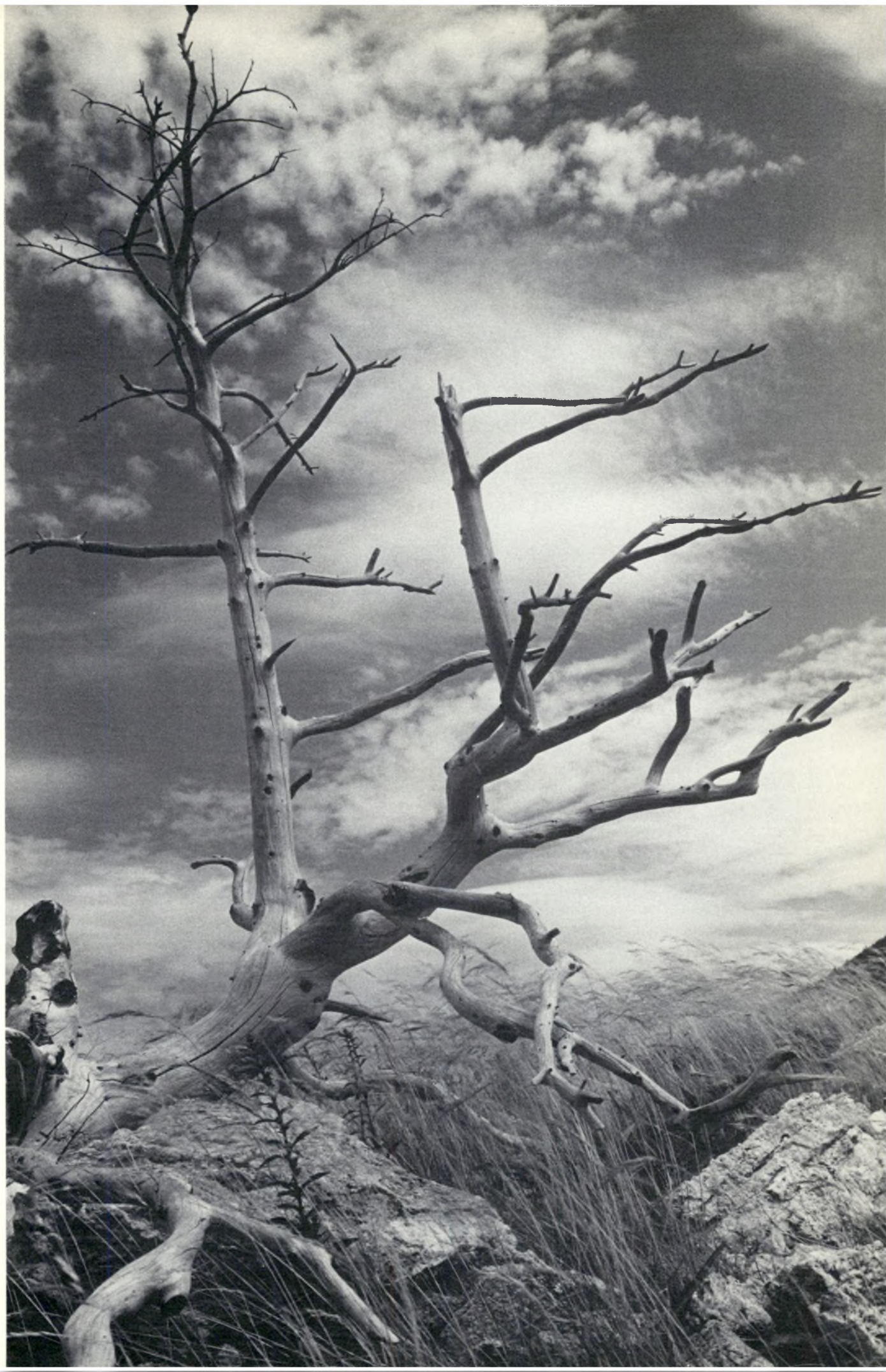


habitat

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





habitat

Volume 18 No. 1, 1975

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By David Marvin

People who work and live in the new towers of central Montreal can look down into the middle of the remnants of Griffintown. They may think, "Just another slum," or "When you've seen one slum, you've seen them all."

It is not likely that the viewer's conscience will touch him over what happened to make this area a "slum," or why today it gives off reflections of "The Wasteland" and resonances of the grimy Coketown in Charles Dickens' "Hard Times."

Griffintown is not just another slum. Less than ten years ago, it was a living community with its own distinct culture and a set of collective values that was warm and humane. It had always been one of the most neglected parts of the city, yet it had survived. And now, in a period of just a few years, almost all of this has been destroyed...

LES DES CITOYENS
GRIFFINTOWN

“It was Montreal’s first genuinely industrial area, just as Mary Griffin’s plan had made it the country’s first genuine example of city-planning.”

... Moreover, besides the physical neglect, Griffintown has been forgotten in our histories. It was poor, so little has been written about it and what was written was almost always incidental – and negligible. But Griffintown is one of the most historically significant areas of this country, and is a vital part of the historical fabric of Montreal.

Griffintown’s history begins soon after the founding of Montreal in 1642.

One of the small band under the leadership of Maisonneuve who arrived to found the colony of Ville Marie was Jeanne Mance. Mlle Mance was the foundress of the Hôtel Dieu. The Hôtel Dieu had a wealthy benefactress in France, and one of the gifts bestowed on the hospital was the sum of 22,000 livres.

When this money was misappropriated by some members of La Compagnie de Notre Dame de Montréal, sponsors of the colony, Maisonneuve granted Jeanne Mance a parcel of land of approximately 112 arpents. The land, in compensation for the misused funds, was called the Nazareth Fief. Because its proceeds were to be used for the benefit of the poor of the Hôtel Dieu, it was also called Le Grange des Pauvres. Title to the Nazareth Fief was granted in 1654. The Nazareth Fief became the core of the district later called Griffintown.

During the years between the founding of Montreal and the arrival of the British, the Nazareth Fief was used primarily as a farm. Buildings were constructed: the grange, or manor house; outbuildings and dwellings; redoubts for protection against the Indians; and several gristmills.

In 1698, Pierre Leber, a rich businessman, built a chapel dedicated to St. Anne on the edge of the Nazareth Fief. The chapel stood near the south end of Murray Street, giving the area still another name – le quartier Ste-Anne. So popular was this shrine, as a place for drunkenness and revelry, that the clergy were forced to restrict the sale of liquor around it. But the name has lived on.

Roads were built through the Nazareth Fief and along the banks of the St. Lawrence River. Over these roads passed many of the great names of North American history. The main road was along what is today Wellington Street, on the route to Lachine. Thus the first highway west of Montreal ran through Griffintown, circumventing the Lachine Rapids and providing a route into the continent.

By 1663 Les Messieurs de St-Sulpice had become the seigneurs of the island of Montreal under the system of feudal tenure brought to Canada by Sieur de la Roche, but more firmly implanted by Cardinal Richelieu and his Company of One Hundred Associates. Louis XIV of France ratified the Sulpicians’ holding of the seigneurie of Montreal. The Nazareth Fief, which continued under the Hôtel Dieu, was an “arrière fief,” or an independent part of the seigneurie.

In 1760, the British under General Amherst, marched from Lachine, through what is now Griffintown and into the walled town of Montreal through the Recollet Gate, which stood near today’s McGill-Notre Dame streets’ intersection – the northeast corner of Griffintown.

With the armies came the camp followers, many of them Anglo-Irish. One of these was a man named Thomas McCord, and in 1791 he leased from the nuns of the Hôtel Dieu the whole of the Nazareth Fief for a term of 99 years.

Thomas McCord was a businessman and trader. He became a judge and was one of the magistrates who helped form the first city government under British rule.

While McCord was attending to business interests in Ireland and England in 1796, his Montreal affairs were put in the hands of an associate, Patrick Langan, who engineered a fraudulent sale of McCord’s property, including the Nazareth Fief lease. The lease was sold to Mrs. Mary Griffin, wife of Robert Griffin, a soap maker and later to be the first ‘cashier’ or general manager of the Bank of Montreal.

The Nazareth Fief was coveted because of its strategic location, by the route of the long-planned Lachine Canal. Mrs. Griffin signed an agreement with the nuns of the Hôtel Dieu to draw up a plan dividing the Nazareth Fief into streets and building lots. Part of the rents would go to Mrs. Griffin and part to the nuns. By 1804, Mrs. Griffin had begun selling lots. When the plan was drawn up by the celebrated cartographer Louis Charland, the name of the fief was changed to – Griffintown.

Thomas McCord returned to Montreal in 1805 and immediately began a court battle to recover his property. The courts' decisions all were in his favor, the last battle being fought before the law lords of the Privy Council in London in 1813. A year later, after some minor skirmishing, McCord was once again in command of the Nazareth Fief, and collecting from his tenants the rents which Mrs. Griffin had wanted to get. But she left her name on the general area, and it sticks even now.

Today's Griffintown has no clearly defined outline, but by tradition it is roughly thought of as that area bounded by McGill, Notre Dame and Guy streets, and the Lachine Canal.

It was never an ideal place in which to live. The land was low-lying, and when the St. Lawrence River went into flood, the streets of Griffintown were rivers too. This happened often and it was not until around the late 1800's that the floods were finally controlled.

Ground rents were higher in Griffintown than elsewhere in Montreal, and it was reported that people would lease in that area only if they could find land nowhere else. There were many bankruptcies among the tenants; sheriffs and bailiffs were kept busy seizing property on behalf of either Thomas McCord and his successors, or the nuns.

All property – land, buildings and improvements – would revert to the nuns on expiration of the 99-year lease. The greater the improvements, the higher the assessments for rent and seigneurial charges. If a tenant wished to sell his property, under the system of seigneurial tenure a certain percentage of the sale price went to the nuns. This was called a mutation fee. The nuns charged more even than the Sulpicians, and there were cases in which the whole proceeds of a tenant's sale of his property were taken up by seigneurial charges.

There was a disincentive to build a good house; someone would benefit, but it would not be the tenant of land in Griffintown. There was a positive incentive to build poorly; when greedy builders rented land, slums were what they built. Fires were frequent; in 1852, a fire spread from a carpentry shop and burned down more than half of Griffintown.

There had been industry in Griffintown from its very beginnings, mixed in among the housing. Early in the 19th century, there were brickyards, a slaughterhouse, breweries, shipbuilders, foundries and other industry. It was Montreal's first genuinely industrial area, just as Mary Griffin's plan had made it the country's first genuine example of city-planning.

When the Lachine Canal was built in 1825, industry in the district boomed. There was now a cheap water transportation route to the interior; manufactured goods could be shipped to the West and new markets created, while the West's agricultural products, furs and potash could be shipped to points further east and overseas.

For the manufacturers in Montreal, the canal banks and the Griffintown area were the logical places to build, since the eastern end of the canal was situated in Griffintown. Besides, the poor of the district provided a pool of cheap labor. Bare subsistence wages were the rule. Much of Montreal's wealth was made in Griffintown; many fine mansions were built on the slopes of Mount Royal from the profits made on the sweat of Griffintown labor.

Griffintown was the scene of Montreal's (and Canada's) entry into the industrial revolution. One of the first strikes of maltreated workers in Canada took place in Griffintown in 1843. In that year, when the Lachine Canal was being enlarged, the laborers, largely Irish, rebelled. While the contractors eventually made their profits, a militant labor movement had begun.

Around the middle of the century the railways started snaking through Pointe St-Charles and Griffintown. Montreal's first railroad was laid down in 1847 just to the north of Griffintown. The Montreal and Lachine Railroad was taken over by the Grand Trunk, founded early in the 1850's, and Victoria Bridge was completed by the G.T. in 1859.

Most of the hard work of building the factories, the canal, the bridge, the harbour and the railroads was done by Irish "navvies." From a small group at the be-

ginning of the 19th Century, the Montreal Irish had multiplied as they were driven from their homeland by poverty, famines, epidemics and because of opposition to British rule.

Ireland's potato crop failed in 1845. In the following years, known as the Great Hunger, more than two million people died in Ireland from famine and disease. Hundreds of thousands fled to North America in "coffin ships" – filthy old timber carriers in whose holds the immigrants often spent months on the voyage, if they did not die of typhus on the way.

Across the canal from Griffintown, in what was once called Goose Village but razed for Expo 67, a massive boulder stands near the spot where thousands of Irish immigrants died in sheds called "hospitals." They brought with them almost nothing but their "ship fever;" Montreal had an epidemic of typhus or cholera with each succeeding wave of Irish immigrants.

Griffintown, at the head of navigation and near the hospital sheds of Goose Village, was usually the place where these outcasts settled if they remained in Montreal. Being the poorest part of the city, often it was the only place they could afford to settle.

In its period of growth after the beginning of British rule, the culture of Griffintown was English or Anglo-Irish (e.g. the McCords and the Griffins). They built Anglican, Methodist and non-conformist churches and schools. Even after the mid-1800's, the Anglicans were rebuilding St. Stephen's Church. There were residences, businesses, hotels, saloons and meeting places.

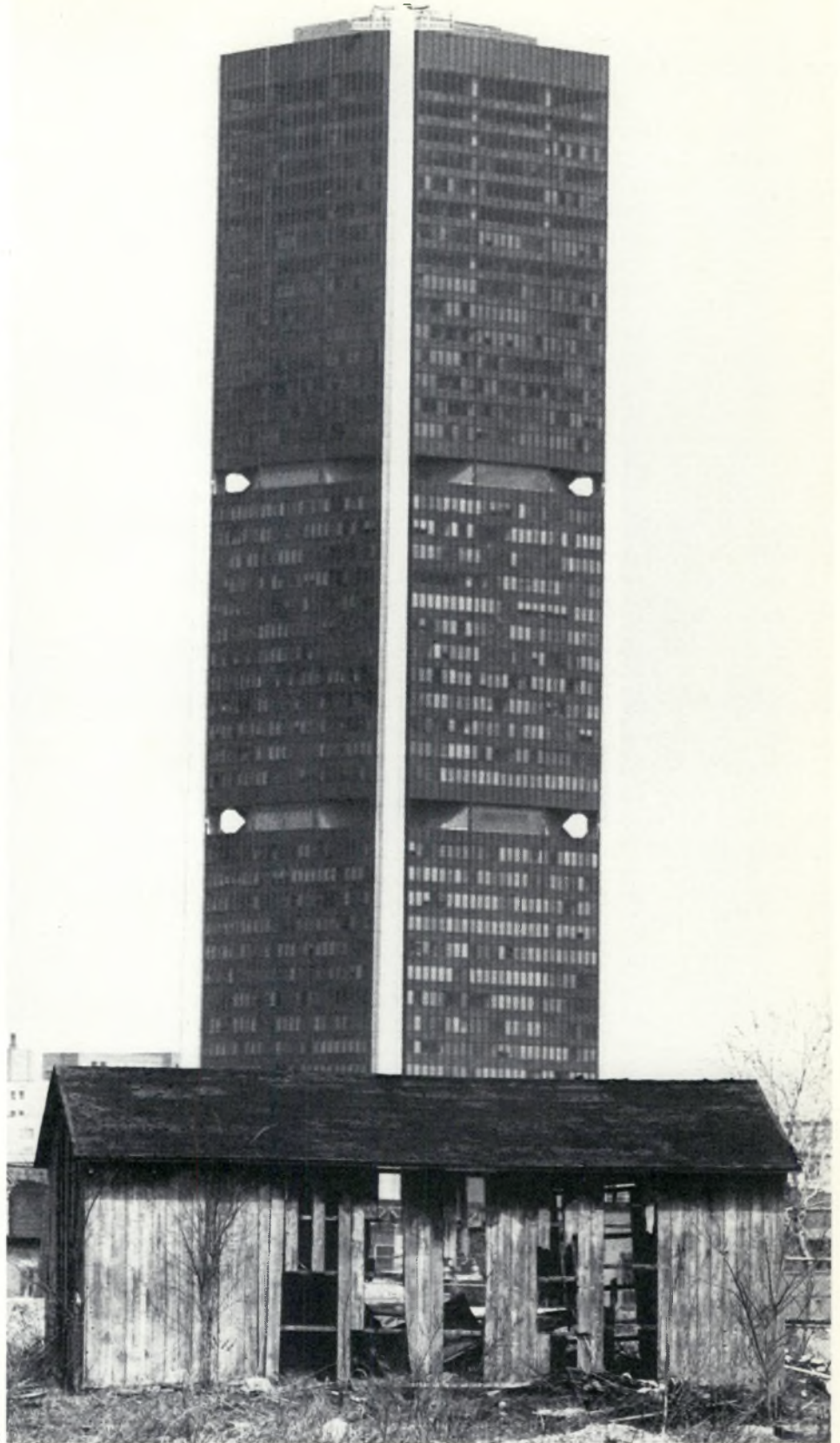
With the great Irish migrations, the population and culture of the area began to alter. Around the Sulpicians' Collège de Montréal near St. Paul and McGill streets, the district had a French character, which extended westwards beyond Chaboillez Square. Around the mouth of the canal, however, the Irish Catholic population was increasing and the unique Montreal-Irish culture was well advanced.

After 1817 there were enough Irish Catholics to form a congregation in the old Recollet Church east of McGill Street. By 1847 St. Patrick's Church had been built. St. Ann's Boys' School, started in 1843 at St. Paul and St. Henry streets, moved in 1865 to a larger building at Young and Ottawa streets. Other schools were an elementary school on Nazareth



1 **Sad little boy** looks down from a window in an old part of Griffintown. "For more than a hundred and fifty years," David Marvin says, "Griffintown had been a place where the poor could live—or at least survive."

2 **Powerful symbol of progress and change**, the Montreal Stock Exchange's modern geometry stands in strong contrast to the wooden shed of a past Griffintown.



Street and St. Ann's Academy for girls founded 1857 in a temporary building on St. Augustin Street (now Rioux Street). The academy building constructed in 1864 on Mountain Street still stands.

The parish church of St. Ann's, built in 1854 on land lent by the Sulpicians, was the centre of Griffintown social life. For such a poverty-stricken community, the religious faith of the people was practically their only bulwark.

By 1870 the population of Griffintown was approximately 20,000, mostly Irish Catholics. The English had moved with their money to other more favored parts of the city. Later, St. Hélène's Church on St. Maurice Street and St. Hélène's School on Montfort Street served the smaller French-speaking population.

The large Irish population of Griffintown gave it a forceful political voice. Politics were never very far away. Some of the leading *Patriotes* of the Rebellion of 1837-38 were taught at the Collège de Montréal, and the English elite who ran Griffintown and its commerce had been enthusiastic in suppressing the rebellion. When the Rebellion Losses Bill was passed by the parliament of the United Provinces of Upper and Lower Canada, English dissenters burned down the parliament building – at that time located in the old Ste-Anne Market just east of McGill Street on Youville Square. The government of Canada was located on the very edge of Griffintown for a few short years.

The Irish of Griffintown, part of the riding of Montreal-West, chose D'Arcy McGee as the man to represent them. McGee was a rebel in Ireland who had been forced into exile in the United States and arrived in Montreal in 1857. He immediately began to campaign for Confederation. It was one way of keeping Canada from becoming part of the US, one of the aims of the Fenian movement. In 1849 there was a meeting on Griffintown's St. Maurice Street of many prominent English people who published the Annexation Manifesto proposing union of Canada-US.

The year after his arrival, McGee was elected to Parliament for Montreal-West. Not all the Irish voted for him. The Fenians – Irish rebels whose tactic was to attack Britain through her colonies – bitterly opposed McGee. At one point they engineered his ouster from the St. Patrick's Society. There were riots and battles in Griffintown on election days.

Without McGee, Confederation in Canada would have been doubtful. He has been called "the most eloquent of the Fathers of Confederation." He was that, yes, but he was something more: McGee was the great conciliator who could bring together the bitterly warring politicians of Canada's national and provincial governments. He could talk with his and his party's enemies, get drunk with them, and bring forth agreement. In the end his views prevailed and Canada's provinces united. But just one year later, in 1868, McGee was assassinated – when he had left the cabinet of Sir John A. Macdonald and was on the verge of leaving politics altogether.

In the years after Confederation, Griffintown entered a period of comparative stability. Manufacturing and commerce continued to grow, the slum-builders were busy (among them one of Montreal's mayors and many of its prominent citizens). But while the politicians and businessmen became prosperous, Griffintown itself remained poor. When prosperity came to any of the local Irish, they usually moved out. It was called "going over the hill."

There was still the parish and its various societies such as the St. Ann's Young Men's with its own building on Ottawa Street. Boys' and girls' clubs were set up. The Redemptorists took over the pastorate from the Sulpicians in 1884, enlarged the schools and built the large brick presbytery-seminary in 1886. The Shamrock Lacrosse Club was founded in 1860 and other sporting clubs followed. There were parish fairs, amateur dramatics and glee clubs. Griffintown had a living culture.

The trouble was that although Griffintown's commerce and industry had made many people prosperous, the community itself remained static. Although as recently as the 1940's it was one of Montreal's major commercial areas, everything else was neglected. Montrealers knew that Griffintown was there, somewhere. But they associated it mainly with St. Patrick's Day parade rallies and stage-Irishmen and temperance societies and rosary Tuesdays at St. Ann's Church. They did not seem to care that the area was poor, nor did the city government seem to pay much attention to the fact that the buildings were getting older, that the landlords were ignoring building bylaws and that the streets were in poor condition.

The area had neither adequate parks nor sufficient playgrounds. O'Connell Square, destroyed to make way for the Bonaventure Expressway, had been a postage-stamp plot of grass with a public bath; Gallery Square is a nightmare of a park at the mouth of the Wellington tunnel. Gallery Park on Basin Street is a scruffy patch of dirt with a poor excuse for a baseball diamond.

Generally, whatever Griffintowners got, they had to get for themselves. They paid for their church and other parish buildings (under statutes requiring them to pay). When St. Ann's Kindergarten was built in 1914, it was on the initiative of Griffintowners, and they paid for it. When the building was destroyed in 1970, it was still solid.

A pattern of neglect and exploitation had been established. When the Wellington tunnel under the canal was dug, the line of the street was diverted to pass in front of St. Ann's Church; many Griffintown buildings were expropriated and razed.

After the formation of Canadian National Railways in the 1920's, incorporating the bankrupt Grand Trunk and other railways, a new station was planned. Was the site to be the old Bonaventure Station on Chaboillez Square, with the tracks installed underground? Engineering reports and studies strongly recommended this. But what happened was that CNR built Central Station requiring a viaduct running through the centre of Griffintown. The community was chopped in two, homes and working places were expropriated and demolished, and by 1942 the trains were running into Central Station.

In 1914 a government commission studied the problem of streets crossing the Grand Trunk's Bonaventure tracks into Griffintown. Its report came up with a simple solution: just close off all the streets.

University Street was widened and extended to William Street in 1951. The result was a monstrosity of a street, and more of Griffintown was razed to make way for it. Then, for Expo 67, the Bonaventure Expressway was constructed along the line of University Street. Whole blocks of houses, businesses and O'Connell Square disappeared. Goose Village disappeared as well. Despite these and many other disasters, Griffintowners clung to their community.

In 1963 Griffintown was rezoned as an industrial area; but it has not attracted any new industry because it does not have the vast spaces required for modern factories. A printing company rebuilt its premises on Anne Street and a new police station was built on the Haymarket. Two or three minor commercial buildings have gone up: nothing else.

But lots of buildings were coming down. By the end of the 1960's, all the schools were closed, and all, except St. Ann's on Mountain Street, were demolished. St. Ann's Church was ripped down in 1970 along with the presbytery which the citizens had tried to save for a community centre or have renovated as low-rent apartments for the elderly. St. Hélène's Church vanished the next year.

Landlords, who for decades had neglected their buildings, now were ripping them down to make way for parking lots. Dow Brewery (now O'Keefe's) put a huge parking lot on a whole block of Murray Street. Many dwellings were condemned because of their poor condition. Many other dwellings were burned down. Yet a junk yard on Prince Street where fires were frequent, continued in operation.

For more than a hundred and fifty years Griffintown had been a place where the poor could live – or at least, survive. Now those people were being made to realize that they had no value as people. It seemed as if an empty lot littered with junk and abandoned cars could take the place of families who had lived there all their lives.

What was left in Griffintown when the 1970's were well underway? The police were there, on the Haymarket, and a fire station on Ottawa Street. St. Ann's Academy still stood on Mountain Street.

Labre House on Young Street and its associated Patricia House on Ottawa Street had been operating in Griffintown since 1954. They are Catholic lay apostolate groups trying to provide a minimum of assistance to local residents; however, Labre House has always been considered primarily a centre for derelicts, and is resented by many residents.

Griffintowners have a pride in their community and know of its long history.

The Griffintown People's Association was formed in 1970 and was located in an upper flat on Barré Street. This became a centre for the various efforts being made to save what was, and still is, a fighting community. McGill University's School

of Architecture set up a Community Design Workshop. Other organizations and groups also have assisted. The Montreal Society of Architects supported housing renovation and rebuilding.

Griffintown might still fool everyone and remain alive. This despite the latest census setting the population at approximately 800 – a 50 per cent drop over five years. The previous census also recorded a huge decrease in population.

The zoning policies have proven a failure. Obsolete industry will eventually be forced to move out, but, new industry has shown that it will not move in.

A project to renovate the Lachine Canal as a park and recreation area, now being pondered by the City, could make Griffintown an attractive place to live. The Federal Government, owner of Cité du Havre, must come up with a plan for development of its territory. Expo 67's \$24-million Habitat occupies part of the land and the obvious use is for more housing.

Over the last decade various government projects and private developers have reduced Montreal's stock of low-rent housing. What is required for districts like Griffintown is publicly-subsidized housing combined with the renovation of existing dwellings.

CNR has sold the City its Bonaventure freight yards, constructed along Griffintown's northern boundary in 1952 after demolition of the old Bonaventure Station. It has been proposed that the land be used for a park-housing project.

The Wellington tunnel under the Lachine Canal, a hazardous eyesore, is no longer needed since the eastern end of the canal has been filled in. Traffic re-routing could make Gallery Square a usable park.

As for Griffintown itself, City authorities refuse to divulge what the City's plans are, or whether there is a plan at all. Logically, it must do something, since a community of vacant lots and rotting Victorian factories brings the City little tax revenue. "Progress" in Griffintown can be measured by this fact: railway tracks that ran through the streets, at street level, a century ago are still running through the streets, in the same places.

In his History of Montreal, Stephen Leacock described Griffintown: "...the area west of McGill Street, between the new railway and the new canal. This wretched area, whose tumbled, shabby houses mock at the wealth of Montreal, was the first of our industrial 'slums', the gift of

the machine age..." And: "The unhappy settlement of Griffintown...built on low-land for the working class, who must take what they can get..."

Only one private company has shown any concern for the district. In 1967 Norton Steel Co. renovated a row of houses on Mountain Street across from St. Ann's Church. It was clear that renewal was cheaper than new building and could produce good housing.

Charles Dickens could well have been thinking of Griffintown when he wrote, in "Hard Times":

"It was a town of red brick, or of brick that would have been red if the smoke and ashes had allowed it... It was a town of machinery and tall chimneys, out of which interminable coils of smoke trailed themselves forever and ever... It had a black canal in it, and a river that ran purple with ill-smelling dye..."

Herbert Brown Ames, a boot and shoe manufacturer with a plant in Griffintown as well as residential properties, published a sociological study in 1897 entitled "The City Below the Hill." Between 1898-1906 he was a Montreal alderman and for four years chairman of the board of health. In an effort to provide decent homes for workers, he built the Diamond Court houses on William Street between Anne and Shannon streets.

Although Ames' book deals with other areas besides Griffintown, it remains the only carefully researched writing on conditions in the community. Ames wrote: "Most of the residents of the upper city know little – and at times seem to care less – regarding their fellow-men in the city below." He stressed that Montrealers should "cease discussing the slums of London, the beggars of Paris and the tenement house evils of New York... and to understand more perfectly the conditions in their very midst."

Before leaving City Council, Ames managed to have outside privies abolished. His reward was to be nicknamed Privy-Pit Ames.

In the three-quarters of a century since publication of "The City Below the Hill", there has been ample time and opportunity to correct the conditions which our society imposed on its poorest and most helpless members.

But when Herbert Brown Ames died in 1954, Griffintown was in some ways worse than when he had first seen it. It is a community fighting for its life. □



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3, 4 Once a spiritual centre for Griffintown's immigrant community, St. Ann's Roman Catholic Church was built in 1854, was razed in 1970.

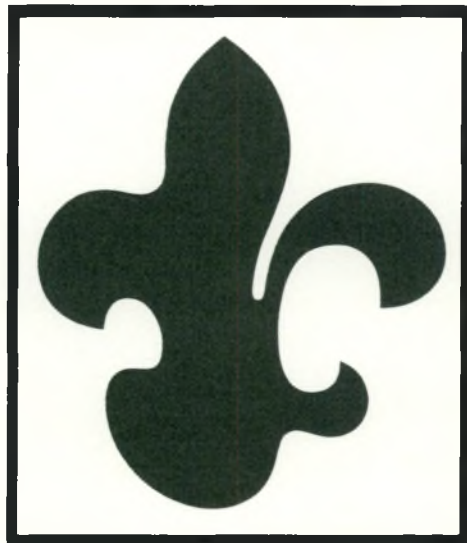
5 St. Ann's Academy still stands on Mountain Street as a reminder of Griffintown's past vitality.



4

La "pollution" des terrains et l'aménagement du territoire au Québec

par Bernard Vachon



La construction de l'aéroport de Sainte-Scholastique (Mirabel) a définitivement introduit le concept de l'aménagement du territoire au Québec. Les préoccupations socio-économiques liées au développement d'un espace habité dont l'étendue dépasse celle des limites municipales, s'ajoutent à un urbanisme local, lequel se borne bien souvent à définir et à faire respecter des règlements de zonage. Toutefois, ce nouveau-né dans l'organisation et l'administration des espaces urbains et ruraux est encore bien frêle, et l'équipement dont il est doté pour croître laisse de sérieux doutes sur la portée de ses futures réalisations.

Planifier, c'est organiser le futur. Dans le domaine des espaces habités, c'est organiser la qualité et l'efficacité de l'environnement dans lequel les sociétés de demain sont appelées à vivre. Or, pour que le développement évolue de façon à atteindre ses objectifs socio-économiques, il importe qu'une maîtrise soit exercée sur les forces d'expansion.

On reconnaît généralement que le développement urbain est le produit d'une interaction entre l'entreprise privée et les pouvoirs publics. Au Québec, cette interaction a été, jusqu'à présent, largement dominée par l'entreprise privée, motivée dans ses opérations par le profit, plutôt que par le bien-être de la population et l'équilibre fonctionnel des espaces en développement. L'absence de législation régionale et sous-régionale d'aménagement et le manque de mainmise sur les sols, a engendré un développement désarticulé, chaque point d'urbanisation relevant le plus souvent de l'initiative de spéculateurs, de promoteurs et d'entrepreneurs. Le ceinturon des banlieues qui encerclent Montréal fournit un bel exemple du développement anarchique qui a caractérisé l'essor de notre réseau urbain depuis la guerre.

Cependant, les incidences de ce mode d'urbanisation n'ont pas été catastrophiques et la forme d'environnement qui en a résulté est encore acceptable. Ce raisonnement peut également s'appliquer à l'"usage" irrationnel que l'on fait depuis la révolution industrielle des basses cou-

ches de l'atmosphère, des mers et des sols. Une mauvaise mise en valeur des terrains pollue l'accès du territoire, une ressource elle aussi limitée, de la même façon que le monoxyde de carbone pollue l'atmosphère. De l'avis de plusieurs experts, le diagnostic que l'on a porté sur la qualité de notre environnement gazeux et liquide survient trop tard... le mal est déjà trop avancé pour espérer un rétablissement satisfaisant.

En matière de "pollution des terrains", la question est de savoir jusqu'à quand on laissera progresser la maladie, jusqu'à quel niveau de complication on tolérera l'aggravation des symptômes avant d'intervenir ?

Un élargissement du rôle de l'Etat dans le jeu d'interactions de l'entreprise privée et des pouvoirs publics signifie une diminution, ou tout au moins, une modification des prérogatives de celle-là. Suivant les législations en cours au Québec, le rôle des autorités publiques se limite presque essentiellement à celui qu'elles exercent dans le cadre des règlements de zonage appliqués au niveau local. Aucune loi-cadre d'urbanisme n'existe pour encadrer le développement au niveau régional et sous-régional. Aucune législation n'existe non plus pour enrayer la spéculation foncière, principal obstacle à un développement planifié dans le temps et dans l'espace. Ces lacunes ne peuvent que favoriser la prédominance de l'entreprise dans le processus d'urbanisation et conséquemment, dans le façonnement de notre environnement. Si l'utilisation irrationnelle et abusive des terrains doit être enrayerée, il faut de toute urgence définir et mettre en vigueur de nouvelles lois.

Au début de l'année 1972, l'Assemblée nationale était saisie d'un document de travail intitulé: "*Avant-projet de Loi de l'urbanisme et de l'aménagement du territoire*". Les grandes lignes de ce document sont, à première vue, réjouissantes, du

fait principalement de la proposition d'une loi nationale (provinciale) d'urbanisme à trois niveaux hiérarchisés, ayant pour objectif ultime d'assurer dans l'avenir le développement planifié des espaces habités.

L'examen attentif du document révèle toutefois bien peu sur la façon dont les objectifs seront atteints. Il est, d'autre part, surprenant de constater que l'on propose la préparation de "schémas régionaux" sur la base des régions administratives du Québec. Du point de vue de l'aménagement, une région est une entité fonctionnelle qui procède de notions d'interdépendance, d'échanges et de communication, tant humaines qu'économiques. La démarche dont on s'est servi pour délimiter les 10 régions administratives est-elle compatible avec celle définissant la région socio-culturelle et économique ? Des pays comme l'Angleterre, la Suède, le Danemark, ont poursuivi des recherches durant plusieurs mois, voire plusieurs années, afin de délimiter ces régions. Suivant quels critères réalisera-t-on, d'autre part, les regroupements de municipalités pour fins de confection des "schémas d'aménagement de secteurs" ?

Il est à souhaiter que ce document de travail fasse l'objet de très sérieuses études et qu'il suscite des propositions étayées et adaptées à l'ampleur et à la gravité des problèmes urbains actuels, tout autant qu'aux aspirations d'une société en quête d'un habitat favorable à son épanouissement. Il faut accorder une place plus grande aux valeurs sociales et culturelles, afin d'éviter que l'urbanisme ne serve qu'à des fins mercantiles de rentabilité de l'espace, au détriment des habitants. La qualité de l'environnement urbain des prochaines décennies dépendra beaucoup des législations que nous nous donnerons dans l'avenir.

Dans le cadre de cet article, nous voudrions relever ce qui nous apparaît comme une importante omission. Aucune mention n'est faite dans cet avant-projet, de la possibilité d'élargir le rôle des pouvoirs publics, en matière de contrôle foncier. Dans un quotidien et dans des revues universitaires, nous avons, à plusieurs reprises, préconisé une maîtrise plus stricte de l'Etat sur la disponibilité et le prix des terrains. Pourquoi ? En premier lieu pour libérer une partie du territoire à des fins d'urbanisation et de

construction domiciliaire, et ce, aux lieux et aux moments désirables. Pour supprimer d'autre part une forme de gain dont l'escalade conduit à accroître, outre mesure, le prix final des maisons et les coûts d'expropriation. La concurrence commerciale qui s'exerce sur les terrains (particulièrement des secteurs intérieurs) contribue, par ailleurs à gonfler la valeur



immobilière; trop lourdement taxés, les propriétaires laissent leurs bâtiments se dégrader, réduisant parfois à l'état de taudis un nombre important de logements.

Dans la région de Londres et du Sud-Est de l'Angleterre, le prix des maisons neuves a augmenté de 93 p. 100 au cours des années 1971-72 (24 mois), atteignant une valeur moyenne de \$33,000; la spéculation foncière est reconnue comme le principal facteur de cette explosion spectaculaire des prix. Au début de 1973, le coût du terrain dans cette région représentait 41 p. 100 du prix moyen des mai-

sons individuelles neuves. Des exemples analogues, sinon plus dramatiques, peuvent être relevés à Paris, New-York, Tokyo et même à Toronto. La première conséquence de cette situation est l'incapacité, pour un pourcentage accru de la population, d'accéder à la propriété privée; la seconde est l'accroissement des densités requises par l'amortissement des investissements fonciers.

Evidemment, la situation à Montréal et à Québec n'est pas encore de l'ordre de celle de Londres ou de New-York. Mais faut-il attendre de parvenir au même degré d'inconfort avant d'agir? Il est absolument intolérable que l'accès à la propriété privée et que l'harmonie du processus d'urbanisation soient compromis par l'action oligarchique de puissantes sociétés immobilières qui réalisent des profits fabuleux, grâce, non pas à leur activité, mais à la plus-value découlant d'investissements d'infrastructure dont la communauté fait les frais. L'argument souvent invoqué, que la libre concurrence préside au dynamisme des villes, perd de sa valeur devant l'intensité des problèmes

qui en résultent aujourd'hui. D'autre part, l'approfondissement de nos connaissances sur le fonctionnement des villes, conduit à des choix et à des décisions souvent meilleurs que ceux qui découlent du simple monopole des réserves foncières par l'entreprise privée.

Comme il a été fait mention plus haut, les règlements de zonage peuvent déterminer les affectations du sol et fixer les densités, la profondeur, la hauteur...des bâtiments, mais ils ne peuvent agir sur la disponibilité du sol. Un spéculateur peut ainsi retarder ou modifier le développement d'un secteur en refusant de vendre, dans l'espoir de réaliser un gain plus élevé.

Mais comment le gouvernement peut-il intervenir *efficacement* en ce domaine sans faire une entorse à notre régime de libéralisme économique? Difficile, voire impossible. Cependant, lorsqu'un bien, acquis jusqu'alors par la majorité, se voit progressivement menacé par l'action d'une minorité, par suite du maintien d'une législation dépassée qui ne s'est pas adaptée à l'évolution économique et sociale, les élus du peuple n'ont-ils pas le devoir de rectifier la loi pour que soient protégés les droits de la majorité? C'est un processus qui d'ailleurs a marqué l'évolution du capitalisme depuis son origine.

Plusieurs formes d'intervention sont possibles. La nationalisation du sol apparaît comme une mesure trop radicale et de là, utopique dans le contexte actuel. Quant aux mesures fiscales, elles contribuent davantage à accroître les prix qu'à freiner la spéculation. Les réserves foncières peuvent constituer une formule intéressante si elles sont suffisamment vastes pour englober tous les espaces susceptibles d'être urbanisés afin d'empêcher leur spéculation en périphérie. Cela suppose des investissements considérables qui peuvent être effectués conjointement par le gouvernement central et les autorités locales, comme c'est le cas en Suède. Parce que ces réserves sont créées avant l'élaboration de projets définitifs de développement, il s'ensuit que de vastes espaces sont acquis inutilement. Par suite des affectations prévues par le plan, plu-

sieurs terrains n'acquiescent en effet aucune plus-value d'ordre spéculatif et une réglementation moderne de zonage pourrait assurer leur intégration au plan, sans frais d'acquisition.

Une autre forme de législation foncière, qui se répand beaucoup depuis quelques années en Europe occidentale, est celle fondée sur le *droit de préemption*. Ce droit, appliqué à de vastes secteurs perçus comme sites éventuels de développement urbain ou d'équipement de services, accorde aux autorités publiques (localités) la priorité d'acquisition des terrains, au prix déterminé par la valeur marchande et fixé en fonction de l'utilisation courante du sol, c'est-à-dire exempt d'une plus-value anticipée de développement. Cette forme de législation est actuellement en vigueur autour de Paris et s'avère très efficace dans le cadre de la politique de décentralisation du plan directeur. En Suède, le droit de préemption est appliqué comme préalable à la formation de réserves foncières.

Le principal avantage que confère le droit de préemption est de décourager la spéculation. D'autre part, l'espoir d'un gain résultant de la plus-value du développement étant supprimé, les terres requises par les projets d'expansion et de construction deviennent plus facilement accessibles aux constructeurs. Ce type de législation n'empêche pas les ventes entre particuliers ou sociétés, mais il s'ensuit que les prix sont fixés en fonction de l'usage courant du terrain, et non d'une valeur hypothétique de développement. Les pouvoirs publics conservent cependant le privilège d'exercer leur priorité d'acquisition et de se substituer à tout autre acheteur. Si le prix proposé par la localité ne satisfait pas le vendeur, le cas peut être porté devant un "*tribunal du territoire*" mais on





peut être sûr que le plaidant n'obtiendra pas gain de cause en fondant sa demande sur une valeur anticipée de la propriété.

Les avantages du droit de préemption ne se limitent pas aux questions de spéculation foncière, mais entraînent généralement une plus grande participation des pouvoirs publics au processus d'urbanisation. Ainsi, les localités peuvent acquérir de vastes espaces, une fois mis en route les projets d'aménagement, qu'elles vendent au prix de revient, ou louent à des constructeurs, à des industries ou à des institutions coopératives ou publiques. L'avantage de la location, comme cela se pratique en Hollande et en Suède, est d'éviter le renouvellement du processus d'achat après un certain nombre d'années. Au terme du bail, (60 ans pour la fonction domiciliaire, par exemple) il est possible de le renouveler ou de verser des compensations aux propriétaires si des changements d'affectation sont jugés nécessaires.

Dans le Projet de loi 88, *Loi de l'expropriation*, le gouvernement provincial effleure le sujet du droit de préemption lorsqu'au titre III, il est question des "Réserves pour fins publiques". Ici, la restriction est imposée pour une période de 2 ou 5 ans pendant laquelle toute construction sur la propriété qui en fait l'objet est prohibée. C'est essentiellement un premier

droit d'acquisition par expropriation dont seraient dotées les autorités publiques pour une très courte durée. Le projet de loi stipule: "L'évaluation de l'indemnité doit être établie en fonction de la date de l'expropriation, mais sans tenir compte de la plus-value qui est attribuable à l'imposition de la réserve ou à l'expropriation." Le principe du droit de préemption est présent dans ces articles du projet de loi, mais la philosophie, les objectifs et les dimensions qui le caractérisent en tant qu'instrument d'aménagement y sont absents. Il est évident que le Québec ne semble pas disposé encore à entreprendre une telle action, et c'est regrettable.

L'avant-projet de loi sur l'urbanisme et l'aménagement du territoire et le projet de loi sur l'expropriation devraient être étudiés et élaborés dans un même contexte, le second assurant au premier une plus grande maîtrise du sol, matière première d'un urbanisme global, si l'on veut que soient réalisés les objectifs qu'inspire une philosophie sociale et intégrée d'aménagement.

De 1952 à 1957, une société privée (la Candiac Development Corporation), créée par un groupe d'hommes d'affaires montréalais, a acheté, au coût moyen de \$0.03 le pied carré un territoire suffisamment grand pour y développer une ville de 60,000 habitants¹. En janvier 1959, ce territoire, situé sur la rive sud du Saint-Laurent, devenait la Ville de Candiac. Le coût d'acquisition fut celui de la valeur des terres agricoles à cette époque. Aujourd'hui les terrains en lotissement ont une valeur qui reflète non seulement les coûts d'aménagement mais aussi les frais d'appropriation de ces vastes espaces ainsi que la part du jeu spéculatif, principal motif de l'investissement. Ce cas s'est généralisé autour et dans la grande région de Montréal et la dimension spéculative occupe une partie de plus en plus grande du prix de vente final, de même qu'elle entrave les efforts d'urbanisation rationnelle.

Le 4 juin 1973, le gouvernement de l'Ontario a dévoilé, à l'Assemblée législative de cette province, un projet de ceinture verte destinée à freiner le développement urbain sur la rive occidentale du lac Ontario. D'une superficie totale de 55,000 acres, ces espaces protégés auront pour

fonction de séparer et de définir les limites des localités, de servir de corridors de services entre les villes, de permettre la création de zones récréatives ainsi que de mettre des terrains en réserve en vue d'un développement futur. Combien de leçons et d'incitations faut-il recevoir au Québec avant de prendre conscience de la nécessité d'agir? □



¹B. Vachon; *La création de Candiac en banlieue de Montréal: essai d'analyse spatiale et financière d'une trame d'appropriation du sol en milieu péri-urbain*. Revue de Géographie de Montréal, 1973, vol. XXVII, n° 1.

by Peter E. Murphy
and Anne E. Topp

CONDOMINIUMS.

After retirement the elderly can expect to live 20 or 30 years more, and during this time both their physical needs and economic conditions can change drastically. Moreover, the construction of or conversion to apartment condominiums appears to be based on the premise that what is good for a tenant will be good for an owner. This premise is questionable, particularly in regard to the elderly as an apartment purchase is often the cornerstone of their retirement plans.

A survey of condominium owners was conducted in Victoria, B.C., to examine the reasons why the elderly were attracted to apartment ownership and whether their expectations had been fulfilled. The sample consisted of 51 owners, who were over 54 years of age, and had been randomly selected from 22 different buildings. The survey was based on structured interviews conducted between November 1972 and February 1973.

Why They Bought...

The Concept

The survey results indicated that the elderly were primarily attracted to apartment condominiums because of their ease of maintenance and the advantages of personal ownership. The lack of outside maintenance was the prime reason given, but in terms of overall mention personal ownership had a slight edge. Since many of those surveyed were retired (45%) and some were disabled (22%), the lack of physical exertion involved in maintaining an apartment was an attractive prospect. The advantages of personal ownership meant the freedom to decorate as they saw fit, and the prospect of a capital gain at resale. The majority had recently made a capital gain on the sale of their house and saw the condominium unit as a similar long term investment.

In addition to long term economic considerations the elderly were concerned about their present economic conditions and security. Living on a modest and fixed income makes this group particularly sensitive to inflation. Many said that apartment ownership would be an economic proposition, helping them to avoid spiralling rental payments. Over half of those surveyed associated a sense of

security with living in an apartment building. In some cases it was the controlled entrance which encouraged this feeling, while others were comforted by the thought of having people close by in case of need.

The Building

Location was the most frequently mentioned factor in building selection. For some this meant a general location, such as a good neighbourhood or being close to downtown. For others it was more specific, such as being close to a senior citizens' centre, a shopping centre, or a park. They were happy with the traditional rental apartment locations close to downtown and recreation areas, and interestingly, few made reference to hospitals or medical centres when discussing the locational merits of their selected building. Apparently the elderly associate apartment living with an active retirement.

Other reasons for choosing a building were privacy, price and social contact, but these were mentioned far less frequently than location. The privacy sought

A convenient marriage...

.AND THE ELDERLY

Are apartment condominiums meeting the needs of the elderly?

This article shows whether their hopes were met.

or a marriage of convenience?

elderly owners were most concerned about soundproofing and the unit's floor plan. Their housing experience prompted them to select a convenient and easily maintained floor plan as the number one consideration. After the floor plan, they were particularly interested in room size, kitchen design, and the number of bathrooms, all choices which had high rankings.

The elderly were extremely conscious of maintaining their standard of housing. Since an apartment meant the sacrifice of space and a garden it had to offer some form of compensation. For many the substitute was a view from their unit which could provide endless hours of interest and pleasure, particularly if it combined scenic beauty with human activity. In addition the elderly were anxious to retain the facilities and features of their old home wherever possible. The presence of a washer and dryer in the unit and an open fireplace was appreciated, as were quality appliances.

Were They Satisfied?

The interviews showed that the owners had given careful consideration to their purchases, so they were well prepared for their commitment to a new housing concept and a new environment. Overall they were very satisfied with their experience,

for 84% reported that they were happy with their purchase and only 24% had any form of complaint. However, since reports of satisfaction can be a defense-mechanism where major purchases are concerned, these complaints were investigated.

Many of the complaints were about "settling-in" problems, the majority of which had been resolved because most owners had been living in their units for a year or more. Examples of such complaints were delays in fulfilling the salesman's promises and problem adjusting to the management and responsibilities of the condominium.

One complaint, however, had wider implications. Several owners were annoyed about the continued presence of tenants in their building. There was a strong feeling that the building and communal facilities would be better maintained if everyone had a personal investment in the property. The mixture of tenant-owner occupancy had various causes. In some buildings, where sales had been slow, developers accepted tenants as an interim measure. In others, the mixture was caused by people purchasing several units for investment purposes. Whatever the cause, it is evident that if tenant occupancy is to occur in apartment condominiums it must not threaten, or appear to threaten, the owners' investment. The prospect of a capital gain is one of the basic attractions of apartment ownership, and any threat to this will jeopardize the elderly's security and satisfaction.

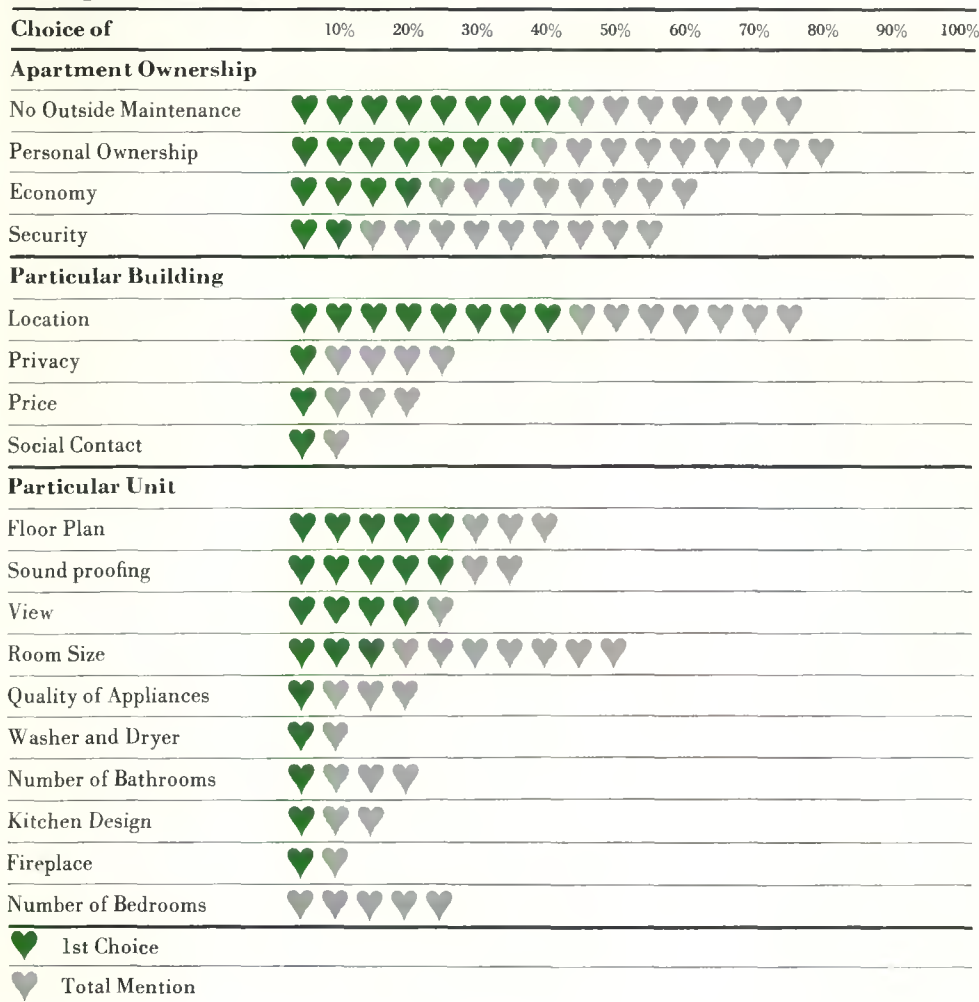
by the elderly was the separation from city commotion provided by an upper floor apartment and the belief that they could retain their independent life styles. Price was mentioned as the foremost reason only in the few cases where the owner felt he had paid a bargain price. Elsewhere it acted more as a constraint in the choice process rather than as an attractive feature.

Factors such as an attractive lobby, a friendly atmosphere, and knowing someone in the building, which were grouped together under the heading "social contact", played a minor role in building choice. Older people seem to have made their contacts and friends at an earlier stage, whether they were local residents or newcomers. Therefore, the apartment building was not selected as a potential source of friends, but more as a private home.

The Unit

The decisions involved in choosing a unit within the building revealed the greatest number of preferences and opinions. The

Reasons for Choosing an Apartment Condominium



Summary

The survey results indicate that the elderly owners found apartment condominiums to be attractive propositions, but that they did not always seek the same features, or apartment life style, as the tenant. The overall attraction for the elderly was security. They were secure in the knowledge that they could physically manage an apartment. They felt that the double barrier of a controlled entrance and front door, plus the proximity of others, would provide personal security. They believed the apartment would offer them economic stability and security, both in the short and long run.

In terms of building selection the elderly's interests generally concurred with the traditional apartment locations,

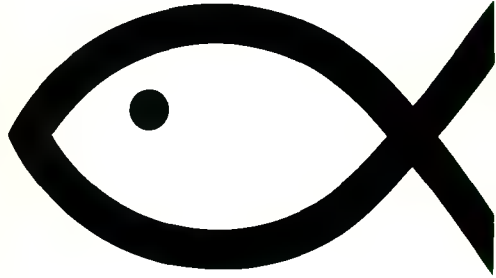
but in other matters they contrasted with the rental situation. Apart from the obvious difference of purchase price the elderly were seeking privacy and an independent life style, so they were not attracted by the social possibilities of apartment living. Consequently their use of the communal recreation facilities was less than expected, despite their more abundant leisure time.

It was in their unit choice that the elderly most clearly distinguished themselves from other apartment groups. The elderly are not housing novices, and they are usually giving up a home full of precious memories to move into an apartment. As a result they often had high expectations and standards, and they proved to be discriminating buyers. In addition to sound construction and good workmanship they wished to have a view, plus the type and quality of facilities they were used to in their old home.

The Future

Although the elderly were generally satisfied with their apartment condominiums, their initial preferences and experiences indicate that some modification of the basic apartment design is needed. The elderly owners have certain expectations due to their age, income levels and housing experience which set them apart from other groups and force them into a compromise with existing apartment designs. Future designs should take into account their desire for privacy and a homelike atmosphere in the unit. Although the elderly associated an active retirement with their apartment ownership, the design should not lose sight of the fact that in the long term these are years of declining health and mobility for the elderly. Therefore, the inclusion of features such as ramps and grab bars could be invaluable.

Overall, the temptation to fit a new housing concept into an old design needs to be resisted if the apartment condominium is to meet the elderly's needs over the years. □



The Sign of the Fish

by Margaret Cox

Visitors to towns and villages in many parts of Britain are often curious when they see on the gateposts of houses a small metal plate bearing a design of a fish.

The sign of the fish was used by early Christians to show their allegiance to their faith. And the new signs reflect a movement which is steadily growing in Britain and which was inspired by the Christian concept of good neighbourliness – the Fish Scheme.

The aim is to bring together a pool of people in each town where the scheme operates to give neighbourly help in emergencies and to supplement the work of the statutory medical and social services.

This may mean supplying transport for visitors to patients in hospitals, looking after children, cooking meals, furniture removing, helping with shopping, sitting in with elderly people, writing letters or filling in forms for them and helping to staff a club where the over sixties can gather every week in a happy, old fashioned community atmosphere.

The Scheme in Action

To find out about the scheme and the hun-

dreds of ordinary people who give time and effort to it I visited Wendy Taylor, one of the scheme's most hard working organizers in Bicester, Oxfordshire.

Bicester is a town with a quickly changing population, surrounded by army and air force bases and with few really old established residents. Mrs Taylor, like many other young married people in the town, came from a small community where everybody knew everybody – and any elderly, lonely or sick person always had relatives and neighbours to give help.

Her warm concern for children carried her through some of the more trying patches. "Once, when a child came to us with mumps, we all went down with mumps!" she said. Mrs Taylor was in fact an ideal person for the Fish Scheme to recruit – energetic, concerned about the needs of the elderly or deprived and with time, once her children were at school, to give really practical help in establishing the scheme on her own housing estate.

She started off by becoming a street warden, going round to the homes of the people in the street where she lived and telling them of the services they could call upon if they needed help. Elderly people who lived alone were given an emergency

"Fish" card which they could place in the window as a call for help. Children in local schools were told to keep an eye open for the card.

"When I first came here people tended to keep themselves to themselves," said Mrs Taylor. "There is so much mobility here – people don't have time to establish real relationships. So we wanted the scheme to be a discreet way of giving personal help – I try not to be too organized and impersonal and this is why I don't really want the scheme to be coordinated on a national basis."

Wendy Taylor feels very strongly that the personal service which is given voluntarily by the members of the Fish Scheme adds a new dimension to the lives of lonely residents, whether young or old.

Hospitals and doctors' practices, as well as the town's social welfare services, are good sources of information about those who may need help.

"We have a very good relationship with everyone who runs these services," says Mrs Taylor. "Doctors' receptionists ask the elderly patients if they would like to join the Fish Club. And now we are helping one doctor to carry out a geriatric survey in the area, taking questionnaires to the old people and asking them about their personal circumstances – whether they live alone, whether they have good contact with their neighbours and so on."

"And there's a big call for cars to take visitors to hospital. Patients can get cars through the social services but visitors can't – and with a poor bus service it would take someone all day to get there."

So the hundreds of "good neighbours" in the Fish Scheme are helping to build a new sense of community in areas where the need is greatest. □

**“Là où il y a
des joncs
et des roseaux...”**

LE SOUVENIR DE TROIS CRÉATEURS SE PERPÉTUE AU FIL DES ANS...

*Reportage:
Michel Oger, assisté de Thérèse Aquin
Photographies
(sauf indication contraire):
Gabor Szilazi*

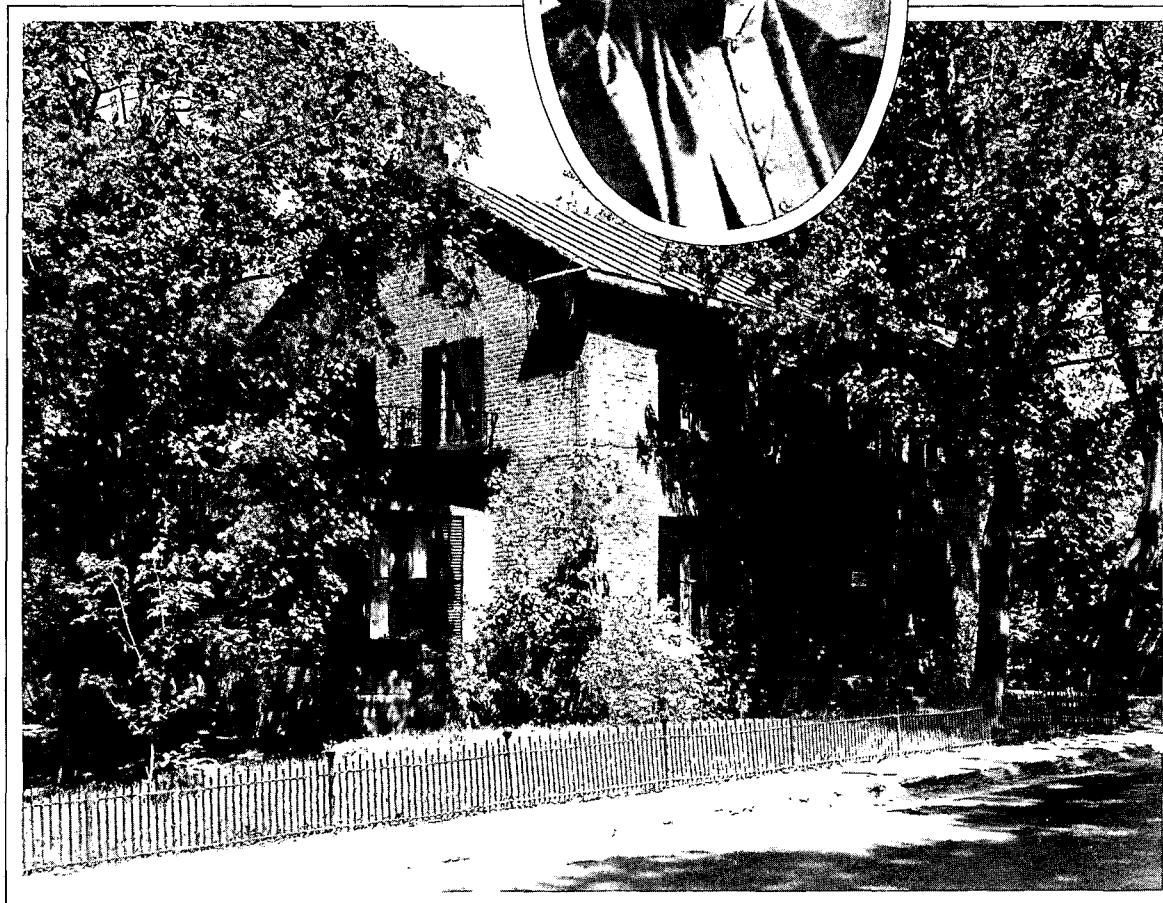


"O pins, vous survivrez
à mon humble mémoire.
Et quand je dormirai
dans l'oubli des vivants,
Que rien ne restera
de mon pâle grimoire,
Vous couvrirez mon toit
de vos rameaux mouvants."

Né à Gentilly en 1849 Adolphe Poisson, l'auteur de ces vers, a vécu à Arthabaska jusqu'à sa mort survenue en 1922. Reçu avocat en 1873 et nommé registrateur, par la suite, le "barde d'Arthabaska" devait passer le plus clair de sa vie dans la belle demeure que l'on peut voir, de nos jours, en bordure de l'avenue Laurier.

Plusieurs pins centenaires ombragent encore cette résidence où furent composés quatre recueils de poèmes: "Chants

du soir", "Chants canadiens", "Heures perdues" et – nous savons pourquoi – "Sous les pins". La Commission des Monuments historiques de la Province de Québec a décidé, en 1951, de rendre hommage à l'artiste, en dévoilant une plaque commémorative devant la maison qu'il habita de 1851 jusqu'à la fin.



A peu de distance, l'avenue Laurier abrite la maison natale de l'écrivain Henri Beudet, romancier et essayiste, connu plus tard sous divers pseudonymes, dont le plus fameux demeure "Henri d'Arles".

Né en 1870, il publie en 1903 son premier ouvrage: "Propos d'Art" et produira jusqu'à sa mort, survenue en 1930, vingt-cinq volumes, sans tenir compte de nombreux textes de conférences, d'écrits divers et d'un journal intime. Possédant des connaissances très poussées sur la littérature d'Europe et d'Amérique du Nord, il en appréciait les principaux écrivains, poètes, orateurs, et en parlait judicieuse-

ment. Particulièrement attaché à la région qui l'a vu naître, il écrivit: "Les Bois-Francis sont ma petite patrie profondément aimée..." Et il ajoutera, parlant de sa maison: "C'est là que j'ai eu mon berceau, au pied des montagnes, près des grands bois d'érables où, enfant, je suis allé aux sources".

Voyageur accompli, lauréat de l'Académie française, ce fils d'Arthabaska est mort à Rome où il repose pour jamais.

Marc-Aurèle Suzor-Côté (1869 – 1937)
 Photographie: Archives publiques du Canada
 La maison natale du peintre-sculpteur



Poursuivons notre voyage dans le passé, jusqu'au boulevard des Bois-Francis, où s'élève la maison natale du peintre-sculpteur Marc-Aurèle-Suzor Côté qui y vit le jour en 1869. A noter que cette maison de brique rouge, la première dans la région construite à l'aide de ce matériau, attirait de partout les visiteurs désireux de voir cette "curiosité".

Voici, tirées d'une notice biographique de H. de Jouvancourt, les principales étapes de la vie de ce Canadien errant. "Il commença à peindre dès son jeune âge. Ses oeuvres du début sont signées de ses initiales M. A. suivies de son nom. Plus tard il abrège et signe A. Suzor-

Côté, pour enfin n'employer que les noms maternel et paternel.

"A l'âge de dix-huit ans il quitte l'école, pour travailler sous la direction du peintre Maxime Rousseau à la décoration de différentes églises de la province. Quatre ans plus tard, il s'embarque pour la France et entre aux Beaux-Arts de la ville de Paris. Il travaille par la suite à l'Académie Julian. Son professeur, Jules Lefebvre, impose à ses élèves, lors du concours de février 1898, un sujet historique "La mort d'Archimède". Suzor-Côté sort premier sur 513 concurrents, en enlevant le premier prix de composition et de dessin.

"Lorsque l'Exposition Universelle de Paris ouvre ses portes, le jeune Canadien est nommé juge pour la section des Beaux-Arts. Il y accroche deux toiles.

L'une d'elles, "Entre voisins", lui vaut une médaille de bronze. La même année, il est fait Officier d'Académie par le gouvernement français. De cette époque, jusqu'au moment où il expose sa première sculpture, en 1907, Suzor-Côté voyage beaucoup et fait souvent la navette entre la France et l'Amérique du Nord. Le 27 janvier 1937, il meurt à l'âge de 67 ans." On peut admirer nombre de ses oeuvres au musée Laurier ainsi qu'au Musée provincial de Québec. □

Pour le premier volet de ce reportage, voir "Habitat" Vol. 17, no 6.

by D. J. Reynolds

“...most of our

The Shape Tomorrow

**A study on the
future of urban transit
systems**

future city growth will be...



Transport initiatives over urban Canada have been fairly widely debated. The most significant of these initiatives is the proposal by the Province of Ontario to develop intermediate capacity transit (ICT) systems. Designed to handle 6,000 to 20,000 passengers an hour, the primary potential markets for these systems are the nine largest cities in Canada, particularly those between 400,000 and 650,000.

