksar's third article in HABITAT. Previous to this his articles have appeared in the May-June issue 1963 and the March-April issue of 1964. He has attended Wayne State University, The University of Michigan, and Eastern Michigan University, holding B.Science and M.A. (Geography) degrees from the latter. He is currently Assistant Professor of Geography at West Chester State College in Pennsylvania. His main interest lies in the historical (developmental) geography of Canadian towns, particularly those of northern Ontario.

Houses from an earlier and more leisurely era are still to be found in Ottawa south. They are well-maintained and still in use today.

OTTAWA SOUTH

by Eric Minton, Information Division, CMHC

Although metropolitan Ottawa is today a fast growing urban complex this acceleration is in sharp contrast to that period of slow but steady growth which took place after World War I. Ottawa in 1921 was a small city of 107,000, with its boundaries dependent in large measure on the street car tracks laid down by the Ottawa Electric Railway. The automobile was still in its infancy.

In that relatively tranquil era suburban development as we know it today was almost non-existent. The development of Ottawa South slowly by individual contractors was more in keeping with accepted practice at that time. The growth of this part of the city, and the changes that have taken place there in the intervening years reflect in microcosm those forces we see at work today on a large scale in some of the older sections in major urban areas.

Ottawa South's first link to the City was as a summer community. The new Bank Street Bridge over the Rideau Canal was one of the civic sights of 1910. When the street car line went up and over it three years later to a new terminus in Ottawa South it provided a firm connection to the city.

A small summer colony drowsed on the banks of the Rideau River. At the same time with the coming of the street cars a few stores opened for business near the corner of Bank Street and Sunnyside Avenue, the main intersection in the area. Additional streets appeared; new houses were built. Further expansion however, had to wait until after 1918.

Ottawa South in 1920 was still a semi-rural community. It had definite fixed boundaries imposed by nature and man, the Rideau River on the south, and the Rideau Canal on the north, a market garden to the east and a city dump to the west. Today the area is surrounded on all sides by modern suburbia.

The social conventions of the nineteen twenties were reflected in the Bank Street stores in the immediate post-war years. The "General Store" at Bank Street and Cameron Avenue caught up with the times and became simply a corner grocery store. There were a number of these highly individual institutions scattered throughout the south-end of the city, and they grew in number as time passed. Merchandising methods were informal—a pickle barrel, a wedge of cheese, and fresh fruit and vegetables "in season". The grocer was more likely than not a friend of the family.

As Ottawa South grew, other conventional neighbourhood amenities appeared. Hand Laundries run by Chinese, Ice Cream Parlors with their marble top tables and ornate soda fountains, whilst nearby, in the Glebe district, the new Avalon Theatre was showing silent pictures.

The Hopewell Avenue Public School was begun in 1910 and a separate school—St. Margaret Mary—was erected in 1931. Both Protestant and Roman Catholic churches were present but they were small in size, number and parishioners, serving, as they did, a basically semi-rural community.

Three of the main buildings at Carleton University, a post-war addition to the community. In the foreground the historic Rideau Canal.

Although Ottawa South had originally been subdivided before 1900, with streets laid out and services installed at a later date, the final product was not the work of any one builder. Construction by a number of builders throughout the twenties resulted not only in scattered growth in a relatively small area, but also served to introduce a wide variety of architectural styles. The monotony of contemporary suburban architecture knew no counterpart in this section of Ottawa.

To begin with, when the district was first opened up, there were already a number of large houses set in spacious grounds, left over from a more relaxed and informal way of life prior to the turn of the century. There were as well, scattered here and there, a number of old frame houses each with a small stable and a generous amount of land for the farming and market gardening that was still possible in the early nineteen-hundreds. In addition there was the cottage community along the river.

The new streets, running at right angles to Bank Street, the main thoroughfare, did not disturb these early dwellers. The land attached to the existing housing, large and small, was subdivided for the most part and sold as building lots, but the Victorian mansions remained, as did the smaller frame houses, and some are still there to this day. The old stables have long been converted to two-car garages.

The housing built in the district after 1918 was principally the detached family house; some semi-detached units were also built and some row-housing, but the area was architecturally given over to three and four-bedroom single-family houses, each with a back-porch for the ice box, and a laneway for easy access to the backyard. Garages were not built or provided, for the automobile was still an expensive luxury and the roads off Bank Street were unpaved.

But this early snap-shot faded quickly. The mass production of automobiles put nearly every family on wheels by 1930. The streets were paved within the decade, and home-owners went to the added expense of having a garage built in one corner of the backyard for the family car.

However, growth and change, so much a part of the community in the twenties, came to an abrupt halt in the thirties. The depression spread to housing. Few new homes were built in Ottawa South after 1930. Vacant lots and wooded areas remained in their natural state.

At that time the banks of the Rideau River were largely wooded, particularly on the west side of the community. These natural beauty spots were dotted all along the waterway and, in some cases, spread quite unchecked up to the street line.

Occasionally these areas, particularly on the west, were the home of gypsy caravans or people forced to the edge of existence by economic circumstances. Children were warned away. Elsewhere however, the open areas provided a daily nature lesson the year

Early row-housing and the corner grocery are still a way of life half a century after their construction.

round. In summer paths led through clumps of ferns that were head-high; in winter they led down to the stilled water where workers with great hand-saws cut out blocks of ice. The local "Ice House" was the largest river-side structure in the south end.

On the main street, the picture gradually changed with the nineteen-thirties. New "groceterias" put most of the old corner stores out of business. Bank Street had, in addition, three druggists and two banks. Traffic was heavier and the street was rapidly becoming too narrow for both street-cars and automobiles.

During World War II the housing picture itself did not change but many of the houses, under the press of heavy usage were, by the war's end, in a run-down condition. In some cases they had been used as rooming houses; in others, families and relatives had shared accommodation in the emergency. This rough usage coupled with the inability to do much in the way of maintenance or repair during the war left several of the older areas off Bank Street in a blighted condition.

Change was further accelerated after the war with the arrival of newcomers in the community. At the same time many of the older families moved out because sons and daughters had grown up and started families of their own. The old owners wanted something smaller. New Canadians, however, were glad to settle for a large home that would house the whole family.

Today you are as likely to hear Italian spoken on Bank Street on a Saturday morning as English. These new residents have fixed up the old homes. Some of them have built new ones of their own. The acute housing shortage after 1945 saw every vacant lot rapidly filled.

The transition has been even more rapid in the past decade. New Shopping Centres have now drained Bank Street of the competing groceterias. Laundries have given way to laundromats, empty stores have been taken over by wholesale organizations. Shopping, as such, must now be done for the most part south of the Rideau River at the Billings Bridge Shopping Plaza, a large modern shopping centre with ample parking space. It was this very lack of space that drove business out of Ottawa South leaving it to wholesale houses and to those few remaining stores that still cater to the needs of the community.

The canal on the northside and the river on the south have kept the area within its original bounds, but on the east and west sides there have been changes.

The nineteen fifties are reflected in this substantial new sub-division, part of the post-war housing picture in the community.

Single family housing dating from the early 1920's still contributes substantially to the existing housing stock.

The market gardens that once fixed the eastern limits of the district were subdivided after the war into one of the city's first new housing developments. On the west side, the old wooded area has been thinned out. A large playground and bathing beach with a fringe of shade trees has turned this into a proper and profitable recreation area. The new buildings that make up Carleton University, situated on the banks of the Rideau Canal, complete this startling transformation.

Today the city limits have been pushed out three miles south of the Rideau River. The new subdivisions are far removed from old Ottawa South. But the life of the community goes on. The existing housing in the area remains well kept-up. Bank Street now at five o'clock in the evening, or on a Saturday morning, is crowded bumper-to-bumper. The old street-cars were replaced by buses some years ago.

Half a century has gone by since the street-cars carried the first "settlers" out to the new suburb of Ottawa South. Today it is still a flourishing neighbourhood, buoyed up now by a healthy infusion of new blood, but retaining nevertheless much of the charm and liveliness that made it one of the city's most attractive suburban developments in the nineteen-twenties.

Sunnyside Avenue, one of the main streets in Ottawa South with housing in excellent condition though built more than forty years ago.

NORMES RÉSIDENTIELLES, 1965

par Jean-Paul Vézina

Le Code national du bâtiment, un code modèle pour les municipalités canadiennes.

1re PARTIE

A la veille de la publication du Code de 1965, il convient de décrire aussi simplement que possible les fonctions et le caractère du Code national du bâtiment, d'expliquer sa raison d'être, et par le fait même, prouver sa popularité au Canada.

Le Code national du bâtiment du Canada est un document de caractère purement consultatif publié par le Conseil national de recherches pour l'ensemble du Canada. C'est avant tout un recueil de normes à observer dans la construction des bâtiments afin que ceux-ci offrent un minimum de garanties en ce qui concerne les installations sanitaires, la protection contre l'incendie et la sécurité de la construction. Le Code concerne les édifices et les maisons ordinaires mais il n'est pas destiné aux travaux publics spéciaux. Son but essentiel est de contribuer à la sécurité publique par la mise en application de normes de construction répondant aux besoins du pays tout entier.

Ce document ne prend force de loi que s'il est adopté pour un usage défini par un gouvernement provincial ou une administration municipale.

Le fait que le Code national du bâtiment soit publié sous forme d'arrêté municipal est bien la preuve qu'il constitue un document inusité. Aux termes de l'Acte de l'Amérique du Nord britannique, les règlements concernant des questions essentiellement locales comme le sont les entreprises de construction sont du ressort des gouvernements provinciaux. Ces derniers, à leur tour, ont délégué la responsabilité des réglementations d'urbanisme aux administrations municipales qui l'exercent au moyen de leurs arrêtés. Les règlements visant la construction au Canada sont donc avant tout des arrêtés municipaux locaux que l'on nomme généralement "règlements de construction". Quelques aspects connexes de la sécurité publique, de caractère général ou plus spécialement technique comme l'emploi de conduites sous pression, l'installation et la mise en service des ascenseurs et surtout la pose dans les bâtiments, des installations électriques reviennent aux provinces pour qu'elles les régissent elles-mêmes généralement par l'intermédiaire de leur ministère du Travail.

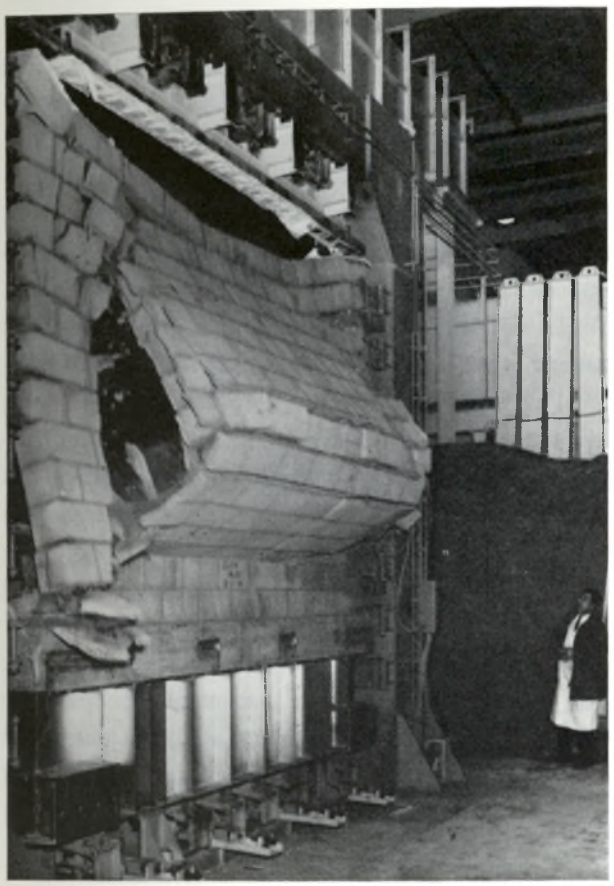
Cependant, les plans et la construction des bâtiments dépendent directement des règlements municipaux en vigueur dans la zone où ils sont construits. Bien qu'il soit difficile d'obtenir des statistiques précises, il n'est pas exagéré de dire que les municipalités exercent leur contrôle sur au moins les deux tiers de tous les travaux de construction actuellement en cours au Canada. Les arrêtés municipaux concernant la construction sont par conséquent des règlements assez importants. Dans presque tous les cas, ils ont été établis localement au cours des années et ils n'entrent dans aucun plan d'ensemble. On les a formés en ajoutant à de simples arrêtés concernant la protection contre l'incendie, des dispositions correspondant aux progrès réalisés dans la construction, alors que de nouveaux moyens de régie se faisaient sentir. Il en a résulté toute une collection d'arrêtés locaux qui varient beaucoup d'un bout du pays à l'autre non seulement dans la forme mais aussi en ce qui concerne leur contenu technique. C'est la raison pour laquelle les arrêtés municipaux en matière de construction sont depuis longtemps l'objet de critiques bruyantes et vociférantes sous pretexte qu'ils semblent constituer le plus grand obstacle au progrès de la construction des bâtiments dans le pays.

Ces critiques, généralement, ne tiennent pas compte du fait que les arrêtés en question constituent une réglementation essentielle pour la protection du public en ce qui concerne l'incendie, la solidité des bâtiments et les installations sanitaires. Les critiques oublient par ailleurs qu'il a été impossible de maintenir à jour des arrêtés locaux au cours des récentes années par suite des progrès sans précédent qui ont été accomplis dans les méthodes de construction.

Les administrations municipales se sont trouvées

de plus en plus impliquées dans l'établissement et la mise en vigueur d'arrêtés en matière de bâtiment au cours des récentes années à mesure que le volume des constructions augmentait dans le pays tout entier. Parallèlement, les exigences techniques des règlements de la construction sont devenues de plus en plus complexes et à l'exception des plus grandes municipalités, il est devenu impossible pour les autorités municipales d'avoir le personnel technique ou les fonds nécessaires pour maintenir leurs règlements à la hauteur des normes modernes de la construction.

Il y a lieu de remédier à cette situation en accordant une aide spéciale aux autorités municipales dans ce domaine très technique où des changements s'effectuent sans cesse. Comme types de problèmes techniques qu'il y a lieu actuellement de considérer dans l'établissement des règlements de la construction, on pourrait citer les précautions de la plus haute importance qu'exige la protection contre l'incendie, compte tenu des nouveaux matériaux utilisés et de l'accroissement des dangers d'incendie qui existent même dans les maisons ordinaires; l'augmentation constante du nombre de dispositifs spéciaux de la construction qui doivent être soumis à des études très minutieuses avant de pouvoir être employés sans hésitation; et, dans le domaine des installations sanitaires, l'impor-



Ce mur d'éléments de maçonnerie creux de huit pouces d'épaisseur, assemblés avec du mortier composé de sable et de ciment, s'écroule au moment où la charge a atteint 196,200 livres, après avoir subi la veille un essai de résistance au feu à une température de 1850°F.

Ce mur de brique commune de quatre pouces d'épaisseur, s'écroule au moment où la température du four a atteint 2100°F, la charge verticale 40,820 livres et la charge horizontale, 71,230 livres.

tance croissante de l'aération, des dimensions minimums des pièces et des installations essentielles comme les fosses septiques pour l'évacuation des eaux lorsqu'il n'y a pas d'égout. Si l'on veut que ces problèmes techniques fassent l'objet d'arrêtés appropriés, il faut faire appel à des experts techniques et la plupart des municipalités canadiennes n'ont pas les moyens de le faire.

C'est vers 1935 que la gravité du problème et sa complexité semblent avoir été reconnues pour la première fois. L'adoption de la première Loi nationale sur l'habitation a conduit l'administrateur de la Loi, M.F.W. Nichols à consulter les municipalités au sujet des règlements locaux qui existaient alors pour le contrôle de la construction immobilière aux termes de la Loi. C'est alors que les difficultés des municipalités à cet égard apparurent pour la première fois. La construction était devenue de plus en plus compliquée à cause de l'élan technique donné par la guerre de 1914-1918 et cependant, au début des années 1930, les municipalités n'avaient pas les ressources financières suffisantes pour effectuer la révision des arrêtés en matière de construction ou pour mettre en vigueur des arrêtés de ce genre s'il n'en existait pas.

On a alors pensé que des organismes fédéraux pourraient être d'un grand secours dans ce domaine si le problème des règlements en matière de construction pouvait être envisagé du point de vue national. On fit appel au général A. G. L. McNaughton qui présidait alors le Conseil national de recherches. On s'aperçut que l'idée d'un Code national du bâtiment avait déjà fait l'objet de discussions lors de réunions convoquées par le Conseil. En collaboration avec le ministère des Finances (qui administrait alors la Loi nationale sur l'habitation) le Conseil national de recherches créa un comité pour étudier le problème. Un secrétariat fut constitué; on examina les codes du bâtiment en vigueur dans les autres pays; on décida finalement d'établir un Code national du bâtiment pour le Canada.

On a admis que ce Code serait un document de caractère consultatif qui serait préparé par des comités nationaux où seraient representés les meilleurs groupements techniques et professionnels du pays. Les municipalités pourraient alors obtenir le Code en ne payant que le coût d'impression. Lorsque le Code serait légalement adopté par une municipalité, cette municipalité pourrait en faire sa propre réglementation en matière de construction. Les travaux d'établissement du Code commencèrent en 1937. Bien que la tâche ait nécessité au début, la mise au point d'un manuel technique couvrant tous les aspects du bâtiment, de bons résultats ne tardèrent pas à se faire sentir. La déclaration de la guerre n'arrêta pas le travail. Le Conseil national de recherches publia en 1941 le premier Code national du bâtiment du Canada, un ouvrage de plus de 400 pages, et le vendit un dollar à tous ceux qui le voulaient.

Naturellement, la guerre fut préjudiciable à l'emploi et à la renommée de ce document qui faisait œuvre de pionnier. Ce ne fut, par exemple, qu'en 1943 que le Code canadien fut décrit dans un rapport officiel du ministère britannique des Travaux publics comme étant "actuellement le meilleur code du bâtiment" parmi tous les codes disponibles dans toutes les langues. L'emploi prévu du Code par les municipalités fut également retardé par les nécessités de la guerre mais après un lent démarrage, son tirage augmenta de façon satisfaisante de telle sorte qu'éventuellement 10,000 exemplaires en furent vendus, surtout au Canada. Il fut mis en application soit directement comme règlement local en matière de construction, soit indirectement comme document de référence utilisé de pair avec les arrêtés municipaux dans plus de 200 municipalités. Le fait que ce document ait été utilisé d'une façon aussi répandue justifie le caractère national et consultatif qu'on a voulu lui donner. ✦✦

Natif de Montréal, monsieur Vézina a fait ses études au Collège Saint-Laurent et au Mont-Saint-Louis. Il est bachelier ès Arts de l'Université de Montréal et diplômé de l'Université de Western Ontario, London. Monsieur Vézina était préposé à l'Information à la Société centrale d'hypothèques et de logement avant d'entrer au service du Conseil national de recherches. Il est maintenant éditeur à la Division des recherches en bâtiments où il est attaché au Secrétariat du Code national du bâtiment.

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SOCIÉTÉ CENTRALE D'HYPOTHÈQUES ET DE LOGEMENT

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FRONT COVER: *by Maynard Douglas*

INSIDE FRONT COVER: *A New Brunswick Clam Digger. NFB*

For a variety of reasons Habitat has fallen behind publication schedule in recent months. However, our May-June and July-August issues are now being prepared for printing and we hope to be up-to-date by the end of the year.

This fall there will be an interesting article originating from the National Research Council concerning the latest methods of snow removal in Canadian cities. The article should be of great assistance to those city organizers who face the annual problem of clearing streets.

Also in forthcoming issues there will be more of the delightfully illustrated articles by Professor Stuart Wilson including a two-part historical study of Boucherville. Professor Wilson, a Professor at McGill's School of Architecture, is a regular contributor to Habitat and deserves a special word of thanks for the interesting material which passes over our desk and on to the pages of this publication.

Moshe Safdie, the originator of the Habitat '67 concept, is preparing an illustrated article on his tremendous project. There will also be an accompanying story on the feasibility of Habitat '67. Readers may remember Mr. Safdie's articles which appeared in Habitat in 1961.

In recent weeks we have had several letters inquiring into the absence of Habitat from libraries and bookcases. It is indeed a compliment to think that we are missed and every effort is being made to rectify the situation and to satisfy our readers in the coming months.

✦ ✦ ✦

Housing In Israel

by R. F. Legget

Overshadowed by the rolling Judean Hills, the Beit Shemesh development town lies in the Valley of Stork. The cement factory seen in the background employs some of the new town's inhabitants.

Current residential construction in the youthful state of Israel is more than double the per-capita rate in Canada. In a country of two and a half million population this represents 40,000 new dwelling units each year. Although there are differences in environment, social structure and geography between the two countries, a brief description of Israeli housing may be of interest to Canadian readers. The following notes are based on observations made during a week spent in Israel as the guest of Professor Rahel Shalon (Director of Building Research and Vice-President of the Technion) while attending the 1964 meeting of the Executive Committee of CIB*.

At the conclusion of their meetings, Mrs. Shalon kindly arranged for her fellow building research directors to see her virile country almost literally from Dan to Beersheba. We were able to see all types of new houses in varying stages of construction throughout the country. Although it is only about 200 miles from Dan to Beersheba, climatic conditions range from green-clad hills to actual desert conditions accounting for the diversity of housing types. The total area of the country is only 8,000 square miles, one half the Negev desert region, but it cannot be compared to any similar small area in Canada when the remarkable variety of scenery and the still more spectacular volume of current construction is observed.

When the State of Israel was established in 1948, its population was about 750,000; housed at a ratio of 3.5 persons per room. Today, the population approaches 2,500,000 and the availability of housing is such that there are now only 2.2 persons per room. The word "only" shows the challenge still facing the Israeli government, but the figures demonstrate clearly the great progress that has been made. It is small wonder that residential construction accounts today for about 30 per cent of gross national investment with total construction amounting to 60 per cent of the total amount.

To provide for this great constructional activity, building materials and equipment have to be imported in such quantities that they represent an appreciable percentage of the total of all national imports, although Israel now has three cement plants producing almost one million tons of portland cement per year, of which one fifth is exported.

**Conseil International du Batiment pour la Recherche L'Etude et la Documentation — International Council for Building Research Studies & Documentation.*

Many other building materials are also manufactured in Israel, in about 400 plants employing 9,000 workers, production representing almost 10 per cent of all manufacturing activity.

In 1948, more than 40 per cent of the Israeli people lived in Tel Aviv, with 15 per cent in Haifa and almost 12 per cent in the Jewish part of Jerusalem, a total of 66.3 per cent of the total population living in these three cities. In 1961, the proportion was reduced to 58 per cent, in contrast with the reverse trend in most other countries. To achieve this result, 480 new settlements have been established, many in desert locations, following the stated policy of the government to decentralize the population to the maximum extent possible. Despite all the incentives to settle in the new towns, such as confirmed jobs and "social rents" offered to immigrants (who make up more than 70 per cent of the increase in population), the growth of Tel Aviv, now a metropolitan area of three-quarters of a million people, must be a matter of great concern to the Israeli government. Progress is being made as the above statistics have shown.

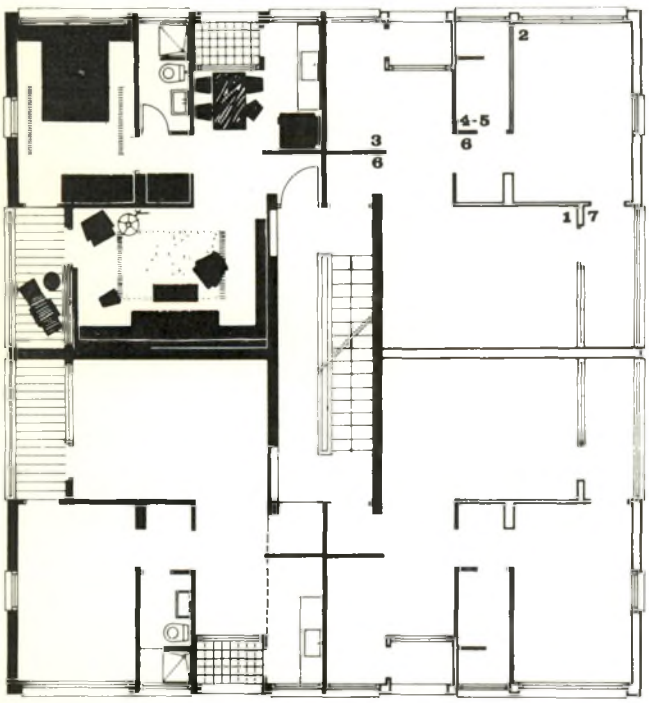


FIGURE A-1

Typical floor plan of simplest immigrant housing.

The Ministry of Housing has always been an unusually important part of the national government. A planning department was set up within two months of the establishment of the country in 1948. The country is now divided into sixty town planning areas, with local building and town planning commissions for each. Under the Ministry of the Interior, six district building and town planning commissions coordinate local planning on a regional basis.

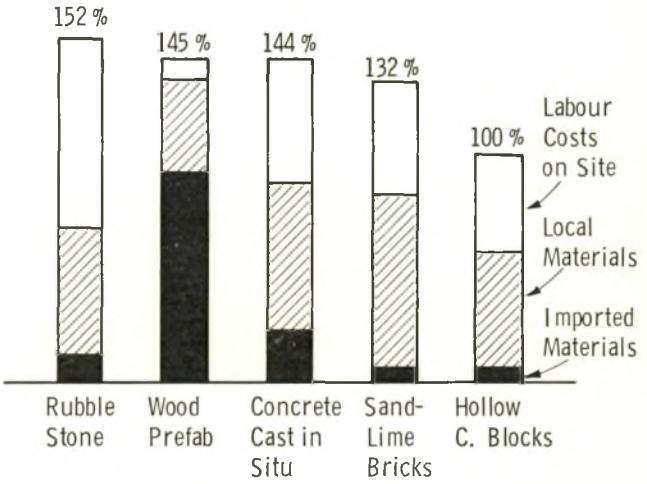


FIGURE A-2

Comparison of costs per sq. m. between various wall construction systems Israel housing.

Pre-1948 planning had been carried out on the basis of Swiss studies, generally in a checker-board pattern of 60 metre blocks. The garden-city idea for planning was next attempted but found to be unsuitable for the Israeli environment. Grouping of housing units in large blocks was the next basic planning concept, and in modified form, is in use today. In Beersheba one block was constructed containing 250 housing units but unfavorable tenant reaction showed this was a mistake.

To hear planners discussing, in a singularly constructive way, mistakes made in early planning was a refreshing experience. One of the major planning problems arose from the gradual shifting of origin of new immigrants. In more recent years, new citizens of Israel have come from

eastern Europe, Persia, North Africa and even from India. (Two charming waitresses in the North American sponsored hotel at Beersheba were from India, welcoming the opportunity of speaking with the Director of Building Research from that country.) Residential accommodation has had to be designed and planned accordingly. Against this changing background, it was interesting to hear general plans described for 27 new towns, soon to be built. These will be laid out in three sizes accommodating 10,000, 25,000 and 50,000 people (3,000, 7,000 and 15,000 families) respectively.

In view of the social problems the Israeli government has been responsible for building most of the housing facilities. However almost 50 per cent of the investment in residential construction has been from private sources. Of the 650,000 living units constructed, only 200,000 are rented. The government encourages the purchase of homes, mostly apartments, in every possible way. Government mortgages for private building, for example, can be obtained to a maximum amount of only 30 per cent of construction costs. The remainder must be obtained by private borrowing and by personal savings, the objective being to promote individual saving in view of the ever present danger of inflation. Interest rates on private loans are very high for the same reason.

Even more surprising than this unusual financing of accommodation (confirmed to the writer by a research scientist who gave details of the financing of his own two-room home) is individual apartments can be bought and sold, the land on which an apartment block stands is owned jointly by all the tenants under the "condominium" system. This use of an ancient legal practice originates from one of the earlier laws put on the statute books of the new country. Rather amusing but cynical comments were told about the inevitable legal wrangles created by this arrangement, giving consequent remarkable benefits to the members of the Israeli legal profession.

In comparison with problems of planning and financing, residential design and construction are relatively straightforward and simple by Canadian standards. The warm climate removes the need for internal heating, but adequate and economical cooling measures create the inverse problem. Even solar heat has its advantages, cheap and efficient solar water heaters are a common feature on the roofs of many smaller residential buildings in the southern part of the country, even though they constitute an aesthetic disfigurement.

Concrete blocks, in a variety of types, are almost the universal building material of Israel today, set in reinforced concrete frames for all but the smallest buildings and individual homes. In the early years of the new country, a variety of building methods were followed, many prefabricated buildings (including some wooden "prefabs" from Nova Scotia) have been imported. This emergency phase soon passed, however, and since then steady progress has been made in refining standard concrete designs, with continuing assistance from the Technion Building Research Institute under Mrs. Shalon's direction.

Israeli housing architects made no apologies for the use of standard designs. In no other way could the phenomenal physical development of their country have been achieved. Today, for government housing developments and particularly in the new towns, there are standard housing designs available and also "stock plans" for Schools, Syna-

Students of the Bar Ilan University relax between classes on the campus lawns. Behind them is the administration building, the main auditorium and the synagogue.

Israel's bright new resort hotels by the languorous Mediterranean make sure that vacationers enjoy the most from the country's nine months of almost constant sunshine. On the left is shown the Accadia Hotel on the Herzliya Beach, outside Tel Aviv.

gogues, Youth Centers and Dispensaries. By careful grouping, and variation in exterior finish of housing blocks, pleasing effects have been obtained, as accompanying illustrations may demonstrate.

Today's simplest flat layout, for immigrant working families, has a total floor area of 506 sq. ft. Planning skill is shown by the following breakdown in square feet — living space 359 (or 71%), balcony 13, circulation 45, staircase allowance 33 and walls 56. Larger government flats have floor areas up to 1076 sq. ft., but even in these larger units, the percentage of living space always exceeds 691. A typical minimum floor layout is shown in an accompanying diagram.

Construction standards are graded in a similar manner according to the size of flats. Basic construction consists of reinforced concrete frames, floors and roof slabs, with concrete blocks used for all walls and partitions. One coat of cement-like plaster is used for wall finish topped with two coats of colored cement paint. Terrazo in cement is used for all floor finish. The next grade of construction is similar but has two coats of plaster, and an extra undercoat for rain-exposed walls. Provision of a bathtub instead of a shower and extra electric outlets distinguish the third standard grade of residential construction — relatively simple in comparison with Canadian practice but adequate for Israeli conditions and so much better than most immigrant families have ever had that "house proud" is a term of very real meaning.

As is always the case with different economies, housing cost comparisons between Israel and this country are not valid especially with the great differences in the standards of construction. Comparative cost studies, however, have relevance in both countries. The accompanying diagram is reproduced from papers on Israeli housing by A. Alweyl, Director of the Engineering Department of the Ministry of Housing.

Cost for prefabricated concrete units are not shown in this figure, but good progress is being made in the factory production of a number of smaller reinforced concrete units. One of the most interesting and yet unusual developments (to a Canadian) is the production of precast reinforced concrete roof trusses with spans of about 16 feet, for use in house construction. That such units can be produced economically is indicative of the critical shortage of timber in Israel. Reforestation over wide areas of seemingly barren hillsides is one of the many inspiring sights revealed by travel in Israel. Despite all the progress briefly reported in this paper there are still problems associated with housing in Israel, not all quite so obvious as the supply of the necessary capital, of which so much must come from abroad. Just as in Canada, the second generation is not always willing to accept the same standards as their parents. Families are increasing in size, making the low space standards very restrictive. Although the new desert settlements are attractive and self-contained, "city lights" exercise their magnetism in Israel making migration to Tel Aviv a great temptation.

Nothing has yet been said of the kibbutzim, the remark-

The Institute of Nuclear Science at the Weizmann Institute, Rehovot.

able community settlements so peculiar to Israel. Nowhere was the conflict between the old and the new more vivid than during a visit to one of the better established kibbutzim, beautifully situated on the Sea of Galillee between Tiberias and Capernaum. Here, on this historic ground, the kibbutz has its fish ponds, vineyards and banana fields. The visitors were shown around the simple living quarters of the residents, communal nurseries, dining facilities and recreation hall by a leader of the kibbutz, a devoted man who clearly showed his zeal for the ideals of his community. But even he admitted some concern as to whether their young people would be willing to return to their simple communal living if they went out into "the world" to complete their education.

Luncheon was served at the kibbutz in one of the most gracious dining rooms seen in Israel. It was in a new reinforced concrete building of clean cut design, associated with a newly completed two-storey motor hotel where the kibbutz has invested some of its savings. To dine in a fine restaurant while looking out over the blue waters of the Sea of Galillee, the simple small buildings of the kibbutz, and a modern "American" motel, seemed to typify in a dramatic way the progress of Israel and the problems this very progress is creating.✦✦✦

Robert F. Legget is a Civil Engineer, holding his Master's Degree from the University of Liverpool. He came to Canada in 1929 and was engaged in heavy construction work until 1936 when he joined the staff of Queen's University. He went on to the University of Toronto in 1939, remaining there as a teacher and consultant on soil and foundation problems until 1947. He then started and became Director of the Division of Building Research of the National Research Council (Nov.-Dec. 1960).

Avenue Lartigue from De Montigny

AVENUE LARTIGUE

by Stuart Wilson and Bruce Anderson
Drawings by the authors

Avenue Lartigue is a close-mouthed dead-end street off Rue de Montigny between Rue de la Visitation and Rue Panet. A narrow country-like earthen lane leads between low roofs to Rue de la Visitation from the rear of the bottled-up space. An Ecole de Boxe and a cell of "Québec Libre" are housed in a former Gospel Centre, near the corner on Rue de la Visitation, where the lane debouches. Lettered slogans load the building front. Beside the advice, "Apprenez à vous défendre", shouts the declamation, "Vive le Québec Libre". The romantic appellation, "Les Chevaliers de L'indépendance", is marked in bold letters on one side, while on the other a smaller sign announces meetings. "Tous les Mardi soirs à 8 hrs".

Looking up Avenue Lartigue towards the West Side.

Before May the eleventh, 1908, when the Municipal Council passed a resolution renaming the street, Lartigue had been known as Ruelle St. Pierre. The new street-name was bestowed in memory of Jean-Jacques Lartigue (1777-1840), priest of the Seminary of St. Sulphice and first Roman Catholic bishop of Montreal.

When the properties of the Seminary appeared to be menaced, I'Abbé Lartigue went to London in 1819 to speak for their continued security. This diplomatic mission was crowned with success.

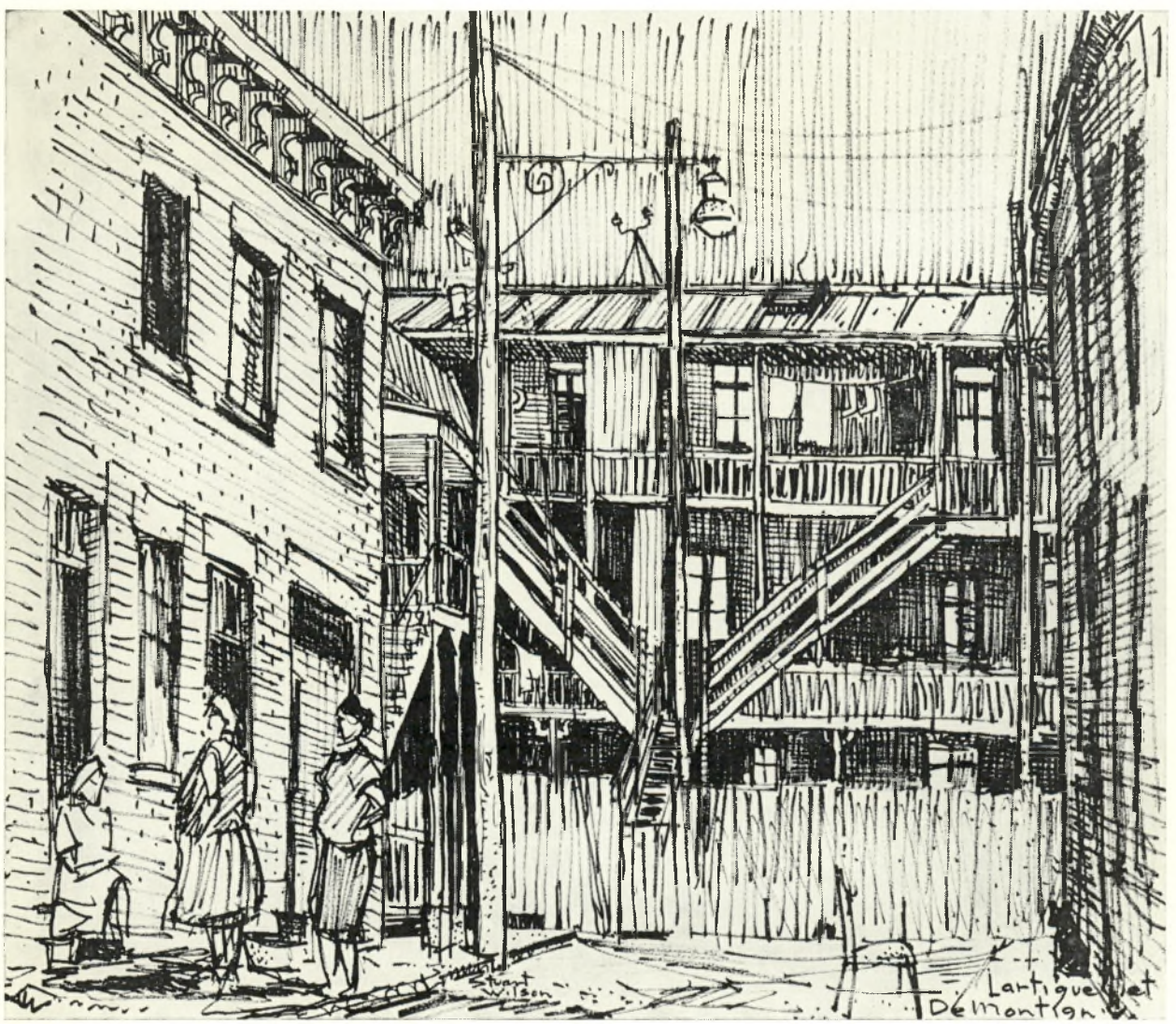
Rome appointed him Bishop of Montreal in 1821. In 1837 Mgr. Lartigue, and Mgr. Siguay, Bishop of Quebec, condemned recourse to rebellion from the pulpit. Some bitterness resulted as a reaction to these advices from high sources.

Today, little Avenue Lartigue is lively. Noisy children dance in the space. Chairs sit in the road. Daily housework done, women chat in groups on the pavement or lean forward, looking out of windows, arms protected by soft pillows on sills.

One lady lived here since she was a little girl. At that time they had wooden sidewalks. Then the street, like today's lane, was of packed earth. But at the end of the street, near the fence, was a fine large tree. This was good. There were birds in the branches, and during the summer the leaves brought coolness and shade.

One car is parked by the narrow sidewalk.

When the city garbage-truck backs through the bottle-neck into the space, the kids say, "Here it comes!" The truck fills up the narrow opening, and moves in. As the garbage-pails are dumped, the kids howl and prance, while the busy garbage-men grin.



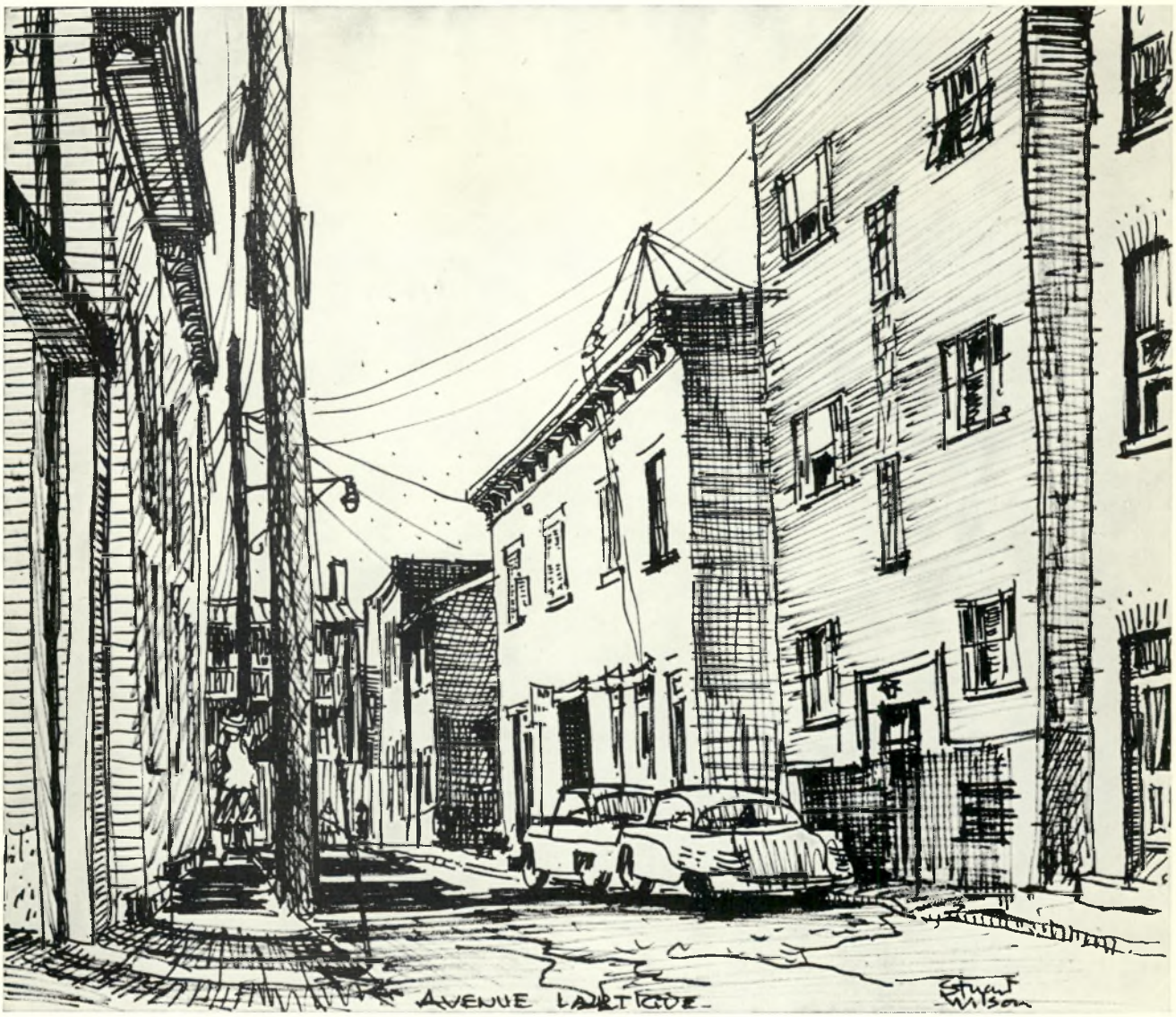
Dissimilar, and small, the houses fit together with three-storey flats. Straight-faced boxes, one and a half, and two storied pitched and mansard-roof cottages squeeze into the narrow frontage.

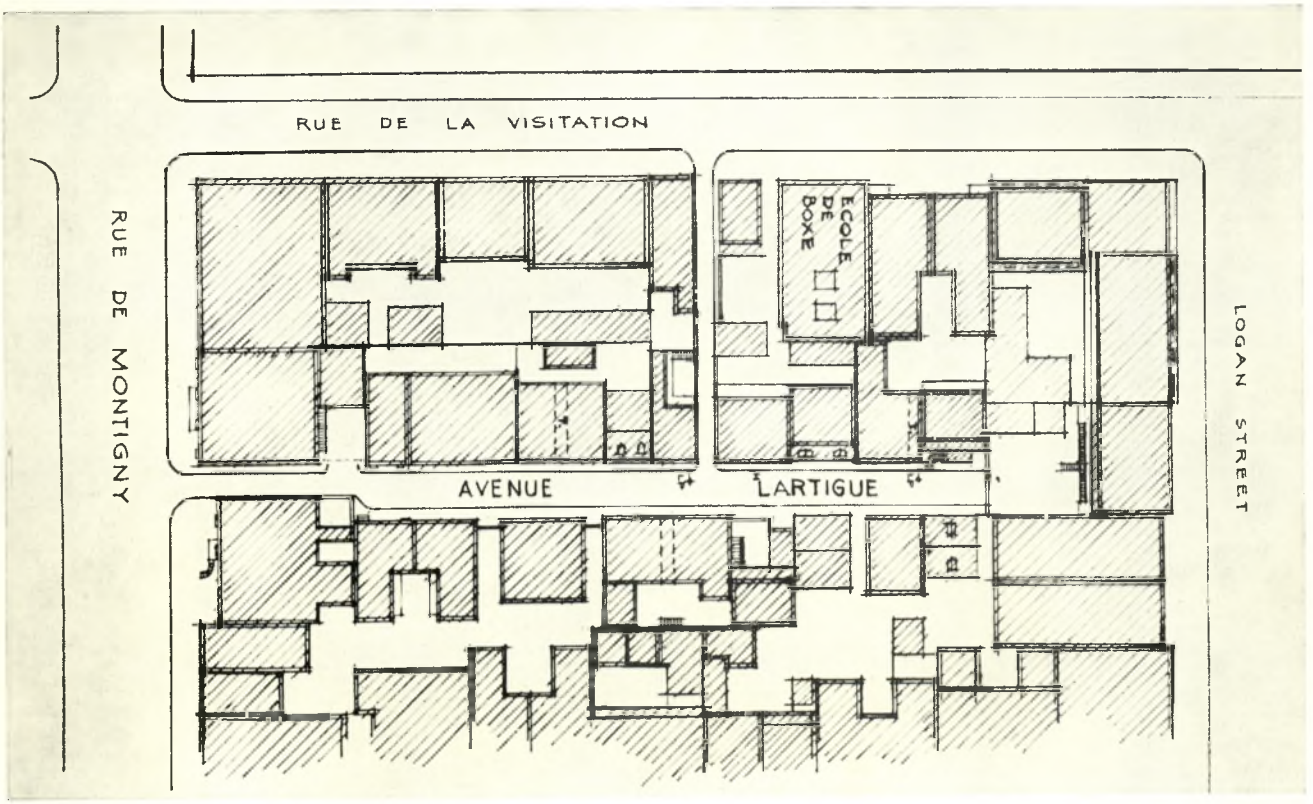
Ground floor windows are firmly shut by dark green summer blinds. Brick walls and wood trim freshly painted, bracketed, and moulded cornices crown the straight walls.

Openings and breaks between houses are shut off with high board fences. Tunnels pierce flat façades. Down the dark shafts, wooden stairs climb out of sun-lit courts to living spaces beyond.

Galleries, stairs, railings, clothes-lines, wires, poles, wash-tubs and sheds stack up behind a high wooden fence.✦✦✦

East side Avenue Lartigue





L'AVENUE LARTIGUE

par Stuart Wilson et Bruce Anderson
Dessins par les auteurs

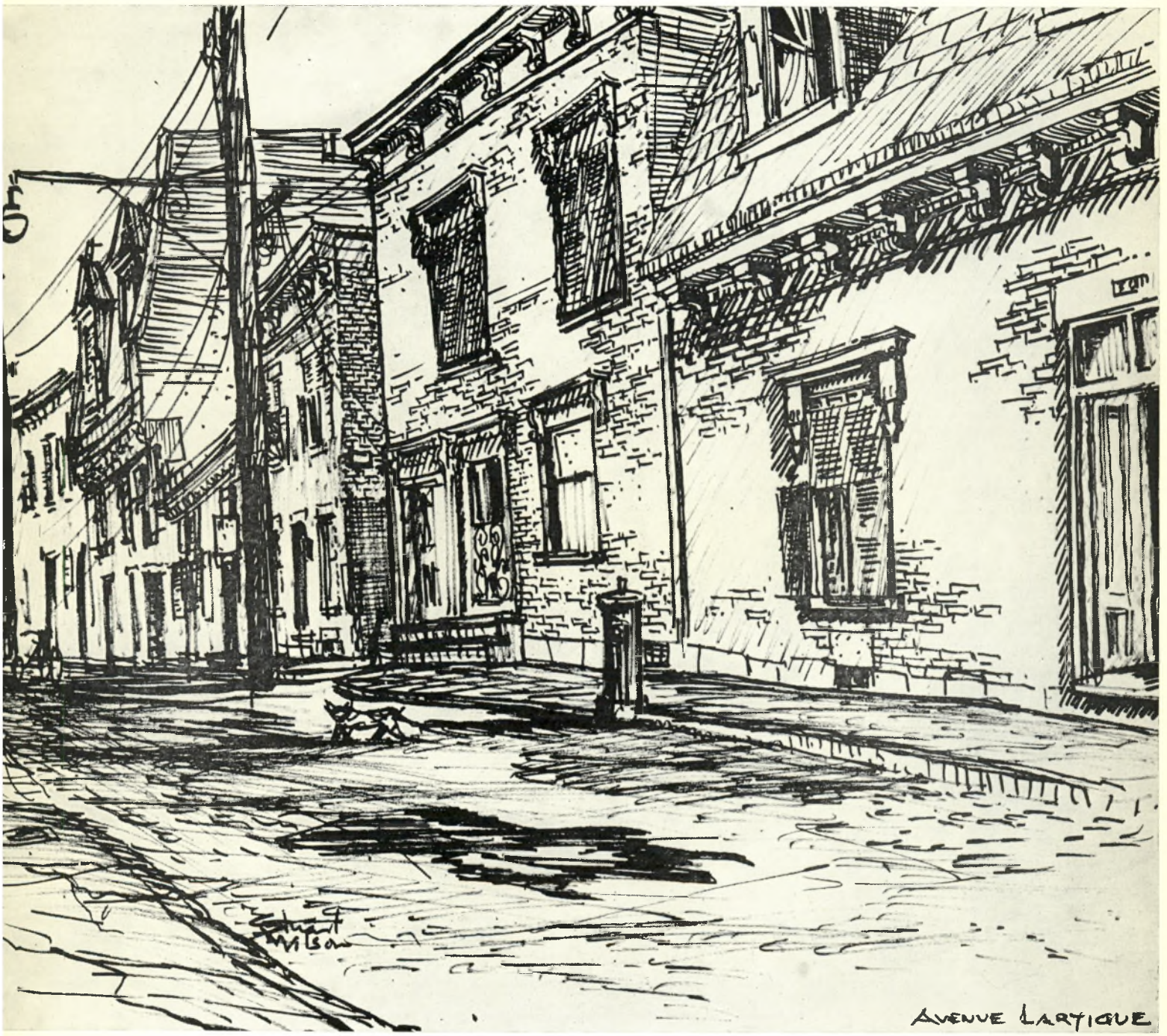
L'avenue Lartigue, qui est située entre la rue de la Visitation et la rue Panet, est une rue étroite et sans issue qui débouche sur la rue de Montigny. Une ruelle en terre battue du genre route de campagne conduit entre deux rangées d'habitations aux toits bas, de l'arrière de l'impasse jusqu'à la rue de la Visitation. Un ancien Centre évangélique, situé à l'angle de la rue de la Visitation où débouche la ruelle, abrite maintenant une école de boxe et une cellule du mouvement pour le "Québec libre". Des écriteaux de slogans en recouvrent la façade. Près d'un placard intitulé "Apprenez à vous défendre", un autre proclame "Vive le Québec libre!". D'un côté, on peut lire le titre romanesque imprimé en caractères gras "Les Chevaliers de l'Indépendance", et de l'autre, sur un écriteau plus petit, qui sert à annoncer des réunions:

"Tous les mardis soirs à 8 heures".

Cette avenue qu'on désignait jadis sous le nom de ruelle St-Pierre, ne porte son nom actuel que depuis le 11 mai 1908, alors que le conseil municipal adopta une résolution à cette fin en mémoire de l'Abbé Jean-Jacques Lartigue (1777-1840), prêtre du Séminaire de Saint-Sulpice et premier évêque catholique de Montréal.

En 1819, lorsque les propriétés du Séminaire lui avaient semblé menacées, l'Abbé Lartigue s'embarqua pour Londres afin d'en faire prolonger la garantie. Sa mission diplomatique fut couronnée de succès.

Le Pape le nomma évêque de Montréal en 1821. En 1837, Mgr Lartigue et Mgr Siguay, évêque de Québec, réprouvèrent du haut de la chaire le recours à la rebellion; leur attitude ne manqua pas de provoquer des sentiments de rancoeur chez certaines de leurs ouailles.



Vue de l'avenue Lartigue en regardant
du côté de l'entrée de la rue.

"La Ruelle"

Aujourd'hui, la petite avenue Lartigue est fort animée. Des groupes d'enfants turbulents s'y ébattent, parmi les chaises que leurs aînés semblent avoir oubliées au milieu de la chaussée. Leurs travaux de ménage terminés, des femmes bavardent en groupes sur la chaussée ou se penchent aux fenêtres, en s'accoudant sur les oreillers qu'elles ont placés sur le rebord.

L'une d'elles habite ce coin depuis son enfance. En ce temps-là les trottoirs étaient de bois. La rue, comme la ruelle aujourd'hui, était de terre battue. Il y avait aussi un bel arbre qui s'élevait au bout de la rue, près de la clôture. C'était le bon temps; les oiseaux venaient nicher dans les branches et le feuillage procurait de l'ombre et de la fraîcheur, l'été.

Une automobile est stationnée près du trottoir étroit.

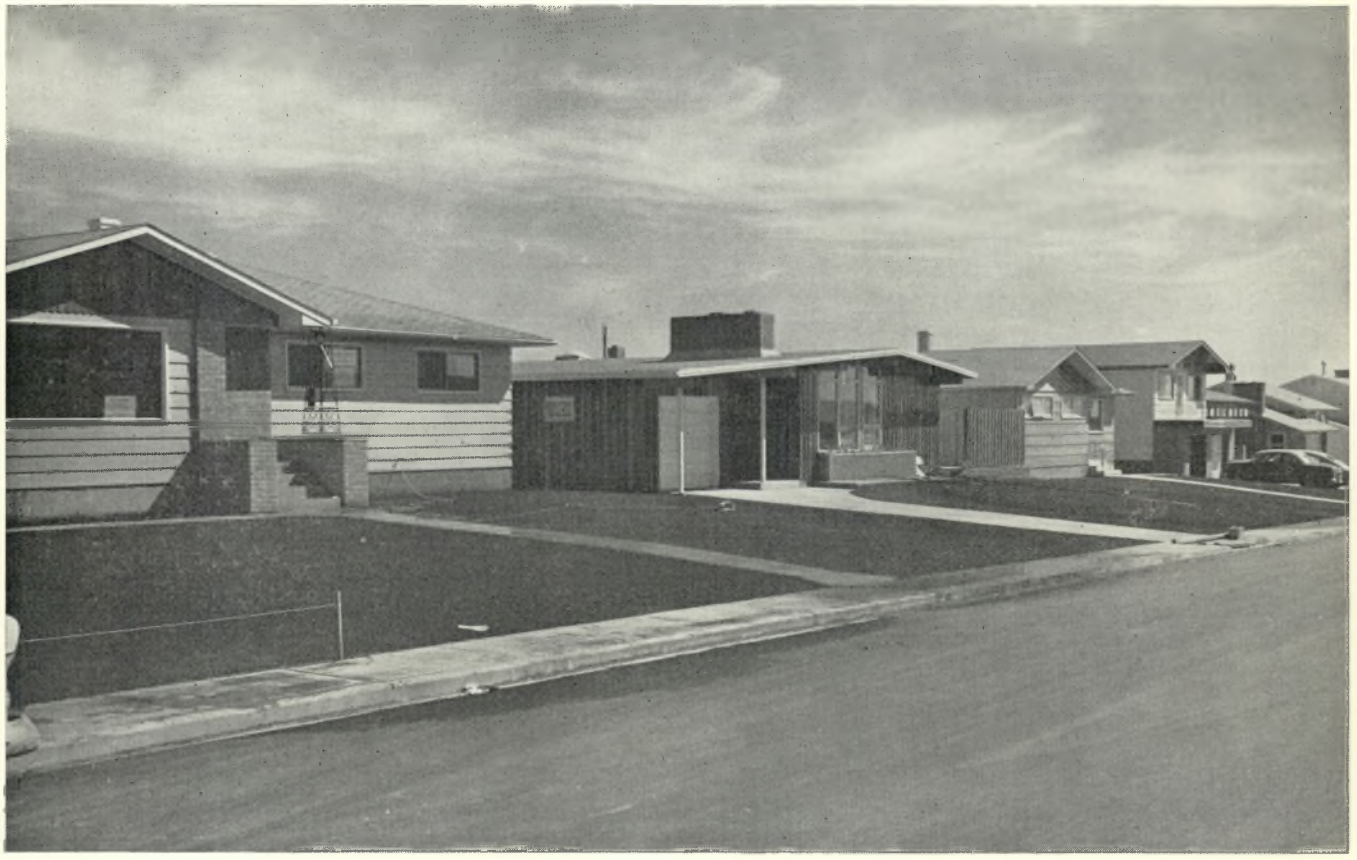
Le jour où le camion municipal d'enlèvement des ordures ménagères recule dans ce cul-de-sac, les gamins se mettent à crier, "Le voilà!". Le camion bloque complètement la rue étroite en y pénétrant. Pendant que les boîtes à ordures se vident, les enfants hurlent et sautent; les éboueurs, occupés à leur besogne, les regardent faire en souriant.

De modèles variés et de petites dimensions, les maisons s'agencent avec les logements de plain-pied à trois étages. Des maisons cubiques à face unie, d'un étage et demi et des maisons de deux étages, avec toit en pente et en mansarde, se pressent les unes sur les autres pour former l'étroite façade.

Au rez-de-chaussée, les fenêtres sont fermées hermétiquement par des volets vert foncé. De la brique et de la boiserie fraîchement peinturée, des arcs-boutants et des corniches moulées ornementent les murs unis.

Les ouvertures et les trouées entre les maisons sont fermées au moyen de hautes palissades en planches. Des passages couverts percent les façades plates. Au fond de ces couloirs sombres, des escaliers de bois conduisent des cours ensoleillées aux aires habitables, plus haut.

Balcons, escaliers, balustrades, cordes à linge, fils, poteaux, cuves à lessive et remises, tout semble s'empiler derrière la haute clôture de bois. ✦✦✦



My HOME is my CASTLE

by Walter Schreier, a member of the Architectural and Planning Division, CMHC.

Since the days of the Magna Carta and the transfer of the individual rights, formerly the prerogative of the rich and titled to embrace all citizens, the phrase "A man's home is his castle" has become a synonym of freedom.

The "castle" could have been a thatched hut but it belonged to the resident and the maxim carried the implication that the individual had the right to do as he pleased with and within his own home. But our material wealth and the seemingly limitless creative opportunities have turned our home — and I am using the term now in its wider sense as applied to our residential environment as a whole — into visual chaos. This is particularly true of the typical single family residential subdivision which bears witness to our unprecedented affluence and tastelessness.

Other societies or cultures enjoying a standard of living lower than our own have retained and continue to create a domestic architecture to be envied. This may be attributed to some extent to their relative poverty which prohibits excessive fancy but the principal reason is the designer's authority to exercise and the public's willingness to accept certain controls necessary to ensure a harmonious environment.

Where similar controls have been exercised in multiple residential subdivisions in Canada a high architectural quality has often been achieved. Unfortunately, the single family residential subdivisions have not been receiving the same attention. In only a few cases, where developers are co-ordinating house design and grouping and employing architects on their staff as well as consultants, has the architectural quality of subdivisions risen above the familiar level of mediocrity.

"Two souls alas are dwelling in my breast", exclaims

Gretchen in Goethe's Faust expressing so well the conflict of choice between good and evil, which can so appropriately be applied to the choices of design open to the public — the short lived pleasures of the spectacular or the more enduring and satisfying experience of the qualities inherent in modesty and simplicity. Generally it is relatively simple for an individual to decide between good or evil, although, as everyone knowns, poor Gretchen made the wrong decision. It is grossly unfair to leave to the public, decisions involving architectural choices affecting not only their own homes but the appearance of the community as a whole. If it were only a matter of expressing a preference for one of a number of simple alternatives as is often the case in less affluent societies the environment would still reflect the dignity and unpretentious beauty that characterized early housing in Canada and elsewhere. The very existence of Upper Canada Village and its popularity are evidence of the public's affection for a domestic architecture that possessed strength and dignity, born from a sense of shared values.

Today the choices are no longer as simple, nor do we still share the same values. So diverse and so complex are the various elements available to us as a result of modern production methods and of our wealth that the selection and uses of house designs, materials, colors and textures cannot be left with impunity to the untrained and unsuspecting individual. In an effort to build "imaginative" and "individualistic" houses the public follows and is often mislead by the glossy magazines which frequently show examples of a domestic architecture only excusable and possibly even valid in the spacious and wooded seclusion of the country estate. But the narrow fronted lots of our subdivisions, require discipline rather than competition and unco-ordinated variety has inevitably lead to architectural confusion.

It would be inconceivable for a composer to establish the basic framework for a symphony and then leave its completion to a team of amateurs. But unfortunately this is almost precisely what happens with our single-family residential subdivisions. Before a subdivision can be registered it is conceived by its designers in all aspects. Careful consideration is given to topography, street layout, pedestrian circulation, community facilities and amenities, tree growth, drainage and many more. All of this is being

Example of European domestic architecture.

Example of a good subdivision layout in Canada.

checked and rechecked by a team of skilled personnel at municipal and provincial level. However, the only purpose of this very expensive process seems to be the production of lots for sale. The realization of the most important part of the project is thus abandoned to lot purchasers who lack intimate knowledge of the design concept and the training to enable them to choose and co-ordinate sympathetically.

What can be done to re-introduce order and building manners into our subdivisions? The subdivider as a matter of routine should make the service of qualified architects available to the lot purchaser to assist with house selection, grouping and co-ordination. The cost for this service should be recognized in the appraised value of the property and be recoverable in the lot sale. The potential and real improvement gained as a result of this service would outweigh by far the actual cost. Under this system lot owners would still be free to engage an architect of their own choice for the preparation of house designs, but all designs would be subject to co-ordination by the architect selected by the subdivider. House forms, set backs, building lines, roof slopes, special features and colors, all the many elements assembled in the hit and miss fashion of our unmethodical coincidental way of shaping our environment would then be used judiciously to create interest and variety within an overall harmonious concept.

Different and perhaps more viable forms of family housing are beginning to appear and may gradually replace the traditional single-detached house. But, in the interim, the use of a co-ordinating architect in subdivision construction is a virtual necessity.◆◆◆

Recent examples of new forms of family housing in Ontario.

Often parks in older residential areas do not receive their maximum use while other parks are sadly over-crowded.

The Role of The Sociologist in the Planning Profession

by Thomas G. Seabrook

There has been a growing feeling, an uncrystalized concept, that the planner has not accomplished livability in the city. This has been brought about by the realization that urban renewal has not been as successful socially as it has physically, that livability is the desired result while concrete and mortar are the means to achieving a more functional city. During the past decade there has been an increasing awareness by planners of the role sociologists can play in the design of the urban fabric.

The evolution of these thoughts and their acceptance by a large segment of the planning profession is a postive step forward, but a step that has and will in the future lead to the disillusionment of the planner unless he can be given practical examples by the sociologist of how his research and concepts can be used directly by the planner to make a more livable city fabric.

The average planner is a technician, not a researcher. You can fire his imagination with social concepts over-

flowing with considerations of livability, social psychological adjustment, but unless these ideas can be translated into usable technical expressions, frustration and disillusionment with the sociologist will ensue. When this happens, planners once again will lapse into the practicing reality of the "Beaux Art" concept, the school that has as its end the creation of the city beautiful for form's sake — not form for livability.

Why has the sociologist failed to such a large degree in translating sociological facts into planning standards? The problem is generally one of time as related to training of competent first level and second level sociologists — planners. This, of course, will be overcome with time if the general empathy of planner for sociologist is continued. What is meant by first and second level sociological planners and in which level do the most problems arise?

The active participation of the sociologist in the planner's affairs is a relatively new happening. For decades there has been the sociologist who has devoted himself to the study of urban problems — problems whose solutions add more substance to the planner's knowledge of the urban environment but are not directly applicable or easily translatable into a handbook of planning standards. The study of urban class systems and minority group assimilation into the larger societies have been popular subjects for the urban sociologist. This was particularly true in the 20's and early 30's. But the result has been the accumulation of knowledge that does not directly help in the design of the urban fabric, although it has added a great deal of general knowledge to the 20th Century phenomenon of urbanization. The sociologists were the users of this experience, but did not visualize or understand the important role they or the planner had in the design of the urbanscape.

However there is now a realization of the planner's role, which has established a trend toward what is called the first level sociologist planner. A professional sociologist interested in physical form, an individual who has realized the evolution of the city fabric is intricately related to a better understanding of its social fabric.

At this level he deals with specific questions relating physical design to attitudes and values. He is interested in the effect of house design and siting patterns on interaction between neighbors, the relationships between class values and space requirements, the effect of aesthetics on house and neighborhood satisfaction and the effect of high density development on inter-action patterns and pathological behavior. He also deals in specific urban questions in the translation and evolution of abstract social theories into less abstract, more concrete theories that hopefully can be put in workable relationships with physical planning fact and theory. Studies of this type are, of course, tremendously important in the contribution they make to urban studies and to town planning but more often than not, their value is minimized because they are still oriented toward a theoretical perspective, still based on a sophisticated level of abstraction — so abstract the planner finds great difficulty in translating into every day application. The translation from this theoretical level to a direct applicational level is one of the main roles the second level planner sociologist* must fulfill. He must be able to transpose the abstractions into practical planning standards and practices.

Who then is the second level professional? How far have we evolved in producing such a man and what are the roles that he must fulfill? First, he has the knowledge and dedication to consider himself both planner and sociologist, a person so involved in planning that he has the direct opportunity of designing the physical fabric of city and of knowing the problems that the planner must resolve. He must be able to translate the sociological theories and facts evolved by the sociologist and first level sociologist planner into the range of tolerances with which the physical planner can cope. At the present time, this dual technician, this translator of the two disciplines is missing.

In Canada, McGill is the only university that insists upon training at the graduate level in both planning and sociology, and during the past decade only three sociologists have availed themselves of this program. There is, however, the technical planner who has undergraduate training in the social sciences or some other related field but he considers himself an expert and professional only in planning. At the other end of the spectrum is the academic sociologist. In between, there is a vast void in communication. There is no one to orient the sociologist to specific planning problems that must be researched and solved and there is no one to translate the theories and facts of the first level sociologist planner into concrete workable standards easily applied in the planning process.

To demonstrate this lack of continuity in planning, in

**This second level person will be referred to as a planner sociologist rather than sociologist planner because he is usually a practicing planner doing sociology, rather than a sociologist doing urban research.*

Statistics show the number of people at the park-using age (five to 19) is much larger in the suburbs than in the core of the city.

the past 30 years there has been extensive work done on social stratification. Inquiring about the attitudes and values of various classes and minority groups, we have obtained a vast knowledge about their customs, habits and values. For instance, it is common knowledge lower classes experience less social mobility, are poorer, are more neighborhood oriented, have a greater per cent of their close friends in the immediate residential area, have larger families and depend to a great degree on the neighbors and neighborhood for their psychological support. Inversely, it is common knowledge the middle and upper classes experience greater social mobility, have smaller families, are more city oriented, are richer, and have more social contacts outside the immediate neighborhood. Such factors as these are not very valuable to the planner unless there is a sociologist planner to act as translator. Let us take some of the above generalizations and apply it to the physical form of city. As an example, how do these factors affect the design and allocation of parks in the city? Since the lower class have more children per 100 population and since lower class residents are more neighborhood oriented and since lower class residents have less money to spend on private recreation, should not these areas of the city be provided with more public open space per person and per child than middle class or upper class areas? A question arises the planner must ask the sociologist to solve, "How much more park land should these people have to compensate for the above mentioned factors?"

Parks in central areas of cities offer a pleasant change in the surroundings while giving older generations a place to rest.

Before supplying the answer, let us turn to another area in which the planner sociologist can make a significant contribution, that of urban renewal. Report after report indicates urban renewal is accomplishing far less than was expected, but few empirical reports have been done to find the reasons for this failure. This then is an area where the sociologist needs directions and where the planner needs answers. The lack of communication between these two people can best be filled by the planner sociologist. Examples of the questions the planner sociologist can research himself or ask the sociologist to do for him are: exactly how do class differences relate to housing needs; to what degree does the physical design affect social inter-action patterns and what design offers maximum inter-action; what is the effect on the individual social security of placing different classes of people in identical structures? More specifically, we can ask, "Does a long corridor apartment design typical of many public housing projects have a negating effect on the individual securities of the lower classes; does it affect the middle class in the same way?" If we as planners can obtain the answers to such specific questions as these, it becomes a simple problem of translating the answers into physical standards that can be directly applied by the planner and architect to the urban fabric.

The planner sociologist can also make significant direct contributions to planning by applying his knowledge to the direct solution of practical planning problems, problems dealing with park and recreation planning population projects, economic base and transportation studies and other related fields. It is in these areas that sociological factors, theories, and methods are often directly applicable. The sociologist's knowledge of research methods, sampling and interviewing techniques, statistical procedures and ecology and demography can prove invaluable. If this second level person is used to his full capacity, he can contribute immensely to any planning organization, especially in long range terms.

In answering the first question, for instance, his knowledge can be used for park planning. A comprehensive review of city park standards suggest 10 acres of park land per 1000 population is adequate. Whether or not this factor is correct is another question. But even more imperative is the evolution of a method used for distribution of this land. Park plans, at the present time, are developed on the premise that from a population viewpoint, the city is a homogeneous whole. It is assumed all parts of the city have the same demographic and ecological make-up no matter who lives in a neighborhood. No consideration is given to the age or social composition of the inhabitants of the area in allocating park lands. Here the planner sociologist can make a great contribution to planning techniques. As mentioned previously, the accepted standard is 10 acres of public open space per 1000 population and the accepted distribution of this acreage is five acres for city-wide park, three acres for neighbourhood or local park, and two for district park. Following this simple standard, the planner can distribute the land over the city's face in such a manner that people should never travel more than one-half a mile to the neighborhood park which has a size of seven acres; one mile to the district park of 20 acres; or more than 20 minutes travel time to the city wide park of at least 100 acres.

The use of these combinations result in a map with a well distributed, easily understood park system that diffuses all three types of parks in a fixed ratio over each sector of

Larger city parks should be within easy reach of the less mobile and more neighborhood-oriented families.

the city. At the present time, few cities can boast of having obtained such a distribution and most cities would point with pride at such an accomplishment. Yet, in reality, this is a park plan that wastes land in some areas and is far from adequate in others. The plan has taken no real consideration of the people living in the city. There has been no thought given to the distributing of land in such a way that a more optimum system is evolved at a cheaper price. What then is missing? The answer is a knowledge of the demographic make-up of the city population. The planner has assumed that in all parts of the city the population is of the same age range and social composition and, therefore, requires the same amount of park. The different parts of the average North American city differ remarkably in the composition of its age range. Research has indicated that the city as a whole will have approximately 25% of its population between five and 19 years of age (the park using age), but if a random stratified sample was taken from the various parts for the city, the differences would be quite surprising. Dividing the city into four areas, the core, area of transition, and urban and suburban areas statistics show an almost linear relationship in the per cent of people between five and 19 years, the core area has approximately 11 per cent, the transitional area increases to 13 per cent, the urban area jumps to 25 per cent, while the suburban areas average 30 or 31 per cent. This simple demographic fact has a tremendous effect upon proper park land distribution. If you had a constant density in all parts of the city and if you assumed that all children in this age range (five to 19 years) require approximately the same open space (in reality social class and density, affects recreational habits and in turn the amount of space required per child), it becomes obvious that the core and transitional areas of the cities would be providing too much space (between 25 and 100 per cent too much) while the suburban sections with a high per cent of its population between five and 19 are not supplying enough open space.

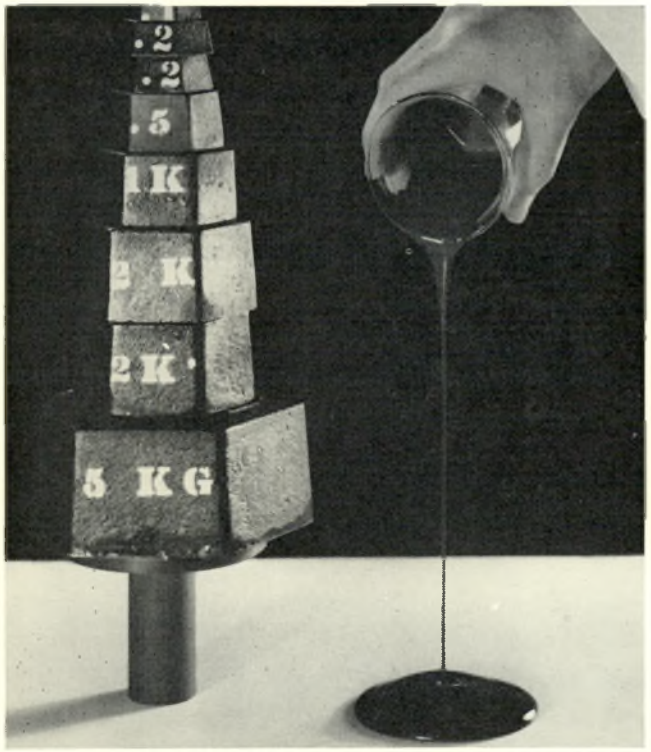
Of course, this is only one aspect of park planning. There are many other variables the planner must consider and control if he is to develop an optimal plan and each area of planning such as school or institutional has as many complexities. It is only when these problems are understood, researched, and controlled that the city's fabric will reach an optimal state of development and this point will not be reached until communication is established between the planner and the social scientist. It is the responsibility of the educators and other leaders of this new profession to make a concentrated effort to understand the problems as they exist, the tools needed to find the solutions and the different type of planners required. By making this statement it is not the intention to forget the substantial accomplishments of planners in the last decade, but to emphasize the need for a new approach and to encourage critical analyses on the part of each planner to the possible role of the social scientist and related professions in planning.◆◆

Thomas G. Seabrook graduated from Carleton University with a BA in Sociology in 1960 and from McGill with a MA in Town Planning and Sociology in 1963. He received the Canadian Community Planning Fellowship Graduate Studies. During 1963-64 he was a Research Planner for the City of Ottawa and spent the summer of 1962 as a Town Planner for CMHC. Mr. Seabrook is currently employed with Harland Bartholomew and Associates, Memphis, Tennessee.

LE CODE NATIONAL DU BÂTIMENT

par Jean-Paul Vézina

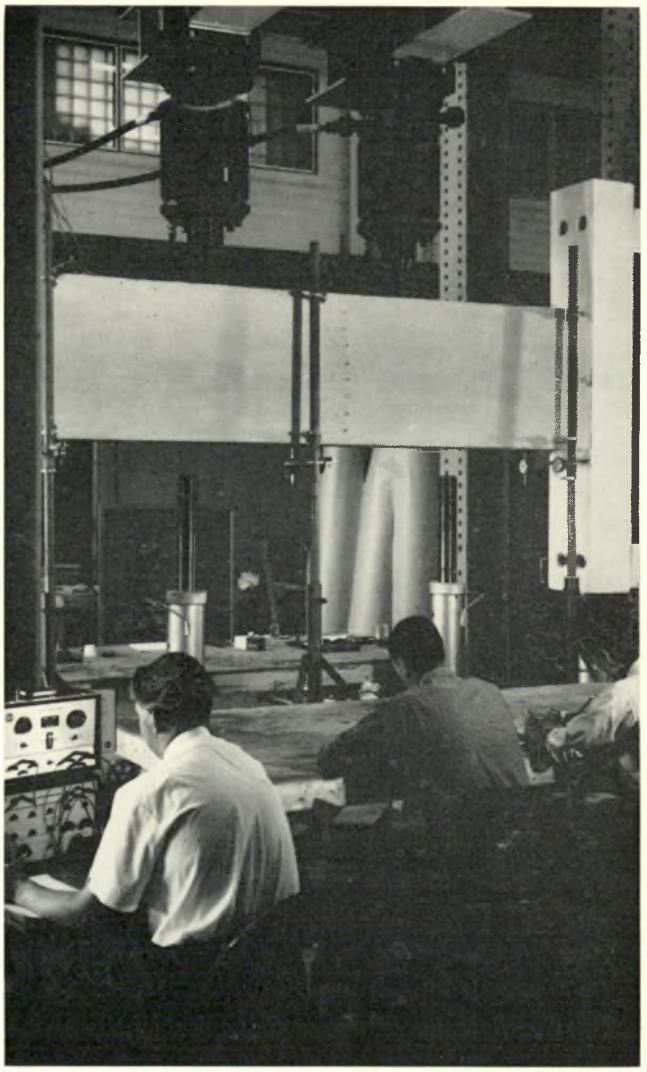
La fin d'un article en deux parties.



Section des sols: Argile marine — Démonstration de la sensibilité.

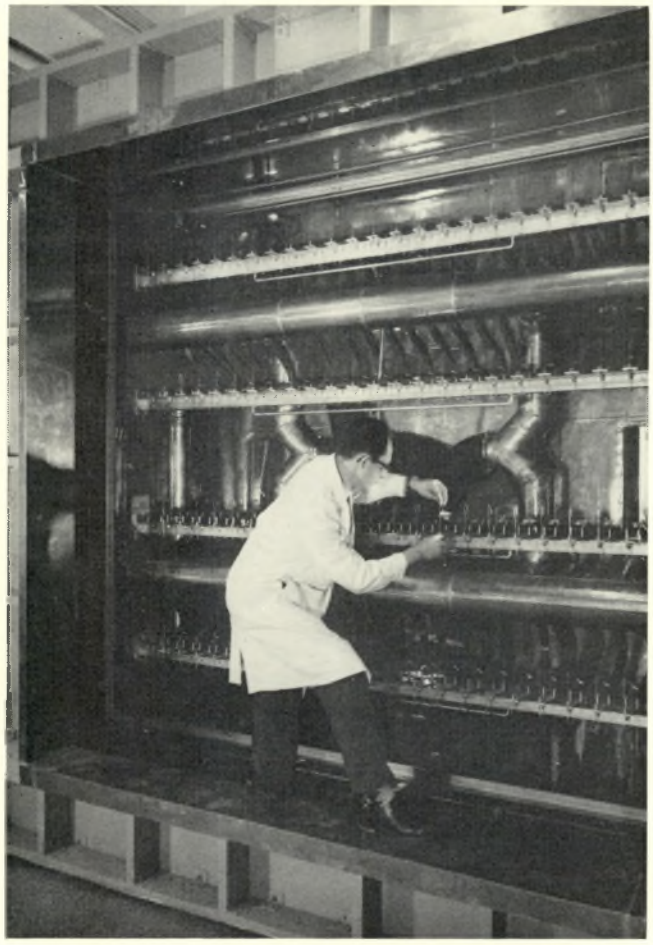
De nouveaux progrès ont été réalisés dans la construction grâce aux développements technologiques de la deuxième guerre mondiale. Peu après 1945, les autorités du Conseil se sont rendu compte que le Code national du bâtiment devrait être revisé si l'on voulait atteindre le but national qu'on se proposait. C'est alors que la Société centrale d'hypothèques et de logement fut établie par le gouvernment fédéral dans le but d'administrer la nouvelle Loi nationale sur l'habitation. Les autorités de cette Société reconnurent dès le début que le besoin d'un code général, bien à jour, se faisait sentir pour la construction des maisons au Canada. On revint à l'idée première d'associer les travaux du Code aux recherches effectuées dans le domaine de la construction. C'est pour cela et pour d'autres raisons semblables que le Conseil national de recherches créa en 1947 sa Division des recherches en bâtiment.

Parmi les premières tâches qui échurent aux autorités de cette nouvelle Division figurait la mise au point, de concert avec les spécialistes de la Société centrale d'hypothèques et de logement, du rôle que devait jouer dans l'avenir le Code national du bâtiment du Canada. Par suite des modifications apportées à l'administration de la Loi sur



Essais pour poutre de béton préfabriquée par P. Adams de la construction de poutres de béton de l'école secondaire de Toronto. La poutre de béton préfabriquée est soumise à un essai comme une partie d'un programme pour déterminer la valeur des assemblages de poutre à poteau dans le béton préfabriqué. (Section de charpente)

l'habitation, il devint évident qu'une nouvelle orientation devait être donnée aux travaux concernant le Code. Le Conseil national de recherches accepta la responsabilité et nomma un comité chargé de l'étude du Code national du bâtiment. Comme il en va des autres comités d'études du Conseil national de recherches, cet organisme fut nommé par le Conseil et fut composé d'une vingtaine d'experts canadiens interessés à la question, nommés à titre personnel et non en tant que représentants ayant un mandat bien défini. Afin d'assurer une liaison parfaite avec la Division des recherches en bâtiment, le Directeur de cette dernière fut nommé président du Comité d'études. Les autres membres, cependant, n'ont rien à voir avec le Conseil. Ils viennent de partout au pays et ont été choisis compte tenu de considérations géographiques et professionnelles.



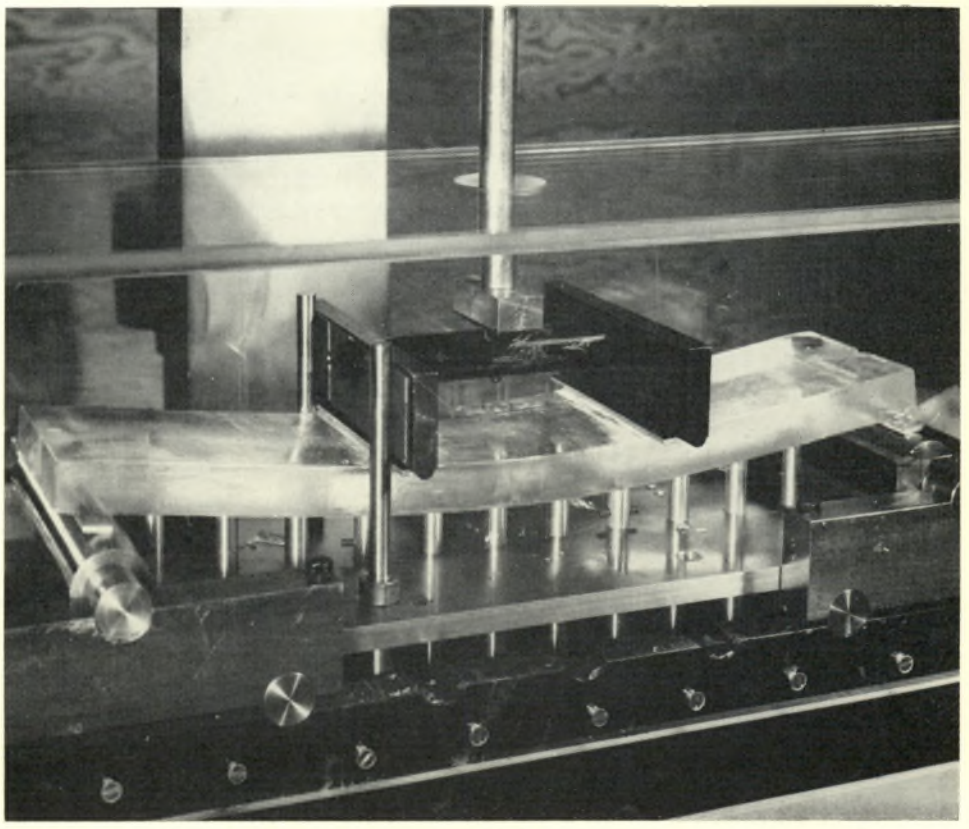
Section des services de construction: Outillage de laboratoire pour déterminer les fuites de pluie dans les fenêtres.

Le mandat du Comité est de réaliser l'uniformité des règlements de la construction d'un bout à l'autre du Canada et de maintenir le Code national du bâtiment du Canada, à jour et à la pointe du progrès. Après avoir longuement débattu, le Comité décida d'atteindre son premier objectif en se concentrant sur le second. Si le Code national pouvait être établi et maintenu à jour de telle façon qu'il constituerait une réglementation idéale pour les municipalités qui la voudraient au lieu de leurs propres règlements, l'uniformité serait chose faite bien plus rapidement qu'en essayant de raccorder des bribes de règlements locaux. Par conséquent, le document de 1941 fut l'objet d'une révision méticuleuse. On s'aperçut qu'en plus de quelques omissions évidentes, la principale lacune du Code original était la façon dont il présentait les choses. La mise en page des règlements du bâtiment fut donc l'objet d'une étude spéciale. Après un an de travail, on aboutit à une nouvelle présentation des normes qui semblait répondre à toutes les objections bien qu'un grand nombre d'experts pensaient qu'elle serait inapplicable sur le chantier. Néanmoins elle fut adoptée. Elle s'est avérée parfaitement utilisable.

Le Code de 1941 fut donc complètement refait par le Comité chargé de son étude conformément au nouvel arrangement. Cela amena environ deux cents personnes à contribuer volontairement aux travaux de 29 sous-comités techniques. Des architectes, des ingénieurs, des entrepreneurs, des chefs syndicaux, des industriels ou leurs représentants, des constructeurs de maisons et bien d'autres travaillèrent sans relâche pendant quatre ans, puisant à des sources mondiales de renseignements, publiant des projets de tous leurs documents afin d'attirer les critiques et les commentaires du public d'un bout à l'autre du Canada et basant tous leurs travaux sur le Code primitif tout en insérant dans la nouvelle version des données concernant les principaux progrès effectués dans le domaine du bâtiment. La grande tâche fut menée à bonne fin. Le Code national du bâtiment (1953) fut finalement publié au début de 1954.

Le Code est maintenant publié sous forme d'arrêté municipal pouvant être adopté par n'importe quelle municipalité. Il suffit d'insérer le nom de la municipalité à condition toutefois que le contenu du Code puisse être appliqué localement. Sa caractéristique exceptionnelle qui découle du nouvel arrangement est que le document est formé d'un

Section de la neige et de la glace: Fluage de la glace en flexion.
Divers aspects du comportement du fluage de la glace ont été étudiés et de nombreux renseignements sont maintenant disponibles. La théorie mathématique des déformations non élastiques a été développée énormément et appliquée aux problèmes du fluage. L'appareil de chargement ci-contre illustre une poutre de glace en position. Onze dispositifs de lecture furent employés pour mesurer la flèche.



certain nombre de parties complètement indépendantes. Les divisions se distinguent si bien les unes des autres qu'il a été possible de publier le Code non seulement sous la forme d'un livre relié pour des fins officielles mais aussi sous forme d'un manuel à feuillets détachables. Cela laisse prévoir la facilité avec laquelle on pourra modifier n'importe quelle partie du Code sans toucher aux autres parties. C'est dans le même esprit que l'on a groupé toutes les dispositions administratives dans la première partie. De cette façon, il suffit de modifier cette partie pour permettre l'adoption du Code n'importe où au Canada, les dispositions techniques étant indépendantes des questions purement locales. Il vient immédiatement à l'esprit que les conditions climatologiques locales constituent un facteur inévitablement variable. Le climat fait donc l'objet d'une section spéciale du Code, laquelle comporte une représentation graphique du climat canadien afin que n'importe quelle municipalité puisse se reporter aux sections du Code qui correspondent à son climat.

Il serait déplacé d'entrer ici dans une discussion technique plus détaillée. Il suffit de dire qu'une édition abrégée du Code est mise à la disposition des petites municipalités. Une traduction complète du Code a aussi été réalisée, tâche qui a comporté un travail de pionnier dans la traduction technique en français. Trois groupes consultatifs ont été formés afin de tenir le Comité chargé de l'étude du Code au courant des questions sanitaires, d'incendie et de construction qui font l'objet des règlementations du Code et de l'informer des besoins de revision quand ils se font sentir; enfin, un système d'amendement du Code est actuellement à l'étude, amendement qui pourra porter sur certaines parties où des modifications s'imposeront, ou qui pourra s'appliquer au document tout entier à intervalles réguliers de quelques années.

Le Canada a donc aujourd'hui un Code national du bâtiment de caractère consultatif si flexible dans sa présentation qu'il peut être maintenu au niveau de tous les progrès importants de la construction. Il est basé sur plus d'une vingtaine d'années d'expérience, années pendant lesquelles les municipalités ont fait usage du Code de 1941. Une étude entreprise par le Comité associé sur le Code national du bâtiment révèle qu'au Canada au 31 décembre 1964,

sept cent vingt neuf villes, villages et municipalités se sont prévalus des avantages offerts par l'adoption du Code national du bâtiment en tout ou en partie. Ces chiffres indiquent donc, par conséquent, que 64.5 pour cent de la population canadienne vit dans un milieu où certaines normes de construction sont en usage. C'est l'espoir du Comité associé sur le Code national du bâtiment que vers 1970, la plupart des municipalités canadiennes auront adopté le Code du bâtiment canadien comme leur propre règlement de construction, ou s'en seront servi pour rédiger un règlement quelconque de construction.

Ce sont donc les municipalités qui bénéficient le plus du Code national du bâtiment du Canada. Toutes les municipalités canadiennes peuvent maintenant avoir leurs propres règlements locaux en matière de construction pour le seul coût de l'impression du Code, tous les frais de revision d'un code municipal ou de préparation d'un nouvel arrêté en matière de construction étant éliminés grâce au Code national du bâtiment. En adoptant le Code, les municipalités font un pas de plus vers la supression des variantes nuisibles et souvent secondaires qui existent en construction, d'une municipalité à l'autre. L'adoption du Code peut avoir un effet immédiat quoique de faible ampleur, sur le coût de la construction et particulièrement sur le coût du logement. L'emploi du Code national permettra également la standardisation progressive des matériaux complexes. On admet généralement qu'en éliminant un grand nombre de matériaux de construction répondant à des normes différentes, on peut abaisser de beaucoup les coûts de fabrication. L'expression "coordination modulaire" s'emploie de plus en plus pour définir la standardisation des matériaux de construction. La mise au point de cette simplification essentielle dans la construction canadienne sera grandement facilitée par l'emploi du Code national du bâtiment. De plus on s'est rendu compte que même dans l'établissement des plans, la mise en application des dispositions du nouveau Code peut conduire à de vraies économies si les plans sont conformes aux normes relatives à la sécurité publique tout spécialement en ce qui concerne la protection contre l'incendie et la solidité de la construction.

Considérées individuellement, les économies suggérées peuvent ne pas être très grandes, mais si on les considère ensemble, et particulièrement, si l'on songe à l'importance grandissante de l'industrie du bâtiment, on ne peut pas manquer de voir les avantages économiques qui découleront de l'application du Code national du bâtiment du Canada.

Enfin, plus le Code sera utilisé, plus il sera facile de délimiter les problèmes devant faire l'objet de nouvelles recherches intensives. Le lien étroit qui existe entre les travaux effectués pour la préparation du Code national du bâtiment et les travaux de la Division des recherches en bâtiment du Conseil national de recherches peut donc aboutir à une amélioration réelle des caractéristiques de l'habitation tout en permettant de réaliser des économies.

Les travaux effectués pour la mise au point du Code national du bâtiment dont fait brièvement mention le présent article ont mis en lumière l'évolution que subit à l'heure actuelle l'industrie du bâtiment et particulièrement la construction de maisons. Au cours du dernier quart de siècle, la construction des maisons est passée d'un stade où il s'agissait d'ériger des spéciaux à un stade où la construction fait appel à de techniques complexes et à des aménagements specialisés qui donnent lieu à des problèmes bien particuliers. Nous sommes en pleine période de progrès technologique. Au cours du prochain quart de siècle, on pourra voir la continuation de cette évolution. Il est par conséquent évident que l'industrie canadienne du bâtiment doit disposer de normes excellentes et souples qui permettront d'assurer la sécurité publique et d'effectuer des économies. Le Comité associé chargé de l'étude du Code national du bâtiment croit fermement que l'emploi de ce Code, partout dans le pays, permettra d'atteindre les buts énoncés. ✦✦✦

Natif de Montréal, monsieur Vézina a fait ses études au Collège Saint-Laurent et au Mont-Saint-Louis. Il est bachelier ès Arts de l'Université de Montréal et diplômé de l'Université de Western Ontario, London. Monsieur Vézina était préposé à l'Information à la Société centrale d'hypothèques et de logement avant d'entrer au service du Conseil national de recherches. Il est maintenant éditeur à la Division des recherches en bâtiments où il est attaché au Secrétariat du Code national du bâtiment.

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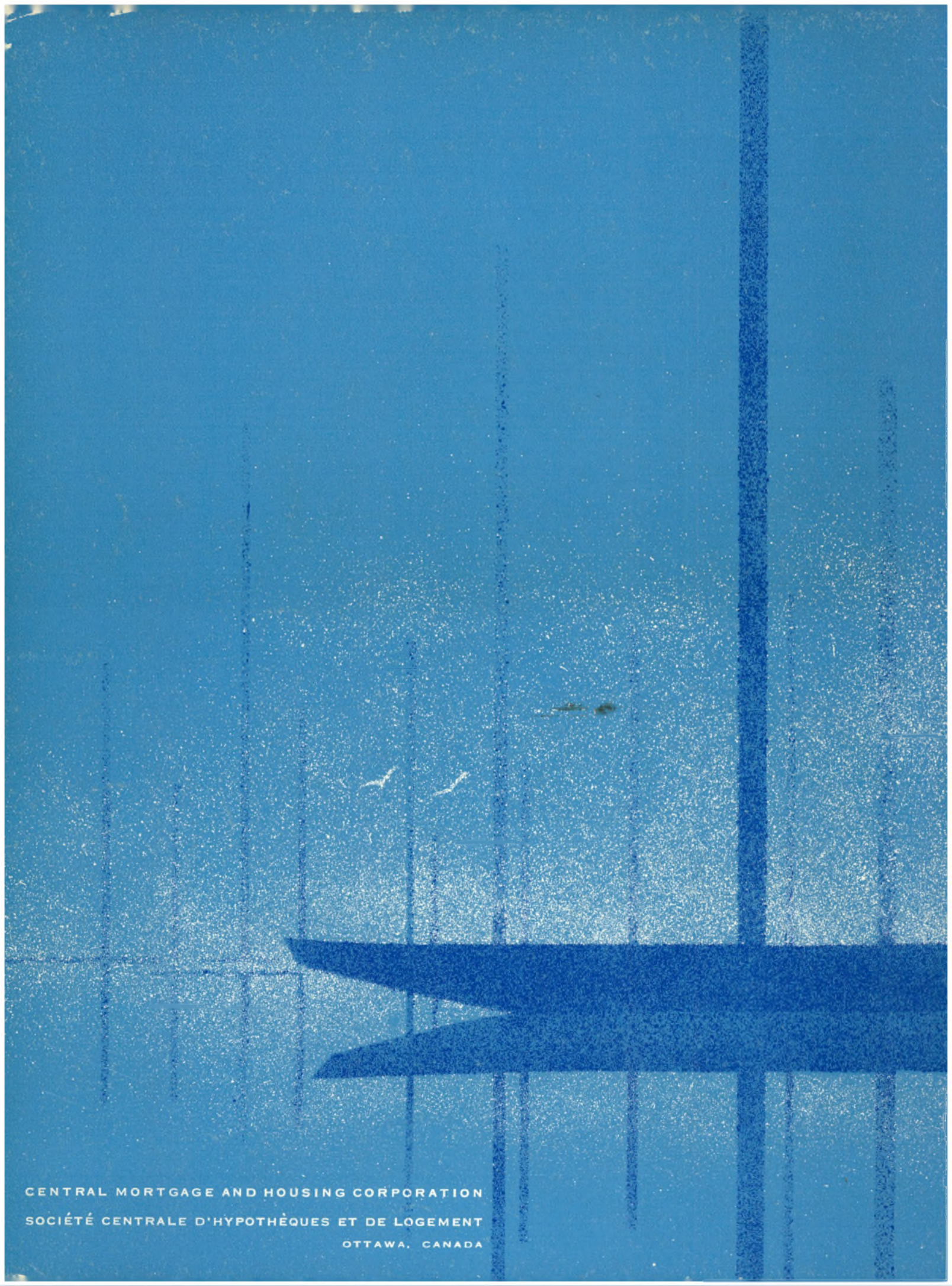


CENTRAL MORTGAGE AND HOUSING CORPORATION

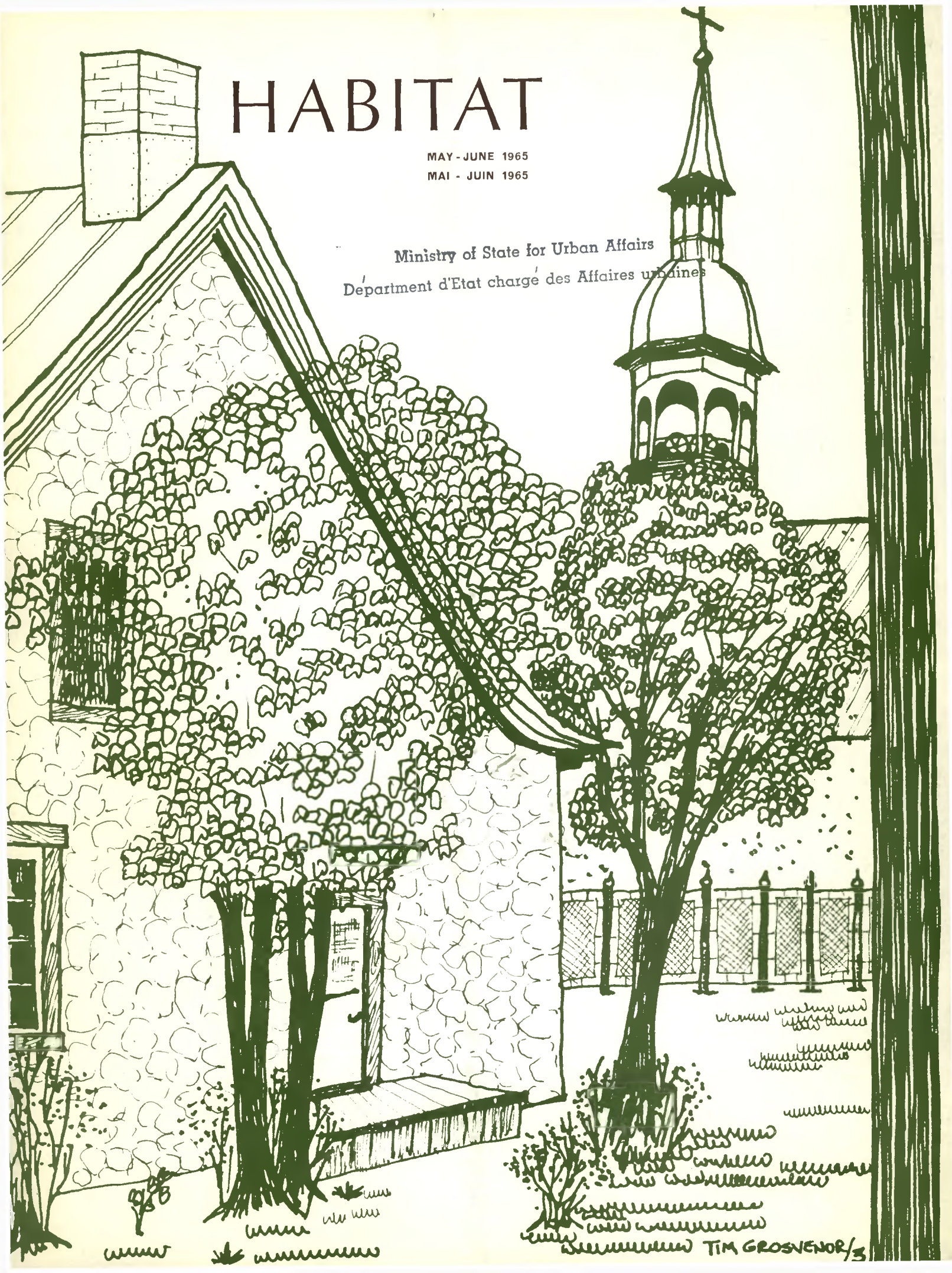
SOCIÉTÉ CENTRALE D'HYPOTHÈQUES ET DE LOGEMENT

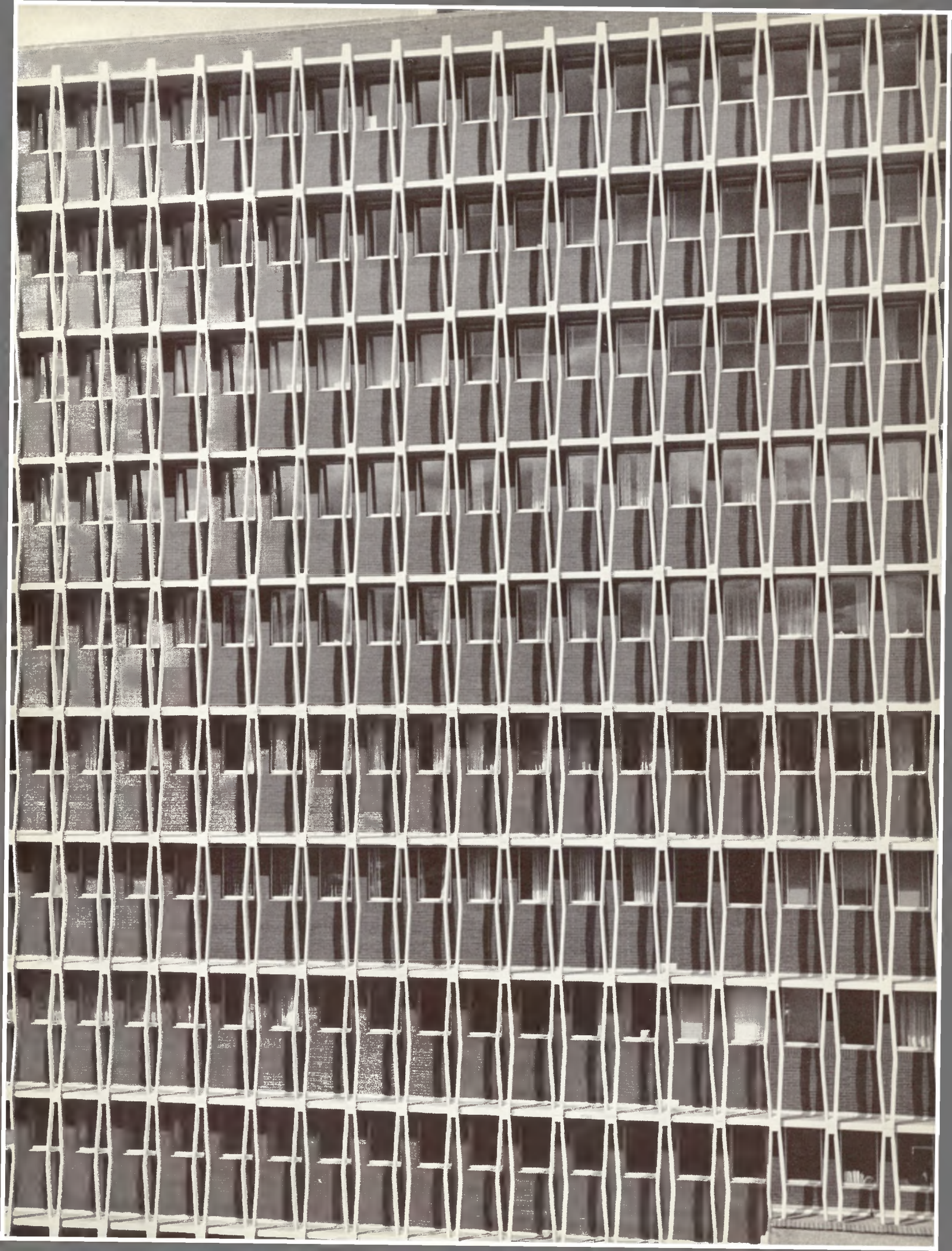
OTTAWA, CANADA

HABITAT

MAY - JUNE 1965
MAI - JUIN 1965

Ministry of State for Urban Affairs
Department d'Etat chargé des Affaires urbaines





HABITAT

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CONTENTS—MAY, JUNE/65

FRONT COVER: *The home of Sir Louis Hippolyte Lafontaine with the focal point of old Boucherville — the Church — in the background.*

INSIDE FRONT COVER: *Patterns — The Professional Building, Edmonton,* NFB.

1867 1967

Canada is fast approaching 1967 — the celebration of one hundred years of Confederation.

It will be a year of reflection on the past and thoughts of the future. It will be a year of stock-taking for Canadians. As we begin our second century of Confederation, we will have an excellent opportunity to show the rest of the world our land, our raw materials and resources, and show them our progress and our expectations for the years to come.

Perhaps the focal point of all the Centennial plans is the World's Fair to be held in Montreal. Here, on a grand scale, countries of the world, using the theme "Terre des Hommes" will meet, exhibit, entertain, and explain their own people and cultures.

To publicize the year, the Centennial Commission has asked all government departments, businesses and corporations to utilize the official Centennial symbol. In the form of a maple leaf, the symbol is composed of eleven equilateral triangles, one for each province, and one at the apex representing the two territories in our great North.

The maple leaf is well chosen. Both here and abroad it is becoming identified with Canada — our people and our abundant resources.

Central Mortgage and Housing Corporation will be proud to display the Centennial Symbol on all publications and stationery.

✦ ✦ ✦

Each year CMHC offers scholarships to allow the graduating students of Canada's Architectural Schools to travel throughout this country and United States to study all forms of housing. The following is the first of a series of articles taken from the report of Mr. Anthony Cook, a scholarship recipient from Technical College in Halifax, N.S.

Backyard of Toronto's Bain Avenue housing.