The Ontario initiatives open up such a wide range of urgent challenges, opportunities and problems that intensive studies will be required. This is a preliminary study which must be supplemented and overtaken by more practical and more detailed inquiries.

Future Growth and its Timing

For the large Canadian cities the major future factor is growth as measured by the number of households.

In transport and other fields, it has been conventional to take total population as an indicator of size, pressure and demand. Although this is adequate for some matters, households (persons living together in one dwelling) are a much better indicator of growth pressures and demand for transport and other urban facilities such as car ownership. Also, because most household heads for end-century have already been born, the prediction of future households is much less hazardous than that of total population.

If we concentrate on households in most Canadian cities, the pattern of future growth is much more immediate and explosive than the increase in population. Some estimates for the 9 major cities which will constitute the main potential

Table 1

Household Estimates for Major 9 Cities and Canada 1971-1986-2001 (in 000's)

Census Metro Area	No. of Households and Occupied Stock Required				
	1971	Increase	1986	Increase	2001
Vancouver	347	+ 341	688	+ 62	750
Calgary	121	+ 142	263	+ 37	300
Edmonton	144	+ 147	291	+ 39	330
Winnipeg	167	+ 82	249	+ 41	290
Hamilton	147	+ 90	237	+ 43	280
Toronto	776	+ 732	1508	+ 192	1700
Ottawa-Hull	172	+ 159	331	+ 39	360
Montreal	808	+ 456	1264	+ 36	1400
Quebec	128	+ 113	231	+ 19	250
Total 9 Cities	2810	+2252	5062	+ 598	5660
Canada	6063	+3365	9428	+1072	10,500

Canadian market for (ICT) systems from 1971-1986-2001 are given in Table 1. The table also gives estimates for Canada as a whole.

These figures show a dramatic increase in households for all cities (except Winnipeg) over the year 1971-86. These cities, in spite of all reasonable and necessary efforts to the contrary, will almost double in effective size by 1986 while the total number of households in Canada will only increase by about 55%, and total population by perhaps only 30%.

However after 1986, unless immigration is permitted or encouraged on a much larger scale the city household explosion will be very largely over, and effective urban growth will be quite modest after that.

Thus most of our future city growth will be concentrated into the next 12 years or so, and it is desirable that massive investments such as ICT systems should be installed and integrated in this period, rather than later when car populations have grown and corresponding road investments made.

This means that the future planning of virtually all urban matters must be urgently concentrated into the next 12 years or so, and that our cities (with the current falling in birth rates) may have to be largely set for all future time by end-century.

The Future - Incomes and Growth

A few years ago the conventional approach to urban transport and transit studies was to estimate car ownership, car use, the required highway networks and then to plan transit systems for those who were too poor to own a car, with some additional consideration for questions of modal split. Since then, particularly with the transit initiatives, the emphasis has changed in

...concentrated into the next and it is desirable

that transit must be planned with the middle income groups and above in mind, with the poor as subsidiary beneficiaries of whatever systems are to be installed. Thus the market emphasis must be changed from those who are short on money and long on time to those long on money and short on time.

The present distribution of household income in the 9 major cities shows a considerable amount of diversity, although very broadly speaking the largest cities tend to have the highest incomes and highest rates of growth. Excluding Toronto, Montreal and perhaps Vancouver and Winnipeg, it is possible to select a fairly typical income distribution and growth pattern roughly representative of the cities with 400,000 to 500,000 population, rising to some 600,000 to 850,000 by 1986.

For this typical city, the distribution of household income in 1971 and the estimated distribution in 1986 is given in Table 2. An annual growth in real income of 3% is assumed. Total population for this typical city is expected to increase from about 480,000 to 750,000 from 1971-86.

Table 2
Estimated Distribution of
Household Income (before tax)
in Typical City

1971 and 1986 in constant (1971) dollars			
Income Group 1971 \$000's	No. of house- holds 000's 1971	Est. No. of house- holds 000's 1981	Change in House- holds 000's 1971-86
0-1	6	9	+ 3
1-2	11	12	+ 1
2-3	9	18	+ 9
3-4	7	13	+ 6
4-5	6	12	+ 6
5-6	9	10	+ 1
6-7	6	8	+ 2
7-8	8	11	+ 3
8-9	8	10	+ 2
9-10	8	8	0
10-12	19	20	+ 1
12-15	20	32	+ 12
15-25	19	77	+ 58
25+	4	40	+ 36
Total	140	280	+140

From Table 2 (which assumes that the distribution of household income stays constant) two points must be noted. The first is that the growth in income will push almost all the net increase in households toward the top of the income range. The second is that median household income (in terms of 1971 dollars) will rise from about \$9,000 in 1971 to about \$13,000 in 1986, and the latter may be regarded as the target group at which to aim future transit systems.

The Future - Transport

To estimate the transport demands of this typical household we can examine the data for \$12,000 - \$15,000 households from the 1969 family expenditure survey and from the 1971 car ownership data from the census.

The average age of the household head was about 42 years. Virtually all the households were car-owning, with about 1.3 full-time earners per household and an average household size of 3.7.

The expenditures on transport for this household are revealing. In 1969 this household spent some \$1700 on travel and transportation of which \$1436 was on car and truck purchase and operation, and only about \$80 on urban transport services, and of this some \$56 was spent on taxis. Clearly then we have a long way to go to convert this household to urban transit use on a substantial scale.

To investigate car ownership more closely, of the total number of households in our typical city in 1971, about 80% were car-owning, with 60% owning one car and 20% owning 2 or more cars. Pushing income trends forward to 1986 it is easy to see that car ownership would be almost universal. Some 50% of households could be expected to have 2 or more cars, and the median household could be expected to be on the verge of 2 car ownership. Car and personal truck ownership on this basis would be some 1.5 per household (0.5 per head) for a total national car population of 14 million, with half in the big 9 cities.

One Car

This raises important issues for transport planning arising from the fundamental difference between one and two car ownership. The essential point is that the first car opens up such a wide range of opportunities for the household in terms of convenience and ubiquity (with few substi-

2 years or so, that massive investments...

tutes and little inconvenience) that its ownership is likely to show a large subjective and social surplus over its annual costs. One must concede, and perhaps welcome, one car ownership therefore even though its marginal use may be commuting at high social cost with little net personal benefit.

Two Car

The second car is likely to be much more marginal in its uses and benefits. The main surpluses already having been explored by the first car, the second car is much more likely to be used for commuting with marginal social benefits and high social costs. In other words, a major objective of transit policy must be to induce the typical median city household to remain a one car household. With private costs of some \$1,000 a year for the second car, this may not be too difficult.

The Future – Housing and ICT

Another lesson to be learnt from Table 2 concerns housing and the possible location and type of future urban growth. The final column in Table 2 is a good indication of the pressures and minimal needs and demand for new dwellings which must be met if house prices and rents are not to increase even more seriously. On present trends one would expect some 50% of this growth to be high density (if not high rise) apartments, mainly for the lower income groups, with the remaining 50% single family dwellings or their substitutes such as condominiums. Almost all the trends – growth pressures and resistances, smaller families, the greater tendency for women to go out to work, the fuel problem – point to our living at higher densities.

In effect Table 2 means that our median household in 1986 will tend to be located near the present city perimeter

of about 6 miles radius and that urban growth must take place beyond this perimeter. This, together with the need to attract higher income households to the transit system for their urban journeys, seems to give two major housing, planning and transport options:

- General peripheral growth (the perimeter increasing to about 9 miles in radius) with mini-buses as the feeder mode to the ICT system, potentially attracting some 25% of the longer urban trips (see Figure 1), or
- Concentrated growth at the poles of the future ICT system (or the orientation of the ICT system towards growth points) with short distance walking as the most likely feeder mode, and potentially attracting some 50% of longer urban trips (see Figure 2).

These alternatives must be assessed when provisional ICT systems are being designed.

Preliminary Designs for ICT Systems

Networks, Sizes and Feeder Modes

With the socially imperative nature of the transit initiatives it seems fairly clear that the tracks of the transit system must be regarded in exactly the same way as new highways and designed and assessed in the same terms. Since highway users do not (and probably cannot) pay directly for the use of highways (via the farebox or other proposals such as road pricing) they must be regarded as a public good with no direct charges, and the track system of ICT must be approached similarly.

In this situation, some criteria for general growth and coverage (evolving on the basis of theoretical work at Transport and Road Research Laboratory) seems to be relevant. Basically the approach to the track is to minimise the total costs of a system which will contain two main ele-

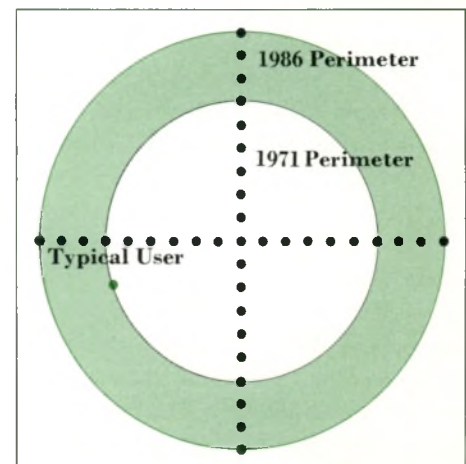


Fig. 1 General Growth Lay-out for Typical City with 4 Radial ICT System

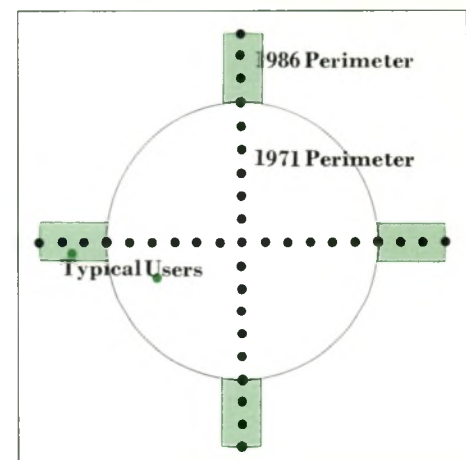


Fig. 2 Concentrated Growth Lay-out for Typical City With 4 Radial ICT System

...such as ICT systems should be installed and integrated

ments i) the size and costs of the track itself ii) the cost of the feeder technique to the track, including the cost of the users' time. The aim is to minimise the annual sum of these two elements.

Because small-sized networks tend to be radial, the optimal ICT track system will probably be radial (with centre-changing for longer trips). The problem is thus to discover the optimum number of radials.

For general coverage it can be shown that if potential users are evenly spread over a circular city (the high density population near the centre being less likely to use the system) each household makes one central and one dispersed round trip per day (equal to one central round trip per head) and the system can attract a fraction M of these, the optimum number of radials (n_0) will be:

$$n_0 = 2.75 \sqrt{\frac{MPC}{R}}$$

where

M = fraction of total trips attracted to transit

P = total population.

C = cost per person-mile of reaching the network in cents.

R = capital cost per mile of track including stations in \$ (an annual rate of interest of 10% being assumed).

As an example of general coverage, if the transit system can be expected to attract 25% of internal trips, the target date population is 750,000, the feeder mode is walk-

ing at 3 m.p.h. with a value for person's time of \$4.50 per hour (equal to the average value of working time) and the average cost of track is \$10 million a mile, the optimum number of radials will be 5. Since the relationships are not very critical this can be rounded down or up to 4 or 6 radials, or 2 or 3 routes through the centre.

If however the feeder mode is mini-bus with an interval of 10 minutes, an operating cost of \$1 per mile, an average occupancy of 10 and a journey speed of 10 m.p.h., the average total cost per person-mile of reaching the track would fall to about 75 cents, and the optimal number of radials would be about 4, or 2 routes through the centre.

Thus it appears that the 4 radial tracks with mini-bus as feeder is superior as it would cost some \$36 million a year in capital charges, plus some \$30 million a year in mini-bus costs, with the average user some $2\frac{1}{4}$ miles (or 19 minutes) from the nearest track. In comparison the 6 radial alternatives with walking as the feeder mode would cost some \$54 million in capital charges while the average user would have to walk about $1\frac{1}{2}$ miles (30 minutes) to the nearest track with enormous additional time costs at the maximal weights given to users' time, and doubts as to whether they would use the system on any scale.

To cover concentrated growth (second option above) one obvious choice would be an attempt to group new apartments at stations along the track, but since it appears that the dwellings will be needed before the track can be built, this will be difficult to achieve. Concentrated growth, therefore, will probably have to take place at the poles, both for high and lower density development.

With a need for some 70,000 new apartments and 70,000 lower density dwellings over the period, with a 4 radial system this means individual groupings of 17,500 units of each type. At a gross density of 50 apartments to the acre this implies their spreading over 350 acres at each pole, a mean walking distance of $1/3$ of a mile to their own central station and an average walking time of about 7 minutes. For the lower density dwellings a gross density of 5 to the acre implies spreading over 3,500 acres, with a mean walking distance to central stations of about 1 mile or 20 minutes. Thus, with reservations on lower density development, an average walking time of about $13\frac{1}{2}$ minutes can be achieved by grouped development at the poles of 4 radials, and this would be only slightly reduced by grouping at 6 poles or by mini-bus as the lower density feeder.

It appears, therefore, that clustered growth at the poles of the transit system, with walking as the feeder mode, is the best in overall cost, service and simplicity, although whether this can be achieved in the face of intense growth and development pressures is rather an open question.*

*Other Track Considerations

Other considerations concerning track size and location are fairly obvious but worth mentioning briefly. For example, elongated cities will require elongated and short radials (which should probably be eliminated if less than about a mile long), river crossings may be especially important, and the practical problems of threading tracks through corridors will probably have substantial effects on design, leading to uneven spacing and coverage, but with little overall effect on the viability of the system. Again one of the versions of the grouped growth alternative may be nearby satellite cities, in order to establish or maintain a green belt (or for other housing, social, planning or land purchase reasons) but with low rural track costs, few stops and high speeds over the extensions, this again will have little overall effect on the viability of the system.

n this period rather than later when...

Operations Along Tracks and Their Optimisation

Having considered the options of designing and minimising the costs of the track plus the costs of feeding to the track, another set of problems arises in considering operations *along* the track. Basically these problems are of two kinds i) the optimal spacing of stations and ii) the optimal train mileage and the resultant time interval between trains, both questions involving matters of technique and technology.

Optimal Spaces

The optimal spacing of stations involves many practical considerations, but basically the major factors are that close spacing of stations and stops will tend to increase journey times and operating costs, while wide spacing of stations will tend to give poor service and increase feeder costs along the track. Fortunately the relationships are not very critical in this matter, and seem inevitably to result in an optimal spacing averaging about a mile, resulting in an average journey speed (including stops) of about 20 m.p.h., depending on technique and technology.

Optimal Intervals

The optimal interval between trains will determine the average waiting time and thus the level of service on the whole system. Basically the problem is how many trains to run over the system in order to minimise the sum of total train operating costs plus total passenger waiting time per day. This problem must be tackled in two steps. The first is to choose a technology which will minimise train operating costs by reducing or eliminating high

labour costs, and then minimise the size of trains provided that they are capable of handling the passenger loadings at safe headways on the track.

The second step is to choose (with the given technology and train costs) the daily train mileage that will minimise train costs plus the passengers' costs of waiting. This optimum train mileage D_o (over a busy 10 hour period) will be given by:

$$D_o = \sqrt{\frac{20 \text{ MPVL}}{T}}$$

where

M = fraction of daily trips attracted to transit

P = total population

V = monetary weight attached to one hour of passenger time in \$

L = total track mileage

T = cost per train mile in \$
(including capital charges).

For example, if 25% of a population of 750,000 make the equivalent of a daily central round trip, a weight of \$4.50 an hour is attached to their time, the track mileage is 36, and the cost per train mile is \$1, the optimum train mileage over a busy 10 hour day will be about 25,000 miles. The interval (in one direction) between trains will be about 1¼ minutes and the average train load will be 90 passengers. Average passenger flow (in both directions over dual tracks) will be some 6,250 passengers per hour.

The crucial question on this example is whether an average train load of 90 passengers (with variations for peaks) can be transported for as little as \$1 per train mile. As a further example, if the cost per train mile is \$2, the optimum daily train mileage would fall to about 17,500 miles. The interval would increase to about 2½ minutes and average passenger loading to about 130, a more credible combination.

ICT Systems for the Typical City

Even though costs are very uncertain at the present time it is possible to try out tentative examples of ICT systems, with the aim of comparing their costs and performance with that of the car.

Choosing first the polarised growth alternative (and walking as the feeder mode) with the hope of attracting the equivalent of 50% of a daily central round trip by each of the city's population, with average track costs of \$10 million a mile and train costs of \$2 a mile, the results are as in Table 3.

Table 3 shows that (with a passenger flow of 12,500 an hour over 10 hours) a polarised growth system would give an average journey time to the centre of 32 minutes (14 m.p.h.) and operating costs at \$2 a train-mile could be covered by a single fare of 10¢ per trip. Although these final figures look decidedly optimistic, it does appear that this system would be competitive in journey time with the car under fairly congested conditions, and more than competitive in price (covering operating costs) even at much higher train costs.

The general growth option, with the mini-bus as feeder mode, aiming to attract 25% of the equivalent of one round central trip per head per day, will give results and performance as in Table 4.

...car populations have grown and corresponding

Table 3
Specification, Costs and Performance for ICT System for Polarised Growth

Track	
Spec.	4 radials, 9 stations
Capital cost \$M	360
Trains	
Annual mileage millions	9
Annual cost \$M	18
Average load pass.	90
Average interval mins.	1¼
Performance	
Journey Time mins.	32
and speed* m.p.h.	14

*Door to centre

Table 4 shows that with an average flow of about 6,250 passengers per hour over a 10 hour day, the general growth system would give an average journey time to the centre of 38 minutes (9.5 m.p.h.) barely competitive with the private car under congested conditions. Further, if mini-bus costs of some \$30 million a year are added, the single trip fare to cover operating costs would have to be some 50¢, again barely competitive in price with the car.

These examples confirm again the superiority of the polarised growth alternative and system, although the difficulties of achieving such an ideal pattern of growth for ICT should by now be obvious.

Other Operating Considerations

Many other considerations must be mentioned in connection with ICT systems, one of the most important being what to do with conventional bus systems after ICT

Table 4
Specification, Costs and Performance of Optimal ICT System for General Growth

Track	
Spec.	4 radials, 9 stations
Capital cost \$M	360
Trains	
Annual mileage millions	6.33
Annual cost \$M	12.66
Average load pass.	130
Average interval mins.	2½
Performance	
Journey Time mins.	38
and speed* m.p.h.	9.5

*Door to centre

has been installed. In general the economics of mass transit systems require that the main load should be placed upon them, and that other systems be complementary, not competitive. However, with a 4 radial system some households will be very far away from the nearest track (up to 7 miles) and cannot be expected to use the system at all; thus conventional buses must continue to be used between routes.

Another important consideration is the additional charges (for example on parking) or restrictions which can justifiably and practically be imposed on the car which might properly aid the ICT system. This is important because if the ICT system is successful in attracting passengers on a large scale the road system will be relatively empty and attractive to road users. However, since the ICT track system will presumably be provided without direct charges to users, it would appear that any additional restrictions or charges on car use (or indeed operating cost subsidies on ICT) should only be imposed if the use and viability of the ICT system are threatened.

The Energy Problem and ICT

One of the most important background reasons in favour of ICT is the longer term energy problem in Canada which has been emphasised by the recent "crisis", transport (mainly car use) accounting for about 1/3rd of total energy consumption.

Basically the energy problem in Canada has arisen because of increasing dependence (75%) on comparatively cheap supplies of oil and natural gas, particularly the former, since conventional reserves have fallen to about 15 years at current consumption. By higher prices for domestic oil and gas, greater exploration and development in "frontier" areas, and the possible economies to be obtained by a possible doubling in retail prices, it is hoped to become actually or potentially self-sufficient and meet demand for oil and natural gas up to end-century, after which a gradual and general change to electricity (via nuclear energy) seems necessary and inevitable. Thus ICT systems are important in the long run, not only in helping to economise on oil, but in switching towards an energy form, electricity, that will be adequate in supply well into the foreseeable future.

road investments made.”

To examine possible developments in fuel economy and the potential contribution of ICT, it should be explained that in 1971 some 9 million road vehicles (including 7 million cars) consumed some 6 billion gallons of fuel in covering some 100 billion vehicle miles. On the trends of Table 1 (as indicated) the number of cars could have been expected to double to about 14 million by about 1986. Their fuel consumption (at an average of 15 mpg) could thus have been expected to rise from about 4 billion gallons in 1971 to about 8 billion gallons in 1986.

A possible doubling in the retail price of gasoline might be expected in the long run to increase average mileage from about 15 to 20 mpg, reducing car consumption by about 25% (or by 2 billion gallons in 1986) and raising the net cost per mile by about 17% (or 1.7¢).

Over and above these possible savings ICT can be expected to make a contribution because, if they can be established in the 9 major cities by about the year 2001, they will be covering about half the nation's population. If their internal car travel accounts for half their total travel and ICT etc. can capture up to half this, then they could potentially reduce car ownership and use by up to 1/8th or 12%, and potentially save a further 0.7 billion gallons of fuel per annum.

In the next century however it does appear that a switch to some such system as ICT (with a *static* power source in ample supply) will be inevitable unless a substitute for oil or natural gas as a *mobile* power source can be developed on the scale required.□

Summary and Conclusions

- 1 The Ontario transit initiatives (probably to be widened over Canada) open up such a wide range of urgent challenges, opportunities and problems that intensive studies will be required.
- 2 The major initiative seems to lie in the proposals for ICT systems, the major potential markets for which seem to lie in the 9 biggest cities in Canada, particularly those between 400,000 and 650,000 population.
- 3 To analyse the future of these cities a typical city was selected which showed that their future growth (a doubling in households and dwellings) would be mainly concentrated in the years up to 1986 with little growth to be expected after that, with median household incomes (to which transit systems must be oriented) rising from \$9,000 in 1971 to \$13,000.
- 4 Analysing housing needs and development, two main alternative growth patterns emerged and were analysed, general peripheral development as hitherto, and growth at the poles of a future ICT system.
- 5 Designing optimal ICT systems for these patterns, for the general growth pattern the optimal system (aimed to attract some 25% of internal trips) seemed to be 4 radials with mini-bus as feeder mode. For the polarised growth pattern (aiming to attract 50% of internal trips) the optimal design seemed to be 4 radials with walking as feeder mode.
- 6 Designing and assessing the performance of these systems it appeared that the polarised growth alternative was much superior in service and cost to the general growth alternative and, if it could be attained in the face of strong growth and development pressures, seemed to be competitive with the car in cost and performance.
- 7 This study must be regarded as a preliminary to much more massive and intensive studies covering i) planning problems, pressures and options, and feeder and track systems to meet them ii) operations on track system and their optimisation in terms of technology, technique and economics.□

Adapted from a paper presented to the Roads and Transportation Association of Canada, September 1974.

Contrôle aérien de l'environnement urbain

Par Hugues Gagnon

La photographie aérienne, cette banque inépuisable de renseignements, n'a pas encore été pleinement utilisée dans les études urbaines. Certes, des recherches spécifiques ont été réalisées sur la circulation routière, la fonction des édifices, la densité de l'occupation, le transport, mais peu de chercheurs se sont préoccupés d'analyser, à partir de documents aériens, le phénomène de l'urbanisation et ses effets sur l'environnement.

L'excellence et la supériorité des relevés aériens, comme source d'information en cette matière, repose sur le fait qu'ils permettent une lecture rapide de la situation, offrent une vue globale des composantes du milieu et présentent une réelle économie sur les relevés habituels. Ces avantages se font particulièrement sentir, lors d'analyses effectuées sur une base évolutive, des photographies successives rendant plus visibles les diverses modifications qu'entraîne l'aménagement d'un territoire.

Voici donc quelques-uns des plus fréquents messages écologiques que révèle, à des degrés divers, l'examen des documents aériens les plus courants : l'image satellite, infrarouge ou thermique, le radar, la photographie conventionnelle et multibande. Cette technique ne constitue plus seulement une illustration complémentaire; elle sert d'instrument de base à l'analyste qui se consacre à l'utilisation rationnelle des ressources du sol.

A l'échelle planétaire

Les premières images obtenues des satellites nous ont livré des illustrations d'une planète bleue entourée de nombreuses bandes nuageuses où tout semblait pur et beau. Puis, après un examen plus détaillé,

certains faits apparaissent et des analogies s'imposent à l'imagination. La terre est affectée en plusieurs points par une prolifération de certaines cellules urbaines rappelant la forme de tumeurs provoquées par des virus dévastateurs. Excroissances urbaines, ratissage gigantesque de zones forestières environnantes, multiplication des réseaux de transport routier et d'énergie électrique en sont les manifestations les plus évidentes, à l'échelle des images satellites. Des images thermiques de l'Amérique du Nord, prises à haute altitude durant la nuit, nous font prendre connaissance de zones urbanisées gigantesques révélées par une concentration plus grande de températures élevées.

En approchant de la surface terrestre, les anomalies s'amplifient. Pour quiconque a pu observer une coupe dans une fourmière, certains plans de ville font naître des doutes sur les aptitudes de l'être humain dit rationnel et intelligent, à maîtriser le développement de sa planète. Certes, beaucoup de choses ont été écrites sur l'écologie, la pollution, l'environnement. Certains témoins se font alarmistes. D'autres, plus optimistes, ont confiance dans le système, lequel, pensent-ils, finira par s'autorégulariser. Mais au-delà de ces options, des faits demeurent dont nous sommes forcés de constater la nocivité à l'analyse, entre autres de la documentation aérienne dont nous disposons présentement.

Problème de conception

Lorsque nous parlons d'environnement urbain, nous désignons ici tous les processus biophysiques pouvant influencer le développement ou être affectés par lui. L'urbanisation est un processus de déve-

loppement dont l'étude ne devrait jamais être dissociée du contexte régional.

La ville se déploie nécessairement dans un site agricole ou forestier et l'interdépendance de ces milieux est le plus souvent fort étroite. C'est la raison pour laquelle tout développement urbain doit respecter, dans une large mesure, les zones rurales et les aires boisées environnantes. La connaissance des qualités particulières à chaque milieu, telles qu'elles apparaissent clairement sur les relevés aériens, doit présider à l'implantation et à l'expansion des villes.

Contrôle de la spéculation péri-urbaine

Une telle suggestion n'est pas nouvelle mais semble toujours utopique. Pourtant, toute personne qui a vu les images aériennes d'immenses surfaces arables inutilisées, à proximité de Montréal ou de Toronto, embrasse le problème dans toute son ampleur. Des images infrarouges couleur de la plaine de Montréal et de la zone

Toronto-Hamilton-St. Catharines révèlent d'innombrables parcelles de végétation agricole, à l'abandon, souvent depuis plusieurs années. La permanence de cette situation dans les secteurs propices à la culture du sol, comme c'est le cas pour l'Est canadien, ne peut qu'entraîner de graves conséquences sur l'agriculture et sur l'ensemble de l'économie. Le combat est inégal, car sans protection spéciale, les zones rurales ne sont pas de taille à résister à l'envahissement urbain.

Il est, par conséquent, impérieux de protéger et d'exploiter plusieurs milles carrés d'excellents sols arables. Des progrès rapides pourraient être enregistrés par la mise en place de règles plus rigoureuses à l'endroit des exploitants agricoles, par des règles plus strictes d'utilisation du sol, ce qui aurait pour effet de freiner

la tendance présente à vendre des terres à des citoyens bien intentionnés, mais inaptes à les cultiver.

Les mesures antipollution

Depuis quelques années, des tonnes de livres ont été publiés sur le sujet de la pollution de l'environnement. On a constaté certaines améliorations, mais l'analyse aérienne révèle un long chemin à parcourir encore (voir figure 1). Plusieurs installations industrielles antipollution sont moins efficaces que prévu ou encore simplement inopérantes. Cependant, si l'industrie prend lentement conscience du problème, il semble que plusieurs municipalités n'y attachent encore aucune importance. Il n'est pas rare de voir des villes subir d'importants travaux de rénovation urbaine, alors que nos relevés nous informent que la construction d'une usine de traitement des eaux-vannes serait nettement prioritaire. Lorsque des hôpitaux déversent leurs égouts dans des lacs autour desquels on note une forte densité de villégiateurs, le moment est venu de se poser des questions sur le degré de conscience des organismes publics de santé. D'autre part, les dépotoirs publics prolifèrent. Des espaces de plus en plus considérables sont affectés et infectés. Plusieurs villes ont préféré une ceinture d'ordures à la ceinture de verdure. Des milliers d'acres de sol se trouvent pollués et, par voie de conséquence, les eaux souterraines également. Le document aérien permet de percevoir clairement l'ampleur du phénomène pollution.

Localisation résidentielle douteuse

Quand il s'agit d'implantation résidentielle, l'image aérienne montre mieux que ne le fait toute autre source de renseignement, l'enchevêtrement inextricable des voies de communication, véritable jungle d'autoroutes et d'échangeurs, au sein de



1 Image du satellite ERTS prise en septembre 1973 au-dessus de la zone Montréal-Lotbinière. A noter, la pollution des eaux du Saint-Laurent révélée par une teinte pâle, visible surtout sur le lac St-Pierre et à l'est de Gentilly.

laquelle surgissent étranglés, des ensembles d'habitation. Le relevé aérien renseigne également sur le degré de pollution de l'air à laquelle sont exposés les habitants des rues situées à proximité des voies à forte densité de circulation automobile. Au sol, l'oeil ne perçoit qu'une parcelle du problème à la fois: un tronçon de routes, quelques habitations, un fragment isolé, en somme, de l'immense fouillis.

Contrôle de la surexploitation

Les images aériennes révèlent des milliers de cas de surexploitation de l'environnement urbain. On peut en distinguer deux principales catégories.

La surexploitation par extraction est caractérisée par la multiplication de carrières, de sablières et de gravières, muti-

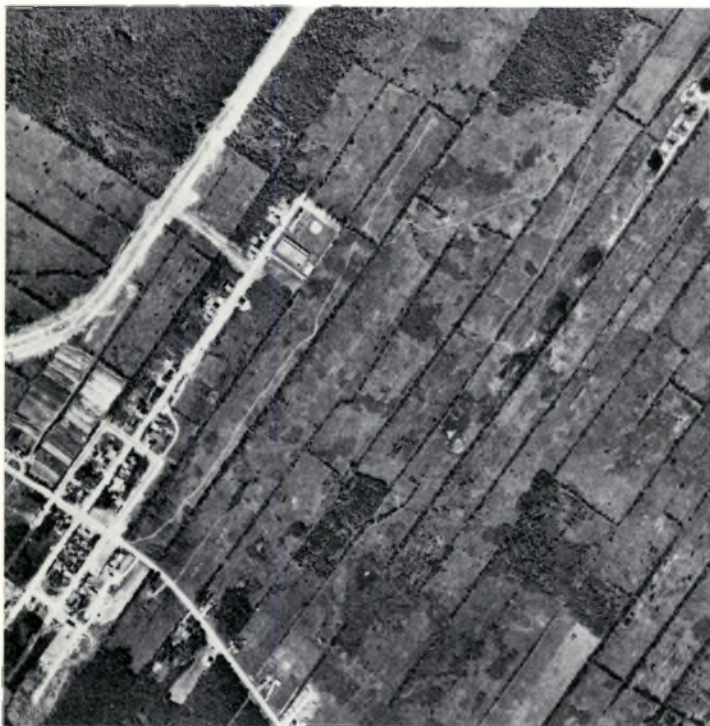
lant un environnement exceptionnel. Les exemples sont nombreux; citons le cas du mont Saint-Hilaire, où une carrière a gravement défiguré l'un de seuls reliefs de la plaine de Montréal; les Iles-de-la-Madeleine et le littoral nord-est du Nouveau-Brunswick, peu urbanisés, mais présentant une haute valeur touristique, sont un autre exemple de surexploitation. Malheureusement, la multiplication des routes a des conséquences néfastes sur le paysage, le faisant ressembler à des gigantesques terriers, car la recherche de sable et gravier requis pour leur construction, incite à briser de belles flèches naturelles de sable ou à décaper les collines déboisées pour en extraire le cailloutis superficiel.

Des carrières de pierre sont exploitées dans plusieurs villes; leur exploitation s'accompagne de bruit, de fumée et de poussière, sans oublier les vibrations consécutives au dynamitage et les modifications des plans de développement urbain. Certes, cette industrie représente un apport économique appréciable, mais

il faudrait s'interroger sur la nécessité de multiplier les zones d'extraction. La conservation de l'environnement oblige à restreindre au minimum ces prélèvements et à réaménager les sites mutilés. Toutefois, il ne faudrait pas oublier que certains milieux biophysiques sont uniques et ne peuvent être récupérés après exploitation.

Le développement démesuré du réseau routier constitue le second type de surexploitation. L'asphalte, ce cancer noir, s'étend à mesure qu'il facilite l'accès rapide de la ville. Le transport se trouvant accéléré, les voitures plus nombreuses, on multiplie, élargit les routes et les autoroutes.

Ces développements portent atteinte, trop souvent, à l'homogénéité biophysique d'un milieu. Des voies rapides, tracées en plein coeur des zones rurales deviennent des barrières infranchissables, polluent et détruisent les structures agricoles exis-



2 Vaste surface au sud de Longueuil où 80% des parcelles agricoles sont abandonnées. Les sols à fortes possibilités agricoles attendent une urbanisation "instantanée".



3 Zone résidentielle bloquée par une immense et profonde gravière; banlieue au sud-est d'Ottawa.

des espaces urbains, une délimitation des zones propres à la construction s'impose.

Délimitation des zones exposées aux glissements de terrain

Plusieurs localités du Québec et de l'Ontario ont été érigées sur des sols à forte teneur argileuse. Ces sols argileux sont caractérisés par leur capacité de passer de l'état solide à l'état semi-liquide sous l'effet de surcharges en eau et de vibrations. De nombreuses tragédies témoignent de ce fait. Or, l'examen de plusieurs photos aériennes nous a amené à conclure que la délimitation de ces espaces exposés aux glissements se fait d'une façon beaucoup plus exacte par le document aérien que par l'étude sur le terrain. Un système de vingt facteurs de formation de glissements a été établi et un pointage est attribué à chaque parcelle de terrain révélant sa disposition à un effondrement. Dans la perspective d'une urbanisation massive et rapide, ce zonage des secteurs exposés aux glissements est urgent.

Délimitation des zones exposées aux inondations

Le printemps de 1974 nous a amené des cas pénibles d'inondations de zones urbaines. L'image aérienne constitue là encore le meilleur outil de délimitation de ces terres inondables. Si l'inondation constitue une tragique surprise pour les habitants d'une zone basse, elle ne doit pas l'être pour l'aménagiste responsable des plans d'urbanisation. Toutes les aires susceptibles d'être inondées peuvent être délimitées et calculées précisément, de même que la probabilité d'inondation. Il en est ainsi également des zones littorales marines basses exposées aux fortes marées ou à une érosion rapide.

Délimitation des zones agricoles prioritaires
En Ontario et au Québec, cette préoccupation n'est pas une abstraction. Dans le

tantes et mettent un frein à l'exploitation naturelle des fermes.

Quel spectacle désolant que de voir les basses terres agricoles de la péninsule du Niagara (voir figure II) découpées, pour ne pas dire étouffées, par les voies des transports routiers et ferroviaires! Combien de magnifiques fermes fruitières ont été détruites et surtout quel arrosage continu d'oxyde de carbone sur les vignes et les vergers longeant l'autoroute!

Nécessité d'un zonage biophysique

L'analyse aérienne des milieux urbains nous conduit inévitablement à la conclusion qu'il est impérieux d'instaurer un zonage biophysique des espaces en voie d'urbanisation. Tout comme il y a nécessité de planifier un zonage des fonctions



4 Sur la rive sud du lac Ontario, près de Grimsby, cette zone excellente pour la culture des raisins, des pêches et des poires est mutilée par une multitude de routes, et surtout par une autoroute avec échangeurs étendus.



5 Un zonage biophysique détaillé permet de délimiter les zones exposées aux glissements de terrain au nord de la ville de Hull; d'épaisses couches d'argile sensible imposent un développement urbain et routier très soigné; sur la rive est de la rivière Gatineau, plusieurs zones basses sont exposées aux inondations printanières.

contexte économique présent, l'agriculteur n'est pas de taille à lutter contre la spéculation périurbaine. Les sols arables doivent être protégés par des mesures précises. Les plans d'urbanisme doivent en tenir compte dans l'établissement de leurs hypothèses de développement urbain. Là encore, la photo aérienne bien analysée constitue un témoignage essentiel. Possibilités agricoles des sols, équipement disponible, degré d'utilisation actuelle peuvent être examinés sur une basse évolutive. Le plan d'urbanisation doit faire plus qu'imposer des contraintes régionales; il doit surtout s'insérer dans le contexte des richesses agricoles et forestières du milieu ambiant.

La photographie aérienne comme instrument d'intégration des disciplines d'aménagement

Les éléments nombreux et complexes dont est constitué l'environnement urbain ont relevé jusqu'à aujourd'hui de disciplines et de juridictions séparées. L'aménage-

ment de demain exigera des participants qu'ils soient instruits, soit par l'étude, soit par l'expérience, des modes par lesquels les composantes de l'habitat pourront être intégrées les unes aux autres. De même, leur faudra-t-il connaître à fond l'interdépendance des milieux biophysiques, sur lesquels agit l'aménagiste. Cette connaissance devient un prérequis lorsqu'il s'agit de tirer des relevés aériens toute l'information qu'ils contiennent. La photographie aérienne s'est implantée depuis longtemps comme instrument de surveillance militaire. Mise au service de l'aménagement, elle est le document par excellence auquel peuvent se référer les responsables de formations diverses. Elle pourra permettre de faire le procès des politiques passées et présentes de l'aménagement du territoire. Il ne reste plus qu'à l'utiliser abondamment.

Hugues Gagnon est l'auteur d'un ouvrage intitulé *La Photo Aérienne, son interprétation dans les études de l'environnement et de l'aménagement du territoire*, Montréal, Editions HRW, 1974.

Canada in 1976 — Host to the United Nations

Habitat: The UN Conference on Human Settlements is less than a year away. The Honourable Barney Danson at a recent joint meeting of the Royal Commonwealth Society and Human Ecology Council in London, England discussed the need for such a conference and offered some personal hopes regarding its outcome. This article is an adaptation of his address.

A Global Perspective

The Urban Equation:

3,500,000,000

6,500,000,000

by
The Honourable
Barney Danson

If one were to list the "critical issues of mankind" for the balance of this century, several would come immediately to mind: the population explosion; the food problem; energy supply and distribution; resource limits; environmental pollution. All of these issues have been the subject of special and urgent meetings over the past few years — meetings within nations; meetings at the regional level in Europe, the Americas, Asia and Africa, and meetings at the global level through the United Nations. We had the Stockholm Conference on the Human Environment in 1972; the Bucharest Conference on Population in 1974; the recent Food Conference in Rome; and then, the special conferences on energy and resources.

There is one critical issue that provides a link between all of these and a vital (if partial) key to their resolution. That issue is human settlements: the shape and form and quality of our human settlements, but, most especially, the accelerating rate of urbanization and the concentration of population into a small number of very large metropolitan and megalopolitan regions.

This issue, which is in so many ways a hinge for all of the others, is to be dealt with at a special UN Conference on Human Settlements in June 1976. We in Canada are privileged to be hosting "Habitat," as it is called, in the city of Vancouver.

At Habitat, the nations of the world will consider and, hopefully, adopt and undertake a wide range of needed international and national actions on the global problems of human settlements. This is urgently required.

The changes occurring in our cities and towns and throughout our rural areas are happening at such a rate that we often do not perceive their aggregate effect; within only twenty-five years, the terms of reference and, in many ways, the character and prospects of the human community will have changed fundamentally. Man will be living for the first time on a predominantly urban planet. If our demographic projections prove correct, three and a half billion of the world's citizens — out of a likely six and a half billion — will be in settlements of more than 20,000 people by the turn of the century. These settlements will be growing at twice the overall rate of population growth. The cities of over 2 to 3 million may well be growing twice as fast again. The dimensions of such growth are astounding. It means building as much man-made environment in 25 years as we have in the entire history of man.

Rich, developed countries in North America and Europe may be able to cope with a doubling of their urban environment in 25

years. We probably have the financial and technical resources to transform this rapid change into an unparalleled opportunity to create communities that are more conserving of energy and other resources, that are more harmonious with the natural environment, that are more human in scale and thus more livable. If we are to transform this from a crisis to an opportunity, however, we must institute measures that will enable us to manage this growth and change. Canada and other developed countries will need to develop and apply a whole range of new approaches in urban policy and institutions as well as in urban technology.

But what of the developing world? The vast majority of mankind's new settlements will not be in the rich, settled societies. They will be in poorer, still developing lands where the resources necessary to deal with growth are tragically inadequate. When their urbanization trends are seen in the context of their population problem, their poverty, their food and energy problems, they assume the proportions of an exploding crisis. In the cities of the developing world the old environmental evils of poor water, absence of sewerage and spreading slums are coupled with modern evils of smog and fumes and chemical pollution. These cities, spreading and deteriorating over another two decades, offer us the tragic prospect of providing the very worst environment in which human beings have ever been reared.

This is a crisis from which we in the rich, developed world cannot escape. In this crisis, the developed world has no choice but to respond. The question is not whether, but how quickly. Given these trends, and the needs they imply, it should not be surprising that the United Nations has stated that the environment problem of greatest concern to most of the nations and most of the peoples of the world is the environment of their cities and towns and villages, of their dwellings and work places — in other words, of man's own Habitat.

Work that was done for and since Stockholm has demonstrated clearly that the key to the problem of resource conservation (and also the key to the problem of overloading the natural environment with waste) will have to be found largely in the better design and wiser management of our human settlements. Monitoring our atmosphere and oceans, our fish and wildlife, will tell us how rapidly we are degrading our environment. In order to stop degrading our environment, however, we must attack the sources of the wastes. Increasingly these are to be found in the economic activity and life-style of our settlements. The same is true of energy consumption, resource conservation and even food supply.

Let us use energy and resources, as an example. We in Canada (and most countries of the developed world) have designed our cities and towns on the assumption that the energy and other resources needed to sustain them are and will remain unlimited in quantity and cheap in price. Look at our recent urban systems: isolated rather than community

heating systems; high rise towers: sealed and air conditioned with complex vertical transportation systems. Our urban systems are highly consumptive of energy and other resources and they generate an increasing volume of waste that imposes an intolerable burden on the land and on our common atmosphere and oceans.

We do not need to continue to build such systems. With present technology, we can design urban systems that are far less wasteful of energy and resources without reducing either our standard of living or the amenities that we enjoy. We can also significantly reduce the social problems and the alienation that is increasingly characteristic of our societies. In short, we can find a new synthesis between man's continuing desire for betterment and the constraints of a finite world with finite resources.

This will require a many-faceted approach. It will require new policy and institutional approaches to the management of urbanization and to the planning of future communities. More importantly, it will require that we identify and apply the best of the available approaches in a co-operative and co-ordinated way. There are many approaches around the world that have been found successful and that are more or less transferable by and to other countries. We need to know more about the successes and the failures of one another so that we can better deal with our own problems. Habitat, and the preparations for Habitat, are intended to provide this opportunity.

Virtually every member country of the UN faces the problem of rapid urbanization and the need to manage urban growth. This is evident from the five tentative themes for Habitat adopted by the UN preparatory committee in January. The first of these is "policies and development." The second is "the social and economic aspects of settlements." The third is "the planning and management of settlements." The fourth is "the design and construction of shelter and services." And the fifth is "human settlements and the natural environment."

Each country, of course, has to develop its own response to urbanization and its own means to manage urban growth. The scope for international action on the problems of human settlements is limited. The really vital actions needed to solve these problems must be undertaken by countries themselves. This is as true for developing countries as it is for developed countries.

That is why, in the preparations for Habitat, nations have agreed to spend a great deal of time and effort in identifying approaches to human settlement problems that have been applied in one country or region and that may have elements that are transferable to other countries or regions.

I believe that through this kind of exchange, people and nations and governments will see that human settlement problems are capable of solutions and that solutions are indeed available if we have the common will and wit to apply them.

Between now and June 1976 countries will be working separately and together on the development of recommendations for international action. The Government of Canada has no firm view on the question yet and, of course, will not adopt one until the end of the preparatory process when we have had the benefit of advice from other governments, non-governmental bodies and private citizens. But we do have some preliminary views that I would like to expose.

In my view, at this stage, Habitat should make a significant advance in at least four areas.

First, Habitat should have a number of important program results. These could include, perhaps, a decision to have an ongoing UN human settlements demonstration program. If a concrete program for the exchange of information and ideas on human settlements were established, it would be of tremendous benefit not only to those nations where urban problems are of the greatest concern, but also to Canada, the United Kingdom and other developed nations.

Another area where Habitat should have important results is in education and research. These, perhaps, could include a decision to strengthen and establish a number of regional urban management training institutes. There is an acknowledged need to better the competence of urban management throughout the world both in the developed and developing nations. And I think it is essential to the future of human settlements that nations develop and train leaders and officials who can grapple with the task of managing the huge cities that are an inevitable part of our future.

Another result was called for when the General Assembly launched Habitat. The Assembly requested that the conference should have a "financial" and "institutional" result. Canada recognizes that this is very important. We also recognize that any recommendations in this area, to be meaningful, will require the most careful consideration and must carry the broadest possible measure of support from governments.

Finally, I would like to see Habitat adopt a firm declaration of principles with three basic characteristics. It should recognize the fact that human settlement is one of the critical issues of mankind. Secondly, it must recognize the diversity and complexity of human settlements and it should identify the main areas of action as well as the political and scientific resources that need to be marshalled. Thirdly, it should represent a commitment by governments to tackle human settlement issues with the resources and urgency that are required.

I realize that this is a tall order. But in developing and refining such a declaration of principles, it seems inevitable that our understanding of human settlements issues, and the commitment by our governments to their resolution, will be strengthened. And this will benefit all nations.

LU POUR VOUS

Montréal en évolution,

Jean-Claude Marsan,

Editions Fides,

Montréal, 1974,

423 pages, 78 planches hors-texte.

Jean-Claude Marsan dresse l'acte d'état civil de la métropole canadienne et constitue avec méticulosité le dossier de la condition physique de cette immense concentration urbaine.

Il remonte aux toutes premières heures de cette existence déjà longue et décrit avec ferveur les premières manifestations de cette vie collective.

On assiste à la multiplication des échanges dont elle est le lieu privilégié, puis au foisonnement des activités qui s'y déroulent.

Au cours de cet examen, les utilisations du sol successives de Montréal sont analysées avec minutie et un souci d'objectivité prouvant que l'auteur a abordé le sujet en historien accompli et en authentique homme de science.

Aux plans rigoureux, aux tracés précis de l'ancien régime et à la localisation judicieuse de certaines fonctions communautaires, succède le Montréal victorien, avec son baroque architectural, cette désarmante ingénuité des squares et des parcs et ce côté majestueux et suranné de certains édifices publics. Le mariage de ces époques nous donne le Montréal le plus humain qui soit, celui qui attache par les liens ténus des amours véritables. Malheureusement, lui a succédé le Montréal trivial, prétentieux, gonflé de lui-même, faus-

sement riche et certainement du plus mauvais goût, le Montréal du négoce, celui qui est le symbole du développement rapide, de la spéculation effrénée.

L'accélération du processus d'urbanisation au Québec a soumis Montréal à un élargissement de son échelle et à un éclatement du champ visuel qui nous était familier. Dégagement de vastes espaces, érections d'édifices verticaux de plus en plus élevés et concentrés, intrusion d'un réseau voyer pléthorique aux échangeurs nombreux et démesurés.

Malgré cela, l'avènement d'un univers urbain fascinant, le Montréal souterrain et ce moyen unique de transport des masses urbaines, cette authentique réussite qu'est le métro de Montréal, à la base de l'affranchissement de tout l'Est de Montréal.

Montréal en évolution est une compilation dressée avec le souci constant de n'omettre aucune phase du développement métropolitain.

Les soixante-dix-huit planches complétant les nombreux croquis et photographies incorporés dans le texte en font un prestigieux album rétrospectif.

Georges Robert

charms of downtown, the university campus, the islands, the escarpment, the ravines of Rose-dale and a variety of residential areas. It is less of an architectural guide – though it discusses buildings and their architecture to be sure – and more casual narrative that succeeds in capturing the mood of the city by suggesting things to see and do, specialty stores to visit, and restaurants and coffee shops to eat in. Each article has been written by someone who has a special affinity for the area he writes about, either because he grew up there or lives there now. The book's five by seven inch format means it fits exactly into a pocket or handbag.

"Chicago on Foot" is a more formal book that, as its subtitle implies, concentrates more on technical and structural information. In keeping with its scholarly approach to the topic, almost every building on a particular walk is described in capsule form with emphasis on such information as "19 stories over two basements on hardpan caissons" or "a modular design with a tinted-glass and granite-exterior facade".

While these facts may not be of great interest to the average walker, if you do fall into this category, don't let this deter you, for the book does contain many items of general interest as well. The walks show Chicago's outstanding buildings and its famous neighbourhoods: State Street, the magnificent mile, Wacker Drive, Lake Shore Drive, Hyde Park, the Gold Coast and Riverside to name a few.

The book begins with a map of the city showing the location of each walk. The introduction to each of the 32 different walks gives an estimated walking time, instructions on how to get to the starting point by car or public transport, and detailed maps of the area.

"Exploring Toronto" and "Chicago on Foot" are invaluable guides for anyone hoping to discover these cities in his own time, in his own way, for anyone who wants to go beyond the usual tourist haunts and see the character of the city come alive.

Cecylia Podoski

BOOKS

Exploring Toronto:

Its buildings,

people and places

ed. by Annabel Slaight

Published by the Toronto

Chapter of Architects, Toronto

128 pp. \$2.50

Chicago on Foot:

Walking Tours of Chicago's

Architecture

by Ira J. Bach

published by J. Philip O'Hara Inc.,

Chicago 370 pp.

\$8.95 cloth \$6.95 paper

"Exploring Toronto" and "Chicago on Foot" are dedicated to the proposition that the charms of a city are best discovered by the pedestrian, someone who can slow his pace and take the time to discover its unique features.

Both Resident and visitor will find in these books a wealth of information on the cities' history, its buildings and their architecture, photographs of many of the areas mentioned and maps to help them on their walking tours. And they will find more than that, for these are not conventional guidebooks.

That the authors love their city is obvious from the fact that their books make us feel a part of it. They help us discover those "nooks and crannies", and those neighbourhoods that make these cities great cities.

Exploring Toronto is a collection of 12 articles by members of the Toronto Chapter of Architects. They show the pedestrian the



LU POUR VOUS

"Pour une géographie humaine"

Pierre Gourou

Editions Flammarion, Paris, 1973, 390 pages

Il est malheureusement de moins en moins fréquent qu'une rencontre intellectuelle nous procure une pleine satisfaction et nous plonge dans un ravissement de l'esprit qui confine à l'assouvissement. Tel est pourtant le cas de l'oeuvre de Pierre Gourou, "Pour une géographie humaine".

Pierre Gourou, spécialiste des pays tropicaux, de renommée internationale, s'il nous montre le monde rempli de contraintes climatologiques, physiques, économiques, politiques, nous dit cependant combien l'Homme peut s'en affranchir, lorsqu'il a pu se dégager de ses ornières sociales, affectives, et qu'historiquement, il se situe dans un contexte d'évolution globale de l'espèce humaine.

Les climats et les sols influent sur lui, soit, mais il sait s'y soustraire quand il mobilise son ingéniosité, son ardeur au travail, son désir de vivre, pour créer des techniques lui permettant d'infléchir son destin. C'est là le thème tenu de l'ouvrage, celui qui apparaît en filigrane dans la plupart des chapitres.

Pierre Gourou croit en la vertu de l'effort, en l'apport positif que constituent les limites imposées aux hommes et aux peuples. Les sociétés qui n'ont pas à affronter d'épreuves physiques et morales ne sont pas complètes. Le combat est une nécessité qui s'inscrit dans l'existence des nations. L'absence de lutte conduit à une léthargie, à un confort intellectuel desséchant.

Il croit également aux différences inhérentes à chaque race et à chaque type de civilisations. "L'explication de la technicité humaine par le capital génique occupera de plus en plus solidement une partie du terrain; l'homme est ce qu'il est par la façon dont il est fait. Mais ce capital dormirait si les groupes n'avaient, par l'invention des techniques, révélé son existence. Par là se trouve posé tout le problème de l'origine des techniques et de leur inégale efficacité à travers les groupes humains."

L'auteur amorce la notion de zonage de l'univers et la nécessité de "préciser le bon climogramme

pour définir à la surface de la planète des aires de climat favorable et défavorable à l'humanité". Il aborde successivement le problème de la fertilité des terres et des techniques agricoles, des sols tropicaux et de l'agriculture moderne. Il consacre également des chapitres aux relations entre la géographie humaine et les montagnes, les forêts et la mer.

Il nous sensibilise en plusieurs endroits au danger que nous font courir les civilisations "efficaces". "Une civilisation efficace, écrit-il, modèle le paysage pour son usage et selon ses critères. Les villes ne sont pas seules en question, sur de larges étendues de la surface terrestre, les techniques modernes plus agressives que les techniques anciennes exercent leur action... qui peut être dégradante et en définitive néfaste aux intérêts de l'Homme".

Il croit en l'Homme et malgré une certaine distance prise vis-à-vis de Lui, il souhaite son bonheur. Et le géographe-humaniste est en réaction contre l'économie appliquée avec rigueur, sans que jamais intervienne la notion de rentabilité sociale.

Jean Labrasse, l'auteur de "L'Organisation de l'Espace" cite Gourou "qui nous a appris que la manière de vivre importait tout autant que le niveau de vie tel qu'il est mesuré, de façon théorique par les économistes. En définitive, l'aménagement, c'est l'accent mis sur l'homme "habitant" alors que la planification économique place son accent sur l'homme "producteur".

"Pour une géographie humaine", maître ouvrage d'un des esprits les plus cursifs et les plus déliés de notre époque.

G. R.

Une politique du logement au Québec

Gérard Divay et Jacques Godbout, Les Cahiers du CRUR, Les Presses de l'Université du Québec, 1973, 265 pages.

La situation critique de l'habitation au Québec, tant en termes de qualité, de prix, d'aménagement que de disponibilité, se perçoit avec plus de clarté après la lecture de l'étude de Divay et Godbout.

Une partie importante de ce cahier du CRUR (Centre de recherches urbaines et régionales) est

consacrée à la rétrospective de la législation québécoise en matière d'habitation et souligne, au passage, les conflits juridictionnels qui caractérisent ce secteur de façon quasi perpétuelle.

Ces citations d'hommes publics, judicieusement choisies, éclairent le sujet de façon inusitée, permettant de saisir la portée politique de l'action gouvernementale dans le domaine du logement. Les auteurs abordent également la création, le rôle et les réalisations de la Société d'Habitation du Québec ainsi que ses relations avec la Société centrale d'hypothèques et de logement.

Soit dit en passant, la portée de l'étude est plus restreinte que le titre peut le laisser présumer; en effet, on y traite principalement du logement dit public ou social et non pas de l'éventail complet de tous les types de logements, sinon dans un schéma de politique générale.

L'étude signale à peine la grande faiblesse de la recherche en matière d'habitation et esquisse le sujet de l'insertion de la politique du logement dans un cadre d'aménagement du territoire et d'urbanisme. Nous attendions des auteurs une position plus percutante dans ces domaines fondamentaux.

Néanmoins, ils présentent et analysent des faits inquiétants, entre autres: l'attitude parfois paternaliste des dirigeants dans leur conception du logement social, l'insuffisance et l'inorganisation des données de l'inventaire du logement et la disparité des réglementations municipales relatives au contrôle de la qualité de l'habitation.

En définitive, la nécessité absolue d'une politique globale de l'habitation intégrée à une politique d'aménagement urbain, apparaît avec évidence dans cette plaidoirie étayée par des arguments de poids.

L'interprétation et les recommandations des auteurs ne rallieront certainement pas les vues de tous, mais leur approche vaut la peine d'être analysée par les intéressés.

Claude Lavoie

BOOKS

Legal Foundations of Land Use Planning (Cases and Materials on Planning Law)

edited by Jerome G. Rose, Center for Urban Policy Research Rutgers

319 pp.

Mr. Rose has assembled excerpts from judicial decisions and from statutes which deal with underlying legal principles involved in land use planning. The author has inserted various comments and questions throughout the book.

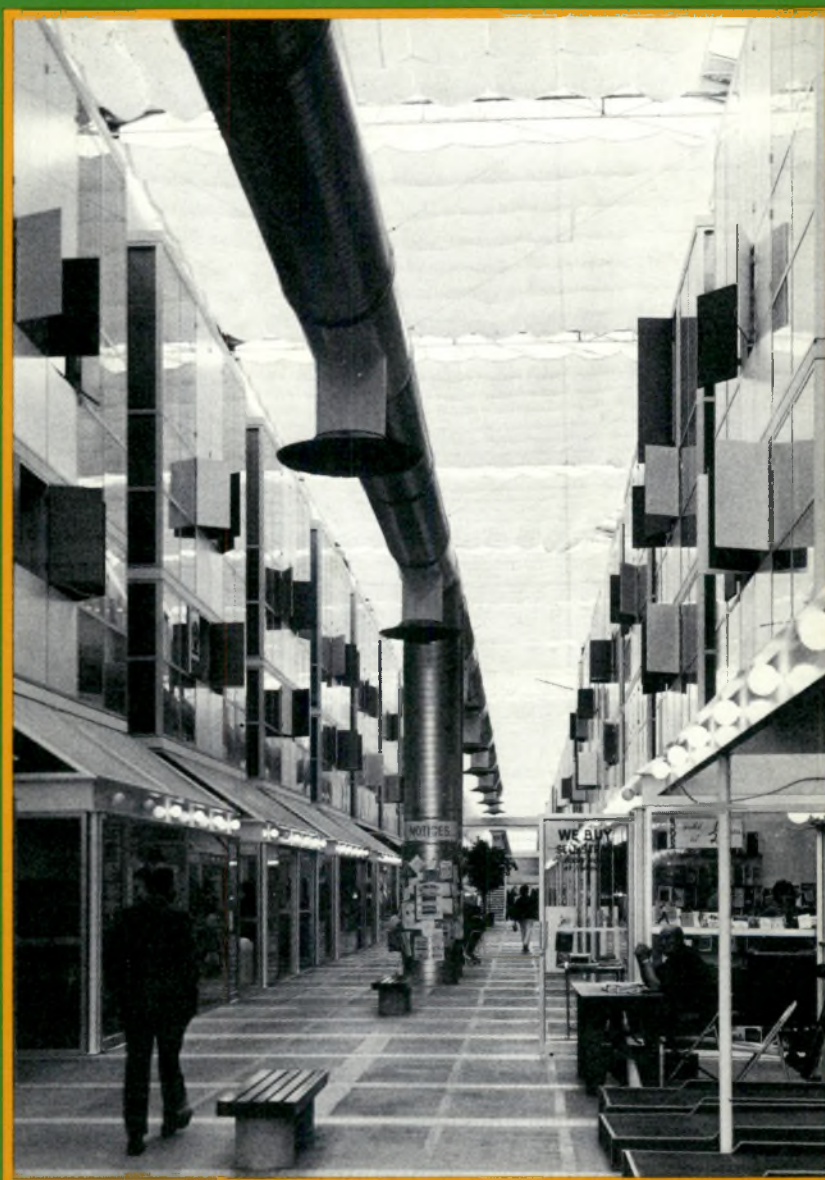
Of special interest to Canadian planners is a section dealing with various devices used to attain zoning flexibility, and the judicial reasoning used in justifying such zoning devices.

Other chapters discuss environmental aspects of land use planning, eminent domain, planned unit development, official map regulation, subdivision law, and generally the law as an instrument of urban planning.

Although the cases considered are American, since the subject matter is legal principles of land use planning, the book is also of value to Canadian planners and lawyers.

Donald W. Desautels





Student Centre, University of Alberta,
Edmonton.
Photograph: CMHC/William Cadzow

Pavillon des étudiants, Université de l'Alberta
à Edmonton.
Photographie: SCHL/William Cadzow





habitat



habitat

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The Retreating Landscape of Leisure

by F. Rajotte

The Landscape of Recreation

The growing demand for new recreational areas by two distinctly different groups—the weekend vacationer and the tourist—has so dramatically increased the expanse and congestion of recreational development around large urban centres that it is almost useless to go any further. To leave the overcrowded zones of one city is to arrive at those surrounding another. The point is—where will it end?

Ever-widening circles...

In the days of river and horse-and-buggy transportation, recreational activities were limited to the short river cruise, to the picnic or country hike within a few miles radius of the urban center. Only the very wealthy could afford the time for travelling to and the cost of maintaining a country residence that combined high recreational potential with ease of accessibility.

The innovation of rail transport in the late nineteenth and early decades of the twentieth century brought a new linear area along the rail lines within the accessible range of the urban recreationist. In close proximity to the rail lines, clusters of summer cottages sprang up at the more favourable locations such as lake-shore areas, producing a pattern similar to beads strung along a thread. In certain favourable areas, such as the valley of the Rivière Noire, which dissects the Laurentian Uplands to the north of Montreal, rail also facilitated the

development of a chain of winter ski resorts in the 1920's and 1930's.

However, it was not until the post Second World War years that the era of mass outdoor recreation began. The rapidly increasing urban populations, with increasing income and leisure time at their disposal, now obtained the essential requirement for outdoor recreation—mobility. The phenomenal growth in North American car ownership since 1946 is apparent in the endless miles of automobiles streaming out of the urban area every weekend and summer evening. A veritable recreational flood of the rural countryside has occurred. The small clusters and linear patterns of the former eras have become engulfed, and finally submerged, within a broad zone of recreational development. Simultaneously, the automobile has facilitated urban and suburban expansion, and some of the early recreational zones and nodes of the horse-and-buggy era have become overrun by permanent urban residential development.

The recreational areas near the cities can now be viewed as a series of concentric zones diminishing in intensity of development as they move away from the urban centres. Within the zone, in closest

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The Landscape of Tourism

A once-in-a-lifetime happening...

Tourism can be regarded as a separate and distinct branch of recreational activity. The urban recreationist commutes out of the city to use vacation homes, beaches and other facilities on a more or less regular basis. He may be expected to visit his favourite ski slope or golf course frequently. The family may repeatedly spend the summer at the cottage, and even the casual pleasure drive is in all probability a repeated activity that follows a familiar pattern, if not identical route.

In contrast to this, the tourist comes from outside the immediate urban area. His primary interest is to tour; that is, to travel and sight-see. As he is unlikely to do this more than once in any given area, his tour may be regarded as unique. Thus, tourist facilities do not form broad concentric zones around the cities, but rather are concentrated in and around centers of particular tourist interest, and along the transportation routes linking them, forming a node-linkage pattern.

...with an ever-increasing appetite

When tourists become attracted to an area because of its unspoiled scenic beauty, or its cultural, historic or architectural interest, the process termed by P. Defert in "Le tourisme, facteur de valorisation régionale" of 'touristification' commences. The tourists not only want to see the natural and cultural

regional features, but want to be accommodated, fed and transported in comfort, or indeed in luxury, while so doing. Thus, a spectacular expansion in the tertiary sector accompanies 'touristification.' As the number of tourists increases, so the market for personal services and entertainment increases, until the era of the guided tour, the wax museum, and the pinball arcade arrives.

The impact of the mass travel of interurban and international tourists frequently has a devastating effect upon the original rural and urban regional landscape. While initially diversified and interesting, natural and cultural landscapes become first invaded, and later obscured, by concentrations of hotels, motels, restaurants, cafés, gas stations, snack bars and billboards. The question arises as to how far this self-destructive process of 'touristification' is circular or self-sustaining.

The Self-Destructing Landscape

In generalizing about economic development, the Swedish economist, Gunnar Myrdal, points out that changes do not bring about countervailing changes but, rather, supporting changes, that move the process further and more rapidly in the same direction. And it certainly seems justifiable to regard 'touristification' in these terms.

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The Landscape of Recreation



proximity to the urban area, are concentrated recreational facilities such as ski resorts, beaches, golf courses or marinas, requiring considerable capital investment. This is followed by a zone of vacation home development with the extent of this zone being determined by population potential. Beyond this again, at the periphery, are the areas in extensive recreational use; federal and provincial park, reserve lands, private hunting and fishing clubs and wilderness areas.

...to an ever-retreating countryside

When recreation was limited to a few small clusters of summer cottages, resorts tended to be the prerogative of the wealthy. The architectural styles, grounds and maintenance formed a generally pleasing landscape element and, moreover, it was separated from adjacent resorts by large areas of unspoiled countryside.

Now the inundation of the countryside is virtually complete. Almost all areas are accessible by automobile. Not only are prime river locations in demand, but the outboard motor has spread vacation home proliferation along the less accessible shores of lakes and rivers, until many hundreds of lakes are completely encircled by cottage development, with no public access remaining.*

Recreational demand is not confined to river locations. Hillside after hillside is scarred by ski

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*An extreme example of this is described by R. I. Wolfe, "Wasaga Beach: The Divorce from the Geographic Environment," *The Canadian Geographer*, 1952, No. 2, pp. 57-65.

The Landscape of Tourism



As an ever-larger sector of the population earns their living directly or indirectly from tourism, so increasing pressure is brought upon government and commerce to take measures to increase the tourist volume still further. This can be done in several ways. The intrinsic interest of the area may be increased by the development of hitherto overlooked resources, such as the restoration or reconstruction of historic or cultural monuments or the creation of new parklands. Tourist services may be increased in number and improved in quality; artificial attractions such as carnivals or festivals may be initiated; advertising and publicity can be improved and finally, transportation networks improved to increase the potential market area.

As further increases in tourism increase the employment opportunities available in the urban areas and raise revenues and wages in the service sector, so they accelerate the trend to urbanization. The culturally unique features that the tourist wishes to see—the old farm buildings, maple sugar cabins, fishing villages—all are abandoned by a population which has discovered that higher wages and easier kinds of work are available in the city. Farmhouses and barns fall into abandonment, or are bulldozed aside to make room for new auto-routes, and a 'scenery of tourism' develops.

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The Landscape of Recreation

developments and hotels while recreational "suburbs" of chalets sprawl around them. The greater the relief, and the more scenic the area, the greater will be the demand for development land. Even the less interesting areas of flat forest and farm land are now in demand for snowmobile trails and, as pressure increases, for vacation home developments.

As the demand upon recreational areas quickens, so the very values sought by the escaping urban population are destroyed, whether they be the natural scenic beauty of lake and forest, the quiet and serenity of the rural areas, or the fauna and flora of the wilderness.

The leisure time available to the recreationist is limited—an evening, a half day, a weekend—while the distance that he is forced to travel to escape first from the urbanized area itself, and then from the congested and overcrowded zone of intensive recreational land use, steadily increases. As the distance between urban centers decreases temporally, so the recreational zones around the cities become more extended, until they reach a point where they merge and overlap. Pressure is brought upon the last remaining areas of rural beauty or wilderness. Eventually the stage is reached where it is pointless to go any farther or any faster, because to get beyond the zone of congestion and recreational overcrowding surrounding one urban center is merely to arrive in that surrounding the next. □





The Landscape of Tourism

Eventually tourist development may destroy the very potential upon which it is based. Around the main nodes of tourist interest and along the highways linking them, motels and camping grounds replace scenic beauty and rural charm. The souvenir store and the summer hot dog stand are among the most typical features lining the tourist node-linkage pattern. Their visual detracton from the natural and cultural landscape may justifiably be regarded as 'visual pollution.'

Not only can the process of 'touristification' be regarded as self-destructive, but tourist and recreational developments can also be regarded as mutually destructive. The urban dweller escaping to the rural countryside does not want to be engulfed in high speed autoroutes and endless rows of motels and camping parks, any more than the tourist who has come to view the beauty of the landscape wishes to see shorelines encircled by vacation homes and hill slopes scarred by ski tows. The opposing interests of the urban dweller's demands for recreational facilities near the city, and of the tourist's demand for unique and unspoiled scenery is a problem seldom raised by planners or developers, yet it should surely command the interest and attention of those interested in building tourist potential into future regional planning programmes. □



Une ville-usine surgie de la steppe offre un exemple de technologie urbaine

par Michel Oger

Photographies : Agence de presse Novosti

T O G L

L'essentiel des informations contenues dans cet article nous a été fourni par M. Yevgeny Iokheles, architecte réputé en URSS et l'un des auteurs de la ville nouvelle de Togliatti. Pour son remarquable travail dans ce domaine, M. Iokheles a reçu en 1973, en compagnie d'une douzaine d'architectes, ingénieurs et autres spécialistes de l'urbanisme, le Prix national d'architecture, reconnaissance officielle de la très haute qualité de leur entreprise commune.

Certains détails additionnels sur l'usine VAZ ont par ailleurs été recueillis dans l'édition française de la revue mensuelle "Spoutnik".

Ville-usine ou ville-parc ? L'agglomération de Togliatti – qui pourrait tout aussi bien être nommée Togliatti-sur-Volga – répond à ces deux définitions et ce n'est pas là sa moindre originalité.

"Ville-contraste" serait peut-être le terme le plus juste pour parler d'elle. Centre industriel de l'automobile qui ne compte que quelques années d'existence, Togliatti figurait pourtant sur la carte dès 1738, sous le nom à consonance nettement plus slave de Stavropol...

Déjà entièrement structurée, Togliatti prévoit quand même, pour l'an 2000, de vastes extensions et pour cause: la moyenne d'âge de ses habitants est actuellement de 26 ans.

Pour comprendre la nature particulière de Togliatti, il convient de remonter quelque peu dans le temps, car sa nouveauté en tant que telle ne constitue pas un événement dans l'immense URSS où, de 1959 à 1970, deux cent soixante-quatorze agglomérations nouvelles ont vu le jour.

Dans cette ville dont la raison d'être est la voiture (635,000 en 1974 et des chaînes de montage dont la longueur totale atteint environ 200 kilomètres), on a réalisé la synthèse de tous les concepts nationaux en matière de construction, ce qui explique, dans une certaine mesure, la rapidité avec laquelle elle a été édifiée.

Existant depuis le XVIII^e siècle, l'actuelle Togliatti a vu son sort modifié, pour ne pas dire bouleversé, par la révolution technico-scientifique qui a marqué l'après-guerre dans les nations ayant participé au conflit.

C'est, en effet, sur cet emplacement que fut construit, vers la fin de la décennie 50, l'un des premiers "géants" soviétiques de l'énergie, la centrale hydro-électrique sur la Volga. La ville, située dans une zone de submersion possible, fut rebâtie à quelque distance de là. En 1967, l'emplacement fut choisi comme site futur de la gigantesque usine automobile VAZ d'où allait sortir, à un rythme accéléré, la version soviétique de la Fiat italienne, la Jigouli, baptisée ainsi en raison de la proximité des fameuses montagnes du même nom qui se trouvent sur la rive droite de la Volga. Plus de trente instituts d'Etat spécialisés dans la conception, la recherche et la technologie urbaines participèrent à la création d'une ville dont le nom constitue un hommage à l'homme d'Etat italien Palmiro Togliatti.

Le choix du site, après des recherches poussées, s'explique par diverses circonstances favorables: proximité immédiate du plus long fleuve d'Europe et de sa centrale – d'où énergie électrique et ressources hydrauliques à profusion – disponibilité du sol, communications routières et ferroviaires aisées, organisation et moyens propres à construire dans les meilleurs délais, entre autres. La conjonction de ces divers avantages s'avéra donc déterminante pour l'avenir de Togliatti, aujourd'hui centre d'un immense complexe industriel et résidentiel unique en son genre.

I A T T I

En prévision de l'avenir, et pour permettre à la cité toutes les extensions nécessaires à sa croissance contrôlée, les principes de la planification "souple" furent appliqués dès la première heure.

A Togliatti, les zones résidentielles et industrielles réparties en "ceintures" parallèles peuvent être développées à l'infini le long des rives du fleuve, lequel est considéré comme un réservoir naturel de première importance.

La zone résidentielle est séparée du plan d'eau par un vaste parc qui s'étend des deux côtés de la Volga, cependant que la zone sanitaire – zone-tampon établie entre les secteurs industriel et résidentiel – abrite notamment des centres pédagogiques et de recherche.

La façon dont le problème du transport a été résolu mérite d'être relevée, car la ville-usine est sans doute la seule, en Union soviétique, où n'existent pas de feux de circulation et où, par conséquent, le flot des véhicules s'écoule sans interruption.

Les urbanistes ont, en effet, mis au point un réseau serré de rues dont chaque intersection est obligatoirement distante de la prochaine d'au moins un kilomètre. Dans un sens, les artères tracées parallèlement au fleuve relient entre eux les principaux quartiers de la ville, cependant que des rues transversales plus courtes raccordent les zones résidentielles et industrielles entre elles et au fleuve. La fluidité du trafic est as-

surée par des voies à cinq et sept pistes dans chaque sens et par des croisements à trois niveaux. Par ailleurs, la distance entre chaque logement et un moyen quelconque de transport public ne peut excéder les 400 – 500 mètres spécifiés par les normes d'urbanisme, ce qui a pour effet d'assurer à chaque citoyen la possibilité d'accéder à son travail en 20 ou 25 minutes au maximum. Enfin, et suivant en cela les recommandations des hygiénistes, une distance de 50 mètres sépare les immeubles des principales artères et des allées exclusivement piétonnières ont été tracées dans la plupart des directions.

En dépit des transports publics capables d'absorber les voyageurs aux heures de pointe, on a calculé qu'il y aurait prochainement en circulation une voiture particulière pour 6-7 habitants en moyenne. Des garages souterrains sont donc prévus, pour environ la moitié des véhicules, à proximité des quartiers résidentiels, à la fois pour réduire le trafic et pour assurer la sécurité des piétons, surtout des enfants. D'autres vastes aires de stationnement sont projetées dans la zone communale pour abriter les automobiles excédentaires.

Le plan de la zone résidentielle est assez inhabituel dans un pays où les villes de l'importance actuelle de Togliatti ont des quartiers d'habitation prévus pour six/quinze mille habitants alors que, dans le cas qui nous occupe, la population en sera de l'ordre de 25,000 à 30,000 personnes. Les installations collectives et les services publics indispensables à la vie quotidienne sont situés

au centre de chaque quartier d'habitation de manière à être accessibles au piéton. Des services culturels et de bien-être, à trois échelons, desservent les groupes d'habitation de douze à seize mille habitants, les quartiers et l'ensemble de la population. Ils sont situés, dans le premier et le deuxième cas, en dedans de rayons de 500 et 1200 mètres.

Une attention toute particulière a été portée aux installations sportives, ce qui n'offre rien d'étonnant quand on songe à l'âge moyen de la population. Les enfants n'ont pas été oubliés et, pour leur part, ont à leur disposition des terrains de jeux et de sports divers, ainsi que des piscines à proximité des grands ensembles d'habitation mais séparés d'eux par des écrans de verdure.

Les adultes bénéficient des mêmes installations – lesquelles desservent, soit le quartier, soit la ville, en plus de divers stades et de salles de gymnastique. Le stade principal, construit au bord du fleuve, jouxte la grande patinoire d'été,



les terrains d'hébertisme, le yacht club, des plages aménagées sur la Volga auxquelles se succèdent de nombreux points d'amarrage pour embarcations de divers types.

La construction et l'aménagement, en six ans, d'une nouvelle ville pouvant accueillir 200,000 habitants, en une région autrefois déserte, n'a été possible que par l'utilisation de méthodes industrielles de construction. La préfabrication a, en effet, été utilisée dans la proportion de 90 pour cent des immeubles dont la hauteur varie de 5 à 22 étages. Les conditions climatiques ont imposé aux architectes de bâtir la ville de façon à créer des espaces semi-enclos et à protéger les espaces découverts des vents violents qui caractérisent la région.

Pour ce faire, on eut recours à la méthode de superposition d'éléments tridimensionnels préfabriqués de diver-

ses formes rectangulaires. Les différentes hauteurs d'immeubles et le jeu de formes tridimensionnelles ont permis d'éviter la monotonie habituelle des grands ensembles. Tout immeuble de la ville nouvelle se distingue par son caractère individuel grâce à ce système de construction et à l'usage d'éléments monumentaux et d'art décoratif.

Si le matériau le plus utilisé – sous toutes les formes imaginables – reste le béton, on a employé pour la finition et la décoration des immeubles des mosaïques de verre, des briques de parement, de l'aluminium anodisé, le verre coloré, le bois, le granit, la dolomite et le travertin.

On ne saurait parler de Togliatti sans évoquer ses énormes réserves de verdure, en l'occurrence une vaste forêt de pins qui cerne chacune des trois parties majeures de la ville. La présence constante des arbres et des plantes, la proximité des monts fameux et de la Volga, les parcs et les plages assurent à la ville un environnement d'autant plus surprenant que rien, autrefois, ne croissait sur cette steppe désolée... Cette "colline desséchée" dont se souviennent les plus âgés et sur laquelle la ville a été fondée, la violence des vents et l'absence de pluie presque continuelle constituaient autant de désavantages qu'il a fallu surmonter. Beaucoup de patience et d'efforts – et des arrosages gigantesques! – ont cependant triomphé de la nature adverse et permis la création de cette ville-usine dédiée à une nouvelle divinité: l'automobile.

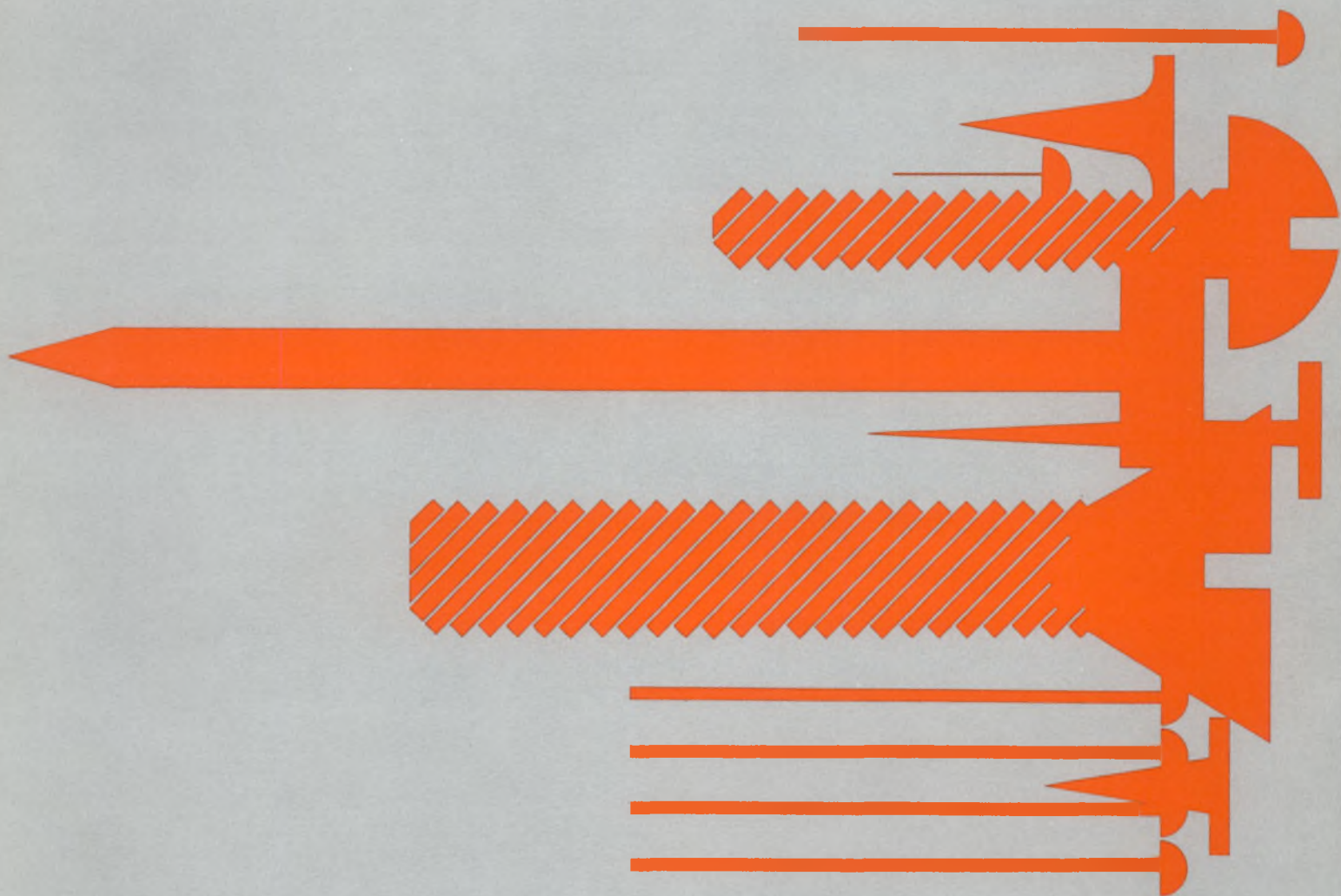
Parallèlement à ses espaces verts, la ville offre un avantage dont bien peu de cités industrielles peuvent se prévaloir:

un ciel pur. Il n'y a en effet nulle émission de fumée, l'usine et la centrale étant équipées d'un système de filtrage, mesure anti-pollution que renforcent encore l'utilisation généralisée de l'électricité, les ceintures de verdure et le régime des vents.

La ville ne rejette, d'autre part, dans le fleuve que des liquides traités et chaque mètre cube éliminé est au préalable biologiquement purifié. Il est à noter, à ce sujet, que la consommation quotidienne en eau s'élève actuellement à 287 litres par habitant, alors que l'objectif des autorités est de porter ce chiffre à 240 litres par jour et par habitant pour le reste du pays, et ce vers la fin de la présente année.

Après étude systématique des conditions sanitaires qui prévalent depuis des années à Togliatti, un symposium a été organisé dans cette ville en 1974, groupant des hygiénistes chargés de tirer les conclusions de cette unique expérience urbanistique. Ils en sont unanimement arrivés à la conséquence que la ville-usine pouvait, dans une large mesure, servir de modèle et de guide aux nombreuses cités industrielles qui surgissent un peu partout à travers le plus vaste Etat du monde.





Native Housing: The focus is Self-Help

by Alan de Jourdan

"Housing has been a major reserve problem for as long as anyone can remember. Belatedly, but finally, the government discovered this and even more belatedly set about doing something to alleviate the problem...

"The housing needs of the Indians are greater than ever today...

"Nothing but the white man's lack of vision stands in the way of Indians making successes of development projects right in their own communities."

Harold Cardinal, 'The Unjust Society'

Decades of struggling with the problem of how to provide decent housing for Canada's native peoples has shown how difficult the achievement of this goal can be. Now, in response to the representations made by native associations and by the native peoples themselves a different approach is being tried—that of providing funds and training so that the people can try to meet their own housing needs. The initial response although enthusiastic has been cautious but it is clearly too early to gauge results. Participation by Indian bands and Metis associations in many areas is just beginning as the people feel their way along the unfamiliar road of self-administration, local level discussion and consensus decisions.

According to the Department of Indian Affairs and Northern Development, Canada has a population of some 18,300 Eskimos, 250,000 status Indians, and from 271,000 to 500,000 Metis and non-status Indians, depending on how this latter group is defined.

Many of these people are poorly housed. A 1965 study quoted in the Hellyer report estimated that 90 per cent of all housing on Indian reserves "was substandard by any reasonable criteria." A July 1968 report of the Manitoba Metis Federation describes the homes

of Metis and enfranchised Indians in rural Manitoba in following terms:

"In many areas houses are so worthless that residents seldom bother to spend money on improvements or make an effort to repair them. Broken windows are patched with cardboard boxes.

"Rusty cream cans are used for water storage. It is rare if there is more than one bed and more than one or two chairs. When a visitor eats at home he usually is given the few dishes and silverware, while the family eats out of the tin pans or even tin cans. Most homes have no electricity. Kerosene lamps are the only source of light. In many communities, water is scarce and has to be hauled long distances. Often it is unfit for human consumption.

"Bed bugs and lice swarm over the cracked walls and floors and are a plague to everyone, especially infants.

"Most of the roofs leak. If the floor is dirt, as most often they are, it becomes soaked and muddy every time there is rain. Windows are small and few. To contain heat during the winter, walls are plugged with mud and cardboard. Tin heaters are often the only means of heating the shacks. It is a log, cardboard and mud ghetto that contains appalling fire traps."

Yet there are some encouraging signs. For example the number of log houses occupied by Manitoba Indians decreased from 2,130 in 1964 to 865 in 1971.

During that same period the number of frame dwellings more than doubled from 1,658 to 3,461. In all of Canada 24 per cent of Indian homes were of log construction in 1964 compared to 11% in 1971.

Much remains to be done on reserves. The average size of Indian households is larger than the national average. Yet 23 per cent of Canadian homes contain more than six rooms while only 4 per cent of reserve homes are in that category.

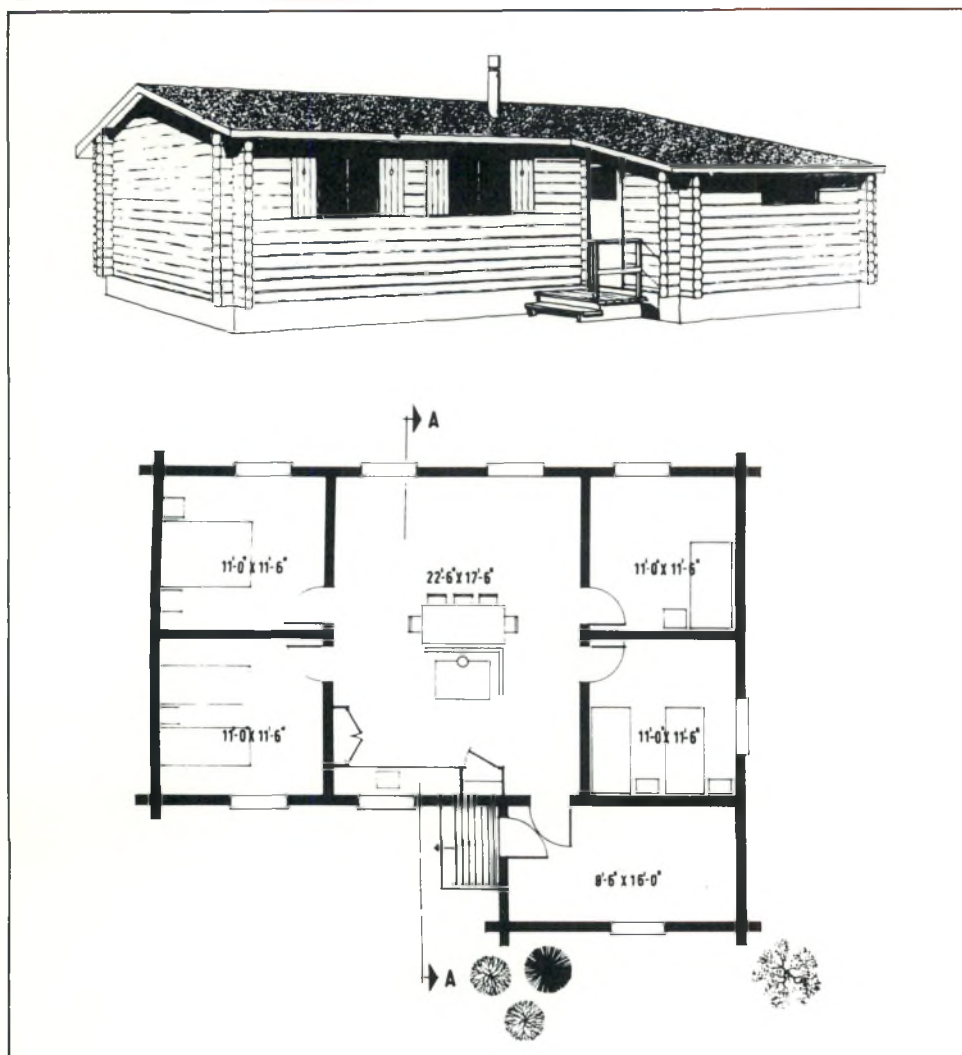
While approximately 100,000 native people live in metropolitan areas almost as many live in small cities, towns and villages where the housing stock runs from fair to good. Native people tend to dwell in the older homes and on unserviced lots and there exists no accurate estimate of the number of substandard dwellings they occupy in cities or small towns.

Scope of the Problem

The remaining native population of some 100,000 individuals live in rural or remote communities and in small hamlets. It is here the need is most acute and it is here the construction pace has been slowest.

New dwelling units in urban Canada are now being built at an average rate of 10 per 1,000 citizens. Indian reserve housing has recently achieved a rate of nine new dwellings for every 1,000 Indians. But for Metis and non-status Indians living in rural areas the rate is only one per 1,000.

Assuming there are at least 270,000 Metis and non-status Indians in Canada, to receive an equal share of new homes there would need to be constructed some 2,500 units for them each year instead of the current volume of 600-odd



This design, a four-bedroom log house, is one of several prepared by CMHC architects for the native-cadre housing program. It incorporates many suggestions from the native people themselves such as the traditional large central family area surrounded by the four bedrooms. By using on-site trees as logs, it will be possible to build these units in remote areas using whatever lumber and other building materials are available, thus making it possible to reduce or eliminate costly transportation charges. By following simplified working drawings and using only a chain saw and hand tools, with easy how-to-do-it instructions for such things as how to peel logs or how to install roofing, individuals will be able to form teams to build their own homes. Do-it-yourself labor should make it possible to build houses like this for well under \$10,000.

homes in urban and rural areas combined. This would represent an increase of some 400 per cent. One initial estimate of future requirements across Canada states 9,122 of their homes need upgrading and 36,667 need replacement with the heaviest concentration in Ontario and British Columbia.

The Dilemma of Land Ownership

Numerous problems arise because a significant number of Metis and non-status Indians live in dilapidated shacks as squatters on Crown land. With no real title to the land, and an irregular income, they find

it difficult to qualify for assistance or development programs. Since in many cases the Metis and non-status Indians have been living for generations on the Crown land they feel they have aboriginal rights to the land. Many of the native associations are investigating these land claims, and in most cases are receiving federal funds to finance this research.

A further handicap is the reluctance of provincial housing authorities to build houses in remote areas where there is little or no economic potential. Federal assistance for housing in these remote areas commits the province to substantial financial outlays for services such as hydro, roads, schools and health facilities. It can be argued that housing in such areas tends to give permanency to all poverty ridden communities including native villages.

Need for Education & Training

In the past, Indian bands living on reserves, have had an understandable reluctance to borrow money for capital expenditures such as housing. Decades of living on reserves have given rise to the belief that an all-powerful Federal Indian Affairs Department should assume the responsibility of financing such things as housing on reserves.

Yet under present NHA legislation there is nothing to prevent an Indian Council Band from making a survey of its old age pensioners, its widowed or deserted mothers, its permanently disabled and otherwise permanently unemployable heads of households and immediately building an adequate house for each of them. Capital funds could be borrowed and monthly mortgage payments paid with shelter allowances provided by welfare. Eventually Indian reserves using this system would

have title to a sizeable stock of houses, which they could manage either as a public-housing project or transfer to their occupants.

Social Impact of Good Housing

To understand to what extent a move into a modern house can influence the life-style of a native family, it is only necessary to compare those activities possible in a modern house that are impractical in a 14' x 18' log or tar-paper shack. The housewife now has kitchen cupboards to store food in, a stove on which to cook a multi-course meal, and a table large enough for all to eat at. Each member of the family has a bed of his own and closets in which clothes can be hung, toys stored, belongings kept and accumulated. Water left in washbasins overnight does not freeze. Vegetables, perishables, milk, fruit and meats kept in a refrigerator can become regular items in the family diet. Premature aging, discoloration and dryness of skin, susceptibility to disease, chronic anemia and growth retardation all vanish with the implementation of a life-style that includes adequate nutrition and undisturbed evening rest. To a city dweller these appear to be extravagant claims. Yet the relationship between environment and health has long been recognized by the medical profession and the role of housing as an agent of social change has been well documented. Participation in community activities, the completion of school assignments, pride of self and acceptance of others, and a sense of belonging, are all factors which accompany a move into a new housing project.

Possible Solutions

Housing for Indians on reserves is the responsibility of the Federal Department of Indian Affairs and Northern Development which,

more and more, is using loans under the National Housing Act to finance new construction.

For Metis and non-status Indians the most encouraging sign of progress is the Rural and Native Housing Policy announced to the Native Council of Canada by the Honorable Ron Basford in Ottawa on March 7, 1974. In it the Federal government set the objective of constructing or acquiring up to 50,000 dwellings over the next five years for people in rural areas and small communities who cannot afford decent accommodation. A second objective is the maximum utilization of the people themselves in the planning, development and management of their own programs.



It is believed that this process will encourage community revitalization as well as possible better housing. Meanwhile the CMHC Emergency Repair Program begun in 1971 will continue for those households currently living in substandard housing who cannot benefit from the new housing units immediately. While admittedly a stop-gap measure, nevertheless, the Emergency Repair Program aims to help immediately the worst housed and most disadvantaged households.

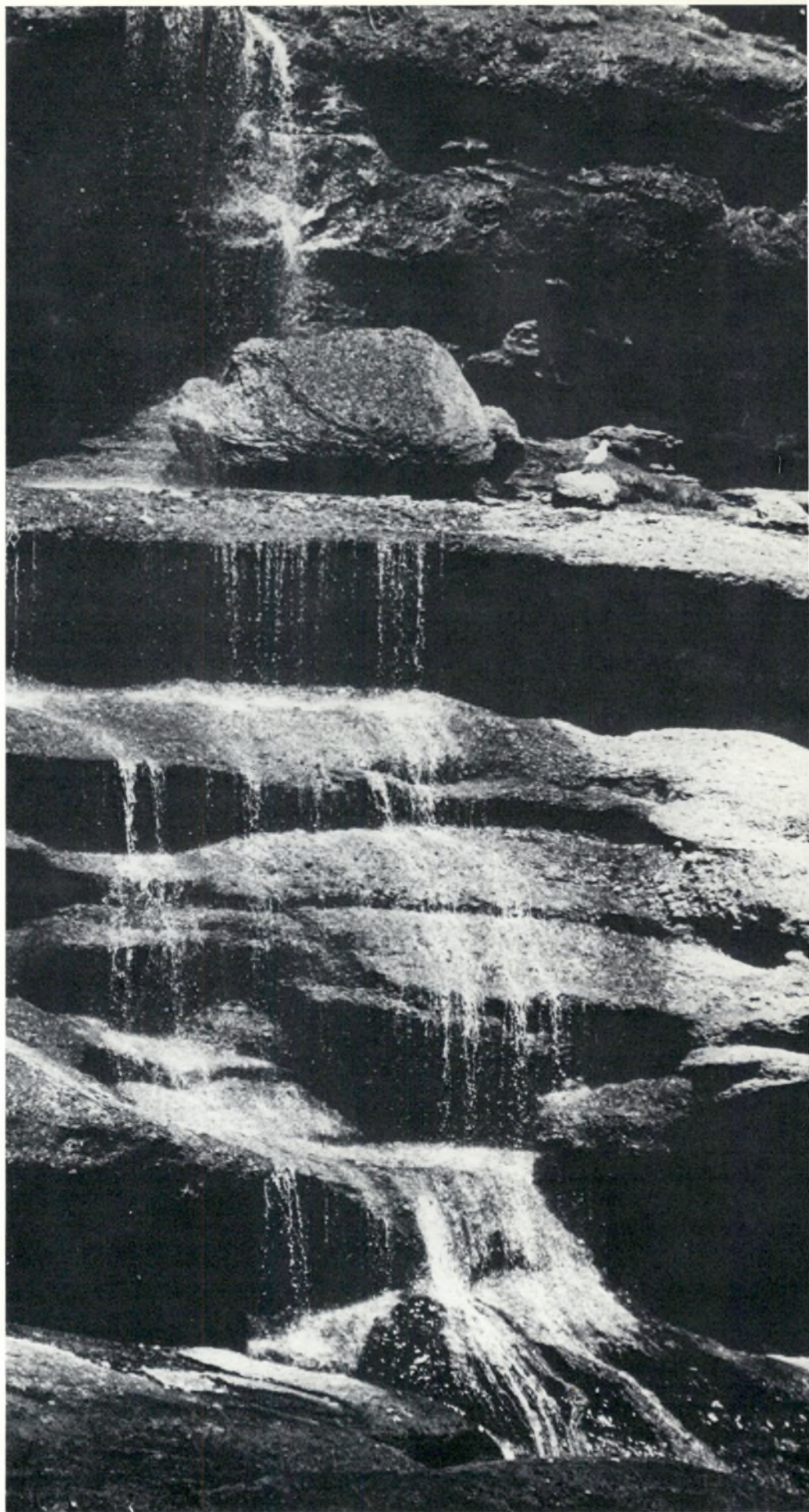
One new effort at training is underway. Twenty native people

are currently employed on temporary contracts at offices of Central Mortgage and Housing Corporation across Canada. Their job is to learn various aspects of management, such as appraisal, mortgage lending, construction, inspection, and property managements. Some of them are expected to remain as Corporation employees but others will bring back to their Native Housing Associations their new knowledge and expertise. What will be interesting to see is how well they will be able to translate their newfound understanding into producing housing for the Indian community. Perhaps it will be the answer to this age-old Canadian problem.



In marked contrast to the rambling shack (left) is this new log house built under the auspices of the British Columbia Association for Non-Status Indians at Telegraph Creek.

Présence
de l'eau
dans nos loisirs...



*Parc de La Vérendrye
Photographie: Philippe H. Laporta*

L'eau à l'état sauvage des parcs du Québec



*Ile Bonaventure
Photographie : P. Roberge*



*Rivière Mattawin. Parc du Mont-Tremblant.
Photographie : Jean-Marie Houde*

*En haut : Lac Monroe. Parc du Mont-Tremblant
Photographie : Jean-Marie Houde*

L'eau disciplinée des canaux

Le long du Richelieu et de l'Outaouais

Intimement liés à l'histoire de la vallée du Richelieu, les canaux Chambly et Saint-Ours qui assurent la liaison fluviale entre le Saint-Laurent, le lac Champlain, l'Hudson et aussi le canal Erié, font maintenant partie du patrimoine de Parcs Canada au double titre de lieu historique national et d'équipement récréatif. Il en est de même des canaux de Sainte-Anne-de-Bellevue et de Carillon, reliant le Saint-Laurent au canal Rideau par le lac des Deux-Montagnes et l'Outaouais.

Une voie commerciale naturelle

Le Richelieu constituait une voie de communication naturelle pour atteindre les colonies américaines et le nord de la Nouvelle-Angleterre, dès le début de la colonisation en Nouvelle-France.

Voie commerciale puisqu'on y fit la contrebande des fourrures avec Albany avant d'y faire le transport et le commerce du bois avec le Vermont, durant les guerres napoléoniennes.

Voie des premiers explorateurs, empruntée par Champlain, voie stratégique et militaire sillonnée par les Iroquois, les Français, les Anglais et les Américains qui célèbrent, cet été, le 200^e anniversaire

colonies, on expédiait aux Britanniques d'immenses quantités de matières premières, dont le bois.

Une construction lente

Les Américains avaient été les premiers promoteurs de la canalisation du Richelieu, dès les années 1775-1800. Cependant, la décision de construire le canal Chambly fut prise en 1819, par le Parlement du Bas-Canada. Il fallut attendre 1823 avant de voir sanctionner la loi. Les obstacles n'étaient pas enjambés pour autant: le Parlement retarda jusqu'en 1829 la nomination des commissaires de la compagnie qui devait diriger les travaux de construction. Ceux-ci débutèrent en 1831. En 1835, il restait une distance de 1,100 pieds à creuser pour atteindre le bassin Chambly, mais il ne restait plus un sou dans les coffres de la société. Enfin, en 1840, le Parlement décida d'accorder de nouveaux crédits afin de percer les dernières écluses. Ces travaux prirent fin à l'automne de 1842.

De 1843 à 1850, on vit naître, sous l'impulsion des entrepreneurs américains et canadiens, de nombreuses compagnies affectées au transport fluvial du Richelieu, du Saint-Laurent et du lac Champlain. La confiance régnait.



de l'attaque de Montgomery sur Québec. On utilisait aussi le Richelieu pour ravitailler les forts français de Carillon (Ticonderoga), de Saint-Frédéric (Crown Point), situés sur la rive est du lac Champlain, de l'Île-aux-Noix (Lennox) et de Chambly.

Sa canalisation date du régime anglais. Si, durant la deuxième partie du 18^e siècle, le commerce avec le Vermont avait vu le jour, c'est au début du 19^e siècle qu'il prit vraiment de l'ampleur grâce aux guerres européennes. Des

Le percement du Richelieu, à la hauteur de Saint-Ours, fut décidé en même temps que celui de Chambly. Il s'agissait, néanmoins, d'une opération de moindre envergure, puisque le canal, de quelques centaines de pieds de long, ne comportait qu'une écluse. Il ne faudrait pas pour autant en minimiser l'importance. Sa création, qui ne fut entreprise qu'en 1842 et se termina sept ans plus tard, ouvrit aux bateaux marchands du Richelieu les ports de Sorel, de Trois-Rivières et de Montréal.

Le déclin

Cependant, en 1850, on assista dans les deux pays à l'expansion des chemins de fer. Le commerce sur le Richelieu déclina brusquement: à Saint-Jean, les exportations passent de \$1,215,000 en 1850 à \$395,000 en 1852 et les importations subissent un sort analogue.

On essaya bien de rattraper les concurrents en élargissant le canal Chambly, de 1856 à 1859 et de nouveau de 1870 à 1872 mais c'était déjà trop tard. Si le transport ne s'y arrêta jamais complètement, il ne connut plus les succès du début, sauf lors des conflits mondiaux du 20^e siècle.

Carillon et Sainte-Anne

A tout autre but convient-il d'associer la construction du canal Carillon. La stratégie militaire qui inspira la canalisation de la Rideau présida au percement de l'Outaouais qui en était le prolongement naturel jusqu'à Montréal. On creusa trois canaux le long de cette rivière, en 1832 et 1833: Grenville, Chute-à-Blondeau et Carillon. A cet endroit, l'érection récente du barrage hydro-électrique entraîna l'élévation du niveau de l'eau de l'Outaouais, ce qui fit perdre aux deux premiers couloirs leur raison d'être. Carillon, reconstruit par l'Hydro-Québec, resta le seul à perpétuer la mémoire des canaux de cet affluent.

Entre le lac des Deux-Montagnes et le lac Saint-Louis se trouve le canal Sainte-Anne, haut d'une marche et de faible longueur. Son origine est légèrement plus ancienne que celle des précédents puisque c'est en 1816 que la St. Andrews Steam Forwarding Company procédait à son érection.

Aujourd'hui, les canaux servent surtout aux plaisanciers qui refont la route historique du Richelieu vers New York et peuvent même atteindre les Grands Lacs par les canaux américains, rejoindre le canal Rideau, passer par Ottawa et aborder à Montréal en descendant l'Outaouais. Le nombre des vacanciers, tant américains que canadiens, qui les utilisent, augmente d'année en année.

Parcs Canada caresse le projet de mettre bientôt sur pied un programme de visites guidées des canaux du Québec. Des installations récréatives les borderont aussi dans les prochaines années.



1 Le canal Chambly en 1914. A noter que les barges étaient tirées par des chevaux de la berge.
Photographie: Parcs Canada

2 Le canal Sainte-Anne, entre le lac des Deux-Montagnes et le lac Saint-Louis.
Photographie: Parcs Canada

L'eau disciplinée des canaux

Les voies Rideau et Trent

Les choses ont bien changé. Peut-être n'est-ce pas sans surprise que les berges de six rivières majeures de l'Ontario, domptées par la technique des hommes, voient aujourd'hui défilé entre leurs bras, presque uniquement des vacanciers. Des écluses parfois gigantesques s'ouvrent pour laisser passer un simple petit bateau et ses passagers.

Telle est la vocation nouvelle que l'histoire indique aux canaux intérieurs de la province. Toujours sous la juridiction du gouvernement fédéral, ils ne dépendent plus depuis deux ans du ministère des Transports, mais de Parcs Canada. Ils se trouvent ainsi dédiés aux loisirs de tous.

Un levier pour la colonisation

Que serait l'Ontario sans les canaux Rideau et Trent ? C'était une terre abondamment irriguée qu'explorateurs, coureurs des bois et Indiens parcouraient, mais ils devaient souvent franchir par portage les rapides trop fougueux. Les blancs sédentaires qui rêvaient de culture, ne pouvaient s'y établir, coupés ainsi de toute communication.

La colonie prit son essor grâce aux canaux. Les marchandises s'écoulaient vers les ports de l'Est; on chargeait les récoltes sur des barges. Les coupes de bois flottaient vers les moulins. Le charbon et les produits d'outre-mer parvenaient au cœur du pays.

Une voie en trois parties

Un couloir de 425 milles, suivant le cours sinueux des rivières, permet de naviguer d'Ottawa à la baie Georgienne en passant par la baie de Quinte qui, du lac Ontario, pénètre dans les terres. D'abord, des écluses au nombre de 48, plus deux sur la Tay, des canalisations de 12 milles ouvrent la route de l'embouchure de la Rideau à celle de la Cataraqui à Kingston: c'est la voie Rideau qui a 125 milles. De Kingston à Trenton, au fond de la baie de Quinte, autre couloir de 60 milles. Enfin, troisième tronçon, la voie Trent, de Trenton jusqu'à Port Severn sur la baie Georgienne, traverse plusieurs lacs et suit le cours des rivières Trent, Otonabee, Talbot et Severn. Elle a 240 milles dont 33 de canalisation, comprend 43 écluses, dont deux sont hydrauliques, l'une à Kirkfield, l'autre à Peterborough, et un ber roulant à Big Chute.

Des naissances diverses

Si, par leur utilité commune, les voies Rideau et Trent ont un destin semblable, leur histoire diffère. Toutes deux durent leur essor à la prise de conscience qu'amena la guerre de 1812 – 1814 avec les États-Unis. Mais le canal Rideau parut nécessaire à la défense du territoire, alors que le Trent devait faciliter les échanges commerciaux. Le Rideau fut construit plus rapidement et d'une manière différente. C'était une voie d'eau fortifiée.

Les voyageurs qui peuvent comparer les deux canaux, découvrent cette différence. Certaines réalisations du Trent sont grandioses. Ainsi l'écluse hydraulique de Peterborough permet en quelques minutes une dénivellation de 65 pieds. L'opération est simple: on charge d'un peu plus d'eau un sas que l'autre. Celui-là descend, celui-ci monte. L'architecture est intéressante, avec ses tourelles d'où opérait l'éclusier et les armatures d'acier ajouré qui flanquent les sas. Les écluses du Rideau, construites plus tôt, se manient à la main. Le but défensif pourvu par l'ingénieur se révèle, par exemple, dans la maçonnerie des demeures des maîtres éclusiers.

La voie de la paix

Le lieutenant-colonel By, ingénieur royal de Sa Majesté, expert en canalisation dépêché par l'Empire en 1826, supervisa les travaux sur les rivières Rideau et Cataraqui. Six ans après sa venue, l'ouvrage était terminé. Si une autre guerre éclatait avec nos voisins, les croiseurs anglais chargés de munitions et de soldats pourraient aller à Kingston où se trouvent les quartiers-généraux de l'armée, à l'abri des feux de l'ennemi.

Depuis 1814, les militaires anglais de Kingston et de Québec exerçaient des pressions pour l'ouverture de cette voie qui seule, selon eux, pouvait assurer la paix à la colonie. A quoi aurait-il servi de canaliser le Saint-Laurent, même si la route de Londres en eût été plus courte ? De Cornwall à Kingston, le fleuve tenait lieu de frontière et les artilleurs auraient eu beau jeu. Il fallait une voie cachée à l'intérieur du territoire.

En peu de temps, le lieutenant-colonel By avait transformé une vaste région par endroits marécageuse et infestée de moustiques, en



un lieu plus habitable. A son arrivée, il établit ses quartiers face à Hull, alors simple village, fondant ainsi Bytown, future capitale du pays. Il y avait aussi deux hameaux dans le bassin de la Rideau, Perth et Richmond, qu'il aurait pu choisir. Après son passage, les agglomérations se multiplièrent le long de la voie qu'il avait ouverte.

Dans ces marécages où s'érigéait le canal, plusieurs ouvriers périrent d'une fièvre paludéenne, propagée par des insectes. La main-d'oeuvre se composait de Canadiens français recrutés au Bas-Canada et aussi de nombreux Irlandais nouvellement arrivés.

La voie du commerce

Comme nos voisins, nous voulions pousser la colonisation vers l'Ouest, mais la construction du Trent semblait moins pressante. Un an après

l'arrivée de By au pays, T.A. Stewart, député du Haut-Canada, demanda à son gouvernement d'instaurer une enquête sur la possibilité de relier par des canaux les lacs et rivières de la région du lac Simcoe jusqu'à la baie de Quinte. Six ans après, N.H. Baird avait la tâche d'estimer les coûts de construction et de poursuivre les travaux déjà commencés par l'entreprise privée.

En 1839, les chantiers s'arrêtaient: on affectait les sommes allouées au Trent à d'autres canalisations: celles du Welland et du Saint-Laurent. Le développement de la région ne pouvait pourtant se passer de sa voie d'eau. Finalement, on parvint à joindre la baie de Quinte et la baie Georgienne. Après une seconde période de stagnation, pendant la première guerre mondiale, l'oeuvre s'achevait en 1920. En juillet, Irene, un bateau motorisé, prit neuf jours pour aller de Trenton à Port Severn: c'était la première embarcation à accomplir cet exploit.

Les surprises de l'histoire

Les navires marchands allant vers Québec, Montréal, Halifax ou outre-mer, empruntaient le Rideau et le Trent. Bientôt, les réseaux routiers et ferroviaires leur faisaient concurrence. Enfin, il n'était plus rentable d'écouler les marchandises par les canaux de l'intérieur. Ils ne servirent plus qu'occasionnellement au transport local.

En même temps que diminuait leur utilité commerciale, une ère nouvelle se dessinait. Le long des rives, dans les baies tranquilles, on construisait des hôtels, des chalets, des quais. Les navigateurs amateurs, à voile, en canot ou sur des embarcations motorisées, circulaient à leur gré. Bientôt tout l'espace leur revint.

Le gouvernement fédéral, en accord avec le gouvernement de l'Ontario, continue d'aménager les canaux dans un but récréatif. Comme les écluses ferment la nuit, on a ouvert des terrains de camping à proximité de plusieurs d'entre elles. On trouve des pistes pour piétons et cyclistes le long des rives et il y en aura d'autres. Les écluses et les constructions adjacentes sont conservées dans leur état primitif pour permettre au voyageur curieux de mieux pénétrer le passé.

1 Un navire s'engage dans l'un des sas de l'écluse hydraulique de Peterborough. En quelques minutes, il s'élèvera de 65 pieds pendant que l'autre sas, chargé d'un peu plus d'eau, descendra. Cette écluse est située à 90 milles par eau, de Trenton, début de la voie Trent. Photographie: ministère de l'Industrie et du Tourisme de l'Ontario

2 A Big Chute, à huit milles de Port Severn, issue du Trent sur la baie Georgienne, un ber roulant permet de franchir un obstacle sans recours à la canalisation. Le navire hissé sur une plate-forme en pente est tiré par un câble sur des rails. Photographie: ministère de l'Industrie et du Tourisme de l'Ontario

3 La racine de la voie Rideau: huit écluses à Ottawa dont sept portes apparaissent ici. A l'arrière-plan, le pont interprovincial Alexandra traverse l'Ontario pour aller rejoindre Hull. Photographie: Parcs Canada

Where the Wild Deep Mattawa Meets the Ottawa

by Stuart A. Wilson



The Indians called it the
'meeting of the waters.'
For 300 years it was also
a meeting place for
missionaries, voyageurs
and traders...

Today, coming from North Bay on Highway 17, big old houses flash past and you are near the heart of Mattawa where the highway heads straight into the little old faded red brick Anglican Church of St. Alban the Martyr.

The lines of the small edifice are simple but the fabric is sturdy. Although the appearance is vaguely mediaeval, brick quoins enrich corners while walls are pierced with small stained glass windows and a tall opening contains a herring-bone patterned carpenter-framed door. Door and windows are spanned by brick lancet arches. A steeply pitched roof with a small belfry caps the walls. Behind the church, the rectory, elegant but spartan, is less symbolic and more rational, as befits a human dwelling. The rectory has a lesser slope to its roof, and the undraped English windows are spanned with molded flat brick arches. Tall pine trees sweep the roofs with needly branches.

Despite passing traffic, the building has stood its ground and the highway veers off at ninety degrees on its way to the soft sweeping landscapes of Deux Rivières, down river. Straight ahead from the bend, a dirt road in line with the highway from North Bay, (probably a part of the old highway) runs down a small hill through the pines between the church and rectory and a flutter of impermanent tourist cabins. The road turns right at the river bank and rolls along with the Ottawa

past a row of cottages and villas, and connects up again with the highway near a large motel on the lower edge of town. Some of the small dwellings are being built slowly, either at their owner's leisure or in accordance with his means. Dark walls covered with "Black Joe" siding stand out with an unearthly glare against verdant backgrounds.

Views up or down river are impressive. The high Laurentian plateau has swept across Quebec and stopped at the river. On the Quebec shore steep mountains drop into watery depths and roll away as blue crests.

Back at the sharp bend in the highway, the asphalt swells up into a bump over a concrete railway tunnel. Main Street, Mattawa, highway bend and tunneled tracks snarl up together at this point, as though drawn together by a magnet. The Mattawa-Angliers line, a branch of the CP from up the Ottawa, crosses the river on an imposing steel bridge which connects Témiscamingue County with Fortin Point, Mattawa, Papineau Township, Nipissing District. The headland of Fortin Point, a neck of land often formerly portaged over, contains a pine-tree sheltered playground for children and a sprinkling of waterside residences, some humble and others palatial. One of the former kind, an old sag-roofed squared-log cabin, at one time contained the original local hospital.

Main Street runs eastwards and gently downhill from the bump

in the highway asphalt towards the bridge over the Mattawa River to Explorer's Point beyond.

An elderly bright-eyed gentleman sporting an ascot and a cane said that he had been born on the northern or Explorer's point. When he was a boy the pleasant grassy park had been covered with buildings. The buildings had grown up around Mattawa House, a Hudson's Bay Company post. A plaque at the point gives further details. Mattawa House was established by the Company's governor, George Simpson, in 1837 "to counteract (fur) trading by lumbermen," and moved to the point in 1843. As the fur trade diminished the post supplied lumbermen and engaged in general trade. The post was closed in 1908.

In 1880 a map prepared for the Province of Quebec of "the north-west portion of the Province of Quebec stretching from the valley of Lake St-Jean to Lake Timiskaming" by "l'Ass. Com. E. Taché", better known as Sir Eugene Taché, the designer in 1884 of the "Hôtel du Gouvernement" in Quebec City, showed Fort Mattawan to be at the head of the CPR line. The area between the fork of the Ottawa and Mattawa rivers was known as Mattawan.

Like most small town main streets the overall view presents a clutter of poles, signs and two or three-storey buildings overtopping single storey blocks. The higher buildings are older, more permanent and usually more pleasant.



This miniature sample of urban development is made more mellow and interesting by a sweeping backdrop of tree-covered mountains.

On the left-hand corner of Main a gaunt hotel rises three storeys. According to a local lady, who emigrated to these parts from London, England before the first Great War, the same old-timer square brick-box hotel had once been in the money. Lumbermen, lumbering operatives and lumber magnates had filled every room and the bar. The place really rumbled. Now the hotel is quieter but someone should shoot a wild Northern film on location. Moody hallway and stark stairway rising into dark upper regions would provide an appropriate movie set.

The bar still swings on week-ends. A group of musicians play folk-rock with a local valley twist. Electric guitars wail and hum in a long-drawn pibroch, an overtone of the wails and dirges of highlander's bagpipes. Loose-limbed hairies interspersed with students from Formosa, Czechoslovakia and Montreal quiver and jerk rhythmically to built-up melodic strains. Heavier-built locals of lumbering stock move more portentously. Beer and fire-water flows.

Further down the street, on the right-hand or Ottawa river side, past a parade of single storey structures, may be found the River View Restaurant, a laundromat, a large clothier's store and the Champlain movie house, lodged

in a Quonset hut, all perched out on stilts in the rear where they overhang a steep bank and, next in line, another hotel, the Champlain.

Across from the hotel the Maxwell McCool Block raises its dignified facade. One of the more imposing structures on Main Street, the facade of this solid brick building is enriched with stone trim, heavy bracketed cornices, large paired windows on two floors of three bays. Keystoned arches occur over the windows of the central bay. The ground floor contains two large shop-fronts on each side of the main entrance to the apartments upstairs. Behind one shop window is a bank and behind the other the McCool Pharmacy, a city-type drugstore. Dated in style, or not, this building would hold its own on most commercial streets of larger Canadian cities. In older main street type buildings of this character one could live in urban style in the midst of fresh and clean rural areas.

Recent additions to Main Street tend to be single storey supermarkets which do not compete either in sturdiness or dignity with the more important older structures. There is little doubt that the building activity of the late nineteenth and early twentieth centuries contributed more solid and urbane constructions which express tangible signs of civility than can be found in the majority of recent work.

However, the buildings and vacant lots of Main Street contain

commercial outlets which provide most necessary goods and services; food, clothing, hardware, software including hairdos and taxis. Soul food is available from the books of the Mattawa Public Library, the flickers of TV and movie house, from canned music on radio, TV and jukebox, from "live" performances by the occasional group of musicians. Nor should the churches be omitted, although none are located on Main Street.

Sited upon more elevated land on the north shore of the Mattawa and backed by a higher tree-clad hill is the new Roman Catholic Church of the "Paroisse Sainte-Anne," which dominates Mattawa's skyline. Constructed in an aggressively contemporary manner with dominant steep roofs, the glassed-in gable ends have been stressed visually by making them higher than the ridge which consequently rises to meet their respective peaks on two separate upward slopes towards each gable end. The front gable is higher than the rear and the general effect is to make the two ridges appear to move in a syncopated rhythm, one with the other. Adjacent to the nave, a delicate open trellis-like sharp-pointed free-standing spire thrusts into the sky.

Beside the church is a six-storey, red-brick building of old-time, blocky, institutional character. This hospital and nunnery was built in 1901 by the Grey Nuns of the Cross from Ottawa. It replaced a previous building built in 1885

Near this pool under the highway bridge, merge the turbulent waters of the Mattawa and Ottawa rivers. The steel bridge in the background is part of the Mattawa-Angliers railroad line.



A sweep of tall pine trees partially hides the simple red brick rectory and church of St. Alban the Martyr.



which was destroyed by fire. In 1878, when Mattawa was in the peak of the lumber boom which had begun in 1855, the nuns arrived and established a hospital service. A new single storey pre-fab wing projecting out in the rear to one side of an entrance court provides hospital services today. Behind the church and hospital, streets lined with small white-painted squared-log cabins and newer frame bungalows in flowery gardens climb uphill from the steep northern bank of the Mattawa.

On marginal streets off the highway the new planted or trailer-at-rest housing can be seen. A new but old combination is also popular; the sturdy small white-painted

squared-log cabin with brightly coloured asphalt shingle roof, even if sagging slightly, equipped with metal or plastic window or terrace shades and other plug-in items.

Halfway down Main Street going towards the bridge over the Mattawa and Explorer's Point Park a short street leads off the left side to the Town Hall. The District of Nipissing was incorporated in 1873. Mattawa was the first town. The Town Hall of Mattawa also served as the first courthouse of the district. The fabric itself is sober and sturdy consisting of two storeys and a high basement. The red brick walls contain well-spaced rows of segmental brick-arched door and window openings, covered with a hipped roof. At the front end a square brick tower rises three storeys and contains the semi-circular arched principal entry. Four windows, one in each face of the top floor of the tower, also have full arches.

On one side of the Town Hall is an early single storey brick school building while on the other is a newer high school building. Last year, a proposal had been made to demolish the old Town Hall. One of the reasons given was that demolition would provide an enlarged site for additions to the High School, although other alternative sites are said to exist. Local citizens have become divided on the question. But despite the controversy this Town Hall still stands as a reminder to all of Mattawa's early days.

Seen from Explorer's Point Park, the spire of the Roman Catholic Church of the "Paroisse Sainte-Anne" dominates the Mattawa skyline. To the left of the Church, sits the hospital and convent of the Grey Nuns of the Cross.



Tourism

The town of Mattawa is a centre of the fish and game-rich Mattawa district. Bull-moose and black bear are stalked and hunted with gun or camera. Back roads fan off into forested gorges and mountains.

A local drive has been started to open up the lands adjacent to Mattawa for recreations other than hunting and fishing, and to develop four-season sports. Old single-lane loggers roads, once used for hauling logs, which twist and turn through glens among the ridges, are being cleaned out. New trails have been cut to provide links with older trails and to form a network which will permit return trips.

Last year, a \$3 thousand provincial incentives grant stimulated the first step in the construction of a snowmobile park. Ultimately a 1,600 square mile playground is envisaged adjacent to Mattawa which will permit travel from North Bay to Mattawa or Redbridge by snowmobile.

While work is going ahead on planning large-scale aspects of future recreational development, the natural riches of the land may be reached more intimately by earthbound hikers and campers. Trails which already exist in the higher ground (500 feet above Mattawa) of Mattawan Township, north of the Mattawa River, lead into woods and by lonely little lakes. Long-legged herons lift from the shores extending slender wings, loon calls echo across still waters and geese and duck fly over in season. Deer hide in thickets and rabbits, grouse, groundhogs, skunk, porcupine and fox in the underbrush.

Local people would like to see this heritage protected and preserved. The creation of an interprovincial natural park has been proposed and its development called for through the establishment of an "entente" or co-operative understanding and effort between the two voices on either side of the Ottawa. Some discussion has taken place and the southern boundaries of the park are expected to lie about 250 miles away from either Montreal or Toronto, but no definite steps have been taken towards precise location.

Smaller natural parks already exist in the environs. In 1970 the Ontario Department of Lands and Forests preserved the route of the early voyageurs by the establishment of the Mattawa Wild River Park. Two other smaller Ontario Provincial Parks are close to Mattawa.

Water

The Ottawa River is still used and enjoyed by stalwart canoeists. From Ville-Marie 35 miles up river on the shores of long Lake Timiskaming a tough canoe race of 122 miles sets out in the August holiday weekend. The paddlers take the competitive course in stages with a break for a civic reception and dinner at Mattawa. The final 38 mile lap up the Mattawa River and its portages is more back-breaking and is so arranged with a staggered start that all competitors in the Ville-Marie-Temiskaming-Mattawa-North Bay Canoe Race head for an exciting finish to the race at the finish line on Lands and Forests Beach in North Bay.

Shorter amateur canoe races of fourteen or so miles are run on stretches of the river during the summer. Events are scheduled in both Racing and Pleasure classes. Hefty paddlers still clutching their canoe paddles with sweaty bandannas around their foreheads smile triumphantly through their weariness.

S.W.

Stress in Cities

by R.H. Ferahian

“The public will have to foot the bill to mute the ever-increasing roar of its cities, but this will be a very small price to pay for its health.”

There is a great deal of speculation as to the causes of stress in urban life. Scientists such as Hans Selye have concluded that stress arises from the clash between man's age-old psychological and social make-up and his technological, rapidly changing urban world; that the very adaptative processes which enabled man to survive and thrive in the past now elicit physical and mental distress and malfunction. There are two suspected sources of this psychological and social stress: the industrialized, urbanized society with its rapid rate of change, and the overcrowded, noisy, polluted urban environment that today more than 1 1/2 billion people call home.

Urban Stress

The urban environment can act as a source of stress in a multitude of ways – through its settlement and population densities, through its urban structure, through the design of its supply systems and their side effects, and finally through the organization of the urban areas and the problems arising from specialization of groups and individuals, inadequate housing, co-operation and integration of minorities and others.* Crowding studies, for instance, have shown overcrowding to be a major producer of stress leading to high rates of such physical and social disorders as infant mortality, psychotic behavior, sexual abnormalities, violent aggression and others. Millions of dollars are spent every year in hospital bills for the treatment of mental disorders and the cost increases annually as we become more aware of the disorders.

*The urban supply systems and their side effects comprise: 1) Communication technology with its mass influence, information overload and overstimulation; 2) Transportation technology with its tiring journeys, traffic accidents, difficulty of access to various facilities, noise and air pollution and visual degradation of the countryside, and 3) Energy, water, sewer and garbage disposal systems with their noise, air and water pollution.

Seeking an Answer

Studies by architects, social scientists and psychologists have shown the therapeutic effect of a properly built environment and its effect on the morale, health and happiness of the occupants as well as their work efficiency. So it is probably logical to assume that there must be a relationship between man's behavior and the environment he lives in, perceives, responds to, and acts upon. If so, should we not determine these relationships and make sure our built environment contributes to our physical and mental health? The urgency of this issue is apparent when it is remembered that in order to house and provide for population needs by the end of this century, the volume of construction it is estimated will equal construction from the dawn of civilization until today.

Interdisciplinary research is needed within the system comprising man, his health (physical, mental and spiritual) and the built environment to identify the major sources of stress and work towards their elimination through education, legislation and design. Judging by recent publications, there appears to be an increasing interest in this field. The Ministry of State for Urban Affairs and the Department of National Health and Welfare's Bureau of Human Ecology have also recently started work in this field. The need for this research cannot be overemphasized and the need will increase exponentially. Any system can stop functioning because of overload failures, and this research is needed to anticipate emerging conditions and correct them before it is too late. Recognizing their importance, the Department of Engineering of Sir George Williams (now Concordia) University has included courses on 'Urban Living and Psycho-Social Stress' and 'Transportation and the Human Environment.'

Turning Down the Volume

In the technologically advanced societies, noise has increased to such high levels that it is considered as serious a problem as air pollution. It is estimated that more than 100 million people on this continent may experience gradual partial deafness due to noise. The incidence of hearing loss in children exposed to high intensity sounds in their recreation environment is now not only common but increasing at an alarming rate. Industrial noise costs this continent billions of dollars annually in compensation payments in hearing loss, decreased efficiency and loss of production. It is medically proven that loud sounds cause blood vessels to constrict, the skin to pale, muscles to tense and adrenal hormones to be injected in the blood stream. It is likely, moreover, that the psychological complications arising from noise pollution will have a more profound effect upon people than direct physical damage.

A Task Force discussion paper published by the Canadian Council of Resources and Environment Ministers reached the conclusion that all three levels of government have not done enough to provide adequate anti-noise legislation. Effective up-to-date codes coupled with the use of acoustic engineers could help planners, architects and engineers design better buildings and cities. The slight additional cost of these acoustic designs is negligible compared to the long-term national gain. The legislation banning overland supersonic air transport in the US has saved at least 20 million people from pain and discomfort.

The public must ask for better zoning and quieter machinery for industry, private transport, mass transit and the building trades. In addition, mass transit should be given higher priority than in the past to decrease the use of private cars in our cities. The public will have to foot the bill to mute the ever-increasing roar of its cities, but this will be a very small price to pay for its health.

Maximizing Access

As the city is essentially a tool for communication, its transport services can be seen as part of the information system that comprises the city. As good transport services and high mobility are indispensable for the functioning of an industrialized society, it is essential that the transportation and communication systems be planned to optimize communication and access to urban services, thus minimizing the need for transportation.

Endeavors must be made to plan self-contained neighbourhoods where the inhabitants live, work and spend their leisure time. In the future people may not need to move from their residences to work, but work may be moved to them. Advances in cybernetics and computer technology may make this feasible in the near future, especially for the workers involved in the research and information fields who could communicate through computer consoles available in their homes.

Designing Healthy Cities

Even when large, a good city – well designed to the human scale and planned to enhance human values – can promote not only economic but also social goals. One of the major problems is how to create a physical structure that meets the demands of all its inhabitants, including individuals, groups (formed by age, sex or handicap), enterprises and others. To carry out effective environmental planning, it is necessary to specify the needs of each group as well as the sources of satisfaction, malaise, stress and maladaptation during each portion of their life cycle and then finding ways of translating these life cycle requirements into the living environment. Although there has been some progress made in this area, especially in connection with user's requirements in buildings, the subject is virtually unexplored.

The discovery of the direct relationship between environment and social behavior and its impact on the sense of responsibility, happiness and total health of the individual is probably the most important of present human tasks. The urban environment invades all our senses. It has been shown that sensory monotony inhibits the working of the higher brain; that with too many disorganized sensations the brain system shuts down to preserve its equilibrium, and that organized sensory variety is a biological need as real as hunger. We need, therefore, to make our cities beautiful, integral and livable places. Our rivers must be cleaned and their banks designed for the enjoyment of the people. Streets must not be just for the flow of cars, cluttered with the chaotic array of advertising signs and neon lights, but areas where people can walk, sit, shop and enjoy life. The city must not be just a dormitory of drab monotonous housing units and filing cabinets of offices, banks, stores and schools from which people flee during the weekends to the ever-receding countryside. □

BOOKS

Contact, a Bulletin of Urban and Environmental Affairs, published by the Faculty of Environmental Studies, University of Waterloo, six issues yearly.

This is an economically-produced publication that contains news and notices of literature, conferences, and research activities concerned with urban and environmental issues. Into its newsletter format, *Contact* inserts what it calls "Occasional Papers," and the inserts published so far cover many aspects of the environment from "New Towns" by Norman Pressman (the current editor) to "What I Think I See: Reflections on the Foundations of Social Policy" by Norbert Préfontaine. The Occasional Paper presented in the issue received here, however, is one of the most important to be printed so far.

Contact, Volume 6, No. 4/5, produced in 1974, contains a paper by Hans Blumenfeld entitled "Criteria for Judging the Quality of the Urban Environment," which was reprinted on the occasion of Dr. Blumenfeld receiving an Honorary Doctorate in Environmental Studies at the University of Waterloo. It is a well-known treatise to many urban planners that identifies the many—often conflicting—qualities that make up the character of the urban environment.

The quality criteria are discussed in detail, with a number of references to the opinions of other well-known urban commentators such as Jane Jacobs and Ebenezer Howard. Unfortunately, when mention is made of research findings to support certain arguments, incomplete references are given.

The quality criteria concerned with the social environment include opportunities for recreation, degree of privacy obtainable, the opportunities for neighborliness presented by the neighborhood structure, and the effects of different residential densities, as well as the psychological effect of the perception of the city. In addition, quality is effected by the segregation of land use which cause such phenomena as a dead downtown area at night, and the segregation of human groups which encourages the formation of ghettos.

Blumenfeld suggests that the method of zoning used by planners in North America creates a

poor quality environment. By discouraging mixes of urban land use and function, the zoning process deadens the character of many areas and creates monotony. He advocates instead a method of control similar to "development permits" used in Britain that control individual development within the context of large scale urban land use policies.