TRAVELLING SCHOLARSHIPS

PURPOSE AND PROSPECT

The 1964 Central Mortgage and Housing Corporation's Travelling Scholarship, as in previous years, allowed for the observation of quite a complete cross-section of housing and architecture in both rural and urban environments. The wide variation in living conditions is representative of the social, economic, climatic, cultural, and in many places racial, controls on the desire and ability to live in a particular manner. In any city one finds all these factors creating micro-environments within that city, but for the purposes of this report the comparisons between cities rather than within them shall be stressed. These range from the suburban spread of Toronto, to the contained urban gem of San Francisco, to the sophisticated solidity of Boston.

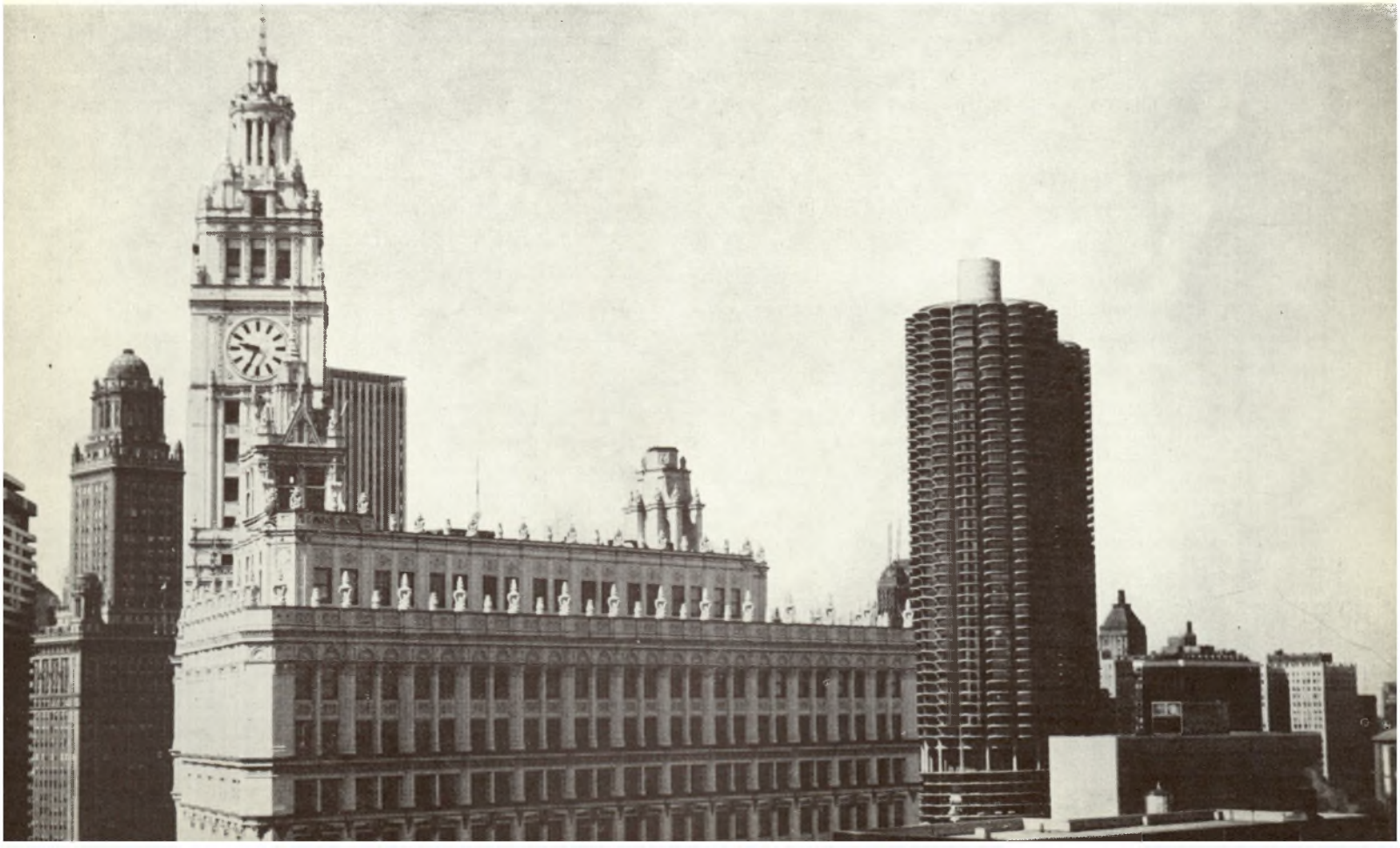
If any one observation stands out in the writer's mind, it is the superiority of old established urban areas over new or redeveloped areas as interesting, economical, and livable environments. This indeed is an embarassing confession for one presently involved in a redevelopment scheme intended to replace an old established residential area. Admittedly such redevelopments introduce amenities previously not available to the area's residents, and such improvements shall be discussed in another part of this report. This movement to rehabilitate, rather than to replace, ailing urban neighborhoods, for the most part has been undertaken by individuals rather than by organized groups. The classic example, so well known, is Philadelphia, but here, while individuals accept the responsibility and expense of restoring particular buildings, the scheme is under the direction and control of the Philadelphia Redevelopment Agency. But similar reclamation has taken place spontaneously in cities like Boston, Georgetown, Baltimore and Toronto. Is it a fad, or do these people recognize advantages of an urban over a suburban life? This diversity between the urban renaissance and the suburban re-developer fits surprisingly well into the mold already formed by conflicting theorists Ebenezer Howard and Jane Jacobs on city planning. At first glance Howard seems correct — Chatham Village is the ultimate cool, clean, quiet country living, particularly appreciated after a hot walk through Pittsburgh's more urban streets. But linger a while and observe whether there is a spontaneity of life in the neighborhood. There isn't. The scenes of human activity — arguing with the neighbor, watching the children play on the sidewalk, conversing with a stranger

Downtown Chicago with the towers of Marina City apartments at right.

from a second floor window, the bantering and bargaining of several neighborhood merchants — these scenes, which Jane Jacobs so faithfully recorded of her Greenwich Village home (The Life and Death of Great American Cities), are missing from Chatham Village. They are also missing in the stark towers of Cabrini Housing, a slum clearance development in Negro Chicago. At least here the children are happy, for Negro children seem to have the exclusive ability to enjoy themselves in any environment, and this enjoyment can range from sidewalk sing-songs to tossing rocks through the project's windows.

The problem of housing is quite distinct. In general the planned housing of most of the cities visited provided the necessities of economical, substantial shelter. The need for some spatial quality within the development was usually given token recognition. The common failure is that while the tenants are provided with an environment conducive to social intercourse within the family, they are not provided with an environment which permits, much less encourages, a feeling of neighborhood. In Philadelphia the well-to-do have the choice of Pei's sterile row housing, complete with old brick, unusable wrought-iron balconies, and a very open iron gate leading into a supposedly private court yard. The symbols are all there, but they have been misunderstood and therefore misused. Or the Philadelphian can purchase an old townhouse, repair it, and move into an already well established urban setting (at a cost, incidently, far less than the $48,000 purchase price of a Pei townhouse). The choice is not really difficult at all.

A similar conflict of fact and theory was observed in the new city centers being erected in some American cities. Pittsburgh provided a good opportunity to compare the usage of the "planned" city center with those business areas which have grown up naturally over the years in a confusion of shapes and uses, but forming a tightly-knit organ of the city. Pittsburgh is proud of the Gateway Center. It's slick skyscrapers rise from a barren plane at the point where the Monongahela and Allegheny Rivers merge to form the great Ohio. Pittsburgh is the "Renaissance City of America", and the Gateway Center is their showpiece, replacing "23 acres of commercial slum". Slum it may or may not have been, but if they were successful in removing a slum they were also successful in moving the people. While the IBM tower and some of its neighbors are interesting geometric exercises in steel and glass, they are only ornaments which one looks at once, then leaves. And it seems as if everyone has just crossed the street into the Market Place — all during the day it swarms with people making their way through piles of fruit and vegetables, some purchasing goods, but many there just to watch the others. Even at night the movie



theaters and cheap restaurants in the area keep up the life while the Gateway buildings, reflecting the last bit of the sunset from their polished steel clothes, almost seem to look longingly down at their humble neighbors far below, as their last remaining admirer drops below the horizon.

A city center must have people, and in order to tempt people into it the center must provide pleasant surroundings and necessary facilities scaled to the human being. Rockerfeller Center, with all its immensity, draws people into its cul-de-sac where they use the restaurants and shops, or just sit with the pleasant feeling of enclosure, watching everyone else push and shove along Fifth Avenue.

In almost every city visited on the tour the above observations were most apparent. Because of the great differences in environment from place to place, the characteristics and quality of housing (for both the poor and the wealthy) varied accordingly. This report, therefore, shall be concerned mainly with the relationship between traditional original housing and urban (or suburban) renewal schemes investigated in each particular environment. It shall attempt to clarify the wide diversification of material by considering each city as an entity in itself, with a personalized way of life that labels it as Boston, and only Boston, Chicago and only Chicago, and so on. Such an environmental analysis shall include first of all a somewhat objective description of the physical features of particular areas for example, the landscaping, the apparent density, the social class of the occupants, the disposition of the automobile, the use of materials, the scale, degree of privacy. Then, becoming more subjective, the analysis shall attempt to establish the participation of the occupants in urban activities, the effectiveness of the spatial juxtaposition, and the apparent attitude of the occupants to their residence as home which relates directly to the degree of maintenance required on the property. In these discussions is should become apparent that the basic requirements of housing for different social classes varies considerably. For the welfare cases, a mere roof over their heads is quite often the end sought; for the very rich there is no limit to the amenities demanded of their environment. The point is this: as long as housing only tries to meet the occupant's previous tastes then it can no longer serve as an incentive for the occupant to better himself — and it is the occupant, not the building, which creates slum environments.

TORONTO

The city of Toronto has the advantage, if none other, of being the first metropolis studied during the tour. It was here that the pace of the trip was established, a pace incidently which was far too rapid to allow a sense of "feeling" the environment around oneself. Consequently, this analysis is one of brief superficial observation. Whether this was a real handicap to the tour can only be honestly considered in the view that such a pace allowed much more territory to be covered. By the end of the day one usually had the sensation of being completely saturated with impressions of good housing, bad housing, cheap housing and expensive housing; and for spice, there were frequent visits to other architectural curiosities.

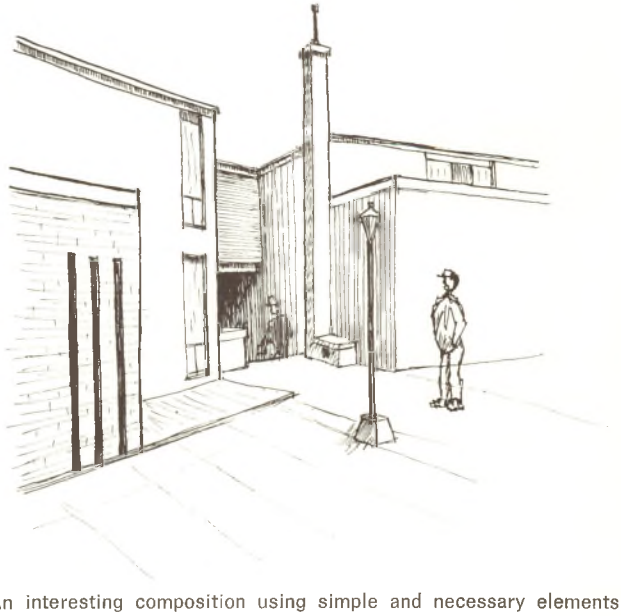
In housing Toronto remained something to be proud of when the tour later visited American counterparts. But as a city that one can label there was difficulty picking out distinctive characteristics. The writer's pride in Toronto's housing lies in the comparative success of the many experiments. Much of the experimentation has been aimed at the middle class income. Particular examples range from the sedate Ainsley Court (1927) to the recent Flemingdon Park and Don Valley Woods. Ainsley Court and Don Valley Woods both are blessed with beautiful sites on ravines, and every effort has been made to retain the original landscaping. Flemingdon Park, despite its many interesting spatial sequences, has exaggerated the flat plane of its site by leaving vast open spaces between the high rise buildings. The densities of all three projects are not comparatively high, and in Flemingdon, like so many similar schemes, one becomes conscious of the great apartment blocks predominantly as a means to increase the density. If such buildings are intended for childless couples or unmarried persons, then there is some justification for their use in a row house project, and that justification is in the diversification of individuals it allows. A wide range of age groups and family sizes creates a cross-section of personalities and interests such as is found in the most dense urban areas.

These particular projects should be well enough known to the reader to eliminate any need to describe them further. While these projects are for persons who presumably can afford financially to choose their place of residence, it is usually an economy version of Flemingdon Park which turns up as a solution to low-rental subsidized housing. But in doing so the expensive trim has been removed — cars must be parked above ground, the interesting visual juxtaposition of units is replaced by straight rows, the substantial landscaping is almost entirely cut out, the materials become cheaper, the private outdoor space becomes smaller and is

arbitrarily defined by a wooden fence rather than by a disposition of the buildings and the grade levels, and the high rise apartments are occupied by large families rather than by bachelors. And with that one gets a Regent Park South. In all fairness, the housing of low income persons is a difficult problem. Real estate costs in large cities, where these people must live in order to find work, have been set at a rate just barely within reach of the middle and upper income groups. Placing these people in subsidized housing keeps them sheltered, but they never take personal pride in surroundings they don't even pay full rent for, much less own. Consequently there is the necessity, or so it appears, to provide only those amenities which can be easily maintained by the project management. While not particularly pretty to look at, Regent Park South does house these people, and it does give children a place to play, even if it is the parking lot. But Regent Park and Flemingdon Park still share one problem — they lack urban grain. Such a grain is only possible when the density of the buildings is great enough to encourage and support a range of community enterprizes within the project, stores, restaurants, bars, theaters. Isolated shopping centers are for automobiles, not people. Twentieth century man has made the mistake of carrying division of labor right into the art of living. During the entire tour there was only one planned housing project seen in which housing and commercial development were combined (Golden Gateway, San Francisco) and even here the architect could not ignore orthodox city planning principles enough to avoid segregating the two on very distinct levels.

This leads naturally into a discussion on Toronto's most delightful area, the village of Yorkville in the downtown area. At one time a decaying residential district, many professional and business people have seen the potential in these handsome old houses, and have restored them to specialty shops, galleries, clubs and small offices. By day or night these are Toronto's most delightful streets, where the communication so much needed in housing projects is carried on earnestly both inside and on the sidewalk, where there are many gaily decorated places with kiosks, displays of merchandise, and colored lights. In fact, only a large city can support these specialty stores, but they could just as well be bars and bookstores. (Invariably the writer found that bookstores have a tremendous turnover of browsers, day and night, be it in San Francisco or Boston.) Because of its newly acquired sophistication, Yorkville has also been revived as a residential area. The phenomena of Philadelphia is working in Toronto without official encouragement. The only incentive available and the only one needed, is an interest in the color, education, and convenience of urban living.

There are still many persons content with suburban living, as indicated by the success of such projects as Don Valley Woods. The majority of these people seem to be young couples who find the contentment in themselves sufficient to replace an interest in urban activities. And for them Toronto has provided several alternatives of renting or buying a home in a well organized project. In northwest Toronto is a Klein and Sears project known as Yorkwoods where the young couple can buy a home complete with court, underground parking, and community center facilities for less than $14,000. It may be a back to back unit, or a split-level row house. In any case, this physically tight knit community is a vast improvement over the suburban bungalow sprawl, which more than anything else is Toronto's trademark. Perhaps the most impressive project seen here was the Toronto Housing Company's 1913 housing on Bain Avenue. It consists of quite simple, substantial blocks of maisonettes, the blocks arranged to form shared back and front yards. There is a pleasant scale to the project, and the large trees, interior pedestrian walks, and great variety of unit types make it an extremely interesting development. The rents are comparatively low, yet there is a neatness and maturity to the surroundings which attracts several classes of tenants. In many respects it is a type of Chatham Village, but the closer proximity of the blocks on Bain Avenue give the tenants even more incentive to communicate with their neighbors. ✦✦✦



An interesting composition using simple and necessary elements, Don Valley Woods, Toronto.

Community Renewal Programming

The following article is from a paper delivered to the American Society of Planning Officials by Humphrey Carver, Chairman of the Advisory Group, CMHC

The title of this paper has a particular meaning to Americans because it is the title of an exercise carried out by city governments with the aid of grants from the Urban Renewal Administration in Washington. This is known for short as "CRP". To Canadians the expression "community renewal programming" is only a rather complicated thought that sounds rather like what we call "urban renewal studies". Whichever title you use, the language is horribly clumsy, tedious and overloaded with the obsequious good intentions of public servants. For shining virtue you can't beat the words "community", "renewal" and "program".

The language is a pity because we are talking about an extraordinarily dramatic idea, in trying to describe and guide the shifting scenes of city life. New generations of people keep coming on to the stage, acting and feeling and moving around in quite new ways. The scenery is continually changing: new sets are brought on and, piece by piece, the previous staging is removed and new scenery built. The programming we are talking about is like a choreography for an intricate, interwoven performance to be enacted over several decades. To try and comprehend the form of all this and try to put it down in a CRP or an Urban Renewal Study requires remarkable intellectual talents and a vast range of techniques and instruments. It involves understanding people, money, politics, engineering and urban design. Perhaps we are presumptuous.

I am told that the series of Urban Renewal Studies we started in 1955 was the origin of the idea that was picked up by authorities in Washington in 1959 and further elaborated and refined into CRP. Now that the original idea has been improved upon, we are prepared to borrow it back again. Canadians are very interested in what they can learn here because we are now probably going to start on a second round of renewal studies and these will probably be more like CRP.

It's not strictly true to say that the idea was first invented in Canada. As a matter of fact the idea was born in a taxi-cab between the Pennsylvania Station and the Grand Central when Matt Lawson, Toronto's Director of Planning, and I were on our way back from an ASPO Conference. The Toronto Urban Renewal Study was started in June 1955 and was the pilot project in what has become an important part of our urban renewal experience. Since then studies have been done in more than 50 communities. Broadly the facts are as follows:

Studies have been undertaken in 54 cities and towns. In round terms one-third of these studies have been completed and some urban renewal action has followed as a consequence, about one-third of the studies have not yet been completed and in another third of the places the studies have been completed but either nothing has followed or some renewal action is still under consideration. Of course one would expect a considerable time to elapse between the starting of a study, that may take two or three years for completion, and the first action. Of the 26 studies started before 1960 only six have failed to produce any action. Of those started since 1960 only three have so far led to action.

The average costs of the studies has been about $30,000. Almost half have been budgeted for under $20,000, rather more between $20,000 and $50,000 and three or four for larger amounts. The whole series to date will represent an expenditure of $1½ million of which the federal government will pay 75% under Part V of the National Housing Act.

Finding experienced and qualified people to do this work has been a great difficulty. About 60% of the studies have been carried out by private consulting firms and the rest have been carried out by the cities' own planning staffs.

Most of the studies I am speaking of belong in what might be called Round One of urban renewal in Canada, because they were done before the 1964 amendments to the National Housing Act. Their aim was to look broadly at blighted housing areas and pick out particular sites for clearance and redevelopment, either for housing or for some other re-use. The focus was on redevelopment sites. Round Two, following the 1964 amendments, introduces a new feature: that is the designation of a defined area for an "urban renewal scheme" that may involve several different kinds of renewal action that can now be supported by federal government funds, in addition to clearance and redevelopment. Within a "scheme" area existing housing

Uniacke Square Redevelopment Area, Halifax, N.S.

can be refinanced with NHA mortgage insurance and a municipality can obtain grants and loans for many different types of neighborhood improvements. There is now a focus on conserving and rehabilitating what is worth keeping. Towards the cost of preparing such a "scheme" a 50% federal grant can be claimed. Consequently any future over-all studies of cities and town will tend to mark out these areas because of the special financial benefits available there.

(Incidentally I should point out to American readers that, in Canada, mortgage insurance under the Housing Act has hitherto only been available on new housing, not existing housing. There have been many demands to extend this to existing housing, but we have held our fire and now, perhaps, have a key instrument to aid renewal).

Now I will endeavor to make some general comments on some of the cities and some of the circumstances where urban renewal studies have been done.

First of all I might suggest that in two particular respects Canadian cities differ from American cities and so our renewal problems are neither so massive nor so awkward. In the first place we did not have what Lewis Mumford calls a "palaeo-technic" period of industrialization in the period of steam power and a large urban working-class; our industrialization has come in a later period. So Canadian cities do not generally contain large acreages of tenements and standardized workers' housing. Secondly, we do not have problems of a racial minority or sub-culture that so confuse the urban renewal issues in the United States.

If one could make an over-simplified picture of the renewal scene in Canadian cities, it would be something like this: Almost all Canadian cities started as settlements on a water-front, either on a river or a lake or on a sea-harbor. Here a settlement straggled out along the water-side and many of the early settlers' houses were replaced by warehouses and industries. The city center developed at the heart of the settlement and gradually shifted back up the hill away from the water-front. Suburbs developed behind this as the population grew and the land was serviced. So, in looking at the older and obsolete areas of cities, most of the urban renewal studies deal with these recurring themes:

1. The primitive water-front itself — usually a chaotic mixture of warehouses, old-established industries and vestigial remnants of housing. Buried in this chaos are sometimes, as in Montreal, some historic buildings of great interest.
2. The Core of the city, shifting and solidifying and trying to discover its valid functions in a period of decentralization.
3. The old suburbs, now in a 60 and 75 and 80 year-old

vintage, in a key location near the Core, but occupied by low-income families.

Not long after Matt Lawson started on the Toronto Renewal Study in 1955 (and I will return to this later) there came a call from Halifax, Nova Scotia, an embattled harbor city that had had a rough time through two world wars and a depression and now, almost for the first time in its long history, was enjoying some unexpected stability and affluence. The Citadel looks out over the deep sea-harbor and on the hillside below it is the city center with the old northern suburb on the harbor hillside to your left. The person sent to look at Halifax's renewal problems was Professor Gordon Stephenson who had recently come to the University of Toronto after being the head of the Liverpool School of Civic Design. I think he had missed the smell of the sea and the sound of the gulls and Halifax appealed to him immensely. With his wife to study the social problems, he settled down to understand Halifax and wrote a famous report that has had remarkable results. Stephenson wanted to clear the decks and give the city center a proper water-front for public enjoyment and he had detailed ideas for the revival of the old northern suburb that now lies between the city center and the high bridge across the harbor to Dartmouth.

Before any clearance could be done in the old northern suburb a particularly beautiful public housing project, Mulgrave Park, was built further along the harbor hillside, for relocation purposes. The old neighborhood has now been opened up with playgrounds, parking areas for the commercial center and further public housing. Meanwhile, a critical pocket of slum, lying right against the heart of the city, known as the Jacob Street area, was cleared out and proposals were invited for its re-use. I have not space here to pursue this fascinating Cinderella story, the conclusion of which is not yet revealed. The gist of the story is that, in place of this humble pocket of tumble-down slum, the people of Halifax were offered a new city center of dazzling magnificence and princely proportions — to be called the Cornwallis Center. In their most Freudian dreams none had contemplated quite such a transformation act and one could not be quite sure that this was a real fulfillment of the true inner beauty and character of this historic city that has its own grace and charm.

I must now take a leap to the Pacific Coast where, at about the same time, Gerald Sutton-Brown, Vancouver's then Director of Planning, embarked on a comprehensive and systematic study of the city's blighted areas. The heart of Vancouver is a peninsula with Stanley Park occupying the tip; behind this is a densely occupied apartment district and behind this again is the central business district. The peninsula is almost cut off from the mainland by False Creek, a kind of backwater that has collected on its water-front a tangled mixture of industries, warehouses and old housing. On the neck of land that connects the peninsula to the mainland is a destitute neighborhood called the Strathcona district that was left behind by the surging and sprawling growth that debouched in a rather disorderly manner over the main site of the city, between the Fraser River and the Mountains. Sutton-Brown mounted his main attack on the Strathcona neighborhood and boldly put the first public housing project right on the only public open space, Maclean Park. This has been followed by further acquisition and clearance to restore the park space, to build another public housing project, Raymur Avenue, to provide industrial sites and to attract private housing developers. In other words the Strathcona campaign has made use of a number of renewal weapons.

Meanwhile the conditions on the False Creek water-front, that had been carefully examined in the Urban Renewal Study, were given some attention of a house-keeping kind and this had appeared to encourage some private redevelopment and some new vitality; so further public action here has been deferred. Within the heart of the city, on the peninsula, important decisions are now taking place that may give to the Core of the city a firm shape that it has never quite achieved. Vancouver is still a sprawling teen-ager of a city and, for this reason, perhaps it is still difficult to perceive the form it will take in maturity and the direction in which urban renewal should work. The older the city the clearer the pattern.

Jumping back to the center of the country, Winnipeg is the only city that had to take three doses of urban renewal study before it was able to come up with any renewal action. Perhaps this had been due to a difficulty in deciding where its real heart lay — whether on the axis of the provincial Legislature and the Hudson's Bay Store or down by the old City Hall.

Winnipeg is where the CPR tracks cross the Red River, flowing north to Hudson's Bay. The movement of grain from the western prairies is handled in the CPR marshalling yards just West of the Red River and a few blocks south of this is Portage Avenue, a great continental street that leads to the western horizon. Between Portage Avenue and the CPR yards is the Notre Dame area, the home of early generations of immigrants and the inevitable target of the first renewal studies done in 1957. Nothing

came of this and in 1959 a second study was directed at the west side of the Red River where the primitive waterfront has become the site of the city's principal businesses and industries with the usual remnants of early housing. The City Hall is also on Main Street between the CPR bridgehead and the head of Portage Avenue; as soon as it was decided that this was to be the site of new civic and cultural buildings, renewal plans began to crystallize in relationship with this civic Core. Now Winnipeg has built its first relocation public housing project on a suburban site and clearance and rehabilitation have begun on the blighted area within a stone's throw of the historic spot where the CPR crosses the Red River. Meanwhile, the Director of the Metropolitan Planning Commission is engaged on the third and the most comprehensive renewal study of the whole Winnipeg area.

Private enterprise changes
the face of Montreal.

I will not attempt to describe what is going on in Montreal and Quebec (studies have been done in both cities) because, like everything else taking place in the great resurgence of French Canada, the issues at stake are extremely complicated. Even if I understood the issues, they would deserve more space than I could give them here. I will only hazard these few comments.

What is going on in the rebuilding of the business center of Montreal, around Place Ville Marie and Dominion Square is one of the most spectacular operations of city-building in North America. The dynamic energies of capitalism are displayed here in their most powerful expression. Some of this is magnificent and beautiful, with its soaring office towers; but the forces are also ugly, violent and devastating in their effect upon the surrounding living areas that are being laid waste. I'm afraid there is a dreadful imbalance in this and the resurgence of Quebec has given far too little attention to the housing requirements of the urban people of French Canada. However it is good to know that both great Universities of the province, the University of Montreal and Laval, are now becoming concerned with this important cultural problem and perhaps they will be able to propound something better than the congested walk-ups of the old city and the dreary duplexes of the suburbs.

In this hasty excursion across Canada I must now return to Ontario and will mention two cities where our distinguished commentator, Murray Jones, has been involved with renewal — Windsor and Hamilton.

The original Windsor study was done in 1958 by Dr. Eugenio Faludi. It has been effective in bringing about some clearance, redevelopment and a public housing project, Glengarry Court, within an old inner suburb. The study also dealt with a blighted area in the shadow of an automobile plant, rather typical of the low-density spill-

over which has been the characteristic of any automobile city. But perhaps most interesting was the concern to gather together a strong civic core for this loosely connected community, and to provide this core with a polite and formal waterfront facing across the river to Detroit. This was an excellent and ambitious idea that, naturally, involved considerable difficulties in putting together both the public and private features of the Core. Murray Jones has been involved in this stage of the work.

Hamilton is likely to have an important place in our urban renewal history because of the work of rehabilitation now being done in what is called "the North End". This is an old neighborhood that looks out over the sheltered bay at the western end of Lake Ontario. By an accident of topography and because it is cut off from the rest of the city by the railway, it has continued its own quiet family life remarkably little disturbed by the great steel industries nearby and isolated from the vigorous growth of the city behind it. With its own schools and churches and stores it has some of the atmosphere of a country town; a little faded perhaps, but a place that is altogether worth protecting. There are few enough of such places in our big cities.

But perhaps the most interesting aspect of Hamilton is its role as the western sub-center of the great megalopolis on the shores of Lake Ontario, with Toronto at the center and Oshawa as the eastern sub-center. There would be obvious advantages in trying to strengthen these two sub-centers in order to take the load off the principal core of Toronto.

At present their vitality is sucked away and weakened by the great attractions of central Toronto, both for business and entertainment. What should be the special functions of these sub-centers that would give them a life of their own? What could be done to cultivate and attract these functions? The present study of Hamilton's central area, being conducted by Murray Jones, is, I believe, involved in these questions.

In conclusion I want to pay tributes to two people who have made very special contributions to Community Renewal Programing in Canada.

The first is Matt Lawson, the City of Toronto's Planning Director. I have mentioned that he originated the first Urban Renewal Study in 1955. This was not only a pioneering job that suggested what could be done with the legislation that we had at that time; it also foreshadowed the Second Round of urban renewal in Canadian cities with the objectives of conservation and detailed neighborhood renewal that may now be carried out with the 1964 legislation. Subsequently Matt Lawson originated the important feasibility studies now being carried out under the direction of Dr. Albert Rose, to try and find out in a realistic way what are the resources of individual owners to rehabilitate their own properties. The City of Toronto Planning Board, under the chairmanship of Harold Clark, has also carried out two other kinds of programatic study which, I believe, show a remarkable understanding of the real nature and opportunities of city renewal. These are the series of design studies of several secondary neighborhoods and centers within the city, to show how they can be adapted to a contemporary use. And, not least, is the Planning Boards study of the whole central area as a place of business, entertainment, civic and cultural uses.✦✦✦

Housing for older people ought to be considered in the general plan of the whole community.

Why so special?

by Aryeh Cooperstock

One of the great shibboleths that recurs in the parlance of housing or gerontology is the special needs of the elderly in their dwellings. But it is questionable if those needs are really so special and if such needs must be satisfied only for a limited group of the population. While this notion is not unique to this country, Canadians have recently become conscious of the problems of the elderly and adopted the vocabulary that comes with them. In fairness it must be noted that important attempts at solution have been made in the past. It is only lately, however, that new assessments of possible action have begun in numerous government and private circles. And as a rule the emphasis is on "specialness".

When housing was discussed at the White House Conference on Aging in 1961, the subject was considered as follows:

> ". . . Housing for older people ought to be considered in the general plan for the whole community. They have a special need to be near public transportation, medical services and all the community institutions like churches and libraries and stores that keep them in active contact with the world . . . Attention has to be given to the design of houses and apartments for different income groups . . . There are many different kinds of 'congregate' accommodation that come outside the orthodox field of housing . . . These tend to be the concern of separated public and private jurisdictions and are not usually seen as parts of a comprehensive housing programme . . . There are special problems of those who have not got enough income to pay for their own housing requirements . . . There is the important objective of helping older people to stay as long as possible in the familiar surroundings of their own homes . . ."[1]

Other observers generally concur in these observations. The design prescriptions are rather extensive:

STAIRS should be avoided; but if absolutely necessary, they should be well-lit, not steep, and not more than one flight high.

MAXIMUM illumination — both natural and artificial — should be provided.

WINDOWS should be low so that looking outside is easy (old people enjoy watching children play, people walking by, and street activity in general); and they should be easy to open and close, clean and curtain.

SAFETY should be assured by using electric rather than gas stoves (despite the fact that most elderly prefer gas).

SINKS, shelves and cupboards should be adapted to special

[1]*Humphrey Carver, "The Extra Slice of Life," Habitat, March-April, 1961.*

needs to avoid having to stoop or stand on ladders.
OUTDOOR sitting space and gardens are important since old people enjoy such amenities.
FLOORS should be easy to maintain and not slippery.
HANDRAILS are needed for staircases and bathtubs.
THERE should be adequate storage space.
ISOLATION and privacy should be possible, i.e., some part of the dwelling should be quiet.
ETCETERA.[2]

There can be no quarrel with such requirements. But are they so special? Do they really apply only for the elderly?

It could be said that in our attitudes to the elderly we have emerged from the medievalism of only old folks homes. Yet despite numerous revisions, there still seems to be something lacking in the overall orientation. "Young men have a passion for regarding their elders as senile," said Henry Adams. Judging from the recipes devised most frequently to satisfy elderly house hungers, this comment smacks true. For although most commentators decry segregation of the elderly into colonies, we still separate them from the cores of our living arrangements, put them in exclusive sections in housing complexes, and harp on their special needs.

Even in Denmark, to which we often look as a paragon of social welfare, a law provides "for the dwellings to be concentrated in special blocks, and to each block shall be attached a superintendent, very often a trained nurse or any other person being able to help and look after the old."[3] On the other hand, an American Public Health Association committee reported in 1953 that basic good housing principles are applicable to all ages and only a few special features are necessary for older people.[4] Then why has the "specialness" ramified so extensively? Is this a sort of myopia? a delusion? Or is it a convenient way to overlook more fundamental problems?

No doubt some of the particular infirmities of old age call for particular attention. Unless miracles are on the horizon we will always require and have to provide for nursing homes and services, hospitals, meals-on-wheels, and whatnot. But most of the requirements catalogued above are not addressed to senescent sufferers but rather to the able-bodied elderly who wish to (and can) take care of themselves. Why, though, are they so special?

Can we say that the "youngerly" do not require good lighting, well-placed kitchen equipment, easy to maintain but not slippery floors, location close to shops, transportation, churches, libraries, clinics, and other community facilities? Does our society exact inconvenience as a penalty for youth? Good illumination facilitates all sorts of activities, we are told as far back as kindergarten, prevents visual deterioration; young women are sometimes too short or too tall for "standard" kitchen equipment; *anyone* can slip on a slippery floor, and difficult floor maintenance is a dubious pleasure for the young; seeking a baby sitter to travel a mile or more for a loaf of bread or packing the babies on a crowded bus to visit the pediatrician is not especially easy. Is an open gas jet less dangerous for a small child than for an old person? If electricity is safer at one end of the debilitation spectrum it is reasonable to assume that it is equally so at the other. All the other safety features are certainly appropriate for both these age groups as well — *all* age groups for that matter. The senile may be losing their sense of equilibrium. The puerile have not yet developed it. And those in the middle can also trip. Safety is highly desirable under all circumstances for all people.

Is there a cogent reason for the young to be required to climb steep staircases and many flights of stairs without railings? And would a handrail for the bathtub be superfluous or bothersome for someone not suffering from rheumatic or arthritic conditions? Are the elderly the only people who enjoy sitting outdoors or on balconies or in gardens? A low window through which looking outside is easy can be an enjoyable pastime regardless of age. "Large numbers of people entertain themselves, off and on, by watching street activity"[5] through their windows. This is especially true for people who have little choice in recreation.

The puniness of old age pensions and the income of the elderly on the whole is also designated as a special problem. In fact is it very different from that of the low-income families in general, the unskilled workers, the newly-arrived immigrants, the high school drop-outs, the ex-convicts, the underprivileged minorities, the suddenly urbanized farmers? True, some of these have potentials which the elderly lack — although many of them might never be realized. *All* these groups, however, have financial difficulties in finding housing as well as everything else. While pensions may be inadequate and constrained, families living on welfare, unemployment insurance, or family allowances also populate the Canadian slumscape.

Many sensitive authorities have concurred with the idea expressed at the White House Conference on Aging that older people should "stay as long as possible in the familiar surroundings of their own homes." This is revolutionary

[2]*See, e.g. R. J. Johnson and M. A. Pond, "Health Standards of Housing for the Aging Population," Journal of Gerontology, 7:254-58, 1952; Jean Cameron, Old People in Montreal, (a pamphlet distributed by CMHC); Ministère de la Famille et du Bien-Etre social du Québec, Hébergement et soins spéciaux aux personnes âgées du Québec; Glenn H. Beyer, Housing and Society. New York, Macmillan, 1965; Yves Pergeaux, "Homes for Retired Building Workers in France," Revue de la Fédération Internationale du Bâtiment, No. 45, 1965.*

thinking vis-à-vis previous attitudes. Some of the people who put up "To Hell With Urban Renewal" signs, who are displaced by highway construction, code enforcement, public works, and other projects devoted to the public interest would also like to "stay as long as possible in the familiar surroundings of their own homes."

Finally, if a survey would be made of the entire Canadian population — say at the forthcoming national census — to find out how many people need or think they need some isolation and quiet, at some part of the day and/or when they sleep, in some part of their homes, the odds are good that most Canadians would register yeas. It would be statistically interesting to see if the proportion of elderly with this idiosyncracy exceeds that of early-rising laborers, expectant mothers, harassed executives, examination - cramming students, scientific geniuses, mewling infants, or mystical poets.

Clearly, then, the needs of the elderly are human needs. Perhaps platitudes and sympathy are easier to arouse by conjuring the slighted image of the wrinkled granny or the the stolid symbol of patriarchal pride that everyone remembers nostalgically, rather than any other neglected segment of the nation. For while the needs of our aged and aging population should certainly not be ignored, they must not become a convenient smoke screen behind which to hide our other social ills.

The interest, attention, delineation of standards, plans for and proddings to action, pleas and propaganda revolving around the subject of elderly housing all point to the inadequacy of all our housing programs. The tocsin sounding the elderly emergency should awaken us to the fundamental need for better housing for the whole country. If we would raise the standards for all housing by facilitating the improvement of existing housing and requiring more of new construction then all the clamor for the "special needs of the elderly" would subside and disappear. If we accept the idea that just about everyone shares those special requirements, a well-designed and well-constructed housing stock would be far more beneficial to Canada than a massive program to placate our elderly and satisfy our "youngerly's" accumulated guilt. If the social surveyors are right in their conclusions that the elderly, for the most part, wish to remain integral members rather than segregated superfluities of society, we must treat them as such. That is, if we too accept this position.

Housing for the elderly should not be a special or a separate part of our housing vocabulary. It should be absorbed within our general housing programs according to the suitability of a particular couple or individual. Instead of building NHA 16A projects just for the elderly, they should be planned to include elderly in integrated units and not in separate sections within them. While the whole concept of public housing in Canada needs re-examination, it is presently one direct and present possibility for the elderly in a milieu in which they are not isolated. For those who dream of homeownership for retirement, why should not the CMHC make direct loans of 100% for house purchases? Luxuries are not usually asked for; and the property would revert to the Corporation upon the death of the residents. In view of the losses sustained because of 16A projects, the potential losses in the case of homeownership would hardly make a dent. Other possibilities should also be explored with the main objective of including the elderly as full members of the nation rather than as annoying appendages.

What is needed is a new perspective on the elderly and on housing altogether. When exhortations appear in pamphlets and the press about the pressing needs of Canada's elderly they should take a different tack. Rather than bewailing the causes of the problem like urbanization and enforced retirement of still vigorous people, let us confront them realistically. Rather than lauding the exemplary programs for the housing of elderly elsewhere while deploring our dilatoriness in providing it, let us recognize the faults elsewhere: nostra rather than cures. Rather than citing the problems of old people's housing as special, let us acknowledge that we have a problem of housing per se. The great fringe benefit of wholesale inclusion of the elderly within the heart of our housing programs in view of the interest that surrounds their plight is, of course, improved housing for all groups. ✦✦

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[3]*Kirsten Rudfeld, Welfare of the Aged in Denmark, Copenhagen, Det Selskab, 1963, p. 28.*

[4]*Housing an Aging Population. New York, American Public Health Association, Committee on the Hygiene of Housing, 1953. Cited in Shock, Trends in Gerontology. Stanford, Stanford University Press, 1953, p. 63. Following this citation, Shocks presents a long list of special standards.*

[5]*Jane Jacobs, The Death and Life of Great American Cities. New York, Random House, 1961, p. 35. Mrs. Jacobs has even extended — and exaggerated — street watching into a police surrogate for guarantying sidewalk safety. See Ibid. Chapter 2, passim.*

Il va de soi que notre imagination
fleurit à ces spectacles.

L'esthétique

par Michel Larivière,
préposé à la Division de l'Information de la SCHL.

La mer, cette mer immense et résonnante aux oreilles qui faisait dire à Baudelaire: "Homme libre, toujours tu chériras la mer". Qu'il s'agisse d'une merveilleuse goélette au large du Pacifique ou d'un voilier souple, stable et rapide baignant dans les eaux de la Méditerranée, il va de soi que notre imagination fleurit à ces spectacles et devient fertile. Que pensez-vous d'une savoureuse jeune fille bronzée par le soleil du Midi qui s'en va se prélasser sur le sable doux et chaud afin de goûter l'air qui l'enveloppe et d'être caressée par les vagues qui viennent mourir sur le rivage. Vive l'air, le soleil, la verdure, la beauté.

L'esthétique se propose l'étude du beau. Raymond Loewy disait si bien: "La laideur se vend mal". Ce n'est que dans le sens intime ou la "conscience de soi" qu'il faut réellement chercher le point de départ de notre élan vers la beauté. Le grand fabuliste La Fontaine disait que la campagne est un poète et le dernier refuge de la beauté. C'est par elle que les peintres ont retrouvé l'originalité et l'invention. De fait, la campagne est un lieu où l'on peut retrouver notre équilibre perdu grâce à la joie que nous goûtons au contact de la belle nature. Nous nous détendons dans une certaine quiétude, rassurant notre esprit en oubliant nos états troubles. Nous sommes alors devenus très poétiques, riches en imagination et ouverts au flux de nouvelles idées. Pourquoi? Parce que le beau est à la fois dans la nature et en nous-mêmes. Ce rapport est une activité esthétique. Taine écrivait que l'esprit prend quelque chose de l'harmonie et de la sécurité des objets qui l'environnent. L'homme doit créer de l'harmonie dans les objets qui l'entourent afin qu'ils puissent servir de visée à ses élans vers le beau. Naturellement il s'agit d'un certain idéalisme pour l'homme car il vise à traduire et à instituer des modalités du sentiment esthétique.

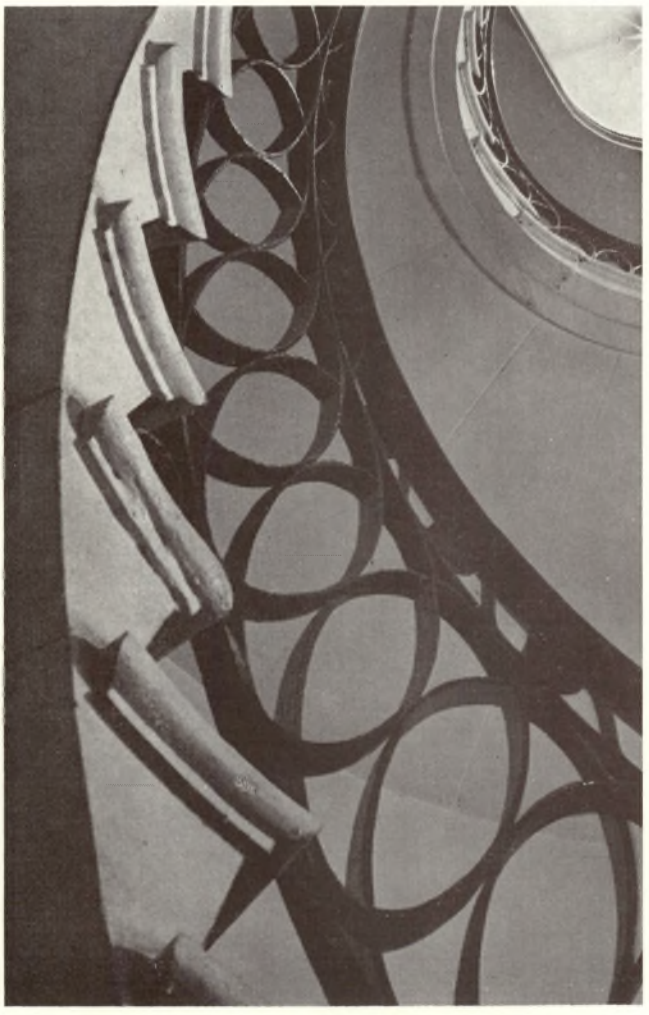
Si Le Corbusier a très bien compris ce que devait être la société moderne, c'est qu'il a sympathisé avec notre temps. Il a tenu à être de son temps. De même que les maîtres italiens l'étaient pendant la Renaissance. A cette époque, l'Italie avait cette vocation de sentir et d'exprimer le beau. Elle n'a jamais été "barbarisée" comme l'ont été la plupart des pays de l'Europe occidentale. N'oublions pas que l'Italie est la patrie de Michel-Ange, d'Angelico, de Vinci, du Bernin, de Raphaël, du Titien et de Botticelli. Il ne faut pas s'attendre à ce que l'histoire ou plutôt l'Italie nous livre tous les visages et tous les secrets de son art. Il y faut une longue familiarité et un véritable apprentissage afin de s'interroger avec patience sur le pourquoi d'une telle fécondité vers le beau et l'affinité esthétique que nous a données ce pays si latin durant la période de la Renaissance. Avis aux amateurs! Visitez Florence, Venise ou Bologne. Cent générations d'architectes et de maçons, dix peuples et vingt civilisations se sont appliqués au cours de vingt-cinq siècles à imprimer la marque de l'homme sur l'Italie.

Ce que l'Italien dépense en vêtements, le Suédois le consacre à sa maison avec goût et perfection. Meubles ultra-modernes et tableaux anciens, partout du folklore. Les Suédois possèdent vraiment l'amour du beau car celui-ci entretient le goût et le goût est la faculté de juger intuitivement et sûrement des valeurs esthétiques, en particulier dans ce qu'elles ont de correct ou de délicat. En Suède le goût est une chose apprise. Il y a un agencement de style, d'élégance, de confort et de fraîcheur. Sur ce sujet nous avons beaucoup à apprendre.

Charles Dickens au milieu du XIXe siècle écrivait déjà sur la misère et la laideur qui existaient dans les minables villes anglaises: "De hautes cheminées, serrées les unes contre les autres et répétant à l'infini leur forme morne et laide, leur horreur de cauchemar oppressant, deversaient la malédiction de leur fumée, obscurcissaient la lumière du jour, remplissaient de leur pestilence l'air chargé de tristesse". Tout individu placé dans une ambiance et dans des conditions déprimantes et écrasantes ne tend guère à s'épanouir et à inventer des formes nouvelles. L'archi-

tecture parfois ne symbolise qu'une laideur essentielle, qui une fois transformée, changée, devient vivable et attrayante.

L'architecture est née d'un besoin et d'un élan vers le beau. La notion du beau en architecture dépend du matériau, des lieux de construction et des intentions figuratives, c'est-à-dire ce que l'on veut représenter. Paul Souriau soutenait que le Beau et l'Utile devaient coïncider et que l'objet pouvait posséder une "beauté rationnelle". L'artiste doit infuser à l'objet l'expression authentique d'une personnalité. Il faut savoir humaniser les techniques contemporaines et leurs produits et donner à notre civilisation moderne un caractère digne et une valeur esthétique. Il faut provoquer "une élévation du niveau du goût de chacun" disait Jacques Viénot. De même qu'il faut l'application d'une charte de l'esthétique dans le monde de l'industrie, il en faut une également dans celui des arts et de l'architecture. Je suis en faveur de tout programme favorisant et encourageant l'esthétique dans l'urbanisation ou l'aménagement d'un territoire.

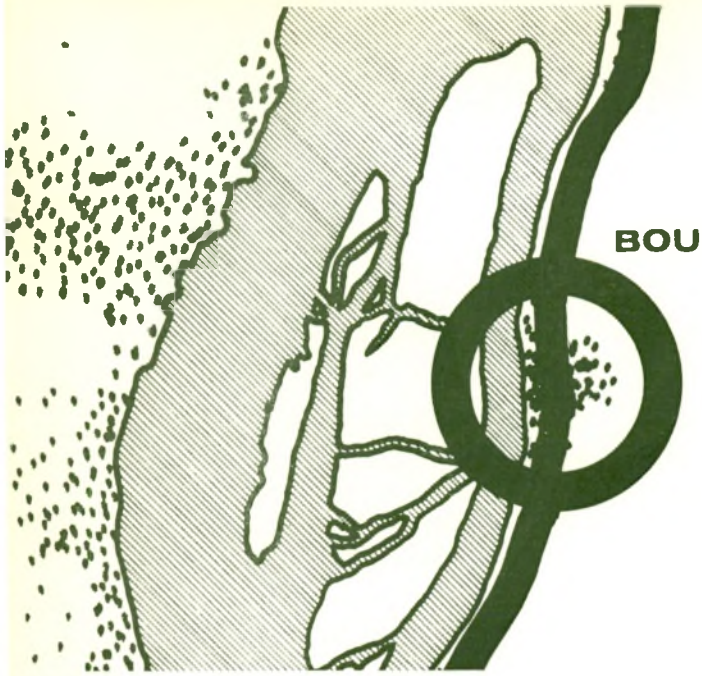


L'architectur est née d'un besoin et d'un élan vers le beau.

Ce qui saisit en arrivant en Suisse, c'est l'air, la qualité de l'air que l'on respire. Une première bouffée suffit à provoquer le dépaysement. Tel que sur la plage, dans les montagnes, en voilier, l'homme se sent bien lorsque le beau est présent. Tout individu est épris du beau. L'année dernière la ville de Paris lançait une campagne publicitaire afin d'encourager la propreté dans la ville. Pour certains, un produit se vend bien parce qu'il est utile et non pas parce ce qu'il est beau. On voit alors quel long chemin il nous faut remonter pour faire triompher l'idée d'une beauté utile. Il faut reconnaître le fait et le droit de cité de l'esthétique dans le monde du travail comme dans tout autre domaine. L'ingénieur doit travailler avec l'artiste pour que le produit soit repensé, transformé et reconstitué si nécessaire.

En 1953, lors du Congrès international d'Esthétique industrielle de Paris, le Père Longchambon déclarait que l'honnêteté industrielle "doit exiger le respect des règles de l'esthétique. Pour obtenir ce respect de toute une population dépravée par un siècle de mauvais goût, car il s'agit des créateurs comme des consommateurs, il est nécessaire de recourir à un enseignement systématique". Le Corbusier disait si bien que le décor camoufle. Le but de l'esthétique est justement de supprimer tout décor inutile afin de valoriser un objet. Il faut que les urbanistes, les architectes, les esthéticiens, les sociologues misent davantage sur la beauté de l'ensemble et sur les couleurs d'ambiance qui pourront éventuellement créer un décor riche en vie et en couleurs. L'homme a foncièrement besoin de beauté. Un objet, si beau soit-il, s'impose difficilement au milieu d'objets médiocres. Par contre, dans un climat de vie ou de travail esthétique, un objet laid sera éliminé.

La nature du beau ne peut être révélée que par les influences de toutes sortes qu'exerce en nous l'oeuvre d'art. C'est par les beautés qui nous entourent que nous pouvons réellement jouir des bienfaits de la nature et du génie de l'homme. Dans un texte où l'idéalisme du beau se fait sentir tout particulièrement, Lanza del Vasto écrit: "Ils ne sauront jamais ce qu'est la Beauté, ceux qui la cherchent à leur aise et la prennent pour un plaisir de plus. Mais cette faim, cette soif, cet abandon extrême, cette veille ardente aux pieds de la nuit toute nue la font briller dans mon sang, plus présent à moi que moi-même, elle, la vérité des formes, la splendeur du vrai". Vive l'air, le soleil, la verdure, la beauté. ✦✦✦



The following article was written by Professor Wilson from a pictorial presentation made as part of exercise on Boucherville by the 3rd year Class of McGill's School of Architecture. Part two will appear in a later issue.

BOUCHERVILLE

by Stuart Wilson

Twelve miles downstream from Montreal on a strip of land five miles long and one mile deep, on the south shore of the St. Lawrence River, is the municipality of Boucherville. The land is flat and fertile. Across the river with its low-lying green Boucherville islands is the eastern portion of the Island of Montreal.

The bell-tower of the parish-church, L'Eglise Ste. Famille de Boucherville, looks over blue river and farms on peaceful islands, and beyond to smog-hung sky, over oil-refineries and heavy industry.

In 1634, Pierre Boucher, at the age of thirteen, came from Mortagne, France, with his family. The father became a tenant farmer on the Jesuit lands at Beauport. When seventeen years of age, the youth accompanied two of the Fathers to "le Pays D'En Haut", Huronia, near Georgian Bay. He lived with the Indians. So familiar did he become with their language and lore that, after two years as a soldier of the Quebec garrison, he became interpreter at the trading post established near the Indian encampment at the mouth of the St. Maurice River.

In a period of primitive pioneering Pierre Boucher rose rapidly to a position of power and prestige. He won the respect of White man and Red, and became, under the authority of the Hundred Associates, the commander of the post.