Blumenfeld concludes that to ensure a good urban environment, the public good should be given greater priority over free enterprise, "it is the basic condition, both necessary and sufficient, for the successful application of any criteria by which quality may be reassured. I hope that the mechanisms of public interest and those responsible for its operation can live up to the faith placed in them by these conclusions."

Contact has the makings of an interesting periodical that is easy to read and quick to use. And, as a minimum of editorial work is required, it can bring topical information and opinions to those concerned with environmental studies.

Janet Kiff

The Form of Cities in Central Canada: Selected Papers

Edited by L. S. Bourne, R. D. MacKinnon and J. W. Simmons, University of Toronto Press, Toronto, 1973. pp. 246.

Produced by the University of Toronto's Department of Geography, this anthology of urban research papers attempts to describe, measure and analyze some of the many variables that shape the form of Toronto and its region. Written by both students and faculty, this collection is one of only a few books that describes a Canadian city in such detail.

One of the major assets of this volume is that a number of analytical techniques are applied to the same geographic area. Although the data is a little old (the studies having used 1961 and 1966 census material), many modern tools of statistical and spatial analysis have been used, and it should be an excellent reference for students wishing to compare the effectiveness of various methods of urban analysis.

Recognizing that urban form evolves from the impact of people, their life-styles, their transportation modes and the growth and change of these variables, the selected papers cover both the physical and social aspects of the urban environment. The papers on physical form deal mainly with land use, its allocation, its dynamics and its relationship with city size. The papers dealing with social interactions concentrate on residential relocation problems. These include a paper by William Michelson on some of the interim results of his longitudinal study which looks at the social aspects of housing in order to discover the extent to which people's expectations are realized. The sections of the anthology concerned with change and growth are based on population dynamics and land use changes that have been measured in the Toronto-Centre Region.

I would recommend this book to those who wish to understand more of the physical and social structure of Toronto, and the factors that lead to urban changes. It is misleading, however, to interpret this book as being concerned with cities in Central Canada. Toronto is not necessarily the prototype of smaller cities in Ontario and Quebec, and although many characteristics may be common to all cities, the interaction of unique local attributes will distinguish each.

This book is the second in a three-part series to be produced during an environmental study of urbanization in Ontario and Quebec. The first, entitled "Urban Systems Development in Central Canada: Selected Papers" was published in 1972. The third will be a discussion of the implications of the research analyses, looking at the urban forms in Central Canada in the long-term. It is this manuscript which will be of importance to urban planners and their colleagues, for the research papers themselves are extremely specific, covering only the interactions of selected urban variables, and tend to ignore wider or longer-term implications.

Janet Kiff

BOOKS SEEN

New Dimensions of Urban Planning: Growth Controls

edited by James W. Hughes, Center for Urban Policy Research, Rutgers University, pp. 246.

From the prolific press of the Center for Urban Policy Research, here is a book which presents a collection of papers, critiques, and evaluations from two urban planning conferences held at Rutgers in the spring of 1974. The locus of the conferences was New Jersey: the focus was the impact of the growing movement by municipal and community groups to restrict the size, character and rate of growth of their neighborhoods and cities by the use of what are called 'growth controls' (such as building moratoriums, height limits, permit rationing and exclusive zoning). The papers have been gathered together under four umbrella headings: Suburban Growth; Local Fiscal Restraints; Growth, Zoning and Land Use Controls, and Further Critical Issues. And there will be kindred editions, as this book is only the first volume of a planned series of urban planning conferences under the broad title of 'New Dimensions'.

LU POUR VOUS

Guide d'urbanisme
 F.A. Schwilgin, Ministère des Travaux Publics, Ottawa, 1974
 168 pages, illustrations en noir et blanc

Nous ne sommes guère accoutumés à ce qu'un ministère s'inquiète de l'intégration de ses réalisations dans un contexte planifié. Nous sommes encore moins habitués à ce que la conscience qu'il a de la nécessité de l'urbanisme le pousse à faire paraître un guide sur ce sujet. C'est le cas du ministère des Travaux Publics et il est fort heureux que cela soit. D'emblée, il faut dire que cet ouvrage de vulgarisation est une réussite. D'accès facile, il est conçu avec soin et probité intellectuelle. L'impact d'un projet sur le milieu — ses incidences autant bénéfiques que néfastes — est l'une des préoccupations de l'auteur et de son équipe: E. Rantkin, E. Kreutzer et E. Rodger, et il n'est pas de chapitre où elle ne soit présente.

Deux réserves à faire en ce qui touche au concept d'unité de voisinage (p. 62 et 63) et à la bibliographie. Le modèle d'unité de voisinage donné est strictement anglo-saxon. Il serait utile que d'autres modèles soient présentés. Notamment, un ou deux applicables au Québec où cet ouvrage sera lu dans sa version française. Quant à la bibliographie, quoique abondante, elle semble ignorer toutes les oeuvres sur l'urbanisme et l'aménagement du territoire publiées dans une autre langue que l'anglais. Nous aimerions voir citer (avec références à l'appui), notamment, des ouvrages aussi essentiels que: "Documents d'urbanisme" de Robert Auzelle, "Urbanisme" de Gaston Bardet, "Les villes"

de Pierre George, "Famille et habitation" de Chombart de Lauwe, "L'Organisation de l'espace" de Jean Labasse, "Architecture active" d'André Wogenscky, et au Québec, "La photo aérienne" de Hugues Gagnon, "Le Québec face à l'aménagement régional", ouvrage collectif, "Montréal en évolution" de Jean-Claude Marsan. S'il ne tenait qu'à nous, nous diffuserions la prochaine édition du Guide d'urbanisme qui tiendrait compte de ces deux remarques, dans les écoles secondaires, les collèges supérieurs et même dans certaines facultés et instituts universitaires. Les étudiants trouveraient certainement ample matière à réflexion en plus, bien sûr, d'avoir pris un bain de simplicité.
Georges Robert



ment effacés des mémoires contemporaines, qu'elles soient canadiennes-françaises ou canadiennes-anglaises. De cette fresque mouvementée, le lecteur ne retiendra pas seulement des patronymes fameux, car des "voyageurs" aux pionniers du chemin de fer en passant par les "patriotes", l'ouvrage foisonne des noms de ceux qui eurent un rôle, même secondaire, dans l'histoire de Montréal. A leur façon, les illustrations nous renseignent sur les visages successifs de la ville, ses transformations multiples, ses embellissements et sur ce que nous appelons aujourd'hui ses "rénovations". Mais qui, mieux que l'auteur en personne, saurait définir l'époque qu'il a choisi de ressusciter pour nous? Laissons-lui donc la parole, à titre de conclusion. "Grâce à une succession d'hommes extraordinaires, son rayonnement s'était étendu de l'Atlantique au Pacifique et par delà les mers... Pendant ces 65 années, Montréal a vécu impatientement et parfois dangereusement. Sa transformation a été fantastique. Turbulente, amusante, dure, inquiétante aussi, la ville était une source d'inspiration, un carrefour de géants. Elle l'est encore."
Michel Oger

L'ancienne et la nouvelle église Notre-Dame
 Photographie: François Brunelle

Le carrefour des géants
 Bertrand Vac, Cercle du Livre de France, Montréal, 1974. 275 pages, illustrations en noir et blanc
 Depuis la publication de "Louise Genest", il y a un quart de siècle, Bertrand Vac a écrit abondamment et abordé divers genres, à commencer par le roman. Avec "Le carrefour des géants", sa dernière oeuvre, nous nous retrouvons cependant aux antipodes de la fiction, car le "carrefour" en question est un panorama, un long coup d'oeil scrutateur et réfléchi sur une période marquante de ce qui allait devenir la deuxième ville d'expression française au monde: Montréal... L'auteur a choisi pour sous-titre "Montréal 1820-1885" et il nous dira tout à l'heure pourquoi cette période de 65 ans lui a paru particulièrement significative dans l'évolution de la métropole que nous connaissons aujourd'hui. Il a donc choisi de broser pour nous le tableau d'une époque haute en couleur et riche en événements. Des événements importants et d'autres qui le sont moins. Mais Bertrand Vac sait que l'histoire — la grande et la petite — n'est jamais qu'une succession d'événements. Il a, en d'autres termes, choisi le détail pour parvenir à l'unité. Les faits qu'il relate, il les a soigneusement recueillis et rassemblés à partir d'une impressionnante masse de documents: sa bibliographie ne comporte pas moins de soixante-quinze titres de référence... Derrière la façade des faits et des dates, on retrouve inévitablement des noms, célèbres aujourd'hui encore ou complète-

Les Architectes

Raymonde Moulin, Dubost, Gras, Lautman, Martinon, Schnapper
Editions Calmann-Lévy, Paris, 300 pages

La bande publicitaire entourant le livre parle de "Métamorphose d'une profession libérale" et c'est bien d'une métamorphose qu'il s'agit ici. La situation étudiée est celle qui sévit en France et ce particularisme géographique ne doit pas nous faire croire que ses effets ne s'étendront pas un jour au Canada.

Ce livre est le fruit d'une enquête poussée auprès des architectes, des financiers, des promoteurs, des divers spécialistes du bâtiment et du public. On y voit comment l'architecte, saisi dans les rouages complexes de l'administration, doit affronter les groupes de pression, se frayer un chemin dans l'arsenal des lois et

des règlements administratifs de plus en plus nombreux, discrétionnaires, équivoques. La complexité du jeu professionnel est très grande et requiert de l'architecte des qualités de stratège, de fin négociateur, des dispositions particulières pour la finance et parfois de faiblesses pour certaines formes de concessions qui, à la longue, oblitérent une discipline. Quelques professions, nous pensons notamment à certains gros bureaux d'ingénieurs gagnés par une faim dévorante, s'immiscent dans les professions voisines: architecture, urbanisme, paysagisme, agronomie, aménagement du territoire, avec les conséquences que l'on sait: médiocrité du produit fini, absence de préoccupations d'ordre social, négation de l'esthétique, suprématie de la rentabilité coûte que coûte.

De plus, l'industrialisation de la construction, la production en série, l'organisation bancaire, livrent de plus en plus ce domaine à l'industriel, au promoteur, au financier, au spéculateur.

Nous n'avons qu'à jeter un regard circulaire sur l'habitat récent pour juger de son indigence esthétique, de l'absence de souci de l'Homme, de la médiocrité ou de l'absence totale d'innovation. L'architecte est le plus souvent absent de ces réalisations. L'habitation construite pour vingt-cinq ans annonce déjà les taudis de demain, mais assure les insolentes fortunes d'aujourd'hui.

Oui, les architectes sont en danger et les urbanistes et, avec eux, bien d'autres professionnels qui ont le malheur d'avoir une vocation sociale. Les architectes devront se transformer radicalement, la formation universitaire évoluer sensiblement pour que demain, ce corps professionnel essentiel ne soit pas, ô ironie du sort, relégué à quelque musée anthropologique.

G.R.

Planification et politique au Québec

Jacques Benjamin
Les Presses de l'université de Montréal, 142 pages

Les changements profonds engendrés par la "révolution tranquille", dans la société québécoise ont mené cette dernière vers un concept jusque là inconnu: la planification. Les expériences en ce domaine (on pourrait également parler de tentatives) sont perçues par le politologue Jacques Benjamin plutôt en fonction des idéologies et des valeurs politiques qu'en fonction des critères énoncés par ceux que l'auteur appelle les "planificateurs-techniciens".

Ainsi, dans cette perspective, l'auteur déclare que l'inefficacité de la planification ne dépend pas des institutions étatiques aménagées à cette fin, mais plutôt de la culture politique autochtone de la société québécoise. Et ce, entre autres, parce que la société dite "consensuelle" est disparue.

Chacun des deux volets de l'ouvrage, la planification sectorielle et la planification globale, est scindé en trois thèmes. Dans l'analyse de la planification du logement au Québec, il faut souligner l'intéressante synthèse d'un sondage effectué dans trois quartiers montréalais, où l'auteur souligne la difficulté qu'il y a eu

de canaliser les visions et les objectifs des habitants, dans le cadre des programmes de restructuration des logements. D'où la conclusion que la planification de l'habitat ne peut se baser sur une conception "consensuelle", puisque le consensus n'existe plus. De fait, les perceptions, tout comme les besoins, varient d'un quartier à l'autre et ce, en fonction du niveau socio-économique.

En définitive, la présence ou l'absence d'une politique de planification du logement dépend de la culture politique, du milieu, culture qui s'appuie sur une idéologie bien définie. L'acuité du problème de la planification du logement est également mise en évidence dans la bibliographie, lorsque l'auteur souligne que les documents d'actualité à ce sujet sont beaucoup plus nombreux que les ouvrages de base. On ne peut que s'interroger sur cet état de fait.

Jacques Benjamin trace un bilan pessimiste de la planification au Québec; son analyse ouvre cependant de nouvelles possibilités et laisse entrevoir les grandes composantes d'une planification qui s'adaptera à la société québécoise contemporaine. Compte tenu de son approche et de sa rétrospective historique, l'étude de Benjamin constitue indéniablement un ouvrage de référence dans le domaine de la planification. Elle est de lecture aisée. L'auteur la destine davantage au lecteur en général qu'aux spécialistes en la matière. L'objectif de vulgarisation semble atteint.

Claude Lavoie



Photos: Ontario Ministry of Transportation & Communication p. 4; Canadian Government Travel Bureau p. 4; Ontario Ministry of Industry & Tourism pp. 4 & 7; Information Canada Photothèque p. 5, and Canadian Pacific p. 6.



Central Mortgage
and Housing Corporation

Société centrale
d'hypothèques et de logement



Mansion, Baden, Ontario
Photograph: CMHC/William Cadzow

Baden, en Ontario offre un bel exemple
d'architecture résidentielle.
Photographie: SCHL/William Cadzow

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habitat




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The History of Wood in Canadian Housing



Housing is a mirror that reflects both the economic and social conditions of the society which produces it. When a society changes, so does the form of its housing. And although details in housing design may vary on the whim of a designer, profound changes in housing form reflect pressing changes in a society's social and economic structure.

The history of the structural use of wood building techniques in Canada, starting with the Indian and Inuit housing forms followed by the influences of the French, British and American settlers, clearly illustrates how different Canadian cultures have developed unique housing solutions to meet the needs of their societies.

by Maurice Clayton

The Indian

The North-West Coast

The culture of the North-West Coast Indian is to be found on the Pacific rim of North America, from the southernmost part of Alaska, down the coast of British Columbia to Northern Oregon in the United States. The major linguistic groupings of these people are the Tlingit, Tsimshian, Haida, Bella Coola, Kwakiutl, Nootka and Coast Salish.

As may be expected, this culture was closely related to the sea. In fact, movement by sea was the only practical means of communication since the mountainous topography, fiords and islands of the Coast effectively inhibited overland travel. Although some Coast Indians had summer camps as well as winter homes, the population was largely sedentary and not subjected to nomadic searches for food as were many of the other native peoples of North America.

Because of a ready and regular food supply and a climate of a moderate temperature, these people had a measure of time to use as they wished, and generally, it was used to develop sophisticated forms of art and ceremonials.

Of the many skills of these people, they excelled in the construction of their houses, canoe building and massive carving. It is beyond doubt that the one factor permitting this was the availability of the Western Red Cedar. It is one of the largest trees to be found in this Pacific region, frequently reaching heights of 150 to 200 ft with diameters of 8 ft and more.

The wood is soft, straight-grained and non-porous; its colour is reddish-brown with nearly white sapwood. It can be split cleanly and is extremely

resistant to decay; the bark is fibrous and from larger trees, could at times be used as planks for roofing.

The Coast Indians lived in family groups, usually four to six families to a dwelling, although often this was greatly exceeded. This communal life-style was the major social factor governing the form of Coast Indian housing.

Because of the severe topography, the more northerly housing, such as that of the Haida and the Kwakiutl, tended to be located on strips of land between the beach and the usually steep, forested ground behind. To make best use of the flat ground, the houses were almost always sited in line and facing the sea. They were also built close together, with perhaps only four to six ft separating them. To the south, the housing tended to be set out in a freer manner simply because much softer terrain was available.

All Coast Indian houses were rectangular in plan, ranging in shape from a square to an elongated rectangle. The construction was of wood, using simple post and beam principles, and of a single storey in height. Although these were the common characteristics, there were in fact variations in the detailed construction of the houses.

Toward the end of the nineteenth century, contact with the Europeans had significantly affected the original appearance or the manner in which the Coast Indians built their housing. The availability of nails made tedious small jointing procedures unnecessary; nails also rendered obsolete the practice in some housing of tying boards onto poles for the construction of the external walls. For this reason, the descriptions of the Coast Indian housing

apply to the early part of the nineteenth century, before contact with the Europeans.*

Because the degree to which the various structural elements could be used depended not upon the whim of an individual but on his social standing in the community, the housing described is a synthesis of the detailed structural methods used by each of three Coast Indian groups.

Haida

The front of the Haida house was classic in its simplicity and proportion; it was completely symmetrical and was normally dominated in the centre by a huge carved house pole. The low pitched sloping roof was gable end onto the front; to each side, almost as heraldic supporters, were the front corner posts.

The plan was of a simple rectangle in shape, almost square. The precise size of the house would depend upon the number of families to be accommodated but the house now described has a frontage of about 35 ft and is about 40 ft deep with roughly 1,400 square ft in floor area. The form was single storey with a pitched roof spanning the shorter dimension; the height of the roof at the walls would be about 9 ft, rising to about 12 ft in the centre, giving an approximate pitch of 2½ in 12 ft. A smoke hole was formed in the centre of the roof with boards on the exterior for wind control.

The support construction was of massive cedar posts and beams. Four large corner posts, about 2 ft in diameter, supported rectangular end beams. These end beams were slotted through the corner posts and projected either side; they were also supported near the



*A great debt is owed to early photographers such as Maynard, Newcombe, Dossetter and Dally who in the latter part of the nineteenth century faithfully recorded what the houses and their groupings were like.

ridge by posts set about 3 to 4 ft apart. Between these central posts was positioned the carved house pole which contained the small entrance opening.*

The roof construction consisted of either 4 or 6 large hewn purlins, spanning clear between the end beams and projecting some 2 to 3 ft beyond them. Over these huge purlins were laid either planks of cedar or cedar bark. The roof planks were held in place by both poles and stones.

At the ground level, between all four corner posts, were placed ground beams of a similar dimension to the upper end beams; these ground and upper beams were rebated to take vertical cedar wall planks. At the sides, the end purlins and ground beams were also rebated to take the wall planks.

At times, there was a terraced excavation in the centre of the house. This defined in a very simple manner the way in which the available floor area could be used for such activities as making fires, working at the bottom level, and sitting and lounging on the steps of the terrace. The upper level was used for sleeping and the storing of private possessions. This upper level, which was in line with the external grade, sometimes contained small private sleeping cubicles made with planked sides and with even pitched roofs. In larger houses, the terraces formed an ideal miniature amphitheatre.

Kwakiutl

The difference between the basic structure of the Kwakiutl and Haida houses was that, in the case of the Kwakiutl, the structural posts were located towards the middle of the house and were



*A word must be said about totem poles, because the free standing pole figures are so much a part of the popular knowledge of the area. Late 18th century accounts of explorers, such as Cook, LaPérouse, Dixon, Portlock and Meares, almost entirely omit reference to free standing totem poles. The only carvings mentioned were house poles attached to the front of houses, on house posts in the interior of the houses and on mortuary poles. It was only in the middle of the nineteenth century, when the general availability of iron tools speeded up the process of carving and when the Coast Indian was more affluent, that carvers could be paid for free standing poles.

Front of a Haida dwelling (1890) showing house pole – not to be confused with totem pole (see footnote). Photo: National Museum of Canada.



Haida village (1878) at Skidegate on the Queen Charlotte Islands. Photo: National Museum of Canada.

not treated as exposed corner posts carrying exposed end beams.

Most authorities seem to agree that the houses of the Kwakiutl usually accommodated somewhere between four to ten families. However, there is ample evidence that the Kwakiutl also built far larger houses accommodating many more families.

The plan of the Kwakiutl house was almost square in shape. The roof supports were cedar posts and usually carved or at least fluted; two were placed at the front and two at the back of the house, both spaced about 10 ft apart on the house centre-line. These supports carried cross beams which were also occasionally carved. On top of the cross beams, and running from front to back, were main purlin beams about 35 to 40 ft in length.

At the sides of the house were corner posts, slightly smaller in diameter than the main posts and directly supporting side purlin beams. Usually there was an intermediate post to help take the roof loading. The reason for not having intermediate posts to support the main purlin beams was to leave the floor area at the centre of the house completely open. Laid over the purlin beams were large log rafters running parallel to the front and rear walls; over these, light secondary rafters were placed at right angles. The secondary rafters supported roofing planks of cedar or cedar bark with the roof pitch about 3 in 12 ft.

Normally there would be a platform of earth built up around the perimeter of the house and as in the case of the Haida this platform defined the public and private parts of the house. The small private sleeping cubicles were also

often constructed around the perimeter but usually this would only be in the larger houses.

Coast Salish

The principal characteristic of the Coast Salish house was that it had a low monopitch or shed roof instead of a symmetrical double pitched roof. Another distinctive feature was the use of horizontal boards, instead of vertical, for the exterior walls.

Carving was not practised to the same extent as it was among their more northerly neighbours. Consequently, decorated house poles or house posts did not form a part of their housing scene, and neither were they inclined to paint the front of their houses with symbolic figures. Each house accommodated numerous families, ranging from 5 to 15. Assuming 5 persons per family, this could give a house population of from 25 to 75 people.

The shape of the house was usually of an elongated rectangle, about two squares in proportion, although at times this length would be exceeded. The dimensions of the house now described would be about 25 ft by 50 ft, with the structural principle again being that of post and beam using cedar log posts and log beams.

The main frame consisted of a row of supports located at each side of the house and spaced about 12 ft apart. The height of the rows were unequal so as to form the slope of the roof; on one side they would be about 8 ft in height and on the other from 12 to 14 ft high. The posts supported the log beams that spanned from side to side of the house. Across these beams, and running the length of the house, were rafters of

poles which carried the roof planks of split cedar. In larger houses there would often be a central line of poles to reduce the length of span for the main beams.

The different method of wall construction was interesting because it consisted of lapped horizontal split cedar planks, from 1 to 2 ft in depth, which were lashed to a series of vertical poles by means of ropes made from spruce roots. These panel sections of walling, 8 ft wide or more, were leant against the main log frame, and lashed in place; an occasional exterior stay would also be used for stability. As with other Coast Indian housing, the roof planks were held down by stones and poles.

When moving from their winter homes to summer camps, the Coast Salish people would take down sections of the walls of the permanent houses and transport them by sea, lashed across canoes. Because of the pleasant summer climate and temporary character of the camp, it would not be necessary to move the walls of a complete winter house, particularly as the size of the shelter required would be far less due to the amount of time that could be spent outdoors. The reason for moving walls at all was simply that the basic element, the plank, was a valuable hard-earned building component. The effort needed to obtain planks, with relatively primitive tools for cutting and splitting, would rarely permit sufficient for both winter and summer locations.

The Plateau

Interior Salish

Little is known about the Interior Salish Indians. They were a hunting people, who lived in the mountainous regions of



Kwakiutl dwellings (1900). Photo: National Museum of Canada.



Wood frame of Kwakiutl house on Gilford Island, B.C. Coast. Photo: National Museum of Canada.

what are now the provinces of British Columbia and Alberta. Like the Coastal Indians, the Interior Salish lived a communal life-style, and thus their housing was designed to accommodate a number of family units.

The Interior Salish Indians of the Plateau grouping built both summer and winter forms of housing. The summer type was a conical framework of poles covered with bark or skins which could be dismantled easily and transported if necessary to a new location. The winter form of dwelling could house up to four or five families and was in the form of a low, sloping, conical, semi-subterranean pithouse.

To construct a pithouse, a circular hole with sloping sides about 3 ft deep and 20 to 30 ft in diameter was first dug. Four vertical log supports about 8 ft in height, leaning slightly outwards, were then positioned near the centre of the pit. These supports carried log rafters spanning from the ground outside the pit, over the vertical support and stopping short of the centre to provide an opening at the top. Shorter timbers spanned outwards from the top of the vertical log supports to the ground beyond the pit. Between these heavy timber rafters, horizontal poles were lashed, about 2 ft apart; small vertical roof poles were then laid over this framework. The roof pole covering was then chinked with grass and cedar bark laid on top, and finally over this grass and bark layer was spread a covering of earth.

The opening at the top was used for smoke to escape as well as for an entrance and egress, the latter being accomplished by a notched log used in the form of a ladder.

The Plains

Before the start of the present century the principal home of the Plains Indian was the teepee. Essentially it was a form of tent consisting of a large framework of poles erected in a conical form and enclosed with a protective covering of fitted buffalo hides. As canvas became more readily available it was increasingly used as a covering being lighter in weight and far easier to work with than hide.

Nomadic Plains Indians needed their homes to be constructed of fairly readily available materials, capable of easy erection and dismantling, responsive to the climatic conditions of the area and above all they had to be easily transportable. The teepee met all these requirements admirably. In common with most nomadic cultures each dwelling provided the home for one family of the tribe. This is in direct contrast to the multi-family homes of the Indians of the North-West Coast and the Eastern Woodlands.

Mention should be made of the buffalo as the life of the Plains Indian was inextricably mixed with the life and migrations of this erratic animal. Indeed, when the buffalo was virtually exterminated at the end of the nineteenth century, it resulted in the loss of almost a whole Indian culture built on the relationship with this animal. Not only was it the prime source of food but it also provided many of the day-to-day needs including the covering for the home.

Before the arrival of the horse, all travel on the Prairie following the migrations of the buffalo was on foot, with dogs used as pack animals. Loads would be carried either as a pack tied

onto the back of the dog or in the form of a travois.

The travois consisted of two poles lashed together at one end; the free ends were spread apart and the resultant vee shape was fitted over the back of a dog. These free ends passed either side of the animal so that they could be dragged across the ground. Behind the dog and across the two poles, cross-pieces were lashed to provide a platform for the load to be carried.

Not being indigenous to North America, the horse did not arrive on what we now call the Canadian Prairie until about the end of the eighteenth century, filtering up from the South from stock originally brought by the Spaniards. When it became available in sufficient numbers, the Indian took to the horse with an astonishing aptitude and was transformed virtually overnight from a humble hunter on foot to the mounted aristocrat of the Prairie. For transportation the same kind of travois was used with the horse, although the poles could now be longer and the loads carried could be that much heavier. These two factors meant that the teepee could now be significantly larger than before.

Over the vast areas of the North American plains the details of the teepee would occasionally differ, but the remarkable thing was that the basic principle remained intact. The one now described would have been fairly typical and could have been used by the Sarcee or Blackfoot of the Canadian Western Prairie.

The diameter was about 14 ft and there could have been anywhere from 16 to 24 poles depending primarily on their availability. The length was ap-



Coast Salish village on Vancouver Island (1865).
Photo: National Museum of Canada.



Teepees of the Stoney Indian tribe, Buffalo Park,
Banff. Photo: National Museum of Canada.

proximately 18 ft and this gave an internal height of about 12 ft to the apex. Construction would be started by lashing three or four poles together at one end and then, by opening the other ends out, erecting them as a base tripod. Subsequent poles would be laid into the open top of the tripod. The butt of the poles would normally be tapered to dig into the ground for a small depth.

When the poles were all in place, the cover, consisting of from 15 to 20 tanned buffalo hides stitched together, was drawn over the frame. Then, the overlap was laced or pegged together. An entrance was formed at the base of the overlap, with the front flap consisting of either an extension to the cover or a separate tanned hide. After the cover was in place it was pegged down to the ground around the circumference.

Since a fire was always located at the centre of the teepee, there was a need for an efficient smoke control system. This was provided by the ingenious use of two ears or flaps at the top of the teepee which were manipulated from the outside by a pole fixed to each flap.

The painting of the exterior of the teepee had a mystical significance as the designs were often the result of visions by medicine men. They were the first owners who would subsequently sell the teepee with its painted design to others. The design stayed with the purchaser and could be renewed when the original covering had worn out, but the design could never be duplicated unless it was resold.

The Eastern Woodlands

The area of the Eastern Woodlands ranged from west of the Great Lakes to

as far east as Newfoundland. Most of the Indians of this vast territory were migratory people with the exception of the Huron and Iroquois who were agriculturalists. However, in common with the North-West Coast and Plateau Indians, all lived in lodges or wigwams that housed a number of families as distinct from the single family teepee of the Plains Indian.

The wigwams of the migratory tribes housed from two to four families and were invariably conical or dome shaped forms, using poles or saplings as a framework to receive an outer covering of elm or birch bark or occasionally skins. More poles were then laid over the covering to keep it in place. These dwellings could be taken down quickly and easily rebuilt at the next stopping place; the covering, because of the time to obtain it, was often carried to the new location.

The Huron and Iroquois built lodges or longhouses to house as many as twenty families. These longhouses were rectangular in shape and would be anywhere from 150 to 180 ft in length and about 20 to 25 ft in width. They were built of two parallel rows of saplings with the butt ends buried in the earth about 3 ft apart and bent over towards each other to form an arch with straight sloping sides. The arch members were tied together, usually with tamarack roots and then more poles were lashed horizontally to form a framework which received a covering of elm or birch bark. Further poles were again tied to the exterior to keep the bark covering in place.

Down each side of the interior, platforms were built of poles, usually in two levels, which provided sleeping areas

and space for the storing of possessions. Fires were located along the centre of the lodge with small openings left in the roof for the escape of smoke; there were no other openings apart from the entrances at either end. Since these people were agriculturalists, the lodge would be used for about ten to fifteen years until the land was exhausted for crops. All of the Eastern Woodland Indians built summer hunting camps and again often carried the bark coverings from place to place.

Inuit

As recently as fifty years ago most Inuit lived in two forms of housing, winter snow huts or igloos, and spring or summer structures of various kinds. These latter were constructed of materials such as wood, skins, rocks, sod and even of whalebone, all used in a variety of combinations.

Since Inuit lived far above the growth line of mature timber, when they needed wood they had only the choices of finding suitable driftwood or making long treks into the interior which would often last as long as 4 months. Because of its scarcity, wood was primarily used as a structural framework to support a covering of skins and rarely as a cladding material.

Inuit were migratory, and consequently, the limiting discipline to the development of their housing was the relatively short period in which they lived in one place. In the case of the tent, the severest restriction on its size was the weight of the skins that had to be transported. When the sled could be used, this was not too great a problem even though the skins took up a considerable amount of space. When the



Wood frame of medicine lodge, Seine River Indian Band, Wild Potato Lake, Ontario. Photo: National Museum of Canada.



Horse travois of the Plains Indian. Photo: National Museum of Canada.

snow had melted and the sled could not be used, the only solution was for it to be carried by members of the family. The most common structural form was that of the teepee although the dome and rectangular tent were also used, the latter particularly by the Copper Eskimo.

The French Influence

Samuel de Champlain recorded in 1626 that the houses built at Cap-Tourmente by the early settlers to New France were in the style then being used in Normandy. Almost certainly this would have consisted of a main timber frame with a

clay infilling between vertical wood members. Some rough stone may also have been used for the purpose of infilling.

The two main problems facing these settlers were: first, a lack of lime to make an impervious wash to go over the clay so as to resist water, and consequently ice penetration, and second the lack of insulation that this form of construction provided. The French carpenters were conversant with two other forms of wood construction then used in Europe and with the abundance of excellent timber to be found in the colonies it was perfectly natural for them to seek solutions to their problems using other manners of building.

Although there is some confusion over the precise terminology, the purpose will be served if the names "pièce sur pièce" and "poteaux sur sole" are used for these two distinct kinds of building construction. Both use heavy squared timbers to provide a solid wall which, with careful chinking, was extremely resistant to water penetration and with relatively good insulation.

Pièce sur pièce

This form of construction consists of using single length squared logs in a wall, with the required openings, and all held together with a dovetail corner detail or "en queue d'aronde". Not only was this corner extremely strong but, if cut correctly, it shed the water most effectively.

A study of this dovetail detail with the use of the squared log clearly indicates that it is a form of construction used by carpenters and not woodsmen or foresters. It is important that this be appreciated because the conventional



Inuit skin tent at Banks Peninsula, Bathurst Inlet (1913-16). Photo: National Museum of Canada.



Tudor houses, Hastings, Sussex, England used a heavy timber frame with exterior infilling of wattle and daub. Such were the first English houses built in North America. Photo: U.K. Central Office of Information.

“log cabin” with round timbers and vee shaped overlapping corners had rarely been used in Canada and is not part of our building lore.

This type of construction was in fact introduced into Delaware in the 1630’s by Swedish immigrants but did not gain its later popularity, even in the United States, until the nineteenth century. The dovetail corner detail can still occasionally be seen in many parts of Canada but is usually relegated to the construction of small barns.

Poteaux sur sole

In this form of construction, the wall consisted of square vertical posts with a groove cut down two sides and set upon a squared log sole plate. The posts would be mortised into the sole plate anywhere from 6 to 12 ft apart, and squared logs of this length with a tenon cut at either end would be slipped down into the grooves of the posts. This created a strong wall with good insulating properties. This means of construction made the length and height (sometimes two storeys) optional and dependent entirely on the needs of the building.

The history of this form of construction is interesting as it can be traced back to Central Poland to at least 700 B.C. where archaeological finds at Biskupin show that this technique was used for building. Its likely origin in Central Europe is in line with the high degree of wood technology that area has always enjoyed.

The method of building spread throughout Europe and the obelisk of Marcus Aurelius erected in Rome in 167 A.D., to celebrate his victory at the Danubian Limes indicates a house or

fortress that almost certainly was constructed using it. The Vikings used the technique in building although the log infill was refined to split oak planks about 2 ft wide.

For many years it was the building method used in Denmark and Southern Sweden to construct houses; however, it was discontinued by decree in the sixteenth century due to the depletion of the oak forests. The technique did not die out completely in Europe and to this day historical examples can still be seen, especially in barn construction. One area in which it is still used is in les Landes country of southwestern France.

The technique was found to be particularly appropriate to the needs of early Canada, and the French Canadian carpenters of the *fur brigades* carried it from Labrador to Vancouver Island. So widely did the Hudson Bay Company use the method that it actually became known as the Hudson’s Bay or Red River Style.

The plank wall method of construction occasionally still used today in parts of Quebec owes its origin to this early building system, the principal difference being that the vertical posts are no longer grooved and nails are used to secure the 3 in planks.

The Newfoundland Tilt

The Tilt house * is different from the squared log form of construction in that the logs or poles are small in diameter and left in the round. Further, the Tilt consists of poles placed vertically in the ground with a pole and earth covered roof.

This housing form has been placed under the heading of the French influ-

ence as there is documentary reference to the Tilt being built by the French in Lower Canada well back into the seventeenth century as well as by the French at Placentia Bay. This method of building has a distant similarity to the French houses constructed in the Caribbean and Southern Mississippi although over the years the construction varied to suit local circumstances.

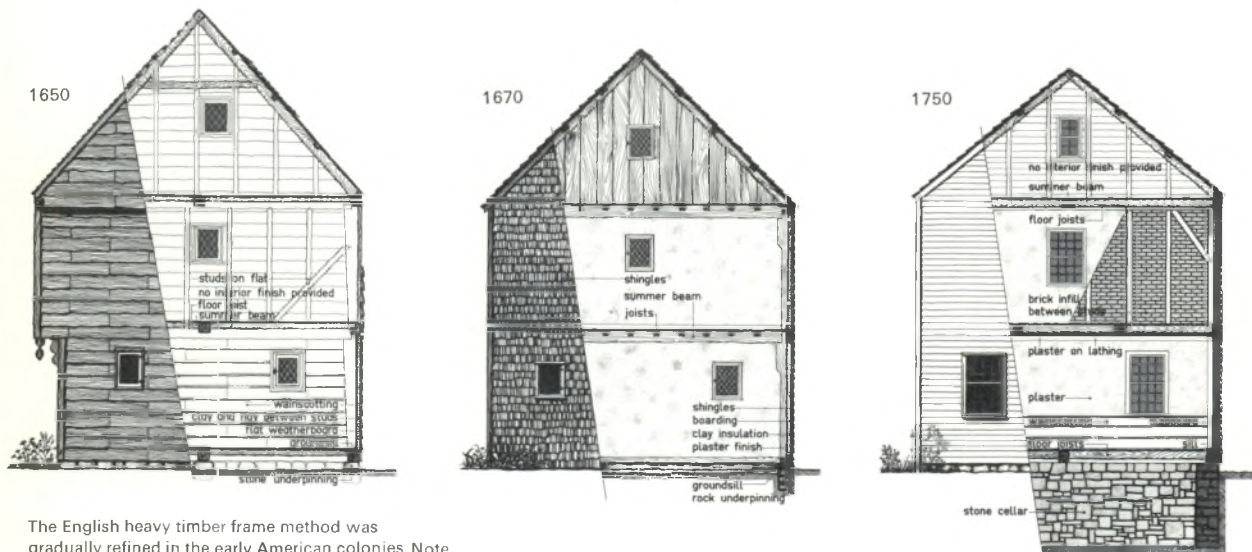
The Tilt as built in the nineteenth century would be about 10 ft by 14 ft. A trench would be dug in the line of the walls and the small logs would be set vertical in it and earth compacted to keep the logs vertical. Gaps would be left for a door and window and the walls would be chinked with moss or grass and mud. The roof would be of a low pitch and consist of a framework of poles spanning from the side walls to a ridge log to take a covering of bark. When bark was not available, the roof would consist of solid poles chinked with grass with a covering of earth and turf placed over it.

Though simple in construction, it used to the utmost the materials to be found locally.

British and American influences

The houses built at Jamestown in 1607, the first English settlement in the New World, used English timber frame methods with an exterior infilling of wattle and daub with thatched roofs.

Within a number of years the lack of a limewash to shed the water from the clay infilling prompted them to use hand split boards as the external wall finish in lieu of the wattle and daub. The thatch for the roof was not satisfactory either, and this was superseded by hand split wood shingles.



The English heavy timber frame method was gradually refined in the early American colonies. Note the changes to smaller frame members as studs were used to take the weight of the house. Also note the exterior change from hand split boards to machine sawn clapboardings. (Drawings: Maurice Clayton)

*See Habitat Vol. XI, No. 5, 1968.

Development of the North American colonies was rapid, and by 1650 two-storey frame houses, suited to the various regions, were being constructed. A typical house of that time in the Connecticut region would be about 20 ft by 30 ft in area and consist of two floors and a roof space. Each floor contained one room on either side of a central core which shared the entrance, stairs, the fireplaces and chimney. The structural frame was of heavy oak members fastened by a combination of wood pins and mortise and tenoned joints.

It was a system based upon English tradition and was composed of parts described as groundsill, posts, girts, plates and roof rafters. The posts were located at the four corners, with others spaced along the front and rear walls, at either side of the central core, all pinned to the groundsill. The perimeter and the cross girts were all framed into these posts, resulting in a strong and rigid system. The floors were composed of wide boards on rough joists which spanned from front to back and carried across the centre of the rooms on a structural beam called a summer. These summers were framed at one end into the girts running beside and parallel to each side of the centre core, and at the opposite end into the end wall girts. The roof rafters were pinned to the top plates, and cross connected at the ridge.

Other recognizable characteristics of these houses included an overhang at the upper floor of the front wall with drops and brackets; gable end overhang at the roof line; steeply pitched roof; small casement windows with diamond shaped green glass, and studs fitted into the structural frame along the outer walls and infilled with hay and clay as a form

of insulation. Split weather boards were fixed over the studs on the exterior, later to become clapboarding, and wide board wainscotting on the interior.

Basements were not in common use and the underpinning was taken down to frost penetration level. This system created a very low unventilated space which resulted in the early loss of the ground floor due to rot. These problems were overcome later by use of basements although they too were very damp and cold.

This method of construction persisted in the North American areas of British influence until 1833 when the Balloon Frame system was invented in Chicago by Augustine Taylor.

Balloon Frame

Taylor had worked in New England as a builder and was fully conversant with the heavy timber framing of the time. His invention recognized the value of the stud wall infilling to take the weight of the house, and that the complicated jointing was unnecessary since nails could hold the frame together.

Two inventions at the beginning of the nineteenth century enabled balloon framing to become a popular and economical system of construction. These were the invention of the steam saw mill which freed the location of the mill from water power, and the invention of a machine to manufacture cut nails instead of wrought iron. Without the balloon frame, which enabled small houses to be built without the skill of the master carpenter, the development of the western territories of the United States would have been considerably slower. To a lesser extent this was equally true for Western Canada.

Balloon framing (a derisory name of the day) is principally used for two-storey housing. It consists of studs running the full height of the building with the floor joists sitting on a sill, or ribbon, and nailed directly to the stud. A later development was the Braced Frame although it did not become popular due to the extra cutting involved.

A major problem with the Balloon Frame is that the total framework of the house must be constructed before the floors can be laid. To overcome this the Platform Frame method of construction was evolved in the 1920's.

Platform Frame

The evolution of techniques is rarely clear cut with regard to their precise use in time and the Platform Frame is no exception. This system in fact existed in conjunction with Balloon Frame certainly until the late 1930's, but the use of Platform Frame became universal after the Second World War.

Basically it consists of single-storey height studs with the method of fixing the first floor joists repeated for the second floor. When the second floor is laid in place, it provides the working platform for the next storey.

An essential point concerning the method is that it is an open system of construction. A house can be built by a man and a boy in the bush or it can be adapted to a highly sophisticated degree of factory prefabrication. It is constantly evolving and being refined, and in this lies its strength as a particularly efficient form of house construction.

Post and beam

This is a method of building which is outside the mainstream of Canadian



Fisherman's house in Selkirk, Manitoba showing the poteaux sur sole form of construction (also known as the Hudson's Bay or Red River Style).



Modern example of Post and Beam Construction, Vancouver. Photo: Selwyn Pullan

housing construction and which probably evolved into its present day form in California. In Canada it is used for custom housing, built mostly in British Columbia. With modifications the system could in fact be used anywhere in the country, but it is particularly appropriate to the moderate climate of the West Coast.

It consists of a skeleton frame of posts 4 to 8 ft apart with floor and roof beams spanning between them. The roof is of a low slope with 2 in or 3 in thick planking which is normally left exposed in the interior of the house. The space between the posts may be infilled as required with supplementary framing to provide lateral bracing or large areas of glazing.

Post and Beam is especially appealing when the wood is left exposed in the interior, but as it requires a high degree of skill and care it is not a construction system used for the main part of Canadian housing.

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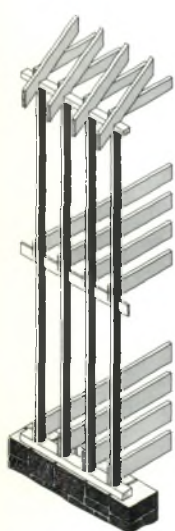
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Balloon



Braced



Platform

Balloon, Braced and Platform Methods of Construction. (The Platform method superseded the Braced construction form with the advent of rigid plywood sheathing which eliminated the need for bracing. (Drawings: Maurice Clayton)

The **N**ational **H**ousing **A**ct in Action

Canadian Housing Statistics

CMHC's Book of Numbers

by Alan de Jourdan

Anyone looking for a one-place source of information on Canada's housing needs only to pick up a copy of "Canadian Housing Statistics" to find it.

All this housing information, under one cover, from one source, makes the CHS an internationally unique publication. In other countries, notably Great Britain and the United States, equivalent information must be obtained from a variety of publications issued by a number of government departments.

In contrast, CMHC has long been recognized as "the" Canadian source to gather statistics on housing and has since 1948 conducted its own statistical surveys. It is on the basis of these surveys that the essential housing information is compiled to calculate that most often quoted statistic — the seasonally adjusted housing starts.

Every March, along with the annual report, CMHC issues this unique number book of housing statistics. In some 115 tables, the annual "Canadian Housing Statistics," with its monthly supplements, presents the results of its ongoing cross-Canada survey of housing production covering starts, completions, apartment vacancies, loans, government financing as well as characteristic information such as borrower profiles, family incomes, family sizes, kinds of dwelling units, floor space and lot size.

What the Figures Tell Us

Basically the statistics list a good deal of volume data — that there were 222,123 dwelling units started in Canada in 1974; 257,243 units were completed; investment in new housing during the year was \$6,975 million. But it is the characteristic data — figures dealing with borrowers, family incomes and facts about the dwelling units — that most people find more interesting.

Take Table 113 "Households, Housing Stock and Crowding 1951-71" for instance. Using the definition of crowding as those households having more than one person per room, this table shows that in 1951 with a housing stock of 3.4 million (excluding the Yukon and Northwest Territories), there were 641,820 "crowded" households. In 1961 the housing stock had increased to more than 4.6 million but crowded households had increased to 750,942. In 1971 the housing stock was just over 6 million but crowded households had diminished to 569,485. During the same period Canada's population had increased by more than 50 per cent, from 14,009,000 to 21,568,000. Overall, it is evident some progress had been made.

Some areas seemed, at first glance, to have remained static. Ontario in 1951 had 151,730 "crowded" households; in 1971, 150,715. But the provincial population had gone from 4.6 million to 7.7 million and the household stock from 1.2 million to 2.23 million in the same time.

But statistics have to be interpreted with caution — such as Table 102, the Consumer Price Index. Everyone knows rents have skyrocketed in recent years and yet the rent component of that table shows a 1974 index of only 127.9 compared to a 1961 base of 100. Only an increase of a little more than one-quarter? Surely not. The answer lies in the explanatory index:

"The consumer price index measures price changes, over time for a given quality and quantity of goods and services. An important component of the index is housing, which is represented by two indexes: shelter and household operation. The overall shelter index includes a rent index and an index of the costs of home-ownership.

"The rent index, which includes rentals and the cost of tenant repairs, estimates price changes for a constant quality of rented accommodation. It is

intended to be a measure of price change only rather than a measure of change in prevailing markets rents."

The key words are "for a constant quality." In other words, the index shows what a 1961 apartment might rent for today. But today's apartment dweller expects a more luxurious apartment than 20 years ago — amenities once considered luxuries are commonplace today. Size and fittings of apartments have increased. So while the rental index for a basic apartment might have increased only by one-quarter, the additional cost of today's apartment extras help bring up the total figure.

Another table, Table 109, details the dwelling stock by type of plumbing facility. It is this table people rely on when they claim that most Canadians are as well-housed as any other nation in the world. The table says: in 1951 only some 57% of Canadian dwellings had a hot and cold piped water supply. By 1974 the figure was 95.7 per cent. Toilet facilities (flush toilets) are more plentiful than in 1951. The figures are 68.3 compared to 97.2 per cent of the dwelling stock. And Canadians are more likely to be cleaner if the availability of baths or showers is any indication. In 1951 only 60.8 per cent of Canada's dwelling stock had these hygienic facilities, in 1974 it was 96.2 per cent.

Where the Starts Figures Come From

Since 1948, information on housing "starts," "completions" and "under construction" has been obtained by surveys designed jointly by Statistics Canada and CMHC. Since 1959, all field work, and since 1963 all processing of data, for these surveys have been carried out by the Corporation.

The surveys are conducted monthly to obtain reliable figures on the number of dwelling units started and completed during the preceding thirty days.

To do so they use clearly defined criteria to describe a "start," "under construction" and "completion." For the purposes of the starts and completions survey, a "start" is defined as the beginning of construction work on a building, usually when the concrete has been poured for the whole of the footing around the structure, or an equivalent stage where a basement will not be part of the structure. The first turn of the traditional sod-turning shovel is *not* considered a start by the statisticians. "Under construction" is a self-explanatory term.

A "completion" is defined as the stage at which all the proposed construction work on a dwelling unit has been performed, although under some circumstances a dwelling may be counted as completed where up to 10 per cent of the proposed work remains to be done. Living in the basement while the superstructure is being built does not count here either.

Other definitions are given in the back of the Canadian Housing Statistics annual with, perhaps, the definition of "household" being the most interesting. For census purposes a "household" consists of a person or group of persons occupying one dwelling. It usually consists of a family group, with or without lodgers or employees. It may consist of a group of unrelated persons, of two or more families sharing a dwelling, or of one person living alone. Every person is a

member of some household, and the number of households equals the number of occupied dwellings. A "non-family household" is one whose head is not the head of a family. A non-family household may contain lodging families.

Dwellings being built with NHA financing obviously are recorded at the CMHC office; the balance are enumerated for all towns of 10,000 population or more. Construction in rural areas is more difficult to keep track of and data on rural housing starts are thus issued only quarterly.

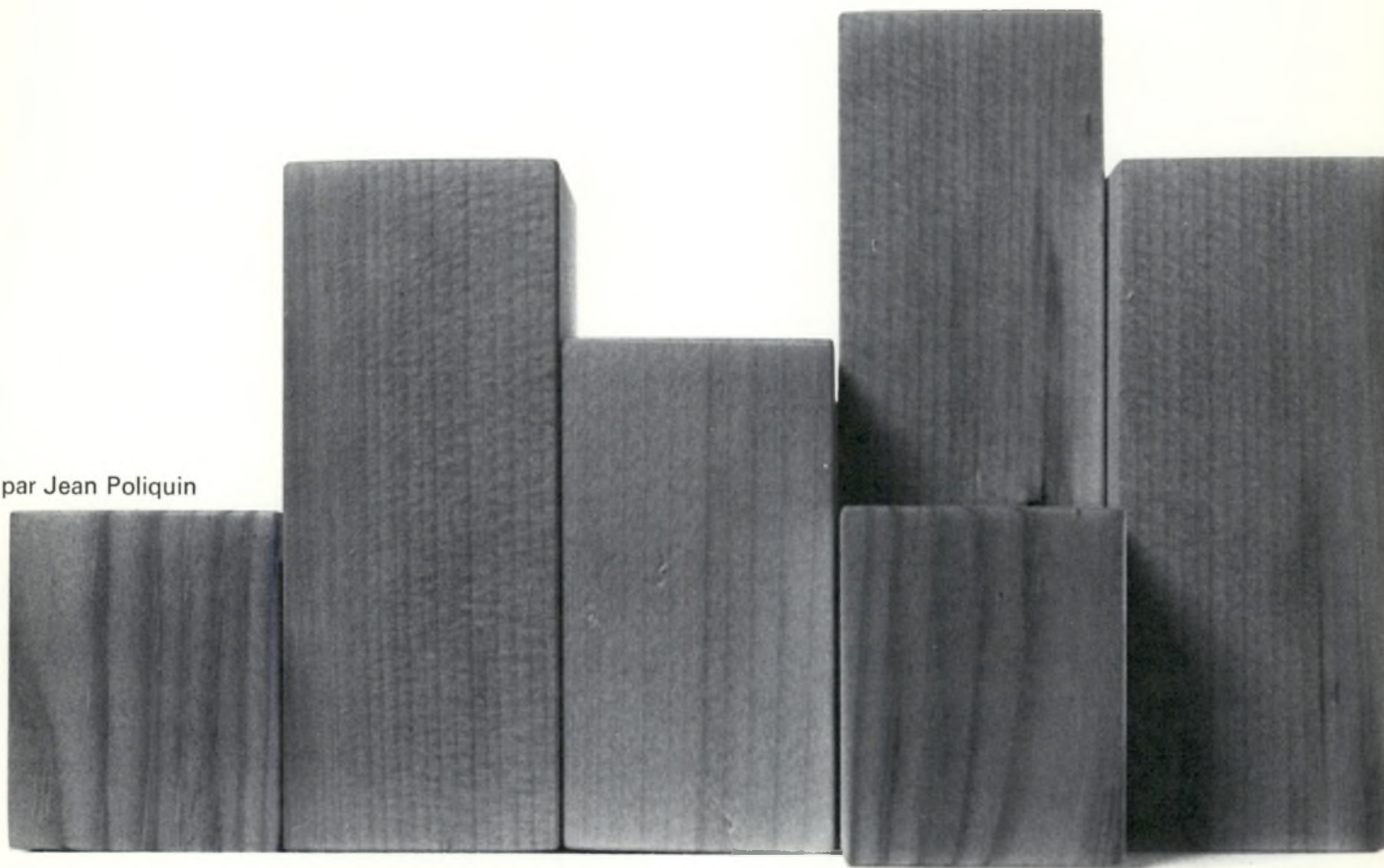
Before the individual survey cards are filled out and the information sent to the statistical division at National Office, they are checked at the local office level to eliminate duplication. Often driving by the site, the so-called "windshield survey," is all that is necessary to confirm a completion or an actual start — other times it is necessary to make a personal call to the contractor or tenant. The final results go to the CMHC National Office for tabulation and are then published as the monthly supplement to the Canadian Housing Statistics.

But whether it is the monthly supplement or the familiar annual Canadian Housing Statistics with the now well recognized number cover, the statistics are depended upon by housing experts, politicians and laymen alike to provide an all-around picture of Canadian housing. □

The next issue of the CHS will be available at the end of March 1976.

Le bois, matériau de l'avenir

par Jean Poliquin



Depuis des temps immémoriaux, le bois a représenté pour l'homme une source inestimable de matériaux simples à façonner et présentant des propriétés très avantageuses. Non seulement le bois a-t-il été utilisé pour des fins de commodité quotidienne mais il était également considéré comme un matériau noble, parfois réservé à certaines castes ou associé au culte, en particulier au culte funéraire. A titre d'exemple, qu'on me permette de citer M. Rakotomanga Adriambololona, architecte malgache (1):

"De tout temps, à Madagascar, le bois a été employé dans la construction. On peut voir dans les régions côtières et en province que son emploi est encore largement généralisé. ...L'usage du bois ainsi que les métiers de charpenterie étaient réservés aux castes nobles. Ces bois étaient choisis en fonction de leur dureté, mais certains bois étaient écartés parce que "fady", c'est-à-dire interdits par les croyances traditionnelles."

Depuis fort longtemps les Chinois ont été très habiles à utiliser le bois et à en confectionner des objets d'art. Ils avaient même conçu des méthodes d'inhumation telles que des tombes en bois ont pu être conservées durant des millénaires. Le lecteur pourra retrouver des comptes rendus de découvertes récentes dans les articles suivants (5,6).

Les Africains nous ont légué une tradition très riche dans l'art de la sculpture sur bois. Quant aux Egyptiens, ils se sont montrés, pour leur part, de très habiles utilisateurs du bois et on leur attribue la découverte des placages et contre-plaqués. A des époques plus récentes, on retrouve également des exemples fort révélateurs de l'habileté de l'homme à utiliser le bois. Pensons aux

décorations de l'Alhambra de Grenade, aux habitations et églises en bois du Moyen-Age scandinave, à la marquetterie somptueuse du palais de Schönbrunn.

Tout cela nous amène à constater que lentement, l'homme a acquis une connaissance *empirique* de ce matériau et a pu en produire des oeuvres qui font encore l'admiration de l'homme moderne. Ces traditions se sont conservées, en partie, jusqu'à nos jours. Les sculpteurs sur bois et les luthiers en font foi.

Toutefois, ici comme ailleurs, l'ère de l'industrialisation a transformé notre attitude à l'égard de ce matériau. L'augmentation des besoins de l'homme et l'apparition de moyens de production aux possibilités pour le moins décuplées ont profondément modifié les relations de l'homme avec le matériau bois. Ces relations, jusqu'à une période très récente, ont été très personnelles, très proches. L'homme travaillait le bois lui-même, avec des outils à main ou à l'aide de machines-outils très simples, de telle sorte qu'en définitive il pouvait "sentir" son matériau. Puis, petit à petit, sont apparus les changements qui ont amené les scieries modernes à grand débit, les connecteurs améliorés qui nous permettent des assemblages résistants et durables, les colles modernes, l'utilisation des résidus de transformation, la fabrication moderne des pâtes et papiers et l'utilisation chimique de la cellulose, les techniques de préservation qui permettent de mieux protéger le bois contre les agents destructeurs, etc.

Cette transition de la phase artisanale à la phase industrielle s'est opérée en partie grâce à l'ingéniosité de l'homme et en partie grâce à la lente osmose provenant des autres secteurs scientifiques et industriels. Aujourd'hui, l'indus-

trie des produits forestiers peut offrir aux hommes un éventail assez large de produits pouvant satisfaire un bon nombre de leurs besoins. Voilà qui est bien. Mais cette volonté de pourvoir aux besoins de l'homme entraîne des corollaires que nous allons tenter de circonscrire dans les paragraphes suivants.

Ces corollaires sont plus particulièrement associés à la capacité de renouvellement de la forêt et à l'adaptabilité de l'appareil de production.

En effet, l'accroissement de la demande des produits forestiers a repris de la vitesse, en grande partie parce que les matériaux de remplacement tels que les dérivés du pétrole, l'aluminium et l'acier voient leurs prix monter plus vite encore. Le fait que le bois soit un matériau renouvelable le place dans une situation extrêmement avantageuse au regard du pétrole et de ses dérivés. Pour reprendre les mots de Rayce O. Cornelius, directeur aux relations forestières de la Weyerhaeuser Co. de Tacoma, Washington, disons que:

"La diminution des ressources pétrolières pourrait occasionner une demande plus grande de la fibre ligneuse que ne l'avait prévu l'industrie forestière internationale, en 1972. La rareté et la cherté du pétrole iront de pair. Il s'ensuivra que l'industrie chimique s'orientera davantage vers la fabrication de plastiques, de carburants et de produits de distillation à base de cellulose." (4).

C'est là le point de vue d'un chimiste. Cependant, le bois a de multiples usages et, en particulier, il constitue un matériau particulièrement bien adapté à la construction d'habitations de petite et moyenne taille. La Consultation mondiale sur l'emploi du bois dans la construction d'habitations a clairement



Sculpture africaine.
Photographie: Jean Poliquin

démontré l'accroissement de la demande pour le bois et panneaux dérivés du bois (2). On a noté une augmentation à l'échelle mondiale d'environ 2% par an pour les bois d'oeuvre et d'industrie pour la période comprise entre 1960-1962 et 1967-1969. Ce taux d'augmentation semble s'accélérer et la situation décrite par Cornelius ne peut qu'accroître ce phénomène.

D'autre part, la majorité des auteurs qui ont présenté des contributions au Symposium qui a eu lieu à Montréal, en février 1974, sous les auspices de l'Association canadienne des pâtes et papiers, et intitulé "Technologie 2001", s'entendent pour dire que, devant la continuité de la conjoncture actuelle, la demande des produits papetiers ira en augmentant au cours des ans en raison de l'augmentation de la population mondiale et de l'élévation de son niveau de vie.

Tout en évitant d'alourdir ce texte de statistiques fastidieuses, il n'en apparaît pas moins clairement que les pressions sur les forêts, et cela à l'échelle mondiale, se feront de plus en plus fortes. Or, il est évident qu'à un moment donné on atteindra la capacité maximale de production des forêts naturelles. De plus, le fait qu'une bonne proportion des forêts naturelles soient difficilement accessibles et composées d'une grande variété d'espèces dont plusieurs sont mal connues et très différentes les unes des autres, rend ce problème encore plus complexe. Alors on comprend mieux les pressions qui s'exerceront sur les prix de la matière ligneuse.

Placés devant une telle éventualité, nous pouvons facilement comprendre les responsabilités qui incombent aux forestiers, industriels et utilisateurs de

ce matériau renouvelable aux propriétés fantastiques. La transformation du bois, d'autre part, a l'insigne avantage de nécessiter une très faible quantité d'énergie; environ 450 kWh par tonne de bois d'oeuvre, 160 kWh par tonne de panneaux de particules contre 17,000 kWh par tonne d'aluminium.

Voilà autant de raisons qui font que l'homme doit mettre en place une série d'actions concertées assurant la pérennité de l'approvisionnement, l'exploitation rationnelle des forêts existantes, la création de forêts artificielles, une transformation à haut rendement de la matière première, l'utilisation la plus complète possible des résidus engendrés par cette transformation, la découverte d'emplois encore plus diversifiés du bois par une politique de recherche soutenue, clairvoyante et stable, et, finalement, une utilisation rationnelle des produits forestiers.

Ainsi ces responsabilités sont celles des gouvernements, des industries et de tous les autres organismes susceptibles de concourir aux objectifs cités plus haut. Cependant, au-delà de l'attribution de ces responsabilités, existe le besoin fondamental de la recherche et du développement (R et D) sans lesquels l'atteinte de ces objectifs demeure utopique et impossible. Or, il est notoire que dans le domaine du bois les efforts consacrés à la recherche et au développement sont particulièrement faibles. Par rapport à son chiffre d'affaires, l'industrie des produits forestiers consacre à peine plus de 1% à la R et D (si on enlève le secteur papetier, la contribution tombe à 0.3%); il suffit de comparer ces chiffres à 15-20% pour l'électronique, 7% pour l'industrie pharmaceutique, pour apprécier la re-

marque de J.F. Saeman: "On aura une plus juste idée de notre contribution à la recherche, si l'on sait qu'elle correspond au tiers de ce que ce pays dépense annuellement en faux cils." (7).

D'où nous vient cette situation? Vraisemblablement, il s'agit du résultat d'une conjoncture complexe. Toutefois, nous croyons que les remarques suivantes seront une bonne source de réflexion.

Premièrement, les technologies utilisées présentement sont très souvent les filles de l'industrie plutôt que de la science. Elles découlent pour la plupart de l'industrialisation générale du XIX^e siècle et rarement de découvertes scientifiques récentes.

Deuxièmement, l'abondance de la ressource et le bon fonctionnement de l'outil en place ont fait que l'amélioration de la productivité semblait pouvoir davantage se réaliser par l'augmentation de la masse d'ensemble que par des modifications radicales des procédés.

Troisièmement, l'industrie des produits forestiers est très vulnérable aux fluctuations économiques à court terme, spécialement celle des bois d'oeuvre et d'industrie, de telle sorte que bien des élans et des initiatives généreuses n'ont pas constitué des éléments facilitant l'expansion continue de la Recherche et surtout le Développement de ses résultats quand on sait la continuité de l'effort, l'opiniâtreté d'esprit et l'importance des moyens financiers que requiert une politique délibérée de changement et d'innovation (3).

Voilà donc un gabarit qu'il faut changer rapidement. Il faut que les instances de l'Etat prennent conscience de la nécessité d'un financement adéquat de la Recherche et du Développement.



Seules des recherches toujours plus poussées viendront à bout de l'un des pires ennemis de la forêt, la tordeuse de l'épinette.

ment tant dans le secteur forestier proprement dit que dans le domaine des Sciences et de la Technologie du Bois; ce financement devra être assez important et soutenu pour déboucher sur des innovations concrètes, car l'utilisateur est la seule raison des activités de transfert de technologie (8).

D'autre part, l'Etat, dans notre système économique, n'est pas seul à assumer des responsabilités devant la forêt et les produits forestiers. Les utilisateurs également ont un rôle à jouer dans cette économie du bois dont l'abondance n'est pas démesurée et qui les amène à une politique d'utilisation consciente de la nécessité d'un haut rendement à la transformation, de l'utilisation complète de l'arbre et de la protection appropriée du bois contre les agents destructeurs (9).

Finalement, tout ce travail de Recherche et de Développement ne pourra se faire que lorsque l'on aura mis en place un appareil de formation adéquat au niveau chercheurs et ingénieurs spécialisés dans le bois.

Pour reprendre un mot de Saeman: "Il importe que ceux qui ont la charge d'élaborer la politique des ressources nationales soient davantage informés de la richesse que constitue le bois. Economistes et scientifiques spécialisés en ce domaine trouveraient profit à étudier la question de près. Les écoles de génie devraient cesser d'ignorer l'importance du bois comme matériau. Il serait également désirable d'inciter les législateurs à se pencher sur la question de la production et de l'utilisation du bois d'oeuvre et d'industrie."

Est-ce que nous, au Canada, faisons l'effort auquel on doit s'attendre d'un pays à vocation forestière? Est-ce assez d'investir dans la recherche 1% (0.3% pour les usages non papetiers) du chiffre d'affaires? Est-ce qu'une douzaine de professeurs spécialisés en Sciences et Technologie du Bois, répartis dans cinq ou six universités, constituent une "masse critique" suffisante pour permettre d'entreprendre une action concertée sur le plan universitaire? Est-ce que les différents ministères responsables des forêts au Canada ont des politiques définies à ce propos et possèdent les budgets requis?

Quoi qu'il en soit, il n'en demeure pas moins vrai que la tâche de trouver réponse aux problèmes de notre temps repose sur de nombreuses épaules et il est certain que tous ceux qui sont engagés dans la production et l'utilisation de la matière ligneuse devront jouer un rôle beaucoup plus grand qu'il ne l'ont imaginé jusqu'ici, si l'on veut assurer la qualité de la vie de notre monde. Car même le futur ne sera pas ce qu'il avait l'habitude d'être.

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Plantation de jeunes arbres dans une pépinière de la Saskatchewan.

Photographies: Environnement Canada.



The Platform Method of Wall Framing

If you live in a house in Canada, then it's probably of wood-frame construction, because four out of five homes built in Canada today are framed with wood.

Perhaps, like a good many of us, you may have asked yourself, "How is it put together?" You may even have followed that thought a bit further and asked yourself a second question, "I wonder if I could do it?"

A manual illustrating the common construction methods used in Canada to build a wood-frame house, "Canadian Wood-Frame House Construction," explains in detail how such a house is assembled and gives information on materials and building practices necessary to erect a well-built, long-lasting home.

The book, published by Central Mortgage and Housing Corporation, is written so that someone with little construction experience can understand and apply the techniques. It is also useful as a training aid for building-trade apprentices and students of building technology.

Maurice Clayton in a previous article, talks about the history of wall framing, but what does it mean today? This section from the book describes the commonly used platform method of wall framing today.

Wall Framing

The term "wall framing" includes the vertical and horizontal members of exterior walls and interior partitions. These members, referred to as studs, wall plates and lintels, serve as a nailing base for all covering materials and support the upper floors, ceiling and roof. All framing lumber should be well seasoned and have a moisture content not exceeding 19 per cent.

Studs are the vertical members to which the wall sheathing and cladding are attached. They are supported on a bottom plate or foundation sill and in turn support the top plate. Studs generally consist of 2" x 4" lumber and are commonly spaced at 16 inches on center. This spacing may be changed to 12" or 24" on center depending on the load and the limitations imposed by the type and thickness of the wall covering used.

The studs are attached to horizontal top and bottom wall plates of 2" lumber the same width as the studs.

Lintels are the horizontal members placed over window, door and other openings to carry vertical loads to the adjoining studs. Lintels are usually made up of two pieces of 2" lumber separated with spacers to the depth of the studs and nailed together to form a single unit. Solid members of the same width as the studs may also be used. The depth of a lintel is determined by the width of the opening and vertical loads supported.

There are two general types of wall framing: "platform construction" and "balloon-frame construction", but because of its simplicity, platform construction is by far the most popular and recent building techniques have

developed almost entirely around the platform method.

Platform Construction

The chief advantage of platform construction is that the floor system, assembled independently from the walls, provides a platform or working surface upon which the walls and partitions may be assembled and erected. Since the studs are one storey in height, walls can easily be prefabricated off the site or assembled on the subfloor in sections and erected one storey at a time. The bottom and top plates which are an integral part of the wall framing provide fire stops at the floor and ceiling and also nailing support for wall sheathing and interior finish. This eliminates the need for cutting and fitting short pieces between each stud and joist as required in balloon-frame construction. However, where studs are more than 10 feet long additional firestops should be included in the wall.

The method of framing wall sections horizontally on the subfloor prior to erection is widely used. The top and bottom plates are end-nailed with two nails to each stud. Studs are doubled at openings, the inner stud being cut to receive the lintels which are placed and end-nailed through the outer studs. The wall sections are then raised and put in place, temporary braces are added and the bottom plates nailed through the subfloor to the floor framing members. Wall sheathing is usually applied to the framing prior to erection thus eliminating the need to scaffold.

Once the assembled sections are plumbed, they are nailed together at the corners and intersections. A second top plate, with joints located at least

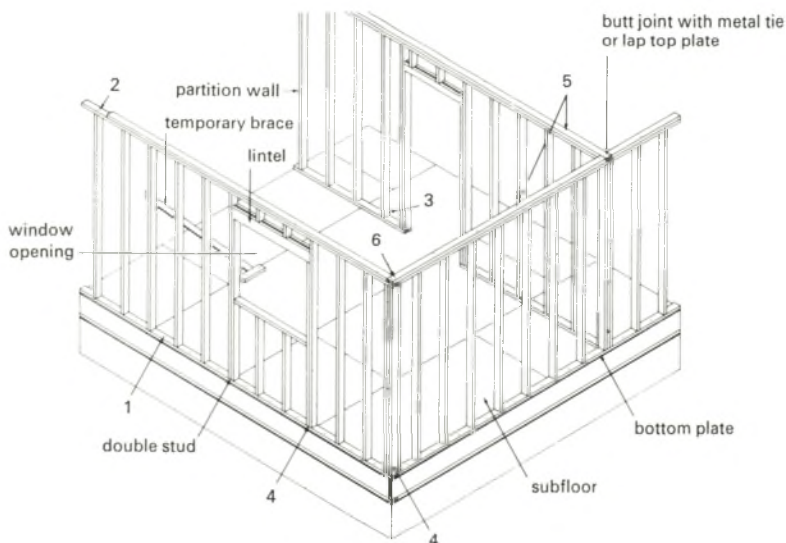
one stud space away from the joints in the plate beneath, is added. This second top plate usually laps the first plate at the corners and partition intersections and, when nailed in place, provides an additional tie to the framed walls. Where the second top plate does not lap the plate immediately underneath at corners and partition intersections, they may be tied with 20-gauge galvanized steel plates at least 3 inches wide and 6 inches long.

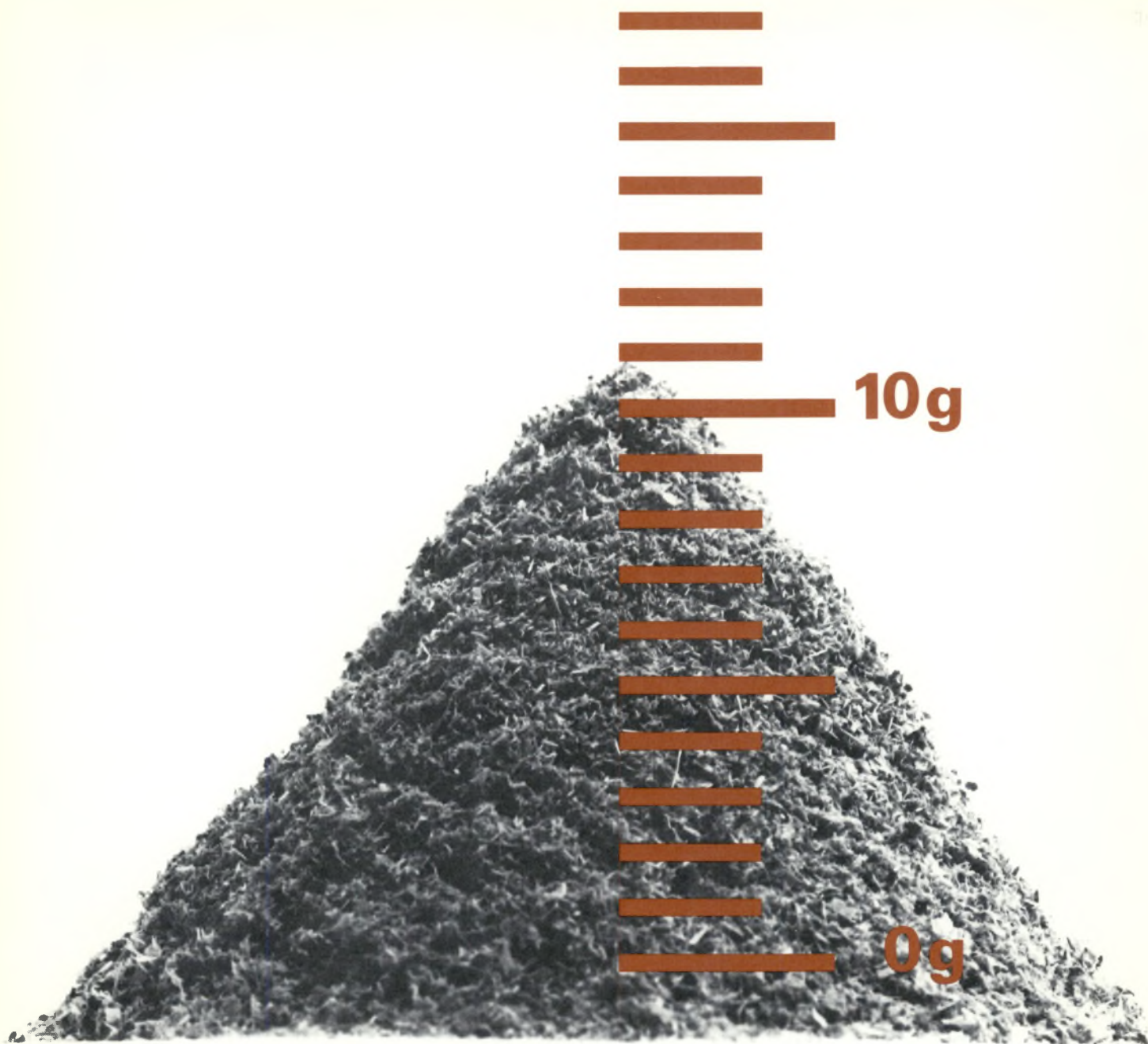
Interior partitions supporting floor, ceiling or roof loads are called "load-bearing partitions", others are called "non-load-bearing".

Load-bearing partitions are framed in the same way as exterior walls. Studs are usually 2" x 4" lumber spaced at 16 inches on center. This spacing may be changed to 12" or 24" depending on the loads supported and the type and thickness of the wall finish used.

Non-load-bearing partitions can be built with 2" x 3" or 2" x 4" studs spaced at 16" or 24" on center depending on the type and thickness of the wall finish used. Where a partition does not contain a swinging door, 2" x 4" studs at 16" on center are sometimes used with the wide face of the stud parallel to the wall. This is usually done only for partitions enclosing clothes closets or cupboards, to save space. Since there is no vertical load to be supported by non-bearing partitions, single studs may be used at the door openings. The top of the opening may be bridged with a single piece of 2" lumber the same width as the studs. These members provide a nailing support for wall finish, door frames and trim. A single top plate may be used with non-load-bearing partitions. □

Wall framing used with platform construction. (1) Bottom plate nailed to joist or header joist with 3/4" nails 16" on center; (2) top plate end-nailed to stud with two 3/4" nails; (3) stud toenailed to bottom plate with two 2 1/2" nails on each side, or end-nailed with two 3/4" nails; (4) doubled studs at openings and multiple studs at corners and intersections nailed with 3/4" nails 30" on center; (5) top plates nailed together with 3/4" nails 24" on center; (6) top plates at corners and load-bearing partitions are lapped and nailed together with two 3/4" nails or the plates are butted together and tied with a metal plate fastened to the top plates with three 2 1/2" nails on each side of the joint.





**Recherches en cours
au Laboratoire
des produits forestiers
de l'Est**

Essais de résistance et rationalisation de la conception des fermes

On se sert de fermes de bois dans la plupart des nouvelles habitations canadiennes à hauteur restreinte. Elles comportent plusieurs avantages qui ont contribué à en répandre l'usage: préfabrication, réduction de la main-d'oeuvre sur le chantier, moindre volume de bois et liberté de conception. Elles n'ont pas toujours été aussi efficaces et d'aussi bonne qualité qu'aujourd'hui et on peut affirmer qu'elles seront de qualité supérieure demain grâce aux efforts conjugués du Truss Plate Institute of Canada (l'Institut des goussets de ferme du Canada) et du Laboratoire des produits forestiers de l'Est qui s'emploient à en améliorer la composition.

Il y a plus de dix ans, la Société centrale d'hypothèques et de logement reconnaissait l'avantage d'adopter le mode de construction des toits avec fermes. Qu'on se rappelle ici que leur emploi élimine l'usage des cloisons d'appui, ce qui permet de diviser l'espace intérieur à volonté. La conception d'un assemblage aussi simple en apparence qu'une ferme de bois est pourtant complexe. Les ingénieurs ont donc été forcés d'avancer certaines hypothèses de travail avant même de procéder aux expériences proprement dites. Ces hypothèses ont été amplement discutées et ont donné

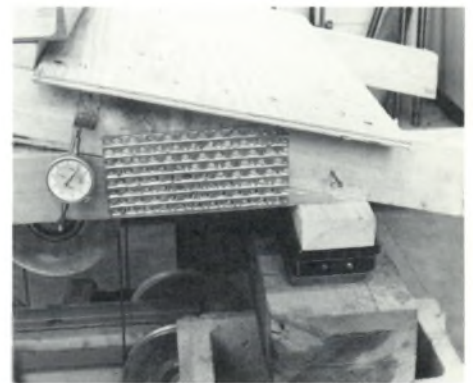
lieu à de nombreuses divergences d'opinion de la part "des autorités compétentes" chargées d'en faire l'étude. Le seul moyen dont on disposait à l'époque pour expérimenter divers modèles était l'essai de charge. Aujourd'hui, c'est une pratique encore courante mais ce n'est plus la seule. Le Truss Plate Institute of Canada a créé une méthode de conception applicable à l'ensemble de l'industrie des fermes et qui tient compte d'une vaste gamme de portées et de charges. Il est pratiquement impossible de mettre à l'essai tous les modèles répondant à des multitudes de situations. L'an dernier, le Laboratoire des produits forestiers de l'Est a effectué une série d'essais de charge dans le but de vérifier certaines hypothèses relatives à cette méthode de calcul, ce qui a entraîné des modifications dans les procédés de construction. Les tables de calcul des plans déjà éprouvés ont été insérées dans l'édition de 1975 du Code national du bâtiment. Ce fut là un grand pas de fait pour la rationalisation et la standardisation des devis s'appliquant aux cas les plus courants.

Les devis sont habituellement préparés par les fabricants de goussets métalliques. Ces manufacturiers, au nombre de dix, s'occupent de vendre leurs plans sous licence aux quelque 400 fabricants de fermes du pays. La valeur estimative des fermes expédiées, au cours de 1974, a dépassé \$100 millions.

Presque tous les fabricants de goussets ont inscrit leurs devis sur ordinateur en raison du nombre élevé des données de chaque modèle. Leur but ultime est de transposer sur calculateur électronique tous les procédés d'élaboration des concepts et d'en arriver à des calculs sûrs qui n'exigeront pas de re-

courir à l'essai de charge. Pour parvenir à ce résultat, il faudra plus de renseignements sur les qualités fonctionnelles des goussets.

Le T.P.I.C. vient tout juste de terminer un programme d'essai dont le but était de recueillir des données sur la résistance des goussets de modèle courant fabriqués par ses manufacturiers. Cette information servira de premier jalon à une étude approfondie sur la façon dont la ferme se comporte par rapport à chaque partie du gousset. Elle devrait normalement nous procurer suffisamment de renseignements sur plusieurs types de goussets pour que nous en venions à élaborer des programmes pour ordi-



Suites de fermes préfabriquées sur lesquelles sera posé le toit.

Détail de l'appui lors d'un essai de charge. A noter le gousset métallique de forme rectangulaire.

Photographies: le Laboratoire des produits forestiers de l'Est.

nateurs absolument sûrs. Cela pourrait même conduire à la création d'un nouveau produit: les fermes de bois avec goussets métalliques pour les bâtiments commerciaux et les bâtiments de ferme à longue portée.

Il existe un cas, de plus en plus fréquent d'ailleurs, où les fermes sont construites en porte-à-faux et où le toit fait saillie au-dessus d'une entrée. En l'occurrence, la plupart des devis stipulent que la ferme doit s'appuyer aux deux extrémités. C'est une hypothèse "timide" qui oblige à faire usage de décharges et de contrefiches dont l'effet est de reporter la charge au mur porteur. Maintenant que l'on construit de plus en plus de fermes en porte-à-faux, il est devenu important d'en raffiner la conception tout en ayant soin de voir à ce qu'elles demeurent économiques et sûres. L'industrie canadienne des fermes a proposé que soit entreprise une étude portant sur les moyens de les améliorer. Comme les résultats de cette recherche profiteront non seulement aux manufacturiers de goussets mais également à toute l'industrie de la construction et aux usagers en général, le T.P.I.C. a demandé au Laboratoire des produits forestiers de l'Est d'en assurer le financement. Une telle étude a été approuvée et sera entreprise sous peu.

Les fermes de bois ont été conçues à l'origine pour simplifier la construction de la charpente en ayant recours à la pré-fabrication. Après deux décennies de recherche et de perfectionnement elles sont devenues un produit fiable et extrêmement utile. On peut prévoir qu'elles le deviendront davantage, grâce aux programmes conjoints et à la collaboration de l'industrie privée et du gouvernement fédéral.

D.M. Onysko

Caractéristiques fonctionnelles des planchers

Des scientifiques se consacrent à l'heure actuelle à l'étude des qualités fonctionnelles des planchers que l'on trouve dans nos habitations. Dans le cadre de leur recherche, ils ont interrogé les utilisateurs. En associant leurs observations aux données estimatives que l'on possède déjà sur les propriétés physiques des planchers de bois, ils espèrent ainsi en arriver à de nouveaux concepts.

Observations courantes

Un plancher produit nécessairement certains effets sur son utilisateur. Mettons de côté l'influence indiscutable de la couleur et du matériau et limitons-nous aux effets causés par le choc des pas d'une ou plusieurs personnes se déplaçant sur sa surface. A la suite de ce choc, il arrive, la plupart du temps, que

le mouvement imprimé au plancher attire l'attention de l'utilisateur et ce, de plusieurs manières. Celui-ci notera, par exemple, que le vaissellier ou les autres pièces du mobilier bougent, de même que les objets qui s'y trouvent, que le plancher remue, que les meubles se déplacent dans un mouvement d'oscillation. En d'autres cas, il peut s'agir des glaces et du sol qui changent de reflet, lorsque ce n'est pas le plancher qui craque ou les pas des occupants, ailleurs dans l'immeuble, qui résonnent jusqu'à lui. Nous venons de résumer les observations les plus courantes. Quelles solutions y apporter ?

La transmission de sons dans les immeubles d'appartements ou de logements multiples constitue un véritable problème. En général, il n'est pas possible de la réduire en accroissant la rigidité des planchers. On préfère plutôt diminuer le bruit à la source, en se servant de moquettes, de thibaudes, de molletons ou autres étoffes amortissantes. Lorsqu'il s'agit d'un bâtiment occupé par une seule famille, elle ne constitue pas, à nos yeux, un problème grave, puisqu'il est prouvé que l'on supporte assez bien le bruit que font les membres de la maison mais que l'on tolère mal celui des voisins.

On ne peut empêcher non plus les planchers de craquer en accroissant leur rigidité. Ce phénomène tient principalement aux procédés de construction, à la qualité de la main-d'oeuvre et au choix des matériaux.

Quant aux autres observations, elles ont trait aux propriétés statiques et dynamiques des planchers et sont liées à leur conception. Ces caractéristiques sont fonction de la composition même du plancher.

Les méthodes traditionnelles produisaient d'excellents résultats quant à la rigidité et les sols répondaient, sous ce rapport, aux exigences de qualité des utilisateurs. Mais à mesure que le coût des matériaux a augmenté, les constructeurs ont eu tendance à s'en tenir aux normes minimales prescrites pour l'emploi des lambourdes et à utiliser celles-ci à leur portée maximum. La main-d'oeuvre renchéérissant, on en est venu à remplacer fréquemment les revêtements de lattes par des panneaux préfabriqués. Il en est résulté une diminution de la qualité fonctionnelle des planchers de la nouvelle construction.

Il serait bon de souligner ici que la norme minimale s'appliquant à la construction ne correspond pas nécessairement au "niveau de satisfaction" minimal prescrit. Cela indique clairement que les critères de "performance" ne tiennent pas compte des propriétés de certains matériaux non plus que de certains modes de construction.

Qu'est-il fait pour satisfaire aux exigences des utilisateurs?

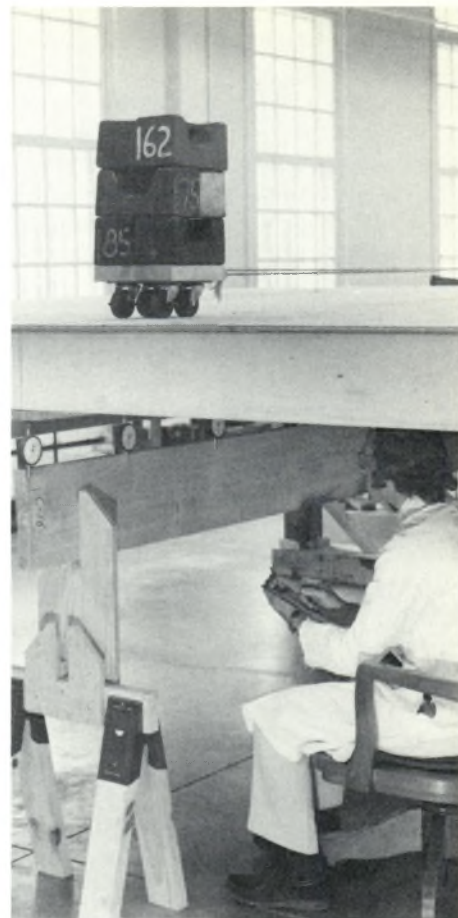
Dans le but de mieux cerner la question et de trouver une réponse aux besoins le plus souvent exprimés par le public, le Laboratoire des produits forestiers de l'Est (LPFE), l'un des services du ministère de l'Environnement, s'est appliqué, au cours de nombreuses études, à définir les facteurs qui puissent accroître le degré de satisfaction des utilisateurs. Ces recherches s'effectuent sous la direction d'un comité composé de représentants des organismes suivants: la Société centrale d'hypothèques et de logement (SCHL), la Division de la recherche sur le bâtiment du Conseil national de recherches (DRB/CNR), le

Conseil canadien du bois (CCB), l'Association canadienne de l'habitation et du développement urbain (ACHDU) et le Conseil de l'Industrie forestière de la Colombie-Britannique (COIFC).

L'étude la plus récente sur ce sujet à eu lieu à Hamilton, en Ontario. Elle a porté sur des maisons choisies au hasard et dont la construction était postérieure à 1965. Trois-cent-cinquante personnes ont été interrogées; l'on a pu examiner les sols de 184 maisons, et établir une description complète de leurs principales caractéristiques pour fins d'analyses statiques et dynamiques. Les inspecteurs du bureau de la SCHL à Hamilton se sont joints, à l'occasion de ce sondage, aux techniciens du LPFE. Une équipe spéciale de ce laboratoire s'est ajoutée aux chercheurs réguliers. Elle a procédé à l'essai de 40 planchers dans 22 maisons, ce qui a permis de vérifier la justesse des données du programme de l'ordinateur, moyen auquel on a désormais recours dans ce genre d'étude.

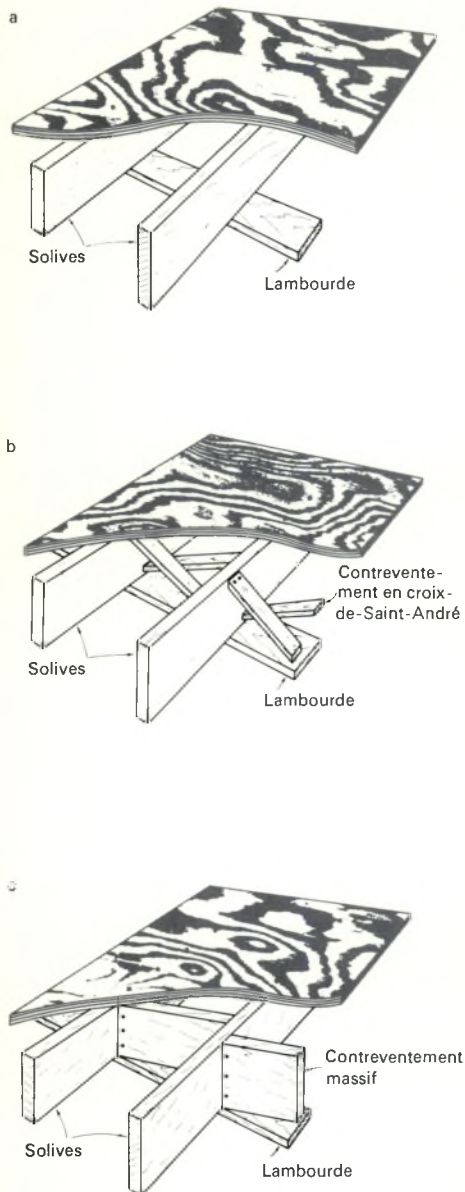
Par exemple, l'une des analyses a consisté à mesurer le fléchissement vertical maximum des planchers sous l'effet d'une charge de 100 kg. Par des essais au choc, on a tiré les données relatives à leur "performance" dynamique. Quant à l'observation du mouvement vibratoire, elle a permis d'obtenir les caractéristiques de fréquence naturelle et d'amortissement.

La corrélation qui existe entre l'opinion des intéressés et les variables de "performance" a permis de définir des facteurs techniques se rapprochant davantage des qualités exigées. C'est ainsi que l'on a constaté que les observations recueillies lors des interviews se rapportaient en particulier à l'action sur



Essais sur maquette à l'échelle grandeur. Photo du haut: épreuve dont le but est de déterminer le fléchissement du plancher sous l'action d'un poids concentré. Photo du bas: essai de vibration.

Photographies: le Laboratoire des produits forestiers de l'Est



Trois types de contreventement, par ordre d'efficacité:
a) avec lambourdes simples; b) en croix-de-Saint-André
avec lambourdes c) massif en biais avec lambourdes.

les planchers de concentrations de poids. Comme nos calculs sont fondés au contraire sur la répartition uniforme d'une charge sur toute la surface, on peut difficilement créer de bons planchers de bois à partir des plans actuels.

On projette, en ce moment, d'effectuer une enquête encore plus poussée, ce qui permettra de fixer des normes de "performance" de nature à donner satisfaction à la clientèle canadienne, dans la mesure, bien entendu, où ces normes seront respectées. Cette recherche sera financée conjointement par le LPFE et la SCHL.

Comment rehausser les niveaux de "performance"?

Les travaux de recherche exécutés au LPFE et comportant des essais sur maquette à l'échelle grandeur, visaient à découvrir de quelle façon divers procédés de construction pouvaient modifier les qualités fonctionnelles des planchers. Il fut démontré sur ordinateur que l'on pouvait rehausser les niveaux de qualité de manière sensible en augmentant l'épaisseur du contreplaqué que l'on pose en sous-plancher. L'analyse par ordinateur jointe aux essais sur place a permis aussi de conclure à l'excellence de l'emploi traditionnel sous le sous-plancher, de planches d'un pouce nominal. En ajoutant au sous-plancher, un deuxième sous-plancher en contre-plaqué ou en bois reconstitué, on obtient ample satisfaction.

Sous ce rapport également, le procédé de construction du plafond qui consiste à clouer les lisses à la partie inférieure des solives, avant de poser les panneaux de gypse, contribue à élever la qualité du sol. L'usage de contreventement en croix de Saint-

André a disparu à la suite du renchérissement des travaux d'installation. Pourtant ce procédé contribuait à affermir considérablement les planchers. L'emploi de contreventement massif constitue également un excellent moyen d'en améliorer la qualité. La Société centrale d'hypothèques et de logement reconnaît aujourd'hui l'excellence du contreventement et le prescrit avec l'emploi de lambourdes utilisées à leur portée maximum.

Lorsqu'il est possible d'atteindre le dessous du plancher, n'importe quel propriétaire pourra, avec un peu d'habileté, effectuer lui-même la plupart de ces travaux. On trouvera dans le rapport numéro OP-X-051 du LPFE des renseignements sur les effets de certains procédés de contreventement.

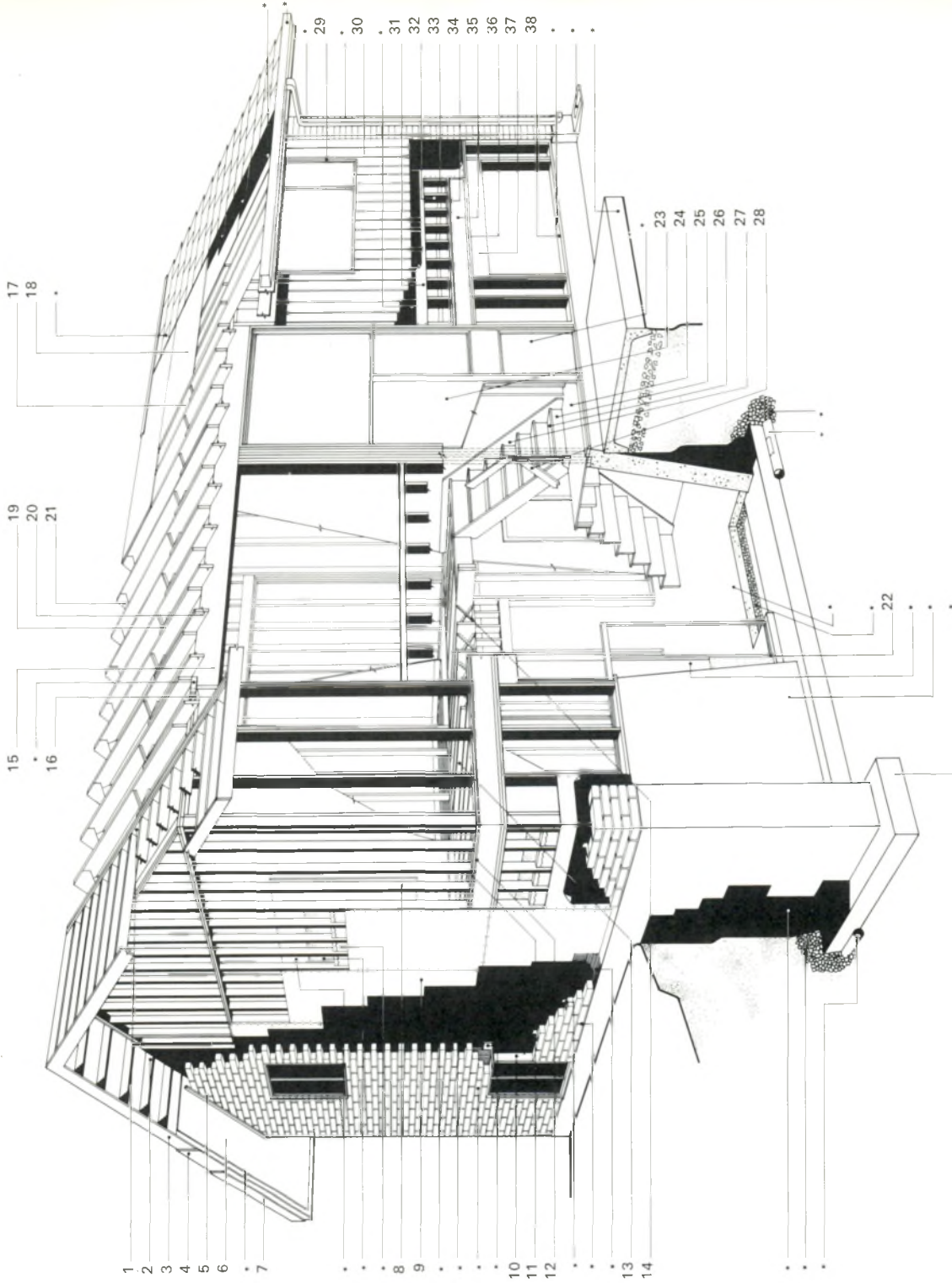
Conclusions

Il ressort des études en cours entreprises par le LPFE que ce sont les occupants des maisons construites au cours des prochaines années qui en seront les principaux bénéficiaires. On peut s'attendre toutefois à ce que les normes actuelles soient rehaussées pour certains types d'habitations. Les résultats de notre recherche comporteront également des indications précises sur les procédés susceptibles de conduire aux meilleurs résultats.

En améliorant la qualité fonctionnelle des planchers, on touchera à la fois constructeurs et utilisateurs. Les motifs de plaintes se feront moins nombreux du fait que l'on aura satisfait aux exigences de la clientèle. Il n'est pas dit que ces perfectionnements se traduiront nécessairement par une augmentation du coût de la construction. □

You can get copies of this drawing by writing to Habitat
or your local CMHC office; quote NHA 5011, please.

Pour obtenir ce plan en coupe numéroté NHA 5011 et
intitulé: "Détails de construction de maison", on est prié
de s'adresser à l'un des bureaux de la Société centrale
d'hypothèques et de logement ou à la revue Habitat.



Where Wood is Used

1. Double Rafter
2. Lookouts
3. Rough Fascia
4. Fascia Board
5. Moulding
6. Soffit
7. Trim
8. Stud Framing
9. Sheathing
10. Window Frame
11. Sole Plate
12. Sub-Floor
13. Joists
14. Bridging
15. Lintel
16. Double Plate
17. Rafters
18. Sheathing
19. Bridging
20. Outriggers
21. Gussets
22. Strapping
23. Entrance Door
24. Entrance Landing
25. Riser
26. Tread
27. Stringer
28. Handrail
29. Window Frame
30. Siding
31. Sheathing
32. Stud Frame
33. Sole Plate
34. Sub-Floor
35. Header
36. Double Plate
37. Lintel
38. Sill Plate

Éléments de bois

1. Chevron jumelé
2. Prolongements
3. Bordure brute
4. Bordure de toit
5. Moulure
6. Sous-face
7. Boiserie
8. Charpente à montants
9. Revêtement intermédiaire
10. Cadre de fenêtre
11. Sablière basse
12. Sous-plancher
13. Solives
14. Entretoises
15. Linteau
16. Sablières jumelées
17. Revêtement du toit
18. Chevrons
19. Entretoise
20. Prolongement de chevrons
21. Goussets
22. Fourrure
23. Porte d'entrée
24. Pailier d'entrée
25. Contremarche
26. Marche
27. Limon
28. Main-courante
29. Cadre de fenêtre
30. Parement
31. Revêtement
32. Charpente à montants
33. Lisse
34. Sous-plancher
35. Chevêtre
36. Sablières jumelées
37. Linteau
38. Sablière basse

*Éléments autres
que le bois

*Non-Wood
Components

Habitat's "Open House" Habitat à coeur ouvert



by Don Ostaff

The Deadly Decoy:

**A new way
to control termites – Poison
the wood**

Termites have been the homeowner's bane ever since the first wood house was built. Their hidden workings often go undetected until the damage is considerable and their elimination becomes a monumental task.

Termites have always been a major problem in equatorial regions. More recently, however, the activity of the subterranean species has intensified in the temperate regions of Canada.

The northeastern subterranean species, *Reticulitermes flavipes* (Kollar)

is found in Eastern Canada in several areas of southwestern Ontario including Metropolitan Toronto, Windsor, Amherstburg, Oxley, Point Pelee and as far north as Kincardine. In Western Canada, *R. hesperus* (Banks) occurs throughout Southern B.C., including Vancouver Island, particularly in the interior dry belt from Kamloops south.

Termites attack all wood and cellulose products. In the United States millions of dollars are lost annually as a direct result of termite damage. In Canada no accurate estimate can be made because of the large amount of damage and repairs not reported. Metropolitan Toronto, however, incurs an estimated loss of \$250,000 annually due to termite activity and cost of control.

Termite Colony

Termites are social insects living together in a colony composed of a variety of adult forms – workers, soldiers, reproductives – each performing specific duties for the maintenance of the colony. Workers, small, grayish-white, soft-bodied insects $\frac{1}{4}$ in. long, are responsible for finding and gathering food to supply nutriment to non-foraging forms (soldiers, reproductives, young nymphs). Soldiers, similar to workers but having enlarged heads and dark brown jaws, defend the colony.

The Favourable Conditions

Subterranean termites become numerous in moist, warm soil containing an abundant supply of food in the form of wood or other cellulose material. Ideal conditions occur beneath buildings with poorly ventilated crawl spaces, properties with buried scraps of lumber,

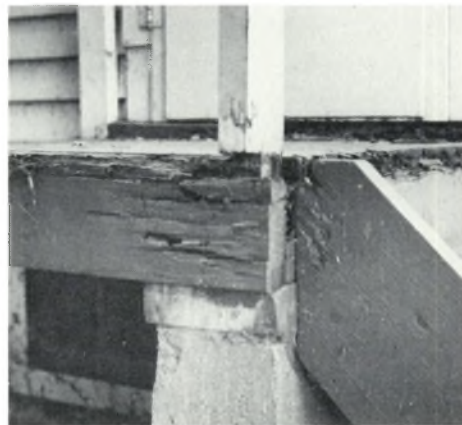
form boards, grade stakes, etc., and where wood touches the ground (porches, steps, terraces).

Worker termites destroy the wood by riddling it with galleries whose walls are spotted with dark masses of excrement and soil. They also construct flattened, earthen shelter tubes over the surface of foundation walls to reach suitable moist wood.

Termites in Toronto

A major problem exists in Toronto with the subterranean termite, *R. flavipes*. From the initial infestation site at the waterfront area of Cherry Street in 1938, termites have spread westerly to Etobicoke Township and easterly to Scarborough – a distance greater than 25 miles (40 km).

Dissemination of infested wood during a period of major construction and lack of building site protection by soil poisoning, or improper building design resulted in the spread and intensification of infestations. Initial small localized pockets of infestations grew and merged until now some of the pockets cover over 10 sq. miles. Losses



Badly damaged wooden porch as result of termite infestation.

due to termite activity in structural woodwork and the costs of termite control are substantial.

Control of termites in buildings

Conventional remedial treatments against termites involve the application of soil insecticides. The chemical (usually dieldrin 0.5–1%) is pressure injected 1.2 m (4 ft) into the ground every 0.5 m (18 in) around a building to form a continuous poisoned-soil barrier.

Chemical is also applied to the foundation and wall voids through holes drilled at 0.3 m (1 ft) to 0.5 m (18 in) intervals through concrete floors, wooden subfloors, and hollow cinder block walls. An average treatment would require about 1400 liters (300 gal. containing 7.0 kg active ingredient) of insecticide.

The Irresistible Wood

Experiments are being conducted on a promising, inexpensive and easy-to-use bait system for attracting and killing termites. The key to this new treatment is a small wood block that has been infected with a brown rot fungus. This



Subterranean termites have attacked this piece of buried wood causing extensive damage to it.

bait, attractive to termites, is sterilized to kill the active fungus and then impregnated with a small amount of Mirex, a slow acting poison which must be eaten by the termites to cause death.

Bait blocks are buried one to two inches in the ground at 5 foot spacings near the foundation of the building. Supplementary installations occur near where termites are causing damage or entering a building. The bait treatment uses less than 1/1000 of the insecticide used in conventional soil barrier treatments.

The action of the bait is on the worker termites who supply food for the colony. The workers locate and feed upon the bait and die, upsetting the delicate worker/non-worker ratio. The remaining workers are unable to maintain the vital functions of the colony resulting in major mortality from starvation, growth of unfavourable micro-

organisms (fungi and bacteria) and eventual destruction of the colony.

Results show that the termite bait seems to suppress the foraging activity of termites within a few days or at most a few weeks, apparently due to death of certain key workers. The time required to achieve final colony death is related to size of the colony, and the number of workers in the colony. A large colony may take one or more years of repeated minor bait contact before it succumbs.

The effectiveness of the decayed wood as a termite attractant was first recognized by a US Forest Service entomologist at Forest Products Laboratory, Madison, Wisconsin. Collaboration with the Eastern Forest Products Laboratory, Ottawa on the development of a termite control usage for the attractant resulted in the first practical demonstra-

tion of bait blocks in Southern Ontario. Further demonstration of the effectiveness of the bait method occurred in Mississippi where termites are abundant.

Presently experiments to determine the effectiveness of the bait are being conducted in Toronto, Kincardine, Midway Islands (one island covering 350 acres treated with baits) with other large-scale treatments in the U.S. and Canada being initiated or planned.

Future of termite control

Efforts are being made to register this use of Mirex with the Environmental Protection Agency in the U.S. Once this hurdle is overcome, and the baits are test marketed, full-scale production may begin. The bait method of termite suppression offers an inexpensive, environmentally sound, effective alternative to conventional soil poisoning.

How to spot them

The termite's superficial resemblance to the ant makes it difficult to positively identify a termite infestation. There are, however, several telltale signs of termite activity.

To reach the wood above the foundation, the worker termites will build earthen tubes or runways from their nests in the ground to the wood above the foundation. The presence of these tubes or runways over the surfaces of foundation walls is an indication that a termite colony may be near and causing serious damage to wood above the foundation.

The tubes range in colour from dark grey to light brown and are clearly visible. They are roundish in form and may be as large as one-quarter inch wide. The presence of an active termite

colony can be detected by breaking the tubes; termites should be clearly present.

Another method of detecting termites is to inspect the wood itself with an ice pick or knife. Termites make galleries that follow the grain of sound wood to conceal their activities. Since the galleries seldom show on the wood surfaces, probing with an ice pick or knife will indicate the extent of termite activity.

If termites appear, you know that there is an active colony. If, however, the wood is riddled with earthen tubes, and no termites appear, you know that the colony has used all the available moisture and cellulose and has already moved to another, more suitable area. If this is the case, the infestation is serious.

Experiments to date by Canadian

scientists have indicated that there is little or no evidence of termite swarming in Canadian climates.

In warmer areas such as the U.S., one telltale sign of termite infestation is the swarming of flying ants early in the spring and fall. At these times, male and female termites swarm from established colonies to create new nests. As winged termites only fly for short distances from the established colony before shedding their wings, the appearance of flying ants and their discarded wings is an indication that a termite colony may be near and causing serious damage.

If termite swarming does occur in Canada, it will most likely happen under the unusual circumstances when a suitably warm and moist climate is created indoors.



Worker and soldier termites – magnified photograph.
(All photos: Eastern Forest Products Laboratory)

The Plentiful Tree

From Syrup to Shingles — a Cornucopia of Uses

Wood is used in the world all around us. We eat it, wear it, clean with it, listen to it, and see through it. It insulates us, wraps things up for us, protects us and houses us. This seemingly endless variety of wood products from sausage casing to shatterproof glass can be explained by looking at the structure and properties of wood.

Structure

Soft and Hard Facts

Woods are known as either 'softwoods' or 'hardwoods.' These terms do not necessarily have anything to do with the hardness or softness of the wood, but

rather describe a general class of tree.¹ In fact, some softwoods like the Douglas fir are actually harder than hardwoods like basswood.

Softwood trees are coniferous (or cone-bearing) and include the trees which retain their needle-like leaves, such as the white pine, the red cedar and most trees which are commonly called evergreen.

On the other hand, hardwood trees such as maple and birch trees, have broad leaves which they shed in the fall, and so are termed deciduous trees. There are more than one hundred hardwood species in Canada.

By contrast, we have only about thirty species of softwoods. But although there are many more species of hardwoods found in the country, most of Canada's forested lands are in fact softwood forests. Its abundance plus its adaptability make softwood the most frequently used wood for commercial lumber and wood products.

The Inner Facts

A tree develops from the center outwards. A cross section of a tree trunk shows that it contains a series of concentric rings. Each ring — called an annual ring — represents one year's growth. The outer ring is known as the outer bark. Then comes the inner bark, followed by a layer called the cambium. A tree actually grows by adding new cells to the cambium. The cambium cells are long, thin and bound together into fibrous bundles by a substance called lignin. These fibre bundles carry food from the roots to the branches and leaves.

Running perpendicular to the rings are cell groupings called rays. These store food and also carry it from the

¹ One educated guess has it that the terms came over with British and European settlers who used to make some sort of distinction between the characteristics of certain woods in their countries. This became blurred in time, remaining in the language only as a family classification.



inner bark to the cambium layer. In oak and sycamore trees rays are quite pronounced and contribute to the decorative nature of the wood.

As each annual ring is added, the older cells in the inner layers become inactive and cease to transport sap. This older wood, called heartwood, is usually darker in colour, drier and harder than the active area surrounding it called the sapwood.

The annual rings of many trees are, themselves, divided into inner and outer areas – inner springwood and outer summerwood. As a result of rapid spring growth, the cells of the springwood, or early wood layer, have large cavities and thin walls. Summerwood is added later in the year when the rate of growth has slowed. Heavier, harder and stronger than springwood, summerwood cells have thick walls and small cavities.

One measure of wood density, therefore, is the amount of summerwood in the annual ring. Because of its greater density, the percentage of summerwood is sometimes used to judge the quality or strength of wood – the denser the wood, the greater the strength.

The Strength of Wood

The strength of any one piece or type of wood, however, depends upon many factors other than the proportion of summerwood in its rings. The amount of wood substance, the rate and conditions of growth and the number and kind of timber defects such as knots and cross or spiral grain are but a few of the determining factors.

In general terms, wood increases in strength as it dries, because of the stiffening of the cell walls and an increase in compactness of the wood. This in-

crease, however, does not begin until the fibre saturation point is reached, that is, when the free water in the cell cavities has been evaporated and the cell walls are still saturated.

Drying does not always increase the strength of wood. The ability of wood to absorb shocks or bend sometimes decreases. Dried wood, for instance, will not bend like green wood.

Wood is much stronger when the grain is parallel to the stress point than when it is perpendicular. Standing trees naturally take advantage of this property to resist external forces such as wind.

When crushing loads are applied parallel to the grain, each tiny fibre acts as an individual hollow column receiving and giving lateral support to neighbouring fibres. In compression perpendicular to the grain, fibres from unloaded areas assist those directly loaded.

An interesting characteristic of wood is that when compressed its strength increases and reaches its maximum when the wood substances are fully compressed to about 1/3 of their original volume.

Properties

The cellular structure of wood, its sapwood and heartwood, and the springwood and summerwood of its rings all play a part in wood's interaction with the elements around it and thus its application to a wide variety of industrial and residential uses.

Wood and Temperature

Compared to most structural materials, wood does not conduct heat readily. Millions of tiny air pockets within the cellular structure of wood act as a natural barrier to both heat and cold. Since

wood's capacity to transfer heat increases with density, a lightweight wood like eastern white cedar is a better insulator than a dense wood like the Douglas fir.

The strength of wood is little affected by temperature. When used in normal construction applications, wood strength is considered to be the same, from the Arctic to the Equator. At extremely low temperatures (-148.9°C), strength values for bending and compression, and for resistance to shock, are only slightly higher than for values at normal temperatures. Wood subjected to very high temperatures can be weakened but allowable working stresses for lumber are safe for wood exposed to continual temperatures of up to 51.7°C .

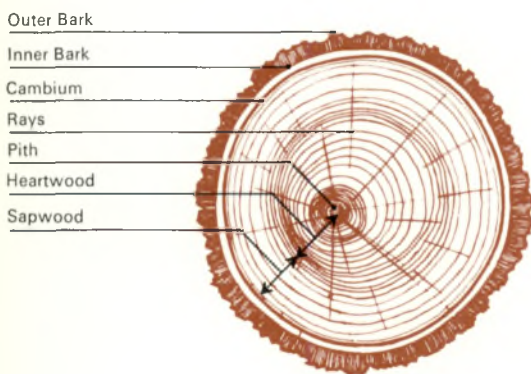
Wood and Fire

Although untreated wood will indeed burn, as we all know, fire safety in wood structures can be provided for by taking advantage of the self-insulating qualities of wood and by employing good structural design.

For instance while the surface of a heavy wood timber may become charred, undamaged wood below the surface retains its original strength. However, this surface burning characteristic can itself be reduced by impregnating the wood with fire retardant chemicals – such as water-soluble salts – by means of pressure. By the pressure method, chemicals or solutions are forced into the wood cells until all surfaces have been deeply penetrated.

Wood and Chemicals

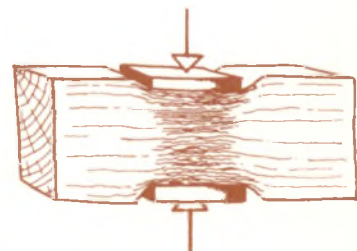
The heartwood of softwoods like cypress, southern yellow pine and Douglas



Cross Tree Section

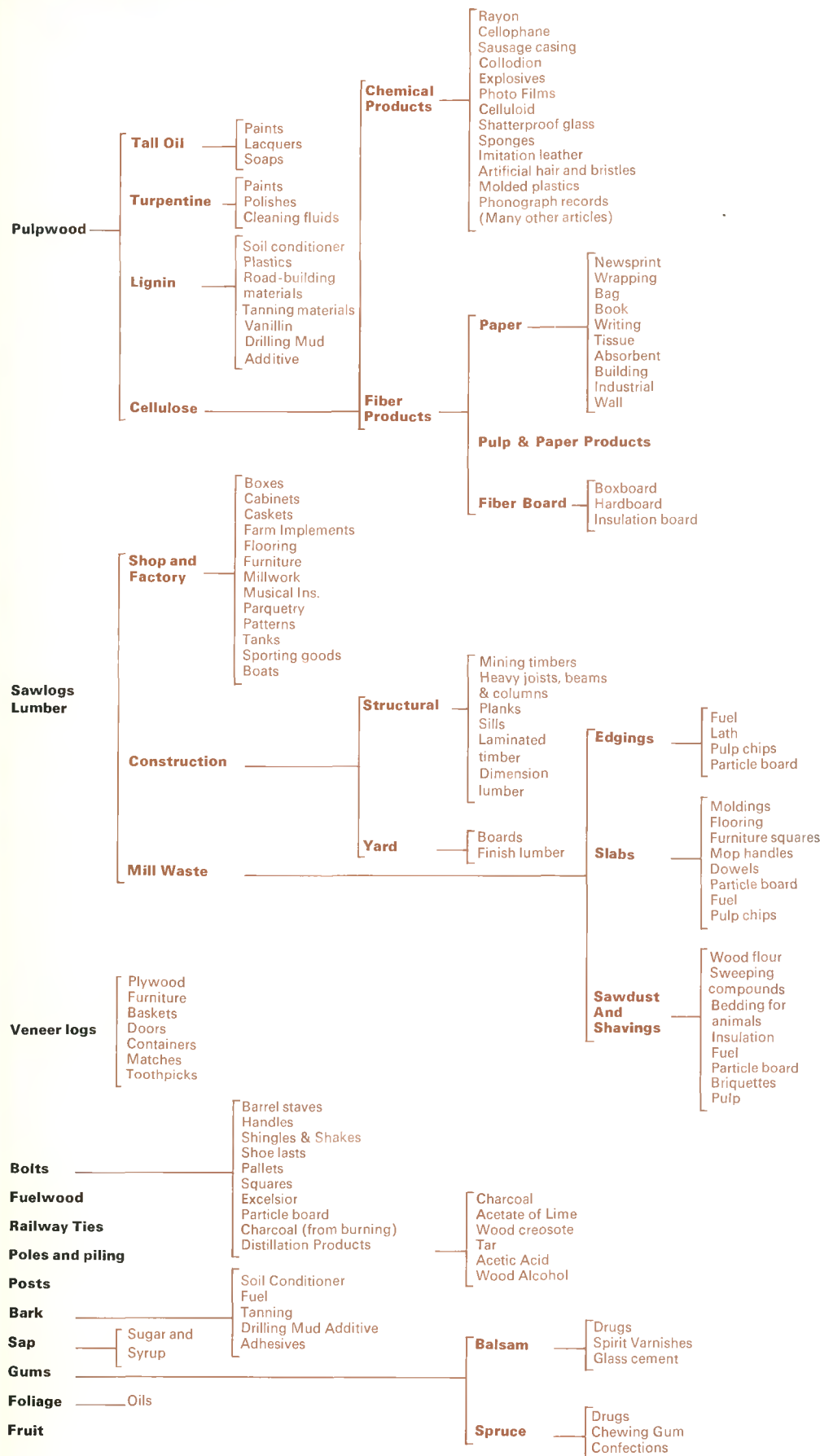


Compression Perpendicular to Grain



Compression Parallel to Grain

These Products come from Canada's Trees



fir are particularly resistant to concentrations of chemicals and are widely used as structural materials in the chemical industry. They are used in piping, vats and tanks where metals such as cast iron and steel cannot be used. Wood is resistant to hot and cold solutions of acids or neutral salts, dilute acids and industrial stack gases, although it is not resistant to alkalis.

Wood and Electricity

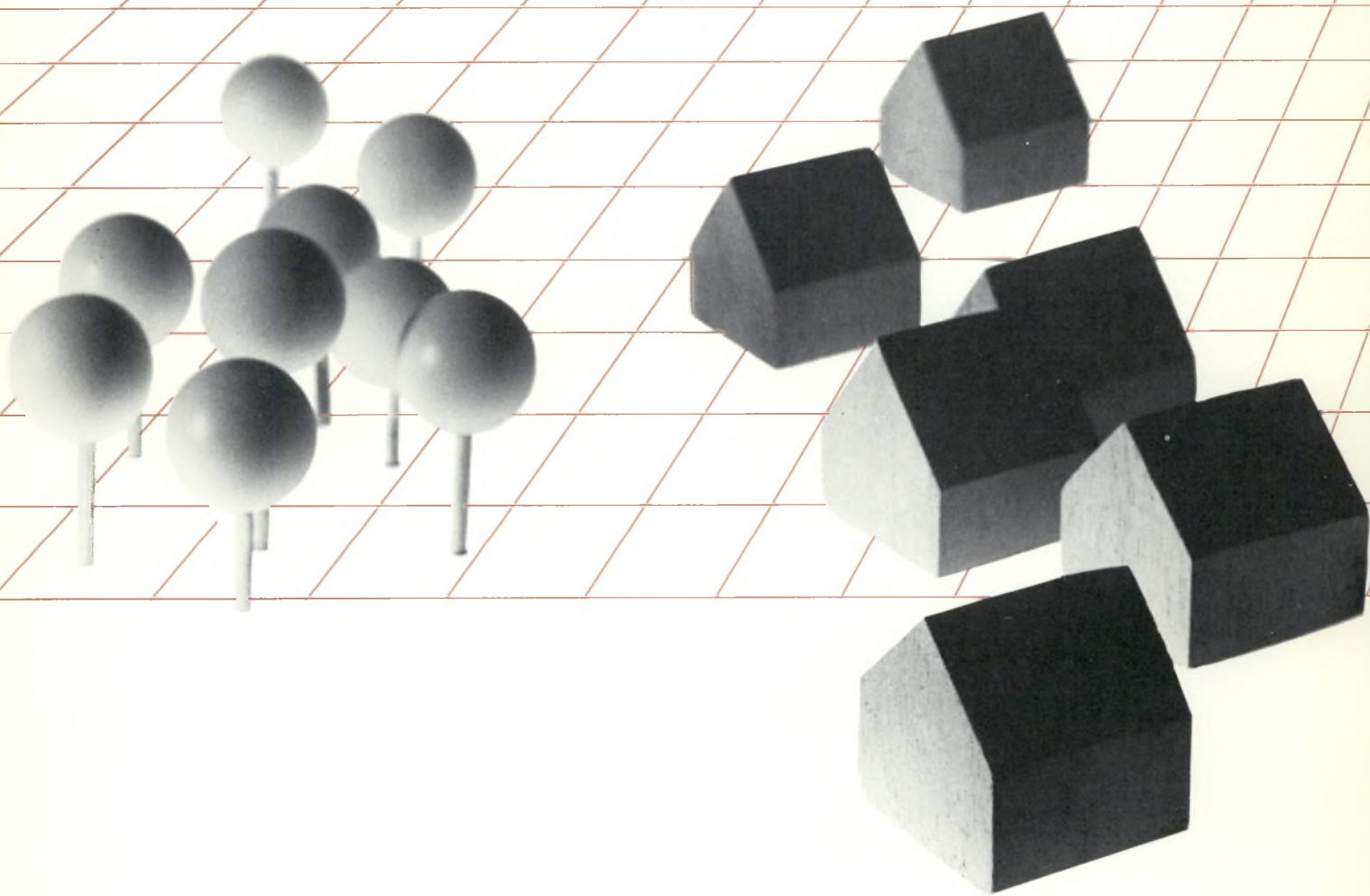
Moisture plays an important role in the interaction between wood and electrical current. While moist wood will conduct electrical current, dry wood – especially low density dry wood – is a poor conductor of electricity. For this reason woods, such as cedars, are used for poles and crossarms for high-voltage electrical powerlines and wood handles for linemen's tools.

Wood and Sound

An important acoustical property of wood is its ability to damp vibrations. Its cellular network of minute interlocking pores converts sound energy into heat energy by resistance within these pores and by vibration of their small fibres. Because of this high internal friction, wood has more damping capacity than most structural materials. This damping reduces the tendency of structures to transmit vibrations long distances; it also reduces the magnitude of resonant vibrations. This property is put to use as panelling in concert halls and auditoriums.

Whether it's syrup or shingles, newsprint or soap, the products and uses of the tree are plentiful indeed. □

Background material: courtesy Canadian Wood Council



Le remembrement parcellaire de la pointe sud-ouest de Sainte-Foy

par Josée Véronneau et Didier Poirier

Pour répondre aux besoins causés par la croissance démographique de la municipalité de Sainte-Foy, celle-ci décidait, il y a quelques années, de lever l'interdiction de développement qui protégeait depuis quinze ans un territoire de 700 acres situé à l'extrémité sud du promontoire de Québec.

Plus précisément situé à la pointe sud-ouest de la ville de Sainte-Foy, le territoire en question est caractérisé par une situation géographique privilégiée. Bordée par la vallée du cap Rouge et le fleuve Saint-Laurent, la pointe est recouverte en majeure partie d'un bois à l'état sauvage.

En termes de population, la ville de Sainte-Foy a connu, depuis quinze ans, un taux d'accroissement particulièrement élevé; de 1961 à 1966, on a constaté une augmentation de 822%. En 1971, le territoire aménagé avait atteint le seuil de saturation. La pointe demeurait la seule réserve foncière pouvant être effectuée à l'habitation.

Sainte-Foy a constitué, au cours des dernières années, le pôle d'attraction de plusieurs fonctions régionales. L'enseignement y est représenté par l'Université Laval et le projet de création d'une école régionale, au coeur même de la pointe sud-ouest. L'équipement hôtelier s'y est développé considérablement. En outre, il était prévu que des projets comprenant l'aménagement d'une base de plein air et la création du centre administratif et de loisirs allaient nécessairement entraîner l'accroissement de la population locale.

En se basant sur le profil de Sainte-Foy en 1971, on pouvait déjà tracer le portrait-robot de la future population. Ces prévisions étaient, de plus, étroitement liées au plan de décentralisation de l'administration gouvernementale et de l'industrie installées dans la ville de Québec, au profit de Sainte-Foy, et au projet d'établissement dans celle-ci d'un complexe scientifique et d'un centre de recherche industrielle. Ces facteurs laissaient entrevoir l'installation à Sainte-Foy de jeunes administrateurs, de professeurs et de techniciens, jouissant d'un revenu assez élevé.

Bref, autant d'indices qui devaient servir à établir les objectifs prioritaires et l'orientation du nouveau programme résidentiel, l'essentiel étant évidemment de prévoir des habitations à forte densité pouvant accueillir 30,000 à 35,000 personnes, ce qu'il était difficile d'insérer dans le tissu urbain existant. Il s'ensuivait la nécessité de concevoir des types d'habitations diversifiés, susceptibles de satisfaire les goûts et les besoins des différentes catégories sociales des futurs locataires.

Quant à la question des espaces verts, il importait d'en sauvegarder le

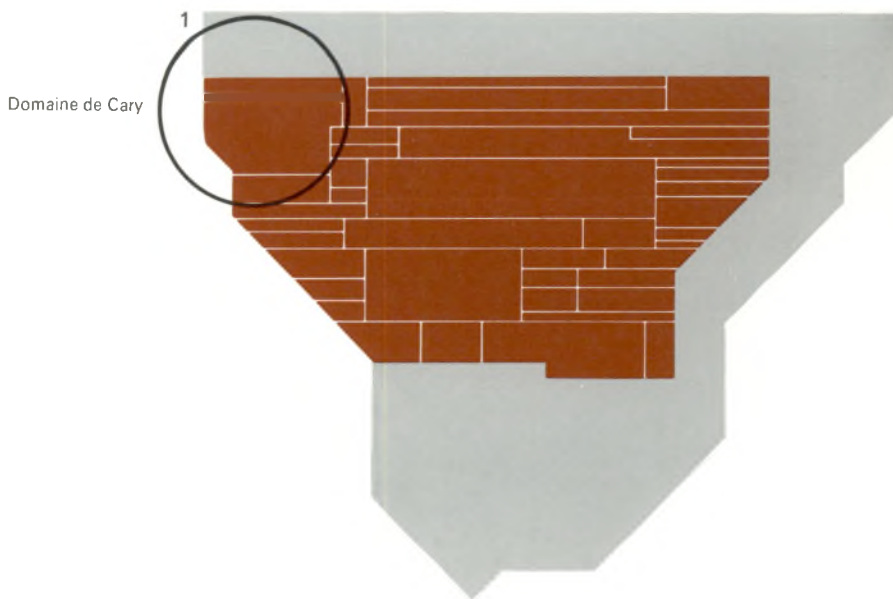
plus possible, étant donné que le territoire de la municipalité en était assez dépourvu. De plus, la densité de population prévue exigeait la présence d'équipements scolaires adéquats, d'un centre communautaire et de services commerciaux complets.

À la lumière de ces projections, il se dégageait une constatation majeure: la pointe sud-ouest devait être considérée comme un tout pour permettre de l'aménager en une opération globale, cette solution étant la seule capable de répondre aux exigences multiples des usagers, et de respecter ce site exceptionnel. D'autant plus que le peu de territoire disponible commandait une utilisation optimale de l'espace.

Seulement, la municipalité se butait ici à un problème d'envergure: le territoire de 700 acres était morcelé entre cinquante grands propriétaires fonciers, la municipalité possédant cependant 25% de l'ensemble.

Les propriétés, de forme rectangulaire, étroites et longues, présentent, spécialement lorsqu'on projette un ensemble d'habitations à forte densité, un obstacle majeur à la planification urbaine, notamment si l'on tente de bouleverser un tant soit peu l'organisation traditionnelle du cadastre. L'utilisation de la seule réglementation de zonage reste insatisfaisante si l'on entrevoit un développement équilibré et conforme à un plan d'urbanisme. En outre, les nouvelles formes d'urbanisation ne font plus de la parcelle isolée une unité d'aménagement valable.

Malgré la volonté toujours manifeste de la municipalité de Sainte-Foy de prévenir un développement incontrôlé, les moyens dont elle disposait la laissaient impuissante à imposer à ces



cinquante propriétaires un plan d'ensemble homogène.

La seule issue consistait à les associer à une politique originale de développement visant à remplacer les limites de leurs propriétés par de nouvelles limites. C'est-à-dire qu'on remettrait au propriétaire une parcelle du territoire aménagé égale à la superficie de son ancienne propriété, moins un certain pourcentage que la ville se réservait pour la création du réseau routier et des espaces verts.

Ce processus de remembrement parcellaire ouvrait des possibilités inexplorées jusqu'à maintenant. En plus d'aplanir les difficultés qui résultent toujours de l'obligation d'appliquer la technique traditionnelle du zonage et de la mise en oeuvre, soulignons l'intérêt que présente une collaboration étroite de la municipalité, des propriétaires fonciers et des spécialistes de l'aménagement.

La participation des propriétaires était possible dans la mesure où l'on pouvait leur faire une proposition en plan qui les justifierait d'y oeuvrer activement. La réussite de cette démarche prouverait enfin que les préoccupations privées et publiques peuvent se rejoindre sur des objectifs précis.

En vue d'inciter les propriétaires à accepter le principe de remembrement parcellaire, l'administration et les urbanistes leur présentaient, pour approbation, le plan d'ensemble illustré ici, préparé par la firme La Haye et Ouellet.

Le critère qui inspira ce plan d'aménagement fut le souci d'assurer à une population de grande densité un univers environnant à la fois fonctionnel et humain. Les objectifs ne s'exprimaient pas seulement en termes quantitatifs:

loger 30,000 personnes, mais surtout en termes qualitatifs, leur fournir un cadre de vie qui leur convienne, soit un ensemble résidentiel avec des espaces boisés et des équipements à l'échelon modulaire et à l'échelle du quartier.

Le plan d'ensemble prévoit trois collectivités (BCD) de 10,000 habitants chacune, gravitant autour d'un centre multifonctionnel (A) qui comprend des écoles régionales, un centre communautaire en plus d'un boisé conservé à l'état naturel. Les collectivités A et B sont constituées d'habitations à forte et moyenne densités – faible dans certains cas – d'un parc et de commerces de détail. Le territoire réuni de la collectivité D et du centre multifonctionnel A comporte des équipements de bureaux, un centre commercial et des habitations de forte densité.

Les trois collectivités se subdivisent elles-mêmes en un ensemble d'unités modulaires regroupant des maternelles, des garderies et des piscines. Chaque aire ou unité modulaire est reliée au centre par un réseau de passages piétonniers empruntant les espaces verts et séparé de la circulation véhiculaire.

La subdivision de la pointe sud-ouest en aires d'aménagement n'est pas le fruit de l'arbitraire. Outre qu'elle favorise un climat propice à la vie de quartier, elle permet de doter chaque zone de caractéristiques communes: un nombre limité de propriétaires disposant de superficies assez importantes pour être intéressés à s'unir et à en assurer le développement en commun, des secteurs de dimensions acceptables favorisant la réalisation d'ensembles résidentiels équilibrés et rentables et pouvant accueillir un nombre suffisamment élevé d'habitations, et l'implanta-

tion d'un réseau de circulation intérieure.

Le processus de remembrement a ceci de particulier qu'il bouleverse tout le concept traditionnel de la propriété foncière. En substance, on réussit, au moyen d'ententes de gré à gré avec les propriétaires, à effectuer l'annulation des limites existantes de chaque terrain et leur remplacement par un nouveau périmètre délimitant la forme nouvelle de la propriété. (Voir schémas 1 et 3.) L'approche du processus de remembrement s'explique en trois phases.

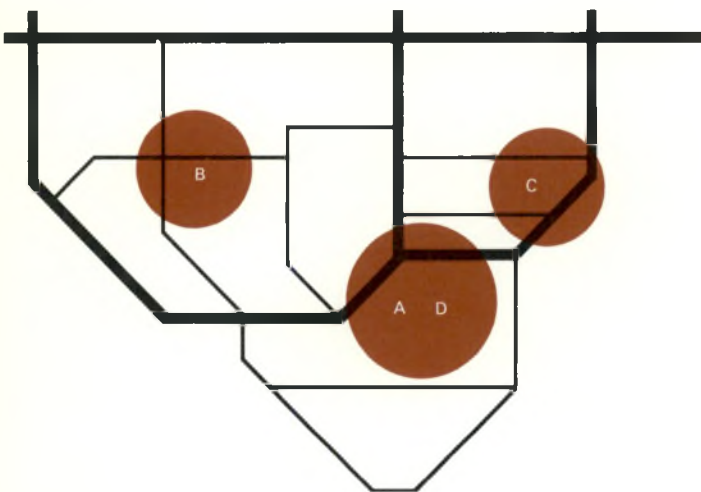
Le schéma 1 illustre la subdivision originale du territoire en 50 propriétés, morcelant la pointe sud-ouest en autant de bandes de terrains.