Although he had worked for both fur-traders and missionaries, at heart he was a farmer and colonizer. In 1661 he visited Paris charged with the mission to seek out aid for New France. King Louis the Fourteenth ennobled him and in 1663 he was appointed Governor of Three Rivers. It was on the advice of Pierre Boucher that military aid was sent to Canada. In 1665 the Carignan Regiment arrived in Canada to protect the French settlers from the Iroquois.

In what appears to have been a moment of crisis and resolve he gave up these honors, and taking with him a few families from Three Rivers, he settled a site near present-day Boucherville. In 1668 he established a group of seigneuries with himself as leader.

Pierre Boucher built a manor-house at the mouth of the creek-like, "ruisseau St. Jean" or Sabrevois River about one mile upstream from the present church of Ste. Famille. Iroquois war-parties from the mountains to the south came up the Richelieu and, to shorten their journey, cut across the neck of land between the two rivers, the Richelieu and St. Lawrence. They approached the St. Lawrence, en route to Ville-Marie, by the Sabrevois. This was the reason that this lightly fortified manor was known as Fort St. Louis.

Pierre Boucher lived to a ripe old age and sired a large family. Land-holdings were divided amongst the various descendants.

Pioneer and seigneur, Boucher was an extraordinary figure, and in the opinion of Benjamin Sulte; "The three most remarkable men whom Canada produced in the seventeenth century were, perhaps, Boucher, d'Iberville, and La Verendrye: a coloniser, a naval officer and a discoverer."

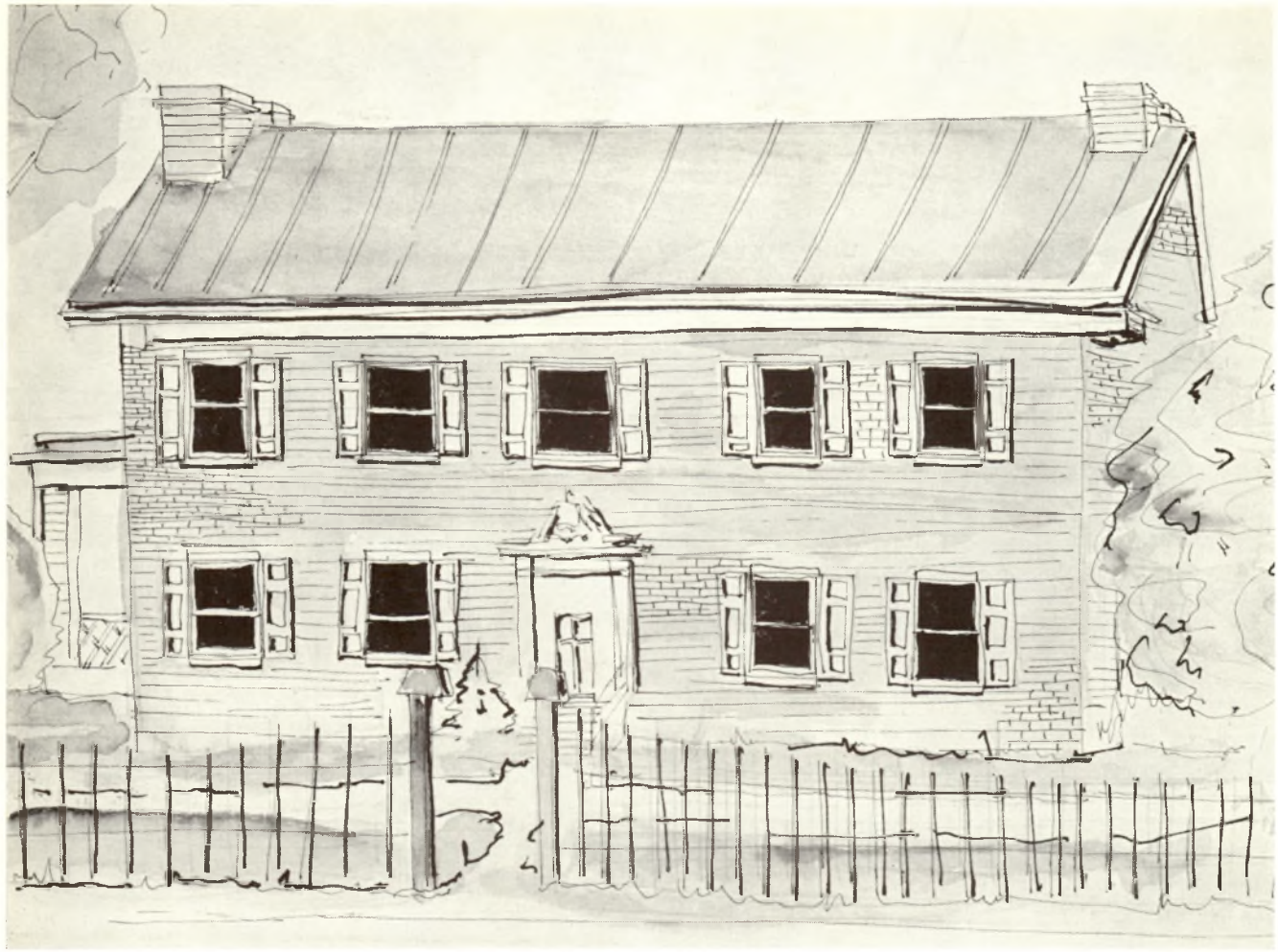
The old village was based on the parish, centered on the church, and surrounded by the seigneury. The parish of Ste. Famille was established according to civil law by an order-in-council of the state registered at Quebec the third of March, 1722.

In this central part of to-day's Boucherville, the old village with a street-plan partly retaining the original lay-out of Pierre Boucher, has maintained some of its character to the present. But the municipality today is larger, and includes the first concession or "premier rang" of the old seigneury.

Houses on the farms of the seigneury were further apart than in the village. This land has been infiltrated in the last fifty years. Original character has been lost. The new town area is a settlement of bungalows and ranch-houses. Few reminders of the past survive, although old houses still stand among the new, particularly in the older parts, along the river-road, Route Marie-Victorin, west of the parish.

Early French-Canadian settlement was based on the holding of land-grants by seigneurs or lords. By 1663, sixty seigneuries had been granted. Nine years later, under Intendant Jean Talon, the number was doubled. The last grant was made in 1788 and the system abolished in 1854.

Seigneuries were divided into strip-farms or long narrow parcels of land. Each farmer had a river or road-frontage, a share of various kinds of land and a wood-lot



The large brick house in the sketch above uses a 17th Century house as a rear wing. It can be seen in the photograph on opposite page. In the left foreground of the picture is a store shed. The door of the store shed and that of the new house form a contrast which is typical of old Boucherville.

at the back. The "habitant" or farmer lived close to his neighbors along "les côtes".

The basic dimension of a farm was three to four arpents wide and thirty to forty arpents long. *(1 arpent [Old French Measure] = 191.385 ft.)*

Farms developed as a row of strips along the river, known as the first range. When colonization increased other ranges were added behind the first. The "côte", whether river shore or back road, led to single or double linear patterns of settlement.

In the early days transportation was by river. Villages were close to the shore and oriented towards the river. This was the case with Boucherville.

The hamlet became a village and population held constant. Growth was slow. The Reverend Father Louis Lalande S.J. in his book "Une Veille Seigneurie — Boucherville", Montreal 1891, stated that in 1681, thirteen years after its founding, as appeared in the census, the parish contained thirty-nine families and three hundred and twenty arpents of land under cultivation. Benjamin Sulte in discussing Boucherville wrote, "The seigneury of Boucherville was recruited, as was St. Francis, from the colonists of Three Rivers. In the census of 1681, one sees that work went ahead rapidly if other domains in the district of Montreal are compared. For example, M. de Sorel possessed 150 arpents of workable land; but he was helped by the King (Louis XIV), who had this land cleared by soldiers before offering the seigneury to this former officer. Then came M.M. de Repentigny and de Boucherville, each with one hundred arpents, then M. de Contrecouer with 80, others were below 40 or 30 arpents."

By proclamation of the Governor, in 1857, the parish was divided into two: village and parish. In 1891, seven ranges had been settled which totalled 21,064 acres of land. The population, Roman Catholic in religion, numbered 2,000 people. The village contained 800. In 1954 when Boucherville suddenly took on the character of an outlying suburb of Montreal, population in the town, itself, was three thousand.

Boucherville was incorporated as a municipality in 1957. Today population is around 13,500, and still rising. Because of rapid growth, "La Société Historique de Boucherville", and its president, M. Charles Desmarteau, are much concerned over the preservation and improvement of "Old Boucherville".

To celebrate the occasion of the three hundred year old founding of Boucherville, the society has recently republished the original book by Pierre Boucher, "Histoire Veritable et Naturelle des mouers et productions du Pays de la Nouvelle France, vulgairement dite le Canada", one of Canada's first literary works, produced at the express desire of Louis XIV, written in Three Rivers, printed and published in France, 1664. The society also has plans for the reconstruction of an historical village. This latter project is more debatable, particularly as an area of historical interest already exists.

Now under construction across the St. Lawrence is a new bridge-tunnel linking Montreal island to the South Shore, and carrying the Trans-Canada Highway, newly extended and re-routed, through Montreal, at an estimated cost of $200,000,000.00.

The bridge-tunnel is to be named after Sir Louis Hippolyte Lafontaine, a former native of Boucherville, and one of the two political leaders, one French-speaking, the other English, who headed the first Canadian coalition government after the 1837 rebellion.

The bridge is expected to bring a population boom. The highway will cut across the western portion of Boucherville's town-limits. Direct access will be provided between the east end of Montreal and Boucherville. Formerly the most direct route to Montreal was Route 3, or Route Marie-Victorin, which led to the Jacques Cartier bridge.

Apart from private passenger cars, buses have provided regular transportation to Montreal. Montreal's new Métro, soon to be in working order, is to have a terminus in the municipality of Longueuil at the end of the Jacques Cartier Bridge. Nearby will be a new bus station serving the South Shore and all points South. Part of the traffic load of autobuses which now burdens Montreal's streets will be transferred to outlying communities and provincial routes.

At the beginning of this century boats gave easy communication with Montreal and the neighboring parishes on both sides of the river. Several trips a day were made. The Montreal-Sorel railway company provided, with slight irregularities, a two-train a day service. The railway no longer takes passengers. Boucherville was linked to Montreal, Sorel and Nicolet by the C.N.R. The railroad held a contract to deliver mail and service operated at a loss, passengers were few. Within recent years the mail contract was cancelled. Now the train does not stop at Boucherville, and the depot lies abandoned and disintegrating. The old station, an odd-looking small wooden structure with widely overhanging eaves, could be renovated and used as a restaurant or curio-shop.

On the left, Charles Street
looking east
and below looking west.

Although Boucherville is a water-front town, harbor or wharf facilities no longer exist. Local river-traffic has disappeared and deep-sea ships pass onwards to Montreal or the Seaway.

Proposed land-use plans of the municipality show most of the land optioned for residential purposes. Today industry is minimal. Two large "Parcs Industriels" have been provided at the eastern and western extremities. The directions of prevailing winds do not seem to have been a factor determining their location. A neutral zone or belt between industry and residences is not indicated. The new highway, which cuts across the second range or "Rang du Pays Brulé" in the western part of the municipality, may create problems.

Up to the present the absence of heavy industry has kept the air fresh and clean. Boucherville is a peaceful and quiet residential area, retaining a country atmosphere.

Dairy and truck farming is still active along the second line or "deuxieme rang". As Boucherville grows, these farms will become engulfed, but farming continues on the

islands facing Boucherville while many families in the village grow vegetables in their back gardens.

Proprietors of houses along Route Marie-Victorin also own the land opposite, down to the water, in keeping with the old seigneurial system of granting strips of land leading back from the river. Boating takes place, but swimming is over, since the river became polluted.

In the centre of the municipality is the old area. Railway tracks sharply separate old and new. The Town Hall, Police and Fire Station, Library, Church, Schools and Hotel are all found in the old parish area. Formerly this was also the commercial centre. A spreading population has made these limited commercial services inadequate, and gas-stations, stores and restaurants are being built in the new peripheral areas. A shopping centre has been opened in the eastern part of town.

When describing Old Boucherville it seems natural to start with the church. The steeple overtops trees and adjacent buildings, and dominates the old center.

Originally the church was surrounded by only a few buildings on nearby Rue L. H. Lafontaine. Open space existed on all sides and served to magnify the scale and importance of the church. Today, even with the addition of two nearby schools and several houses, enough open space remains to maintain a feeling of breadth and dignity.

The church is raised up slightly on a flat earth podium and faces the river. In front is a green square laid out symmetrically with trees at each corner and a statue in the center. East of the church is a large square and nearby is the priest's residence. Route Marie-Victorin runs across the front and a narrow riverside park borders the river.

Land slopes gently down from the steps of the church to the road at a rate of one in 275 feet. From the road the slope changes to one in ten until the retaining wall at the edge of the park is reached. At the base of the wall a beach slants into the river. Normally, water covers the beach and laps against the wall, but recently water-level in the St. Lawrence has been low.

The square in front of the church is axially related to the main façade. Tall trees do not obscure the view of church or tower from river or road. Central open spaces decrease in formality in accordance with their position in relation to the church or with their distance from the church.

Fast traffic on Route Marie-Victorin disturbs the central area. The continuity of park-like spaces is broken by the heavily-used asphalt strip. Trees serve as a buffer protecting church and spaces from the highway.

A view from the bell-tower shows a change of building density approaching the church. At a distance, houses are closer together, while immediately surrounding, larger open spaces occur. The proximity of schools and church suggests strong ties between education and religion. The simple tranquillity and spaciousness of church and site and adjacent spaces lends scale to the surrounding streets. The church, as an architectural entity, includes the surrounding space.

West of the church is a convent, the origin of which could be said to go back to the days during the summers around 1668 when the Venerable Sister Marguerite Bourgeois, founder of the Congregation of Notre Dame, used to visit Fort St. Louis. Here she opened school and instructed the young.

The area immediately behind the church contains the streets, St. Charles, Ste. Marguerite, and St. Sacrement, running between Laperiere and L. H. Lafontaine, streets which lead back from the river and Route Marie-Victorin.

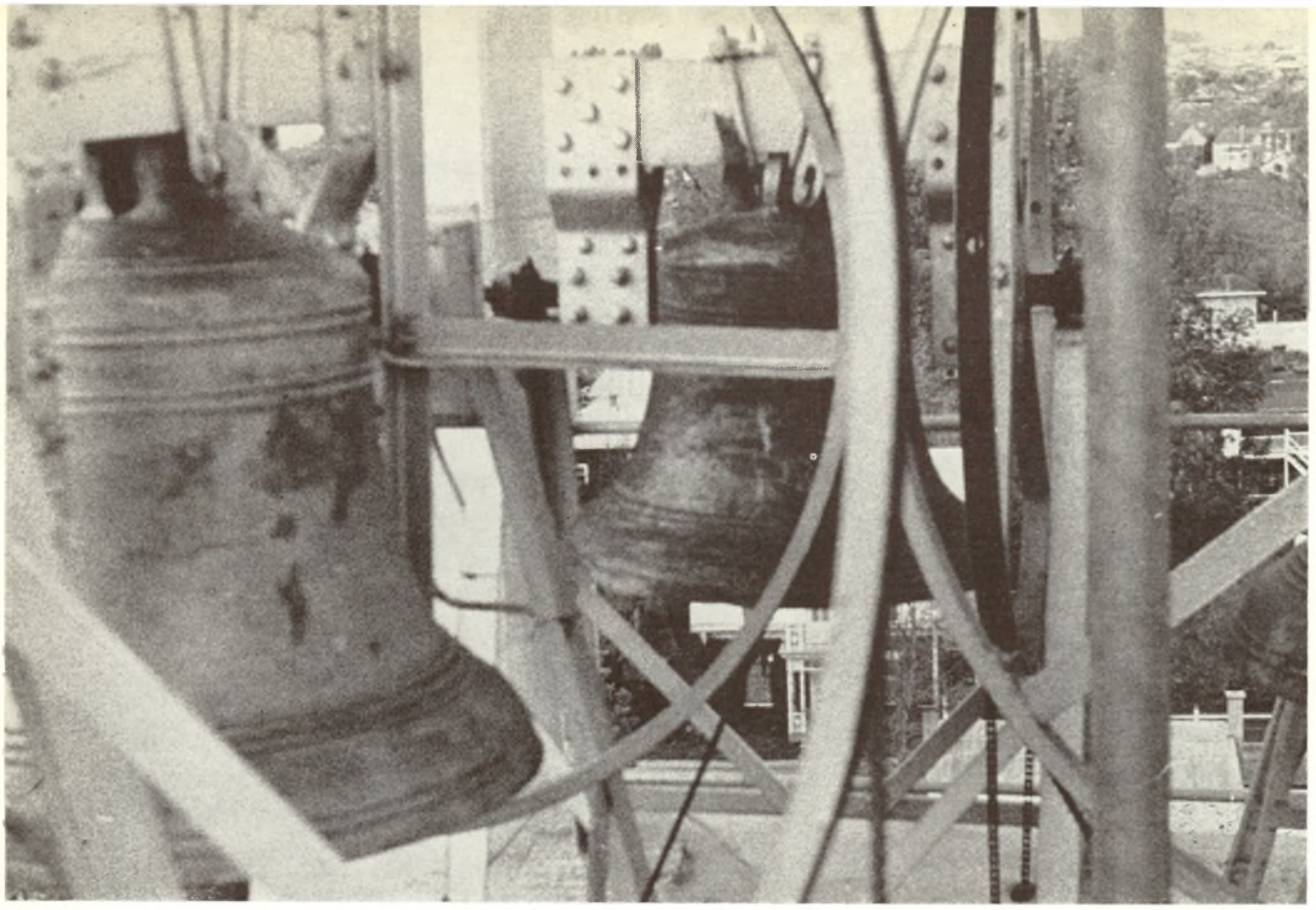
Near the church on the east side of Lafontaine Street is a stone house once lived in by Sir L. H. Lafontaine. This small but well-proportioned old-time stone house abuts on a narrow sidewalk. Placed on a front stone wall is a bronze plaque bearing a bas-relief medallion portrait of Sir Louis Hippolyte Lafontaine 1807-1864. The medallion is trimmed with high-relief laurel sprays and a central maple-leaf motif. A framed panel is inscribed with the name, while below the large block letters "Lafontaine", is the inscription, "Denfenseur de la Langue Française au Parlement du Canada et Père du Gouvernement Responsable."

Unfortunately this charming and memorable house is being taken down and moved to a new site in an artificial new Historical Village.

Restaurants and stores on St. Charles, facing largely on the open square beside the church are reminders of the old village life. The heights of buildings such as restaurants, houses, and sheds, as seen from street or central spaces, are even and consistent, resulting in a strong horizontal effect to the visual sequence. St. Charles, like most other nearby streets, permits a vista of solid form, enclosure and perspective.

Street width is twenty feet plus six feet for sidewalks. Average building height is twenty-one feet. Pitched roofs occur on most buildings.

The area contains four schools as well as houses and sheds. The priest's house in gray Victorian-style rock-faced limestone, embellished with a new yellow tile "brise-soleil" screen stands out from amongst cottages. ✦✦✦



BOUCHERVILLE

Stuart Wilson

A douze milles en aval de Montréal sur une bande de terrain de cinq milles de longueur et d'un mille de profondeur, sur la rive sud du fleuve St-Laurent, se trouve la municipalité de Boucherville. Le terrain y est plat et fertile. De l'autre côté du fleuve, il y a la partie est de l'Ile de Montréal avec les îles de Boucherville au terrain enfoncé recouvert de verdure.

Le clocher de l'église paroissiale de Ste-Famille de Boucherville domine les eaux bleues du fleuve et les fermes situées sur les îles paisibles et, au delà de l'atmosphère remplie de brouillard, les raffineries d'huile et l'industrie lourde.

En 1634, Pierre Boucher, âgé de treize ans, arriva de Mortagne en France avec sa famille. Son père devint fermier locataire sur les terres des Jésuites à Beauport. A l'âge de dix-sept ans, l'adolescent accompagna deux des Pères vers "le Pays d'en Haut", la Huronnie près de la baie Georgienne. Il y vécut avec les Indiens. Il apprit si bien leur langue et leurs traditions qu'après deux années de vie militaire à Québec il devint interprète au poste de traite établi près du camp des Indiens à l'embouchure de la rivière St-Maurice.

Dans ces premiers temps de l'établissement de la colonie, Pierre Boucher se tailla rapidement une situation avantageuse du point de vue pouvoir et prestige. Il se mérita le respect des blancs et des peaux-rouges et devint, en vertu d'un mandat des Cent Associés, le commandant du poste.

Bien qu'il ait travaillé à la fois pour les commerçants de fourrures et pour les missionnaires, il était avant tout un fermier et un colonisateur. En 1661, il se rendit à Paris avec la mission d'en ramener de l'aide pour la Nouvelle-France. Le roi Louis XIV lui conféra un titre de noblesse et en 1663 il devint gouverneur de Trois-Rivières. C'est pour faire suite aux recommandations de Pierre Boucher que la France envoya de l'aide militaire au Canada. En 1665, le régiment de Carignan arriva au Canada avec mission de protéger les colons français contre les attaques des Iroquois.

Au cours de ce qui semble avoir été un moment de crise et de détermination bien arrêtée, il abandonna tous ces honneurs et emmenant avec lui un petit nombre de familles de Trois-Rivières, il alla s'installer sur un emplacement près de ce qui est aujourd'hui Boucherville. En 1668, il établit un groupe de seigneuries dont il se constitua le chef.

Pierre Boucher construisit une demeure seigneuriale à l'embouchure du ruisseau St-Jean ou de la rivière Sabrevois

à environ un mille en amont de l'église actuelle de Ste-Famille. Des bandes d'Iroquois sur le sentier de la guerre, venant des montagnes situées plus au sud remontaient la rivière Richelieu et, pour raccourcir leur voyage traversaient la bande de terrain située entre les deux cours d'eau, soit la rivière Richelieu et le fleuve St-Laurent. Ils se rendaient au fleuve St-Laurent en route vers Ville-Marie, par la rivière Sabrevois. C'est pourquoi cette demeure légèrement fortifiée fut connue sous le nom de fort St-Louis.

Pierre Boucher vécut jusqu'à un âge avancé et devint le chef d'une nombreuse famille. Ses terres furent divisées entre ses nombreux descendants.

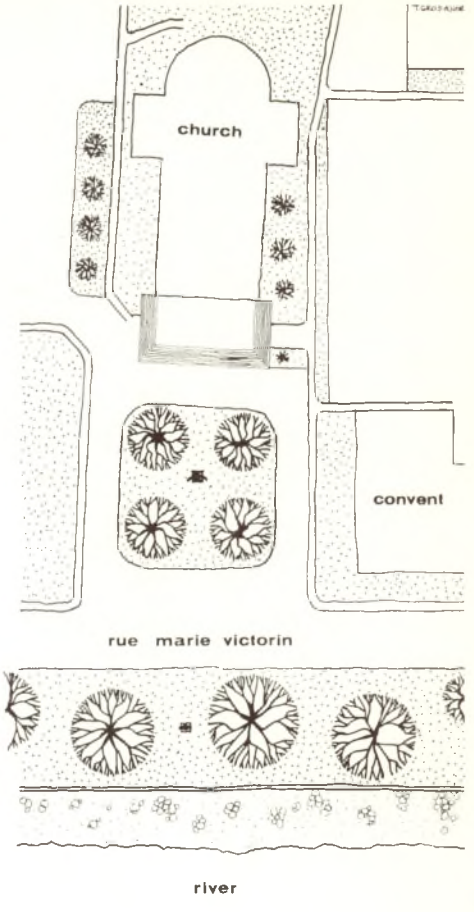
Pionnier et seigneur, Boucher fut un homme extraordinaire et de l'avis de Benjamin Sulte: "Les trois hommes les plus remarquables que le Canada a produit au cours du dix-septième siècle ont été Boucher, d'Iberville et La Vérendrye: un colonisateur, un officier de marine et un découvreur.

L'ancien village était constitué par la paroisse groupée autour de l'église et entourée par la seigneurie. La paroisse de Ste-Famille fut établie d'après la loi civile par un décret ministériel adopté par l'Etat et enregistré à Québec le trois mars 1722.

Dans cette partie centrale de la ville actuelle de Boucherville, l'ancien village dont le tracé des rues est resté partiellement le même que celui qui avait été fait par Pierre Boucher, a conservé jusqu'à maintenant une certaine partie de son caractère. Cependant, la municipalité actuelle s'est agrandie et englobe la première concession ou le premier rang de l'ancienne seigneurie.

Les maisons situées sur les fermes de la seigneurie étaient plus espacées les unes des autres que dans le village. Ce terrain libre a été occupé au cours des cinquante dernières années. Le caractère original n'existe donc plus. L'aire occupée par la nouvelle ville constitue un ensemble de bungalows et de maisons du type ranch. Il n'existe que très peu de rappels du passé, bien qu'on retrouve encore quelques maisons anciennes parmi les nouvelles, particulièrement dans les parties plus anciennes, le long de la route qui longe le fleuve, la route Marie-Victorin à l'ouest de la paroisse.

L'établissement des premiers Canadiens de langue française s'est faite suivant le système de la tenure seigneuriale ou de la concession de terrain. En 1663, soixante seigneuries avaient ainsi été concédées. Neuf ans plus tard, sous l'intendant Jean Talon, ce nombre doubla. La dernière concession de ce genre fut faite en 1788 et le système



fut aboli en 1854.

Les seigneuries étaient divisées en bandes de terrains de ferme ou longues pièces étroites de terrain. Chaque ferme donnait sur le fleuve ou la route; elle comprenait une portion de divers genres de terrain et une petite aire boisée à l'arrière. L' "habitant" ou le fermier vivait à proximité de ses voisins le long des côtes.

Les dimensions fondamentales d'une ferme étaient de trois à quatre arpents de largeur sur trente à quarante arpents de longueur. (Un arpent est une ancienne mesure française qui correspond à 191.385 pieds.)

Les fermes se développèrent en formant une rangée de bandes de terrain le long du fleuve, qu'on désigna sous le nom de premier rang. A mesure que la colonisation progressa, d'autres rangs vinrent s'ajouter derrière le premier. La "côte", qu'il s'agisse de la rive du fleuve ou du chemin situé à l'arrière, conduisait à des ensembles simples et doubles de terres.

Au début de la colonie tout le transport se faisait par le fleuve. Les villages étaient situés près de la rive et orientés vers le fleuve. Ce fut le cas de Boucherville.

Le hameau devint un village et la population se main-

tint d'une façon constante. L'accroissement fut lent. Le révérend père Louis Lalande S.J., dans son livre intitulé "Une vieille seigneurie — Boucherville", Montréal 1891, révéla qu'en 1681, soit treize ans après sa fondation, d'après les données du recensement fait à l'époque, la paroisse contenait trente-neuf familles et trois cent vingt arpents de terrain en culture. Benjamin Sulte, parlant de Boucherville, écrivit que "La seigneurie de Boucherville comme St-François recruta sa population parmi les colons installés à Trois-Rivières". D'après le recensement de 1681, on peut voir que les travaux avancèrent rapidement si on compare cette seigneurie à d'autres domaines situés dans le district de Montréal. Par exemple, M. de Sorel possédait 150 arpents de terrain cultivable; mais il reçut de l'aide du roi (Louis XIV) qui avait fait déblayer ce terrain par les soldats avant d'offrir la seigneurie à cet ancien officier. Puis vinrent MM. de Repentigny et de Boucherville, chacun avec cent arpents, puis M. de Contrecoeur avec quatre-vingt, tandis que d'autres avaient moins de 40 ou 30 arpents".

Par une proclamation du gouverneur, en 1857, la paroisse fut divisée en deux parties; le village et la paroisse. En 1891, sept rangs avaient été colonisés, ce qui donnait au total 21,064 acres. La population, de religion catholique, se chiffrait par 2,000 personnes. Le village en contenait 800. En 1954, lorsque Boucherville prit soudain l'aspect d'une banlieue éloignée de Montréal, la population de la ville elle-même était de trois mille habitants.

Boucherville fut constituée en municipalité en 1957. Aujourd'hui la population qui s'élève à 13,500 habitants continue d'augmenter. A cause de l'accroissement rapide de cette municipalité, la Société Historique de Boucherville et son président, M. Charles Desmarteau s'inquiètent beaucoup de la conservation et de l'amélioration de "l'ancien Boucherville".

Pour célébrer le tricentenaire de la fondation de Boucherville, la Société a récemment publié de nouveau l'oeuvre originale de Pierre Boucher, intitulée "Histoire véritable et naturelle des moeurs et productions du pays de la Nouvelle-France, vulgairement dite le Canada" l'une des premières oeuvres littéraires du Canada, réalisée à la demande expresse de Louis XIV, écrite à Trois-Rivières, imprimée et publiée en France, en 1664. La société a aussi préparé des plans pour la reconstruction d'un village historique. Ce dernier projet est plus discutable, cependant, particulièrement du fait qu'il existe déjà un secteur d'intérêt historique.

Un nouveau pont-tunnel reliant l'Ile de Montréal à la rive sud est présentement en voie de construction d'une rive à l'autre du St-Laurent; ce pont-tunnel fera partie de la route transcanadienne récemment prolongée et dont on a refait le parcours pour le faire passer dans Montréal, au coût estimatif de 200 millions de dollars.

Le pont-tunnel portera le nom de Sir Louis-Hyppolyte Lafontaine, natif de Boucherville, l'un des deux chefs politiques, dont un de langue française et l'autre de langue anglaise, qui ont dirigé le premier gouvernement de coalition au Canada après la rébellion de 1837.

On prévoit que ce pont contribuera à faire augmenter considérablement la population. La grande route traversera la partie ouest des limites de la ville de Boucherville. On y aménagera un accès direct entre la partie est de Montréal et Boucherville. Autrefois, la route la plus directe vers Montréal était la Route 3 ou Route Marie-Victorin, qui conduisait au pont Jacques-Cartier.

En plus des voitures particulières, les autobus ont jusqu'à maintenant assuré le transport régulier vers Montréal.

Au début du siècle actuel on pouvait se rendre facilement par bateau à Montréal et dans les paroisses avoisinantes situées des deux côtés du fleuve. On faisait plusieurs voyages par jour. La compagnie de chemin de fer Montréal-Sorel assurait, avec de légères irrégularités, un service de deux trains par jour. Le chemin de fer ne prend plus de passagers. Boucherville a été reliée à Montréal, Sorel et Nicolet par une ligne des chemins de fer nationaux. Le chemin de fer assurait par contrat la livraison du courrier. Toutefois, ce service accusait constamment un déficit étant donné le petit nombre de voyageurs qui s'en servaient. Il y a quelques années, on a annulé le contrat de livraison du courrier. Maintenant, le train n'arrête pas à Boucherville et la gare abandonnée est en voie de se désintégrer. L'ancienne gare, une construction en bois, d'apparence un peu bizarre, et de petite dimension avec de grands avant-toits en surplomb pourrait être rénovée et employée comme restaurant ou comme boutique à souvenirs.

Bien que Boucherville soit située sur la rive du fleuve, on n'y trouve plus d'installations portuaires ni de quais. La circulation fluviale ne se fait plus et les océaniques passent tout droit pour se diriger vers Montréal ou vers la voie maritime.

Les plans d'utilisation des terrains que possède la municipalité indiquent qu'on projette d'affecter la plus grande partie du terrain à la construction résidentielle. Actuellement, l'industrie de Boucherville est réduite au minimum. On a aménagé deux vastes parcs industriels

aux extrémités est et ouest. La direction habituelle des vents n'a pas semblé être un facteur qui en a déterminé l'emplacement. Une zone neutre ou zone de ceinture entre les industries et les résidences n'est pas indiquée. La nouvelle grande route qui traverse le second rang ou le "Rang du Pays Boulé" dans la partie ouest de la municipalité, pourrait créer des problèmes.

Jusqu'à maintenant l'absence de toute industrie lourde a permis de garder l'air frais et propre. Boucherville est donc un lieu résidentiel paisible et tranquille qui a conservé une atmosphère de campagne.

L'industrie laitière et l'agriculture mécanique s'y maintiennent encore d'une façon assez active le long de la deuxième ligne ou du deuxième rang. Cependant, à mesure que Boucherville va s'agrandir, ces fermes seront absorbées. On continue de s'adonner à l'agriculture sur les îles en face de Boucherville. Un grand nombre de familles du village cultivent des légumes dans leur jardin arrière.

Les propriétaires des maisons situées le long de la Route Marie-Victorin possèdent aussi le terrain situé de l'autre côté de la route jusqu'à l'eau, conformément au vieux système seigneurial qui consistait à concéder des pièces de terrain en partant des rives du fleuve.

On y pratique le canotage mais on n'y fait plus de

Au-dessus, la plaque sur l'édifice La Fontaine et à droite, la porte arrière du même édifice.

natation depuis que le fleuve est devenu pollué.

Au centre de la municipalité, se trouve l'ancien quartier. Les voies de chemin de fer séparent nettement le nouveau secteur de l'ancien. L'hôtel de ville, le poste de police, la caserne de pompiers, la bibliothèque, l'église, les écoles et l'hôtel se trouvent tous dans le quartier de la vieille paroisse. Autrefois c'était aussi le centre commercial. A cause de l'accroissement de la population, ces services commerciaux restreints sont devenus insuffisants et c'est pourquoi on construit des postes d'essence, des magasins et des restaurants dans les nouveaux secteurs à la périphérie. On a même aménagé un centre commercial dans le secteur est de la ville.

Pour décrire "l'ancien Boucherville" il semble naturel de commencer par l'église dont le clocher dépasse en effet les arbres et les bâtiments avoisinants et domine le vieux quartier.

A l'origine, l'église n'était entourée que de quelques bâtiments situés sur la rue L.-H.-Lafontaine, qui se trouve tout près. De tous côtés, il y avait de l'espace libre qui contribuait à agrandir les proportions et l'importance de l'église. De nos jours, même avec l'addition de deux écoles et de plusieurs maisons dans le voisinage immédiat, il reste encore suffisamment d'espace libre pour conserver cette sensation de grandeur et de dignité.

L'église est située sur une étendue de terrain légèrement surélevée et fait face au fleuve. Un grand carré de verdure aménagé avec symétrie devant l'église comprend des arbres à chaque coin et une statue au centre. A l'est de l'église, il y a une vaste place. La résidence du curé se trouve tout près. La Route Marie-Victorin passe devant. Un parc étroit a été aménagé en bordure du fleuve.

Le terrain accuse une pente légère à partir des marches de l'église jusqu'à la route, au rythme d'un pied sur 275. A partir de la route cependant, la pente change à un pied sur dix jusqu'au mur de soutènement édifié en bordure du parc. De la base du mur une grève s'étend jusqu'au fleuve. Normalement, l'eau recouvre la grève et clapote sur le mur mais depuis quelque temps, le niveau de l'eau dans le St-Laurent est très bas.

Le carré à l'avant de l'église a été aménagé suivant un certain axe par rapport à la façade principale. Les grands arbres n'empêchent pas de bien voir l'église ou le clocher, du fleuve ou de la route. Les espaces libres au centre prennent des formes plus ou moins réduites suivant leur position par rapport à l'église ou la distance qui les sépare de l'église.

La circulation rapide sur la Route Marie-Victorin est une cause de dérangement pour le secteur central. La continuité des aires aménagées en parc est coupée par la route d'asphalte très fréquentée. Les arbres servent à protéger l'église et les espaces libres contre la grande route.

Du haut du clocher on peut constater un changement dans la densité de construction à mesure qu'on approche de l'église. Au loin, les maisons sont plus rapprochées les unes les autres alors que dans le voisinage immédiat de l'église on trouve des espaces libres plus grands. Le voisinage des écoles et de l'église sont une indication des liens étroits qui existent entre l'instruction et la religion. La tranquillité simple et la spaciosité de l'église, de son emplacement ainsi que des espaces environnants font ressortir les proportions des rues avoisinantes. L'église, comme entité architecturale englobe l'espace environnant.

A l'ouest de l'église se trouve le couvent dont on peut faire remonter l'origine aux jours d'été vers l'année 1668 où la vénérable soeur Marguerite Bourgeois, fondatrice de la congrégation de Notre-Dame se rendait au fort St-Louis. C'est là qu'elle fonda une école et dispensa l'instruction aux enfants.

Le secteur situé immédiatement derrière l'église renferme les rues St-Charles, Ste-Marguerite et St-Sacrement, qui traversent les rues Laperrière et L.-H.-Lafontaine qui débouchent elles-mêmes sur la rivière et la Route Marie-Victorin.

Près de l'église, du côté est de la rue Lafontaine, se trouve une maison de pierre autrefois habitée par Sir L. H. Lafontaine. Cette maison ancienne en pierre, aux dimensions restreintes mais bien proportionnées touche à un étroit trottoir. Sur la façade de pierre on a fixé une plaque de bronze portant en bas-relief un médaillon représentant le portrait de Sir Louis-Hippolyte Lafontaine, 1807-1864. Le médaillon qui est garni de rameaux de laurier en haut-relief comprend une feuille d'érable comme motif central. Sur le panneau encadré se trouve inscrit le nom du grand homme et sous les grandes lettres qui forment le nom "Lafontaine" il y a l'inscription suivante, "Défenseur de la langue française au Parlement du Canada et Père du gouvernement responsable".

Malheureusement, on est en train de démolir cette charmante et mémorable maison en vue de l'installer sur un nouvel emplacement dans un nouveau village historique artificiel.

Les restaurants et les magasins de la rue St-Charles dont la façade donne sur la place à côté de l'église rappellent l'existence de l'ancien village. La hauteur des bâtiments comme les restaurants, les maisons et les remises telle

qu'elle paraît de la rue ou des espaces principaux, est uniforme et constante, ce qui donne une ligne horizontale continue. La rue St-Charles, comme la plupart des autres rues avoisinantes, offre à la vue une forme, une enceinte et un tableau massifs.

La largeur des rues est de vingt pieds et celle des trottoirs de six pieds. La hauteur moyenne des bâtiments est de vingt-et-un pieds. La plupart des bâtiments ont un toit à pente raide.

Le secteur comprend quatre écoles ainsi que des maisons et des remises. Le presbytère construit en pierre calcaire grise à face de roche et suivant le style victorien, embelli par la construction d'un écran "brise-soleil" en tuile jaune, ressort parmi les petites maisons unifamiliales.

Comme c'est le cas pour la plupart des petits villages canadiens-français, Boucherville est fortement influencé par son église. La paroisse s'étend au delà des limites de la ville ou de l'ancien village. Autrefois, l'église était un lien entre les fermiers et les villageois.

L'atmosphère qui règne dans les rues avoisinant l'église est encore celle d'un village de campagne. L'absence de tout bruit aide à conserver à Boucherville son caractère de village. Les rues restent désertes pendant la plus grande partie des journées ouvrables, vu qu'un grand nombre de résidants occupent un emploi en dehors de la ville, le long de la rive sud ou à Montréal. Boucherville est un endroit tranquille et calme sauf dans la cour des écoles. Une fois que les élèves quittent l'école, les rues deviennent bruyantes. Des autobus jaunes qui servent au transport des écoliers stationnent dans le parc.

Les rues et les trottoirs sont étroits. Les maisons sont construites à quelques pieds seulement des trottoirs. Elles sont placées tout près les unes des autres et forment une façade continue. Les maisons plus anciennes ont d'épais murs de pierre. La plupart des maisons sont construites en bois. Elles sont peintes en blanc ou en mauve, en rose et bleu, orange et rouge. Celles qui ne sont pas peintes en blanc sont souvent garnies de blanc. Les clôtures et la partie inférieure des poteaux de téléphone sont peintes en blanc. La peinture blanche brille au soleil.

Certains vieux bâtiments ont été modifiés au point qu'on ne les reconnaît plus. Les contreplaqués modernes et les châssis d'aluminium cachent souvent des antiquités. On ne trouve plus que quelques vieilles maisons de pierre dans les rues étroites du village. Il est permis de douter qu'il y ait jamais eu un grand nombre de maisons de pierre. Un certain nombre de maisons de bois sont construites suivant le style traditionnel, même si certains détails ou certains rajouts ne sont pas toujours en harmonie. La combinaison de pierre et de bois prévaut et s'offre le plus souvent à la vue. Bien qu'un grand nombre de bâtiments soient construits suivant le style traditionnel, très peu sont réellement anciens.

Boucherville a été fortement endommagé par un incendie en 1843. La conflagration qui avait pris naissance dans une remise avait été causée par une étincelle provenant d'un bateau à vapeur amarré au quai. L'église fut endommagée tandis que la chapelle, le couvent, l'école et cent quarante-trois maisons et bâtiments attenants furent démolis.

De nos jours, les maisons sont à peu près de la même hauteur et de mêmes dimensions; elles forment de petits rectangles dans les rues étroites. Les petites rues sont bien abritées et ombragées d'arbres; elles donnent une sensation de retenue et dégagent une atmosphère d'occupation par l'homme et d'amitié. L'exiguïté de l'espace force à concentrer l'attention sur le comportement de l'homme dans la rue. La faible hauteur des avant-toits des toits en croupe contribue à augmenter cette impression d'exiguïté, alors que les formes dégagées des toits en pignon ajoutent à la richesse du décor.

De toutes les rues ou de tout point dans la rue, on peut voir le clocher au-dessus des toits et des arbres. L'église demeure le point central de l'ancien village, qui domine dans l'espace. A mesure qu'on marche sur le trottoir, le spectacle de la rue se déroule petit à petit. De nouvelles formes et de nouveaux espaces se révèlent aux yeux du piéton. La curiosité attire la vue vers les espaces en retrait.

Les rues sont très étroites pour qu'on y circule à une grande vitesse. Les résidants rangent leurs voitures dans leur propre cour ou à côté de la maison. La circulation des piétons y est limitée. Les trottoirs sont peu nombreux et étroits; souvent on n'en trouve que d'un côté de la rue.

L'état des cours arrière varie du négligé au soigné. La ligne d'horizon présente tour à tour des espaces ouverts et libres ou des surfaces dures renfermées. Les grands jardins sont rares. Les allonges faites aux maisons se prolongent dans les cours. Les maisons de Boucherville prennent d'année en année des proportions plus grandes grâce aux rajouts qu'on y fait graduellement. On ajoute par exemple une remise, on construit une chambre latérale, on agrandit un porche, on ajoute une remise à celle qui existe déjà; en un mot, on suit un procédé de croissance naturelle.

Les cours arrière sont révélatrices des différences de situations financières, de but et d'ambition. ✦✦✦

CENTRAL MORTGAGE AND HOUSING CORPORATION
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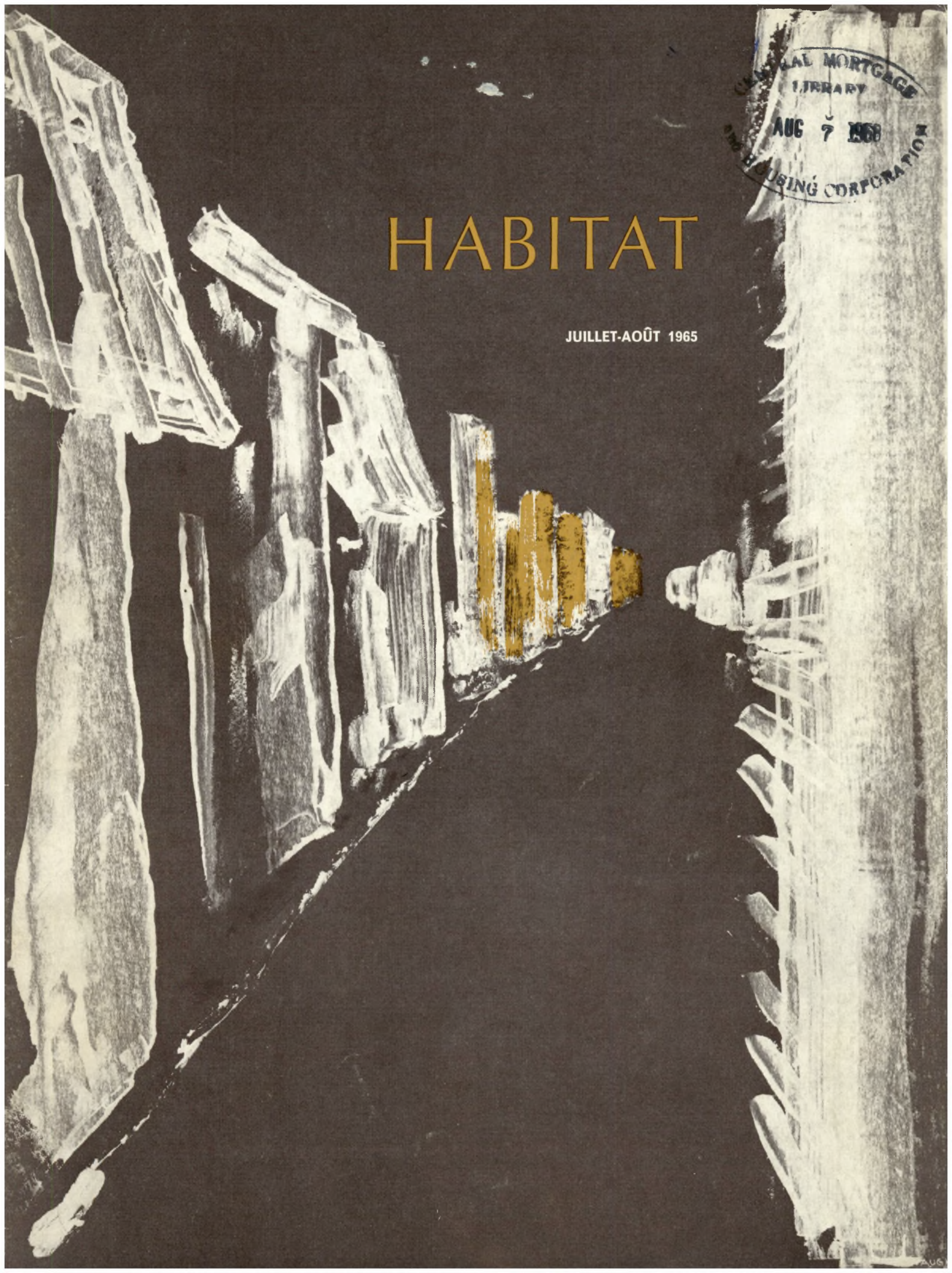

HABITAT

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FRONT COVER: *The sketch is by James Perry M. Waugh, a fourth-year architectural student at McGill University.*

INSIDE FRONT COVER: *Sand hogs constructing the Montreal Subway — NFB*

The next issue of this magazine will be devoted principally to a description of Habitat '67 now under construction at the World's Fair in Montreal. The feature story is by Moshe Safdie the architect of the project. In 1961, Mr. Safdie, then just graduated from McGill, prepared an article for Habitat which described his interpretation of the shape of the apartments of the future. He is now utilizing this form in the construction of Habitat '67.

Mr. Safdie has graciously given our magazine credit for first publicizing his ideas, and he feels we have been some small help in obtaining acceptance of those ideas.

In addition Mr. Stewart M. Andrews, a member of the firm who performed the feasibility study of Habitat '67 contributes an article on that phase of the operation. We feel our readers will find both very informative.

The Environment of the Canadian Indian

by Arthur J. Smith, Chief Engineer, CMHC.

Shortly after assuming responsibility as Minister of Citizenship and Immigration, the Honourable John R. Nicholson decided to visit a number of Indian reserves throughout Canada. His ministerial responsibilities include the operation of the Indian Affairs Branch of his Department. It was the Minister's wish to see, first hand, a cross-section of Indian communities and his interests included the housing and living conditions of Canadian Indians. During the period August 13th to August 23rd, the Minister and his party visited the Mission Reserve at Fort William, the Town of Red Lake, the Islington Reserve on the Winnipeg River, reserves in Manitoba at The Pas, Easterville, Nelson House, Poplar Point, Dog Point and Catholic Point, as well as Indian housing at Thompson; in Saskatchewan, the reserves at Pelican Narrows and LaRonge; in the Northwest Territories, settlements at Yellowknife, Fort Rae and Fort Simpson; in Alberta, the Assumption Reserve at Hay Lakes and the Stony Plain Reserve near Edmonton were visited and in British Columbia, Indian settlements on reserves at Aiyansh, Greenville, Port Simpson, Masset — at the Northern tip of the Queen Charlottes, Kamloops and Ahousaht — on Vancouver Island.

Accompanying the Minister on this trip were Mr. Tom Kent, Policy Secretary in the Prime Minister's Office and Co-Ordinator of the Work and Opportunity Programme, Mr. H. W. Hignett, C.M.H.C. President, Mr. R. F. Battle, Assistant Deputy Minister, Indian Affairs and Mr. J. W. Churchman, Director of Development, Mr. G. J. Bowen, Chief, Engineering and Construction Division, both of Indian Affairs, Mr. L. S. Marchand, Special Assistant to the Minister, Mr. A. J. E. Smith, Chief Engineer, C.M.H.C. and Mr. Brian King, photographer. In addition, regional and local officials of the Indian Affairs Branch met and accompanied the party during the tour of their areas.

A neat stucco one and a half-storey home—vintage 1954 — in a nicely treed setting, a brand new modern bungalow awaiting its first occupants, a row of small but tidy homes occupied by senior citizens of the village — all of these and more have little to distinguish them from normal suburbia. Little save for locale for these homes are on an Indian reservation. Mr. and Mrs. Joe Morin welcomed us inside their neat home, but warned us to beware of fresh paint. They had redecorated virtually the whole of the downstairs area in anticipation of our visit. It was clear, however, that this added polish was not really necessary.

By contrast, totally inadequate housing facilities are still the lot of most Canadian Indians living on reserves. Indeed this applies in large measure to many Indian families who have left the reserve. A visit to Indian settlements throughout Western and Northwestern Canada showed clearly the desperate straits and hopelessness of 25% of Indian families, and the totally inadequate housing of about a further 50%. Typical of both is primitive overcrowded housing which fails to meet the most elementary minimum standards for space, light, warmth, fire safety and sanitation. The settlements in which these houses are located generally lack physical order and the services necessary for health and sanitation — light, pure water and toilet facilities.

Our eleven-day journey took us to eighteen communities chosen to give a representative sampling of the living conditions of Canada's 210,000 Indian population. Those visited represent but a small proportion of some 600 Indian villages spread throughout Canada from coast to coast and from the Arctic to the U.S. border.

On our trip, we met Indians living in settlements within or close to white communities and partaking of the economic and social advantages this proximity offered them. Some of the settlements in isolated areas afforded only fair conditions but good prospects for the future. However, inhabitants of a good many of the settlements we visited were eking out a bare subsistence with little or no prospects for anything better.

Against the background of these three typical situations the current picture of Indian housing and living conditions came into focus.

With few exceptions, housing and living conditions in places where reasonable economic opportunities exist are sub-standard and maintenance of the existing housing stock is poor. Exceptions are notable and commendable. They show the results of enlightened Band leadership, of exposure to our normal Canadian educational and social developments, of economic opportunities and of the guidance and assistance given by the Indian Affairs Branch of the Federal Government.

A good example of such a community is the Stony Plain Reserve near Edmonton. Oil and gas royalties yielding approximately $150,000 per year have made the 425 members of the Enoch's Band economically self-sufficient. The reserve comprises 12,800 acres of rich agricultural land, most of which is now leased to non-Indian farmers. To offset an eventual reduction of oil and gas royalties the Band has embarked on an agricultural co-operative project which will ultimately see the Indians working much of their own land. Today Enoch's Band is able to provide its own housing, its utilities and all of the equipment required for the agricultural co-op. Purchases for the latter in 1965 for machinery, seed and vegetable storage, and processing facilities alone amounted to $99,000.

While older sub-standard housing still needs improvement the Band has built fifty houses in the past 12 years. Major projects included a church and a community hall, a senior citizens village and a continuing program of providing sewer and water facilities to the entire community. For the most part the housing standard in this settlement is high and properties are well maintained as evidenced by the Morin house we visited.

Characteristic of many other settlements was the run-down appearance of housing stock — even in areas where opportunities for reasonable employment and income existed. In some of the B.C. settlements commercial fishing and lumbering operations offer opportunities for a decent livelihood although they may not be sufficient to continue to support some expanding Band populations. For a variety of reasons sub-standard and poorly-maintained housing continues to prevail in many such places.

By far the greatest number of Canadian Indians live in settlements remote from urban areas, even so economic opportunities have started to emerge and there now appears to be reasonable future potential. The above-average rate of net population increase, however, makes it doubtful that resources will support all present and future Band members. Settlements at Pelican Narrows, Fort Simpson, Hay Lakes, Greenville and Ahousaht fall in this category. Save for certain special circumstances as at

Summer residence at Fort Rae with permanent house in background.

Fort Simpson, Indians in these settlements live in overcrowded, substandard cabins without electricity, decent water supply, or sanitary facilities. Typical of this kind of environment are "houses" at Pelican Narrows, measuring 15′ x 15′ and serving a family of 12; at Hay Lakes a two-room cabin measuring 18′ x 20′ and serving 16 people, and similarly 10 people living in 192 square feet of space at Ahousaht. As in many similar settlements, at Pelican and Hay Lakes, the construction is early pioneer. Horizontal log walls are chinked with moss and mud, board floors are laid directly on the ground and there is a complete lack of insulation or interior finishing. At Hay Lakes the traditional roof covering is sod — which fails to keep out wet weather.