Le schéma 2 représente le plan d'aménagement proposé. On remarquera que le tracé des rues sert à délimiter les aires, et ce pour faciliter l'opération de remembrement. Cette division permet de réunir les propriétaires en des groupes bien définis et les incite à participer à un développement en commun.

Au schéma 3, on peut constater l'effet du remembrement dans une section définie du territoire, le Domaine de Cary. L'opération s'est effectuée de la façon suivante: on procéda au calcul de la superficie de chaque propriété de laquelle on déduisit le pourcentage nécessaire à l'aménagement des rues et des espaces verts, cette opération permettant de récupérer du terrain net. Une fois les superficies individuelles nettes obtenues, on effectua le remaniement, en limitant au maximum la dislocation des propriétés.

Dans un prochain article nous procéderons à l'analyse détaillée du processus de remembrement parcellaire d'une des aires de la pointe sud-ouest. □

2



3



Domaine de Cary

BOOKS

City Magazine,
published by Charlottetown
Group Publishing Inc., eight
issues yearly, \$7.00 per year.

The often complex, sometimes byzantine, arena of Canadian municipal politics is the subject matter of a new magazine appropriately called City Magazine.

Published by an editorial board of planners, politicians, civil servants and others, City Magazine attempts to cover urban politics on a nationwide basis with regular reports from such cities as Halifax, Montreal, Ottawa, Toronto, Kitchener, Winnipeg, Saskatoon and Vancouver on the most current and contentious city hall issues.

The subject matter of its articles are varied, but the viewpoint is consistent – consistently anti-development and consistently pro what has come to be called reform politics. To its credit, City Magazine never attempts to disguise this bias.

City Magazine clearly sees itself as a forum for the exchange of information and experience for reform-oriented action groups. For example, the issue under review (Volume 1, No. 4, May-June 1975) contains an article on a cost-benefit analysis of new high-rise development in Halifax during the 1973 year.

The purpose of the analysis was to challenge the old, rather simplistic assumption that new developments such as high-rise apartments and large commercial developments bring increased tax revenue and thus are profitable for both the host municipality and the individual taxpayer. By comparing city revenues with expenditures, the authors concluded that instead of increasing the revenue, the new building developments in Halifax had actually cost the average Halifax taxpayer a total of \$7.00 in 1973.

The analysis, like the assumption it attempts to refute, is simplistic – based only on one year's figures and only on money, and thus incapable of measuring non-monetary factors such as quality of housing, quality of working conditions and positive or negative effects on health status. However, the story details the source of the figures and how they were calculated so that the analysis can be duplicated by other groups in other cities and thus used as supporting evidence for a stand against high-rise development.

This how-to or casebook approach was also apparent in the previous issue which carried a step-by-step chronicle of the successful municipal election campaign of a Toronto reform alderman.

City Magazine has a number of article series which are both unique and informative. Its "City's Best Books" series (a supplement to its regular book review section) reviews and re-evaluates how recognized writings about urban Canada have "passed the test of time," while its "Great Canadian Architects and Planners" series focuses on the men and ideas that have shaped the Canadian urban environment. To date, Arthur Erickson (architect of Simon Fraser University) and Bill Thomson (now Chief Planner for

the Waterloo regional government which includes Kitchener, Waterloo and Cambridge) have been the subjects of the series.

Perhaps City Magazine will expand the series to include the great Canadian developers who for better or worse with their money and imagination have engraved their character on our personal and collective habitats.

City Magazine is inexpensively assembled with a straightforward functional layout which lends itself to attractive photograph displays such as the May-June article on Ralph Greenhill's photographs of Ontario architecture. And, mercifully, it has avoided the often pedantic style and content of the scholarly urban affairs journals.

Despite the great northland myth (promoted by the tourist bureaux) of wide open spaces and countless lakes, Canada is an urban nation with a growing population competing for diminishing land and resources. The issues of how much development, by whom and where are critical to Canada's future, and a tough-minded, animated current events periodical like City Magazine certainly deserves a place in the discussion.

Let's hope that City Magazine will survive the economic pressures that have forced so many other Canadian magazines into writing their own epitaphs and passing away into journalistic history.

Anne Gilmore

BOOKS

The Urban Ecosystem: A Holistic Approach

Edited by Forrest W. Stearns & Tom Montag, Dowden, Hutchinson & Ross, Inc., 1974, 217 pp.

In 1973 the Urban Ecosystem Project of the Institute of Ecology (USA) held a national workshop at the University of Texas, Austin, involving over 90 professional participants representing the various disciplines in the natural and social sciences.

The assumption behind the workshop was that we may gain a better understanding of urban areas if we view the city as a "system" and part of the larger regional, national and international "ecosystem." This view emphasises the fundamental biological nature of man, as a "social and cultural organism," interacting with the complex urban system.

The workshop aimed at exposing and clarifying those principles which underlie urban system function, by a comprehensive and integrated study of all possible factors (economic, political, biological, ecological, geological, agricultural, sociological, aesthetic and architectural). This volume, one of the Community Development Series "of professional reference books on matters affecting and improving the built environment at all scales of human habitation," edited by Richard P. Dober, represents the report of that workshop.

The book is divided into two parts. Part I is intended to introduce the reader quickly and easily to the idea of an urban ecosystem and to the major recommendations and general orientation of the full document. Part II is the report itself. Four sections reflect the four major study areas of the workshop. These are Goals: values and jurisdictions, Components: population, physical structure and resources, Processes: interventions, indicators and models, and Case Studies. Two of the six case studies involve Canadian material, related to Halifax, Nova Scotia, and Waterloo, Ontario.

Each of these four sections is organised in the same way: full description and analysis, followed by a summary of the same, and finally the workshop recommendations for policy, research and action.

The report is obviously directed towards those who are professionally involved in urban affairs, such as administrators, planners and researchers. It would appear to be an excellent source book to inform and guide these professionals in their choice of priorities and policies.

The information, analyses and recommendations are detailed and specific and easily accessible due to the expert organisation of the report and its comprehensive index. Data, systems and models are schematically represented by

sketches, graphs and tables.

Although some basic knowledge of systems analysis is assumed in the discussion of processes, technical language elsewhere is explained carefully and used cautiously. In addition, each section has its own bibliography indicating the extent of research in that particular area. The names of all the participants and their role in the workshop are listed in Part I and there is a further list of institutional affiliations at the end of Part II.

The same qualities would recommend this volume as an introductory textbook for urban studies in colleges and universities.

The report is easy to read and its general recommendations are welcome. It speaks out against increased resource use and economic activity, and in favour of "decentralisation" of authority and action in urban affairs. It calls for increased community awareness, responsibility and involvement and the establishment of communication and information links between groups, cities, regions and nations.

If these recommendations and others were taken seriously by urban planners, the quality of city life could be improved. I hope, therefore, that this report goes beyond the desks of academics and into the offices of those who hold administrative and executive power over our cities.

Geraldine Proops

Montreal at the Crossroads

by Donna Gabeline, Dane Lanken and Gordon Pope

Harvest House; 1975, 220 pp. \$3.95 paper.

If you ask your friends whether they have seen or read this book, they usually reply: "Yes, of course." "Interesting, but a little hard on so-and-so. Just a journalistic work."

So it is, a work of reportage written by journalists. But is this book only 'man bit dog' stuff or is it saying more?

Judging by the protests registered and described in this work, something must be disturbing the good citizens of Montreal. Could it be the rising cost-of-living in relation to de-evaluated income; or the lack of it; or is it the increasing crime rate; or the excessive pace of life with its erratic variations; or feelings of insecurity and panic as customary and time-honoured living niches are demolished? All of these causes and others unlisted are probably behind the furor.

This book, however, concentrates primarily on qualitative effects due to changes in the pattern of the city because of "development." More often than not, these physical changes result from the impact of large projects rather than by the cumulative effect of many small undertakings.

Some projects take the form of monotonous blocks containing minimal cells for human occupancy at fancy prices. Others, which have been glorified as "infrastructures" are enormous engineering works, such as elevated or depressed expressways cutting through the built-up fabric of the city. Still others take unto themselves the character of "the confidence trick," a kind of pretended beauty treatment. An implicit example of the con — in the Montreal manner — is to affix the word "Place" in front of another evocative term to name not a true public-square but a multi-storey private development.

Many of the protests reported in this work are statements against the present and future plans to make Montreal a metropolitan colossus. This mighty future construct employing for its organiza-

tion and fabrication the largest sums of money as well as very capable (if somewhat unidirectional) brains has already revealed its compulsive form. Obviously, not everyone in Montreal is entirely pleased with what they have seen of this emergent colossus, and many voices are advocating at least partial changes. And important financiers, developers and people in high places in municipal, provincial and federal government are being called to order by implication.

Unfortunately, the numerous protests to defeat this colossus are confusing and perhaps self-defeating. For example, environmental advocates seem to have trouble in unravelling the tangle of material and spiritual values. To quote from a Montreal Gazette editorial in the present text:

"It is a crisis of civic will, of whether citizens are going to participate in the growth of their city or let it go by default. Only by deformation is it a confrontation between developer and conservationist, for the ordinary citizen remains in favor of healthy growth. But it could develop into a confrontation if the land speculators, builders and the business and industrial constituency they serve continue to bulldoze their way through all values but material values—values like neighbourliness, privacy, tranquillity, pleasing surroundings, aesthetic attraction, variety, individuality and enjoyment of land, air and water in their natural state."

Of the values listed above one can only say that it would be wiser if the last were placed first as land, air and water are fundamental. Environmental life sup-

porting systems of sufficient variety and complexity must be preserved and extended, and all environmental systems should follow and not subvert the ecological laws of nature. The above statements are not the private opinions of this reviewer but can be found in standard texts and serious popular expositions of biology, ecology and public health.

Human values must fit nature's values at many points and human values should be judged in the light of a possible psychosomatic balance. If some consensus of opinion could be established on this ground and definite claims stated, then some of the more subtle aspects of the environmental question would follow more naturally and easily.

Let us check two of the basic environmental issues in Montreal—air and water pollution. We have read in *Environment and Good Sense*, by M. J. Dunbar that "Levels of both carbon monoxide and sulphur dioxide in Montreal are frequently at or close to the 'permissible' concentrations, roughly 30 ppm of CO and 0.10 ppm of SO₂ and in fact according to Dr Donald Chant of the University of Toronto, Montreal is one of the top ten dirtiest cities, in terms of air pollution, on the continent . . . The City of Montreal has recently (early in 1970) brought in legislation to deal with this situation."

From the same source we read about water pollution in and about Montreal. "The pouring of untreated sewage into the fresh waters in the general region of Montreal is a scandal; to quote Mr. Boyce Richardson (1969): 'In Montreal, in dealing with our sanitary wastes, we have moved one step forward since the Middle Ages when sewage ran raw through the streets. We have moved underground. Otherwise, we have achieved nothing at all. The 2,000,000 people in the Greater Montreal area pour an estimated 500,000,000 gallons of sewage into the surrounding

water every day. Of this a derisory four per cent is given any treatment.' "

Our argument lies herein: if we were to go systematically through some acceptable hierarchical checklist representing major modes of qualitative and quantitative environmental rating, then the findings would often be not merely unsatisfactory but shocking.

One possible confusion is the false notion of a battle between material and non-material values. Value, or even valuation in terms of monetary price, when not tempered with, is not a materialistic index but merely an expression of a demand originating from human needs and desires which in its turn must be related to a fluctuating supply. Any human system that did not give many of the answers in terms of cost and price would be softly sentimental and practically of little use. Strong doubt can be expressed whether our present system is giving anything like a true dollar and cent answer.

Let us suppose that a cost-benefit analysis program, subject to public control and approval did actually control an environmental development project. A benefit-cost analysis would put priorities where they should be, and criteria could then be introduced.

Only after passing through a critical process could fairly realistic and true environmental development projects be assessed. Namely, those projects in which costs can be met and satisfactory benefits accrue.

As can be seen, economy is one facet of ecology.

An advocacy that refers to definite things and relations that are truly beneficial would be more satisfactory than an advocacy that causes confusion and tension and merely ends up in providing more loopholes for self-seeking and secret political maneuvering. This is almost equivalent to saying that a more sober advocacy might through its own actions achieve some of its ends.

These ecological and economic aspects of the environment issue are topics of great complexity. Although one can understand the frustration and impatience of individuals or groups whose lives either have been or will be seriously affected by problems resulting from rapid man-made environmental change, there is a great need for a unified and articulated approach through the major arms of government to the overall problem of the effect of human action on the environment.

One important arena for action is control of the environment through legislative action. The passing of a single by-law could in principle do more for an environmental cause than the continuation of a free-for-all situation.

"Montreal at the Crossroads" is not intended to be a detailed treatise on the complex area of environmental control; nevertheless should you wish to learn more about the tangle, confusion and "noise" of the environmental battle in Montreal at the present time, then read "Montreal at the Crossroads."

Stuart Wilson

LU POUR VOUS

Plus qu'un gîte

Le Conseil canadien de développement social, Ottawa, 1973, 485 pages

Notre société axée sur la production et la consommation, répond-elle adéquatement aux besoins de ceux qui accèdent au "troisième âge", ceux-là même qui ont cessé d'être des éléments productifs au sens économique du terme? Qui plus est, et c'est là une des réflexions qui découlent de cette volumineuse enquête, la société n'offre peut-être pas toutes les possibilités d'agir à ceux qui sont encore aptes à produire mais que le système économique a statutairement éloignés, uniquement pour une raison d'âge.

En choisissant "Plus qu'un gîte" comme titre de son enquête, le conseil canadien de développement social illustre judicieusement l'esprit de sa critique et l'objectif à atteindre dans les ensembles d'habitations pour personnes âgées.

Fruit d'une longue analyse détaillée de la situation, ce document fait le point sur la qualité de vie, les services, la gestion et l'animation de ce type de logements érigés depuis 20 ans au Canada, particulièrement ceux qui relèvent des autorités publiques et parapubliques.

L'abondance de données statistiques peut, à première vue, rendre l'ouvrage difficile d'accès; mais les spécialistes des sciences sociales et humaines autant que le profane y trouvent leur compte et ce, plus spécifiquement dans les conclusions et les recommandations.

En termes d'urbanisme et d'aménagement du territoire, les observations et recommandations de l'étude sont singulièrement saisissantes. Ainsi, la satisfaction des utilisateurs est directement liée à l'accès aux équipements communautaires du milieu, à l'attrait que présente le voisinage et au caractère familier de l'endroit, c'est-à-dire en fonction de l'intégration de ces unités d'habitation, à leur environnement social et physique. L'absolue nécessité d'intégration prend d'autant plus de poids lorsque l'on constate que les deux tiers des résidents doivent

s'adapter à un nouveau voisinage et que le cinquième d'entre eux se fixent dans une nouvelle ville.

Dans l'aménagement et la localisation des résidences pour personnes âgées, le défi demeure de concilier d'une part, l'intimité nécessaire à la vie privée des résidents et leur participation à la gestion de leur lieu de résidence et d'autre part, l'intégration à la vie urbaine, à ses équipements communautaires et à ses activités.

Les personnes âgées ont été et continuent d'être des forces vives de la société; leur habitat doit refléter cette réalité.

Claude Lavoie

Dix ans de restaurations

Civitas Nostra, Fribourg, 1975
76 pages, nombreuses illustrations

Civitas Nostra est le nom de la Fédération internationale des quartiers anciens. Des associations de plusieurs pays y adhèrent. Préserver et mettre en valeur les centres historiques, avec le souci premier et constant de servir leurs habitants, constituent les buts et l'orientation des fédérées depuis leur regroupement, en 1964.

L'ouvrage dont il est ici question fait suite au congrès de 1974, à Lyon, où fut établi le bilan de dix ans de restaurations. Il réunit quelque vingt-cinq exemples de préservation choisis parmi les rapports des participants. Le dossier français y occupe la plus large place, reflétant en cela la représentation majoritaire des associations françaises au sein de la fédération. On y traite d'expériences qui ont eu lieu à Annecy, à Bourg, à Lyon, au Puy, à Chambéry, au Mans, à Lille pour ne nommer que celles-là.

Des rapports de Suisse, de Belgique et de Tunisie, de même que deux exposés de Yougoslavie et de Tchécoslovaquie font ressortir le caractère international de *Civitas Nostra*.

L'oeuvre est marquée au coin de la lucidité: les témoignages font état, non seulement des réussites, mais des difficultés et souvent des échecs qui jalonnent la route des opérations. Autre trait distinctif de ce livre: la très grande diversité des interventions. Autant de contextes, autant de cheminements. A l'exception de la Tchécoslovaquie qui planifie à l'échelle nationale ses restaurations, nous assistons à des initiatives locales qui ne manquent pas d'être souvent remarquables et innovatrices.

Au moment où Parcs Canada s'apprête à livrer aux habitants de la vieille capitale une parcelle reconstituée de l'ensemble historique de Québec, le Parc de l'Artillerie, rappelons tout le profit que l'on peut tirer de la lecture de "Dix ans de restaurations". On peut se procurer cet ouvrage en écrivant à Civitas Nostra, Stalden 14, Ch- 1700, Fribourg, Suisse.

Thérèse Aquin

Evolution de la maison traditionnelle dans la région de Québec

Georges Gauthier-Larouche, Les Presses de l'Université Laval, 1974, 320 pages, nombreuses illustrations

Le livre de Gauthier-Larouche, oeuvre qui se voulait à la base essentiellement ethnographique et axée sur la géographie et l'histoire culturelle québécoises, nous fait nécessairement évoquer Guy Dubreuil et ses études sur la culture et l'aménagement du territoire. La même préoccupation mais une différence fondamentale d'échelle.

Ce livre, d'une tenue indiscutable, ne peut s'adresser à un vaste public. Il apparaît même comme une chasse gardée par le vocabulaire employé et la structure des phrases. La langue en est châtiée mais inaudible au lecteur moyen. Il s'adresse surtout à des spécialistes et encore possédant une culture vaste et un français recherché.

BOOKS SEEN

The Environmental Impact Handbook,

by Robert W. Burchell and David Listokin, Center for Urban Policy Research, Rutgers University, 1975, 234 pp., \$8.95.

This is a guide to formulating and evaluating an Environmental Impact Statement (EIS) under the US National Environmental Policy Act of 1969. For those involved in either filing or reviewing such a statement, it will no doubt be an invaluable reference book.

The authors have attempted to standardize not only the form of the statement but also the terminology. The text deals with such basic questions as: who must file, what the EIS must contain and how it will be reviewed.

The book also contains an extensive listing of professional environmental organizations, a glossary of technical terms, a bibliography of published sources and a guide to the quantitative aspect of environmental evaluation.

Although it is directed specifically to the US experience, the glossary of terms as well as the general discussion of what should be considered and evaluated in an environmental assessment should be quite helpful to Canadian groups in the preparation of briefs to governmental committees and departments. A.G.

L'Image de la Cité
Kevin Lynch, Dunod, Paris
220 pages illustrées

S'ouvrant par une louangeuse préface de Luc Lacourcière, il est fort bien édité par les Presses de l'Université Laval et représente un travail scientifique consistant intelligemment illustré.

A signaler, le chapitre sur les modifications de la maison rurale sous l'influence des conditions physiques, celui consacré à la charpente de la maison de pierre et le chapitre traitant des caves, des glaciers et des laiteries. Ce dernier fait ressortir le *modus vivendi* de l'homme et de la nature s'exprimant par l'adaptation de l'architecture à l'hiver canadien, l'aspect répulsif de l'hiver contourné par l'utilisation positive du froid pour la conservation des aliments.

Le livre de Georges Gauthier-Larouche se ferme sur un lexique relativement complet des termes usités et une copieuse bibliographie. Il constitue un apport précieux à la perception ethnographique et architecturale d'une phase importante de la culture québécoise.

Ses effets se feront sentir dans le grand public dans la mesure où des ouvrages de vulgarisation traitant du même sujet lui rallieront un jour l'audience de nombreux initiés, à même de s'y repaître pleinement.

Georges Robert

L'Image de la cité est faite de nos impressions personnelles, des jugements portés par ceux qui nous entourent, de nos convictions intimes, de notre rang, de notre engagement social et politique, de notre formation culturelle, de nos aspirations humaines. Elle est ainsi pétrie de nos souvenirs heureux et malheureux, des rares instants privilégiés, si parcimonieusement concédés et miraculeusement tenus en dehors du temps, de notre communion en une idée partagée, du cadre où elle s'exprime.

C'est cette fabuleuse richesse que Kevin Lynch nous permet d'appréhender, non pas que nous ne la portions en nous mais il nous permet de l'extérioriser. Elle est éminemment riche et foisonnante, rutilante des mille feux du soleil couchant sur le découpage de ses silhouettes de béton: la ville. Et nous qui risquions de ne pas nous en apercevoir... ou trop tard.

Lynch s'attache à nous déchiffrer quelques villes américaines dont il a pu, déambulant nonchalamment, capter l'âme, déceler les faiblesses et auxquelles finalement, comme cela devait arriver, il s'est simplement attaché.

C'est sa méthode qu'il expose. Il s'agit de faire ressortir à partir d'éléments simples, rationalisés et hiérarchisés qui charpentent normalement l'image du milieu bâti, l'ordre extérieur selon lequel l'observateur perçoit visuellement et enregistre mentalement un milieu donné. Ce procédé a été conçu, à l'origine, pour être appliqué par les citoyens eux-mêmes. Il consiste à observer

notre milieu avec l'oeil scrutateur d'un entomologiste dont la curiosité sans cesse en éveil ne se rassasie pas des émotions subtiles reçues.

C'est à des villes plus belles, plus dignes, plus équilibrées, plus riches d'échanges multipliés que nous fait accéder l'Image de la Cité.

Il revenait à Kevin Lynch de conclure cette invitante leçon de civisme: "L'éducation et la transformation du milieu physique sont deux parties d'un processus continu. Bien qu'un tel processus puisse devenir stérile s'il n'est pas accompagné par un contrôle et un jugement croissants, l'embellissement, même maladroite, d'une ville peut, par lui-même, être un intensificateur de l'énergie et de la cohésion civiques." G.R.

Les villes nouvelles

Yves Brissy, Collection l'Administration nouvelle, Editions Berger-Levrault, Paris 1974, 250 pages

Heureux humains, bénis entre tous, que ceux qu'on destine aux villes nouvelles! Joie ineffable que celle de trotter le long d'interminables façades grises, d'être livrés au soleil plombant sur les grandes places dénudées, d'avoir à traverser de larges avenues balayées par les vents. Le soir tombé, quelle délectation d'être confinés à une cellule minimum dans une vaste boîte à loger où les vociférations du voisin de palier nous ravissent à notre lecture préférée!

Heureux humains dont on veut le bonheur coûte que coûte!

"Les villes nouvelles" d'Yves Brissy, est une concoction des diverses recettes utilisées en France pour l'établissement de nouveaux comptoirs de la vie heureuse qui nous frappent d'étonnement alors que ceux de la

Compagnie des Indes Orientales jalonnant les marches de l'Asie nous dépaysaient au moins en nous comblant d'épices rares.

Par sa formation juridique, Yves Brissy était tout indiqué pour nous livrer les secrets du lancement des opérations "villes nouvelles" mises en honneur par le Ve Plan français.

Inspirée des précédents britanniques, finlandais et suédois, la région parisienne a été le banc d'essai idéal pour ces vastes opérations immobilières.

Réduire les migrations journalières en rapprochant les lieux de travail des lieux de résidence est un souci louable certes. Mais quoique organisées et pensées, ces collectivités nouvelles sont rarement des modèles d'urbanisme. De toute manière, Yves Brissy ne s'attache guère à cet aspect de l'art de vivre. Il démonte avec précision, systématiquement, les mécanismes administratifs, catalyseurs de ces innovations urbaines. C'est le jeu complexe des nombreux intervenants qui nous est livré avec minutie et un grand luxe de détails. Mais Dieu que l'Etat prend une place dévorante dans tout ceci, que les collectivités locales pèsent peu dans les décisions, que la trop fameuse concertation est factice!

Il faut se faire à cette réalité, le pouvoir central est omnipotent, il décide de tout et les seuls accrocs aux décisions prises sont en général dus aux volontés de quelques promoteurs tout puissants et rarement au libre jeu du dialogue démocratiquement engagé.

Livre important, "Les villes nouvelles" nous dit comment elles se font mais nous situe aussi les inévitables limites en matière de pensée urbaine.

Inspecteurs des finances, énarques, préfets et ingénieurs des ponts et chaussées ne peuvent remplacer urbanistes, architectes paysagistes, écologistes et ethnologues. Le produit fini est tristement révélateur de cette erreur de dosage. Yves Brissy n'y est pour rien et son livre, estimable à bien des titres, possède celui de nous éveiller aux dangers d'un pouvoir centralisateur et à l'appétit dévorant de moloch-administration. G.R.



La maison Marcel Jobidon à Beauport.

VU POUR VOUS

Urba 2000

Office National du Film
Programme Société nouvelle
Réalisateur: Michel Régnier

Urba 2000 est un cours magistral d'urbanisme dispensé en dix leçons sur pellicule couleur. Michel Régnier qui en est le réalisateur donne suite ici à sa série Urbanose, série à laquelle on avait reproché notamment de n'avoir présenté que les côtés négatifs de l'urbanisation de Montréal et d'avoir omis de proposer des solutions.

Ce nouvel ensemble se compose des manifestations de l'urbanisme contemporain pouvant s'appliquer à notre situation propre. Parmi plus d'une centaine d'initiatives, Régnier a choisi celles qu'il croit devoir nous servir d'exemples. Rénovation, restauration, reconstitution, création y figurent tour à tour. Nos mégalofoles, les nôtres y compris, sont gravement malades. Nous en douterions que cette tournée des grandes villes suffirait à nous en convaincre. Cependant, on cherche à les traiter et Bologne, Düsseldorf ou Québec, Sapporo, Saskatoon et compagnie exhibent sur l'écran les belles cicatrices qui marquent le siège des grandes interventions, ou encore des plans sans bavure que l'avenir seul paraphera.

Les chirurgiens: urbanistes, architectes, maîtres d'oeuvre, sont là devant nous pour justifier le bien-fondé de leurs opérations. On leur a confié, la plupart du temps, de vieux coeurs défaillants qu'il a fallu ranimer et qui ont repris vie lorsqu'on les a redonnés aux piétons. C'est le cas de Bologne, de Düsseldorf, d'Amsterdam, de La Haye, de Bonn, de Cologne. La reconstitution de Varsovie est un cas unique. C'est l'offrande émue d'un peuple épris de son passé. Mais Urba 2000 nous montre aussi de jeunes villes qui, elles, se cherchent un coeur à leur mesure: Basingstoke et Runcorn en Angleterre et en France, Grenoble-La Villeneuve.

Montréal et New York, villes entre deux âges, absorbées par le souci de loger les petites gens et la rareté des habitations, ne semblent avoir cure des questions d'ordre esthétique qui hantent l'esprit de leurs élites et celui du vieux continent.

Elles courent au plus pressé pendant que Québec s'éprend du béton. Pourtant, il est facile de prédire, à la lumière de ces quelques films, qu'avant l'an 2000, elles se le reprocheront amèrement. T.A.

Les Barrières architecturales

Ministère de l'Éducation du Québec
Office du film québécois

Bien qu'avec beaucoup de retard, nous tenons à signaler ce film à notre public. La très haute qualité de son message nous y oblige. Pour cette demi-heure, les handicapés ont accepté de nous prêter leur regard. Le monde que nous façonnons sans eux, nous le voyons fonctionnel, utile. Parce qu'il convient à nos besoins, nous serions prêts à conclure qu'il est harmonieux. Mais les handicapés, eux, le voient boiteux et hostile, traversé d'innombrables barrières qui disent non à leur vie.

Jamais n'aurons-nous mieux aperçu les mille obstacles qui jonchent nos rues qu'avec la canne chercheuse de cette aveugle s'avançant sur la chaussée. Gare au paraplégique qui voudrait franchir le seuil de

l'hôtel de ville! La plupart de nos édifices publics se retranchent derrière d'inaccessibles escaliers, tournant involontairement le dos au handicapé. Vouloir y entrer en fauteuil roulant est une gageure qu'il ne saurait le plus souvent soutenir. Les écoles ne font pas montre de plus d'hospitalité à son égard. Quant aux églises et aux sanctuaires, leur arrogance dépasse la mesure. S'il veut s'y recueillir, il ne lui reste plus qu'à obéir à la parole que le Christ adressait au paralytique: "Lève-toi et marche"! Est-il mieux traité lorsqu'il cherche à se loger? Les grands immeubles d'appartements, à quelques exceptions près, lui sont fermés et la maison unifamiliale est rarement adaptée à ses besoins. Presque tous les sports lui sont maintenant accessibles mais s'il veut aller au cinéma, voyager, fréquenter les hôtels et les restaurants, il se butte à des difficultés sans nombre: escaliers, chambres trop petites, salles de toilette dont la porte n'est pas assez large pour laisser passer une chaise roulante, boutons d'ascenseurs, téléphones publics et fontaines inutiles, puisqu'ils ne sont pas à sa portée.

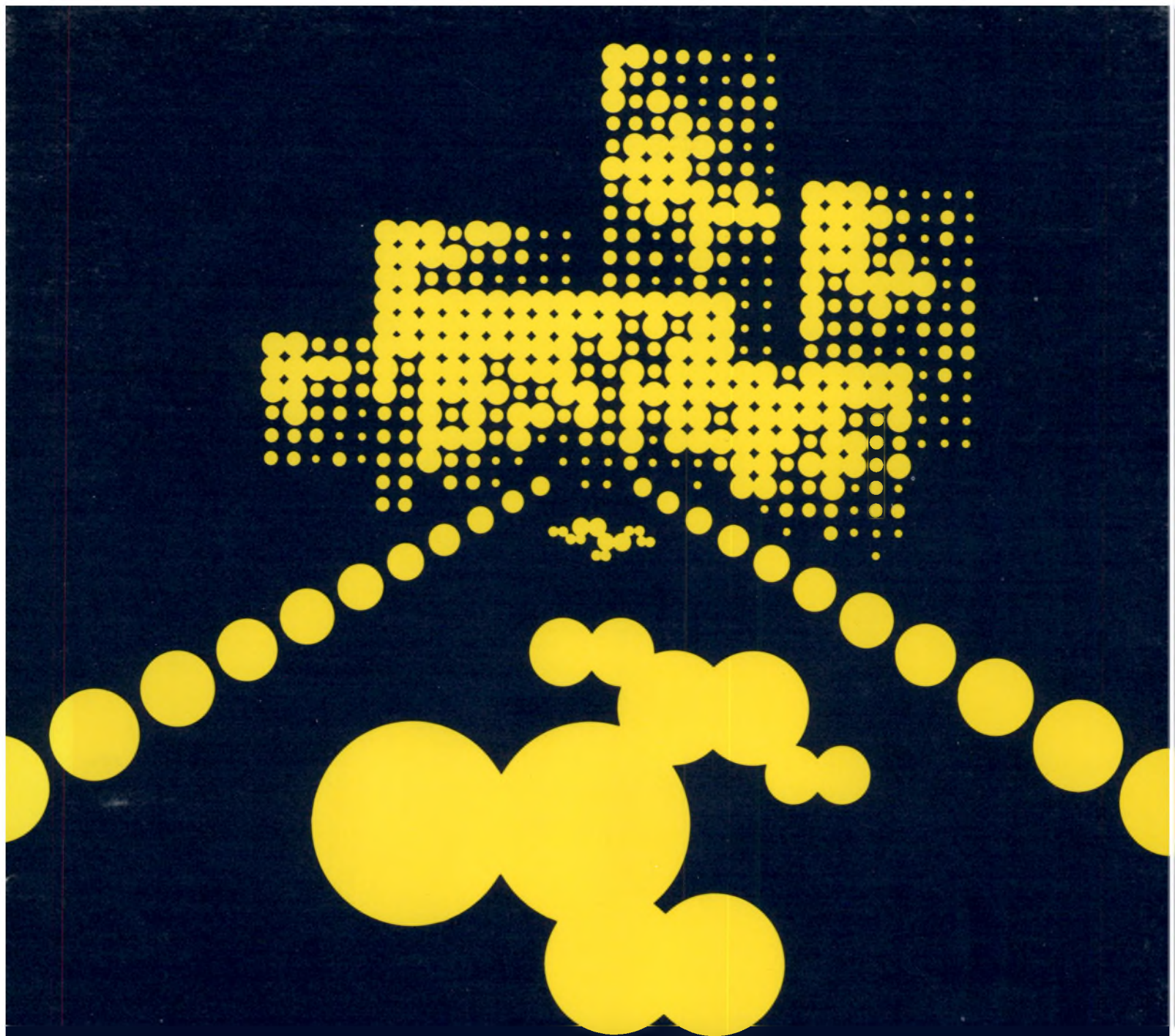
Il suffirait souvent de quelques transformations mineures pour que les handicapés se sentent à l'aise partout: des rampes d'accès dans les bâtiments publics et les immeubles d'appartements; dans les écoles, des tables de travail qui ne soient pas fixées au sol; un nombre minimal de chambres dans nos habitations et nos hôtels assez spacieuses pour qu'ils puissent y circuler en fauteuil. Il suffirait, en un mot, d'exiger, comme le réclame leur association, que soient abolies les barrières architecturales. Voir ce film, c'est endosser leur point de vue. T.A.





Central Mortgage
and Housing Corporation

Société centrale
d'hypothèques et de logement



habitat



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The Greening of the Cities

by Leslie Bella

Open spaces within our urban areas have not happened by chance, but have been designed by man to perform a variety of functions:

- **Religious:** as a forecourt to a religious or sacred building, or as a place of worship in itself.
- **Economic:** as a place for exchange of goods, a marketplace.
- **Political:** as a forecourt to increase the impressiveness of state buildings, or as a place for political meetings.
- **Commons:** an area of grazing land within a town or city where livestock could be protected.
- **Military:** a parade ground for training and display of militia.
- **Amenity:** an ornamental, health-giving open area for recreational purposes.

The last, the recreational function, has been the latest to develop in our urban areas, and it is only in the last century that we have come to value urban open space for its own sake rather than for a specific purpose or function.



*Hamilton's downtown Gore Park is both a resting and meeting place away from the traffic and noise of busy King Street.
Photo: CMHC / E. Taylor.*

Parks of the Past

During the Renaissance, European architects designed civic centres with open spaces that would show the symmetry of their buildings and provide settings for their sculptures. The design of the space itself was not considered, except as a setting for these solid forms. The 16th century Italian architect Andrea Palladio, for example, had a very utilitarian attitude toward space. Palladio's concept of the Renaissance civic centre focused on the palace, the exchequer, the prison and the madhouse. The renaissance city square was not a place to linger after dark, and certainly was not a recreational area.

Renaissance design became baroque with the added element of movement.

Urban space became a series of interconnected areas to be experienced in sequence as one moved through them. Technological advance was in part responsible for this development. The old solid wheels were replaced by the lighter spoked wheel in the 16th century, and carts and wagons came into more general use in cities.

Military necessity also brought pressure for wider avenues and large squares. A city of narrow, winding streets could not be controlled by military force, and troops could not be easily assembled or moved through the city. In an era of tyranny city planning had to recognize military considerations.

Pleasure gardens such as Tivoli Gardens in Copenhagen and Ranelagh Gardens in London also became popular in the 19th century. Here ordinary citizens could buy some of the pleasures that the nobility had within their own homes—pavilions for dances and parties and wooded areas for walking and picnicking. These pleasures, however, were available only to the growing middle class. For the working class and the poor, there was little in the city to remind them of country living.



◀ *Mount Royal Park, Montreal, situated on the remains of an old volcano, was designed by the great American landscape architect, Frederick Law Olmsted.*

Sharing the Green Spaces

As the 19th century advanced, the Industrial Revolution brought many more poor and working people into the cities—into sweatshop jobs, crowded and ramshackle homes, and streets that were open sewers. There were no parklike open spaces in the slums of Dickens' London, although pressure for reform did begin to build in late Victorian England.

One new element within the movement for reform was the introduction into the city of the landscape park. In a sense, the landscape park involved only the remodeling of the baroque park which had remained as a setting for the royal palace in the capital cities of Europe. Under the pressure of democratic and humanitarian demands, these parks were thrown open to the public. With an increasing number of country families coming to the city for "the season" and the growth of the cities themselves, these temporary residents demanded the recreational space that was available to them in their rural homes.

Thus, a conscious attempt was made to provide everyone within the city with the equivalent of a visit to the countryside. The concept of open space for its own sake, of open space as having "amenity" value, was born. This was the beginning of urban parks as we know them.

One source of land for the new urban parks was the cemeteries. Landscaped for the dead, they were returned to the use of the living. In some older cities obsolescent fortifications were removed, providing green areas circling the heart of the city, such as in Vienna and Bremen, Germany.

The North American Experience

In the United States, Frederick Olmsted was the first planner to lay out natural park areas (which he called lungs) within an urban setting. In his design for Central Park in New York City, he deliberately separated pedestrian traffic from wheeled traffic by creating overpasses. Olmsted saw that the city would grow, and he planned an entire park system linking the expanding city with the countryside beyond. There would be small squares and playgrounds, linked to each other and to larger areas of green by "parkways" and roadways with green swards and rows of trees. This concept of the country and the city as interrelated was entirely new and completely unknown in earlier forms of urban organization.

Olmsted's concept had included small spaces as well as large. As the cities grew, the small open spaces were lost in the competition for land; they were too valuable to leave vacant. In the densest cities, residents were pushed into high-rise living in the struggle for space. Everywhere open space was gobbled up by the automobile; whether moving or in storage, the automobile demanded space. Traffic arteries carved up the major city parks, and in the core areas parking lots took over the remaining small areas of open space.

Robert Moses became responsible for the New York City parks in the 1930's. Originally he introduced many improvements, but his philosophy was narrow. He adopted a system of park-

ways similar to those conceived by Olmsted. But there had been no automobiles in Olmsted's time, and Moses' whole park system was automobile based. Parks, playgrounds and waterfronts were made accessible from the expressways through the city. The worst place for a park, according to Moses' opponents, was next to a major roadway, but Moses did not recognize the hostile environment created by the noise, fumes and danger of automobiles.

Moses opposed small parks. He believed that no park was feasible unless it was three acres or more in size. Residents in the heart of New York City knew that their large parks were inaccessible or unsafe, but there just was not the space for large parks to be built nearer home. So, in the pressure for improvement to the inner city, the minipark concept was reborn in New York, and later in other large United States cities.

It was in Europe, however, that minipark development had first become a reality. Many British cities were bomb-scarred after the Second World War. These small open spaces could have become parking lots or derelict eyesores, but instead they were redesigned for children's play. Many became adventure playgrounds and the special concern of Lady Allen of Hurtwood. These open spaces were painful reminders to residents, but through imaginative planning they provided much needed open space in high density urban areas.

In North America, urban renewal, by design rather than by war, was implemented in the 1950's as a solution to urban slum problems. Unwholesome tenements were replaced by slabs of apartments with green space between. The developments echoed the ideas of

Copenhagen's Tivoli pleasure gardens were opened in 1843. Although originally laid out beyond the City's old ramparts, today they lie in the heart of the City surrounded by towering downtown commercial buildings.
Photo: Royal Danish Ministry for Foreign Affairs.



In the 18th century, pleasure parks such as Ranelagh Gardens provided London's growing middle class with wooded areas for strolling and pavilions for dances and parties.
Photo: Courtesy of British High Commission.



Le Corbusier thirty years earlier. But, by the 1960's the problems with the new developments were evident. The social problems in the new housing were greater than those in the old, and housing deteriorated. The open spaces between the buildings were not used for recreation, but became barren areas of fenced grass. The parks were still unsafe—a no-man's land after dark.

Disillusion with the new housing arose first in New York, and as the growing problems were documented, a variety of alternate solutions were proposed. The minipark, the development of a park on a single vacant lot, was proposed as one of these alternative solutions. In 1963 the Park Association of New York presented an exhibition "New Parks for New York" which argued the case for vest pocket parks in the mid-town area to provide "a pool of space removed from the flow of traffic—even pedestrian traffic; an outdoor room, human in scale, enclosed and protected, and sheltered from noise."

The exhibit caused a minor furore, and the Parks Commissioner again insisted that three acres was the smallest feasible area for a park. Then the Paley Foundation, a philanthropic organization, provided funding for a prototype park, using the design presented at the Parks Association exhibit. In 1965, after political changes, Tom Hoving became Parks Commissioner and encouraged expansion of the minipark idea. Philadelphia, Boston, and other North American cities followed with their own minipark programs.

In Canada there is Winnipeg's small concrete "metro plaza" park, and also a "porta-park" program. A riverside tot lot has been built by a group of artists in Edmonton. Victoria's fisher-

man's wharf, and the downtown pedestrian malls in Ottawa and Calgary, all provide some green relief from the concrete jungle, a place where a pedestrian can enjoy at his own pace without the intrusion of the automobile.

Minipark Do's and Don'ts

Canadian cities are steadily increasing in size and density, and more of these small parks will be needed in our urban areas. Every minipark is unique, and the form of each depends on the location and the intended function of the park. Although functions will vary (for children or adults; for commerce, religion or politics; for active games or quiet contemplation), the experience with miniparks both in Canada and abroad indicates some general design criteria, some "do's" and "don'ts" in the design and development of miniparks.

This aerial shot shows both the large and small green spaces of London's West End. Hyde Park (left) and Green Park (right) are the large areas in the foreground, Regent's Park is the large treed area in the upper left. Grosvenor Square (left) and Berkeley Square (right) are the two small parks in the centre.
Photo: Courtesy of British High Commission.

The 840 acres that make up New York City's Central Park were acquired by the City in 1856 and developed according to the plans of Frederick Olmsted and Calvert Vaux. Olmsted's park plan for New York City also included small squares and playgrounds linked by tree-lined parkways, but as the City grew the land for these miniparks was lost to commercial and residential development.
Photo: Parks, Recreation and Cultural Affairs, City of New York.



- Do plan to attract people to the park (e.g. activities and programs).
- Do not plan a minipark unless the community wants it. Only then it will be used and cared for.
- Do plan a park to be safe.
 - a Ensure for adequate police patrols.
 - b The park should be well lit at night
 - c All corners should be visible from the street.
 - d A block association can keep an eye on the park and protect it.
 - e A busy park is a safe park.
- Do plan in cooperation with the community. They know their needs best.
- Do remember that miniparks in low-income areas get heavy use; design with sturdy materials and budget for repairs and replacements.
- Do plan for adequate ongoing maintenance.
 - a Maintenance should be by paid employees not volunteers
 - b Some say this work can be contracted to a community group; other cities are not satisfied with this method.
- Do plan for ongoing supervision of children's or teen's parks. One leader, with untrained aides, can circulate to several small parks.
- Do not fence the park; fencing encourages fence climbers to vandalize the park. (There is no consensus on this point; one insurance company in New York will only insure parks which are fenced, and yet evidence shows that fencing is not a deterrent.)
- Do not design a park to look like a gaol. If you must fence, do not use 10 ft. high chain link fence with barbed wire on top.
- Do design a park that will generate enthusiasm and affection.
- Do plan the location of a park. A park, like a store, needs a good location to be popular.
- Do plan a park with a purpose; with poor planning a park becomes a liability rather than an asset.

Beyond these practical "do's" and "don'ts" lies the art of the landscape designer. Whether a playground expert such as Lady Allen of Hurtwood or Polly Hill, an urban designer such as Jacob Riis, or a community group with more enthusiasm than professional expertise, the design problems remain the same—to transform a multiplicity of design criteria, functions and restrictions, into a cohesive, integrated and attractive design. □

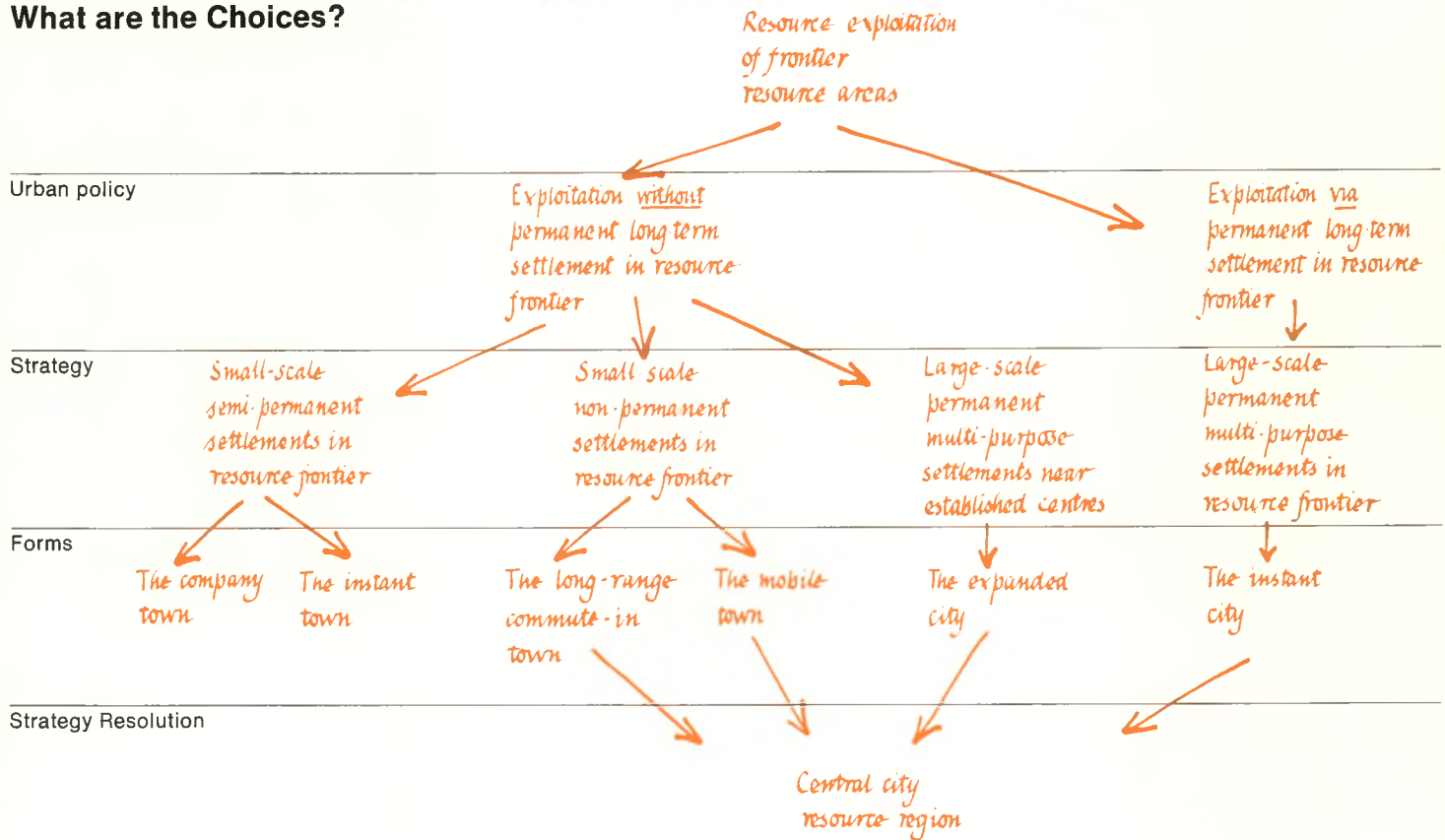
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Creating Cities for Northern Canadians

by Douglas Porteous

What are the Choices?



From Labrador to northern British Columbia, the settlement tool most frequently used in northern development remains the small one-industry community. In such settings, however, northerners have been unable to enjoy an adequate range of job, education, health and recreational opportunities. What are the alternatives?

Canadians cling to a narrow strip of territory lying immediately adjacent to the United States border. To the north lies a howling wilderness, a vast area which so far has been settled only by small government towns and isolated single-enterprise communities.

Some attempts have been made to promote the development of this resource-rich region in terms of a cohesive national policy, but despite such integrating concepts as Richard Rohmer's Mid-Canada Corridor, the provinces continue to pursue individual northern development policies.

The following discussion, based on a report on settlement alternatives for northwestern British Columbia, suggests that the piecemeal policies presently pursued should be amended in the light of other alternatives.

The single-enterprise community has been the traditional tool of resource frontier development. It may be a 'company town,' where the resource-exploiting corporation provides housing and other facilities, or an 'instant town,' whose inhabitants enjoy immediate homeownership and incorporation. As instant towns are usually dominated by one company, they tend to be regarded as company towns by their inhabitants.

The single-enterprise community is characterised by strong company influence (the company is chief taxpayer in an instant town), political immaturity, sharp social cleavages and the fostering of worker dependence upon the com-

"In economic terms, the single-enterprise community is at the mercy of resource depletion and the world commodity market; it may lose its raison d'être through circumstances beyond its control."

Photo: Information Canada Photothèque.



pany with a consequent lack of opportunity for self-expression and the display of personal initiative.

Because of its small size (usually under 3,000 inhabitants) and relative isolation, the single-enterprise community also suffers from social instability, rapid work force turnover, high rates of family and mental health problems and a general feeling of impermanence. These social problems are exacerbated by poor physical and social planning, an ill-balanced population (surplus bachelors, few retirees), the extremely restricted job opportunities for both mature workers and school leavers and an inadequate range of urban services. Thus, as a social environment, it is restrictive and cannot be termed 'urban,' because the essence of urbanity is choice.

Intensive interviewing of single-enterprise community residents in Chile and B.C., together with a broad review of relevant literature, confirms that it is not a preferred living environment. In B.C., residents were strongly in favour of incorporation, the termination of the company's landlord role and the estab-

"The multipurpose community needs a broad economic base, and should therefore be strategically located so as to provide basic employment opportunities in forestry, mining, fishing, tourism, government and a variety of ancillary occupations, all within daily commuting range."

Photo: Information Canada Photothèque.



lishment of several alternative sources of basic employment. In economic terms, the single-enterprise community is at the mercy of resource depletion and the world commodity market; it may lose its raison d'être through circumstances beyond its control. Moreover, the establishment of many such communities at individual resource sites results in the inefficient duplication of an inadequate range of high-cost services.

The multipurpose community should support a population of about ten times that of the single-enterprise. As a permanent settlement, this settlement form avoids many of the problems associated with the single-enterprise and has been used as a successful settlement tool in both Siberia and Scandinavia.

The multipurpose community needs a broad economic base, and should therefore be strategically located so as to provide basic employment opportunities in forestry, mining, fishing, tourism, government and a variety of ancillary occupations, all within daily commuting range. A considerable multiplier effect will generate non-basic (service) employment, so that the smallest multipurpose community will support a far wider range of services and amenities than even the best-equipped single-enterprise. It can act as a break-of-bulk centre, as-

"The chief advantage of the mobile town is that, on the final or temporary completion of extraction at a particular site, the whole settlement may readily be moved to another worksite by truck, on skids or by helicopter."

Photo: Information Canada Photothèque.



sembling and outshipping primary products from a range of worksites and distributing imported goods. On this base, secondary processing and/or intensive truck farming (perhaps hothouse-based) could be generated to reduce northern living costs.

To minimize isolation, such a population centre requires major rail, road and air access. So that families will find the multipurpose community more attractive, job opportunities should be expanded to absorb school leavers and retirement in the community should be encouraged. This mixture should also lower the resistance of professionals to taking up northern posts. The result should be a more balanced population, reduced socio-psychological problems, a healthier economic base and a basis for mature local government.

The multipurpose community provides a truly choiceful urban environment and, perhaps, a sense of participation in a frontier settlement experiment. In such a community, demand fluctuations or resource depletion would result in structural employment shifts rather than economic uncertainty. The costly

duplication and scattering of services, characteristic of the single-enterprise, is eliminated.

Problems associated with the multipurpose community include environmental pollution, the attraction of squatters and the problem of creating a political entity of sufficient size to include a large number of scattered worksites with their considerable municipal tax potential. These problems, however, are not insuperable.

Design, on the other hand, is a major problem; "wilderness suburb" open-planning may have to be restricted in favour of an all-weather integrated complex especially designed for climatic extremes.

The mobile town, a nonpermanent settlement, is well-adapted for the exploitation of resources with a short working life. It is composed of mobile homes, demountable houses, or specially designed structures which may each be plugged into a central utilities core. Other concepts include disposable housing (destroyed in situ), or housing filtered down to indigenous groups after serving its initial purpose.

The chief advantage of the mobile town is that, on the final or temporary completion of extraction at a particular site, the whole settlement may readily be moved to another worksite by truck, on skids or by helicopter. The mobile town, in fact, is a re-usable single-enterprise, and although its disadvantages include all those of the single-enterprise, it provides an alternative for those who prefer life in an isolated 'company town' atmosphere.

The long-range commute-in town involves the very minimum of construction at the worksite, where only a basic bunkhouse complex is needed. This is occupied on a week-on/week-off basis

by male workers whose permanent homes are in a multipurpose community or in established towns in the south. Though road or rail links would be necessary for goods shipment, long-range commuting could be by air.

The disadvantages, although fewer than for the mobile town, include the effects of long-range commuting and the family problems associated with the 'oil-rig' shift system. Some few employees might be required permanently on-site. Such a scheme was used temporarily in Chile as a stop-gap between the dissolution of a series of single-enterprise communities and their replacement by the multipurpose community concept.

The Central City Resource Region concept involves a combination of the above settlement forms. It would be a population centre of considerable size around which there would be a zone of no settlement where worksites were within daily commuting range. Beyond this no-settlement zone would be another zone of mobile towns within weekend visit range of the central city, and beyond this, long-range commute-in settlements would be required.

Central cities may be located either (i) directly in the resource frontier in resource-rich regions (instant cities); or (ii) in or near established settlements (expanded cities).

The advantages of the central city include all those of the multipurpose community, the mobile town and the commute-in town. In addition, existing single-enterprise communities could be incorporated into the system. Such central cities would act as strong northern growth poles and would be the basis for a logical functional regionalisation of the north. Rather than scores of scattered, inadequate single-enterprise communities with unstable populations, three or four well-located central cities could serve each region of the north without excessive wilderness damage.

"Such central cities would act as strong northern growth poles and would be the basis for a logical, functional regionalisation of the north. Rather than scores of scattered, inadequate single-enterprise communities with unstable populations, three or four well-located central cities could serve each region of the north without excessive wilderness damage."
Photo: CMHC.



A major advantage is the flexibility of the central city concept; if well sited the city might need to operate only the daily commuting zone. Alternatively, the zone of mobile towns could be omitted in favour of a daily/weekly commuting dichotomy. Again, certain worksites could be almost fully automated, requiring the very minimum of isolated settlement.

Planning a central city system, of course, would require inter-governmental cooperation and the institution of various departmental and inter-disciplinary planning teams. In terms of implementation, it might best be furthered by means of a public development corporation on the lines of the Tennessee Valley Authority or the Sabi-Limpopo Authority in Rhodesia.

Above all, it would require coordinated long-range, rather than fragmented short-range, development planning. Without this, the north will continue to be merely the place where Canadians excavate for minerals, hew wood and draw water. □

Switching Yesterday's **Rails** for Tomorrow's **Cities**

by Brian Klotz

It was a bold idea to build an all-Canadian railroad system; economics, geography and a great many people as well said it couldn't be done. Yet, through the sweat of immigrant workers, dynamic administrators and ingenious designers, the railways were built and in the process forged Canada into a nation.

The railroad opened up the Canadian Prairies, carrying thousands of new settlers to quarter section farms and transporting back their wheat to the growing markets of the East. Many of our towns and cities were spawned by

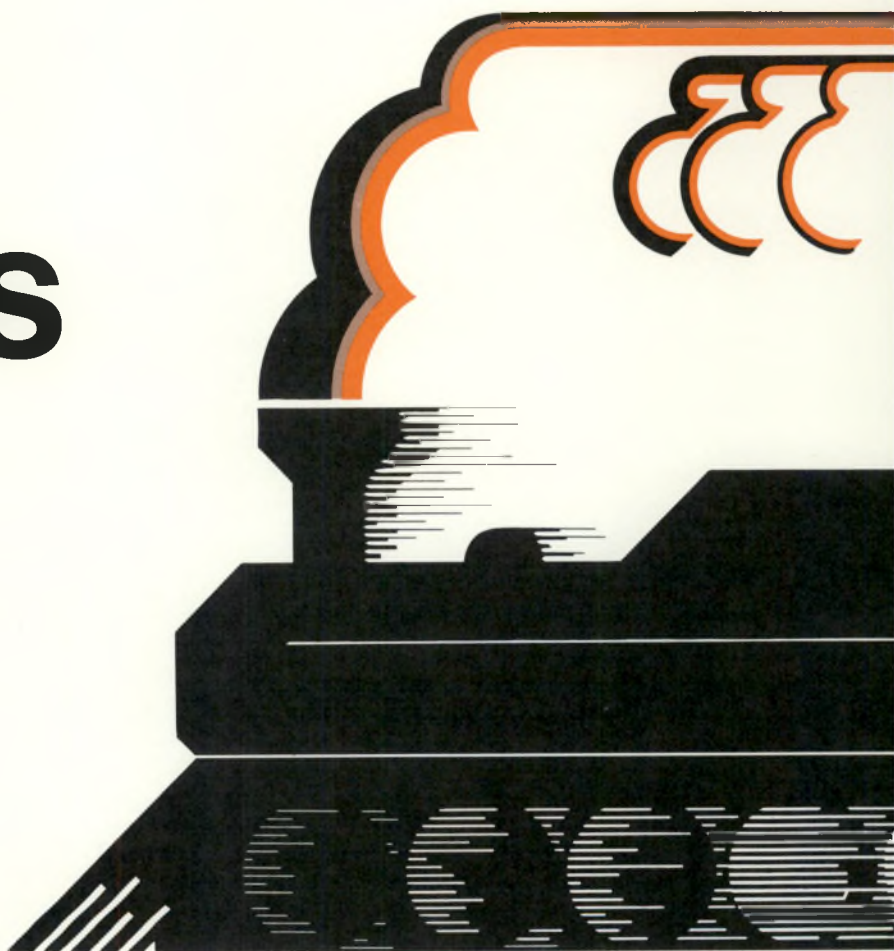
railway depots, and our present-day economies of industry and agriculture still rely heavily upon the railway networks for the transportation of both finished and raw material.

However, the passing of time has radically changed our forms and ways of life. The arrival of the motor age, the mushrooming growth of our urban areas, and the increase in environmental awareness have placed numerous existing railroad facilities in potential or real conflict with the attainment of urban development goals, both physical and social.

In June of 1974, as a catalyst for municipal or provincial action to develop and implement plans to adjust railroad

facilities to the needs of contemporary urban communities, the federal government enacted the Railway Relocation and Crossing Act. The implications of this Act on future urban development are many and diverse, encompassing a broad spectrum of planning concerns such as transportation, land use, neighbourhood structure and environmental concerns, to name a few.

The ways of using the inner-city land released by relocating or rerouting railroad lines are endless, and the once-in-a-century opportunity for Canadian cities to restructure and improve the quality of our urban life is unparalleled.





Transportation

The modern Canadian city is laced by complex transportation networks of superhighways and residential roads.

The development of such new urban transportation routes have often resulted in a direct conflict between existing railway facilities and efficient urban transportation patterns.

For example, particularly at peak congestion hours, grade-level crossings on major urban arterial roads frequently aggravate efficient traffic flow and can be responsible for critical delays of emergency vehicles.

Under the various sections of the Act, federal assistance continues to be available to subsidize, at increased levels, the cost of constructing grade

separations. Railway companies may be required to regulate the class of rail traffic on certain lines or portions thereof, to reduce conflicts with vehicular traffic in urban areas. Alternatively, plans of relocation of railway lines may be accepted and implemented, which may result in the elimination of existing grade-level crossings in critical areas.

Where several rail lines of one or more railroad companies cross major arteries and impede traffic flow, the number of crossings may be reduced by either concentrating the rail lines in one location, or by requiring separate railroad companies to share one right-of-way or perhaps to share their rights-of-way.

From an urban transit standpoint, the relocation or rerouting of railways opens up a variety of transportation options.

Railway companies may be required to share their lines or rights-of-way with other transportation modes such as public or rapid transit reducing the cost or disruption of providing a separate right-of-way. Corridors which are released as a result of railway relocation or consolidation may provide rights-of-way for public transit routes, as well as for new or widened roadways.

Accessibility may be vastly improved across railway corridors vacated through relocation such as travel be-

The Railway Relocation and Crossing Act

The Railway Relocation and Crossing Act became law on June 1, 1974. Part 1 of the Act makes it possible for municipalities and provinces to initiate action where railway relocation or rerouting can open the way to improvements in urban areas.

Part 1 of the Act provides for:

- financial assistance to municipalities or provinces of up to 50 percent of the cost of preparing urban development plans and transportation plans;
- grants of up to 50 percent of the net costs of railway relocation;
- orders to relocate railway facilities and reroute traffic;
- the acquisition of vacated railway lands by the federal government if necessary.

The other parts of the Act provide for an expansion of the Railway Grade Crossing Fund, which has helped improve rail safety and security in urban and rural areas of Canada for more than 60 years. Federal financial assistance provided through the Fund has been

more than doubled and new special assistance has been provided for large scale projects to meet increasing costs and new situations. This assistance may, in certain cases, be used in conjunction with railway relocation and rerouting projects.

Planning documents

Three basic planning documents are required:

- an urban development plan
- a transportation plan
- a financial plan

The urban development plan covers the proposed development of the urban area. It describes the problems the relocation would solve and the improvements that would result, how the plan would be implemented, the schedule, the costs and financing, and the commitments of the various parties.

The transportation plan covers all the transportation implications of the relocation or rerouting. It describes the overall transportation scheme which would result, including railway lines, streets, highways, bridges, bus routes,

tween neighbourhoods, to and from waterfronts, or to and from downtown areas.

The opportunities and assistance provided by the Act will allow planners more flexibility in the design and layout of such major transportation improvements as expressway networks and airport expansions, where existing railways are constraining factors. For the railroads, themselves, there may be considerable operational savings involved in the relocation or rerouting of their facilities.

Development

Land freed by the relocation of railway lines and yards can be developed for a variety of uses consistent with the growth and land use strategies of the municipality. This is particularly advantageous in fully developed areas where the development demand is high but vacant land is at a premium.

Released railway lands may be utilized for the expansion of commercial and office development of a growing Central Business District. Housing projects may be developed to upgrade local neighbourhoods or provide geared-to-income shelter or accommodation for senior citizens.

Local areas deficient in open space may be provided with parks, playfields or plazas. Major institutions, cultural or

sport facilities could be developed, including hospitals, colleges, museums, libraries, stadia, convention centres or exhibition grounds.

In addition to the development prospects of the released land itself, a relocation will in most instances generate a higher level of private investment in either redevelopment or rehabilitation in the surrounding areas.

The planning and establishment of a relocated line on the urban fringe could give strong impetus to new "suburban" industrial parks. This may contribute substantially to the achievement of the industrial development policies of a municipality and effect a better balance of employment distribution. Such a development could be

*This 1928 photograph shows Regina's CPR station built in 1892.
Photo: Public Archives of Canada.*

airports and wharves. It identifies specific projects, the implementation program and schedule, and the costs and financing.

The financial plan summarizes the costs and financing from the transportation plan, cost sharing, the relocation grant requested and other financial information. In particular, it provides figures that would make it possible for the CTC to determine the net costs of railway relocation—the basis of the railway relocation grant.

Agencies involved

Three federal agencies share the responsibility for administering the Railway Relocation and Rerouting Program.

They are:

- The Ministry of State for Urban Affairs
- The Ministry of Transport
- The Canadian Transport Commission

The Department of Public Works may be required to acquire land in certain circumstances.

The Program will be carried out in cooperation with the provinces. Thus provincial agencies will also be involved.



coupled with the encouragement of gradual relocation of nonconforming industries from the city centre.

The Wrong Side of the Tracks

With population continuing to concentrate in towns and cities, the urban neighbourhood plays an increasingly important role in the maintenance of community life. The removal of railway barriers and the release of inner city lands could have a significant impact on the creation or redefinition of urban neighbourhoods.

The relocation of a railway line may result in the better grouping of neighbourhoods, as well as provide for

a more efficient use of both existing and proposed community facilities. School area boundaries could be adjusted to reduce walking distances or to balance enrollment levels and fluctuations. The effective service areas of public clinics, branch libraries, recreation centres and other social services could be expanded, with a corresponding decrease in the demand for new facilities in previously isolated areas. As well, convenience shopping and commercial services may be shared.

Community identity and enthusiasm may be heightened, culminating in a greater incidence of public involvement in structured or informal social activities and programmes in a redefined neighbourhood. Desirable social-eco-

nomic integrations may be achieved, dispelling any "wrong-side-of-the-tracks" syndromes.

New places of social gathering and interaction could be provided in the design and development of released lands, ranging from neighbourhood parkettes to downtown plazas and pedestrian malls, and including the construction of new places of assembly for cultural, sports or entertainment events.

It is hoped that public participation in the formulation of plans for a railway relocation project will also bring to light

*Railroad levelling through the wheat fields of the Canadian Prairies (circa 1905).
Photo: Public Archives of Canada.*



The proximity of the CP Rail yards to Regina's downtown business core is seen here. The release of this land will give Regina a unique opportunity to redevelop its downtown area.



additional social concerns and problems, solutions to which may be successfully incorporated into the implementation of an Urban Development Plan, following railroad relocation.

Environment

Hand in glove with the implications for development are those for environmental improvement. The elimination or diminution of unsightly railway installations with their attendant generation of noise and pollution from a given locality represents a major benefit in itself.

Architectural design and landscaping will be major factors influencing the degree of ultimate aesthetic appeal as well as integration with the type, scale and function of surrounding development.

Released rights-of-way may be transformed into open space links, walkways and bicycle paths, which not only enhance the visual environment, but provide a safer environment through the separation of pedestrians and cyclists from traffic routes. Some alignments may lend themselves towards use as buffer strips between conflicting areas of existing land use.

Railway lines which traverse unique topographical features, scenic landforms or ecological reserves within or near an urban area may be returned to their

original natural state, for passive or recreational enjoyment (e.g. river banks, waterfronts, escarpment faces, marshes and conservation areas).

Where relocation is not feasible, cutbacks in the volume of rail traffic over environmentally sensitive lines may be achieved through rerouting.

Overview

The implications outlined above are by no means an exhaustive list of the benefits available from railway relocation and rerouting. It does, however, give an insight into the large scope and potential impact of the Railway Relocation and Crossing Act on future urban planning and development.

Canadian Pacific and Canadian National – How they Came To Be

The incorporation of the Champlain and St. Lawrence Railroad Company in 1832 marked the beginning of the history of railways in Canada. In the years to follow, hundreds of railway companies were chartered, operated, often abandoned and ultimately absorbed into larger companies. From the melding of these many companies, the two great present-day railway systems were created – the Canadian Pacific and the Canadian National. Together these massive companies operate nearly 60,000 miles of track in Canada today.

What follows are a few of the important dates and people in the formation of these two rail systems.

Canadian Pacific

- 1871 British Columbia joins the Dominion of Canada. Agreement guarantees construction of a railway "to connect the seaboard of British Columbia with the railway system of Canada, and further, to secure the completion of such railway within ten years from the date of such union."
- Two years before, the last spike, a gold one, was driven into the first U.S. transcontinental railway at Promontory Point, Utah.
- The Scottish engineer and scientist, Sir Sanford Fleming, is appointed Engineer-in-Chief of the Pacific Railway.
- 1872 Federal government decides that the Pacific Railway will cross the continental divide through the Yellowhead Pass and that the railway "shall be constructed and worked by private enterprise, and not by the Dominion Government."
- Canada Pacific Railway Company incorporated by Montreal interests headed by the Canadian financier and shipowner, Sir Hugh Allan. A competing Toronto based group headed by D. L. Macpherson also incorporates the Inter-Oceanic Railway Company.
- 1873 Under pressure from Macdonald, the Montreal and Toronto companies combine under a new charter with Allan as chairman. Disclosure of Allan's contribution to Conservative party funds in the 1872 election prompts the appointment of a Royal Commission, the resignation of Macdonald and his Conservative government.

A Liberal government under Alexander Mackenzie is elected.

- 1878 Return of the Macdonald government.
- 1880 Agreement signed between government and Montreal group headed by the Scottish fur trader, politician and financier, Donald A. Smith (later Lord Strathcona). Agreement includes, among other things, a subsidy of \$25 million plus 25 million acre land grant, some \$38 million for surveys and a monopoly over transportation south to the U.S. for 20 years. The government also agrees to complete two sections from Kamloops to Port Moody and from Fort William to Selkirk.
- 1881 House of Commons passes the Act incorporating the Canadian Pacific Railway Company. Canadian Pacific organized with George Stephen as president, Duncan MacIntyre as vice-president and R. B. Angus and J. J. Hill as members of the executive committee.
- 1882 In January, an American, William Cornelius Van Horne, who started his railroad career on the Illinois Central Railway as a telegraph operator at the age of 14, is engaged by CPR as its general manager. At the time of his appointment, the 37 year old Van Horne is the general superintendent of the Chicago, Milwaukee and St. Paul Railroad.
- In June, last spike on government contract section between Port Arthur and Winnipeg is driven.
- 1883 J. J. Hill resigns when CPR decides to keep its line completely in Canada instead of using Hill's lines through the U.S.
- In December, the railroad reaches the summit of the Rocky Mountains in Kicking Horse Pass.
- 1884 Last spike laid on government contract section between Port Moody and Savons, B.C. Toward end of year, money begins to run out and Stephens & Smith cast about for temporary funds from the government.
- 1885 Second North West (Riel) Rebellion in April. Van Horne offers to move troops and supplies over the uncompleted line through northern Ontario. He does so, moving militia in four days from Ottawa to Winnipeg, using forced marches, sleds and water transportation on

Lake Superior between gaps in the track.

The efficient military troop movement enables Macdonald to convince Parliament of necessity of railway for national security. Additional government funds are appropriated.

- 1885 On November 7, the last spike, an ordinary iron one, driven in Eagle Pass, in the Gold Range, British Columbia, at 9:22 a.m., Pacific Time, by Donald A. Smith. Van Horne makes his famous 15-word speech: "All I can say is that the work has been well done in every way."

Canadian National

- 1896 The overwhelming success of the CPR prompts two former CPR contractors, William MacKenzie and Donald Mann to start the Canadian Northern Railway to compete with CPR for the lucrative western markets. Economically built and tapping fertile lands for new settlers, Canadian Northern is an immediate success.
- 1902 Canadian Northern obtains authority to build a railway from the grain elevators of Port Arthur to the expanding port of Montreal.
- 1903 Grand Trunk Railway, one of the five largest railways in North America, proposes to develop yet another transcontinental rail system. To ensure an all-Canadian route, the government agrees to build the 1,800 mile section from Moncton to Winnipeg (known as the National Transcontinental Railway). In return, Grand Trunk agrees to build the western section (called the Grand Trunk Pacific) and to lease and operate National Transcontinental for 50 years.
- 1913 Dominion Government creates the Canadian Government Railways to operate the federally-owned Intercolonial and the other small lines under government control.
- Economic depression in Canada.
- 1914 In August, the Great War breaks out. Grand Trunk Railway lines completed. In desperate financial straits because of the cost of expansion and the closed European money markets, Grand Trunk refuses to work National Transcontinental and turns it back to the government. Also proposes to give up the Grand

While it is directly addressed to one mode of transportation, the principal benefit of the legislation is the opportunity it provides for new directions in the urban environment and its development.

Particularly in cases where large land areas are likely to be released, railway relocation will provide municipalities with a new and perhaps unparalleled choice of urban growth and development strategies, previously unavailable or unconsidered. The fundamental options which may be generated include:

- improved efficiency and integration of all transportation modes

- the strengthening and expansion of the business core
- the capacity to absorb and house population growth
- concentration of development in the inner city, as opposed to decentralization or urban sprawl, and
- balance in the distribution or integration of housing and job locations.

The exercise of these options may have significant ramifications on the demand for new physical infrastructures (transportation, municipal services), new community resources (schools, parks, shopping centres), or the preservation of urban assets (stable neighbourhoods, greenbelts, surrounding farmlands).

As to the implications on the railroad companies themselves, the Act provides that in principle they may neither gain nor lose as a result of any relocation project. The responsibility for monitoring and adjudicating this provision rests with the Canadian Transport Commission, which will determine financial liabilities and appropriate compensation.

All Aboard

The first municipal project to receive federal funding for the preparation of an urban development plan is the City of Regina. Regina proposes to relocate the bisecting mainline of the CPR around

The CP Rail line running through the centre of Regina will be relocated around the circumference of the city.

- Trunk Pacific line in the west if the government will settle with the creditors. Suffering from the same financial hardships as the Grand Trunk, Canadian Northern appeals to the government for \$100 million to complete and equip its transcontinental system.
- 1916 Faced with threat to Canada's financial credit, the government appoints a Royal Commission to seek a solution to the financial problems of Grand Trunk and Canadian Northern. Commission recommends that the public take control of both the Grand Trunk and Canadian Northern systems.
- 1918 By Order in Council dated December 20th all lines owned and controlled by Dominion Government are given name of Canadian National Railway.
- 1919 Grand Trunk Pacific announces it will cease operation after March 10. Minister of Railways and Canals appointed receiver. Canadian National Railway incorporated with the passage of the Canadian National Railways Act to manage the growing list of government controlled railway properties.
- 1920 Canadian National takes control of Grand Trunk Pacific. Canadian Government Railways acquires capital stock of Grand Trunk.
- 1922 Sir Henry Worth Thornton, an American from Indiana with extensive railroad experience in the U.S. and Great Britain, comes to Canada at the request of William Lyon Mackenzie King to unify the separate railroad companies now under government control.
- 1923 Canadian Government Railways turned over to Canadian National, and Sir Henry becomes its first president.



the circumference of its urban area. In the process, about 40 acres of railway yard will be released, immediately adjacent to the downtown core. An international design competition will be held to explore innovative approaches for the development of the released lands.

A \$160,000 railway relocation study is also underway in Red Deer, Alberta. This study will investigate the relocation of the Edmonton/Calgary CPR rail line to the west of the City, removal of the downtown CPR rail yards and the establishment of new yards on the relocated main line.

The Red Deer relocation study is the first in Alberta, although agreements for programs in Lethbridge, Edmonton and Grande Prairie are expected soon.

A \$200,000 railway relocation study is underway in Kamloops, B.C. The City proposes to relocate the yard facilities of both the CPR and CNR from its downtown area. The released lands will form part of a land assembly to accommodate a civic and cultural centre, as well as mixed commercial, residential and park development, strategically located to unify the downtown area with a waterfront setting along the North Thompson River.

Dozens of other municipalities across Canada have expressed interest in the programme and have held discussions with the Ministry of State for Ur-

ban Affairs, the Ministry of Transport and the Canadian Transport Commission on how to proceed. Several are now preparing detailed submissions for study funds. As well, working relationships with almost all the provinces have been established.

This increasing volume of interest and planning is perhaps the most meaningful measure of the extent to which the Act represents a timely response to urban problems and aspirations. □

L'habitat

au féminin pluriel

L'Année internationale de la femme sort de scène. En rappel, voici trois articles écrits par des Québécoises qui se sont signalées par leur travail et leur pensée, dans des domaines touchant la femme, l'habitat et le logement.

Celui-ci est un droit primordial que l'on croit reconnu à tous. Pourtant, chacun sait qu'il n'est qu'imparfaitement acquis et que la femme ressent, en général, plus vivement que l'homme, les effets d'un bon ou d'un mauvais logement. Des études ont montré, par exemple,

qu'habitation et natalité sont étroitement liées. Habitat et dignité, habitat et épanouissement, habitat et engagement le sont aussi.

Ces textes sont là pour nous le redire comme sont là pour en souligner la vérité ces images de femmes, de familles et d'habitations formant chacune un tout inséparable sous le regard enveloppant de l'artiste.

Thérèse Aquin

La maison de l'utopie

Le monde réel s'efface d'un seul coup quand on va vivre dans la maison du souvenir. Que valent-elles les maisons de la rue quand on invoque la maison natale, la maison d'intimité absolue, la maison où l'on a pris le sens de l'intimité?

(Gaston Bachelard, *La Terre et les rêveries du repos*)

Pour écrire cet article je ne me suis pas tournée vers mes livres de sociologie: J'ai écouté Bachelard me parler de la maison natale et de la maison onirique. Dans sa façon unique de combiner émotion et analyse logique pour arriver à une meilleure image de la réalité, Bachelard évoque le pouvoir qu'a la maison de déterminer le rêve des hommes. On sait par expérience que la campagne, la plage ou le canyon ne font pas surgir les mêmes sentiments. La pensée fixée sur l'horizon, sur un environnement bien cadré ou sur les murs d'une prison n'aura pas le même envol ou la même intimité. De la même façon, habiter une maison où les pièces s'enfilent, habiter une maison à aires multiples ou se mouvoir de pièces fermées en pièces fermées ne favorise pas une même image du moi, ni un même mode de communication entre les êtres. Pour l'enfant surtout qui vit le monde dans une tout autre dimension spatiale, la maison est un univers complet. Les couloirs et les escaliers sont des souvenirs impérissables. «L'enfant est là près de sa mère, vivant dans la partie moyenne. Ira-t-il du même cœur à la cave et au grenier? Dans l'une et l'autre, les mondes sont si divers. D'un côté les ténèbres, de l'autre la lumière; d'un côté des bruits sourds, de l'autre des bruits clairs. Les fantômes du haut et les fantômes du bas n'ont ni les mêmes voix, ni les mêmes ombres».

Et Bachelard nous explique que les deux séjours n'ont pas la même tonalité d'angoisse.

La fonction essentielle de l'habitat humain est de protéger, dans tous les sens du terme, matériellement et psychologiquement. Cette force de protection favorise le sens de l'intimité. Un des pre-

miers critères de l'habitat souhaitable est de créer un espace «où l'on puisse vivre dans toute leur variété les rêveries d'intimité.» Cet espace doit permettre à l'individu de retourner à sa cellule et au groupe (familial), de vivre sa solidarité dans des activités communes.

La maison structure *l'espace de communication*; elle conditionne (dans un sens très systémique mais non behavioriste, c.f. Skinner) le fonctionnement même de l'esprit dans la création des codes mentaux reliés à l'espace. En effet, le propre de la personne en tant que système humain, est de fonctionner avec des codes symboliques qui ne sont pas innés mais produits par l'interaction du système humain et de son milieu environnant. Ces codes sont essentiels à la communication avec le monde, avec soi-même et les autres.

La maison est le premier abri, et c'est dans ce sens, nous dit Bachelard, qu'elle est onirique. Elle protège des intempéries, du vent, de la pluie, du soleil. Mais ce faisant, elle structure aussi la perception des éléments situés à l'extérieur; l'enfant qui s'endort dans la chambre du coin d'un douzième étage ou d'un penthouse, n'aura pas la même perception du vent que l'enfant qui s'endort au deuxième étage d'une maison tapie au fond d'un jardin; et que dire de l'enfant qui sent les éléments du fond du sous-sol d'un taudis urbain?

Dans les sociétés primitives, tout un ensemble de magies sont associées à

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la fonction de protection contre les esprits et les maléfices extérieurs au groupe qu'abrite la maison. Les murs filtrent le sifflement du vent mais aussi le bruit des voix; ces voix seront harmonieuses ou haineuses, chantantes ou sévères. C'est de la maison que l'enfant se forme la première image du monde extérieur, tant physique que sociale. Le cadre favorisera une perception de l'environnement comme menaçant ou comme accueillant, favorisera la peur ou le désir d'ouvrir la porte et de participer à la vie du monde extérieur.

La fenêtre, typiquement, est l'ouverture sur le monde; elle crée la dialectique entre la rêverie protégée et la rêverie amplifiante; c'est «l'interface». On ne saurait que souligner la recherche de l'appartement «avec vue imprenable» (Clémence Desrochers) et le prix que les privilégiés paient pour se l'approprier. La maison doit respirer sur un milieu. L'agencement des foyers détermine, à un deuxième palier d'analyse du comportement humain, les liens de solidarité entre les hommes; liens mécaniques ou liens organiques. La nucléarisation de la famille, dont on fait tant état, a comme connotation principale, *l'isolement*. La mobilité qui a été historiquement reliée à l'industrialisation a déraciné les familles de leur communauté intégrée, et l'entassement des maisons dans des quadrilatères sans âme n'a pas favorisé la création d'un nouveau réseau de relations humaines qui constitue la fibre organique de la ville. De cette fibre naîtra la fête ou la violence, et différents styles de vie urbaine. Un ami architecte habite, à la Nouvelle-Orléans, l'angle d'une rue qui sépare au couteau un quartier blanc de classe moyenne d'un quartier noir de classe pauvre. Pour chacune des saisons, tous les jours de la semaine, à des heures fixes, il a photographié la rue transversale qui sépare ces deux quartiers. Ces photogra-

phies, exposées systématiquement sur un mur font apparaître, par une technique de transposition théâtrale, la circulation de la vie dans ces quartiers. Dans le milieu anglo-saxon, les maisons sont implantées dans des espaces séparés, clôturés, protégés par des haies (et des chiens). Ce milieu, sur le plan de l'écologie humaine, favorise peu le contact direct et spontané. Cette relation sera vécue dans le club ou à l'heure du cocktail. Dans le quartier noir, à l'opposé, les maisons, petites, sont reliées par des murs mitoyens et présentent une enfilade de galeries extérieures, comme des arcades qui favorisent la réunion de petits groupes, la possibilité de se voir de loin, de s'interpeller, de communiquer directement. Et au coin d'une rue, à la même heure, les mêmes jours, à l'année longue, siège une sorte d'ombudsman, un leader qui règle les querelles de ménage et utilise ses relations et son prestige dans le milieu pour dépanner les pauvres bougres qui sont mal pris. Plusieurs «anciens» se répartissent les «coins» du quartier.

En montrant visuellement la relation entre la fibre organique des relations humaines et la structure physique de la rue, on se pose des questions sur ce qui détermine la mentalité d'un quartier et son niveau de participation sociale.

Les gens à l'aise peuvent se permettre d'habiter un espace clos. L'aire écologique de leurs relations sociales s'étend sur toute la ville et a davantage comme centre les milieux d'affaires ou professionnels. C'est ce modèle du

milieu bourgeois qu'on a transposé sans en être conscient dans ces banlieues où chaque maison possède son petit terrain qu'on peut clôturer. Cet aménagement favorisait-il l'émergence d'un réseau social qui répondit aux besoins de cette nouvelle classe moyenne? J'en doute et on ne s'est pas posé la question. Ces gens en majorité vivent un processus de mobilité physique et sociale. L'aménagement pouvait favoriser soit l'anomie, l'isolement, soit la création d'un nouveau mode de vie communautaire. La sociabilité, énergie sociale de base, a été gaspillée. Cette énergie n'est pas réorganisée en relais communautaires. C'est ainsi que la violence peut suivre un modèle épidémiologique de développement, sans structures d'arrêt.

L'agencement des maisons dans un quartier est certainement un facteur déterminant de la structure du réseau social. La structure physique de certains quartiers, conçus sur une base de loyers à prix modique réservés aux peu nantis peut aussi expliquer en partie l'apparition de comportements néfastes et sous-tendus de violence.

Par ailleurs, dans des quartiers pauvres, ces rues où s'alignent les petites maisons de brique rouge reliées par des cours intérieures favorisent un réseau de communication nécessaire à l'entraide, valeur privilégiée en milieu pauvre. Dans une recherche qui analyse le discours des familles de différentes classes sociales, nous avons demandé à des familles (i.e. père, mère, un adolescent et une adolescente) de discuter des motifs qui leur feraient choisir un autre logement. L'analyse factorielle des dimensions utilisées dans la discussion

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fait apparaître un vécu de l'habitat qui est fort différent selon les classes sociales. En milieu défavorisé, le groupe de variables le plus important est la localisation reliée à la présence de services socio-culturels et aux «gens du quartier». C'est en milieu riche qu'apparaissent les besoins individuels comme premier facteur, i.e. le nombre de chambres à coucher et la présence dans l'entourage de la parenté immédiate. Cette première constatation s'applique aux éléments mentionnés dans le discours. Si maintenant on analyse les critères qui font dire qu'une habitation est désirable ou non désirable, les variables qui constituent le premier facteur en milieu défavorisé sont tous reliés à la survie; ils relèvent de la logistique (i.e. proximité du lieu de travail), de la présence de services socio-culturels et du nombre de pièces. En milieu aisé, le premier facteur est composé de variables qui se rattachent au *développement de soi*: l'habitude qu'on a d'une maison, la possibilité d'y adapter son mode de vie, en termes psycho-affectifs, de même que la taille de la maison. Ces résultats concordent avec les données de la recherche Rioux-Sévigny intitulée *L'Aliénation dans la vie quotidienne* (Montréal: P.U.M. 1973); l'indice de développement varie de façon directement proportionnelle à la position sociale des familles. Le développement personnel, objectif valable en soi (psychologie de Rogers), n'est un facteur de décision qu'en milieu

favorisé; quand on est pauvre, on pense à la survie *sur une base communautaire*. Et pourtant, les îlots résidentiels qui constituent encore un *réseau organisé d'interaction sociale* sont éventrés, du jour au lendemain, par des monstres aveugles et mécaniques, sous des prétextes de développement. Quels sont donc nos critères de développement? A quels *besoins* répondons-nous? L'état de salubrité du loyer, s'il doit être garanti, n'est pas le seul critère à considérer.

Jusqu'ici, nous avons sciemment fait appel aux émotions du lecteur pour créer le désir: le désir de l'utopie. Une ville humaine, une ville en symbiose avec la personne et ses pulsions, qui favorise l'intimité créatrice comme l'exubérance de la fête.

L'utopie est nécessaire car elle sert de paramètre pour juger des normes qui, par le cumul de décisions individuelles, mènent nos villes à l'asphyxie physique et sociale. La ville ne sait plus *envelopper* l'homme individuel et collectif. Elle ne permet plus le rêve onirique, elle déracine l'être de son subconscient. Le retour à la maison de la terre n'est qu'une solution individuelle, qu'il s'agisse de la maison secondaire du bourgeois, de la maison à la campagne de l'intellectuel dont les horaires sont flexibles, ou des fermes habitées en commun par de jeunes «mutants».

Face à la crise urbaine imminente (e.g. crise du logement prévue pour le printemps à Montréal), il ne suffit pas de trouver des solutions adaptatives et individuelles, par exemple: la copropriété de blocs-appartements préalablement habités par location. D'une part, il faut comprendre que tant que l'habitat sera envisagé comme un *bien individuellement consommable*, sa production dans notre système capitaliste sera gouvernée avant tout par une logique de profit.

Et quand la publicité vend ce produit, elle vend en même temps le désir de tout un ensemble de biens de consommation tout aussi individuellement con-

sommables, en termes d'unité familiale de consommation, plutôt que de donner l'idée de besoins vitaux mieux desservis par des services communautaires à petite échelle. La vie quotidienne n'a pas à être vécue exclusivement à l'intérieur de petits cubicules juxtaposés. Il faut penser à l'extention des activités traditionnellement vécues dans le milieu familial, à une base plus large et communautaire. Les réseaux ainsi formés, contrepoison à l'anomie sociale urbaine, pourraient jouer les fonctions perdues mais toujours nécessaires de la famille étendue d'autrefois.

Dans des projets-pilotes il faut transposer à une autre échelle les leçons qu'on peut tirer des expériences en cours dans la vie en communes.

Seule une équipe bien spéciale de chercheurs pourra s'attaquer au problème urbain de la désintégration sociale. La ville ne favorise plus la production d'énergie sociale nécessaire à sa survie et à sa pleine croissance. L'énergie économique peut dominer tout à son aise. Pour concevoir des projets-pilotes il faut des équipes de chercheurs conscients des besoins humains, analytiques des erreurs et des réussites contemporaines en regard de critères humains, et imaginatifs quant aux solutions qui vont à l'encontre d'habitudes de pensée qu'on n'a pas encore appris à démasquer.

Et n'oublions pas l'utopie: la maison est la première fenêtre sur le monde. Il ne faudrait pas qu'elle devienne notre dernier refuge contre la violence. Ni les hommes ni les femmes ne sauraient alors préserver la flamme du foyer. Les vents éteindront le feu.

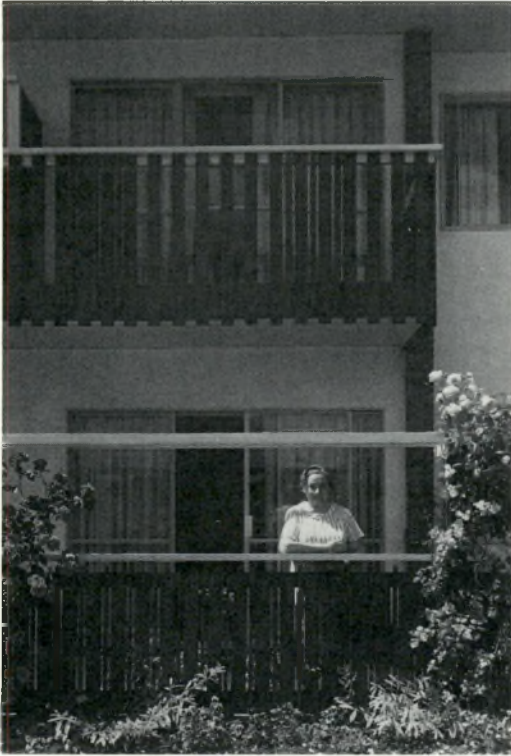


Photographie: Clara Gutsche



Photographie: Gabor Szilasi

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Photographie: SCHL/ Bill Cadzow



Photographie: Gabor Szilasi

La femme face aux décisions d'utilisation du sol

A une époque où l'on insiste tant sur la participation, il semble intéressant d'examiner la contribution de la femme aux choix d'utilisation du sol. Ceux-ci influent à la fois sur l'organisation territoriale des villes et l'aménagement des diverses communautés.

Le rôle de la femme dans le choix du logement familial

Il est en effet très fréquent de présenter les choses de la maison comme un des pôles d'intérêt essentiels de la femme. Le logement, cellule familiale, est animé par «la femme d'intérieur». Aussi, son avis est-il souvent prépondérant dans le choix du logement familial considéré comme type de bâtiment et entité organisée de pièces et de surfaces habitables. Mais cet intérêt légitime se manifeste-t-il au-delà de cet univers clos et bien délimité qu'est le logement même assorti de quelques prolongements indispensables tels qu'écoles et magasins? C'est dans une réalité territoriale urbaine beaucoup plus large et diversifiée que s'in-

sère le logement. L'habitat, répartition des espaces privés et publics, des structures bâties ou non, constitue une «pratique spatiale» ouverte aux habitants. Il en est de même pour l'environnement dont le terme est tant galvaudé à l'heure actuelle. Cet environnement peut être défini schématiquement comme un milieu minimisant les nuisances. De façon plus positive, il peut apparaître comme un milieu favorable aux relations personnelles et intergroupes grâce à des équipements correspondant davantage à des besoins réels et à des représentations symboliques communes qu'à des normes abstraites. Plusieurs possibilités d'actions ou d'interventions sont offertes à ceux qui restent préoccupés par ces problèmes collectifs concernant l'habitat et l'environnement. Nous n'en retiendrons cependant qu'une pour mesurer l'intérêt de la femme en ce domaine. Ce sera le zonage, instrument de contrôle d'utilisation du sol au niveau municipal, dont l'une des ambitions vise à la fois la «filtration des activités malsaines» et la répartition des fonctions urbaines.

Incontestablement, les décisions prises en matières de zonage peuvent contribuer à modifier de façon positive ou négative l'habitat ou l'environnement. De façon plus précise, le zonage donne à la municipalité le pouvoir de contrôler l'utilisation du sol en divisant et classifiant le territoire en zones. Chacune de ces zones peut être affectée à un usage déterminé: résidentiel, commercial, industriel, public, etc..., caractérisé par une densité plus ou moins élevée et réglementée quant à l'occupation du sol. Bien que ce pouvoir appartienne au conseil municipal, des acteurs nombreux et diversifiés interviennent et influencent notablement le processus de décision.

En réalité, les conseillers ne font qu'adopter ou rejeter, sous forme de règlement, un choix amorcé et discuté à différents stades. Ces différents types d'acteurs peuvent être ainsi classifiés: 1) les initiateurs représentant les personnes ou groupes qui demandent un changement de zonage; 2) les experts correspondant aux consultants ou technocrates qui émettent un avis «technique» sur la solution proposée, soit à la demande de la ville, soit à la demande de l'initiateur; 3) les désapproubateurs qui contestent le choix proposé, soit au cours de l'assemblée des électeurs-propriétaires, soit de façon privée; 4) les arbitres correspondant aux conseillers municipaux qui adoptent ou rejettent le règlement.

Dans les municipalités en expansion, ces acteurs se montrent généralement très dynamiques quoiqu'à des degrés divers, ne serait-ce que par la fréquence annuelle de leurs interventions. Ce dynamisme est-il partagé par les femmes en ce qui concerne ces choix d'utilisation du sol?

Le rôle minoritaire des femmes dans les choix d'utilisation du sol

a) Faible importance numérique

Le dépouillement des dossiers de 471 règlements de zonage adoptés entre 1964 et 1973 dans trois municipalités de la rive sud de Montréal, Longueuil, Brossard et Boucherville, nous a permis d'identifier les acteurs répartis comme suit:

Acteurs du zonage (1964-1973) Longueuil, Brossard, Boucherville

	Femmes		Hommes		Total	
		%		%		%
<i>initiateurs/individus</i>	6	9.8	55	90.2	61	100
<i>groupes, sociétés, corporations</i>	—	—	—	—	122	100
<i>experts</i>	0	0.0	31	100.0	31	100
<i>désapprobateurs</i>	31	11.4	241	88.6	272	100
<i>arbitres</i>	1	1.9	51	98.1	52	100

Donc, 9.8% seulement des initiateurs intervenus à titre individuel sont des femmes. Quant aux groupes, sociétés ou corporations, 122 ont agi en tant qu'initiateurs. La présence féminine au sein de ce groupe numériquement très important n'a pas été étudiée de façon exhaustive. Cependant, 73 de ces entreprises ont été choisies sur la base de leur activité commune, la promotion-construction, pour donner lieu à une analyse plus approfondie qui a révélé que les entreprises en cause étaient administrées par un total de 158 personnes dont 19 femmes (12% des administrateurs) œuvrant dans 15 des 73 entreprises (20.5% des entreprises). Aucune femme n'a pu être identifiée comme expert alors que 11.4% des désapprobateurs étaient de sexe féminin. Les arbitres étant les membres du conseil municipal, nous avons procédé à un relevé des conseillers des villes en cause durant notre période d'étude. La ville de Longueuil a eu 26 conseillers, Bros-

sard 13 et Boucherville 13. Un seul de ces postes était occupé par une femme, ce qui représente 1.9%.

b) Deux rôles seulement

Les femmes n'ont pas accédé au rôle d'expert et la participation féminine à titre d'arbitre est extrêmement marginale: 1.9% : Les femmes qui interviennent le font donc à l'une ou l'autre extrémité chronologique du processus: au tout début, elles prennent parfois l'initiative d'un règlement et, celui-ci adopté par le Conseil, elles participent, bien que faiblement, au processus de désapprobation. Le fait qu'elles se cantonnent aux deux pôles élimine pour elles presque toute possibilité de remodelage des choix proposés d'utilisation du sol par la production d'un avis technique ou la formulation du règlement, au moment de la rédaction. *Les femmes sont en fait exclues des étapes virtuellement les plus créatrices du processus.*

Les différents handicaps de la femme

Les villes où l'étude a été effectuée présentaient, au recensement de 1971, une population féminine sensiblement égale à la population masculine, soit un total de 70,525 femmes par rapport à 70,515 hommes.

Des calculs effectués à partir des données du recensement de 1971 nous ont permis d'établir que les citoyennes de nos villes d'études sont légèrement défavorisées par rapport aux hommes au point de vue de la scolarité. Plus de femmes ont abandonné au primaire (43.4% contre 40.8%), plus aussi au secondaire (50.1% contre 44.5%) et bien moins ont fréquenté l'université (6.5% contre 14.7%).

Toutefois, c'est sous l'aspect économique que les femmes se distinguent davantage des hommes tel qu'en témoigne le tableau suivant:

Revenu déclaré de la population de 16 ans et plus—Longueuil, Brossard, Boucherville (1971)

	Femmes	Hommes
Aucun revenu	46.2%	9.9%
\$4,999 et moins	41.9%	28.0%
\$5,000 à \$9,999	10.8%	43.1%
\$10,000 et plus	1.1%	19.0%
Total	100.0%	100.0%

Donc, 88.1% des femmes ont déclaré des revenus inférieurs à \$4,999 contre seulement 37.9% des hommes. C'est dire qu'à quelques exceptions près, les femmes ne touchent pas des revenus

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suffisants pour accéder à la propriété, du moins par leurs propres moyens. D'ailleurs, un relevé que nous avons effectué au 20 août 1975 montre que 632 propriétés de Boucherville sur un total de 7,500 (8.4%) étaient détenues par une ou plusieurs femme(s). 82 propriétés (1.1%) appartenaient à une ou plusieurs femme(s) associée(s) à un ou plusieurs homme(s). Au total, les femmes détenaient des titres dans 714 propriétés ou 9.5% de l'ensemble.

Sans mettre directement en relation les deux phénomènes, soulignons que le pourcentage de participation féminine au zonage (9.8%) chez les initiateurs et 11.4% chez les désapproubateurs) et le pourcentage de propriété féminine (9.5% à Boucherville) sont assez rapprochés.

Importance d'une intégration de la femme dans le processus du zonage

Ainsi le rôle des femmes dans les choix de zonage semble peu déterminant, du moins dans les trois villes étudiées. Certes quelques interventions pourraient s'exer-

cer par personnes interposées. Mais il n'en demeure pas moins que leur action directe reste très minoritaire.

Comment justifier cette abstention relative qui pourrait être interprétée comme de l'indifférence aux problèmes d'utilisation du sol? Il est bien sûr hors de question de procéder à une analyse approfondie dans le cadre d'un bref article. Nous n'avons pu d'ailleurs que constater, et ceci sans vouloir leur donner de valeur explicative, quelques coïncidences entre ce fait et la situation minoritaire de la femme dans plusieurs domaines. Ainsi avons-nous souligné la faible proportion de femmes propriétaires à Boucherville. Puisque le zonage affecte la propriété, puisque tout contrôle d'utilisation du sol a des répercussions sur l'usage ou la valeur d'une propriété, on pourrait supposer un lien d'intérêt entre la propriété et le zonage. La femme se sentirait très peu concernée par des décisions qui ont des répercussions sur un terrain ou un immeuble dont elle n'est pas propriétaire.

Mais cette relative indifférence a des causes sans doute bien plus complexes et diversifiées comme pourrait également le supposer la faible proportion des femmes scolarisées au niveau universitaire et leur faiblesse numérique dans les tranches de revenus moyens et supérieurs. Toutes ces hypothèses explicatives ne peuvent néanmoins justifier le repli de la femme à l'intérieur de son logement. En effet, le logement ne prend toute sa valeur économique et sociale que dans le milieu qui l'entoure et notamment dans certaines conditions d'uti-

lisation du sol. On peut d'ailleurs espérer que le point de vue de la femme, enfin intéressée aux choses extérieures du logis, apporterait une qualité nouvelle à l'habitat. Elle améliorerait l'approche souvent stérilisante des modèles normatifs proposés par les différents spécialistes qui veulent œuvrer dans le domaine de l'habitat et de l'urbanisme.

Dans la ville où elles habitent, elles ont un rôle à jouer et des initiatives à prendre. Mais encore faudrait-il pour favoriser leur participation qu'une information plus large soit diffusée sur les changements de zonage. Ceci supposerait certaines réformes et même une nouvelle conception du zonage. Celui-ci ne serait plus essentiellement le fait des propriétaires comme le prévoit la procédure actuelle du référendum. Il deviendrait l'affaire de tous les habitants du quartier. Enfin, c'est dans le cadre du quartier au niveau des comités de citoyens ou des conseils de quartiers que la femme pourrait apporter la meilleure contribution, soit en discutant des amendements proposés, soit en suggérant elle-même des changements. La «femme d'intérieur» regardant au-delà des murs de son logis, apporterait sa part enrichissante à une communauté enfin conçue pour tous. □



Photographie: Claire Beaugrand-Champagne

L'habitat au présent

Il faut littéralement escalader deux longs escaliers pour avoir accès à mon atelier situé dans le Vieux-Montréal. On pénètre alors dans une immense pièce secrète (30' x 90') dont on a du mal à deviner l'usage. Tout y est dépouillé, serein. De grandes fenêtres diffusent une lumière vivante, qui court sur les murs de pierre, de brique, sur le parquet vernis. On y entend le gazouillis d'oiseaux qui s'ébattent dans la volière entourée de plantes vertes.

Ce lieu, hors de convention, est ma maison et mon lieu de travail. Mes deux enfants y ont grandi. Ce lieu isolé, j'y passe les plus belles heures de l'aube à travailler dans le calme.

De neuf à cinq, il devient un bureau de décoration avec tout son va-et-vient et son aspect fonctionnel: tables de dessin, armoires de documentation, rangement d'échantillonnage, etc.

A la tombée du jour, comme un caméléon, la pièce change de couleur. A l'avant, on retrouve le coin séjour, des fauteuils, d'immenses coussins, des tables basses, un lit recouvert de fourrure.

La vue y est unique: la rue Saint-Paul, la façade de l'hôtel Rosco, la grissaille du vieux Marché Bonsecours, l'église...

A l'arrière se trouve la cuisine dont une fenêtre donne sur le port et dont l'autre a la vue obstruée par un immense élévateur à grain.

Sur ces larges murs, au soleil couchant, se dessinent en ombre noire, les maisons de mon quartier. Bien des gens, voyant l'atelier, disent: «j'ai toujours rêvé vivre dans une immense pièce comme celle-ci».

Il faut tant pour qu'un rêve devienne réalité. Moi aussi j'y ai songé longtemps avant de prendre une telle décision. Je voyais grandir mes enfants dans un quartier bourgeois et peu à peu, j'en acceptais le contexte. Malgré moi, je me conformais. Je travaillais de longues heures à l'extérieur, et je passais outre à ce qui était la force de ma vie, la présence de mes enfants. Il m'a fallu tout remettre en cause et la solution n'était autre que de concilier le travail et la vie familiale.

Un jour froid de février, j'ai dit à Annick et Martin: «J'aimerais vivre dans un atelier, je serais plus souvent avec vous, nous vivrions dans un lieu sans contrainte...»

Nous sommes allés rue Saint-Paul, voir un entrepôt, un lieu fermé, sale, en délàbre.

Martin a dit: «C'est beau», Annick: «C'est sale mais t'en fais pas Martin, maman arrangera tout ça!»

Ils acceptaient donc l'aventure.

On me dit que j'ai dû travailler très fort pour dépouiller ce lieu, et l'aménager. Je m'en souviens à peine. Peut-être à cause de ce que, à chaque jour, en sortant les débris à la tonne, je découvrais. Un jour, je me suis rendu compte que les poutres de l'immeuble étaient retenues à la ferme et que cela me permettait d'enlever toutes les cloisons. Je me suis retrouvée dans une immense pièce entourée de quatorze fenêtres. Je découvrais la merveilleuse lumière du Vieux-Montréal.

Une expérience de cet ordre comporte bien des étapes, bien des heurts mais pas un instant ai-je remis en cause la décision de vivre dans une aire décroisée près des miens, tout en exerçant ma profession. J'ai refusé de vivre selon un modèle tout fait. Cette contestation pacifique m'a permis de m'affirmer dans un mode de vie.

D'autres ont choisi, comme moi, de vivre dans une aire décroisée.

Je pense en particulier à cette petite maison de ferme de Saint-Mathias, sur les bords du Richelieu. J'y suis entrée familièrement, un jour d'automne, par la porte d'en arrière, comme c'est l'habitude dans le pays quand on connaît les gens.

Une fois le seuil passé, je me suis retrouvée dans la cuisine qui est le prolongement de la salle à manger et du vivoir. Le soleil baignait la pièce, des plantes vertes ornaient la poutre centrale

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de la maison. Quelle aventure avaient dû vivre ces gens! Quel cheminement de pensée pour arriver à cela! J'ai constaté qu'on avait dû supprimer deux cloisons, refaire les revêtements en tenant compte des matériaux anciens existants, tout repenser. Et voilà un père, une mère et leurs six enfants vivant ensemble à tous les différents moments de la journée dans une maison dépouillée, calme comme la campagne environnante.

La petite maison, dans son état ancien, comportait une entrée exiguë, un minuscule vivoir et une cuisine de taille moyenne. C'est en décroissant qu'est née cette grande cuisine-séjour, comme on les voyait jusqu'à récemment dans les demeures québécoises.

Le besoin d'espace et de communication est à l'origine de cette transformation; le besoin pour la mère de vivre plus près des siens au lieu de s'isoler à la cuisine pendant de longues heures.

À l'origine, le plafond bas et les maigres fenêtres ne laissaient pénétrer que faiblement la clarté. En effectuant une large trouée dans le plafond au-dessus de la zone cuisine, on saluait du même coup l'entrée du soleil par la fenêtre du pignon, au prix d'une pièce de moins à l'étage.

J'ai parlé de lumière, d'espace et de communication pour décrire la zone ouverte.

Si je pense à une autre maison où règne l'aire ouverte, je pense encore communication. Communication entre parents et enfants. Communication entre l'hôtesse et ceux qu'elle reçoit. On au-

rait pu choisir, en aménageant cette demeure de banlieue, de conserver à la cuisine son caractère d'isoloir. Mais la maîtresse de maison a tenu à ce que soit aboli tout ce qui fait écran entre elle, c'est-à-dire entre sa fonction de mère et d'hôtesse, et la vie de ceux qui l'entourent. «Je n'aime pas, dit-elle, avoir à passer dans une autre pièce et à interrompre ainsi une conversation animée pendant un repas, simplement parce que je dois faire le service.» En somme, si on y pense, l'aire ouverte, c'est une façon de vivre plus humainement dans un contexte moderne.

Le désir d'agrandir le séjour pour y inclure toute la maisonnée et y regrouper les fonctions correspond sans conteste à un besoin qui ne serait, au fond, que le retour à un mode ancien.

Je pense, pour ma part, que la maison qu'on cherche à nous imposer depuis quelques années est contraignante et que la zone ouverte correspond à un besoin primordial de la famille, besoin fondé sur l'échange, la présence, les rapports, toutes ces choses qui sont devenues rares à l'extérieur du foyer et que l'on recherche avec d'autant plus d'avidité chez soi.

Il est certain que la réalisation d'un bloc cuisine-salle à manger-vivoir, suppose le rétrécissement de la zone sommeil.

Dans les deux derniers cas que je viens de citer, on a créé de petites chambres d'enfants, ne comportant que l'essentiel comme mobilier: un lit, une table de travail, une commode. La chambre des parents légèrement plus spacieuse, se distingue souvent à peine de celles des enfants.

En cherchant à peindre le visage d'un habitat nouveau, je m'aperçois que la conception de l'aire ouverte n'en est qu'un aspect, qu'il en existe d'autres, comme le goût du jardin d'intérieur, la recherche du meuble d'appoint, le dépouillement dans l'aménagement.

Les jardins d'intérieur qui verdoient aujourd'hui dans tant de maisons se sont répandus avec une telle ampleur qu'en parler est presque un lieu commun. Il n'est pas de maison, où me conduise ma profession, qui n'ait sa fenêtre verte, son espace vert ou quelque colonie de pots verdoyants entourant souvent une cage d'oiseau ou un aquarium. C'est l'expression d'une soif viscérale de contact avec la nature. Il faut faire la différence entre la fougère de nos mères, placée en relief dans un coin du salon ou de la salle à manger et le foisonnement de verdure qui caractérise tant d'intérieurs en ce moment. On dispose les plantes en masse sans chercher à faire valoir une espèce plutôt qu'une autre. C'est une impression de nature que l'on veut créer et non pas une exposition de beaux spécimens. Les mouvements actuels d'écologie et de conservation ne sont pas étrangers à cette tendance. On désire vivre en harmonie avec la terre, avec le sol.

Le meuble d'appoint marque par sa présence la progressive disparition du mobilier combiné. J'y vois le signe aigu de la contestation qui s'est manifestée à l'égard de l'ameublement dit «complet». C'est le rejet, en même temps, de certaines valeurs bourgeoises. On refuse un certain style de vie.

Mon atelier. A l'avant, on retrouve le coin séjour, des fauteuils, de larges coussins, des tables basses, un lit recouvert de fourrure.
Photographie: SCHL/Betty Taylor

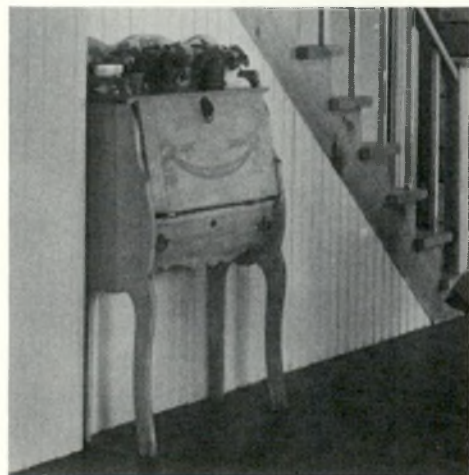


Il faut que désormais l'aménagement exprime nos goûts et notre personnalité. Chaque maison veut avoir son visage propre. Autour de quelques pièces de base comme le lit, le canapé, la table, viennent s'agencer des meubles en apparence aussi disparates que le poêle Franklin, le bahut danois, la vieille armoire en pin. On prendra des heures pour trouver le petit secrétaire qui vous manque ou la commode bien dorée qui brillera sous la lampe. Finie la mono-

tonie des ensembles fabriqués en série, qu'ils soient américains ou scandinaves. Chez moi, par exemple, on trouve en bonne compagnie des armoires du pays, dont aucune n'est pareille à l'autre, des fauteuils Louis XVI et des tables italiennes. Chaque pièce est un choix. Ce qu'il

*Saint-Mathias. Petite maison de ferme ancienne mais aménagée selon l'esprit nouveau.
Photographie: SCHL/Betty Taylor*

L'habitat au féminin pluriel



*Rez-de-chaussée transformé en aire ouverte.
A gauche la cuisine, fermée au besoin par des stores. Au fond, une fosse pratiquée dans le plancher reçoit la table et les banquettes.
Au premier plan, le canapé, le fauteuil et les coussins forment la zone séjour.
Photographie: SCHL/Betty Taylor.*

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*Un dépouillement qui invite
à la réflexion.*

Photographie: Clara Gutsche

y a de bien dans ce genre d'aménagement, c'est qu'il correspond à votre moi intérieur. On est sûr en entrant chez soi qu'on n'est pas entré par mégarde chez son voisin. Il en résulte un air d'harmonie entre les gens et les choses qui rend l'intérieur invitant. Il ne faut pas oublier non plus qu'il convient au budget modeste et aux esprits affranchis.

C'est sans doute pour ces deux raisons qu'apparaît dans l'aménagement intérieur une quatrième composante, le dépouillement. Il nous est apporté par la volonté farouche des jeunes de s'opposer au matérialisme de leurs parents. Entrez chez un jeune couple. Il n'y a souvent par terre que quelques coussins, sur un tapis, une chaise ou deux, quelques rayons de bibliothèque et une table peinte. Ce dépouillement est aussi parfaitement admis dans des intérieurs plus aisés et s'apparente au dénuement de la maison japonaise. Il exprime, encore une fois, la liberté, la contestation, le

rejet d'un mode de vie et la volonté de ne conserver autour de soi que l'essentiel.

Combien de temps dureront ces tendances? Par mon métier, je suis appelée à réfléchir plus que d'autres sur l'aménagement. On vient chercher chez moi des conseils ou des modèles. Mais il se trouve que la plupart du temps, et sans vouloir influencer la décision de ceux qui me consultent, mes exemples répondent à des besoins latents chez eux. Ils concrétisent ce qu'ils avaient ressenti sans avoir osé l'exprimer. Aussi longtemps que persistera cette faim d'espace, de lumière, de verdure, de communication dont je suis témoin quotidiennement, associée aux réactions de libération et d'affranchissement, on verra se répandre une forme d'aménagement d'intérieur personnalisé et anti-conformiste. □

In a City... **Outside** the Mainstream, and ...

Readers who enjoyed David Marvin's article about Griffintown in a recent issue of *Habitat* will be saddened to hear of his death. "Forced by deafness to live on society's fringe in a world mostly visual... His own life marked by alienation, dereliction, reformation, drove him—until his recent suicide—to use the camera in order to tell the story of people like himself" wrote the *Montreal Star* in devoting two pages to him and his work.

Writing in the same issue of *The Star*, Don Bell recounted some of David Marvin's experiences:

"Fortunately, Marvin had learned to speak and read before he became deaf as a youngster; 'but everything that has gone into me since then has gone in through books—that is, in a roundabout way,' he said.

"He was thrown out of school three times in Montreal after his family had moved here from Nova Scotia when he was in his teens. His teachers never thought a deaf child could have learning ability. Usually he was shunted into a back seat and ignored. One teacher told him: 'When we find out you're not good enough, we'll have to expel you.'

"But he surprised her and everyone by leading his class with a 90-plus average.

"Out of school, work was hard to come by. A job as a handyman in a convent paid him \$12 a week.

" 'Every two weeks when I got paid \$24 I had a big blast. I soaked up a bit in the tavern, then came rolling home to the convent. There was a big stone wall and hedges and the moonlight was beautiful, especially when you were drunk.

" 'One of the troubles with being deaf is that you can't wake up, you can't hear an alarm. Next thing I knew, I was shocked to see three nuns standing over me, trying to shake me awake. Needless to say, I was fired.'

"Eventually, he lifted himself off skid row, met a girl, married, fathered a son and settled down to a proofreading

job, working the lobster shift at *The Star*, where he was known and admired by many of the staff.

"Marvin, at last, had some security and enjoyment out of life. But during this past year, the fabric began falling apart again. He had lost a lung years ago, and now believed that his other lung was diseased.

"But the calamities kept piling up: his wife was in the hospital for a lengthy stay; he was on sick leave and then laid off during the recent newspaper strike. He seemed rudderless. Could he become a skid row bum again?

"Apparently, Marvin thought not."

...Going Down

by David Marvin

When my cash got low and I went to live on Richmond Square, it hit me hard. It was nothing new for me to be out of a job and having a hard time finding another. Things had always been that sort of mess. But always before I had hung on somehow and looked respectable. I wasn't sorry to lose my \$23-a-week newspaper job; it was rotten enough having lived a year on that, and I thought I would soon get something better. Now, after a month, I still wasn't working, and on my \$13-a-week unemployment insurance the best I could afford was a \$5-weekly room on Richmond Square. It was a comedown having to live in such a place and it gave me a feeling that things would be bad.

Richmond Square was ugly in a way that made me ache. It was an offshoot of unsaintly St. Antoine Street which cut it into two rectangles of arid dirt. The north side was a steep embankment, and halfway up it were the CPR tracks running into Windsor Station.

Even before I saw it, I imagined my room with the bare light bulb dangling from the ceiling, the odd cockroach decorating a big splotch where the damp had seeped through the plaster, and an odor of sewage from defective drains. The noise and smoke and cinders from the railroads covered the whole mess.

Once I was a denizen of Richmond Square there was just one thing to do: get a job fast so I could move away and live in a decent place again. I didn't like the idea that I might settle into the sort of life of the other people in the rooming house—the landlord and his string of common-law wives; the factory girls who had made the top-storey rooms a makeshift brothel, or the alcoholic-dope addict woman in the room next to

mine. It was a spur to work hard at finding a job and I spent all my time on it. To be working became an obsession and when I slept I dreamed of writing applications and going for interviews.

Things were getting bad as I had expected. It was summer when I left the newspaper but now it was fall and winter coming. Jobs were scarce and it was hard for me to get one anyway, since I was deaf and couldn't convince anyone that I could do anything. Altogether I had just 66 days of unemployment insurance. When that ran out, I'd be derelict. I was gripped by a frantic urgency to find a job. I knew I was in a rat-trap and it frightened me.

When I applied for office work with a big firm and they said no, I asked for work on their night maintenance staff. I was almost happy at the thought of mopping the smooth floors in that fine office building. But they said no, and I went away feeling like the drowning man who had clutched at a straw—and missed.

One day I was accosted by a panhandler from the ferocious tribe that saturated St. Antoine Street. He was a bleary man with dirty iron-grey hair, in greasy clothes that had a slept-in look and an odor of sweat and stale beer. Life for him was a transit from gutter to gutter. After I had told him to go to hell, I thought, "I'm in a jumble but at least, I'll never be like that." Then I knew with a sharp realization that I was wrong; I was already halfway to being "like that." I felt as if a sneer had been wiped off my face.

I tried to be objective and level-headed about the mess I was in, but I was too much in the middle of it and felt myself being drawn under. I had got into a rut once too often and had a feeling of being broken down and old. I told myself 22 is too young an age at which to be getting old; you ought to have enough jump left to get out of dozens of things like this. But I kept going down from one low level to another

until my only decent impulse was a simple, overwhelming desire to have a job, just a job of any sort to keep from starving on unemployment insurance or being-down-and-out.

I had hopes of being a dishwasher but I needed experience. I had experience I told the restaurant manager. I could write a textbook on dishwashing. He was absolutely certain I hadn't the right sort of experience.

Montreal became hateful to me. I thought of it as a vast animate thing with the soul of a snake, and I wanted to get a ship and be away from all the rottenness. The giver of jobs at the seafarer's union was the dispatcher who stood in front of a blackboard on which were chalked the names of ships and the ratings wanted.

"At the moment," he said, "we have all the men necessary to man our ships." He needn't have told me; I already knew, I was trapped in Montreal; I hated the place; I was in a rut I couldn't get out of, and the only direction I could move was down.

My unemployment insurance was almost gone. I had no more spirit for this game, I knew, but there was nothing to do but keep on trying. I began to feel there was a conspiracy against me because all the people I met seemed the same. They looked on me with the insentient gaze of frogs and always said no.

The social order must be rotten, I thought, when human life depends on having money or the ability to make it. I hated the social order all the more because it was an impersonal force that I couldn't go up and kick. It had shut me out simply because I wasn't a money-making factor in the economic system. Therefore, I wouldn't get a job and the means to live. All the people who denied me a job denied me the right to live. They were all my executioners.

When I asked for work and was told no, it was like being condemned to hang.

That sort of thinking is bad, I told myself; you only get yourself deeper in the rut. But then I thought, I'm tired of making excuses for life.

This sort of life I'm living drags a man down. I'm going lower by stages and doing things I thought I'd never do.

A dullness was coming over me and when anything miserable happened my reaction was likely to be "who cares" or "never mind." My main wish was that the whole thing would be over. If someone had cut my throat I would have thought it very decent of him.

Then I became a first-class drunk. My \$13 weekly didn't give me much leeway, though I made the most of it. I bought one loaf of bread a day and spent the rest on liquor. When the drink supply wouldn't last until the next week's stipend, I spiked it with rubby which was cheap. Time after time I woke up on dirty mornings with a cracked head, impaired vision and the burdensome knowledge that life must continue. Now I didn't care about not having a job. The great thing was to have money for another binge.

I couldn't believe that anything was worth a damn and couldn't care less if the rubbing alcohol I drank made me blind or demented. I was going to the dogs anyway, so why be bothered? Besides, since nice society had made me a pariah, I meant to give them good reason for doing it. I discarded everything connecting me with the outer world—beyond Richmond Square. The one decent suit I had, which I wore when applying for jobs, was hopelessly spoiled during a binge. I shaved seldom and had a mongrelish, unpleasantly unhealthy look. I had acquired the aura of the gutter and the panhandlers no longer asked me for money.

As my sensibilities broke down, I junked all the hopes and illusions I had ever had. I proved to my own satisfaction that there was no logic in anything, so I did nothing but try to achieve oblivion as often and as long as I could. Once in a while, when my old objectivity returned, I told myself it would be best to stop drinking and get a grip on things. Life was life no matter what form it took and one mustn't despair. I couldn't get around myself though. I was down and there was no way to get up. Everything was utterly rotten and I would go on drinking myself to death. That was that. To stop drinking required a spiritual regeneration, but at that point I hadn't learned to pray.

When I hadn't money for drink and couldn't borrow it I pawned my belongings. I drank up a watch in one night's wild binge that ended in a jail cell next morning. Then I drank up a typewriter I hadn't paid for. It wasn't until my unemployment insurance had run out that I pawned my hearing-aid. It meant a lot to me as the last of the material symbols connecting me with the world outside my now-unbalanced mind. When I realized it was gone I felt very solemn. I had isolated myself completely.

The night I pawned my hearing-aid I set out on the craziest spree ever. During the week it lasted I scarcely ever knew what I was doing. Memory didn't function since my mind didn't record what was going on. Only in short stretches did I know that I existed at all, and then it was just a timeless world where everything was indistinct; day was a white haze and night a black background for weird patterns of neon lights and blue flashes from the street-car trolleys.

One night I found myself ambling through streams of traffic with cars swerving around me. Another night (or perhaps the same) I was in a railroad yard, climbing up and balancing on a high board fence. My slow focusing vision settled on what turned out to be a

dog on the other side, big and ferocious and waiting for me to come down off the fence. I jumped and it got me by the wrist. Then it let go and stood back, barking. I wondered why it hadn't ripped my throat out and saw that a man was standing behind it. "Is the dog dangerous?" I asked, and from the way he nodded I knew it was.

I was in a jail cell on a cold winter morning—just another drunk raked from the ditch during the night—one of those weak-willed persons without talent who couldn't learn how to live.

When I was let loose I went back to my den on Richmond Square, the cold, hopeless room where a previous tenant had left a cheap lithograph of Christ hanging upside-down on the wall. Though I had nothing, the place was a haven. I was revolting even to other flop-house inmates because I had sunk lower than they, and the landlord wanted the rent I owed. I had no money at all, nothing left to pawn, everyone had cut me off and I had cut off everyone. Everything I had dreamt had happened. It wasn't my sort of world. I was baffled and couldn't see myself. This was rock bottom. I could only hope that the worst thing about that sort of hell was the descent into it.

For all good purposes my life was over and the future was just a horrid emptiness with no trace of hope that I could ever be decent and clean. Then when all spirit was gone and everything wrecked, I found there wasn't the simple recourse of falling down and letting it end then and there. I had to keep going though there was nothing ahead. It was then that I started coming back. In spite of everything, I was alive and kicking and that was the most and least that I could have. The genesis of reborn hope was in the fact that the worst that could happen had happened and I had nothing more to fear. □

The Mysterious
Doorways

Text and photographs by David McQueen

of Prince Edward
County



Prince Edward County, Ontario is a different place—"A private place, a quiet place....¹"

One used to feel the difference unmistakably coming across by ferry from Adolphustown in the early 1960's along with two or three other Ottawa families who had discovered near Outlet Beach an ideal, farm-based summer resort for families with small children.

As the ferry approached the Glenora side, Ottawa and all its turmoil was left definitively and gratefully behind. On the nearing shore, under the shadow of the Mountain (with its Lake on the Mountain), one almost expected to pass through a small customs and immigration post.

Beyond the ferry dock, a miniaturized and less spoiled version of rural Ontario unfolded. The architecture too—the older architecture—was noticeably different.

Basically, of course, it was still Ontario architecture of the 19th century, with some surviving Neoclassical and a good deal of Gothic Revival. But there was a flair, a delicacy about some of the mid-Victorian work that was striking.

Some doorways, in particular, were beautifully crafted. Many indeed were much better than their houses which suffered from that awkward rectangularity of proportion characteristic of the declining phase of Canadian Gothic Revival. But while the whole house might be too much a clumsy oblong set on end, or some variation of

this pattern, the doorway and its decoration could still be a marvellously executed elaboration of door, arch, pillars and a bargeboard type of trim similar to that celebrated by Adamson and Willard in *The Gaiety of Gables*. There were also louvres and half-round fanlights reminiscent of New Orleans, and intricately fanciful cast-iron insets, painted white or black, within the door windows.

I took a number of photographs of all this since preserving images in this fashion is worthwhile—up to a point. It records things that need to be recorded; it continues to celebrate the work of artists in wood and iron long after the mutilating arrival of strip-it-down modernizers and the all-too-ubiquitous salesmen of year-round aluminum doors.

But questions arise from the pictures that call for answers. Who exactly were these vernacular artists? Can none of them be identified? How and why did such superior work come to be done in the town of Picton and other parts of Prince Edward?

The Opulence of Yesterday

The last of these questions turns out to be easier to answer than the first two. As the Lunns' book documents, Prince Edward struck it modestly rich in the mid-nineteenth century, thus doubtlessly giving rise to family fortunes sufficient to accommodate a high standard of domestic exterior decoration in the 1850's, 1860's and 1870's.

More than other counties along Lake Ontario, Prince Edward was settled both early and thoroughly by Loyalists. The land was almost all occupied and expeditiously cleared. A base of rural production was established that meshed well with the county's strategic locational advantage in relation to early nineteenth-century transport technology.

It must be remembered that important railway development in Ontario only really began in the mid-1850's. Before that, and for a considerable time afterwards, the "Commercial Empire of the Saint Lawrence," in Donald Creighton's phrase, was prolific of water transport powered by both steam and sail.

This was Prince Edward's economic heyday. Thrust out into Lake Ontario like a mini-Nova-Scotia, generously endowed with bays and inlets, it both built and sailed ships. Its shipyards and harbours were busy; its imports and exports moved in and out by water.

Not only the county town of Picton, but villages like Demorestville, Bloomfield and Milford had their economic specialties and particular prosperities. Demorestville was a roistering lumber centre, sometimes known as "Sodom;" Quaker Bloomfield was renowned for its milling; Milford, connected to the lake by a then navigable creek, was one of the more important of many ship-building locations.

Craftsmanship in wood and iron was widely available. At one stage, there were four foundries in the county, with others relatively accessible at nearby points such as Belleville and Napanee.

All this was but for a time.

New technology, in the form of the east-west main line of the Grand Trunk Railway, bypassed Prince Edward and gradually reversed its locational ad-

¹ Lynn, Richard and Janet, *The County—The First Hundred Years in Loyalist Prince Edward* (Picton: Prince Edward County Council, 1967).

vantage. Barley exports to the United States declined toward the end of the century, and the Lake Ontario schooner became a dying breed. A combination of atrophied economic specialties and better roads caused the bustling villages to cede relative dominance to Picton within a total county economy that had ceased to grow as before.

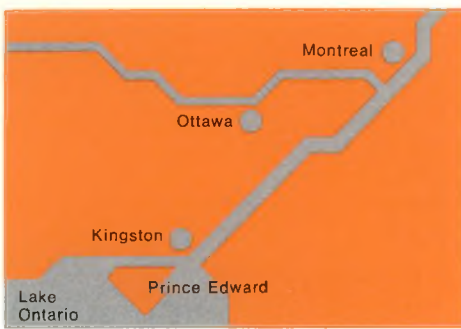
Still, the prosperous times, while they lasted, provide us with a strong circumstantial explanation for superior architectural embellishment. There existed both affluence to pay for good doorways and craftsmen to construct them.

The Unknown Craftsmen

But we still do not know who the craftsmen were. We can date much of their work, at least approximately. A few buildings with dates inscribed on them give clues to the dates of others. Another source of information consists of two illustrated maps and atlases of the period (Tremaine's of 1863 and Belden's of 1878) which supply latest possible dates for the buildings they show.

This, however, still leaves us a long way short of being able to attach a particular piece of cast-iron work to a particular foundry or foundry-man. The local foundries of Prince Edward dis-





appeared as that type of work became centralized in larger places like Belleville and Kingston, and it may be that unique patterns and moulds for door-insets disappeared with them. On the other hand, some of the door-insets may have been made outside the county, in foundries which exist to this day, and somewhere in an old cupboard at the back...

Alternatively, some of the Prince Edward insets may have been cast locally, but according to standard pattern books, copies of which may still be extant somewhere in North America. If door-insets identical to those illustrated here are still to be found on houses



elsewhere than in Prince Edward, that would be an important lead.

The same sort of detective work might be applied to the wooden decorations of doorways. Some of these may indeed have been unique creations, run up on the spot according to individual builder and/or owner inspiration. But others, again, may have been built to patterns.

Just across the Bay of Quinte from Prince Edward, in Deseronto, may be found an 1888 catalogue of the Rathbun Lumber Company. Though the ready-made doorways in the catalogue are 15 or 20 years later than those photographed, there are still some interesting resemblances, such as the use of the modified oval-over-octagon pattern on one of the catalogue doorways that recalls a much more elegant doorway in Milford.



There are few more pleasant places than Prince Edward—"Quinte's Isle"—in which to combine architectural sleuthing with a restorative holiday. As a good starting point, be sure to visit the increasingly interesting collection of the County Museum at Picton, run by Jim Musgrove and Don MacDermaid.

Deux villes nouvelles

par Paule Lévêque

à l'assaut du futur

Depuis une quinzaine d'années la France s'attache à créer une nouvelle stratégie urbaine. Elle souhaite renoncer aux villes tentaculaires et aux cités-dortoirs tristes et sans espoir. Appliquant des principes novateurs, elle a défini sur son territoire neuf villes nouvelles, dont cinq en Région parisienne.

Cergy-Pontoise au nord-ouest de Paris, Evry au sud-est sont actuellement les deux villes nouvelles les plus avancées, celles qui ont le plus de chance de se réaliser, et cela, malgré certaines remises en cause des options fondamentales prises au départ par l'équipe de M. Delouvrier, alors préfet du District parisien.

A Cergy-Pontoise, mais surtout à Evry, les principales données urbanistiques, architecturales et sociologiques à l'étude actuellement en France sont appliquées sur le terrain. Après les dernières décisions gouvernementales et présidentielles, il semble qu'un coup d'arrêt sera donné aux villes expérimentales. Cergy-Pontoise et Evry pourraient bien en pâtir. Selon les nouvelles directives gouvernementales, plus adaptées à la crise économique, les urbanistes, tout en gardant les principes fondamentaux, éviteront le gigantisme et essaieront de trouver un aménagement peut-être moins rationnel mais plus humain.

Il suffit de se promener dans les cinq départements de la grande couronne pour constater que les villes nouvelles sortent de terre, mais se trouvent à des degrés différents d'évolution. Elles occupent une superficie de plus de 10,450 hectares, regroupent 800,000 habitants dont 10% sont des nouveaux arrivés, et offrent 42,000 emplois. Elles se sont assurées dans de bonnes conditions la maîtrise des sols, elles ont organisé l'accueil des habitants, créé des zones artisanales, industrielles, développé les espaces verts et les bases de loisirs. Cependant bien des points noirs subsistent. Les populations s'intégreront-elles aux communautés villageoises existantes, sauront-elles résister aux difficultés toutes provisoires, mais qui peuvent durer et qui proviennent du manque d'équipements routiers, de l'absence de véritables moyens de transport? Malgré l'effort constant du District et de la Région, certains équipements: hôpitaux, universités, moyens de transport ont pris du retard. Les promoteurs privés viennent en boudant en ville nouvelle. Un nombre d'HLM trop élevé empêche une bonne répartition des différentes couches de population. Les programmes de bureaux, les emplacements industriels sont difficiles à vendre, faute de routes ou de téléphone. En 1973, la construction s'est ralentie, les équipements marquent le pas. Les villes nouvelles sont remises en question. Le gigantisme passe de mode.