Fort Simpson is located on an island at the junction of the Mackenzie and Liard Rivers. It suffered a record flood in the spring of 1963 which forced the evacuation of most of the 295 Indian Band members from low-lying ground. As a result most of the Band, with financial aid from the Indian Affairs Branch of the Federal Government, has relocated in a newly-planned subdivision with good roads, and electricity. There is a piped water supply for summer use and plans are proceeding for the installation of all-weather water and sewer services. A number of new homes have been built by and for the Indians, again heavily subsidized by Indian Affairs. These new homes are attractive log houses of about 800 square feet floor area. Finished in natural color, they are the first well-constructed homes built of local basic timber, that appear to be truly indigenous to the area. The construction is of horizontal logs squared on three sides with the outside face remaining rounded. The inside walls and ceilings are insulated with two and three-inch batts respectively and finished with plywood panelling. The floor is plywood on joist framing with three inches of insulation and finished with resilient flooring. The logs for the wall construction are cut and milled about 60 miles up the Mackenzie by the Jean Marie Indian Band. The complete house with electric wiring, but without

Typical house at Ahousaht, B.C.

plumbing or heating, costs between $4,500 and $4,800.

Pelican Narrows, 170 miles northeast of Prince Albert, Saskatchewan, is one of the Indian communities still housed in a most inadequate fashion, but with promise of a better future. The old settlement, established in the 1770's, has about 80 homes for its 860 people. The homes have been thrown up in haphazard fashion on predominantly rocky ground which does not lend itself to proper drainage, sanitation or elementary servicing.

However, with the painstaking guidance of the Indian Agency staff the self-help technique by way of co-operatives is doing much to raise the sights of Band members. The Band has three active co-operative ventures well under way. These include a fish packing plant, a diesel-electric plant and distribution system, and a housing co-op. The Band has agreed to the proposal of relocating the residential community some 1,000 feet away where a properly planned layout is feasible and where the ground will allow good drainage and sanitation. Preliminary surveys and designs are complete and the housing co-operative has started the first six houses — again heavily subsidized by Indian Affairs. There remains now the real problem of designing and installing an estimated $195,000 worth of services and the construction of a further 80 to 90 decent houses. If the present rate of physical progress continues 20 years may be required to see these plans brought to completion.

The reserve settlement at Hay Lakes in the Northwest corner of Alberta, is the home of the Upper Hay River Band. This remote section of Alberta has not yet been influenced by commercial development and gainful employment in the immediate area has not provided much supplement to the income of the Band earned from traditional trapping and hunting. However, oil and gas explorations offer some hope and efforts are being made to turn the interests of the Indian towards agriculture. The soil already has been proven at the R.C. Mission Farm on this reserve. There is timber potential both on and off the reserve. In the spring of 1965 a sawmill and planer was

Residence at Nelson House, Man.

provided by Indian Affairs — along with an experienced sawyer. Already close to one-quarter of a million feet of lumber has been milled to serve the Band's housing needs. The mill currently employs 17 Indians on a full-time basis and a 150 strong part-time force does the logging. The commercial possibilities of this enterprise are enhanced by access to the south over winter roads.

Guided by Indian Affairs the Band is determined to improve its environment. To this end it has agreed to the ultimate development of a planned community where proper servicing with electricity, water and sewers can be provided. The first four houses are already under construction utilizing Indian labor with supervision provided by the Branch. This new community will ultimately replace the 70-odd primitive log cabins strewn over several miles of trails and dusty or muddy roads. As with Pelican, the resources to quickly develop a decent environment for the newer generations are not within the present capabilities of the Band. Financial aid must come from the Federal Government for completion of this ambitious scheme to provide the needed 75 houses and community services.

At the extreme end of the scale there are Indian communities where fishing and hunting — the traditional

A dwelling representative of lack of weatherproofing in the far northern climate of Fort Rae.

means of livelihood — are being progressively depleted. No other resource development has replaced them nor can one foresee future potential in the reserve areas. Under these circumstances the Indian Band depends on Federal aid not only for most of its subsistence by way of Treaty funds, social allowances, and welfare, but also for the wherewithal to undertake any improvement to its present environment.

At Islington, about 40 air miles from Kenora, the Band settlement comprising 50 to 60 houses stretches along the Winnipeg River for some two and a half miles. Six of these are new-frame bungalows with about 700 square feet of floor space built by Ontario Hydro. They replace units made untenable by flooding necessitated by a power development further down river. Three other new houses have been built entirely at the expense of Indian Affairs at a cost of about $4,000. Indian labor was used and paid by Indian Affairs. The remainder of the housing is pitifully inadequate in terms of space, warmth, light and health standards. Log construction predominates. There is no electricity, no safe water supply and only the most primitive sanitary arrangements. Most of the cabins were devoid of furniture — there was no room for any.

At Fort Rae in the Northwest Territories the year-round population of the Dog Rib Rae Band is 450 people. They are joined in the springtime by about 600 additional Dog Rib tribesmen from several smaller Band settlements within a 125 mile radius. These visitors come to Rae for Treaty money after the winter trapping seasons and remain until the fall when they depart by canoe for their winter trapping. The summer population is further swelled by some 600 sleigh dogs chained to posts in long lines throughout the settlement. The chains prevent not only fraternization but fratricide, as these dogs exist throughout the summer on a starvation diet of fish until they are required for their winter work.

Most of the summer population at Fort Rae sleep in tents and tepees — with all daytime living, cooking and eating carried on outside. The permanent population live in accommodation similar to that at Islington except that various forms of frame construction, inadequate, overcrowded and substandard as it is, supplements the log cabins. The topography at Fort Rae where the ground consists of either silt or muskeg in the depressions between major barren rock outcrops is hostile to a permanent settlement.

The Indian townsite has no electricity, no piped safe

Preparation of white fish is the job of the elderly.

Typical ground conditions at Fort Rae Settlement.

water supply and no apparent organized sanitary facilities. While chlorinated water is distributed daily to each Indian family much of the water used by the Indians is drawn directly from the polluted shores of the silt-laden lake.

A small number of new houses are being built by Indian Affairs. Currently four units are nearing completion. The four recipients of these are joined in a co-operative labor venture to assist in their construction. They are each paid for their effort on the premise that they cannot fish to feed their families and build houses at the same time.

The first reaction when visiting Fort Rae is that all its inhabitants ought to be relocated on more favorable ground — if not in an area where there is more economic potential. This is precisely the view of responsible officials in Indian Affairs. However, any such move would require the agreement and approval of the Band represented by the elected Band Council. While a site about three miles distant with good soil and drainage and feasible for a planned community development has been investigated, the Band is opposed to such a move.

Comparative studies between Fort Rae and Fort Simpson, only 200 air miles to the West, show that in 1963 the income of the Treaty Indian population at Simpson averaged $800 per capita. Of this, 74% was earned income, the balance treaty payments, social allowances and other federal payments. At Fort Rae in the same period the per capita income was $225, of which 59% was earned income.

The Western part of Canada, from Northwest Ontario through British Columbia, harbors 144,000, or about two-thirds, of Canada's Indians. Of these, about one-quarter are said to live in areas comparable to Islington and Fort Rae with little or no economic potential. Of the 18 Indian settlements we visited, four, including Nelson House in Northern Manitoba, might well be in this category. Seven fall into the group of settlements where co-operative community development together with resource and employment potentials may ultimately make each community self-sustaining. The remaining seven settlements, including Stony Plain, are those where employment and economic potential already exist to make these communities self-sustaining. However, even this last group still has problems. It is difficult to generate in some Bands and some individual Indians an interest in orderly community development, in the maintenance and improvement of present physical housing stock, and in gaining a more complete degree of independence from welfare and subsidies.

Common to most settlements and reserves, in all three categories, is the question of above-average net population increase and the ability of the reserve resources to support this. The current average growth rate of the Canadian Indian population is about 3.5% — almost double the national average. Sixty per cent of the Indians in Canada are under 21, a fact which emphasizes present and future housing needs. Providing a proper home environment for the newer generations of Indians is a necessary complement to the few short hours spent in schools provided and operated by the Federal Government.

Sixteen per cent of Canada's 210,000 Indians, about

Log house at Islington Reserve, Northwestern, Ont.

37,500, live off the reserves in non-Indian communities. In British Columbia the proportion living off reservations is 23%, or 9,900 out of 45,000 in that province. The rate of movement is about 2% per annum — less than the Indian population growth rate. Many reserve settlements, such as Masset and Ahousaht in B.C., cannot yet provide gainful employment for all the employables. Still there seems to be a reluctance for many young Indian families to move and find their rightful place in the economy of the province and country. There are numerous reasons for this beyond the close-knit family ties of the Indian. Problems are encountered by some of the young Indian families in acquiring decent housing in the cities and towns and in assimilating with the non-Indian community. Another fac-

tor is the apparent incentives and aids which are available if they remain on the reserve.

Housing and living conditions of Canada's Indian people run the whole gamut from excellent to truly desperate. This may also be true of a general Canadian population sampling. But what is distinctive in the Indian situation is the very high proportion of overcrowded, inadequate and substandard housing — and the real lack of community services.

The Indian Affairs Branch recognizes that in many reserve settlements the Band and the individual Indian need more than just elementary academic teaching if they are to catch up and keep pace with the social and economic advances of the present day industrial society. With this

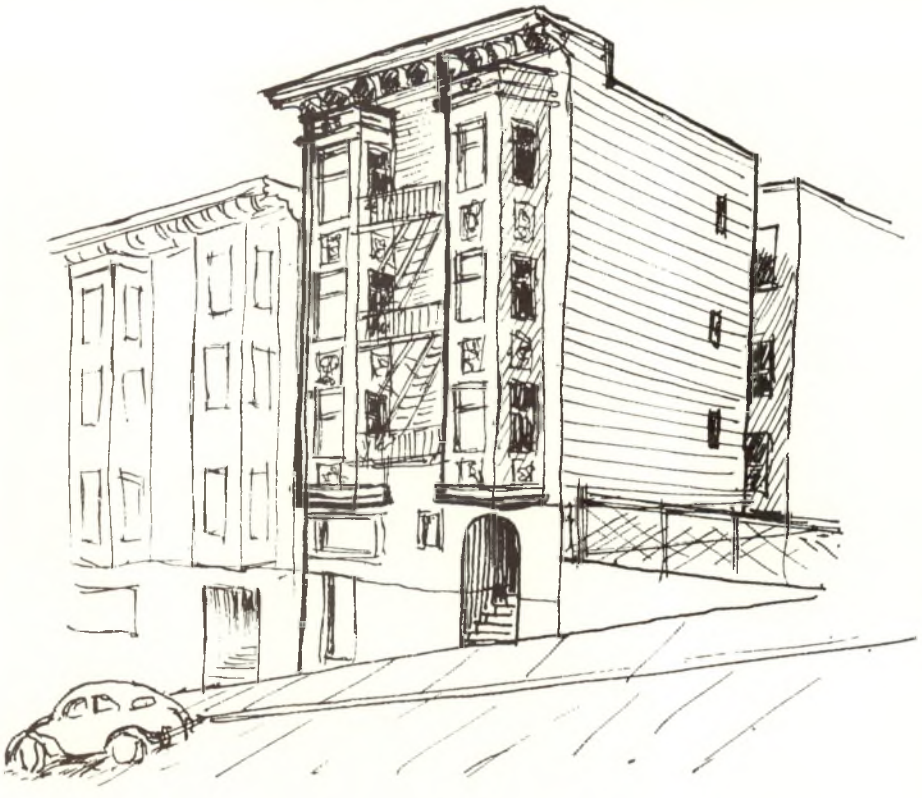
The Honourable John R. Nicholson inspects a saw-mill at Hay Lakes.

in mind the Branch is expanding its Community Development Program. This program is being undertaken by trained personnel at the local level and is designed to encourage the Indian to reshape his physical community as a livable environment as well as his sense of values and his outlook on the economic facts of modern life. In this way it is felt that more viable economic communities can be developed where there is a resource potential. Educational and social advancement will ease the movement to urban centers where this is desirable and, by the same token, movement to areas of better potential — even though remote and isolated — will be not only acceptable but desired by the Band.

Some feel that this program must start with a reasonable home environment for children and adults, but more particularly for the younger generation. The present backlog of needed Indian housing is in excess of 6,000 units. In order to overcome this and to keep pace with Indian population growth and resultant family formation, the total housing requirements for our Indian population during the next five years is estimated at 12,000 units. These numbers are not in themselves formidable. They are no more than the numbers of housing units put in place in comparable periods in a medium-size Canadian city.

There are facets to the question of Indian housing and environment that are not present with urban housing — nor with most other ethnic groups in Canada. The 177,000 Canadian Indians who live on reserves on Crown lands are spread throughout the length and breadth of Canada. Access to many settlements is difficult and costly. These Indians vary considerably — even from Band to Band — in their culture, history, dialects, social development and mode of living. The concept of co-operative community development is well established in some places; this is not so in a large proportion of reserves. In many places the preservation of physical assets, including housing, does not command priority in the Indian scale of values. There are legal problems having to do with mortgaging of Indian reserve lands. These and other factors are unique with this segment of Canada's people.

Proper housing and work opportunities for all Canadians are accepted as basic tenets of our Canadian way of life — albeit much has still to be accomplished in the housing field throughout Canada. Proportionately the housing needs of our Indian population are infinitely greater — even though the physical dimensions, in absolute terms, appear to be manageable. The proper fulfilment of these needs is in the design of decent communities in remote areas, the supply of basic services — including electricity — and the provision of housing to decent minimum standards. To be effective in the longer term there are other matters which must receive at least equal attention. There is the question of proper assimilation into our urban communities of those Indians who wish to leave the reserves. There is the apparent need for further increase in the tempo of providing aids toward economic independence for those choosing to remain on reservations. Finally, there is the very real problem of impressing on those who cling to sub-economic reservations the hard facts of 20th century life.



This is the second in a series by Mr. Anthony Cook, who was the recipient of a CMHC Travelling Scholarship.

The vernacular of San Francisco.

TRAVELLING SCHOLARSHIPS

PART II

Detroit makes Toronto seem heavenly. The inhospitality of the Custom's Offices after crossing the Detroit River was indicative of Detroit itself. It is inconceivable how a city of so much industrial wealth can allow its downtown to decay into a honkey tonk of filth, ugliness and disunity. By day the downtown is the battle grounds of the city's symbol — the automobile. By night, it is the prowling grounds for the most degrading bums. Our group checked into the hotel just as a great mass of people arrived to see the Metropolitan Opera which was visiting next door. The array of tasteless dress worn by these people was typically Detroit. It was encouraging to see, later in the trip, that this atmosphere was not typically American.

Almost in defiance of Detroit's shabbiness the Lafayette housing development, by Mies van der Rohe, was as precise, meticulous, and sterile as a new automobile. On a table top near the Detroit River, Mies placed his composition of high towers and row houses. The long one and two storey rows are carefully detailed with the Mies' trademarks, but this for the most part only adds to their monotony. The row houses are quite simply glass and steel boxes, with no distinctions between front and back, no relation between building and site, and no sense of enclosure in the vast spaces (usually parking) between the long low rows. In a conscious effort to relieve the monotony ivy has been allowed to climb over Mies' precious details, and the occasional brightly colored blind has been hung to liven the black and grey façades. Otherwise the only identifying mark for a particular unit is the number on the door. And the field on which this project sits remains totally uninhabited except during the recess of the neighborhood school when the children turn it into a ball field. There is really very little nice to say about Lafayette Park. The high rise are even more uninviting. They sit solidly on a rectangular marble slab, with no sense of being supported on a firm foundation. Part of the slab is enclosed by a glass box, the main foyer, in which are the elevators and several Barcelona chairs fixed rigidly in the com-

position. The chairs will probably not ever be used, but are there just to fill the space. The people who live in the cages above have a spectacular view of the Detroit River. And when they tire of that they may look below at the ugly roofs of the row houses.

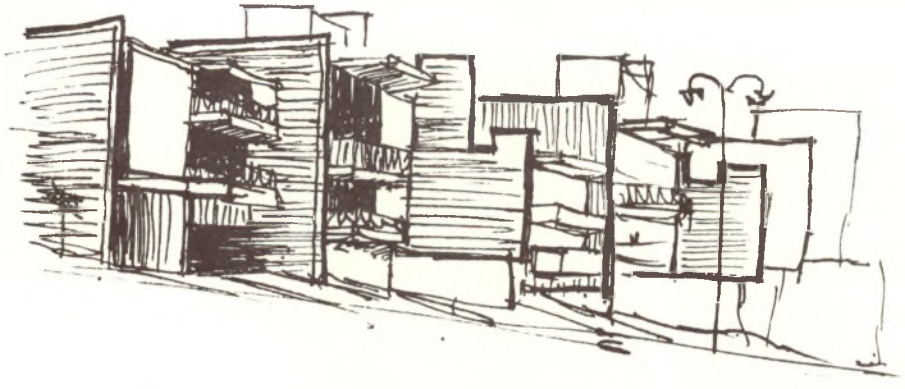
In Detroit the return to an urban environment has not occurred, mostly because the urban environment is not worth returning to. Instead, those who can afford it have retreated safely to their tree lined mansions in Cranbrook, Bloomfield, and Lakeshore Drive. In such idyllic surroundings it is easy to forget about Detroit.

CHICAGO

To enter Chicago by car is the most overwhelming and frightening experience. The first indication of an approaching metropolis is the smoke of the Gary steel mills on the horizon. Passing through Gary is like passing the gates of hell — endless miles of industrial wasteland belching forth a putrid reddish gas which settles on the ugly buildings in a death pall, snuffing out the hardiest bit of vegetation. As the freeway begins to widen into twelve squirming lanes of steel, one penetrates the outer reaches of Chicago's enormous girth. If it was not for the open lake front this surrounding jungle would appear to envelop the city core. "The Loop" itself is a majestic collection of buildings, as well as an architectural museum. One of the most beautiful city spaces seen on the tour is the area bounded by such monuments as the Chicago Tribune building, the Wrigley building, Executive House, and the very successful (both visually and functionally) twin towers of Marina City. What really makes this space live is the canal, which brings a great assortment of small craft, as well as ocean going ships, to the very heart of downtown Chicago. At night the canal is alive with sparkling reflections, a beautiful and lively setting for the Marina City Restaurant on its banks.

Chicago's traditional housing has some of the best and worst examples of environment. Driving west from the Loop on Madison Street, the character of the city changes as quickly and as often as the color of the inhabitants. There is no racial mixture; its either solid black, or solid white, and the tension between the two seems as strong as the contrast in their environment. The University of Chicago is an island in a black sea, a sea which continually penetrates into the university area to terrorize the whites at night. Many professors refuse to keep their families in the area, a neighborhood still rich in handsome old houses, including the Robie House. The black population of Chicago is large and the majority of them appear to live in crowded, ill-serviced unmaintained houses. Cabrini Housing (mentioned in the introduction) is a vertical cell block, indicative that Chicago is becoming hopelessly behind in its commitment to house the Negro. During the day the Negro sections are gay places — children play, shout, and run about the streets without a care. But at night it would be suicide for a white man to walk those streets. And this is what Chicago seems to be, a city of uncontrolable social and racial ills, a great chain reaction which could end only in the ultimate destruction of everything.

Some urban housing areas in the vicinity of the Loop, particularly in its north end, still retain an air of excitement and a desire to live, thanks to the presence of the city's leading night clubs, restaurants and theatres. At anytime of day there is a swirl of people through these streets, an environment whose scale closely resembles the intimacy of Greenwich Village. The housing here is predominantly apartment buildings, including Mies' Lake Shore Apartments (in the usual sterile form). Of the new housing in this vicinity the most interesting is a development on slum-cleared land known as Carl Sandburg Village. The "village" is a mixture of townhouses and high rise apartments; only the former are worth discussing here. The townhouses are obviously for the rich only, their 2,700 square feet (the largest such unit in Chicago) selling at a price of $56,500. The back entrances of these houses face an interior paved court, below which is covered parking. At first glance the court and its adjacent cul-de-sacs seem quite pleasant, although the width of the court has probably been determined by the high rise building at one end rather than by the height of the townhouses. A few colorful kiosks and planters, although appearing rather foreign in the empty court, give it a bit of scale and color. The most disappointing experience, however, is to enter one of these townhouses and find yourself immediately cut off from the life of the court, a fact perhaps realized by the architect, who has provided additional walled-in courts on the fronts of the townhouses, adjacent a busy street. Here, as in every other attempt at "walled in" privacy, the neighbor can see



The massing, and terrace characteristics of Red Rock Hill are indicative of San Francisco's traditional urban character.

readily into the adjacent courts from his upstairs window. The project's best claim to success is in having such large units located very near the liveliest section of Chicago.

Chicago has always had enough land on which to build. Consequently, there are no close grained urban residential areas that were ever handsome enough to retain. Instead people built individual homes in suburban villages, of which Oak Park is a good example. It was here that Frank Lloyd Wright did most of his earlier work. There are no less than forty Wright houses in the immediate area of Oak Park and neighboring River Forest, the oldest dating back to 1889. All are lived in, and most have been retained in their original form. Besides these the influence of Wright can be seen in the details of countless other houses in the area, a permanent tribute to a genius.

SAN FRANCISCO

The tenseness and complexity of Chicago's social problems are so absent from San Francisco that one immediately feels he is no longer in America, but on a carefree Mediterranean island. In every aspect this city is absolutely delightful, as yet only slightly marred by the commercialism of the capitalist, and the sterilizing of the city planner. Because of the great earthquake it is a comparatively new city, and each new building that goes up has a solid and permanent look (as well as limited height) that will never again be shaken to the earth. The steep hills are even more accentuated by the whitewashed houses which blanket the slopes like a pueblo village.

This city enjoys living. At night one can stand on a corner of Broadway and hear the chaotic mixing of at least five bands belting out everything from the "swim" to cool jazz. Down in Chinatown the delights of the eye and the palate are innumerable, not to mention the gamut of smells one runs passing the many fish, fruit, and vegetables stalls set up on the sidewalks. On a little further and one comes to the fish piers, "Fisherman's Market", with its excellent restaurants. Unfortunately this area is becoming such a tourist mecca that the influx of posh bars and clubs has diluted the salty atmosphere considerably.

The traditional housing of San Francisco is the individual wood or stucco house of two to four stories, very often separated from its neighbor by a private cul-de-sac which climbs steeply from the street through a vertical jungle of fragrant flowers and assorted rich vegetation. In denser urban areas the doorways to the houses cut off the street completely from the private terraces in back of the houses. Of course many buildings have a Spanish flavor in the use of arched doorways

The scale of Detroit.

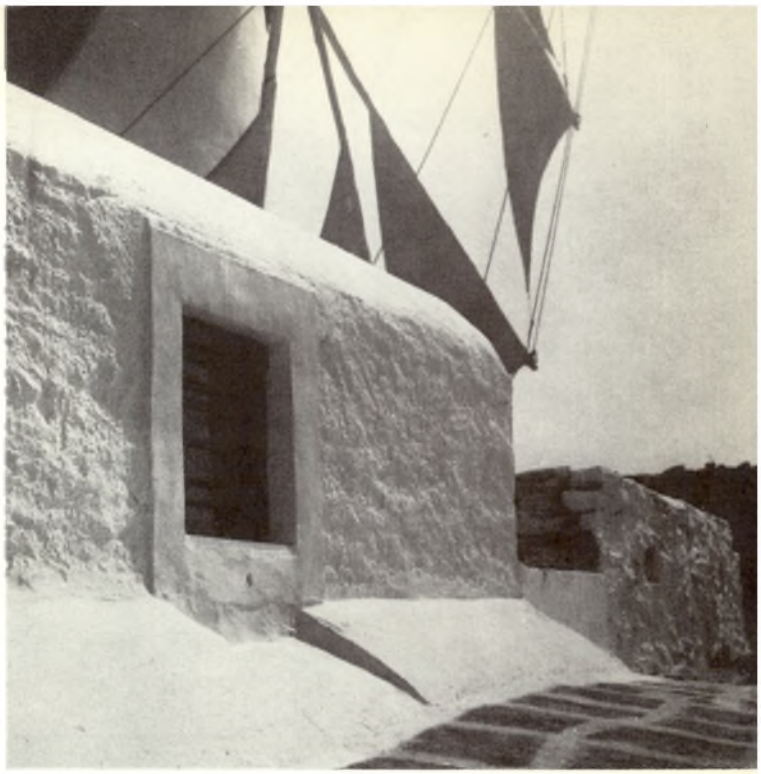
and window openings, tiled roofs, and flat stuccoed façades in a great variety of pale shades. Another idiom common to the wooden sided buildings are very ornately decorated bay windows. Even the brightly painted fire escapes have a lacey delicacy to them, in contrast to the blackened Chicago counterpart which zig-zags up to infinity from some sunless canyon. While the prestige of these accommodations varies as the distance from the peak of the hill, the lower slopes of Telegraph, Russian and Nob Hills are populated by a people of comparatively simple means — instead of blacks and whites the children are Chinese and whites, and instead of glaring at each other from their own side of the street they are as scrambled together as only San Francisco's love of life could make them.

Some of the few remaining bare hilltops in the city are very quickly being covered with housing developments. While one of these, the Red Rock Hill development on Diamond Heights, is attempting in a rather artificial way to perpetuate the traditional appearance of San Francisco's houses, all other developments have really lost the weed-like growth characteristics of the old town. In the dull orthodox manner the developers have come up with the townhouse-high rise combination seen in every other city. And where these California developments are for well-heeled tenants it seems a pity that the architects were not inspired by the existing environment to create instead a close-grained, terraced, low rise complex which could use the slopes to the best advantage. All the incentives of favorable site, need, money, and existing environment were there, but here again the developer could not see past the traditional solution which they try to make work in the suburbs of Toronto, in mid-town Manhattan, or on the hills of San Francisco.

One development, St. Francis Square, while of this same nature, is at least from an economic point of view quite successful. The project, sponsored by the International Longshoremen's and Warehousemen's Union, is a complex of terraced apartment homes in a district known as the Western Redevelopment Area. By using standard sizes and materials in light wood frame construction the costs have been kept down, and yet it provides the tenants with very spacious accommodation enjoying the amenities of much higher priced developments such as Eichler's neighboring Lagana Heights. All 299 of the units are occupied in a totally integrated community (Whites, Mulattos, Negroes, Chinese). It is a moderate income project in which the units may be purchased on a 40 year mortgage at only 3⅛% interest rate. This private ownership of units is a successful way of insuring good maintenance by the tenant, and the pride in their homes is evident in the neatness and cleanliness of the buildings and landscaping. While the scheme could definitely be criticized, like most others, for its lack of urbanness, it was probably the most successful of its type seen on the tour, and indeed almost all new housing developments are of this type.

AEGEAN HOUSING

by Jonas Lehrman



1

no ugliness no clamour no TV no advertising no cars

leisurely meals and local wine

cafes round the harbour
coffee whilst groceries are mule-delivered
red and green fishing boats rocking to themselves on azure waves festooned with a thousand diamonds from a brilliant sun in an intensely blue sky

a breeze from the waves is caught by a windmill
movement irregular and controlled

streets scarcely more than winding alleys lead up from the harbour forming an intricate network of routes
two streets widen cross each other and become a piazza

interplay and counterpoint between street and house
two heavily-laden mules struggle to pass each other between projecting stairs and porches confined by walls of two stories sometimes three

wood doors and windows in stone walls
void in solid
brown and blue in the all-pervading white

living room opens off street
private rooms off living room
enclosed courtyard with hanging washing
playing children flower beds

and paving
a tree

other elements occur naturally
shops display fabrics shoes baskets
tiny churches are identified by cube cylinder dome and half-dome
planless
created by local artisans limited by social needs and climate

white walls painted woodwork red and blue chapel roof abruptly end
landscape harsh and elemental takes over
golden rock burnt grass dusty green cypress
and blue sky

2

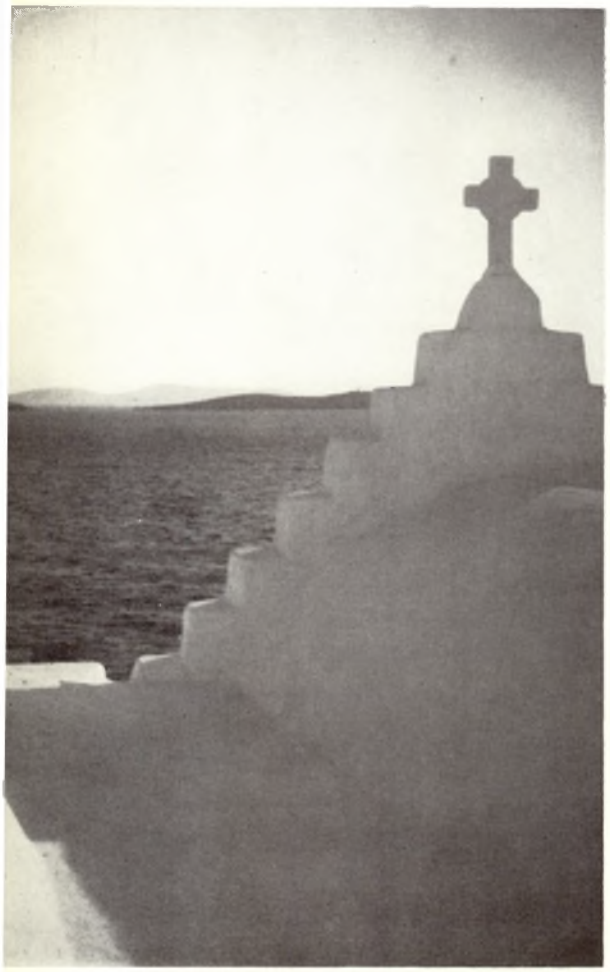
Deeply moving indigenous architecture, a strong link with natural form which is right and appropriate, little sophistication.

A comprehensible, unified community in a consistent scale and pedestrian oriented. Asymmetrical massing, similar construction, limited use of material and whitewashing. A street of attached housing, ending before a free-standing church.

Publicly maintained areas and access ways with dwellings and courtyards that are absolutely private.

Dwellings that consist of variations from an archetype and are not identical, that create a sense of individual value in themselves and yet subordinate the manipulation of elements (rooms, patios, stairs, windows, trees) within a unified whole.

An order that is inner, active and lively, far from the passive order to be found in technically advanced countries. A collective conscience instead of a disoriented originality, modesty and liveliness in place of facade and representation.



3

Not a romantic nostalgia for a clear and simple solution to environment, nor a sentimental longing for the use of foreign forms in their own traditional ways, when a superior technology is available. Instead, a recognition that certain systems and images having evolved in other circumstances are relevant to our own culture.

A synthesis and expression, that is, Art. Architecture

Impressions sur le logement égéen

1

aucune laideur aucune clameur aucun téléviseur aucune publicité aucune automobile

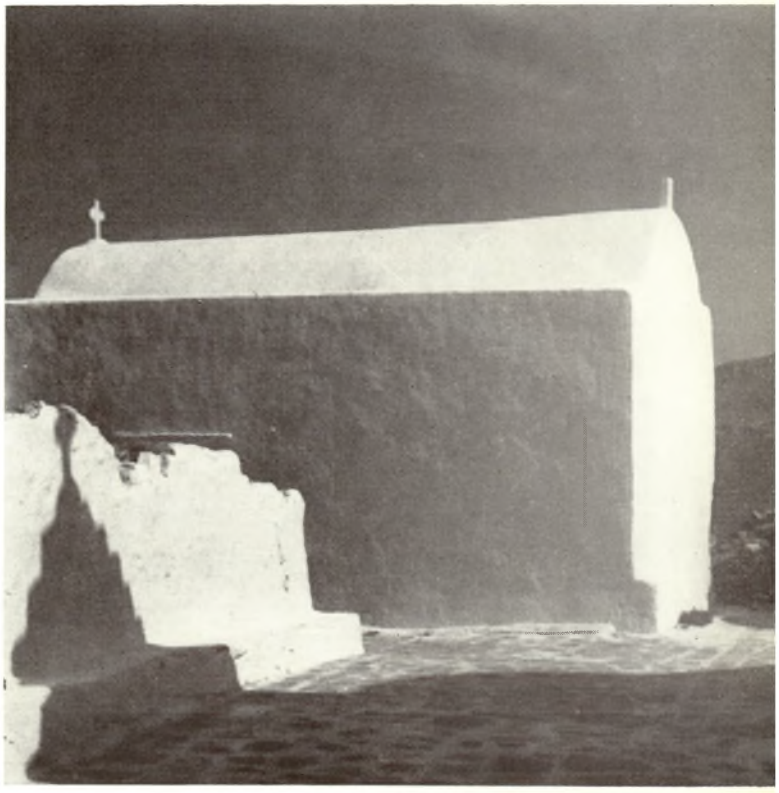
repas tranquilles et vins locaux

cafés à proximité du port
on sirote du café pendant que les articles d'épicerie sont livrés à dos de mule
des bateaux de pêche rouges ou verts se bercent sur les vagues d'azur festonnées de milliers de diamants dus aux reflets du soleil qui brille dans un ciel intensément bleu

un moulin à vent au mouvement irrégulier et contrôlé capte une brise venant de la mer

des rues qui sont à peine plus que des allées tortueuses montent du port et forment un dédale de routes
deux rues s'entrecroisent en s'élargissant pour former une petite place publique

effets combinés et contrepoints entre la rue et la maison
deux mules lourdement chargées se croisent avec difficulté entre les escaliers et les porches en saillie que renferment des murs de deux et parfois de trois étages



des portes et des fenêtres de bois dans des murs de pierre
du vide dans le massif
du brun et du bleu dans le blanc qui domine

les vivoirs donnent sur la rue
les pièces particulières, sur le vivoir
cour intérieure où l'on peut apercevoir
la lessive qui sèche, des enfants qui
jouent, des plates-bandes de fleurs, le pavé et un arbre

d'autres éléments se présentent naturellement
des boutiques mettent en montre des tissus,
des chaussures et des paniers
des cubes, des cylindres, des dômes et des
demi-dômes représentent des
petites églises
aucun plan
tout a été créé par des artisans locaux limités par les besoins sociaux et le climat

des murs blancs, de la boiserie peinturée
et la toiture rouge et bleue d'une
chapelle se découpent abruptement sur le fond
pour céder la place au paysage rude et sauvage
de la roche dorée, de l'herbe brûlée, des cyprès
verts et poussiéreux
et le ciel bleu

2

Une architecture indigène profondément émouvante, se rattachant de près aux formes naturelles qui sont vraies, appropriées et peu compliquées

Une collectivité compréhensible, calculée à une échelle uniforme et conçue pour les piétons. Agglomération asymétrique, de construction semblable, usage limité des matériaux, et blanchiment à la chaux. Une rue bordée de maisons attenantes se terminant en face d'une église isolée

Des aires entretenues par les services publics et des voies donnant accès à des logements et des cours absolument privés

Des logements qui sont des variations d'un archétype et ne sont pas identiques qui créent un sens de valeur individuelle en eux mêmes et qui pourtant subordonnent la manipulation des éléments (pièces, terrasses, escaliers, fenêtres, arbres) aux cadres d'un tout unifié

Un ordre qui est intérieur, actif et vivant bien éloigné de l'ordre passif que l'on trouve dans les pays aux progrès techniques avancés. Une conscience collective au lieu d'une originalité désorientée, de la modestie et de la vivacité à la place d'une façade et d'une représentation.

3

Non pas une nostalgie romantique pour une solution claire et simple à un entourage, ni une aspiration sentimentale à employer des formes étrangères dans leur propre façon traditionnelle, lorsqu'une technologie supérieure est disponible. A la place, une reconnaissance du fait que certains systèmes et certaines images qui se sont développés dans d'autres circonstances appartiennent à notre propre culture.

Une synthèse et une expression, c'est-à-dire un art — l'architecture

Professor Lehrman was educated at the Architectural Association School, London and received post-graduate training at London and McGill Universities. He recently received a CMHC research grant to present a study of low level, high density housing and aspects of growth and change in building. Professor Lehrman is with the School of Architecture, McGill University.

This rampart, built in 1863, leads to Rue du Pain and is located between the Kiel Rampart and Jan Van Ryswyck Avenue.

The Urban Geographer

by Dr. Roger Charlier and Dr. Otto Berninger

A modern bridge leading to rue Montigny crosses over the Kiel Rampart, built in 1903.

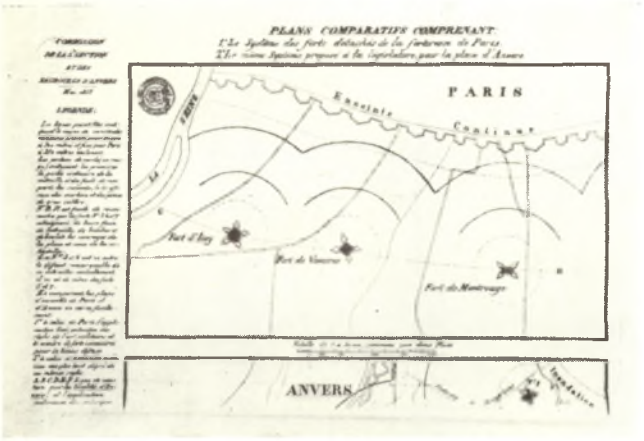
The Urban Geographer

Planning rather than history becomes the task of the urban geographer as urban development relinquishes tradition in favor of modern expediency.

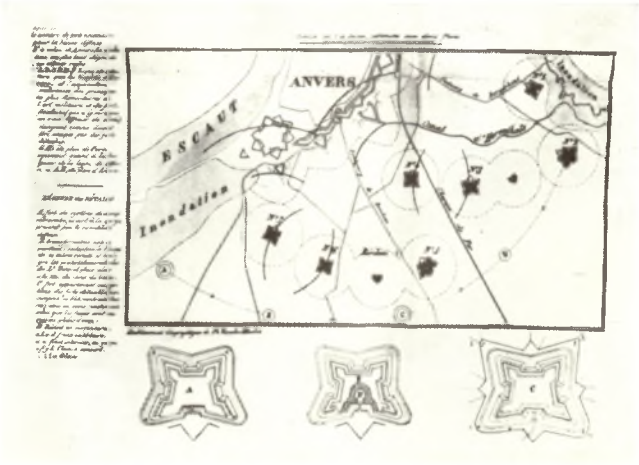
The study of cities as an aspect of human settlement has always been of great interest to a coterie of scientists. Historians regard cities as instrumental in the development of civilizations throughout the ages. Law historians look to cities as the cradle of jurisprudence. Art historians consider cities as a natural milieu for the practice of the arts. Trade analysts recognize the city as a center of commerce and strive to establish its importance relative to global economy, and sociologists examine impact of city life on mores, society, and non-urban surroundings.

The geographer attempts to analyze the impact of a city on the rest of the country as a focus of settlement, trade, communications, and industry. He considers the city as an entity — an individual phenomenon with a life of its own and having a geographical individuality with a specific physiognomy. The comparative geography of cities is an important part of general settlement geography.

Urban environment traditionally has provided a focal point of geographical studies. Although somewhat dated, J. G. Kohl's[1] settlement studies retain originality and value. At the end of the nineteenth century Alfred Hettner[2] and Otto Schleuter[3] considered cities in the scope of other settlements. However, the dawn of the



The system of separate forts of the Paris fortress.



Sketch showing the fortifications outside Antwerp.

20th century brought the actual growth of city geography, when Kurt Hassers[4] published his book on the geographical character of cities and Hugo Hassinger[5] spoke of a science of the study of cities. Another milestone was Robert Gradmann's regional study of Wuerttemberg[6], followed by many others[7]. As works on city geography multiplied, points of view and method became better defined, and its reason for being and its final aims were clarified[8].

German geographers have set the pace by accepting city geography as a geographical discipline. Interest for city geography, however, remained by no means limited to Germany as evidenced by articles, papers, and lectures[9]. At the 1938 International Geographical Congress, it proved to be one of the main topics of discussion and many a thesis has since been written on the subject.

Every city has its own specific urban phenomena; in large cities they are more apparent. Characteristics are a preponderance of non-agricultural economy comprising wholesale commerce, intensive and highly specialized retail commerce, industry and political organizations devoted to local government. Multi-storey buildings in close proximity to each other dominate the city-scape and this phenomenon is intensified in the center where office buildings predominate. Heavy street traffic necessitates continuous road construction and maintenance. In most cities one or more of these characteristics prevail. The most important factor, however, is the differentiation of urban settlements from surrounding rural areas. Frequently, the urban settlement is surrounded by an industrial area which may still be considered a part of the city complex, but eventually merges into the rural region.

It becomes difficult to define boundaries in this urban agglomeration. Urban characteristics are most intensively manifested in the nucleus of the city. As we leave the center they attenuate but "hang on" even as we proceed to the periphery.

Administrative and political boundaries here have ceased to be important. This is well demonstrated by Antwerp, Belgium's bustling commercial metropolis. The sections of Borgerhout and Berchem are separate municipalities but as urbanized as the city itself. Administrative limits here are indiscernable while the annexed former municipalities of Austruweel and Oorderen although hemmed in by the harbor and well within the political boundaries of the city still thrive on an agricultural economy.

Recent expansion of city administrative limits have brought such cases to an extreme: Antwerp and Bangkog for instance contain rural areas and show that the geography of a city cannot be restricted by municipal boundaries. It must cross them and envelop the resultant city-landscape regardless of political autonomy or of municipalities located extra antiquos muros.

The city does not stand isolated in space, but is closely tied to surrounding non-urban and agricultural

Ringstrasse in front of Parliament.

The Roderachway and Marcus' Tower — one of the most remarkable remnants of the first city-wall.

regions. The extent of this relationship varies. This functional relationship between city and surrounding rural areas came under close scrutiny at the international geographical meeting held in Amsterdam.

The region beyond city limits is often referred to as hinterland. But the hinterland — the *land beyond* one city frequently encroaches upon other cities. This is the case, at least from an economic point of view, at large metropolitan centers such as Rotterdam, Hamburg, Antwerp, and Bordeaux, not to mention those in our own hemisphere — New York, Chicago, Minneapolis.

Bobeck[10] speaks of two separate hinterlands. One becomes a functional part of the city. The other, also referred to as economic hinterland, may spread as far as beyond national boundaries.

More recently still, Robert E. Dickinson, C. D. Harris, G. Chabot, A. E. Smailes, Jean Gottman and others have put the accent on a mid-twentieth century development resulting from the growth of cities and the continuing progress of industrialization. The city has become a nucleus surrounded by highly urbanized satellites, often close by, but sometimes separated by long distances from the city itself. Referred to as suburbia, these mushrooming settlements have set migration patterns of their own, attracting industry, stores and shopping complexes and strongly influencing the rural surroundings.

The metropolis has engulfed part of its immediate

An airview of Volendam Harbor, N.H.

Siebersturm (Watch Tower) part of the Second City wall in the 13th century.

Canal scene at Volendam (North Holland).

hinterland and a new entity has emerged. The *macropolis*, or *megapolis* with its ensuing wide range of geographical problems involving planning, hydrology, recreation, transportation has pushed the geography of cities to the foreground of geographical research both in America and Europe[11].

For several decades other changes have influenced studies of urban geography. The strong historical approach which characterized many of the earlier works has given way to the observation of continuous changes in the immediate present. But then the speed of changes has also substantially increased. Looking back on our own work mentioned earlier, we traced the history of Antwerp from its probable origin around the year 800 and its growth beyond the ramparts that its strategic location required. This carried us to the immediate aftermath of World War II. Expansion had been stalemated. Building materials were scarce even after the liberation of German occupation. Although the rings of forts and the moats and the "military" zones had proven to be relics of antiquated strategy, city expansion remained stymied. Belgium had let its harbor coast on pre-war facilities and equipment.

Rotterdam, across the border, flattened by German bombs, was emerging from its ruins, a brand new city. It was expanding its port facilities to the very edge of the North Sea, slowly but steadily building *Europapoort* — the Gate of Europe. It was able to accommodate the

These houses, on the tiny island of Marken, are erected on poles as this lower section of the Zuiderzee is occasionally flooded by high tides.

largest ocean going vessels, and, rapidly, Antwerp was slipping behind, losing its rank as the world's third harbor to its age-old northern competitor.

Then only did Antwerp emerge from its stagnation. With passenger traffic lost to Rotterdam and Amsterdam and the remainder going to the airlines, the city gobbled up miles of surrounding territory. The sleeping municipalities of the *Antwerpsche polder* were invaded with roads, docks, locks, and multiple-storey buildings. Ancient fortifications were dismantled and replaced with four-lane circular super highways to relieve the central traffic congestion. This created a new suburbia, undistinguishable from the city outskirts. A few small municipalities will yet be wiped out altogether and replaced by the largest locks in Europe.

The city geographer is likely to abandon his role of semi-historian and look at the future consequences of such explosive growth. He may coin the term "purpose city" — the city which dies with its main function, or shall we call it stagnation. Bruges here is a case in point while Rotterdam and Antwerp have become mere captives of their functions. He may ask himself whether cities like Antwerp will not lose their social and cultural importance to retain a merely "functional" character. Already much of the population have moved from the city and its suburbs to neighboring cities, which, with the advent of the motor age are only a stone throw away.

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Dr. Roger H. Charlier was born in Antwerp, Belgium in 1921. He has studied in Belgium, France, Germany and America and among his degrees he has his Ph.D. (phys. geog.) Friedrich-Alexandra University, Germany, 1947; Litt.D.—1957 and Sc.D.—1958, Paris. His travels have taken him constantly to Europe, Asia, Pacific and South America and he speaks seven languages including Swahili, Flemish, Italian and Dutch. A frequent contributor to journals around the world, Dr. Charlier has published more than 480 articles to date, including nearly 100 appearing in scholarly periodicals. He is currently Director of Educational Travel Vocations International Incorporated and Professor of Geography and Oceanography, Illinois Teachers College, Chicago-North.

Otto Berninger — born in 1898 in Strassburg, Alsace—studied geography, biology and geology at the universities of Koenigsberg and Heidelberg. To Alfred Hettner, his teacher in Heidelberg, in whose house he lived for several terms, he owes decisive stimuli, especially with regard to questions of method. In 1923 he became assistant of Robert Gradmann in Erlangen. Two years later, together with Hans Mortensen, he travelled through Chile and parts of Bolivia. One of the fruits of these journeys was his Erlangen habilitation thesis (1928) "Wald und offenes Land in Südchile seit der spanischen Eroberung" (Forest and open country in the South of Chile since the Spanish conquest), in which Berninger critically applied the methods of the "historische Kulturlandschaftsforschung" (investigation of land-settlement on historical principles) as developed by Gradmann, to the situation in Latin America. Since then Berninger has been working at the University of Erlangen where in 1937 he was given the chair of geography. Here, as head of the Department of Geography, he has been quietly and self-sacrificingly devoting most of his time and energy for 25 years to the training of his geography students to whom in his lectures and practical classes he imparted a solid basic knowledge and in whom he succeeded in awakening a sense of the nature and beauty of landscape and nature. Till 1934 he collaborated with Gradmann to whose classical work "Süddeutschland" (South Germany) Berninger contributed some maps. As a result of this activity in Erlangen Berninger's interests became more and more concentrated on the South German area and here especially on Franconia. As head of the Department of Geography, joint-head of the Institute for Geographical Research on Franconia (since 1936) and chairman of the Franconian Geographical Society (since the year of its foundation, 1954) Berninger has been able to carry on the "Kulturlandschaftsforschung" based on scientific and historical principles and to extend the research on Franconia and South Germany in his own way by his own work as well as through contributions from his students. With undiminished interest he also continued to observe the course of geographical research in and on South America, to which he devoted the fundamental critical reports of the Geographical Yearbook from 1927 till 1938. And finally through his lecture "Martin Behaim, on the 500th Anniversary of his Birthday on October 6th, 1459" in 1959 Berninger made a decisive contribution to freeing the constructor of the first globe from falsifying legends and thus preparing the ground for a new view of Behaim.

Abaissement à Zostère

par Robert G. Couillard,
préposé à la Division de l'Information de la SCHL

Il vient de paraître au Canada pour la première fois un dictionnaire bilingue de termes de construction. Le résultat de 18 années de recherches par M. Marcel Lefebvre, le traducteur en chef de la Société centrale d'hypothèques et de logement, l'organisme fédéral de l'habitation, le volume contient plus de 7,000 expressions de langue française et autant de langue anglaise, employées couramment dans l'industrie canadienne de la construction.

Il fut question de la rédaction d'un dictionnaire bilingue du bâtiment, afin d'établir des équivalences comme les définitions d'expressions propres au bâtiment, en 1960, lors du Congrès du Conseil International du Bâtiment (CIB) à Varsovie en Pologne. Le docteur R. F. Leggett, directeur de la Division des recherches en bâtiment du Conseil national de recherches et membre du CIB en fonction de délégué du Canada, s'en est reporté aux délégués de la France et de l'Angleterre qui tous deux ont admis que dans leur entourage ils ne voyaient personne qui eût pu rédiger un tel dictionnaire. Et là, un de ces délégués a signifié qu'il était probablement beaucoup plus en mesure de trouver quelqu'un qui pourrait préparer un tel dictionnaire au Canada. A son retour, monsieur Leggett a saisi l'occasion de voir se réaliser un rêve qu'il caressait depuis 1952 déjà, car il se souvenait qu'au fur et à mesure des travaux du traducteur en chef de la Société centrale d'hypothèques et de logement, des fiches de nomenclature étaient sans cesse préparées de par la traduction des normes résidentielles et du Code national du bâtiment. Monsieur Leggett a communiqué avec la Société centrale d'hypothèques et de logement pour exprimer le désir de publier les fiches du traducteur de la Société sous forme d'un dictionnaire bilingue du bâtiment. L'idée fut reportée au traducteur qui indiquait qu'il faudrait de 18 à 20 mois au moins pour faire une collation logique des fiches dans la rédaction finale d'un dictionnaire bilingue du bâtiment. Il fut convenu entre la Société et la division des Recherches en bâtiment du Conseil national de recherches que le dictionnaire serait publié conjointement par ces deux organismes.

Depuis lors, quelque 50,000 fiches ont été tapées, corrigées, révisées, pour en arriver à environ 7,000 dans chaque langue. Trente mois après l'idée amorcée, en mai 1963, le dictionnaire était officiellement lancé le 21 octobre 1965 au Cercle Universitaire à Montréal par les Editions Leméac.

Intitulé DICTIONNAIRE DU BÂTIMENT BUILDING TERMS DICTIONARY, cet ouvrage de 352 pages, répond à un besoin pressant parmi les constructeurs, les architectes, les ingénieurs, les écoles techniques, les bibliothèques et les étudiants. Le livre devrait s'avérer d'une grande valeur puisqu'il réunit pour la première fois dans un ouvrage une série de termes de construction en français, normalise l'emploi des termes en langue anglaise, et décrit aussi bien qu'il traduit les expressions.

Afin de faire l'historique du dictionnaire, il faut revenir à la formation même de la Société centrale d'hypothèques et de logement, en 1946. C'est à cette date que M. M. Lefebvre fut embauché par la Société, en fonction de traducteur. La première tâche à accomplir a été la traduction des normes de construction de maison qui n'avaient pas été traduites, sauf sous forme de devis synoptique, aux termes des anciennes Lois sur le logement. Il s'agissait là d'un premier effort tant en anglais qu'en français, et des difficultés ont surgi du fait que la terminologie employée en anglais variait quelquefois et rendait la chose moins facile. Il fallut dès lors adopter une terminologie française. Le travail fut compliqué par le fait qu'il y avait au Canada français des régionalismes ou des expressions très particulières à certaines localités qui différaient entre elles pour signifier la même chose. Eventuellement, il a été possible, malgré les conceptions populaires et les expressions employées couramment, de présenter des normes résidentielles à peu près convenables pour l'époque. Ce travail a été réalisé au moyen de recherches dans des divers petits lexiques sur le bois ou les métiers de construction, de même que dans les essais publiés par l'Association technologique de la Province de Québec.

En 1951, on demandait à M. Lefebvre de traduire le petit code pour les municipalités. Ce dernier fut suivi par un manuel sur la peinture. Un peu plus tard on lui demandait d'entreprendre la traduction du Code national du bâtiment. Ce code n'avait jamais été traduit. Le travail a exigé trente mois de consultation avec des ingénieurs-conseils et de recherches dans le béton armé, les constructions civiles, la charpente d'acier, la charpente de bois, ainsi que le Quillet du bâtiment qui contient une foule de renseignements sur les méthodes de construction et tous les domaines qui s'appliquent à la construction de bâtiments et de maisons. Il en fut de même pour la maçonnerie, le parement et tous les


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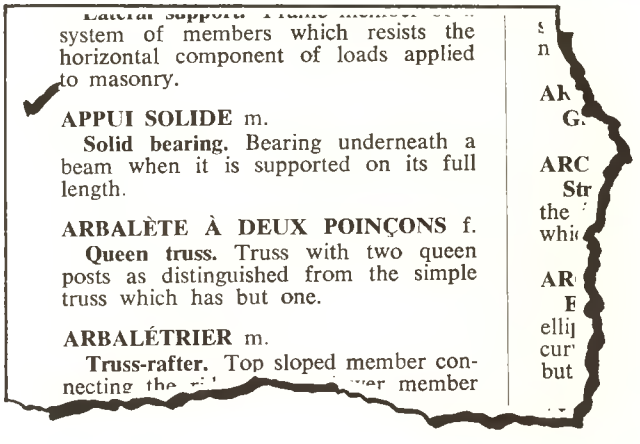
SOLID BEARING
Appui solide, m. Appui sous une poutre lorsqu'elle est supportée sur toute sa longueur.

SOLID FLOOR
Plancher massif, m. Plancher lamellaire constitué de membres de 2 pouces sur 4 pouces ou plus, comme dans le cas d'un plancher d'usine.

SOLID MASONRY
Maçonnerie massive, f. Une maçonnerie qui n'a pas de cavité entre les parois


system of members which resists the horizontal component of loads applied to masonry.

APPUI SOLIDE m.
Solid bearing. Bearing underneath a beam when it is supported on its full length.

ARBALÈTE À DEUX POINÇONS f.
Queen truss. Truss with two queen posts as distinguished from the simple truss which has but one.

ARBALÉTRIER m.
Truss-rafter. Top sloped member con-

par la SCHL ou les organismes qui s'y rapportaient. Il y a eu des difficultés d'acceptation de certaines expressions employées mais, éventuellement, ces expressions ont trouvé place dans le vocabulaire courant.

Par exemple, il y a l'expression "on site" qui se traduit par "à pied d'oeuvre". Cette expression que l'on aurait voulu changer pour l'expression "en chantier" est quand même demeurée en emploi parce qu'il arrive que le terme "en chantier" ne soit pas tout à fait aussi explicite que le terme "à pied d'oeuvre". Cette expression, d'après le traducteur, rapporte très bien le sens que veut lui donner l'anglais en l'occurrence.

Il en est de même d'une foule d'expressions que l'on

autres aspects de la construction de bâtiments à l'usage d'humains. Afin de ne pas confier le tout à la mémoire, le travail a entraîné la préparation de plusieurs milliers de fiches bilingues, c'est-à-dire de l'expression anglaise à l'expression française et de l'expression française à l'expression anglaise, avec annotations pour clarification, car il arrivait souvent qu'une expression anglaise eût plusieurs traductions françaises différentes. Finalement, le Code national du bâtiment fut publié en français, en 1952.

Au cours des annés qui suivirent, des travaux sur l'urbanisme et sur des projets d'épuration des eaux-vannes se sont ajoutés aux fonctions de la SCHL et ces derniers ont nécessité une collation des expressions pertinentes.

Au fur et à mesure que le vocabulaire du traducteur s'étendait ou se développait, les fiches se sont multipliées et les rectifications voulues furent apportées aux normes comme aux bulletins dans toute matière technique offerte

employait depuis longtemps dans le bâtiment, mais à tort. Par exemple, le mot "fenêtre" que l'on employait pour signifier "châssis", était fautif. La "fenêtre" en soi est une "baie", c'est-à-dire une ouverture dans un mur pour permettre le passage de l'air et de la lumière. Ce qui bouche cette ouverture dans le mur est le "châssis" et son cadre. En soi, la "fenêtre" est une ouverture. Le "châssis" c'est ce qui protège cette ouverture contre la pluie ou le vent ou le froid tout en admettant la lumière. Automatiquement l'expression "contre-fenêtre" était fautive.

L'expression "window" en anglais est aussi fautive parce qu'au sens pur, le mot "window" est une "baie" aussi. Aujourd'hui, l'expression plus répandue est "sash" qui se traduit "châssis". En plus, on a dit pendant longtemps une "porte double"; c'est une "contre-porte" qu'il faut dire pour "storm door". Alors, toutes ces expressions se sont tranquillement infiltrées dans le vocabulaire des usagers ou des constructeurs.

A cela, il faut ajouter les expressions qui sont tirées de l'anglais ou du moins qui sont des expressions anglaises clairement mises en français, par exemple "stilbim" en français pour signifier le "steel beam" anglais. Il faut tout de même préciser que les mêmes difficultés se sont presentées en anglais. Il ne faut pas croire que les difficultés de la terminologie du bâtiment proviennent uniquement de la traduction ou encore de l'interprétation. Les mêmes points obscurs se présentent pour les anglophones comme pour les francophones.

Comme le service de traduction est appelé à traduire du français à l'anglais comme de l'anglais au français, il s'agissait de bien établir une nomenclature anglaise aussi bien qu'une nomenclature française. En épurant le vocabulaire en français et en anglais, on a tenté de réduire l'emploi d'un mot pour signifier une seule chose et de ne pas l'étendre.

On employait, par exemple encore, le mot "studding" pour signifier tout le bois qui était du 2 x 4 alors que le "studding" n'est qu'un membre de bois qui tient lieu de potelet dans le mur. En soi, ce n'est pas une description de dimension; le 2 x 4 n'est pas un "studding" automatiquement. Il est "colombage" parce qu'il est en position dans le mur. Dans ce dernier cas, c'était un éclaircissement qu'il fallait faire.

Une autre grande difficulté rencontrée dans le bâtiment, du moins une des difficultés qui se présentent fréquemment, est la traduction de la nomenclature se rapportant aux essences d'arbres dont est tiré le bois de construction. Ici la nomenclature publiée par la division des Laboratoires des produits forestiers établit clairemont la nomenclature anglaise, française et latine. Le mot latin se réfère à l'expression botanique. Cette nomenclature a été ajoutée aux termes du bâtiment. Il en est de même d'une foule de mots employés en électricité dans la mesure où celle-ci fait partie de la maison. En ce qui concerne la plomberie, on a eu recours à la nomenclature la plus connue dans le métier.

Au cours de la préparation des fiches qui ont mené éventuellement à la rédaction du dictionnaire, il s'est trouvé qu'un mot nouvellement employé dans un des métiers quelconques du bâtiment ait trouvé sa définition dans le Code national du bâtiment. Alors, avec cette définition, il était possible non pas de lancer un nouveau mot mais de faire connaître une expression.

Quoique les méthodes de construction employées en France oe en Angluterre ou en Amérique du Nord soient différentes, il reste quand même qu'à la base, la nomenclature employée des deux côtés de la Manche comme au Canada ne varie pas essentiellement. Il a fallu chercher, établir le parallèle et inscrire l'équivalent. C'est là que les recherches dans l'encyclopédie du bâtiment de Quillet, dans Barberot, de même que dans le glossaire trilingue de la peinture, comme dans le dictionnaire technique d'Athènes publié en grec, anglais et français, et dans certains dictionnaires de métier, ont permis d'établir une nomenclature qui pourrait s'appliquer presque internationalement. Il reste quand même que les applications diverses au Canada de certaines applications européennes changent certaines expressions ou la nature de ces expressions.

En préparant le dictionnaire il a fallu tenir compte du fait qu'un mot anglais pouvait avoir par exemple deux ou trois traductions françaises et alors on a ajouté au dictionnaire la définition ou l'explication qui permettrait de choisir une expression plûtot qu'une autre dans la traduction. Inversement, un mot français pouvait avoir plusieurs équivalents anglais et en conséquence les explications sont données en anglais.

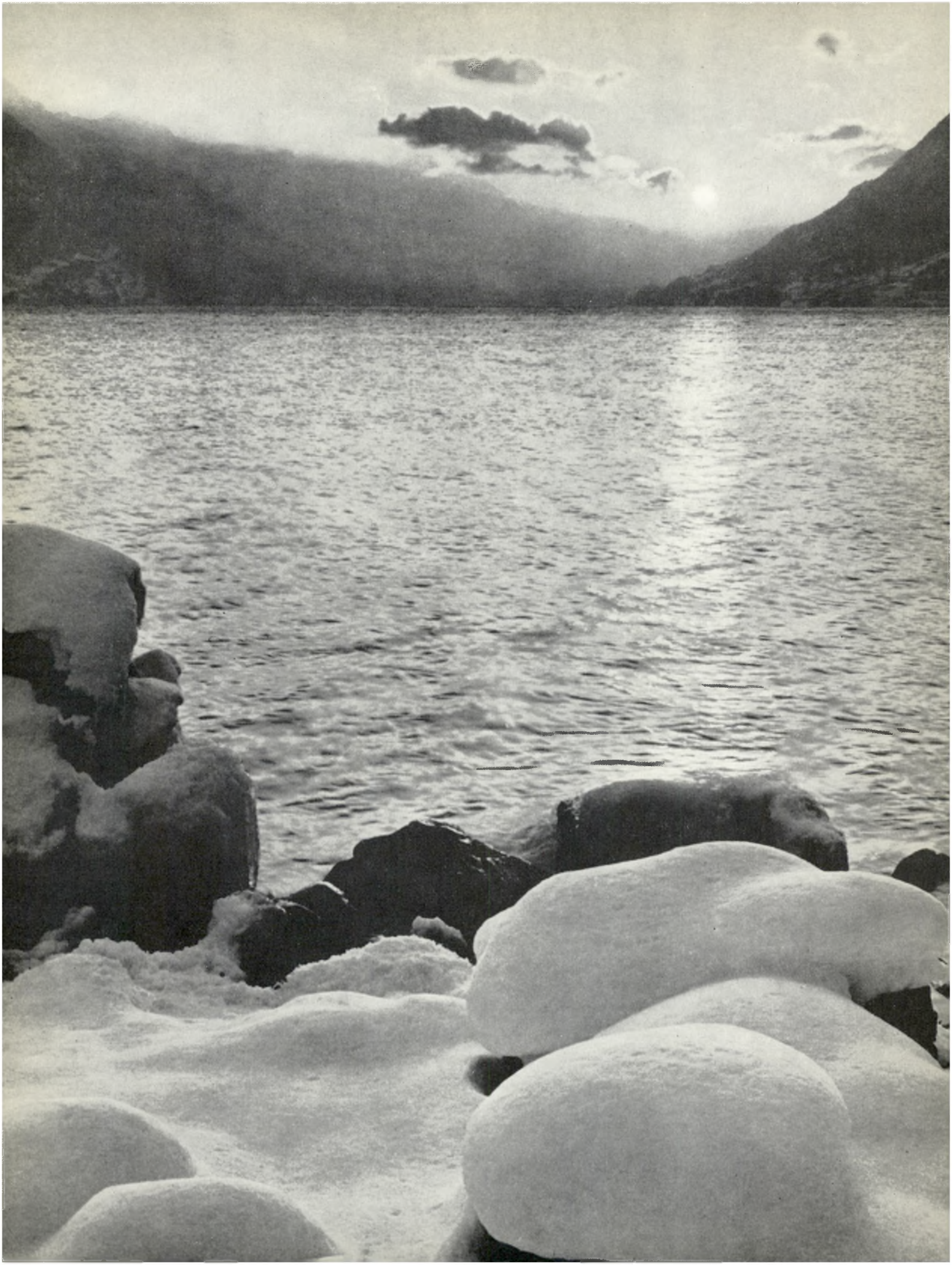
Pour faciliter l'emploi du dictionnaire à ceux qui seraient peut-être d'origine européenne et qui sont habitués au système métrique, des tables de conversion ont été insérées entre les deux parties du dictionnaire afin de permettre de trouver des équivalences, le cas échéant, parce qu'il est arrivé qu'à l'occasion il ait fallu inscrire des dimensions.

Interrogé sur le dictionnaire, monsieur Lefebvre de répondre: "Il est étonnant combien le mot propre en bâtiment est peu connu chez nos hommes de métier, nos propriétaires, dans la presse et même chez les architectes. Ceci s'applique aussi bien en anglais qu'en français. Il va sans dire qu'un organisme gouvernemental dont le bâtiment est la spécialité devrait compter chez ses employés qui communiquent avec le public soit directement, soit indirectement, sur une connaissance du mot propre en bâtiment tant en anglais qu'en français; ceci est plus particulièrement important lorsqu'un employé est appelé à transiger dans les deux langues. Ce serait là une première dissémination de la nomenclature du bâtiment."

CENTRAL MORTGAGE AND HOUSING CORPORATION
SOCIÉTÉ CENTRALE D'HYPOTHÈQUES ET DE LOGEMENT
OTTAWA, CANADA

HABITAT

SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER/1965



HABITAT

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FRONT COVER: *Components of Habitat '67*

INSIDE FRONT COVER: *Winter Sunset*

Although all eyes are on Canada's preparation for her 100th birthday in 1967, this year Central Mortgage and Housing Corporation has a small celebration of its own — 20 years of operation. Born just after World War II the Corporation is proud of its role in Canada's spectacular growth during these two decades.

In 1945, the Government of the Day formed a Federal Housing Agency to administer the National Housing Act. In the beginning the primary purpose was to rectify the critical housing shortage in the immediate post-war years. Since that time, the role of the National Housing Act and CMHC have expanded greatly.

Mr. R. G. Lillie, Special Assistant to the Ontario Regional Supervisor of the Corporation, is preparing a series of articles for Habitat in which he relates the growing pains and the accomplishments of CMHC in the 20-year span. Mr. Lillie is well qualified for the task. He is one of the original employees of Central Mortgage and Housing Corporation and during the years has held responsible positions in many parts of Canada.

The articles will appear beginning with the May-June issue of 1966 and will reflect the historical growth of Canada's housing since World War II.

1867 | 1967

CREDITS — HABITAT '67 — PHASE I

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Development Consultants	Community Development Consultants Limited
Landscape Architects	Harper & Lantzius Consortium
Construction Consultants	Perry Grant & Associates
Aerodynamic Consultant	Mr. George Fekete, P.Eng.
OWNER	The Canadian Corporation for the 1967 World Exhibition
Department of Installations	Colonel E. Churchill, Director Mr. Edouard Fiset, Chief Architect
General Contractor	Anglin-Norcross Quebec Limited
Precasting and Erection Contractor	Francon Limited

Habitat '67

by Moshe Safdie

Mr. Safdie, born in Israel, is a graduate in architecture of McGill University. He was awarded nine prizes and scholarships including the Lieutenant-Governor's Gold Medal, The Hugh McLennan Memorial Travelling Scholarship, the Louis Robertson Prize for Design, the Turnbull Elevator Prize for a Technical Paper and the Central Mortgage and Housing Corporation Travelling Scholarship. The CMHC Scholarship enabled him to make a study of U.S. and Canadian housing. He has also travelled extensively in Europe studying the living environment. In 1962, he worked for Louis I. Kahn in Philadelphia. He returned to Canada in 1963 and joined the Canadian Corporation for the 1967 World Exhibition. He entered his own practice in 1964 and was also associated with the firm of David, Barott, Boulva in a joint venture for Habitat '67.

It was on the pages of this magazine that the ideas and sketches that led to Habitat '67 were first published five years ago. It may well be that this contributed to the acceptance of this project and its realization within the 1967 World Exhibition. Much has been said about the concept and ideas of Habitat '67. I will only summarize the main points.

Habitat '67 is an urban system. Within that system, we attempt to house families with all the amenities which they have in a single family house — privacy, identity and open space. The system also demonstrates that it is possible and desirable to integrate within an urban complex all functions from residential, commercial to institutional, and recreational facilities. The system permits for the re-arrangement in a three dimensional pattern of these urban functions in relation to each other and demonstrates that each function can enhance and complement the other. Habitat '67 was developed as a result of the belief that the various forces, from population growth to economic patterns, taking place within our metropolitan regions are bringing about a need for a more intense and efficient use of the land; and that alternative building forms must be studied which within such densities provide the amenities considered essential.

Quite apart from its formal implications Habitat '67 is a building system in which the techniques and procedures of large-scale prefabrication and assembly line

organization are introduced for the purpose of housing construction. The system introduces the casting of large components in highly mechanized procedures and the pre-finishing of these components, including the assembly of such elements as kitchens, bathrooms, windows, piping and wiring of the dwelling, in a finishing plant on the ground. Except for erection work, the entire building process is done in factory conditions with factory control. Only through the perfection of such a process, could the same kind of economies that have been achieved in most other industries benefit housing.

The purpose of Habitat '67 is not limited to its architectural and technical implications but is related to its site which in itself is sufficient reason for its being. The advent of the 1967 Exhibition in Montreal is bringing about the opening of many new arteries towards the river: the extension of University Street, and the subway and the construction of the new bridge across from MacKay Pier to St. Helen's Island. Also significant is the extensive fill program that has taken place, thus creating the potential use of Île Notre-Dame for housing and commercial programming. In spite of this development, a danger exists that, because of the industrial and harbor uses that separate the river from the city, most of the mainland area would revert to industrial use after the Exhibition. Such a danger clearly existed in 1963 when it was the policy of the National Harbours Board to convert Expo land on the harbor side to industrial use after the Exhibition. There is no doubt that intensive development of the riverfront would enhance the city of Montreal and would affect the south shore and the center of gravity of the city in a more balanced way. The only way to achieve this type of development on the river basin was to plant a nucleus, a community development on MacKay Pier which would guarantee that the rest of the riverfront would be developed in a similar manner; would guarantee that in the growth and development of the harbor, clean up operations surrounding the city center would take place; would guarantee an accelerated rate of development for such areas as Nun's Island, Île Notre-Dame, Pointe St. Charles, and the South Shore. It would link the downtown area and the water in a similar way that is now being attempted in New York, Philadelphia, San Francisco, and has been achieved in Chicago as a result of the 1900 Exhibition.

Critics of the site have failed to realize the transformation that can take place, and is indeed taking place as a result of re-development, and have failed to project the significance to the city of this type of development on the river basin. This development would also bring about a re-development of the area which links the downtown and MacKay Pier. This area, through which the University Street extension is being constructed has for many years been poorly used for storage and warehousing facilities. As a result of the pressure and its exposure to a main artery, it is believed that the development of Habitat would influence a better utilization of this area in the future.

To summarize, the long range aims of Habitat are:

1. To provide appropriately for families within a high density development.
2. To integrate within a community all the urban functions.
3. To introduce a building system which utilizes mechanization and mass production.
4. To affect the growth of Montreal by acting as a catalyst on the river front.

CHRONOLOGICAL DEVELOPMENT

It would be useful at this time to elaborate on some of the aspects of the development of Habitat '67 which mark it as a research project. It would also illustrate the kind of co-operation and support that such a project requires from all public agencies at all levels. The project was first discussed with CMHC in October of 1963. At that time, it was felt that a specific proposal must be drawn up with sufficient detail for accurate cost estimates and that a team that was being organized for such a purpose must include development consultants who would advise on the development aspects of the project, the requirements of the market, and co-ordinate the preparation of cost estimates. At that time, the author was introduced to the firm of Community Development Consultants by Ian Maclennan, Vice-President of CMHC. Within the department of Installations of the Canadian Corporation of the 1967 World Exhibition under Col. E. Churchill, and the Chief Architect, Edouard Fiset, a nucleus of a team was organized to draw up the project in detail, to prepare cost estimates and to make a complete presentation to management. It was also at this time in December 1963, with much foresight and determination of the Canadian Corporation of the 1967 World Exhibition, that Habitat '67 was incorporated into the Expo Master Plan presented to the Governments and consequently approved.

The original project was established at 1,000 housing units, large enough to support some of the basic community facilities such as school and shopping, and also permitting to tooling-up for some of the techniques being

introduced, although not sufficiently large to justify it on commercial-economic grounds (for which at least 5,000 units would be required). As the team working on the project expanded to include several consultant firms, detail drawings were prepared and the Foundation Company of Canada was retained to prepare cost estimates ($42,000,000).

The original plan was to have the project constructed by private enterprise. Because of the difference between the commercial value of the project and its capital cost due to research, special equipment, plants, and other factors inherent in a new method of construction, this difference was to be absorbed by some form of tax concessions from the governments to the sponsor who would undertake the project. The most attractive formula was to classify the project as research and grant it the same concessions which industry is entitled to in undertaking basic approved research.

While a number of large corporations were interested in undertaking the project on this basis, it was decided by the Governments in October, 1964, not to pursue this plan, and to have a much smaller portion of the project constructed by the Canadian Corporation of the 1967 World Exhibition as an exhibit. This would mean that the C. C. W. E. would itself undertake the construction of what was to become Habitat '67 —-Phase 1, utilizing a small portion of the land of MacKay Pier. Participation in the project would be, as in all other EXPO projects, 50% Federal Government, 37½% Provincial, and 12½% Municipal. Two problems had to be overcome. The first one had to do with the construction techniques introduced in Habitat which clearly require a certain basic plant regardless of size. Equipment such as erection crane, moulds, precasting plant, handling equipment had to be constructed if the same construction system was to be demonstrated. It was decided that in spite of the fact that amortizing all the equipment over 160 dwellings would result in extremely high unit costs, the construction system would be demonstrated with the hope that such equipment could be used after the Exhibition. The second problem stemmed from the site being isolated and at the present time 160 dwelling units could not support any community facilities. This isolation could be detrimental to the project post Expo. To overcome this, it was tentatively decided that the balance of the land of MacKay Pier on which temporary structures would be built during the Exhibition would be zoned housing and commercial after the close of the Exhibition and that new development, hopefully Habitat '67 — Phase II, would complement the first development and share the community facilities with it.

In considering the design of the various components within the house, the same problem occurred—160 dwellings could not justify the design development and tooling-up necessary for the development of sophisticated mass-produced products such as unit bathrooms, integrated kitchens, and the like. Either, this tooling-up was to be amortized over a limited number of units resulting in high unit costs, or else the idea of mass-produced components had to be dropped. The decision arrived at was that within the context of a World Exhibition and within the context of an experimental housing project, it was more important to suggest the methods and techniques and potential of mass production rather than to achieve low unit costs, and it was consequently decided to treat all these components as highly sophisticated industrialized products, even when unit costs could only eventually be reduced by increasing quantities to 1,000, 5,000 or even 10,000 housing units.

THE DESIGN TEAM

As the project entered the working drawings stage, an elaborate team was formed to study and resolve the many technical problems. A number of engineering firms with varied experience had been retained. The conventional method of drawing up a project, and then calling for tenders was inappropriate since the vast experience of industry could not be incorporated into the design stage. Industry was consequently called upon at the earliest stage of development to voluntarily assign their experts to the design team. Representatives of the precast industry, and many other industries had joined the team attending the weekly job meetings and feeding into the development of the design all pertinent information. A point was reached, however, in which an industry had to have a commitment of the job before it could invest the funds necessary in an intensive design development program. To overcome this problem, a special tendering method was evolved. This consisted of calling for tender with general drawings and specifications which outlined in broad terms the requirements of the design and called for proposals which were to be technically developed in collaboration with the design team. A budget figure was established on the basis of conventional equipment and industry was encouraged to participate in the cost of development of new products. This method proved very successful and has set a precedent in which the architects, engineers and industry can collaborate from the outset in

the development of housing components.

Habitat '67 is proving to be a research project technically, but has also set precedents in aspects of real estate legislation, municipal and building by-laws. Once completed, it will also act as a research project concerning the social implications of this form of building. Owing to the nature of the project, an attitude was formed by the public bodies concerned that each aspect will be considered from first principles. Many technical innovations were evaluated and where proven to be sound, approved for application. Many of these would set precedents for housing. For example: the traditional problem of plumbing vents which have always necessitated service areas above and below a particular space, have been replaced with a special fixture which eliminates the need for a vent. The use of gel-coat reinforced plastic for such components as bathrooms has also been studied by the various public bodies involved and approval has been granted for the use of this material in the development of a unit bathroom. There have also been many legislative discussions — for example: discussions are under way to recognize the public pedestrian streets within the three-dimensional structure of Habitat as public streets. Eventually such thinking would mean that it would be possible to classify rights of way not only on ground but within a structure, to have them maintained by the city and have such maintenance costs paid for through the normal taxation.

Even forms of ownership are being reconsidered as a result of the project, applying condominium method of ownership, which has been established in Europe and South America for many years, but has never been legalized in Canada. Presently only the much less flexible cooperative method is used. Habitat has proved to be an obvious project in explaining the implications of condominium to the public and the provincial legislative bodies. In fact, the Canadian Real Estate Board as well as the Montreal Real Estate Board have adopted Habitat as the guinea pig in introducing condominium legislation.

The experience of the past two years has vividly demonstrated the shortcomings of the building industry. Other major industries are organized around large corporations which invest millions of dollars in basic research, design development and tooling up for the various products. Through large-scale marketing, they are able to recover these investments. A car manufacturer can invest millions in the tooling up of a single car type and a corporation such as Dupont can invest millions in developing products such a celophane or nylon. The building industry is fragmented into thousands of small manufacturers, each producing a product developed independently of the others. Design is undertaken by the architect who is divorced from the industry and the contractor who has no part of either. Also, tax concessions given to most industries for research are not entirely applicable. Materials developed in other industries are only later introduced into buildings. The relationship of the architect who is designing the assembled complex, the industrial engineer who is designing the product itself and the contractor who assembles them must be transformed into a single organization.

This organization would develop systems of building, manufacturing all parts, undertaking basic research, servicing them and marketing them on an international or national scale. Our experience in Habitat '67 has been that building has its own special technical problems and that these problems can only be solved when research is specifically undertaken by the building industry. Because the industry is presently not organized for such programs and because it presently benefits the least in research concessions in relation to other industries, governments must take the initiative in launching programs which would bring the building industry — the housing-construction industry — to par with other phases of the economy.

STANDARDS OF LIVING-BUILDING COSTS

The construction methods introduced in Habitat '67 are aimed at economy and quality. Clearly, it is not possible to benefit from these before large scale application takes place. The experience of such applications would result in greater economies as methods and procedures are perfected. The benefits of mass production will be gained once the system has been introduced and the various steps of labor and use of material critically examined. With today's methods this is not possible. But there are broader considerations of economy which must not be ignored.

The cost of servicing land, of distribution and transportation, inherent in one housing form against the other must be considered. As the metropolitan centers expand, as land becomes scarce and as distances of communication and transportation become greater, any form of urban development which results in saving in these costs would be more competitive with regard to others. Since land values express the need and availability of this commodity, and therefore reflect the related but concealed costs of a particular form of development, it can be stated that the single family house which today sits on a $3,000 lot, would be a less economical form of housing when that same lot will cost $15,000 five or ten years from now. Thus, the ratio

between the actual construction costs and all other related costs to the economy is constantly changing. The construction portion is decreasing in relationship to the other costs. Forms of housing resulting in intensive land use will become increasingly competitive.

What kind of housing is Habitat? Is it low, middle or high-income housing? Habitat is a building method to provide housing for everyone. As an urban form it must accommodate the entire range of income groups. To isolate it and consider it as a form catering to one of the groups only would be to imply its lack of universality. This also brings up the question of the present relationship between the various "income groups". Low-cost housing is clearly a phrase which has to do more with the financing of housing than with its construction. A comparison of the square foot cost of any one of our 'low-cost' public housing projects, for example Jeanne Mance public housing in Montreal, the cost of a speculative upper middle-income apartment house, the cost of a builder's bungalow of middle-income group in the same city, would indicate that the square-foot cost is fairly constant. That is to say, all forms of housing are very close in the unit costs; forms of financing vary. In the case of public housing, subsidies are introduced to make it available to a particular income group. In the case of the single-family house, a favorable mortgage structure is introduced to make it available to the middle-income group. And in the case of the speculative apartment building, which has the lowest unit cost of all, a rental proposition resulting in a fast return of the investment to the owner is introduced to result in the least favorable of all propositions to the public.

What must be emphasized is our long-range goal for more housing, for less labor and less material, so that we could provide the most housing to all people. And this would only be achieved by the introduction of new methods of construction. Yet we must not forget that we are establishing a standard of living possible within the capabilities of the economy. There is no question that it would be cheaper to use the construction method of Habitat by building vertical towers along double loaded corridors without open spaces and other amenities which Habitat provides. There is also no question that higher densities than Habitat have been constructed. Stuyvesant town in New York has a density 50% higher than that of Habitat '67. But are we prepared to be satisfied with that as an acceptable standard of living? It is my belief that in this economy of abundance, an economy not producing to capacity, we must strive to improve and enhance the environment. We must offer to the family, to the public, at least the same amenities which they have at present. And we must continuously strive towards improving those amenities. In that sense, Habitat '67 sets a standard and introduces a method of construction which will make that standard possible. It cannot be evaluated within the short range implications of the first construction program of 160 dwelling units.

The architect cannot live out of the political reality of his time. For the first time in history, we accept that every man has the right to economic and social privileges — not only in our own community, but universally. To the architect, this means that Economy is a moral obligation! Total and true economy is the result of process and method, including the patterns of settlement and all the other factors that affect it.

Our moral obligation is to give the most (and best) to all! But we have another role, that is to set the standards of living. And if it is the economist's responsibility to establish some of these standards, it is the architect who must give the image the physical interpretation.

Within the present intellectual-political development of our time, no architect can fulfill his moral obligation without housing, urbanism; the environment, being his central and most important concern.

Today, there is great diversity and difference between living standards from one country to the other, even from one region to the other. But if the present political-intellectual thinking of our time is to prevail, and I personally believe that it will, then we must also accept that with time, the differences in these standards will disappear, becoming equal for all people on this planet. Just reflect what that means; to the builder. Economy, indeed, is a moral obligation.

We must await completion of the project before discussing and evaluating its social implications. But the experience of the past two years has already indicated that a research program undertaken as in the case of Habitat, has provided the setting for industry, the public agencies concerned with housing, and a group within the profession, to collaborate in developing certain aspects of housing. It is most significant that this development has taken place with the initiative of a Crown Corporation, financed by three Governments, supported by the public at large and the Press whose interest has made it possible for such a project to be realized. This is an encouraging sign of things to come in the urban environment in Canada.

Implementation of HABITAT '67

by Stewart Andrews

It was in December, 1963, that I first became aware of Habitat '67. It was then that a Vice-President of Central Mortgage and Housing Corporation, Ian Maclennan, telephoned to outline the concept of the project.

In his office in Ottawa, he had discussed Habitat '67 with Moshe Safdie of Expo '67, and Jean-Louis Lalonde of the Committee of Canadian Cement Companies. Now, he asked if I would meet with the two architects and express my views on how the scheme could be implemented. He suggested that, because of my previous experience in various developments, I could be helpful. And he alluded to my role in directing the development aspects of the now internationally-known Flemingdon Park project in Don Mills, Ontario.

That was my introduction to Habitat '67. I have been living with it ever since.

A short while later, my associate, Eric Bell, and I met with Moshe Safdie and Jean-Louis Lalonde at my home in Don Mills, where I was recuperating from an appendectomy. In the meantime, we had crammed up on articles written by Mr. Safdie for his university thesis and for this magazine. We were both intrigued by his imagination and the depth of his modular design concept.

He has, too, the gift for presenting his ideas with clarity and the tenacity to push them through to fruition. Eric Bell and I both felt that here was an architect who was capable of conceptions and work that were rare in the building and development field. We had an immediate rapport.

The result of the meeting with Moshe Safdie and Jean-Louis Lalonde was that our firm, Community Development Consultants, was retained by the Committee of Canadian Cement Companies to prepare a feasibility study for Habitat '67. We had a meagre six weeks to complete the study which was to be prepared in collaboration with the design team from Expo. In that time, we were to establish the four facets of Habitat '67.

In the study, our Terms of Reference were: That Habitat '67 would be a permanent residential sector of urban character created for Expo '67; that it would be a high density development offering a meaningful demonstration of new concepts in urban housing; that it would provide a controlled environment in a close relationship with Nature; and lastly, that Habitat '67 would integrate the dwellings, the social, educational and commercial facilities, parks and playgrounds, roads and parking areas, public transportation systems and services which are taken for granted by the urban dweller.

The feasibility study, then, was no off-hand chore. At Community Development Consultants, we worked on it seven long, grinding days a week. We moved into the offices of Expo in Montreal to work closely with the design team. We tapped the experience of the development team involved. We availed ourselves of the knowledge of such agencies as Central Mortgage and Housing Corporation, the Royal Trust Company, and various consulting firms.

So by dint of hard work, knowledge and experience, we established the broad outline and made the recommendations for the development of Habitat '67 which have proven successful. In genuine tribute, I have never seen a design team accomplish so much in so little time.

Through our involvement in development projects we at Community Development Consultants have devised a system of dividing the basic activities into three main categories. First, there is the planning and site development. Then there is the building design and construction. And finally, there is finance and management.

We have learned from our experience in developing worthwhile real estate enterprises that perhaps the most important factor is the creation of a desirable community environment where people want to live. Incidentally, this is generally the situation where land values are greatest and the best profits are made. Habitat '67 is no exception.

The architectural design and construction features of Habitat '67 have been discussed often in various journals. In fact, no less an authority than Moshe Safdie discourses upon them in this issue of Habitat Magazine.

MacKay Pier which was recommended in the official plan as the site of Habitat '67, was acceptable provided certain area improvements were made. The new approach by an elevated extension of University Street to the waterfront has created an entirely new atmosphere. Now a housing development fits in happily.

Then, the improvements of the roads to the South Shore of Montreal have endowed the site with a new urban significance which makes other land uses possible. At the same time, the area can be sheltered from distracting activities or annoyances in the vicinity.

The redevelopment of Bickerdyke Basin to the north will improve the surrounding considerably. But the odors from meat packing plants and the unsightly character of,

and pollution in the harbor must be overcome before a wholly suitable residential character can be developed.

It should be realized, though, that the development of a community complex on MacKay Pier will create an obvious redevelopment situation between the site and the city center. That is an unaccessable value not often considered in discussions of the economics of Habitat '67.

From our studies we determined that it would be necessary to construct between 1,000 to 1,500 dwelling units with the schools and the recreational, cultural and commercial facilities required in a viable community complex. Because of easy access from the city center and the South Shore, office space could be of the regional type.

Of course, such a complex was the basis of the original designs for Habitat '67. The number of dwelling units originally planned has been reduced, but we envisage that the balance of the MacKay Pier area will be developed compatibly with the initial Habitat '67 complex.

Essentially, then, this is the site; a waterfront area commanding the entrance to a World Exhibition, an area of strategic importance to the success of the Exhibition during the next few years and a commanding influence on the whole of the Montreal downtown area in terms of urban renewal. It is a site literally rebuilt, with new transportation facilities and municipal services, and its influence is apparent in the development of the harbor area and the river front to the south.

The development of Habitat '67 cannot be disassociated from Expo '67. The Expo theme of "Man and His Community" presented the challenge and the opportunity, along with a freedom of design seldom encountered. The architecture is grand, a blending of imagination and technology. The arrangement of a large number of dwelling units, involving only a few protoypes of mass-produced elements, meant a new building technique. The development and application of that technique with all the implications and complications, was our job.

Aside from the architectural considerations, the structural design of Habitat '67 was the most worrisome. In order to solve the myriad problems of practical building that were foreseen, we needed the advice of the best structural consulants. We were fortunate to have Dr. A. Komendant, an engineer of international stature, to counsel us.

In the last analysis, the use of reinforced concrete in prefabricated shells with post-tensioned connections became the most practical material to be used. However, after the theories had been developed, we had to be practical and adapt them to actual construction. So we entrusted the problems of construction methods and cost estimates in known areas to local construction estimators. In investigations of theoretical considerations we relied on the advice of structural and mechanical consultants and drew on our own experience in building practices.

Naturally, the overlap of these two areas of known and unknown aspects of methods and costs became more and more pronounced. However, we feel that this merging of knowledge and experience has produced a technology which can be successfully used and which will be improved in the future to create a new dimension in development.

No doubt the theory of producing dwelling unit "boxes" in a prefabrication plant, of pre-finishing them in another section of the plant, and of transporting them to the site and setting them in place with a crane to form the structure is by now familiar to many in the construction industry. Habitat '67 is the first application of the theory.

What the automobile industry has done for car production, we think Habitat '67 will do for house building. It is an assembly line building system production. We are convinced that Habitat '67 will be remembered as the first large sophisticated research venture in the construction of urban dwellings.

In order to speed progress, a liaison was quickly established with representatives of the construction industry, the concrete suppliers, the prefabrication firms and crane manufacturers. These were the practical men who examined the ideas which produced the unusual designs, who conceived methods of implementing them, and who estimated the costs involved.

Next we turned to the suppliers of products for the housing industry. Because Habitat '67 is a Centennial show piece, this was a unique opportunity for industry to display the best of its housing design components.

The inevitable question of costs for the components arose, and, because many of the products were scarcely out of the experimental stage or off the drawing board, it was a puzzler. We approached this rather ethereal problem in many ways, one of which was by calling for tenders for design proposals once the requirements had been established. In this way, the products could be judged on the basis of aesthetics, their contributions to the housing industry, their functional aspects and, of course, their cost.

Up to this point, then, Habitat '67 had lived a buffeted existence and had turned frequently to government agencies and private enterprise for support. But it must be remembered that it was inspired by government and conceived as a vehicle for the construction material industries

to produce an imaginative housing exhibit in Expo '67.

In this context, it was conceived that the initial design would be developed with the co-operation of a group of interested firms who would finance and build it and, after Expo '67, dispose of it to other interests as a residential development. It was a sound and feasible arrangement, provided the economics were in balance. They weren't.

Part of Community Development Consultant's research was devoted to an evaluation of Habitat '67 in the existing real estate market. We came to the conclusion that its selling price would be only about half the cost of construction. Such a situation was not entirely unexpected because of the many innovations being introduced and the untested building techniques. So, other than normal financial arrangements had to be made short of a complete write-off of losses by the sponsors.

Now we turned our attention to the possibilities of exploiting existing tax concessions. After all, we reasoned, the project was a research effort which might entitle the firms involved to tax-loss consideration.

We consulted John. B. Gick, C.A., of Clarkson, Gordon & Company, Montreal, and he, in turn, sought advice from Heward Stikeman of Stikeman & Elliott. These men are two of the most knowledgeable in their field, but despite their efforts, we were not able to establish conditions which would satisfy government requirements. The multiplicity of government agencies involved in Expo '67, from Federal to Provincial to Municipal, tied a knot which could not be unravelled in the time at our disposal.

Habitat '67, then, would have to be government-sponsored. Industry would play a supporting role. This has been the path which the project has since followed, and Habitat '67 is an Expo exhibit being built through the World Exhibition Corporation. Our firm, Community Development Consultants, has been responsible to the Corporation for its development aspects and for bringing the design to the building stage.

In our studies of the financial and management aspects of the projects, we realized that Habitat '67 was almost a literal expression of the condominium concept in real estate. A condominium is a form of real estate holding in which the individual may purchase and hold title to a dwelling unit in a multiple-attached building, including the rights to certain public areas. Because it was realized that Habitat '67 would provide family living in what amounted to a subdivision in the sky, it was logical that tenants would want to purchase their dwellings.

Certainly Habitat '67 provides privacy far in excess of that enjoyed in typical apartment structures. It has suspended pedestrian streets for access and other characteristics which inspire ownership. Largely through the efforts of Pierre Desoulles, Q.C., representing the Montreal Real Estate Board, legislation is now before the Quebec Legislature to permit this concept.

The final disposition of Habitat '67 following Expo has not yet been decided. During Expo, it will be an exciting exhibit and also be used as accommodation for foreign representatives connected with the World Exhibition. We are sure, because of its design, its location and amenities, it will eventually become a desirable residential community.

Habitat '67, Phase I, is now being built as a project which will contain approximately 160 dwelling units, under the auspices of the Canadian Corporation for the 1967 World Exhibition. In our opinion, it is important that the government agencies involved be given full credit for sponsoring and keeping faith with such a project and for its realization. From our standpoint, we are particularly grateful to Colonel Edward Churchill, Director of Installations, C.C.W.E., and Jean Lupien, Vice-President of Central Mortgage and Housing Corporation, both of whom provided continuing inspiration and encouragement.

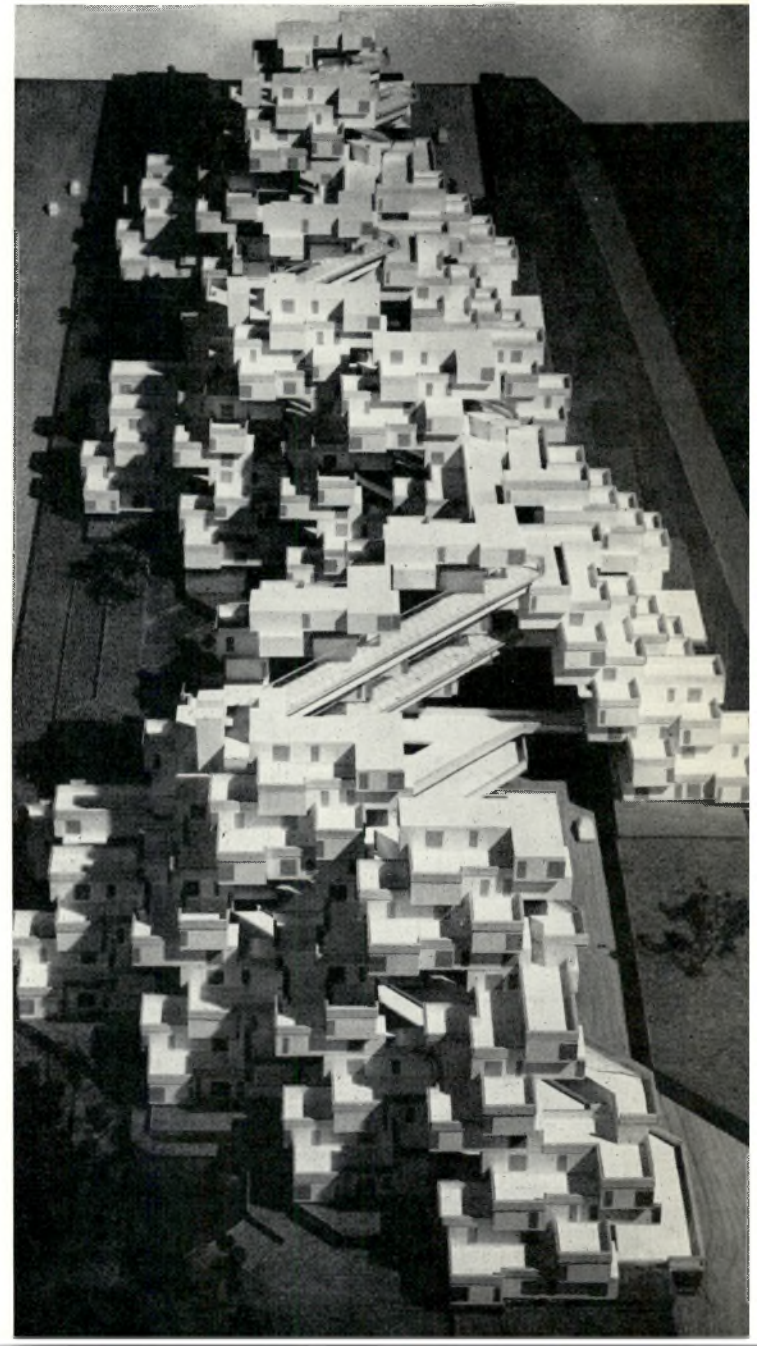
Habitat '67 has great significance because of the new design ideas and building technology which it has introduced to the construction industry. Much has been written of the expanding population and declining land resources, of the high cost of land and construction and the lack of housing. And far too little research and experimentation have been undertaken to solves these problems.

We believe that Habitat '67 will prove that housing can be mass-produced and made comfortable and privately livable. It is, in our opinion, a most significant symbol of the World Exhibition theme, "Man and His Community."

Stewart M. Andrews, is President of Community Development Consultants Limited, and Executive Vice-President and General Manager of Molson Development Ltd., a company with interests in all aspects of real estate development. He has been General Manager of the Housing and Development Division of Toronto Industrial Leaseholds (1957) Limited, and was responsible for directing the development aspects of the now internationally-known Flemingdon Park project in Don Mills, Ontario. In August, 1962, he was appointed Vice-President, Developments, Webb & Knapp (Canada) Limited, and was consultant on the residential development of the Century City project in Los Angeles, in which the Aluminum Company of America holds the controlling interest.

Habitat '67 — A re-development project on the Montreal waterfront to be built as part of the 1967 World Exhibition as a nucleus of a community of 1,000 families and related facilities. This nucleus would be the beginning for additional growth along both sides and within the St. Lawrence River.

Habitat '67 est un projet de réaménagement qui doit être réalisé sur la rive du fleuve à Montréal comme une partie intégrante de l'Exposition Universelle de 1967 pour représenter le noyau d'une collectivité de quelque 1000 familles où l'on pourra trouver toutes les facilités nécessaires à la vie courante. Ce noyau devrait servir de point de départ à des développements subséquents sur les deux rives du fleuve Saint-Laurent et sur le banc de terre qui s'étend au milieu du fleuve.



As a limited construction program, the Canadian Government, in collaboration with the Provincial Government of Quebec and the City of Montreal, have decided to build within the Exhibition the first phase of Habitat '67. A budget has been established which would permit the construction of a fabrication plant, erection equipment, special moulds, and other unconventional construction items which would be amortized over a limited project only, permitting, after 1968 for private enterprise to complete the project through the know-how experience the physical plant provided in the First Phase by the Government itself.

Phase I is presently under construction with the foundations in place and the fabrication pre-casting plant well under construction. Erection of units will commence December 1965.

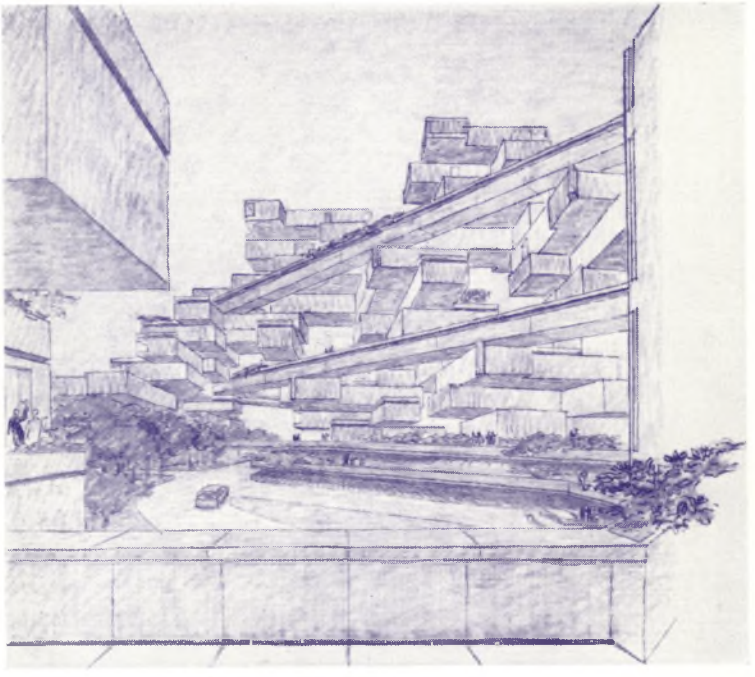
The construction system consists of a single repetitive precast concrete unit. This unit measuring 17'-6" by 38'-6" and 10' high, is precast in a highly mechanized steel mould on the ground. Following steam curing, it is wheeled into an assembly-line finishing plant in which all the finishes, insulation, glazing, partitions, kitchens, bathrooms, etc. are installed. The finished product is then brought to the crane which lifts it into its place within the structure, at which time it weighs 85 tons.

The cellular units in the 22-storey structure form cellular columns transmitting the stresses to the ground. In Phase I, these same units, the same dimensions are combined to form clusters of eight units each, these clusters being grouped to result in a different geometry. Thus, the same repetitive unit which is capable of achieving different house types, is also able to achieve different urban textures in a broader scale by varying the combinations within the hierarchy.

A titre de programme de construction limité, le gouvernement canadien de concert avec le gouvernement de la province de Québec et la ville de Montréal, ont décidé de construire, sur l'emplacement de l'Exposition, la première phase du projet Habitat '67. Un budget a donc été établi pour permettre la construction d'une usine de fabrication, pour procurer l'outillage nécessaire au montage, pour les moules spéciaux et pour les autres éléments de construction sortant de l'ordinaire. On a prévu l'amortissement du coût en le limitant à ce projet particulier, ce qui, après 1968, permettra à l'entreprise privée d'ajouter grâce à l'expérience qu'on aura acquise en réalisant la première phase qui aura été financée par le gouvernement.

La réalisation de la Première phase est actuellement en cours. Les fondations ont été mises en place et la construction de l'usine de préfabrication des appartements est déjà très avancée. L'installation des logements doit commencer en décembre 1965.

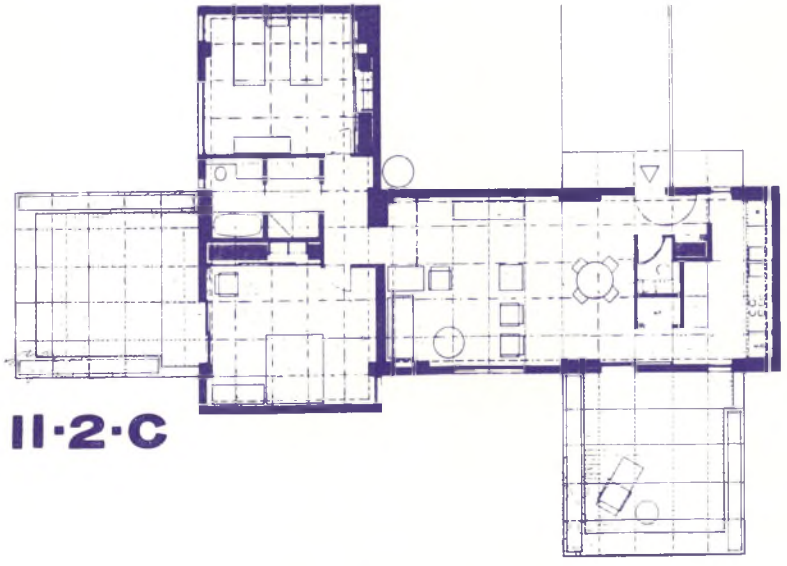
Le mode de construction consiste dans la production en plusieurs exemplaires d'un élément de béton préfabriqué. Chaque logement qui mesure 17 pieds- six pouces par 38 pieds- six pouces et qui a une hauteur de 10 pieds, est coulé à l'avance au sol dans un moule d'acier fortement mécanisé. Après avoir été durci à la vapeur, il est transporté dans l'atelier de montage de l'usine de finissage où l'on y ajoute tous les éléments de finissage tels l'isolation thermique, la vitrerie, les cloisons, les cuisines, les salles de bain etc. Le produit ainsi parachevé est alors dirigé vers la grue qui doit le soulever et le mettre en place dans la charpente. A ce moment-là, chaque logement pèse 85 tonnes.



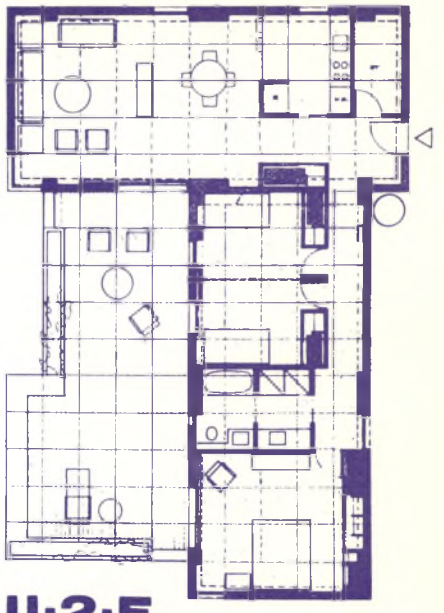
Les éléments alvéolaires de cet édifice de 22 étages forment des colonnes cellulaires qui transmettent les contraintes au sol. Dans la Première phase, des éléments similaires, de mêmes dimensions sont combinés de manière à former des pâtés de huit unités chacun, groupés de façon à produire des agencements de forme géométrique différente. Ainsi, en répétant la même unité de logement, on peut obtenir des maisons de genres différents. On peut aussi, sur une plus grande échelle, rendre, l'aspect des villes différent en agençant les éléments suivant des formes variées tout en respectant le concept fondamental.

House types are formed by different combinations of 1, 2, or 3 pre-cast units, resulting in dwellings ranging in size from 600 to 1,700 square feet, many of which are 2 stories high.

Chaque modèle de maison est formé par l'agencement d'un, deux ou trois éléments préfabriqués de manière à obtenir des maisons dont la superficie varie de 600 à 1,700 pieds carrés comptant, pour la plupart, deux étages.



II·2·C



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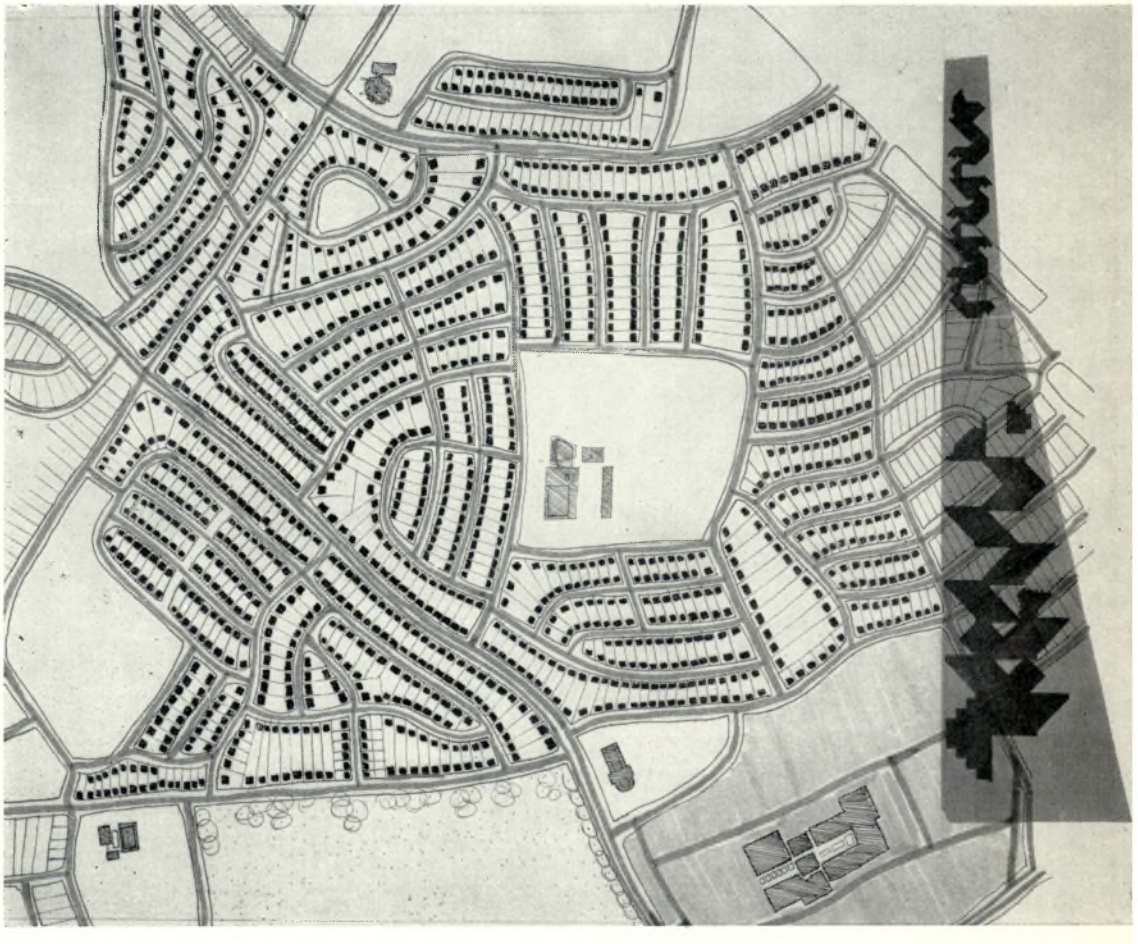
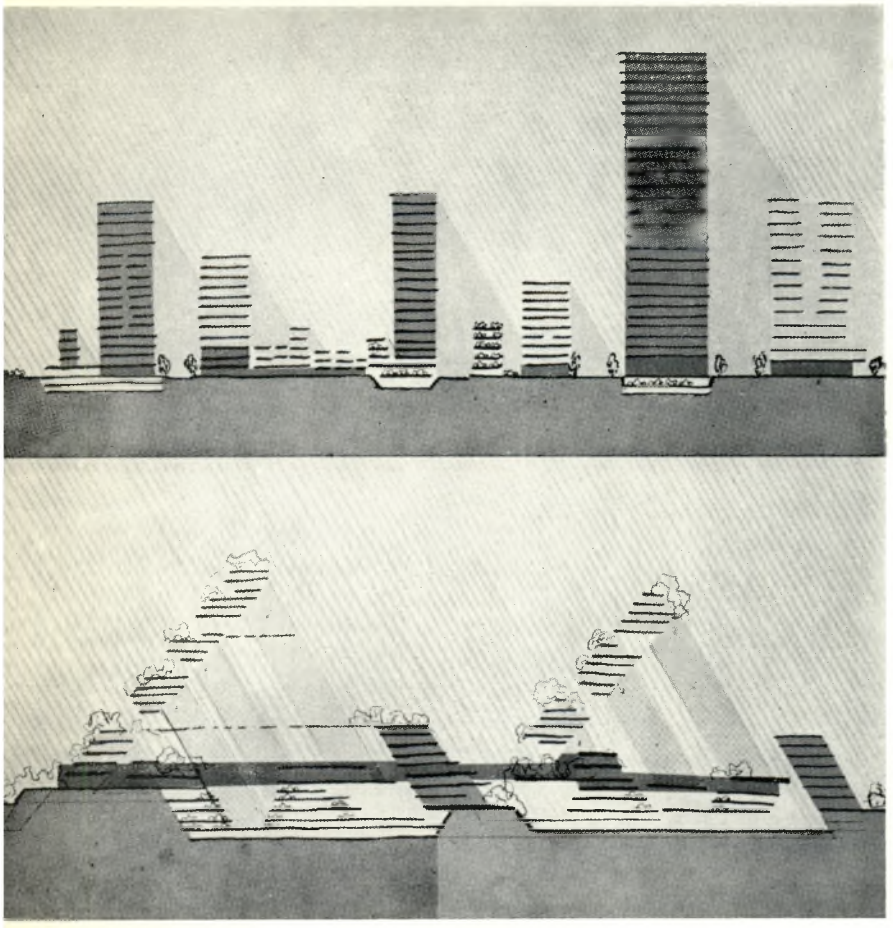




Each land use in the city has its own requirements in relation to service, to access, and to the elements. Dwellings require sunlight, view, openness, air, privacy. Commercial areas require pedestrian access, service access for delivery of goods, and proximity to the main transportation lines, shelter, as well as light. Service areas, manufacturing, storage, and parking require immediate access to transportation lines, but do not require the same light as dwellings. In the present city, these uses are arbitrarily and accidentally combined. In organizing the three-dimensional city, we must re-organize the land uses in such a way that each finds its best place within the three-dimensional whole. Houses by the light; sheltered commercial spaces served by arteries below, infiltrated by park and greenery. Continuous pedestrian networks complemented by continuous vehicular networks never interrupting each other. Not only does each land use find itself in the place, but it must complement and improve the other land uses.

DENSITY COMPARISON (left)

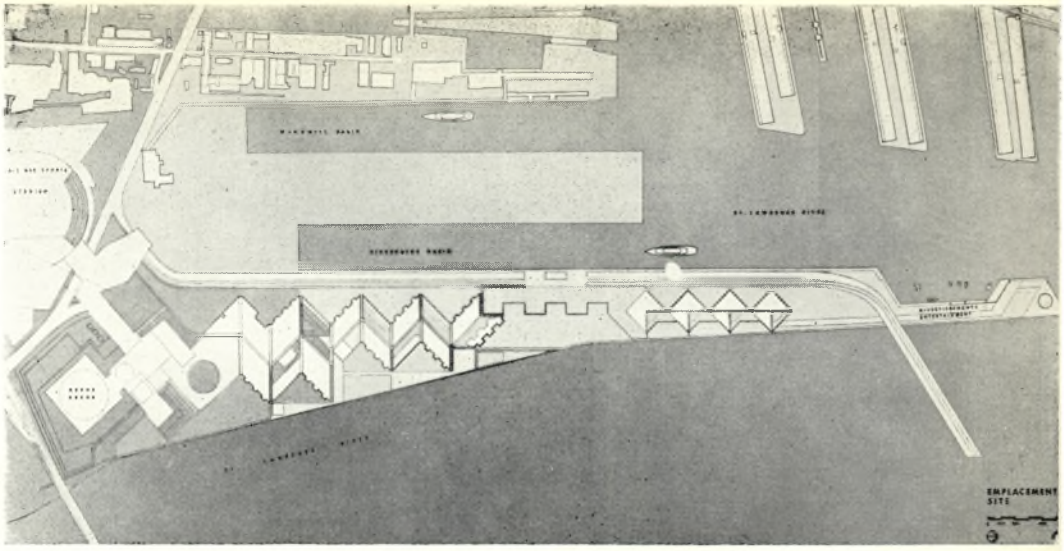
Levittown, Pennsylvania, MacKay Pier Development
Each community of 1,200 families
includes supporting commercial, educational,
religious, and recreational facilities.

COMPARAISON DE LA DENSITÉ (à gauche)

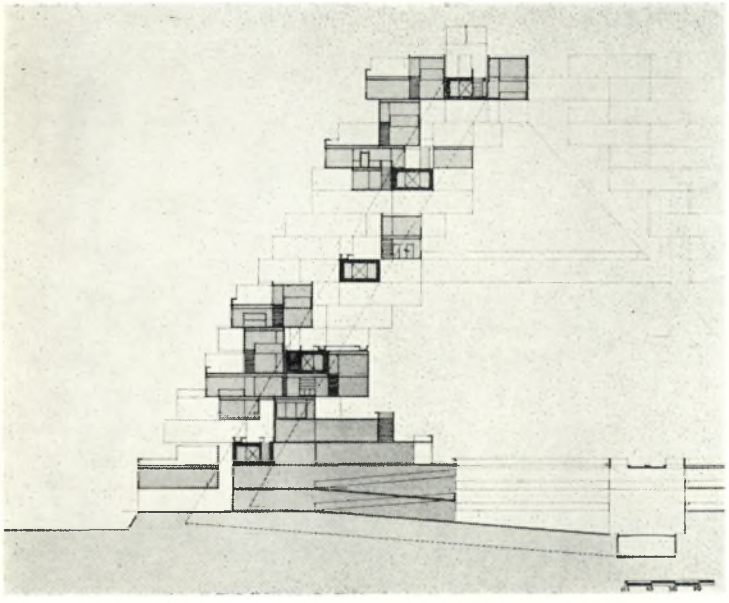
Levittown—Pennsylvania, Ensemble de logements de la Jetée MacKay
Chacune de ces deux collectivités comprend 1,200 familles
ainsi que les facilités nécessaires
du point de vue commercial, scolaire,
religieux et récréatif.

Dans une ville, chaque utilisation de terrain entraîne certaines exigences relativement aux services, aux voies d'accès et aux intempéries. Un logement demande du soleil, une vue agréable, de l'espace, de l'air, de l'intimité. Les quartiers commerciaux requièrent des voies d'accès pour les piétons, des voies d'accès de service pour la livraison des marchandises et doivent être situés à proximité des grandes lignes de transport. Ils doivent être abrités tout en étant éclairés. Les zones de service, les manufactures, les entrepôts et les aires de stationnement doivent pouvoir assurer un accès rapide aux lignes de transport mais il n'est pas nécessaire qu'ils soient aussi bien éclairés que les habitations. Dans la ville en cause ici, ces différents usages sont combinés ensemble arbitrairement et fortuitement. En aménageant la ville à trois dimensions, nous devons repenser chaque utilisation de terrain de manière à ce qu'elle convienne le mieux possible à sa destination dans le complexe à trois dimensions. Les maisons doivent être situées là où l'éclairage est le meilleur; les espaces réservés au commerce doivent être abrités et bien desservis par les artères principales situées plus bas, tout en étant clairsemés de parcs et de verdure. Un réseau ininterrompu de rues réservé aux piétons et un réseau continu de rues réservé à la circulation des voitures doivent être aménagés de façon à ne pas s'entrecouper. Non seulement doit-on trouver chaque utilisation de terrain à sa place dans cette ville, mais chacune d'elle doit compléter et améliorer les autres.

In master planning MacKay Pier as part of the Exhibition, most of the permanent structures of the Exhibition were located in such a way as to form an integral part of the community after the Exhibition closes, and to salvage as much of the investment of the Exhibition as possible to serve both the immediate community and the metropolitan population later on.



Lorsqu'on a préparé le plan directeur de la jetée MacKay pour l'inclure dans le plan d'ensemble de l'Exposition, on a situé la majeure partie des pavillons permanents de l'Exposition de manière à former une fois l'Exposition terminée, une partie intégrante de la collectivité et à récupérer ainsi la plus grande portion possible des capitaux investis dans l'Exposition en vue d'en faire profiter la collectivité immédiate et plus tard la population de la métropole.

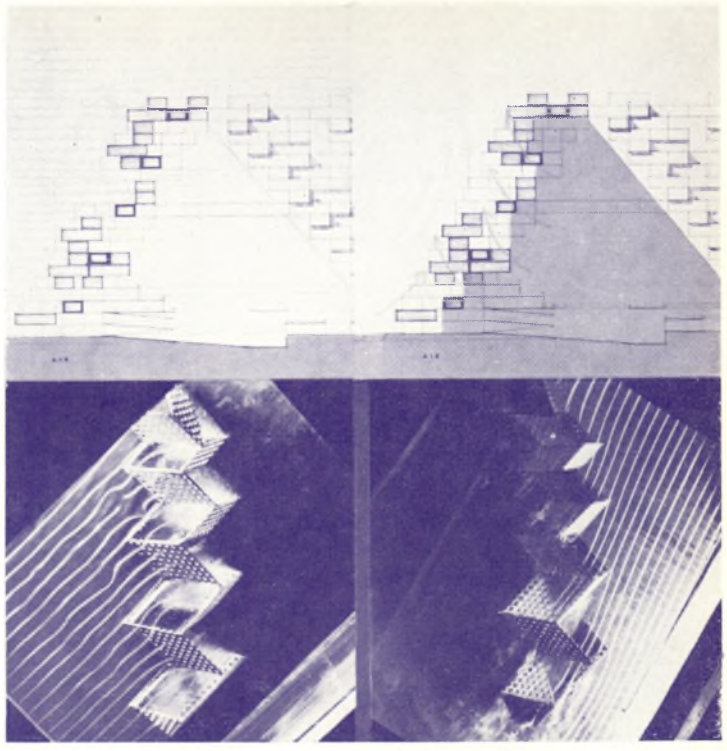


The modular units are grouped one on top of each other, setting back to form gardens on the roofs of the units below. Each house has its own garden measuring 40' x 20', overlooking the view and exposed to sunlight. The modular units are post-tensioned to each other and form the basic structure itself. The compressive forces are transmitted from one unit to the other until they reach the ground. A network of service elements is introduced horizontally every four floors. With the depth of the member are all the mechanical and electrical services. Above it, is the pedestrian street which gives access to all dwellings. This street is sheltered from the weather by a plastic canopy.

In investigating the structure of the membrane, two basic alternatives were possible. A three-dimensional skeleton frame in which non-structural space enclosing elements were inserted, and a structure in which the two are combined into a similar system. The latter system is more complex since every variation in the requirements such as openings, windows, or doors, affects the structural fabric and every decision concerning the mechanical servicing of the unit itself is affected by both structural and architectural considerations. Thus, every decision in each discipline has consequences on the others, requiring a close team working together, satisfying and modifying until all are satisfied.

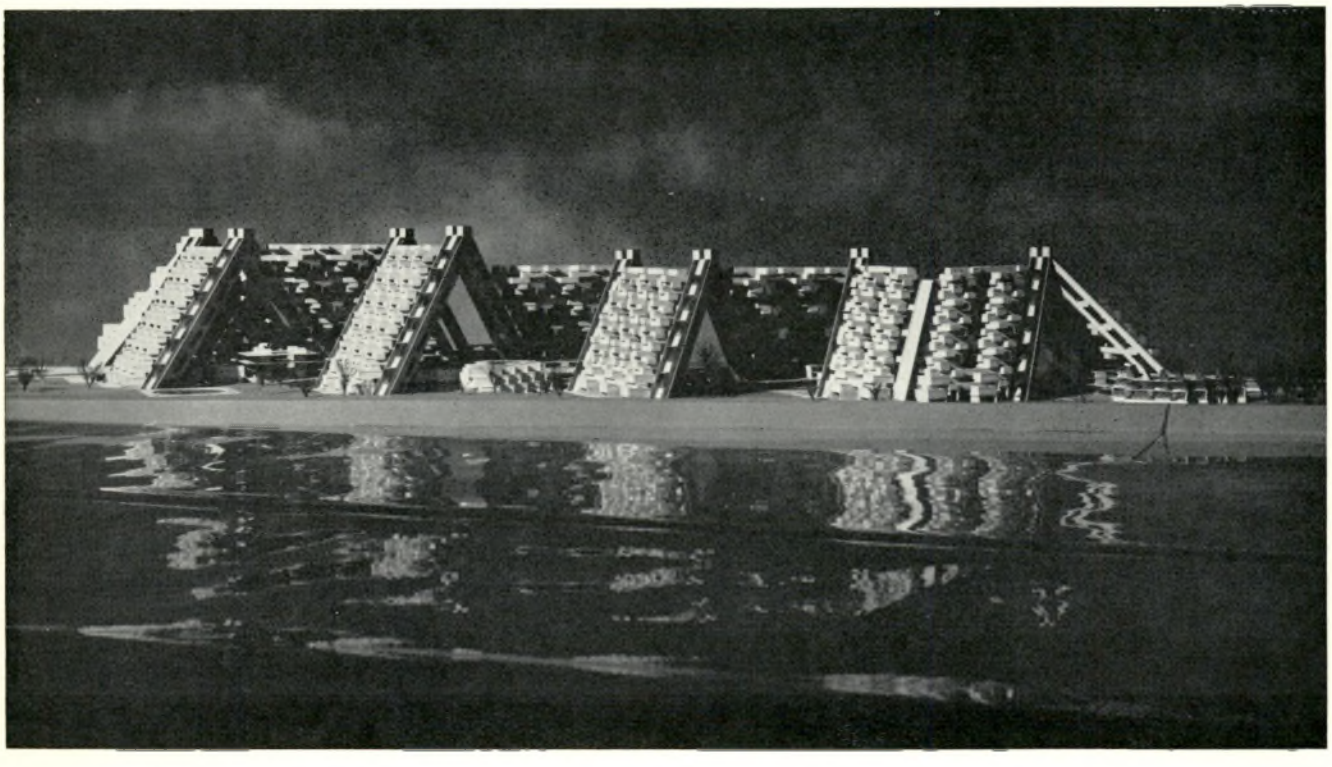
Les unités modulaires sont groupées l'une au-dessus de l'autre de manière à permettre l'aménagement de jardins sur les toits des logements inférieurs avec lesquels elles forment un retrait. Chaque logement a son propre jardin mesurant 40 pi. x 20 pi. ayant vue sur le paysage et donnant du côté du soleil. Les unités modulaires sont rellées entre elles suivant un mode de tension après l'assemblage et forment ainsi la charpente de base de l'édifice. Les forces de compression sont transmises d'une unité à l'autre jusqu'à ce qu'elles atteignent le sol. Tous les quatre étages, un réseau d'éléments de service est installé horizontalement. Tous les services mécaniques et électriques sont dissimulés à l'intérieur du membre qui forme la charpente. Au-dessus, on a aménagé la rue pour les piétons par laquelle on peut accéder à chaque logement. Cette rue est protégée contre les intempéries par une voûte de plastique.

Lorsqu'on a étudié la charpente de l'enveloppe, deux solutions fondamentales se sont présentées. Une ossature de charpente à trois dimensions à laquelle on a ajouté des éléments qui, sans faire partie de la charpente, servent à limiter l'espace et une charpente dans laquelle les deux sont agencés ensemble dans un système similaire. Ce dernier système est plus complexe du fait que tout changement dans les exigences telles les ouvertures, les fenêtres ou les portes atteint la composition de la charpente et que toute décision concernant l'entretien mécanique de l'unité de logement elle-même est influencée par des considérations tant de structure que d'architecture. De cette façon, toute décision prise dans l'une quelconque des disciplines influe sur les autres, ce qui nécessite une équipe dont les membres travaillent en étroite collaboration, vérifiant pour s'assurer et modifiant jusqu'à ce que tous soient satisfaits.



Below the membranes of houses, in a continuous public space, are grouped all the commercial and institutional facilities of the community. Shops, schools, library, art gallery, etc. And below them, in a continuous network of roadways and parking, is a service network. The membranes of houses always face south-east and south-west, giving maximum exposure of sunlight to the dwellings and also permitting the infiltration of sunlight to the public areas below. The geometry of the membranes has been arranged in a way as to permit more sun to penetrate to the public areas at winter than in summer. And the position of each membrane in relation to the other gives a uniform exposure to the prevailing winds as determined by wind tunnel tests. In summer, due to the coolness below, the membrane and the heating of the air on the exposed part of the membrane, the warm air tends to rise, forcing the cool air through the dwellings in a convection effect.

Au-dessous des parois des logements, dans un espace libre qui se prolonge d'un bout à l'autre de l'ensemble des logements, on a groupé tous les établissements commerciaux et toutes les institutions de la collectivité: boutiques, écoles, bibliothèques, galeries d'art, etc. Juste au-dessous, au milieu d'un réseau ininterrompu de rues et de parcs de stationnement, on trouve un réseau de services. Les parois des maisons sont toujours situées face au sud-est et au sud-ouest de manière à ce que les logements soient exposés au maximum au soleil et de manière à permettre au soleil de s'infiltrer autant que possible dans les aires publiques qui se trouvent au-dessous des habitations. A cause de la forme géométrique adoptée pour les parois des logements, le soleil pourra pénétrer davantage dans les aires publiques en hiver qu'en été. De plus, la position de chaque paroi par rapport à sa voisine offre une exposition uniforme aux vents qui soufflent dans la région, suivant ce qui a été déterminé par les essais du tunnel à vents. En été, à cause de la fraîcheur qui règne sous les parois des logements et de l'échauffement de l'air sur la partie de la paroi qui est exposée au soleil, l'air chaud a tendance à monter, ce qui force l'air frais dans les logements et produit un effet de ventilation par convection.



Habitat '67

par Moshe Safdie

C'est dans les pages de cette revue que les idées et les esquisses qui ont conduit au projet Habitat '67 ont été publiées pour la première fois, il y a cinq ans. Il est fort possible que cette publication ait contribué à l'acceptation de ce projet et à sa réalisation dans le cadre de l'Exposition Universelle de 1967. On a dit beaucoup de choses au sujet du concept et des idées d'Habitat '67. Je ne veux qu'en résumer les points principaux.

Habitat '67 est un mode d'habitation urbaine. Selon les données de ce mode, nous nous efforçons de loger des familles en leur fournissant toutes les commodités dont elles peuvent bénéficier dans une maison unifamiliale — du point de vue de l'intimité, de l'identité et de l'espace libre. Ce mode d'habitation permet de démontrer aussi qu'il est possible et désirable d'intégrer à l'intérieur d'un complexe urbain toutes les fonctions qui sont propres à une résidence, un établissement commercial, ou une institution et à un centre de récréation. Ce mode permet de prévoir un agencement en trois dimensions de ces fonctions urbaines les unes par rapport aux autres; il sert à démontrer aussi que chacune de ces fonctions peut mettre l'autre en valeur et la compléter. Le projet Habitat '67 s'est développé en partant de la conviction que les diverses forces, à partir de l'accroissement de la population jusqu'aux tendances économiques qui se manifestent dans nos régions métropolitaines, créent le besoin d'une utilisation plus intense et plus efficace du terrain; et qu'il faut étudier la possibilité de réaliser d'autres formes de bâtiments qui, compte tenu de la densité requise, puissent procurer les commodités tenues pour essentielles.

Tout à fait en dehors de ses conséquences reconnues, Habitat '67 est un mode de construction où l'on a adopté, aux fins de la construction de maisons, des techniques et des procédés de préfabrication sur une grande échelle et en série. Le système prévoit le moulage de grands éléments constituants suivant des procédés hautement mécanisés ainsi que le préfinissage de ces éléments, y compris l'assemblage d'éléments comme les cuisines, les salles de bain, les fenêtres, la tuyauterie et la canalisation électrique du logement, dans une usine de finissage située au sol. Sauf en ce qui concerne le travail d'édification proprement dit, tout le procédé de construction se déroule à l'usine et est surveillé à l'usine. Les mêmes sortes d'économies qui ont été réalisées dans les autres industries ne pourraient être profitables à l'habitation que par la perfection d'un tel procédé.

Le but visé par Habitat '67 n'est par limité à ces effets architecturaux et techniques, mais il se rapporte aussi à son emplacement qui en lui-même constitue une raison suffisante de son existence. En effet, l'événement que constitue l'Exposition de 1967 à Montréal entraîne l'ouverture d'un grand nombre de nouvelles artères de circulation en direction du fleuve: le prolongement de la rue University ainsi que la construction du métro et du nouveau pont qui reliera la jetée MacKay à l'île Ste-

MÉRITE — HABITAT 1967 — PREMIÈRE PHASE

Architectes	Moshe Safdie & David, Barott, Boulva, architectes associés
Expert en charpente	M. A. E. Komendant, D.E.
Ingénieurs en charpente	Monti, Lefebvre, Lavoie, Nadon & Associés
Ingénieurs en mécanique et en électricité	Huza Thibault & Nicholas Fodor & Associés
Experts en aménagement	Community Development Consultants Limited
Architectes paysagistes	Harper & Lantzius Consortium
Experts en construction	Perry Grant & Associés
Expert en aérodynamique	M. George Fekete, Ing. P.
PROPRIÉTAIRE	Compagnie Canadienne de l'Exposition Universelle de 1967
Département des installations	Colonel E. Churchill, directeur M. Édouard Fiset, architecte en chef
Entrepreneur général	Anglin-Norcross Quebec Limited
Entrepreneur chargé de la préfabrication et de l'édification	Francon limited

Hélène.

Le programme considérable de remplissage qui a été exécuté est aussi très important étant donné qu'il a créé la possibilité d'utiliser l'île Notre-Dame à des fins d'habitation et de commerce. Malgré cet aménagement, il existe toujours le danger qu'à cause des installations industrielles et portuaires qui séparent le fleuve de la ville, la plus grande partie du secteur de terre ferme soit employée de nouveau à des fins industrielles après l'Exposition. Un tel danger existait clairement en 1963 alors que la Commission des ports nationaux avait adopté la politique de transformer le terrain de l'Exposition situé du côté du port à des fins industrielles après l'Exposition. Il ne fait aucun doute qu'un aménagement intensifié du bord du fleuve mettrait en valeur la ville de Montréal et exercerait une influence plus équilibrée sur la rive sud et le centre de gravité de la ville. La seule façon de réaliser ce genre d'aménagement dans le bassin du fleuve était d'implanter un noyau, un développement communautaire sur la jetée MacKay, qui garantirait que le reste du bord du fleuve serait aménagé d'une façon semblable; qui garantirait que dans l'accroissement et le développement du port, il s'effectuerait une opération de nettoyage autour du centre de la ville; qui garantirait un taux accéléré de développement à certains secteurs comme l'île des Soeurs, l'île Notre-Dame, Pointe St-Charles et la rive sud. Ce noyau relierait le secteur centre-ville au fleuve d'une façon semblable à ce qu'on tente présentement de réaliser à New York, Philadelphie, San Francisco et à ce qui a été accompli à Chicago après l'Exposition de 1900.

Les personnes qui ont critiqué cet emplacement ne se sont pas rendu compte de la transformation qui peut se produire et qui, de fait, s'y produit présentement par suite du réaménagement; elles n'ont pas réussi à prévoir l'importance que ce genre d'aménagement dans le bassin du fleuve peut avoir pour la ville. Ce développement entraînerait aussi un réaménagement du secteur qui s'étend du centre-ville jusqu'à la jetée MacKay. Ce secteur, au travers duquel on construit présentement le prolongement de la rue University, a pendant de nombreuses années été mal utilisé à des fins d'emmagasinage et d'entreposage. Par suite de la pression exercée et de son exposition à une artère principale, on croit que l'aménagement d'Habitat pourrait influer sur le genre d'utilisation de ce secteur au cours des années à venir.

En résumé, les buts à longue portée d'Habitat sont les suivants:

1. De procurer des logements convenables à des familles à l'intérieur d'un complexe de très forte densité.
2. D'intégrer dans une collectivité toutes les fonctions urbaines.
3. De présenter un mode de construction en ayant recours à la mécanisation et à la production en série.
4. D'influencer l'accroissement de la ville de Montréal en servant de catalyseur de long de la rive du fleuve.

DEVELOPPEMENT CHRONOLOGIQUE

Il serait utile en ce moment d'étudier en détail certains aspects du développement d'Habitat '67 qui le désignent comme un projet de recherches. Cela servirait aussi à illustrer le genre de coopération et d'appui qu'un projet de ce genre exige de la part de tous les organismes publics à tous les niveaux. La réalisation de ce projet a d'abord été discutée avec la SCHL, au mois d'octobre 1963. A ce moment-là, on était d'avis qu'il fallait préparer un projet précis et suffisamment détaillé pour permettre d'en estimer le coût assez exactement; on était d'avis également qu'une équipe organisée en vue de réaliser un tel projet doit comprendre des experts en aménagement qui conseilleraient sur tous les aspects dont il faudrait tenir compte dans l'aménagement de ce projet, sur les exigences du marché et qui coordonneraient la préparation des estimations du coût. A ce moment-là, l'auteur fut dirigé vers le bureau d'experts Community Development Consultants par M. Ian Maclennan, alors directeur exécutif de la SCHL. A l'intérieur du Département des installations de la Compagnie Canadienne de l'Exposition Universelle de 1967, sous la direction du Col. E. Churchill et de l'architecte en chef, M. Édouard Fiset, un noyau d'équipe fut organisé pour élaborer le projet dans tous ses détails, pour préparer les estimations du coût et en faire une présentation complète à la direction. C'est aussi à ce moment-là, soit en décembre 1963, grâce à beaucoup de prévoyance et de détermination de la part de la Compagnie Canadienne de l'Exposition Universelle de 1967, que le projet Habitat '67 fut incorporé dans le plan directeur de l'Expo qui a été présenté aux gouvernements et qui a été par la suite approuvé. Le projet initial devait comprendre 1,000 logements, ce qui était suffisant pour justifier la réalisation de certains des services collectifs fondamentaux comme les écoles et les établissements commerciaux et permettait aussi de justifier l'emploi de

l'outillage nécessaire pour l'application de certaines des techniques adoptées; cependant, ce nombre n'était pas assez élevé pour justifier l'installation de ces services et l'utilisation de cet outillage pour des raisons commerciales économiques (car alors il aurait fallu songer à au moins 5,000 unités de logement). A mesure que l'équipe travaillant à ce projet a grossi et a compris plusieurs maisons d'experts, on a préparé des plans détaillés et on a demandé à la Foundation Company of Canada de préparer des estimations du coût (42 millions de dollars). Le plan initial prévoyait la réalisation de ce projet par l'entreprise privée. A cause de la différence entre la valeur commerciale du projet et son coût en immobilisations occasionné par les recherches, l'outillage spécial, les usines et les autres facteurs qui entraient en ligne de compte pour l'application de la nouvelle méthode de construction, cette différence devait être absorbée par une certaine forme de concession de taxe de la part des gouvernements en faveur du commanditaire qui entreprendrait de réaliser ce projet. La formule la plus intéressante était de classer le projet comme un projet de recherches et de lui accorder des concessions identiques à celles auxquelles l'industrie a droit lorsqu'elle entreprend des travaux de recherches fondamentales approuvés. Alors qu'un certain nombre de grosses compagnies étaient intéressées à entreprendre ce projet selon ces termes, les gouvernements ont décidé, au mois d'octobre 1964, de ne pas donner suite à ce plan et de faire réaliser une portion beaucoup plus petite du projet par la Compagnie Canadienne de l'Exposition Universelle de 1967, à titre de démonstration. Cela voulait dire que la C.C.E.U. entreprendrait elle-même la construction de ce qui devait devenir la première phase d'Habitat '67, en utilisant une petite portion du terrain situé sur la jetée MacKay. Le degré de participation à ce projet serait réparti comme pour tous les autres projets de l'Expo, entre les trois gouvernements, fédéral, provincial et municipal, à raison de 50 p. 100, 37½ p. 100 et 12½ p. 100 respectivement. Mais il y avait deux problèmes à résoudre. Le premier se rapportait aux techniques de construction proposées dans Habitat, et qui exigent clairement une certaine usine de base, peu importe l'importance du projet. Un outillage spécial comme une grue de montage, des moules, une usine de préfabrication, ainsi qu'un outillage de manutention devaient être prévus si on voulait démontrer le même système de construction. Il a été décidé qu'en dépit du fait que l'amortissement de tout cet outillage réparti entre 160 logements entraînerait des coûts extrêmement élevés par unité, on ferait quand même une démonstration du système de construction en espérant que cet outillage puisse être utilisé après l'Exposition. Le second problème résultait du fait que l'emplacement était isolé et que, pour le moment, 160 logements ne suffisaient pas à payer le coût des services collectifs ordinaires. Cet isolement pouvait être nuisible au projet une fois l'Exposition terminée. Pour surmonter cette difficulté, on a décidé à titre d'expérience, que le reste du terrain de la jetée MacKay sur lequel on devait construire des bâtiments temporaires durant l'Exposition serait désigné comme du terrain résidentiel et commercial après la fermeture de l'Exposition et qu'un nouveau projet qu'on espérait pouvoir appeler Habitat '67—Deuxième phase, serait aménagé pour compléter le premier et partager avec ce dernier les services collectifs installés.

En examinant le modèle des divers éléments constituants qui se trouvent à l'intérieur de la maison, le même problème se présentait de nouveau. La réalisation de 160 logements ne pouvait pas justifier le développement des modèles en question et l'outillage nécessaire pour l'aménagement de produits compliqués, fabriqués en série, comme des salles de bain d'une seule pièce, des cuisines complètes et autres éléments semblables. Ou bien, il fallait pouvoir amortir le coût de cet outillage entre un certain nombre limité d'unités, ce qui donnerait un coût unitaire élevé, ou alors il fallait abandonner l'idée d'éléments constituants produits en série. La décision qu'on a prise a été que dans le contexte d'une exposition universelle et dans le contexte d'un projet d'habitations entrepris à titre d'expérience, il était plus important de recommander l'adoption de méthodes et de techniques et la possibilité d'une production massive plutôt que de réaliser des logements à un coût peu élevé; il a donc été décidé par la suite de traiter tous ces éléments constituants comme des produits industrialisés très perfectionnés même lorsque le coût unitaire ne pouvait être réduit éventuellement qu'en augmentant les quantités à 1,000, 5,000 ou même à 10,000 unités de logement.

L'ÉQUIPE CHARGÉE DES PLANS

Une fois que le projet a été rendu au stade des plans, une équipe considérable a été formée pour étudier les nombreux problèmes techniques et y trouver des solutions. On a retenu les services d'un certain nombre de bureaux d'ingénieurs possédant une expérience variée. La méthode conventionnelle qui consiste à préparer un

projet et ensuite à demander des soumissions était inappropriée, étant donné que de cette façon on ne pouvait bénéficier de l'expérience de l'industrie au stade de la préparation des plans. On a donc demandé à l'industrie dès le début du développement de ce projet d'assigner volontairement leurs experts à l'équipe chargée des plans. Des représentants de l'industrie de la préfabrication et de beaucoup d'autres industries étaient venus se joindre à l'équipe; ils avaient pris part aux réunions hebdomadaires qui avaient été tenues et avaient contribué au développement du plan en fournissant tous les renseignements pertinents. Cependant, on a atteint un point où une industrie devait devenir engagée à l'égard de la tâche à accomplir avant de pouvoir investir les fonds nécessaires dans un programme intense de développement des plans. Afin de surmonter cette difficulté, on a eu recours à une méthode particulière en ce qui concerne les soumissions. Cette méthode consistait à demander des soumissions en remettant des plans et des cahiers des charges généraux qui indiquaient dans leurs grandes lignes les exigences de conception et demandaient des propositions qui devaient être développées techniquement en collaboration avec l'équipe chargée des plans. Une prévision budgétaire a été établie comme si on devait utiliser de l'outillage conventionnel; d'autre part, on a encouragé l'industrie à participer au coût de développement de nouveaux produits. Cette méthode s'est avérée très heureuse; elle a établi un précédent où les architectes, les ingénieurs et l'industrie pouvaient collaborer dès le début au développement et au perfectionnement des éléments constituants des logements.

Du point de vue technique, Habitat '67 est reconnu comme un projet de recherche; mais il a aussi établi des précédents dans certains aspects de la législation portant sur l'immeuble ainsi que des règlements municipaux et de construction. Une fois parachevé, il continuera à servir de projet de recherche en ce qui concerne les conséquences sociales de cette forme de bâtiment. A cause de la nature du projet, les organismes publics en cause ont pris une attitude suivant laquelle chaque aspect sera considéré à partir des principes premiers. On a jugé un bon nombre des innovations techniques et on les a reconnues comme saines et propres à être appliquées. Un grand nombre d'entre elles pourraient créer des précédents en ce qui concerne le logement. Par exemple, le problème traditionnel des évents de plomberie qui ont toujours nécessité l'aménagement d'aires pour l'entretien et les réparations au-dessus et en dessous d'un certain espace, et qui ont été remplacés par une installation spéciale qui élimine le besoin d'évents. L'emploi du plastique armé "gel-coat" pour des éléments constituants comme les salles de bain, a aussi été étudié par les divers organismes publics en cause qui ont approuvé l'emploi de ce matériau pour l'aménagement d'une salle de bain unitaire. Il y a eu aussi un bon nombre de discussions sur des points de loi — par exemple, des discussions sont présentement en cours afin de reconnaître comme rues publiques les rues réservées aux piétons dans les limites du bâtiment à trois dimensions du projet Habitat. Éventuellement, une telle façon de penser voudrait dire qu'il serait possible de classer des droits de passage non seulement au sol mais à l'intérieur d'un bâtiment, de les faire entretenir par la ville et de faire payer ces coûts d'entretien par le moyen ordinaire d'imposition. Par suite de ce projet, on étudie à nouveau des formes égales de possession, en appliquant le mode de possession par condominium, qui existe en Europe et en Amérique du sud depuis un bon nombre d'années, mais qui n'a jamais été reconnu légalement au Canada. Actuellement, seule la méthode coopérative qui est beaucoup moins flexible est employée. Habitat s'est avéré un projet distinct lorsqu'il s'est agi d'expliquer les conséquences du condominium au public et aux organismes législatifs provinciaux. De fait, la Chambre d'immeuble du Canada ainsi que la Chambre d'immeuble de Montréal ont adopté le projet Habitat comme le cobaye qui doit servir à faire adopter la législation relative au condominium.

L'expérience acquise au cours des deux dernières années a démontré d'une façon non équivoque les points faibles de l'industrie de la construction. D'autres industries importantes sont organisées avec le concours de grandes sociétés qui investissent des millions de dollars dans des recherches fondamentales, pour le développement de nouveaux concepts et la fabrication d'outillage en vue d'une production plus variée. Grâce à une commercialisation des produits sur une grande échelle, elles sont en mesure de recouvrer ces placements. Un fabricant d'automobiles peut investir des millions dans l'outillage nécessaire pour produire un seul type de voiture et une société comme Dupont peut investir également des millions pour perfectionner des produits comme la cellophane ou le nylon. L'industrie de la construction pour sa part se divise en des milliers de petits manufacturiers dont chacun fabrique un produit

conçu et perfectionné indépendamment des autres. La conception des plans est confiée à l'architecte qui est tout à fait séparé de l'industrie tandis que la réalisation en est confiée à l'entrepreneur qui n'a rien à voir avec l'un ou l'autre. De même, les concessions de taxes accordées à la plupart des industries aux fins de recherches, ne peuvent s'appliquer entièrement à l'industrie de la construction. Certains matériaux produits par d'autres industries ne sont adoptés que plus tard pour la construction de bâtiments. Le rapport entre l'architecte qui conçoit le complexe dans son ensemble, l'ingénieur industriel qui conçoit le produit lui-même et l'entrepreneur qui assemble les divers produits doit se transformer en une seule association. Cette association pourrait développer des méthodes en vue de construire, de fabriquer toutes les pièces requises, d'entreprendre des recherches fondamentales, d'assurer l'installation et le maintien des services et de commercialiser les produits ainsi obtenus sur un plan international ou national. Nous nous sommes rendu compte, grâce à Habitat '67, que la construction suscite ses propres problèmes techniques particuliers et qu'on ne peut résoudre ces problèmes que si l'industrie de la construction entreprend des recherches particulières à cette fin. Parce que l'industrie n'est pas organisée en ce moment pour donner suite à des programmes de ce genre et parce que présentement, par rapport aux autres industries, elle profite le moins des concessions qui sont faites aux fins de recherches, les gouvernements doivent prendre l'initiative de lancer des programmes qui placeraient l'industrie de la construction — et en particulier l'industrie de la construction d'habitations — sur un pied d'égalité avec d'autres phases de l'économie.

NORMES DE VIE — COÛTS DE CONSTRUCTION

Les méthodes de construction adoptées pour le projet Habitat '67 ont pour objet de réaliser un certain degré d'économie et de qualité. Il est clair qu'il n'est pas possible d'en profiter, cependant, avant qu'on en ait fait une application sur une grande échelle. L'expérience acquise par suite de ces applications permettrait en effet de réaliser des économies plus considérables à mesure que les méthodes et les procédés se perfectionneraient. On ne pourra tirer profit de la production en série qu'une fois que le système aura été adopté et qu'on aura examiné d'un oeil critique les diverses phases relatives à la main-d'oeuvre et à l'emploi des matériaux. Avec les méthodes que nous employons de nos jours, cela n'est pas possible. Mais il existe des considérations plus vastes de l'économie que l'on ne doit pas ignorer. Il faut tenir compte du coût de l'aménagement des services sur les terrains, de la distribution et du transport, qui est inhérent dans une forme d'habitation par opposition à l'autre. A mesure que les centres métropolitains se développent, que le terrain devient rare et que les distances de communication et de transport augmentent, toute forme d'aménagement urbain qui permet de réaliser une épargne de ces coûts serait mieux en mesure de faire concurrence aux autres. Vu que les valeurs du terrain sont une indication du besoin et de la disponibilité de cette ressource et permet ainsi de calculer le coût dissimulé, mais qui se rattache à une forme particulière d'aménagement, on peut établir que la maison unifamiliale, qui de nos jours est installée sur un terrain de $3,000 est une forme économique d'habitation lorsqu'on songe que le même terrain coûtera $15,000 dans cinq ou dix ans.

Ainsi, le rapport entre le coût réel de construction et tous les autres coûts change constamment. La portion qui se rapporte à la construction est à la baisse par rapport aux autres coûts. Les formes d'habitations pour lesquelles il faut utiliser au maximum le terrain dont on dispose peuvent de plus en plus soutenir une concurrence favorable.

Dans quelle catégorie d'habitation peut-on ranger Habitat? S'agit-il de logements pour les personnes à revenu faible, moyen ou élevé? Habitat est un genre d'habitation pour toute la population en général, c'est un mode de construction. En tant que forme d'habitation urbaine, il doit accommoder tous les groupes de personnes, peu importe la classe de revenu à laquelle elles appartiennent. Si on l'utilisait et si on le considérait comme une forme d'habitation réservée à l'un des groupes en particulier, ce serait faire croire à son manque d'universalité. Cela soulève la question du rapport qui existe présentement entre les diverses classes de revenus. Une habitation à bon marché est clairement une expression considérée plus du point de vue du financement que du point de vue de la construction. Une comparaison du coût par pied carré de n'importe lequel de nos ensembles de logements sociaux "à bon marché", comme le complexe Jeanne-Mance à Montréal, du coût d'un immeuble d'appartements construit à des fins de spéculation pour la classe moyenne supérieure des revenus, du coût d'un bungalow pour la classe moyenne des revenus dans la même ville, indiquerait que le coût par pied carré est assez constant. Cela veut dire que toutes les formes

d'habitations se ressemblent assez en ce qui concerne le coût unitaire; ce sont les formes de financement qui varient. Dans le cas des logements sociaux, les subventions entrent en ligne de compte afin de les mettre à la disposition d'un groupe de personnes appartenant à une classe particulière des revenus. Dans le cas de la maison unifamiliale, on a recours à un système favorable de prêts sur hypothèque afin de placer ce genre de logement à la disposition de la classe moyenne des revenus. Et dans le cas de l'immeuble d'appartements construit pour la spéculation, dont le coût unitaire est le moins élevé de tous, on se sert d'un système de location qui assure au propriétaire un revenu rapide sur son placement, ce qui constitue pour le public la moins favorable de toutes les propositions.

Ce qu'il faut souligner, c'est que le but que nous visons à atteindre éventuellement est de fournir plus de logements qui exigeraient moins de main-d'oeuvre et de matériaux, de sorte que nous puissions fournir le plus de logements possible à toute la population. Et cela ne peut se réaliser que par l'adoption de nouvelles méthodes de construction. Pourtant, nous ne devons pas oublier que nous établissons une norme de vie dans les limites des possibilités de l'économie. Il ne fait aucun doute qu'il serait plus économique d'employer la méthode de construction d'Habitat en construisant des tours où les unités seraient groupées de part et d'autre de corridors, sans prévoir des espaces libres et les autres agréments qu'Habitat prévoit. Il ne fait aucun doute non plus qu'on a pu réaliser des ensembles d'habitations d'une densité plus forte que celle d'Habitat. Par exemple, Stuyvesant Town à New York a une densité qui est de 50 p. 100 supérieure à celle d'Habitat. Seulement, sommes-nous disposés à accepter une situation semblable comme une norme acceptable de vie? Je suis d'avis que dans notre présente économie d'abondance, une économie qui ne produit pas à pleine capacité, nous devons nous efforcer d'améliorer et de mettre en valeur le voisinage. Nous devons offrir à la famille, au public, au moins les mêmes commodités que celles dont ils jouissent en ce moment et nous devons continuellement nous efforcer de les améliorer. Dans ce sens, Habitat '67 établit une norme et présente un mode de construction qui rendra possible l'adoption de cette norme. Il est impossible toutefois de l'évaluer à sa juste valeur, si on s'en tient aux conséquences à courte portée du premier programme de construction qui ne comprend que 160 unités.

L'architecte ne peut pas vivre en dehors de la réalité politique de son temps. Pour la première fois dans l'histoire, nous acceptons le fait que chaque homme a droit à des privilèges sur le plan économique et social — non seulement dans notre propre collectivité, mais d'une façon universelle. Pour l'architecte, cela signifie que l'économie est une obligation morale.

Une économie totale et véritable résulte de l'adoption d'un procédé et d'une méthode ainsi que des modes d'installation et de tous les facteurs qui l'influencent.

Notre obligation morale est de donner le plus possible (et le meilleur possible) à tous! Mais nous avons un autre rôle à remplir et c'est celui d'établir les normes de vie. S'il incombe à l'économiste d'établir certaines de ces normes, c'est l'architecte qui doit leur donner une certaine image, une certaine interprétation matérielle.

Dans le contexte du développement intellectuel et politique de notre époque, aucun architecte ne peut s'acquitter de son obligation morale sans tenir compte de l'habitation, de l'urbanisme; le voisinage doit être son souci principal et le plus important.

De nos jours, il existe une grande diversité et différence entre les normes de vie, d'un pays à l'autre et même d'une région à l'autre. Toutefois, si la pensée politique-intellectuelle de notre époque doit prévaloir, et je crois personnellement qu'elle prévaudra, nous devons alors accepter aussi qu'avec le temps les différences qui existent dans les normes en différents endroits disparaîtront et deviendront les mêmes pour toute la population de notre planète. Pensez un peu à ce que cela signifie pour le constructeur. L'économie, en réalité, est une obligation morale.

Nous devons attendre le parachèvement du projet avant d'en discuter et d'en évaluer les conséquences sociales. Cependant, l'expérience des deux dernières années a déjà indiqué qu'un programme de recherches entrepris comme dans le cas d'Habitat, a préparé le terrain pour l'industrie, pour les organismes publics intéressés à l'habitation et pour un certain groupe à l'intérieur de la profession même, en vue d'obtenir leur collaboration au développement de certains aspects de l'habitation. Il est très significatif que ce développement se soit produit grâce à l'initiative d'une compagnie de la Couronne, qu'il ait été financé par trois gouvernements, qu'il ait reçu l'appui du public en général et de la presse dont l'intérêt a rendu possible la réalisation d'un tel projet. Tout cela constitue un signe encourageant de ce qui va se produire dans le milieu urbain au Canada.

Réalisation d'HABITAT '67

par Stewart Andrews

C'est au mois de décembre 1963, que j'ai pris connaissance pour la première fois du projet Habitat '67. C'est alors que le directeur exécutif de la Société centrale d'hypothèques et de logement, M. Ian Maclennan, m'a téléphoné pour m'exposer les grandes lignes du concept de ce projet.

Dans son bureau à Ottawa, il avait discuté du projet Habitat '67 avec M. Moshe Safdie de l'Expo '67 et M. Jean-Louis Lalonde du Comité des compagnies canadiennes de ciment. Il m'a demandé alors si je voulais bien rencontrer les deux architectes et exprimer mes vues sur la façon dont le plan devrait être mis à exécution. Il m'a laissé entendre qu'à cause de l'expérience que j'avais acquise dans divers autres projets, ma présence pourrait être utile. Il a fait alors allusion au rôle que j'avais joué à la direction de l'aménagement du nouveau projet de Flemingdon Park à Don Mills, en Ontario, qui est connu internationalement.

Telle a été ma prise de contact avec le projet Habitat '67. Je n'en ai jamais été dissocié depuis ce temps-là.

Quelque temps plus tard, mon associé, M. Eric Bell et moi-même avons rencontré MM. Moshe Safdie et Jean-Louis Lalonde à ma résidence de Don Mills, où je me rétablissais d'une appendicectomie. Entre - temps, nous avions pris connaissance des articles écrits par M. Safdie pour sa thèse d'université et pour cette revue. Son imagination et la profondeur de sa conception du plan modulaire nous intriguaient tous les deux.

Il a aussi le don de présenter ses idées avec clarté; de plus, il possède la tenacité nécessaire pour les faire accepter.

M. Eric Bell et moi-même n'avons pas tardé à nous rendre compte qu'il s'agissait là d'un architecte qui était capable de concevoir et de réaliser des oeuvres d'un caractère et d'une qualité rares dans le domaine de la construction et de l'aménagement. Nous avions établi déjà un rapport immédiat.

Le résultat de notre rencontre avec MM. Moshe Safdie et Jean-Louis Lalonde a été que le Comité des compagnies canadiennes de ciment a retenu les services de notre bureau, Community Development Consultants, pour préparer une étude sur la possibilité de réaliser Habitat '67. Nous disposions d'à peine six semaines pour terminer cette étude qui devait être préparée avec la collaboration de l'équipe chargée des plans de l'Expo. A ce moment-là, nous devions déterminer les quatre aspects du projet Habitat '67.

Pour cette étude, nos instructions étaient les suivantes: Habitat '67 serait un secteur résidentiel permanent à caractère urbain, créé pour l'Expo '67; il s'agirait d'un complexe d'habitations de haute densité qui permettrait de démontrer d'une façon sensée et frappante de nouveaux concepts d'habitation urbaine; il fournirait un milieu contrôlé en étroite relation avec la nature; et enfin, Habitat '67 devrait comprendre des logements de même que des services sociaux, éducatifs et commerciaux, des parcs, des terrains de jeu, des routes et des aires de stationnement, des réseaux de transport en commun et des services que les citadins considèrent habituellement comme admis.

Une étude sur la possibilité de réaliser un tel projet n'était donc pas une petite tâche. Nous y avons travaillé avec ardeur sept longues journées par semaine. Nous nous sommes installés dans les bureaux de l'Expo à Montréal, afin de travailler en étroite collaboration avec l'équipe chargée des plans. Nous avons fait appel à l'expérience de l'équipe chargée de l'aménagement. Nous avons tiré profit des connaissances d'organismes comme la Société centrale d'hypothèques et de logement, la Royal Trust Company et diverses autres maisons d'experts.

Aussi, à force de travail ardu, de connaissances et

d'expérience, nous avons établi les grandes lignes de notre étude et fait des recommandations relativement au développement du projet Habitat '67, qui se sont avérées heureuses par la suite. A titre d'hommage très sincère, je dois dire que je n'ai jamais vu une équipe chargée des plans accomplir autant en si peu de temps.

Parce que nous étions mêlés aux projets d'aménagement, nous, de la maison Community Development Consultants, avons institué un système pour diviser les formes fondamentales d'activité en trois catégories principales. En premier lieu, il y a la planification et l'aménagement de l'emplacement. Puis, il y a la conception du bâtiment et la construction elle-même. Enfin, il y a le financement et l'administration.

L'expérience nous a appris que dans la réalisation d'entreprises immobilières qui en valent la peine, le facteur le plus important est sans doute la création d'un milieu collectif désirable où les gens désirent réellement vivre. Incidemment, c'est généralement la situation qui se présente dans les endroits où la valeur du terrain est la plus élevée et où l'on réalise les meilleurs profits. Habitat '67 ne fait pas exception à cette règle.

On a écrit de nombreux articles dans divers journaux et dans un certain nombre de revues sur les caractéristiques du plan architectural et de la construction d'Habitat '67.

De fait, une autorité comme M. Moshe Safdie lui-même traite ce sujet dans le présent numéro de la revue Habitat.

La jetée MacKay qui a été recommandée dans le plan officiel pour servir d'emplacement au projet Habitat '67, était acceptable à condition qu'on fasse certaines améliorations à l'emplacement lui-même. La nouvelle voie d'accès créée par le prolongement surélevé de la rue Université jusqu'au bord de l'eau a créé une atmosphère entièrement nouvelle. Elle rend en effet l'emplacement très convenable à un complexe d'habitations.

Puis, l'amélioration des routes conduisant à la rive sud de Montréal a donné à l'emplacement une nouvelle importance urbaine qui permet de faire d'autres utilisations du terrain. En même temps, l'aire elle-même peut être abritée contre l'activité distrayante ou les autres désagréments du voisinage.

Le réaménagement du bassin Bickerdyke, situé immédiatement au nord de l'emplacement, améliorera le voisinage considérablement. Toutefois, il faut trouver un moyen de supprimer les odeurs qui se dégagent des usines de salaison ainsi que la laideur du port et la pollution de l'eau à cet endroit, avant qu'on puisse donner à l'ensemble un caractère résidentiel convenable.

Il faudrait se rendre compte cependant du fait que l'aménagement d'un complexe qui formera une collectivité sur la jetée MacKay nécessitera évidemment des travaux de réaménagement entre l'emplacement et le centre de la ville. Cela représente une valeur qu'il est impossible de déterminer et dont on n'a pas souvent tenu compte dans les discussions relatives à l'aspect économique du projet Habitat '67.

D'après les études que nous avons faites, nous avons établi qu'il serait nécessaire de construire de 1,000 à 1,500 unités de logement et d'y aménager des écoles et des services de récréation, de culture et de commerce qui sont nécessaires à la vie d'une collectivité. A cause de l'accès facile à la fois du centre de la ville et de la rive sud, les bureaux qu'on y aménagerait pourraient être des bureaux régionaux.

Evidemment, un complexe de ce genre a été le fondement des premiers plans qui ont été dressés pour Habitat '67. Le nombre de logements prévus à l'origine a été réduit, mais nous envisageons d'aménager le reste de l'aire de la jetée MacKay d'une façon compatible avec le complexe initial d'Habitat '67.

Voici donc, essentiellement, l'emplacement du projet: Une aire située en bordure du fleuve, qui commande l'entrée d'une exposition universelle, une aire d'une importance stratégique pour le succès de l'Exposition au cours des quelques prochaines années et d'une influence dominante sur l'ensemble du centre-ville de Montréal en ce qui concerne la rénovation urbaine. Il s'agit d'un emplacement littéralement reconstruit, doté de nouveaux moyens de transport et de nouveaux services municipaux dont l'influence est apparente dans l'aménagement de l'aire du port et de la rive sud du fleuve.

On ne peut pas dissocier l'aménagement d'Habitat '67 de l'Expo '67. Le thème de l'Expo qui est "Terre des hommes" offrait en même temps l'inspiration et l'occasion ainsi qu'une liberté de conception qu'on rencontre peu souvent. L'architecture est imposante; elle constitue un heureux mélange d'imagination et de technologie. L'agencement d'un grand nombre d'unités de logement, comportant seulement quelques prototypes d'éléments produits en série, nécessitait le recours à une nouvelle technique de construction. La conception et l'application de cette technique avec toutes ses consé-

quences et ses complications constituaient notre tâche.

En dehors des considérations relatives à l'architecture, le calcul de la structure d'Habitat '67 était le sujet qui nous causait le plus de tracas. Afin de résoudre les innombrables problèmes de construction pratique que nous prévoyions, nous avions besoin des conseils des meilleurs experts en structure. Nous avons eu la bonne fortune d'avoir le docteur A. Komendant, ingénieur de réputation internationale, pour nous conseiller.

En dernière analyse, l'emploi de béton armé dans des moules préfabriqués, dont les raccordements sont tendus après l'assemblage a semblé le matériau le plus pratique à utiliser. Cependant, une fois que les théories eurent été développées, il nous restait à en faire une application pratique et à les adapter à la construction elle-même.

Aussi, nous avons confié les problèmes relatifs aux méthodes de construction et aux estimations du coût dans les secteurs connus à des estimateurs locaux en construction. Dans nos enquêtes sur les considérations théoriques, nous nous sommes fiés aux conseils des experts en structure et en mécanique et avons eu recours à notre propre expérience des pratiques de construction.

Naturellement, le chevauchement de ces deux domaines d'aspects connus et inconnus des méthodes et des coûts est devenu de plus en plus prononcé. Cependant, nous avons l'impression que cette amalgamation de connaissances et d'expérience a produit une technologie qu'on pourra employer avec succès et qui sera améliorée plus tard de façon à créer une nouvelle dimension dans les travaux d'aménagement.

Il ne fait aucun doute que la théorie qui préconise la production d'unités de logement en forme de "boîtes" dans une usine de préfabrication, leur finition dans une autre partie de l'usine et leur transport à pied d'oeuvre ainsi que leur mise en place à l'aide d'une grue, pour former la structure, est maintenant bien connue d'un grand nombre de personnes dans l'industrie de la construction. Le projet Habitat '67 est la première application de cette théorie.

Ce que l'industrie de l'automobile a fait pour la production des voitures, nous croyons qu'Habitat '67 le fera pour la construction d'habitations. C'est en effet une production qui s'effectue suivant un système de construction en série. Nous sommes convaincus qu'on se souviendra du projet Habitat '67 comme de la première vaste entreprise de recherches compliquées dans la construction de logements urbains.

En vue d'accélérer le progrès, nous avons rapidement établi une liaison avec des représentants de l'industrie de la construction, avec les fournisseurs de béton, avec les compagnies de préfabrication et les fabricants de grues. Ce sont ces hommes pratiques qui ont examiné les idées qui ont produit des concepts tout particuliers, qui ont imaginé des méthodes pour les mettre à exécution et qui ont fait une estimation du coût de la réalisation d'un tel projet.

Puis, nous nous sommes adressés aux fournisseurs de produits pour l'industrie de l'habitation. Parce qu'Habitat '67 est une pièce d'exposition du Centenaire, c'était une occasion unique pour l'industrie d'étaler ce qu'elle avait de mieux comme éléments constituants d'une habitation.

La question inévitable des coûts de ces éléments s'est posée et parce qu'un grand nombre des produits avaient à peine dépassé le stade de l'expérience ou le stade de la réalisation sur papier, cette question était particulièrement difficile à résoudre. Nous avons abordé ce problème plutôt impalpable de plusieurs façons, dont une a consisté à demander des soumissions pour des projets de modèles une fois que les exigences auraient été établies. De cette façon, on pourrait juger ces produits d'après leur caractère esthétique, d'après la contribution qu'ils apporteraient à l'industrie de la construction, d'après leurs aspects fonctionnels et, évidemment, d'après leur coût.

Jusqu'à ce point, donc, Habitat '67 avait connu une existence assez cahoteuse et s'était adressé fréquemment aux organismes du gouvernement et à l'entreprise privée pour solliciter leur appui. Cependant, il faut se rappeler qu'au début, ce projet a été inspiré par le gouvernement et conçu comme un moyen pour les industries de matériaux de construction de produire un modèle d'habitation qui serait bien imaginé pour le mettre en montre à l'Expo '67.

Dans ce contexte, on avait cru que le modèle initial serait préparé avec la collaboration d'un groupe de compagnies intéressées qui le financeraient et le construiraient et, une fois l'Expo '67 terminée, en disposeraient en le confiant à d'autres intérêts à titre de complexe résidentiel. C'était un arrangement sage et possible, à condition que les aspects économiques du projet soient équilibrés; mais ils ne l'étaient pas.

Une partie des recherches de la maison Community Development Consultant a été consacrée à évaluer le projet Habitat '67 d'après le marché actuel de l'immeuble.

Nous en sommes venus à la conclusion que son prix de vente n'équivaudrait qu'à la moitié du coût de construction. Une telle situation n'était pas tout à fait inattendue étant donné les nombreuses innovations qu'on adoptait pour ce projet et les techniques de construction non éprouvées Ainsi, il fallait prendre des arrangements financiers autres que les arrangements ordinaires qui prévoiraient presque l'annulation des pertes par les parrains de ce projet.

A ce point, nous avons examiné les possibilités d'exploiter les concessions de taxes actuelles. Après tout, avons-nous pensé, le projet était une entreprise de recherches qui pourrait donner aux compagnies en cause le droit à la considération d'une perte de taxes.

Nous avons donc consulté M. John B. Gick, C.A., de la maison Clarkson, Gordon & Company, de Montréal qui, à son tour, a consulté M. Heward Stikeman de la maison Stikeman & Elliott. Ces hommes sont deux des plus compétents dans leur domaine, mais en dépit de leurs efforts, nous n'avons pas réussi à établir des conditions qui pourraient répondre aux exigences du gouvernement. La multiplicité des organismes du gouvernement impliqués dans l'Expo '67, sur le plan fédéral, provincial ou municipal, ont tous contribué à resserrer un noeud qu'il était impossible de dénouer pendant le peu de temps à notre disposition.

Habitat '67 devrait donc être patronné par le gouvernement. L'industrie y jouerait un rôle de soutien important. C'est la voie que le projet a suivie depuis ce temps-là et c'est ainsi qu'Habitat '67 est un étalage de l'Expo '67 que l'on construit par l'intermédiaire de la Compagnie Canadienne de l'Exposition Universelle. Notre bureau, Community Development Consultants, s'est chargé, pour le compte de la Compagnie, du développement de ce projet et de son évolution, du stade des plans au stade de la construction.

Dans nos études des aspects relatifs au financement et à la gestion des projets, nous nous sommes rendu compte qu'Habitat '67 était presque une expression littérale du concept de condominium dans l'immeuble. Un condominium est une forme de tenure de propriété où le particulier peut acheter un logement et en posséder le titre dans un bâtiment à logements multiples, et détenir des droits à certaines aires publiques du bâtiment. Parce qu'on s'est rendu compte qu'Habitat '67 procurerait des logements familiaux dans ce qui constituait un lotissement en hauteur, il était logique que les locataires veuillent acheter leur logement.

Il est certain qu'Habitat '67 assure beaucoup plus d'intimité que celle dont jouissent les occupants des immeubles d'appartements typiques. Il renferme en effet des rues suspendues pour les piétons, qui permettent l'accès aux différents endroits, ainsi que d'autres caractéristiques qui s'inspirent de la tenure par les propriétaires-occupants. Grâce surtout aux efforts de Me Pierre Dessoulles, c.r., qui représente la Chambre d'immeuble de Montréal, la Législature de Québec a maintenant été saisie de la législation qui doit permettre la réalisation de ce concept.

La façon définitive dont on disposera d'Habitat '67 après l'Expo n'a pas encore été décidée. Au cours de l'Expo, ce projet constituera un étalage intéressant qui servira à loger des représentants des pays étrangers qui auront des intérêts dans l'Exposition Universelle. Nous sommes certains qu'à cause de son modèle, de son emplacement et de ses commodités, ce projet deviendra éventuellement une collectivité résidentielle désirable.

La première phase d'Habitat '67 est présentement en voie de construction à titre de projet qui renfermera environ 160 unités de logement, sous les auspices de la Compagnie Canadienne de l'Exposition Universelle de 1967. A notre avis, il est important d'accorder aux organismes des divers gouvernements en cause tout le mérite d'avoir patronné un tel projet et d'avoir continué de croire qu'il était possible de le réaliser. Quant à nous, nous sommes particulièrement reconnaissants au Colonel Edward Churchill, directeur des installations à la C.C.E.U. et à M. Jean Lupien, vice-président de la Société centrale d'hypothèques et de logement, qui n'ont pas cessé de s'intéresser au projet et de nous encourager dans notre travail.

Le projet Habitat '67 est d'une grande importance à cause des nouvelles idées qui ont servi à la préparation des plans et de la technologie de construction que ce projet a fait connaître à l'industrie de la construction. On a écrit de nombreux ouvrages au sujet de l'expansion de la population et de la diminution des ressources en terrain, du coût élevé du terrain et de la construction ainsi que du manque d'habitations. Par contre, on a fait trop peu de recherches et d'expériences afin de résoudre ces problèmes.

Nous croyons qu'Habitat '67 servira à prouver qu'on peut produire des habitations en série et qu'on peut les rendre confortables et habitables pour des particuliers. Ce projet, à notre avis, constitue un symbole très significatif du thème de l'Exposition Universelle, "Terre des hommes".

Snow Removal and Ice Control in Cities

by R. F. Legget and L. W. Gold

Dr. Legget is Director of the Division of Building Research of the National Research Council, while Mr. Gold is Head of the Snow and Ice Section.

Snow removal from city streets and the control of ice formation on street surfaces have come to be in recent years important, if not indeed essential, municipal activities during winter months. There has been a steadily increasing demand for these services on the part of the public. Municipal officials have had to devote much effort to meeting these demands, often without adequate equipment and faced with street lay-outs and design that were developed when accumulations of snow and ice were accepted as "inevitable".

So rapid has been the change in this situation that a conference on the subject held in Ottawa in February, 1964 is believed to have been the first public meeting in Canada devoted exclusively to a review of this particular snow and ice problem. Organized by the National Research Council's Associate Committee on Soil and Snow

Loading snow with a blower.

Mechanics, through its Snow and Ice Subcommittee, the meeting brought together over 150 people from four countries, and from a variety of disciplines. Some of the information presented to the meeting was of such direct relevance to the work of all who are concerned with town planning that this special summary report has been prepared for Habitat. Town planning in Canada must, in the future, take cognizance of the problems associated with snow clearing, the surprising total cost of which was highlighted by the material presented to the meeting.

DEVELOPMENT OF SNOW CLEARING

At the time of the First World War, most cities had to leave enough snow on their roads to provide a good surface for sleighs. Ploughing, if any, was usually restricted to the business districts of cities or to streets used by street railways. By 1930, the increase in automobile traffic made it necessary to plough most city streets, but winter maintenance of highways was still a comparatively new problem. Sleigh traffic was still a factor in rural areas and, because of this, it was often necessary to leave 4 to 5 inches of snow on top of paved highways.

The importance of organization, preparedness, and communications for the success of a winter maintenance program came to be generally recognized at about this time. Abrasives were in common use by 1936, and in some areas salt was being added to them, primarily to keep them workable in cold weather. At most airports, snow was then being compacted with drags or rollers to provide a satisfactory landing surface for aircraft. The first trials with blowers and ploughs for runway snow removal took place at St. Hubert Airport, Montreal, in the winter of 1938-39.

Since the years of the Second World War the ability to remove snow and control ice has developed rapidly, particularly at the operational level. It is now possible for Highway Departments to adopt a "bare roads" policy for highways, even in areas of heavy snowfall. The introduction of jets has made "bare pavement" mandatory for runways. Cities are now able to clear all their main streets of snow within hours of a major storm.

Because of the rapid increase in the size and scope of winter-maintenance programs, there has been little opportunity for those responsible to undertake research on techniques or equipment or to develop records suitable for cost analysis of these operations. Because of the lack of suitable cost records, it has proved to be difficult to develop even an over-all picture of the total current cost of snow removal, but the attempt has been made with the following results.

COST OF SNOW CLEARING

It is estimated that the cost of snow removal for small urban centers ranges from 5 to 30¢ per ton; for large urban areas 30¢ to over $1.00 per ton, or 10 to 35¢ per cubic yard. These figures were obtained by multiplying the estimated area of streets by the seasonal snowfall, and dividing this sum into the reported annual cost for snow removal reported by various cities. It is of interest to note that current Ontario prices for soil excavation are in the range of 35 to 40¢ per cubic yard.

Estimates of the costs of snow removal for highways ranged from 2 to 36¢ per ton. This was obtained by dividing reported costs per mile by estimated total snowfall per mile of highway. The estimated range in unit costs is presented in Table I. For comparison, the cost of melting one ton of snow using electricity or oil is also included. This estimate does not include the cost of installation and assumes that the only operating cost is the cost of the fuel to melt one ton of snow at 100 per cent efficiency.

It is estimated that in 1964 there was about 40,000 miles of urban road in Canada, and the annual cost of snow removal for these roads was between $20 and $40 million. This estimate was obtained by assuming the annual average snowfall to be 70 inches, requiring 192 million tons of snow to be removed, and the average cost of snow clearing to be $500 to $1000 per mile. Another estimate puts the annual cost at $30 million. This figure is about 30 per cent of the reported total cost of maintaining all urban roads in Canada.

Using similar figures developed conservatively for the cost of removing snow from provincial highways, airports, and railways, it can be shown that the annual *direct* cost of snow clearing in Canada is between $62 and $110 million per year. This does not include the many indirect costs, nor the amount spent for private snow removal operations. If all these costs were included, it is safe to say that it costs this country every winter something like one-quarter of a billion dollars just to remove snow.

This is an astronomical figure. What does it mean with respect to individual cities? To help answer this question, average figures for city winter maintenance budgets related to the total length of streets to be cleared and the annual snowfall are presented in Figure 1. This diagram, based on two cost surveys, one predominantly American and the second Canadian, shows that costs increased appreciably between 1949 and 1961. A consideration of costs for individual cities demonstrates this increase clearly.

The cost of snow clearing in the City of Ottawa for the winter 1916-17 was reported to be $20,000, rising to a reported $120 to $140,000 in 1939; it is now around the million dollar mark. The cost of snow clearing in Montreal was high even in 1916 when it cost from $1,000 to $2,000 per mile to keep the streets of this major business city open in winter. In recent years, however, the cost of snow clearing in Montreal is reported to be from $6,000 to $7,000 per mile.

Table II gives a comparison of the reported annual snow budgets of 1949 and 1960 for five Canadian centers. According to these records the cost of snow clearing in 1949-50 for these cities ranged from 50¢ to $2.50 per capita. In 1960 the cost of snow clearing at these same cities had risen to $1 to $5 per capita. If this same rate of increase continues, the cost per capita in 1980 could range from $2 to $10 per capita. At the same time, it is estimated that by 1980 the urban population will increase to 21 million. If both the cost of snow clearing per capita and the total urban population increase, the cost of urban snow removal will more than double in the next 15 years, approaching the $100 million mark by 1970, this being for keeping only city streets clear of snow.

If we consider now the over-all picture, it appears to be reasonably certain that the total cost of public snow clearing operations in Canada is going to double, probably within the next ten years, if automobile traffic and economic activity increases as now anticipated by statisticians.

Figures are now becoming available on the cost of specific snow removal operations, and these figures give some indication as to why costs are mounting. For example, if there is not adequate room for storage on a street, the snow that falls onto it must be hauled away. In many cities there is a growing scarcity of land suitable for snow dumps due to the needs of industry, transportation, and housing. The further snow must be hauled, the more expensive this operation becomes. One major Canadian city that still has reasonably accessible land to use for snow dumps spent, in one winter, about six times as much on loading and hauling snow as it did on ploughing streets. The cost of loading and hauling was between 70 to 80¢ per ton. The cost and need of completely removing snow in Montreal has increased to the point where it is economical to use fuel oil-fired burners to melt the snow in special pits constructed at convenient locations. Similar installations are being considered for parking lots and shipping centers. Since up to $100 million in public funds is now being spent each year on snow removal and ice control, and probably an equal amount from private funds, the significance of this whole matter, and its relevance to town planning, will be evident.

ICE CONTROL

It is difficult to separate the cost of snow clearing operations — the moving of snow from the location where it fell either to an adjacent location (as by ploughing) or its complete removal (as by trucking) — from ice control costs. Much of the increase in cost of snow clearing operations in Canada has been caused by the growing public demand for completely "bare streets" which has led to the widespread use on roads of chemicals for melting ice caused by freezing rain or by the compacting effect of traffic upon freshly fallen snow. The use of chemicals for this purpose is a matter of keen public controversy. Somewhat naturally, futile arguments must be avoided, but the use of chemicals for ice control is a fact that must be faced.

Here again the dearth of accurate statistics makes it difficult to present very accurate evidence, but even the scanty data that are available give cause for concern. In Canada it has been estimated that salt production has grown from 1.8 million tons in 1957 to 3.3 million tons in 1962 — in effect a doubling of the amount used in the last five years. Much of this increase is due to the increased use of chemicals for ice control on streets and roads. It is estimated that the amount of salt used on streets and highways has grown from 390,000 tons in 1958 to an estimated 850,000 tons in 1963. Ontario, for example, is now using over 200,000 tons of chemicals every year at a cost of about $2 million. The City of Montreal has increased its use of chemicals in twelve years from 2,600 to 75,000 tons per year. If it is assumed the 74,000 tons is spread uniformly over the 900 miles of streets, the rate of application would be 83 tons per mile or 31 lbs. per lineal ft. of street each winter. Supporting evidence of the increased use of chemicals for ice control comes from Great Britain, a country not normally thought of in connection with winter road problems, where one million tons of chemicals were used for this purpose during the winter of 1964-65.

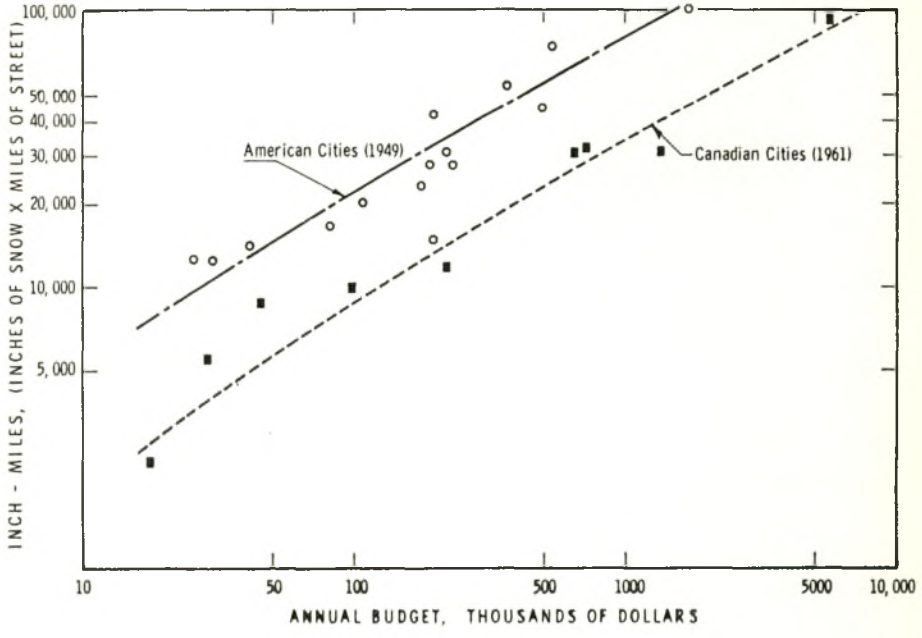
It is to be noted that figures normally cited for the cost of chemical ice control are direct costs, merely for the purchase of chemicals and their distribution on road surfaces. When indirect costs are considered, astronomical cost estimates can be produced which naturally lend themselves to controversy. No such estimates will be attempted, but it must be recognized that the costs of extra road maintenance necessitated by the use of chemicals, of concrete de-

Snow melters in action.

Sidewalk snow removal.

FIGURE 1

RELATIONSHIP BETWEEN AMOUNT OF SNOW CLEARED FROM CITY STREETS (INCH-MILES) AND SNOW REMOVAL BUDGETS



terioration in pavements and bridges as a direct result of chemical action, and above all of metallic corrosion (chiefly in automobiles) directly attributable to the use of chemicals for ice control is a formidable figure by any standard.

COMMENTARY

The methods used for snow removal today are generally familiar and need not be detailed, although accompanying illustrations show some typical examples. Some improvement in equipment and in methods may be expected as a result of current research work, but any such advances can have but a minimal effect on the total costs involved. Advances can be expected in our ability to cope with ice, but again no significant reduction in direct costs are to be expected in the immediate future.

It is now recognized that the key to minimizing the costs of snow removal and ice control is proper organization of winter maintenance groups, careful planning of operations and training of personnel, and adequate control of traffic during snow removal operations. It is also recognized that with increasing cost of winter maintenance, it is useful to have the additional control provided by up-to-date figures of specific snow removal and ice control operations. All the major cities of Canada are well aware of the magnitude of winter maintenance problems, and are continually increasing the efficiency of their operations and improving the accuracy of their records for comparative purposes and also for informing the public. One of the results of the Ottawa conference was a decision to prepare for civic use an operating manual on snow removal methods, operations and costs; this is now being prepared by a group of interested experts.

Another significant fact brought out by the conference was the general lack of appreciation of the excellent services available throughout Canada from the Meteorological Branch of the Federal Department of Transport, Canada's justly famous "Meteorological Service". If proper application is made, any city can arrange to receive regular reports of probable snowfalls and other pertinent weather information without which the planning of snow removal operations may not be as efficient as they should be.

Advance warning of snow storms can be invaluable in many ways. Certain hours of the day are more critical than others, particularly for urban and airport operations, as are certain days of the week, depending on the pattern of traffic. Since snow removal and ice control are carried out over a relatively wide area, with the exception of airport maintenance, details on the anticipated time of commencement of snowfall, the nature of the snow, whether dry, moist or wet, the rate of accumulation and time of ending, is needed for appropriate sections within each area. It is also useful to know the length of the interval until the next snowfall, and its general characteristics.

This is only some of the information that can now be obtained, which will assist so materially in the regular "Battle with the Snow" of every civic administration. The costs that are now involved, even for small cities, alone make the whole question of snow clearing and ice control one of the greatest importance in the operation of our cities and towns, but the safety and convenience of those who live in urban communities will always be paramount.

Table I

ESTIMATED RANGE IN COST FOR REMOVING ONE TON OF SNOW

Service	*Range in Cost for Removing 1 ton of Snow, cents*
Small airports	4 - 12
Large airports	6 - 36
Highways	2 - 36
Small urban centers	5 - 30
Large urban centers	30 - 100 or more
Electricity	84
Oil	42

Table II

SOME REPORTED ANNUAL SNOW BUDGETS, 1949 & 1960

City	*Year*	*Annual Snow Budget*	*Cost Per Mile*
Montreal	1949	2,000,000	3050
	1960	6,000,000	6900
Toronto	1949	650,000	1100
	1960	1,380,000	2400
Winnipeg	1949	180,000	410
	1960	670,000	1090
Guelph	1949	8,000	110
	1960	76,000	970
Moncton	1949	28,000	59
	1960	235,000	2100

TRAVELLING SCHOLARSHIPS

This is the third and last of a series of articles by Anthony Cook, who received a CMHC Travelling Scholarship to study housing in Canada and United States.

PITTSBURGH

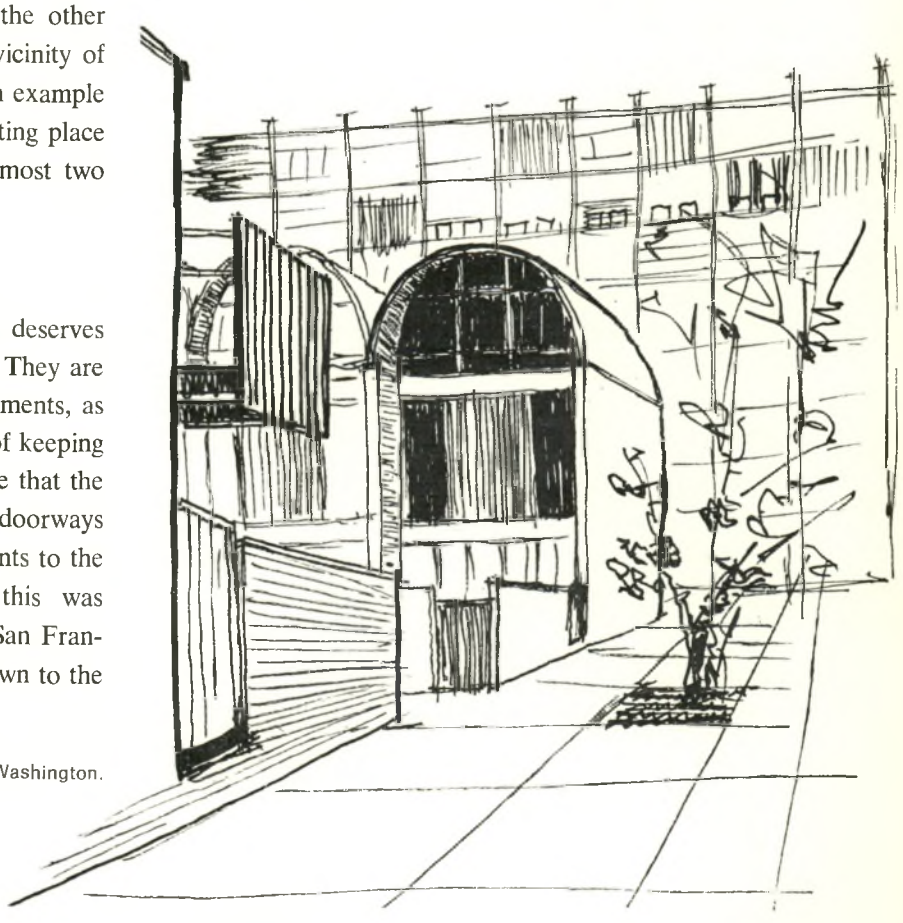
The impressions of Pittsburgh have already been summarized in the introduction to this report. This city has come a long way in cleaning up the smoke, dirt, and decay of the downtown "Golden Triangle". But a walk through its concentrated core makes one immediately aware that the cleanup has also done away with much of the area's diversification. Consequently there is little to hold the people in the area after the offices have closed. At noon the city's most popular outdoor space is Mellon Square Park. At night it is practically empty, mainly because it is surrounded by office buildings on three sides, and a hotel on the fourth. Mellon Square should be compared to the classic example of a successful park, Rittenhouse Square in Philadelphia. During the day Rittenhouse Square is used by the non-working tenants of adjacent apartment buildings and by shoppers from the neighboring stores, at lunch hour it fills with office workers and in the evening it is a leisurely resting place for those out to dine at the nearby restaurants, as a place to meet a date, or merely a place to sit and watch all the other curious people. But in Pittsburgh only in the vicinity of the downtown market can one find even a token example of a multi-use area, and that is not a very exciting place for a city whose metropolitan population is almost two and one-half million.

WASHINGTON

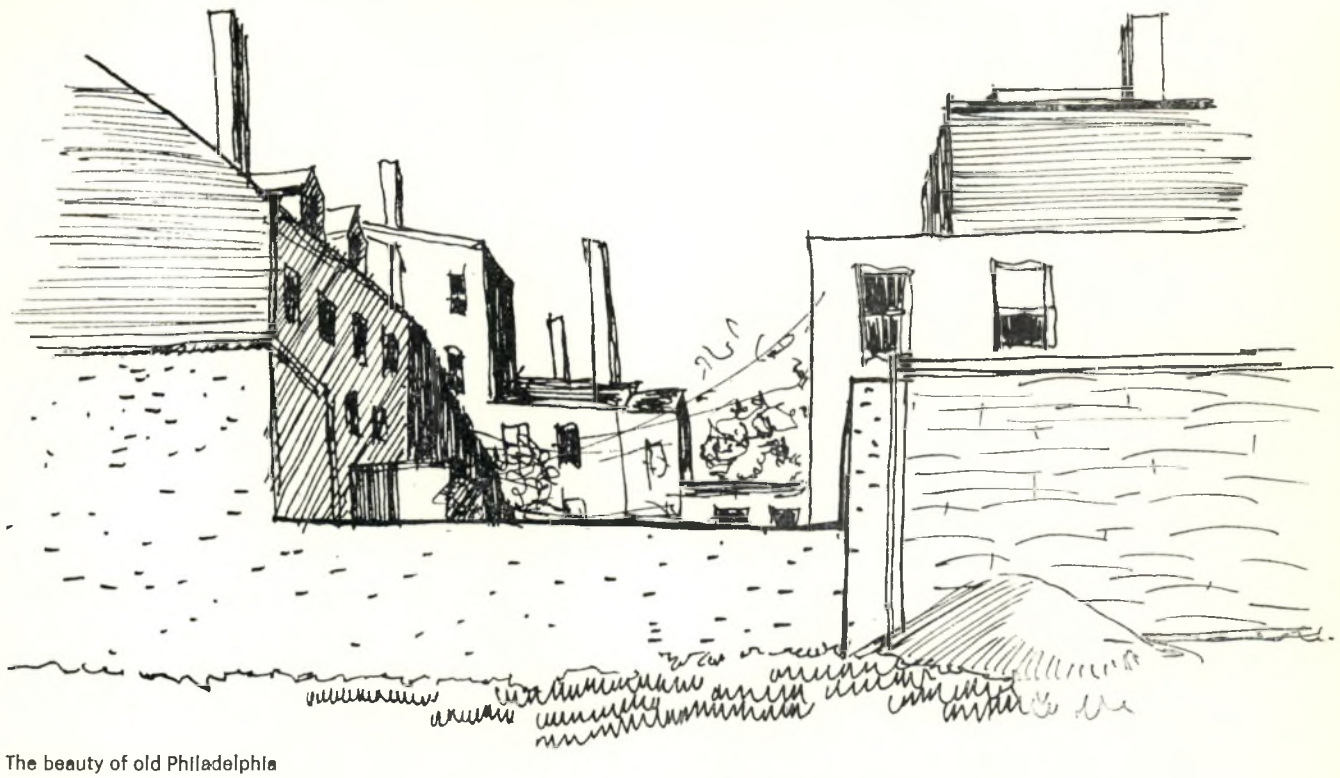
If there is any element of the street scene that deserves more attention than the rest, it is the doorway. They are necessary as transition spaces, as identifying elements, as symbols of importance, and for the simple task of keeping out the unwanted. It is more than a coincidence that the most exciting streets were those on which the doorways and entrances became places, ever-changing events to the pedestrian. The first acknowledgement of this was experienced in the beautiful stair entrances of San Francisco which often flow from elevated gardens down to the street in a sweeping curve.

In Washington's Georgetown a doorway may be the steep brick steps protruding like a great red tongue out of a handsomely carved Georgean doorway to the meticulous brick paving, a half storey below. Another entrance might be a simple flat-arched hole in the façade, which on closer inspection can be found to penetrate deeply into the building (in actuality the passage runs between two adjacent buildings), until at the extreme end of the passage a shaft of sunlight has penetrated the darkness to illuminate a door or stairway, which, despite its distance from the street, commands attention as a streetside door does. Similar versions of this entrance were discovered in Philadelphia's Elfreth's Alley and on Boston's Beacon Hill, except that in place of the flat arch the passageways were roofed with barrel vaults in old beautifully textured brick.

As a city Washington has failed. The concentration of government buildings at the citys' core succeed only as silent partners for the city's many monuments. A dead



Gimmicks and Architecture, Washington.



The beauty of old Philadelphia
is found in its urban space,
in its chaotic yet spontaneous massing,
and in the rich textures
of its weather worn materials.

general cannot lead an army.

In planned multiple housing the city's most ambitious efforts are found in the South-West Urban Renewal Area near the Potomac River. The area is being rebuilt by several independent groups of developers, most of whom have contented themselves with high rise apartment buildings standing forlornly in an empty lot. However, one developer has remembered to include some townhouses with his high rise. The most outstanding features of this scheme are the garrish gimmicks applied by the architect for the apparent purpose of brightening up the otherwise dull surroundings. These gimmicks include brightly colored panels, barrel vault roofs on the townhouses (introducing sticky problems of fixing into it rectangular window frames, and hanging curtains), a liberal splashing around of flimsy aluminum screens, and of course the usual, useless balcony projecting in all its 4′ x 4′ glory from a sheer brick wall. To criticize any further would be repetitious. These fabrications could have been replaced by distinct grade level changes, and by some freedom in the juxtaposition of the units from their rigid straight rows.

PHILADELPHIA

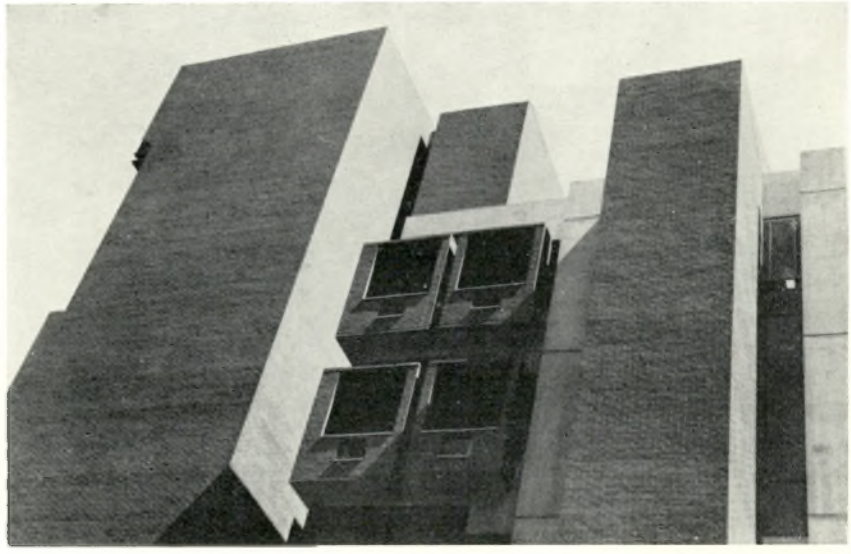
So much has already been published on Philadelphia's renaissance that any further comment would just be feeding the flames. As a truly urban city it is a rewarding study. The city's physical center, City Hall, lies quite close to the activity center where on weekdays or Sundays, day time or night time, the streets are alive with pedestrians. And these streets have not been restricted in use (they are the older streets), unlike Penn Center's predominantly office complex. And so Penn Center is not really a center, just another mistaken theory in the regimentation of man's activities. As for the old rehabilitated housing, much of it is quite handsome, but there is room for apprehension when one sees an old house completely rebuilt, brick for brick, in its original form. The new bricks and the old style come too close to eclecticism to be acceptable. And while Society Hill rebuilds, many slum ghettos remain which will be a match for Chicago's.

The automobile approach to this city is particularly depressing. For mile after mile of short blocks (beginning at Chester, Pa.) there passed by what seemed almost an unbroken string of wooden houses, rammed up against the road on both sides, each identical to its neighbor, each with its sagging porch on pseudo-Doric columns. At Kahn's Mill Creek housing, one almost thought the architect was consciously perpetuating this monotony, for each street of this project is an expressionless wall of repeating

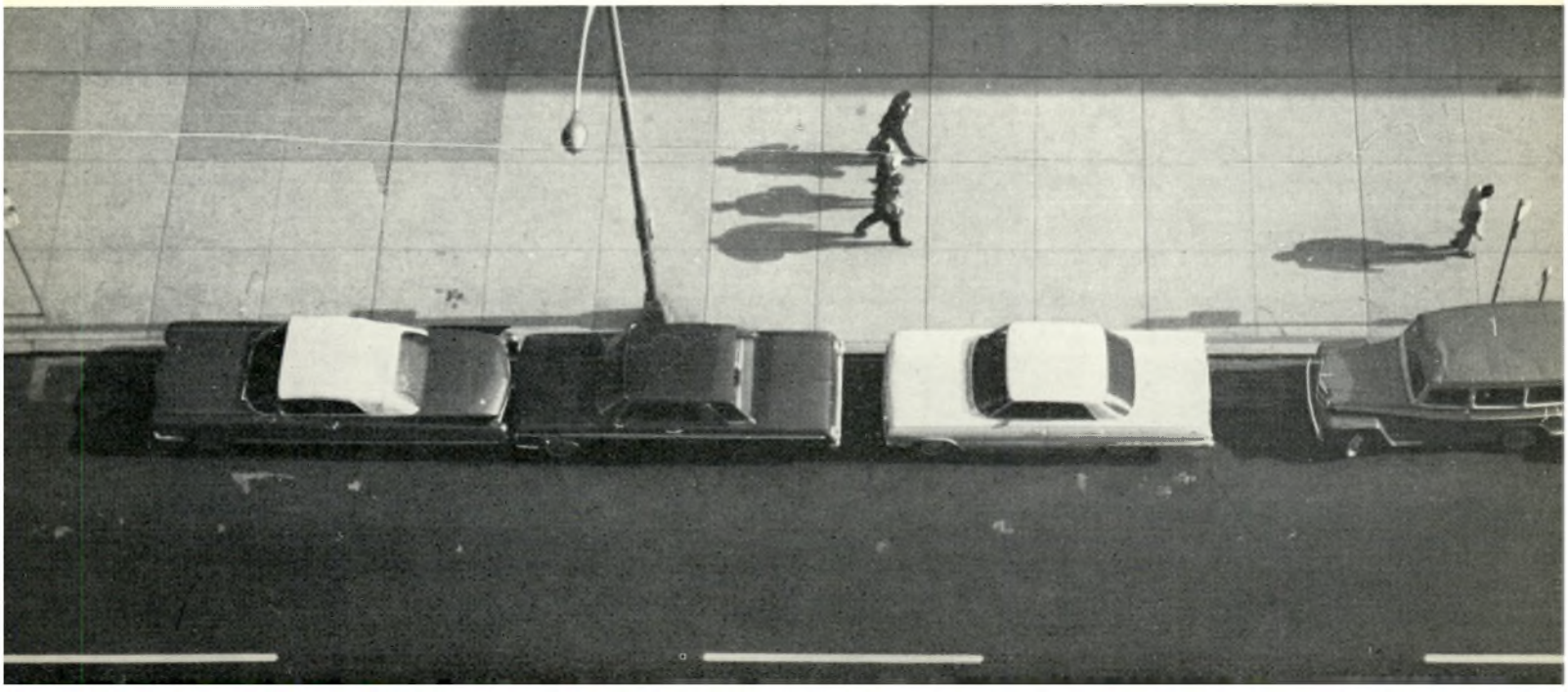
facade, each entrance without a trace of identity (think about Georgetown). Mill Creek cannot be destroyed by its tenants. The windows will be broken, and the walls will be scratched upon, but the dense Negro population will never be able to pull down their rigid masonry cells. How should these people be housed? Compared to the slum, Mill Creek is good. It shelters, it is substantial, it is dense enough to force neighborly contact on its residents, it is economical, and it is relatively clean. The tenants have place to park their cars, yards in which to hang wash, streets on which to play, schools in which to learn. The critics can lash out at its lack of privacy and identity. But are these things desired or even recognized by the Negro? Second thoughts on Mill Creek might be more favorable: (1) The Negro, as a persecuted race in America, has long been compelled to "herd" instincts in his living environment, either because of white superiority, in rank and in number, boxing him in (e.g. Harlem), or because he has found that only by organizing his own race is he liable to oppose white domination; (2) The Negro has not experienced the white man's ambitions for individuality, the capitalistic tradition of stepping over fellow man rather than with him; (3) Conclusion: the Negro may well need and appreciate an environment in which commonness and social compatibility predominate.

This is not an excuse for Mill Creek. Whether Kahn is successful or not would require much further study than this tour allowed. Instead, it is a suggestion that the needs of the masses and the needs of the individual have all too often been treated as one.

Kahns' Medical Research Laboratory, University of Pennsylvania.



Sidewalks are the arteries of cities but they must go somewhere or they must serve diversified urban activities. This lonely sidewalk runs through Penn. Center, Philadelphia and it expresses quite aptly the barrenness of this monumental, but specialized city center complex.

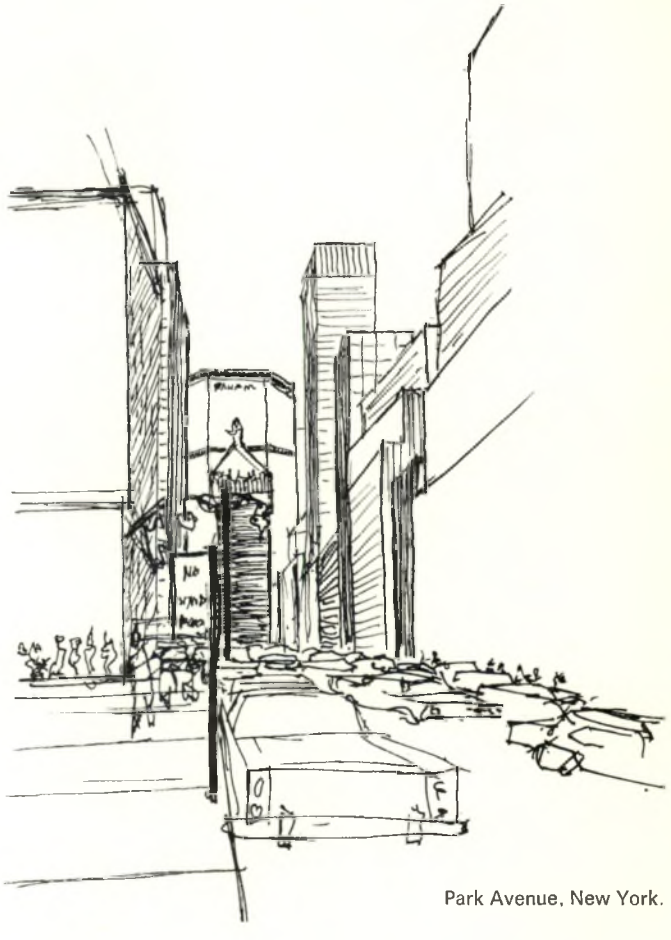


The Manhattan skyline would impress anyone, especially when seen from the New Jersey side as it pierces up through a flatland of oil refineries. Once downtown, of all the attractions the city offers, none is more exciting than that of the great crowds of people who populate the streets, not to mention the automobiles which snarl at each other to gain an inch of forward progress — and it often takes several changes of the traffic light to negotiate a Park Avenue intersection, because of the absolute mayhem. When one sees man struggling so aggressively in his every-day existence it is time to wonder whether New York works or not.

In housing there is little to say. The type of New York development has long since been established in Stuyvesant Town, Peter Cooper Village, or what have you. Pei's Kip's Bay development is the same, only newer, slicker, and more expensive. The commuter train ride from New Haven into Grand Central would give anyone his fill of New York housing as it rattles in through the Bronx and down Manhattan Island. The tenements flash by one after the other, their occupants hanging from the windows like flies on a dead fish, for this is their only relief from New York's oppressive heat.

As an architectural experimental ground the New Haven, New York area is rich. Some projects are extremely interesting, such as Saarinen's women's college at Yale. This complex has been designed for pedestrian enjoyment, its passageways and walks providing an exciting play of massing, level changes, and vistas at least on par with Yales' older interlocking yards, whose spaces vary from the twisting, almost secret passage into the art gallery's court, to the very public space of some of the larger yards. Most other buildings or projects of note were disappointing, including Rhudolph's married students housing at Yale which, unlike his fantastic renderings of the scheme, fails to make any use of its sloping site and terraces. The buildings are lonely brick blocks on a foreign hillside. In fact one could sum up almost all the better known architecture seen on the tour (with exception of Frank Lloyd Wright) in one comment: a project never looks as good as it appears in an architectural journal, for the journals invariably use carefully cropped photographs which show only the highlights, and omit such major considerations as the surrounding buildings, which in almost all cases are most incompatible with the project in question.

New Haven itself has done considerable experimenting in housing of various social classifications. These too stand out predominantly for negative reasons. One large development by Carl Koch, a well-known housing designer, was probably the worst looking attempt seen in the United States. It could be summarized as a collection of private bungalows shoved together into arbitrary rows, the rows being distributed around the foot of a small knoll. The arrangement is completely devoid of any architectural space, in fact there is nothing visually appealing in the scheme. Another project, which showed some signs of having been designed, was Columbus Mall, a co-operative development by Carbin and Mallard. In an attempt to keep down costs, and probably as an experiment in materials, the architects used asbestos siding on their two-storey row houses. The unfortunate thing about such prefabricated materials is their cheap look. Thus the reduced sales appeal, and increased maintenance costs hardly make such economic steps worthwhile.



Park Avenue, New York.

The Boston Waterfront.

BOSTON

Boston might well be called the San Francisco of the East Coast, if one restricted himself to that peninsula comprised of Back Bay, Beacon Hill, the Central Business District, the West End, the waterfront, and the Common. Here lies the old Boston, rich in tradition, a tradition perpetuated both in historic landmarks such as the Old State House or Faneuil Hall, and in the workings of successful urban environments such as Beacon Hill and the colorful Quincy Market. Outside these boundaries the city faces many typical problems of slum, traffic congestion, and threat to the downtown's economy by the growth of dispersed centers, in particular the Prudential Center which is nearing completion on the fringes of Back Bay — a complex of commercial enterprises, banks, apartment buildings, shops, a major hotel and an auditorium.

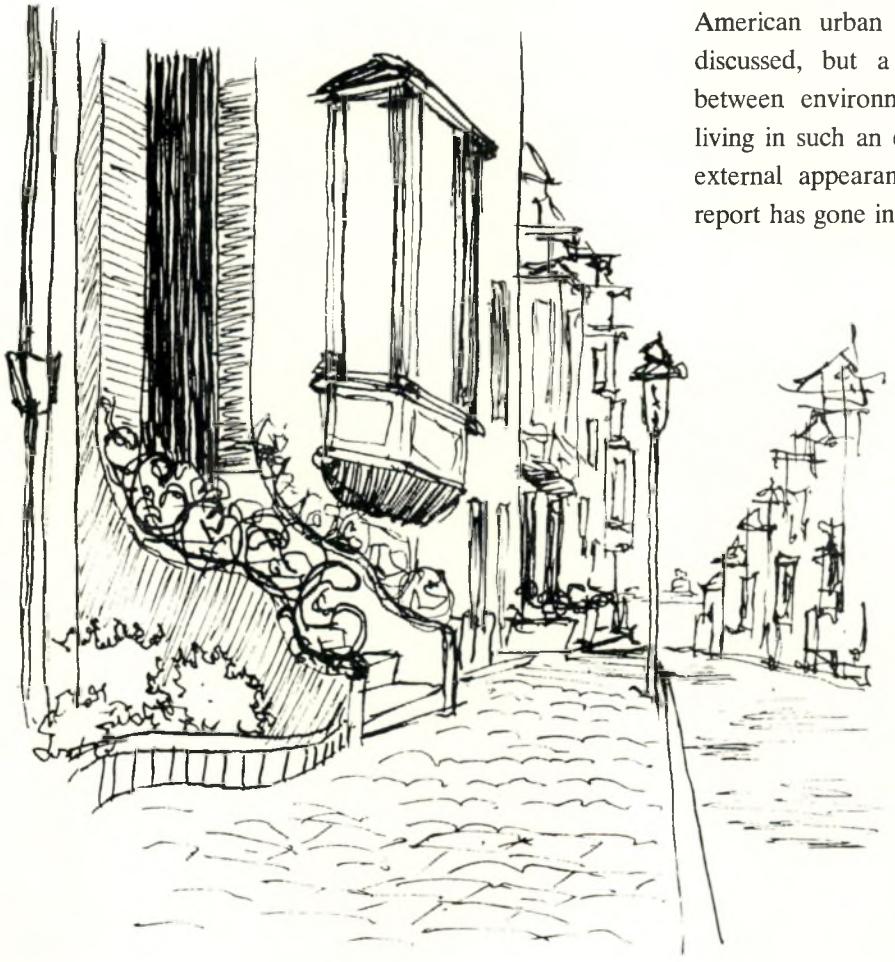
As if in retaliation to this decentralization, downtown Boston is undergoing a large shot in the arm, highlighted by the proposed Government Center. By itself such administrative buildings would not substantially increase the downtowns' popularity. But the planners have been intelligent enough to include a wide diversification of land use, including general business, rehabilitated residential, and new residential. Much of this residential is to be built on waterfront wharves, many of which are presently used for parking lots. The most interesting idea, however, is the conversion of old stone wharf structures into apartments, already undertaken with the huge Commercial Wharf building, a beautiful bit of old Boston in the city's most superb setting.

Quincy Market, Boston.

A very strong feature of Boston is the ever-present air of culture and tasteful sophistication. Playing no small part in this atmosphere is the Boston Art Festival which runs for several months each summer on the Boston Common. People of all sorts flock there, particularly in the evenings, to stare at paintings or sculpture, attend the outdoor theater, listen to the extremely popular Boston Pops, or just to take a boat ride on the pond and watch everyone else. Another obvious influence on Boston culture is the presence of several major universities. It was an important city even before the American Revolution, and the British Colonial traditions have hung on since then. If Boston is able to retain this atmosphere of perfection, it shall remain one of America's foremost cities.

RETROSPECT

The formal tour ended with the departure from Boston. This report has concentrated on different aspects of the various cities, usually those aspects which stood out strongest in that particular environment. It is obvious that the tour has dealt particularly with visual aspects of the city, and thus the impressions and criticisms contained herein are based mainly on visual appeal. Such observations are bound to be very personal. The great variety of American urban environment has been observed and discussed, but a full explanation of the relationship between environment, locality and the peculiarities of living in such an environment, involves much more than external appearance, and so neither the tour nor this report has gone into such detail.



Beacon Hill, Boston.

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