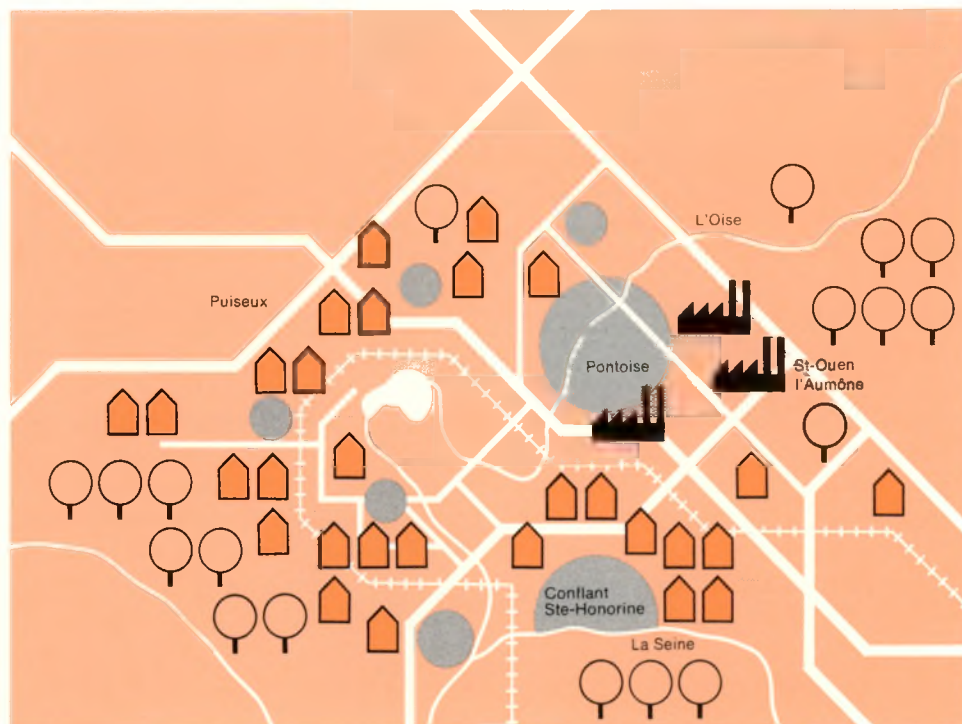
Une technique administrative et juridique au banc d'essai

Pour éviter la «ville en miette», les cités-dortoirs, les banlieues tentaculaires, les urbanistes français ont réfléchi longuement sur les expériences étrangères, surtout anglaises, et partant de là, ils ont essayé de trouver des solutions originales.

Les villes nouvelles sont classiquement conçues comme des pôles secondaires, privilégiés et intégrés à l'ensemble d'une métropole. Cergy-Pontoise et Evry sont implantées dans un rayon de 25 km de Paris. Pour les faire sortir de terre il a donc fallu conjuguer la mise en œuvre de moyens juridiques et financiers tout à fait nouveaux, imaginer de nouvelles structures et établir une stratégie d'ensemble qui permettent à long terme, 30 à 50 ans, d'aménager de vastes superficies. Evry dans le département de l'Essonne englobe 14 communes et devrait abriter près de 400,000 habitants en 1985. Cergy-Pontoise s'étend sur 15 communes; elle devrait être reliée à la Défense, quartier de tours, de bureaux, à la limite ouest de Paris et recevoir à la même époque 200,000 habitants.

Pour construire ces villes planifiées dès leur conception, l'Etat a appliqué une stricte politique foncière. En 1973, Cergy-Pontoise avait acquis près de 1,630 hectares, doublant ainsi son capital foncier acquis en près de sept ans. Evry s'installait dès le début des opérations sur 2,000 hectares acquis en 1968, période de panique.

Pour pouvoir bâtir cinq centres-villes modernes et dynamiques, l'Etat a déjà dépensé dans les départements parisiens plus de 817 millions de FF. L'Agence Foncière qui se charge des estimations et des tractations, a toujours voulu éviter les spéculations. Elle a réussi en région parisienne à acquérir des terrains pour centre-ville à environ 9FF le m². Mais dès 1962, pour protéger les emplacements choisis, il fallut «zader», autrement dit, placer les terrains en zone d'aménagement différé.



Cergy-Pontoise



Evry

Pour permettre à la collectivité d'exercer un droit de préemption, il fut nécessaire, avant même d'acheter, de définir des plans d'urbanisme. Sur le plan financier, des formules nouvelles durent être trouvées. Il fallait donner aux petites communes rurales touchées par ces implantations, la possibilité de supporter des charges d'équipement pour l'instant hors de leurs moyens. Pour installer les voiries, l'assainissement, entreprendre les études préliminaires, l'Etat leur assura une aide.

Pour coordonner son action, l'Etat mit en place le «Groupe central des villes nouvelles» qui regroupe des fonctionnaires, des ministères intéressés: Equipements, Finances, Affaires Culturelles. Malgré ces dispositifs les communes rurales concernées éprouvent maintes difficultés. Elles rechignent à s'amputer d'une partie de leur territoire et ne peuvent prendre en charge des frais trop lourds pour leur population actuelle. Aussi, une loi promulguée en 1970, la loi «Boscher» du nom du député-maire d'Evry qui présida à sa création, offre aux communes la possibilité de se grouper pour administrer les villes nouvelles selon diverses formules administratives. Elles peuvent se rassembler dans un «Ensemble urbain» ou au sein d'un «Syndicat communautaire».

L'ensemble urbain fonctionne comme une véritable commune nouvelle. Mais cette formule, pour des raisons surtout politiques, n'a pas eu les préfés-

rences d'Evry et de Cergy. Ces deux urbanisations ont choisi une gestion par Syndicat communautaire. Cette méthode laisse plus de choix aux communes existantes qui fonctionnent alors dans leur intégrité pour les problèmes qui les concernent en propre. L'esprit de clocher est encore très fort dans les secteurs ruraux et il leur donne une puissance combative. Les élus qui se retrouvent dans le Syndicat gardent ainsi une certaine liberté d'action et défendent les intérêts de leurs électeurs. L'implantation d'une importante population mal répartie sociologiquement amènera au niveau des régions concernées des perturbations politiques importantes.

Cette formule qui fait fonctionner le syndicat comme une communauté réduite aux acquets est loin d'être une panacée. A Evry par exemple, le centre-ville, conçu par l'architecte Lecouteur, unique en son genre en Europe et d'importance régionale, ne fonctionnera pourtant que sur les seuls crédits des 14 petites communes, membres du Syndicat. Des problèmes de gestion se poseront sans doute à brève échéance.

L'Etablissement public, un moteur puissant

En effet, pour implanter ces villes il fallait trouver un organisme qui agirait sur place, ferait la liaison entre les élus et les organismes administratifs, et posséderait une certaine autorité. Aux Missions d'aménagement installées dans les premières années succédèrent, à Cergy-Pontoise et Evry, des Etablisse-

ments publics possédant leur budget et agissant en tant qu'aménageur.

L'Etablissement public agit à la fois pour le compte de l'Etat et de la nouvelle collectivité locale. Il réalise l'ensemble des grands équipements, il entre en contact avec les promoteurs privés ou publics. Il regroupe des urbanistes, des architectes, des sociologues, des géographes souvent imbus de théories nouvelles se basant sur une philosophie de l'homme très matérialiste et axée sur le groupe et la vie communautaire.

Cette attitude très particulière se heurte chez les élus en général et chez les habitants, à l'esprit très individualiste, mais aussi très prudent des Français; elle est une des causes de la méconnaissance des villes nouvelles.

Un autoritarisme intellectuel

Des villes «autoritaires» superbement pensées dont les mots-clés sont la création collective, l'innovation, l'intégration des fonctions, la télédistribution et l'informatique, ne correspondent peut-être pas, en matière d'urbanisme, aux conceptions du Français moyen, mais elles offriront vers 1985 un cadre bien équipé pour une population qui aura certainement évolué et perdu de son agressivité.

Ces villes donnent pourtant actuellement un ensemble de quartiers habitables, des emplois à des jeunes ménages venus là avec l'esprit pionnier.

A Evry, des centres de quartiers se développent dans trois lieux différents, le Parc aux Lièvres, Courcouronnes, le Champtier du Coq. Des activités se développent. Près de quarante sièges d'entreprises dont celui d'Honeywell-Bull s'implantent dans la ville. Cependant des emplois tertiaires manquent; ces derniers pourtant retiendraient les femmes et les empêcheraient d'avoir deux heures de trajet pour aller travailler à Paris.

A Cergy-Pontoise, la situation de l'emploi est beaucoup plus satisfaisante. Cette ville tient la tête des agréments de

bureaux accordés en 1973. Un essor industriel est également observé dans la zone de Saint-Ouen-l'Aumône. Par contre la construction de logements stagne. En 1973, 1,200 logements étaient financés; en 1972, il y en avait plus du double. Pour rattraper ce retard, 3,000 logements devaient sortir de terre en 1974; ils sont loin d'être tous construits.

Pour aider les habitants à s'intégrer, à s'adapter à leurs nouvelles conditions d'existence, des équipes d'accueil sont mises en place. Elles épaulent la population, enregistrent ses plaintes, ses suggestions, essaient avec plus ou moins de bonheur et d'intégrité politique d'animer la ville. Malgré tous ces efforts d'organisation, les jeunes foyers qui s'installent à Cergy comme à Evry s'inquiètent, soit du retard d'équipements routiers et SNCF, soit du manque d'universités, d'hôpitaux ou de bases de loisir. En principe, ces difficultés sont provisoires, elles viennent d'un manque de financement. Si elles persistaient, les villes nouvelles se videraient et ressembleraient à des villes mortes.

Autres temps, autres mœurs, le point de ralliement de ces cités n'est plus la cathédrale, mais la préfecture. Celle de Cergy-Pontoise fut le premier immeuble à sortir de terre au milieu des champs de betteraves. Sa forme de pyramide renversée grandit au centre d'un désert vert, il y a quelque cinq ans. Celle d'Evry, en forme de L, plus classique mais aussi somptueuse poussa au milieu des prés aux portes du vieil Evry.

Les deux villes nouvelles s'agencèrent parallèlement, mais selon des critères différents.

Zoning traditionnel et circuits de fonction et d'intégration

A Cergy-Pontoise, fut programmé, autour de la préfecture, un premier quartier capable d'accueillir 30,000 habitants. Aujourd'hui il est plus qu'à moitié terminé. Construit par secteurs, le quartier, qui aura la capacité d'une petite ville française, se structure et reçoit déjà 10,000 habitants.

A Evry, les réalisations commencent, éparpillées sur des axes partageant l'ensemble du terrain acquis, pour donner une possibilité de choix plus grande à la nouvelle population. Au contraire de Cergy-Pontoise, où l'on trouve une grande proportion d'immeubles de trois à cinq étages, Evry offre de véritables secteurs de maisons individuelles. A Cergy-Pontoise, les urbanistes ont assuré une certaine continuité dans le cadre du schéma directeur et ils appliquent le plan d'aménagement en fer à cheval imaginé autour de la boucle de l'Oise qui entoure les vieux villages de Cergy et Neuville.

Cergy-Pontoise a réalisé des opérations de type classique, de taille moyenne, d'environ 500 logements. Des maîtres d'ouvrage différents ont mêlé les différents types de logements à financement surtout social.

Les formes architecturales des immeubles sont d'aspect assez conformiste. Mais l'innovation se retrouve dans les équipements publics, et dans la différenciation des circulations piétonnières et automobiles. Les écoles, les crèches sont comme la préfecture, d'une architecture d'avant-garde, souvent colorée et correspondant à une recherche socio-pédagogique.

A Evry, où le site n'a rien de remarquable, une trame en X a été adop-



tée. Les quatre branches de l'X représentent quatre quartiers avec une franche pénétration de la nature jusqu'au cœur de ville, point central où se recoupent les branches.

L'organisation des quartiers

A Cergy, promenons-nous dans le quartier des Touleuses. Que verrons-nous dans ce secteur sud? Une tour-signal est le point central d'une place autour de laquelle s'ouvrent des commerces, un lieu de culte, un centre médical, une maison de jeunes, des cafés, etc. Ces équipements sont prévus pour satisfaire les besoins d'une population de 3,000 logements compris dans cet ensemble. Les habitations sont réparties en îlots de cinq cents habitations. L'îlot des Maradas regroupe en immeubles collectifs de quatre à cinq étages, 388 logements et une centaine de maisons individuelles.

Un espace vert permet la liaison avec les îlots voisins et avec le centre-ville. A la périphérie de Maradas se trouvent les logements individuels protégés de la voirie par les mouvements de terre. Les bâtiments collectifs abritent en rez-de-chaussée des ateliers, des laveries, des cabines téléphoniques et parfois une garderie. Le groupe scolaire comprenant maternelle et classes primaires est placé entre la voirie et la zone de verdure. Les enfants ne parcourent jamais plus de 300 m pour aller à l'école. Ils y vont sans risque de rencontrer la moindre

circulation automobile. Le réseau de rues piétonnes est en effet indépendant de la voirie automobile primaire et secondaire. La desserte des immeubles aboutit en cul-de-sac pour limiter la vitesse aux niveaux des accès à l'îlot. Les espaces de plein air ont été bien pensés. Les maisons individuelles en bande jouissent d'un espace privatif. Les aires de jeux réservées aux jeunes enfants se trouvent situées près des logements dans des endroits ensoleillés et protégés du vent. Pour les adolescents, des jardins d'aventure ont été imaginés. Enfin il existe des jardins de repos et d'isolement, formule moderne du square urbain. En cuvette, entourés de talus gazonnés, ces espaces sont des endroits paisibles où viennent se reposer les jeunes mères de famille, les adolescents en mal de romantisme et les grands-mères paisibles.

Dans cette conception, la place des Touleuses a une vocation culturelle, commerciale et sociale au niveau du quartier. Elle permet le passage entre le bois de Cergy aménagé au sud et les quatre îlots construits sur des principes identiques. Il faut signaler qu'à un niveau inférieur à la place, en bordure de la voirie principale, il existe un vaste parc à voitures et un emplacement pour le marché forain. Ces marchés toujours pittoresques sont un élément d'animation commerciale important.

A Evry, la conception est différente. Si nous nous promenons le nez au vent dans un quartier d'Evry, le Champrier du Coq, actuellement bien occupé par une population jeune et active, nous observons qu'il s'organise autour d'une rue réservée aux piétons et aux cyclistes. L'implantation des éléments habitat-équipements autour d'un axe répond à l'idée de créer un lieu de rencontre privilégié. Le long de cette rue se retrouvent le CES (Collège d'enseignement secondaire), les gymnases, un «relais» paroissial, des commerces, un foyer de jeunes. Leur font vis-à-vis des jeux pour enfants, d'autres commerces, une maison de jeunes, une halte-garderie, une école primaire et maternelle et de petits immeubles de bureaux. Ces derniers doivent procurer sur place des emplois féminins. Tout près de là des tennis, des jeux de boules recouvrent un parking. Pour protéger le quartier de la proximité de la nationale 7, des garages linéaires, véritable mur de béton, s'élèvent le long de cette route. Ainsi les quartiers d'habitation d'Evry se développent le long des branches de l'X. Dans le quartier d'Evry I, beaucoup plus futuriste, les immeubles ont une forme pyramidale et les garages sont situés dans leur noyau. L'X se retrouve aussi au niveau de la conception des îlots d'habitations.

Philosophie de la place publique

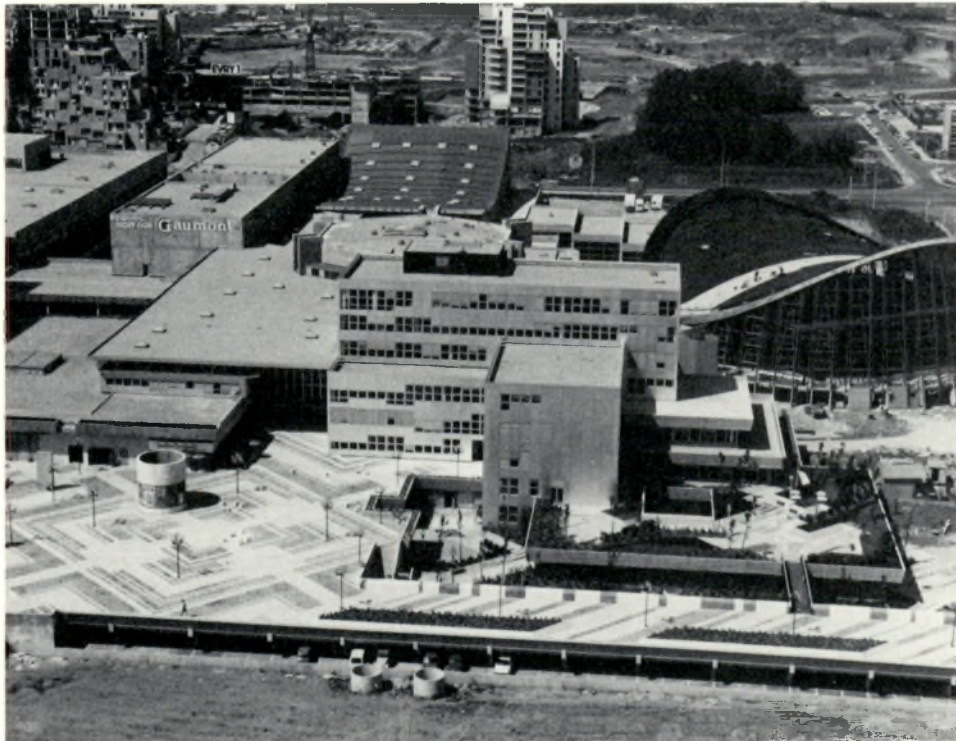
L'agora d'Athènes était un lieu de retrouvailles et de discussion pour les hommes de la cité. A Evry, l'architecte Lecouteur et les bâtisseurs ont souhaité être des humanistes; ils ont introduit la notion d'agora, formule d'urbanisme intégré. La place en grande partie couverte relie des implantations importantes comme la préfecture, le centre com-

mercial régional; elle permet d'ouvrir des programmes architecturaux, patinoire, salle de théâtre, etc. sur un réseau d'espaces publics traités avec soin. Des équipements comme la gare de transports urbains, une bibliothèque, une patinoire, des cinémas, un dispensaire, un centre administratif se trouvent ainsi rapprochés du quartier des affaires et de la préfecture. Dans ce vaste espace se retrouvera toute une population régionale.

Le vaste hall d'information sur lequel débouchent ces équipements groupe des antennes des principaux services aptes à remplir des fonctions d'accueil et d'information. Les principaux services publics sont intégrés entre eux dans des proportions variables. Les administrations traditionnelles admettent mal certains regroupements.

Cergy-Pontoise a désiré donner à la population un cœur de ville imbriquant les fonctions urbaines. Pour cela il fallait doter le quartier central d'équipements régionaux. Mais ici l'Etablissement public a cherché une solution évolutive et économique, et a voulu garder avant tout une échelle humaine. Le centre se trouve à la croisée de grands axes, autoroute A15, nouvelle ligne SNCF Cergy-Nanterre-Paris qui remplacera l'aérotrain. Dominé par le vieux Pontoise blotti contre sa cathédrale gothique, le centre est relié aux quartiers de Cergysud et nord par de nombreuses passerelles piétonnes. Un vaste parking bordant l'A15 est directement en contact avec le centre commercial régional de

L'agora d'Evry avec, à l'arrière-plan à gauche, les pyramides d'Evry I.



55,000 m². Le véritable cœur du quartier est constitué par une maille centrale de 500 x 500 m où se trouvent mêlés les commerces, les centres de loisirs et les bureaux. D'autre part, les automobiles circulent sur des voies en tranchée partiellement couvertes.

Actuellement, le premier ensemble à peu près terminé regroupe la préfecture, l'Etablissement public, les services fiscaux, la piscine, la patinoire, des bureaux, des cinémas. La place de la préfecture surélevée est assez attrayante. Le deuxième ensemble axé sur le centre commercial comportera l'hôtel de ville, l'hôtel des Postes, des bureaux et des logements. Entre ces deux parties viendront s'ajouter un complexe gare-SNCF-

autobus et un vaste immeuble à destination culturelle.

Le cœur de ville s'ouvre par ailleurs sur un parc paysagé bien adapté à la situation géographique, à l'horizon duquel se découpe le clocher du vieux village. Le parc de quatre hectares est en relation directe avec l'Ecole Supérieure des sciences économiques et commerciales. Excessivement moderne, cette école adaptée aux techniques nouvelles intègre les étudiants à la ville et rejette très loin la formule du campus.

Bases de loisirs obligatoires

A Cergy, les espaces verts, les étangs existaient déjà dans le paysage, il ne s'agissait que de les aménager. En 1973, 150,000 visiteurs ont fréquenté ces étangs et ces plages.

A Evry, par contre, un hippodrome moderne et un stade ont été ouverts mais il a fallu creuser des plans d'eau.

Ces petits lacs artificiels existent pour le plaisir des promeneurs, mais surtout pour régulariser le bon écoulement des eaux pluviales.

Ces deux villes nouvelles qui vivent déjà par leurs propres moyens, ont des qualités urbaines certaines. En employant les procédés les plus nouveaux, tels les circuits de fonction et d'intégration qui matérialisent le schéma des intentions d'organisation d'une zone, Evry s'oppose à la méthode de zoning traditionnelle, met l'accent sur l'interaction des activités et s'est placée à l'avant-garde de l'urbanisme. En déterminant une trame verte, un réseau piéton-vélos, et surtout un circuit de circulation intégrée, l'équipe d'Evry a vu très grand et a joué la carte de l'avenir.

Cergy-Pontoise plus classique dans sa réalisation profite d'un site exceptionnel et de la proximité d'une ville historique. Elle applique davantage une stratégie de croissance, recherche la diversité et la qualité de l'environnement. La seule innovation véritable, l'aérotrain, n'a pu être mise en place, et la ville est donc pour l'instant défavorisée dans ses relations avec Paris.

Bien structurées, ces villes ont pris largement leur envol. Elles sont maintenant obligées de se développer, même si elles doivent s'adapter à des impératifs sociaux plus modestes. Après tout, une ville se construit pour l'homme et est le reflet d'une société. □

Non-Profit...

The Housing Built by Volunteers

by Alan de Jourdan

To many professionals in the housing field non-profit housing developments, sponsored by volunteers, are often a source of problems and bewilderment. As one exasperated official put it "Volunteers have hearts of gold but heads of lead." Yet volunteers are making an increasingly significant contribution to Canada's housing stock.

Most of the housebuilding in Canada is carried on either by entrepreneurs (individuals, contractors and developers) or through government-assisted efforts as social housing. In the past decade, however, an important third force has appeared—housing sponsored by non-profit corporations whose members are mostly volunteers.

Concerned citizens, members of service clubs, church groups, fraternal or veterans organizations are recognizing special housing needs in their communities and, through the voluntary work of their members, are using the provisions of the National Housing Act to obtain financial assistance to provide low-cost housing for the poor, the elderly, the disadvantaged and the handicapped.

As can be seen from the statistics for the past ten years (see Box-Statistics), this housing has become increasingly significant. Yet it would not have been possible without the time and effort of hundreds of individuals. Behind each non-profit project is a group of dedicated people who are anxious to provide a home for the less fortunate in their community and are willing to spend countless hours in planning, consulting and problem solving in order to get it. Furthermore, their commitment must continue since the day-to-day operating of any housing development requires constant supervision.

St. Andrew's Place, Sudbury is perhaps not a typical example of non-profit housing since it was built to meet several specialized needs. Yet in terms of time and effort by volunteers it serves as a good example. (cf. "In Sudbury They Built 'People Places'—Habitat, Vol. 16, Nos. 1 and 2")

According to Rev. Dr. Charles H. Forsyth, one of the prime movers of the project:

"St. Andrew's Place could not have been built and could not continue without the volunteer, whether that volunteer serves on our board of directors,

or serves coffee to our senior citizen tenants. Certainly, during the almost two years of planning that preceded the start of construction our Building Committee, made up of professional and lay members, had to have many meetings. And they continued working after our first tenants moved in, in 1973. It is a matter of pride that our 15-man board of directors still has at least ten 'originals'.

"In the case of St. Andrew's each board member can now expect to be asked to attend one committee meeting and one board meeting a month, while members of the executive committee meet more frequently.

"As for our president, Mr. J. C. Bischoff," says Dr. Forsyth, "we are fortunate to have a man who is retired. It's a rare day he doesn't come in for three or four hours to work on administration. I dare say he is working as hard now as he ever did at his regular job."

Decisions

In deciding to build non-profit housing what are some of the basic decisions volunteer group members must make?

"In my opinion perhaps the most important," says Dr. Forsyth, "is to convince them they are going to have to make a long-term commitment, not in money, but in time. It was quite a shock to some of our members when I started talking in terms of 50 years, the term of the mortgage. But it got us away from the idea of just supplying bricks and mortar to the one of a continuing responsibility to our tenants while keeping in mind the social function of what we were trying to build. Of course we expect a turnover in board members and we achieve this by having a portion of our board elected new each year. This provides a continuity of experience. We often say the easiest part of the whole



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project was getting it built. The really difficult thing is making it work.

"Another important decision is to include the community in your planning activities. Try to get members from the community at large and as general a cross-section as possible. And don't forget your prospective tenants, the group you are trying to serve. Include them in your planning and development. It is too easy to adopt a paternalistic attitude and smother self-determination."

In regard to this last point Dr. Forsyth points out they are practising what they preach in that they have a senior citizen, elected by the tenants, sitting on their board of directors.

Problems

After two years of successful operation, St. Andrew's Place is still wrestling with the dilemma of how to hold down rents in the face of rising costs due to inflation. Not the least of these costs is the increasing municipal tax assessment on each senior citizen apartment. Despite many discussions and recourse to the courts, the apartments are still assessed by the municipality on the same basis as other residential property.

"This is a major problem for all non-profit groups," says Dr. Forsyth. "We have had visits from at least 70 different groups, each interested in starting some sort of non-profit housing. Many have had second thoughts on hearing of our tax difficulties. I think this whole problem of municipal assessment on non-profit houses of every type will have to be reviewed by the province."



A Personal Note

The writer, who served on a residential care committee which finally succeeded in establishing a group home for mentally retarded adults, can only reinforce the above statements. Committed volunteers are vital to the success of the enterprise, and it must be emphasized, they have to be willing to serve a number of years as directors in order to launch the project and to carry it over the difficult first years.

Two points may be made as well. First, the charter of the non-profit group must be acceptable to Central Mortgage and Housing Corporation if federal funding is to be obtained. For this reason it is advisable to involve the local office of CMHC at an early stage so that if the charter has to be amended this

Meeting local senior citizen housing needs is a priority for many non-profit housing corporations. This project in St. Catharines, Ontario provides 54 self-contained living units for elderly couples.

All Photos: CMHC/W. Cadzow and E. Taylor.

Definitions

Section 15.1 of the National Housing Act states that loans for an amount equal to the total lending value of a housing project may be made to non-profit corporations that are constituted exclusively for charitable purposes. In the past, difficulties have been experienced in defining the concise meaning of the phrase "non-profit corporation constituted exclusively for charitable purposes."

"Non-profit corporation" is defined by Central Mortgage and Housing Corporation as one in which no part of the income of the corporation is payable or otherwise available for the personal benefit of any proprietor, member or shareholder. This applies during the continuing operation of the corporation and, in certain cases, has also been applied to the disposal of assets if and when the company is wound up.

"A non-profit corporation constituted exclusively for charitable purposes" is one which engages in activity directed towards a specific group of people in need of charitable assistance who form such a group or class of persons not by reason *only* of their religious, racial, ethnic or political affiliation.

Exclusively charitable means simply that the sole concern of the non-profit corporation is to engage in charitable activity. Any revenue producing activities have to be considered on their individual merits and evaluated as to profit-making capabilities. For example, small sheltered workshops located in a residence for physically handicapped

people may produce some revenue from the sale of their products, but the main purpose of the shop would probably be judged to be therapeutic or educational. However, mass production of electronic components probably would not be judged an appropriate activity in conjunction with a non-profit sponsored residential enterprise.

In general, activities appropriate to the project are acceptable as long as such activities are secondary to the main purpose of the residence which is to provide low-rent accommodation for disadvantaged people.

In the view of the Corporation, the objects of charity are not necessarily those as generally accepted and defined in our society. However, they do include underprivileged people, defined as such either due to their economic situation, or disabled due to a deficiency caused by disease or accident which puts them at a disadvantage. Such people have difficulty supporting themselves in a society that requires, as a minimum, good health and both the desire and ability to be self-supporting and earn a living. These people are in need of special assistance in the form of food, shelter, hospitalization, extended-care facilities and other such specialized services provided by interested groups free of charge or at a subsidized cost to the recipient, if possible. Thus the loans under Section 15.1 are intended to assist such people with low-cost housing. □

can be done while other planning proceeds. (See Box—Definitions)

Secondly, and this is most important, where an existing property is to be purchased and renovated—make absolutely certain the municipal zoning regulations permit the intended use. If possible, approach neighbors in the area and tell them of your plans. An initial adverse reaction can be expected as the usual thing, but hopefully, with mutual discussion, many of them will give you support, *provided* you give them full information of your plans at an early stage. If discussion is delayed until later you may find opinions polarized against the project and almost impossible to change.

Recent Examples

Examples of successful non-profit sponsored housing can be found in every province in Canada. Perhaps the most common type of such housing is senior citizen but other specialized types of housing have been provided for juvenile delinquents, emotionally disturbed adolescents and adults, half-way homes for discharged prisoners and alcoholics, and housing for physically and mentally handicapped children and adults.

In New Brunswick the Skigin Elnoog Housing Corporation, under the sponsorship of the New Brunswick Association of Metis and Non-Status Indians, have recently obtained a \$490,000 loan for the acquisition and repair of 35 or more rental housing units to low-income families. The Association was formed in 1973 to assist low-income native people and others to obtain suitable living accommodation. Beginning in November 1973 an original loan of \$84,000 was used to purchase and renovate nine units. Another loan of \$325,000 was approved in May 1974 for 24 more houses. Now the self-help association hopes to reach a total of 300 units, each with two, three or four bedrooms, and

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renting for \$45 to \$125 per month dependent on the income of the tenants.

While the cost of acquiring and repairing existing dwellings has increased somewhat¹ the project is succeeding in providing homes in both rural and urban areas at rents well below market figures. It should be noted that the province is assisting by giving a \$1,000 grant per unit through the New Brunswick Housing Corporation.

Not the least significant benefit is that of providing dispersed housing units, where the tenants are already integrated into the community and hopefully will avoid the stigma of living in separate subsidized housing projects.

In Quebec a loan of \$1,699,060 is being used to build a center of 110 beds for the rehabilitation of handicapped children suffering from social, psychological and physical problems.

The sponsors have taken an innovative approach to planning the project in that the two-storey buildings include seven living modules, each comprising a kitchenette, a dining room, a living room and an activity area. The living modules are grouped around core facilities such as the main kitchen, a gymnasium, a dispensary, two craft rooms and administration offices. Such planning, it is felt, will assist the professional staff in achieving the maximum results by dividing the total population into seven, smaller and more manageable groups for treatment.

In Saskatchewan the Sasknative Housing Corporation has just received their fourth loan for the acquisition of 20 existing houses, each containing three and four bedrooms, for rent to low-in-



The Polish community of Vancouver banded together to build this senior citizens home which is open to all tenants on an equal basis, regardless of race, color or creed. Volunteer participation by ethnic groups helps to serve communities as a whole.



An ordinary house on an ordinary street gives low-rent tenants a chance to integrate into the community. Native groups in the West have been purchasing homes like these, renovating and renting them to low-income tenants. Financing is obtained under the NHA non-profit provisions.

come families including native and metis tenants. Rents are within the level of shelter allowance and other special provisions available from the Department of Social Services, Province of Saskatchewan. Three previous loans have been used to purchase some 50 houses located throughout Saskatoon. The success of the program and extent of need may be gauged from the waiting list which now totals more than 100 families.*

* Average cost of the homes has ranged from \$17,000 to \$19,000 per unit, with an additional \$2,000 being spent on repairs.

Perhaps the most exciting project recently approved under Section 15.1 of the NHA has been a total loan of \$5.4 million to the N.W.T. Community Services Corporation in Yellowknife for senior citizens housing. This citizens group originally headed by the Rev.

¹ Purchase price from \$12,000 to approximately \$15,000—and average repairs now \$1,700 as compared with \$1,470.

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in Action



Service clubs have been among the most active participants in the non-profit housing sector. This senior citizens home, located in Victoria, B.C., was sponsored by the Oak Bay Kiwanis Club.

James Ormiston of the Yellowknife United Church of Canada, in conjunction with the local YWCA, is building a residential complex of two 10-storey towers with a connecting center core. The two-storey core will contain crafts rooms, a cafeteria, a day-care center, multi-purpose community rooms and commercial office space. The latter space will be rented to various social agencies with the revenue being used to subsidize senior citizen accommodation.

Once built the complex will contain 30 senior citizen bachelor apartments, six one-bedroom senior citizens apartments, 10 bachelor units and 100 hostel beds for the YWCA, and 58 bachelor apartments and eight one-bedroom apartments for general occupancy. Included will be 47 parking stalls and 20,050 square feet of commercial space.

Statistics

Legislation supporting non-profit housing was introduced in 1964, and the results to the end of 1974 show impressive ten-year totals. During that time across Canada 911 loans for new housing were made under Sections 15 and 15.1 of the National Housing Act. These loans represent financial assistance for the construction of 22,925 dwelling units and new buildings containing 35,980 hostel beds. Mortgage loans amounting to \$507.7 million have been made at preferred interest rates.

In addition, recent amendments allow for Federal contributions up to 10% of the loan, either as a loan forgiveness or through the purchase and lease-back of land. In 1973 and 1974 such Federal contributions totalled \$15.2 million.

Equivalent statistics for the purchase and renovation of existing housing show 705 mortgage loans made, totalling \$57.7 million and providing 1,579 dwelling units and 5,576 hostel beds. Federal contributions total \$3.6 million.

As well, under Section 34.18 of the National Housing Act, loans are available to any cooperative association that is a non-profit corporation which is constructing, acquiring or improving a housing project with the intention of providing housing to persons, the major-

ity of whom are members of the association, who will occupy the housing otherwise than as owners. Such loans are made on the same terms as to other non-profit groups. In Canada during 1973 and 1974, nine such loans were made, totalling \$14.9 million for the building of 806 units of new housing. Eight loans, totalling \$6.3 million have assisted in purchase and renovation of 385 dwelling units and providing 54 hostel beds. Federal contributions amounting to \$1.8 million and \$726,000 respectively have also been made to such cooperatives.

Start-Up Funds

An important additional benefit now available under the revised National Housing Act is the provision of start-up funds. These funds, not exceeding \$10,000, are intended to help non-profit housing organizations which are constituted exclusively for charitable purposes and need help for such things as legal advice as how to apply for a charter, incorporation fees, preliminary planning for building and other activities so the group would be able to reach the point of a properly prepared loan application to CMHC. These start-up funds are not available to non-profit organizations which are provincially-municipally owned. □

The complex is located at Franklin Avenue at 54th Street in Yellowknife. It is hoped to rent the senior citizens apartments for \$100 to \$125 per month and the hostel beds at approximately \$110 per month.

Community support for the project has been widespread and the Territorial Government has also assisted in the planning and development of the total concept. □

BOOKS

Psychology for Architects,
by David Canter,
Halstead Press, New York, 1974,
171 pp.

Many of the weaknesses of present-day design can be traced to preconceived and often erroneous assumptions about human behaviour and how people use built space. These assumptions are often based on conventional wisdom or are impressed into the designer during his formative years by a professional educational and a popular architectural press which encourages a deterministic approach to design.

Canter clearly recognizes this situation and takes as the central theme of his book the premise that design decisions are based on assumptions about people and their interactions with buildings, and that it is only when these relationships are expressed and understood that meaningful decisions can be made.

The author, who has experience in applying theory to practice mainly in office design, believes that human behaviour is open to scientific study and

that psychology has a broad relevance to architects by providing a clearer understanding of the relationship of psychology to design. The purpose of the book is therefore to lay the foundation for such an understanding.

The book makes a number of psychological assumptions about building design and then discusses the developed theory that has relevance to these assumptions, such as perceptual judgement learning, development and so on.

Canter points out the need to recognize user activities in design and draws attention to the subtleties that must be taken into account which cause people to change and modify these activities over time; the importance of assigning priorities, in terms of money, time, manpower or whatever; and the fact that people interact with their environment, rather than react to it.

This last point suggests that the success of a building is dependent on the degree to which people can shape or modify their environment over time, a somewhat different approach to the determinist school.

This book is highly recommended for those people involved in the programming and design of buildings who wish to learn more about man and the built environment from a psychological point of view. It makes excellent reading because it is simply and concisely written, and it stimulates the interest of the reader by taking a refreshingly obvious stand on the application of psychology to design. It is not a textbook, and in spite of its title does not offer pat solutions; however, it does give extensive references for further reading and plenty of stimulus for discussion.

The obvious knowledge gaps in the field of environmental psychology are recognized and are attributed to the failure of non-psychologists to address themselves to the issues involved. We are thus implicitly invited to articulate some of these issues and participate with psychologists in their resolution.

Gary Hiscox

The Beautiful Old Houses of Quebec

by P. Roy Wilson with a foreword by Jean Palardy, University of Toronto Press, 1975, 125 pp.

In this charming volume, architect P. Roy Wilson presents his sketches and a brief description of forty-nine of Quebec's most beautiful old houses. This is a record, not of these houses as they are now, but as they were in their most attractive state before being altered, often beyond recognition.

His book is intended to encourage public interest in these houses, so they will not continue to be mutilated and demolished as so many already have been.

"It is unthinkable that such architecture should be allowed to perish through neglect. It is the only truly Canadian architecture we have..." the author says in his introduction, an introduction that also pays tribute to the pioneers of New France who built these homes of "simple greatness."

To give the non-architect some background information, Mr. Wilson provides a brief history of Quebec residential architecture, describing the four main divisions in house form and the details of their construction. The diagrams which accompany the text do a good job of explaining architectural terminology to the layman.

Among its other merits, the book can count the use of a large clear typeface and excellent reproduction of the sketches. Altogether, "The Beautiful Old Houses of Quebec" is to be recommended to anyone interested in the preservation of a unique part of Canada's heritage and a nostalgic look at a way of life that is gone forever.

Cecylia Podoski

BOOKS

**Saving the Canadian City:
The First Phase 1880-1920,**
edited by Paul Rutherford,
University of Toronto Press,
Toronto, 1974, 366 pp.

Canada's first urban reform movement emerged around the end of the 19th century, reaching the peak of its influence during and immediately after the First World War. It was both a romantic and practical movement, both religious and scientific. The rhetoric and the reason, the scientific techniques and the passionate discussions of this era have been captured and revived in this anthology of twenty-nine articles with an excellent introduction by its editor, Paul Rutherford.

Then, as now, urban reform was set against a backdrop of crisis. By 1900 the shift from the quarter-acre farm to the expanding city had begun, and the unfamiliar faces and languages of the newly-arrived immigrants were filling the industrially-scarred tenements of the inner cities.

The issues of the movement were many: eliminating poverty; improving public health; wiping out the evils of liquor, prostitution and gambling; regulating utility corporations; restoring the blighted industrial areas; better town planning; effective tax reform and restructuring municipal governments.

The writings are by such prominent reformers of the time as J. W. Woodsworth, J. J. Kelso and Herbert Ames. The selections are well-edited and are divided into four major sections (The Regulation of Municipal Utilities; The Redemption of the Urban Community; The Concept of Town Planning and The Reform of the Municipal Government) with each section prefaced by a useful summary of the section contents.

The selections are permeated by a strong sense of hope: hope in the future of science, hope in the ability of man to overcome social ills and hope in the coming utopia. Utopia—in the Canadian manner—was to be a middle-class paradise, orderly, clean, prosperous and moral, a mecca of uniform behaviour and life-style where the poor were enthused by the work ethic and where such working-class institutions as pool rooms and taverns were eliminated.

I found this utopian concept to be the most alien in terms of our espoused present-day attitudes. However, when I look at our current plans for the Canadian cities of the future with their precise, logical arrangement of buildings and activity areas, I wonder if our views have really changed that radically, and if in fact we are not still planning for the utopia of our grandfathers.

This book will be extremely useful for both teachers and students of urban studies. I would also recommend this volume to those involved in the current urban reform movement, for this book (like all good history) not only reveals the events and thoughts of a past era, but also acts as a mirror for the present-day. It is a good measure both of what has been achieved and what is yet to be done.

Anne Gilmore

Social Trends in Greater Vancouver

by Michele Lioy,
published by Gordon Soules
*Economic and Marketing
Research*, 1975.

This publication was prepared in response to a request by the Social Planning and Research Committee (SPAR) of the "United Way of Greater Vancouver," a private, non-governmental organization concerned with united voluntary community action. It is an in-depth research study of current social trends in a North American metropolis and cost over \$30,000 to prepare—with the Federal Government contributing \$16,700, the City paying \$6,000 and the United Way the balance.

The researcher and author is Michele Lioy, a sociologist, who has been engaged on research into social problems in Vancouver for five years.

The large format report includes two-colour maps and graphically presented statistical data which will facilitate comparisons with other similar studies, although it should be noted that most of the data is based on social indices provided by the 1971 Census of Canada.

There are two sections to the report: the first giving a graphic account of "the region": its physical setting and history, its government and population; the second describing "problems of growth": a series of issues directly related to the region's livability.

The study recalls that, although only 100 years old, Vancouver has increased its population by five times in the last five decades and has become a great distribution centre. Industry, hitherto concentrated on Burrard Inlet, is now moving away to newly developed sites. These are within a half hour's drive of downtown, which remains the focus of commercial activities in spite of the development of suburban shopping centres.

The region is famous for its parks, beaches and open space and only half of its total area is

designated for urban development. However, the amount of open space is already inadequate for the burgeoning population and techniques still have to be developed for its preservation and possible extension. Farmland is being lost to industry and residential development at a rate of about 1% a year with consequent increases in land prices and costs of agricultural products.

The report notes that the lack of a metropolitan authority has resulted in fragmented government, making administration difficult and precipitating the serious problems facing the region today. However, Greater Vancouver Regional District has provided essential regional services on a cooperative basis using property assessment to finance its operations.

The report also notes that citizen participation was an important issue in the 1972 Vancouver City elections and a study of citizen involvement at various levels of government indicates that, in the voters' minds, federal and provincial matters take precedence over municipal affairs. The corollary of this would be that there is a greater awareness of the region than of the local authority and, as is so characteristic in North America today, there appears to be a fading away of municipal boundaries.

One of the "problems of growth" described in the report is housing. A study of housing stock in 1971 indicated a decline in the annual effective housing increase which, at an average of 11,000 units, was not sufficient to provide for the increasing population. The backlog today is even more acute.

An increase was shown for apartments which then represented $\frac{1}{3}$ of the total stock while mobile homes represented only 0.6%. Single attached units (row housing and duplexes) accounted for an increasing proportion with single detached units predominating in outlying areas.

A significant development is the popularity of condominiums, and this is attributed to the rising cost of owning a single detached house, freedom from maintenance, and the tightness of the rental market. The number of persons who can afford to own a house is decreasing and persons earning an average "industrial wage" have been forced out of the urban core or out of the house ownership market altogether.

Economic aspects noted include the effect of high interest rates, income tax laws and B.C. Government's rent control which limits yearly increases to 10%.

A considerable change in the thrust of N.H.A. activities is noted. While in 1963 about 75% of loans were for single detached dwellings, in 1973 such financing was mostly for apartments and multiple units.

Note is made of the special provisions, made by the Federal Government, for financing and subsidising housing. Extensive use has been made in the region of Sections 40 and 43 for public housing and Section 15 for non-profit and limited dividend housing. In addition various co-operatives have received financing and considerable use has also been made of the current Assisted Home-Ownership Program.

The report points out that an important aspect of the housing crisis is not shortage of land, per se, but the shortage of serviced land and the study indicates that 80% of land available is not being developed because of servicing costs. The shortage has been aggravated by municipal planning and growth policies which discourage new development.

Reference is also made to the influence on housing of the B.C.

Landlord and Tenants' Act, land use contracts and the effect on costs of labour contracts. However, the B.C. Land Commission and its restriction on development of agricultural land is not mentioned.

The report also discusses the "problems of growth" in the areas of transportation, pollution, employment, education, deviant behaviour and health.

Ms. Liroy explains that her study does not attempt to present all the information needed to give the complete "social accounts" of Greater Vancouver Regional District. However, it certainly does achieve one of the stated objectives which was to assist in understanding some of the trends and factors that influence the present and future livability of the region.

The study will also be a convenient reference for social and urban planners, developers, students and teachers seeking information about what exists and about possible future development.

The contents of each section of the report is, in itself, a synthesis of a lengthy paper containing statistics and more detailed information and thus represents a great deal more work than is apparent in the final document.

BOOKS SEEN

Housing, Sector Policy Paper,
World Bank Group, Washington,
D.C., 1975, 74 pp.

This is a report by the World Bank Group on the urban housing situation in the developing world. Based on the study of six cities (Ahmedabad and Madras, India; Bogota, Columbia; Nairobi, Kenya; Mexico City and Hong Kong), the aim of the study is twofold: to provide information on the housing the urban poor can afford and to examine the past, present and future role of international financial assistance in the housing field.

The report suggests that the principal obstacles to low-cost urban housing in the developing countries are unrealistically high standards for new housing construction and the refusal to accept and upgrade existing low-quality dwellings in squatter areas.

To close the rapidly growing gap between housing supply and demand in developing urban centres, the paper urges among other things: the use of indigenous building materials and lower quality finish; communal rather than private plumbing and sanitary facilities, and, where socially acceptable, higher density construction and less living space per dwelling unit.

An indication of this is the comprehensive bibliography at the end of each chapter which, in themselves, constitute a useful set of references.

Much of the data was compiled from studies of government documents and the collation of a large number of statistical series.

The United Way of Greater Vancouver is to be commended for commissioning this overview for social planners. Because many of its findings relate to other cities, it can be compared with similar research and, as such, it will be a useful compendium in the literature of urban and regional planning.

T. P. Morris

LU POUR VOUS

Géographie floristique du Québec—Labrador

Camille Rousseau—

Presses de l'Université Laval
1974

798 pages

Les quatre années consacrées par Camille Rousseau et son équipe à la préparation de cet ouvrage, nous permettent aujourd'hui d'apprécier la richesse et la valeur des informations qui s'y trouvent rassemblées. Malgré l'aridité du sujet, Rousseau a su s'assurer une large audience en insistant sur les définitions des principaux termes utilisés ainsi que sur les données nécessaires à la compréhension des raisonnements. Cet ouvrage représente pour le spécialiste un document de consultation très bien structuré; quant au lecteur profane, il y découvre un des aspects éminemment importants de l'écologie végétale, soit les mouvements (migration, expansion, régression) qui animent les peuplements des forêts indigènes du Québec.

Le titre de l'étude en définit très clairement le propos. En effet, pour chacun des quelque mille taxons (terme botanique signifiant tout individu d'espèce végétale répertorié) indigènes de la flore du Québec-Labrador, le lecteur trouvera une descrip-

tion détaillée de son habitat privilégié, un recensement cartographié des stations où la présence du taxon a été relevée, une discussion claire et documentée sur son aire de distribution géographique ainsi que sur les anomalies rencontrées sur le terrain. S'y ajoute cet autre élément, inestimable pour le chercheur, qui est la rigueur dans la présentation des références. Cet énorme travail accompli par Rousseau et son équipe n'a été rendu possible que grâce à la richesse des renseignements accumulés dans les herbiers et les relevés phytogéographiques disponibles au Québec qui, dans ce domaine, surpasse de beaucoup les autres provinces.

La deuxième partie du livre élargit le propos en le replaçant dans la continuité des recherches effectuées à l'échelle du globe; il y est discuté des liens qui rattachent la flore du Québec à celle de ses voisins américains, européens et asiatiques, des éléments du climat, du sol et de l'histoire géologique qui ont pu incliner la distribution naturelle de cette flore. C'est au travers de tout cela que Rousseau nous rend sensibles à l'ampleur du travail qui reste à accomplir dans la voie de la connaissance de notre milieu de vie où dans nos interventions, nous forçons trop souvent la chance en espérant des résultats bien aléatoires.

Au cours de ces quatre années de recherche, Rousseau a décoré une quantité imposante de publications et travaux dont il dresse une liste complète, dans laquelle pourra puiser le lecteur.

Georges Robert

Logements pour les handicapés

Publication bilingue de la SCHL
60 pages—Illustration sous forme de plans, devis et croquis.

On connaît maintenant l'histoire—tristement authentique—de ce paralytique de Chicago, «oublié» par son infirmier durant 27 heures consécutives dans un ascenseur d'hôpital et que son infirmité empêchait de signaler sa détresse aux usagers insoucients ou trop pressés...

Cet étrange record du monde—mais combien d'autres de ce genre ne seront jamais homologués?—nous rappelle que plus de dix pour cent de la population totale du Canada souffre, à divers degrés, de diminutions de leurs facultés physiques.

Ce problème national a attiré l'attention et stimulé les recherches de spécialistes dans diverses disciplines médicales et para-médicales. Architectes et urbanistes, à leur tour, se penchent sur le sort quotidien de l'handicapé. La SCHL a apporté

pour sa part sa pierre à l'édifice, si l'on ose dire, en publiant sur le sujet une étude que son introduction définit brièvement comme «un exposé du problème fondamental et la façon dont la Société l'aborde».

Sous le titre de «Logements pour les handicapés», cette publication bilingue, après une «présentation» des divers invalides, passe en revue les normes minimales pour les immeubles d'appartements ainsi que celles recommandables pour les immeubles résidentiels, les logements et les maisons unifamiliales. Les illustrations sont volontairement dépouillées pour atteindre au maximum de clarté et de précision.

Le docteur Gustave Gingras, directeur général de l'Institut de réhabilitation de Montréal, déclare dans la préface de cet ouvrage: «Durant des siècles, les invalides n'ont été qu'objets de pitié et de commisération. Les gens dits «normaux» en ont fait un exutoire pour épancher leur culpabilité. Bien que le sort réservé, à l'heure actuelle, aux handicapés soit encore loin d'être enviable, il s'est heureusement produit, au cours des vingt-cinq dernières années un changement fondamental.» Le but de cette étude et de toutes celles relatives au sujet est précisément d'aller plus avant dans ce «changement fondamental»...
Michel Oger

Le locataire et son nouveau bail

Paul-E. Marchand et

Henri Kélada

Editions Aquila, Montréal, 1974.

Le petit bouquin intitulé *«Le locataire et son nouveau bail»* préparé par maîtres Paul-E. Marchand et Henri Kélada et publié en 1974 par les Editions Aquila Limitée, peut certes être cité parmi les publications à caractère juridique dont le grand public peut facilement tirer profit.

N'exploitant pas indûment le langage du métier, les auteurs ont essayé de construire un texte dépourvu de faste mais riche en informations pour les locataires et même les propriétaires du Québec. Ils n'ont pas destiné leur ouvrage à des juristes accomplis, mais bien plutôt au Québécois moyen en quête de renseignements pouvant lui être utiles.

Le plan suivi est logique et le contenu représente un bon résumé de l'essentiel sur le sujet. Dans un premier temps, on parle de la formation du bail, de sa durée et de sa résiliation. Dans un second temps, on délimite les obligations du propriétaire et celles du locataire. Enfin, dans un troisième, on détermine les recours possibles du locataire devant la Régie des loyers et les tribunaux de droit commun. La brochure se termine par une série de questions pratiques susceptibles de se poser dans l'esprit de bien des locataires et auxquelles évidemment on y apporte des réponses. Certes le volume ne fournit pas de solutions à tous les problèmes pouvant surgir entre locataires et propriétaires mais recoupe les cas les plus usuels, du moins

les cas les plus souvent rencontrés devant les tribunaux ou la Commission des Loyers.

Comme cela arrive souvent à ceux qui osent écrire des livres de doctrine en droit, MM. Marchand et Kélada ont certes déjà eu à ce jour le désagrément de voir leur ouvrage commencer à se démoder et ce, même après une très courte période de temps. En effet, depuis le 24 décembre 1974, jour de la sanction du projet de loi 79 (chap. 75 des Lois du Québec 1974), certaines clauses obligatoires du bail-type ont été modifiées, et comme résultat, le lecteur des pages couvrant ces clauses n'y trouve déjà plus toute la vérité. Toutefois, il ne faudrait pas pour si peu en conclure que *«Le locataire et son nouveau bail»* a tout perdu de son actualité.

Cette plaquette d'un prix très abordable (environ \$3), écrite avant tout pour les locataires de locaux d'habitation du Québec est un investissement pour celui qui se la procure et la consulte souvent. J'en recommande la lecture à la grande masse des locataires québécois.

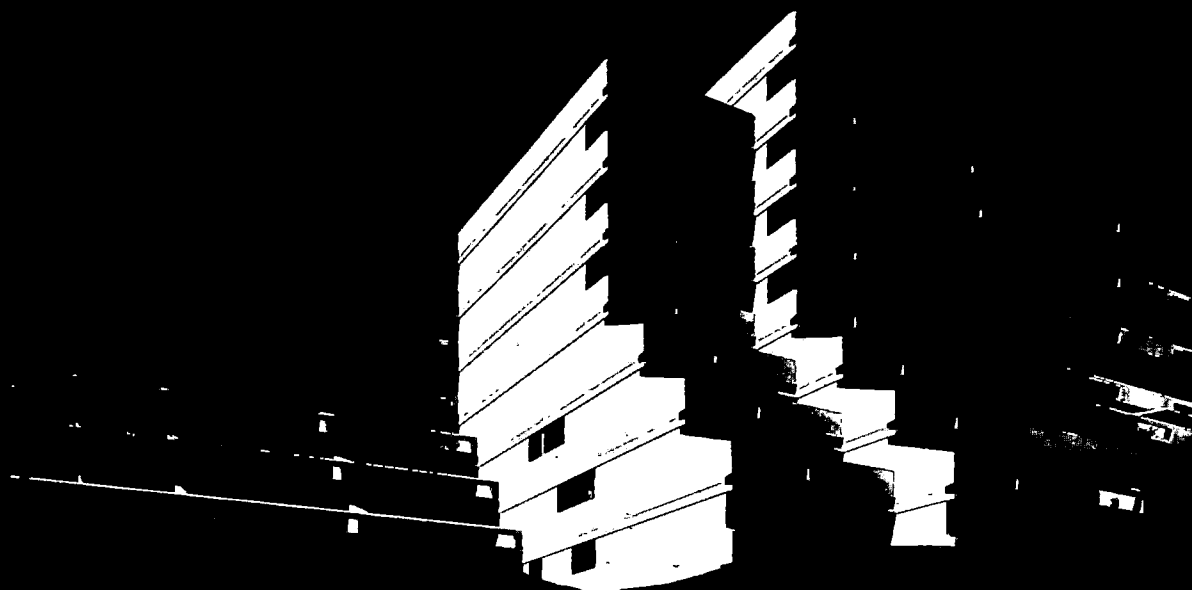
Jean-Paul Lamarre





Central Mortgage
and Housing Corporation

Société centrale
d'hypothèques et de logement



Rental Apartments,
Sainte-Foy, Quebec

Les Jardins de Merici. Immeuble
d'appartements à Sainte-Foy (Québec)

Photograph/Photographie: CMHC/SCHL –
E. Taylor

habitat

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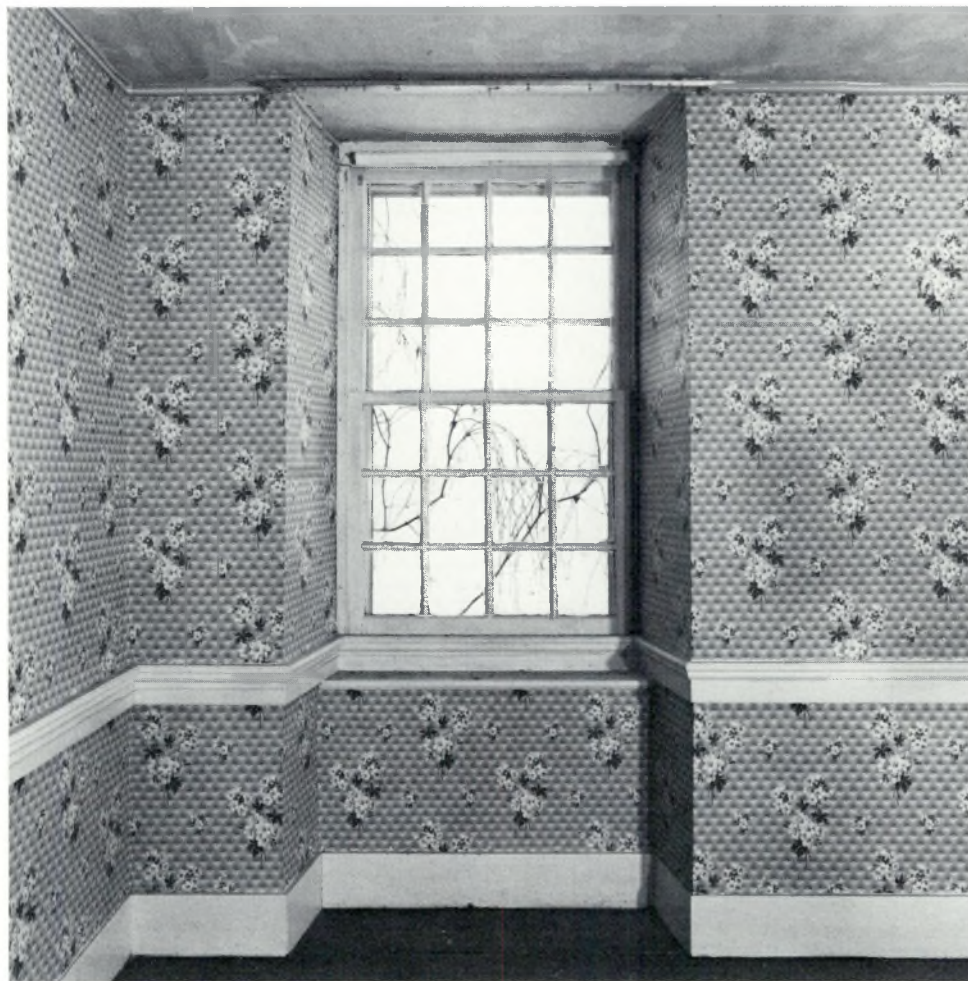
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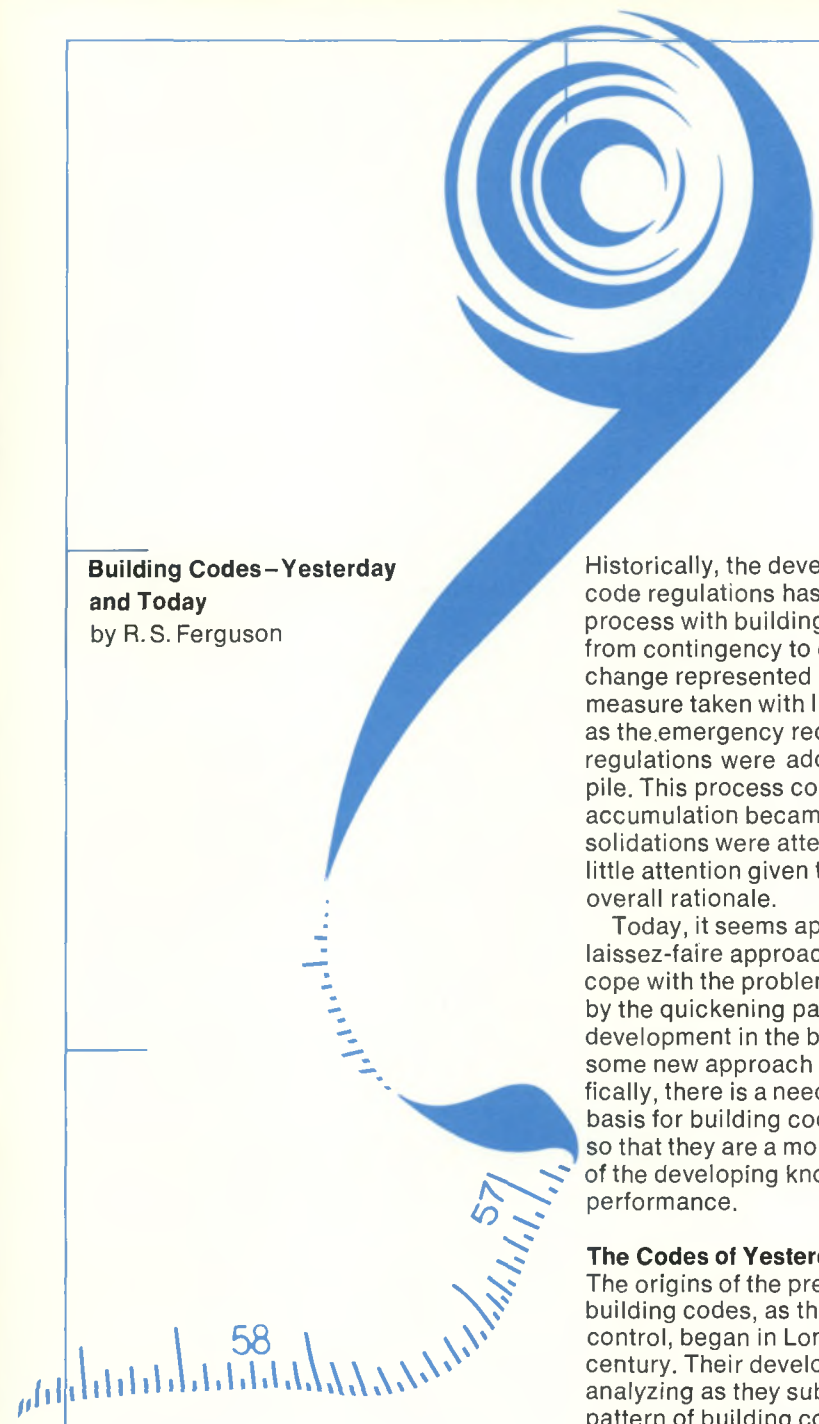
Canadian Housing Information Centre
Centre canadien de documentation sur
l'habitation

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12	Le regroupement municipal au Québec—des villes à réinventer par André Dubois	Assez rapidement, la société québécoise, de rurale qu'elle était, s'est transformée en société urbaine. Le système	municipal a-t-il emboîté le pas? Cet historique du regroupement est une réponse à cette question.
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Les opinions exprimées par les auteurs des articles ne sont pas nécessairement celles de la SCHL. Toute correspondance doit être adressée au rédacteur en chef, E.H.Q. Smith, ou à la rédactrice adjointe, Thérèse Aquin, à la SCHL, Chemin de Montréal, Ottawa K1A 0P7.



Building Codes—Yesterday and Today

by R. S. Ferguson

Historically, the development of building code regulations has been a confused process with building codes developing from contingency to contingency. Each change represented an emergency measure taken with little or no study, and as the emergency receded, the new regulations were added to the growing pile. This process continued until the accumulation became unwieldy and consolidations were attempted, but with very little attention given to developing an overall rationale.

Today, it seems apparent that this laissez-faire approach is not adequate to cope with the problems brought about by the quickening pace of change and development in the building world, and some new approach is needed. Specifically, there is a need to create a new basis for building code regulations so that they are a more direct expression of the developing knowledge of building performance.

The Codes of Yesterday

The origins of the present system of building codes, as they apply to safety control, began in London in the twelfth century. Their development is worth analyzing as they subsequently set the pattern of building code development for hundreds of years to come.

As in most European towns, the tradesmen of London banded together into guilds, with each guild having its own

rules and practices based on the knowledge and abilities of its master craftsmen; these practices were commonly known as the "custom of the town."

An important characteristic of these customs and traditions, including building traditions, was that the knowledge of each skill was closed; only masons knew masonry, only thatchers, thatching, and so on.

Safety control, however, demanded barriers at strategic places (such as party walls) and voids in others. Yet, under the closed guild system, there was no way of appraising or accounting for these necessary voids in and between buildings. The result was that, as a system of safety control, the guilds were unable to prevent the spread of fires, and the closely built towns, like London, were frequently devastated by fire.

Thus, in 1189 London's first Lord Mayor, Henry Fitzailwyn¹, along with the prominent businessmen of the City, agreed upon and wrote down a law or an "assize." The assize was based on the observation that in previous London fires, such as the one in 1136 which destroyed St. Paul's Cathedral, the fire stopped at houses with stone walls. If it happened once, it could happen again, so a law was passed that all houses should have stone party walls three feet in thickness and sixteen feet in height.

The 1189 assize did not regulate building practice but dealt with matters

This restored street, located in an area called "The Shambles" in York, England, is typical of what London's crowded lanes probably looked like before the Great Fire of 1666. Note the overhanging gables, the narrow street, the multitude of different housing styles, as well as the central channel in the pavement used to carry away sewage, rain water or the like. Water was thrown into it, often from the upper windows.



Located in Lavenham, Suffolk, England, this preserved building is similar to the half-timbered construction that dominated London's streetscape before the Great Fire. The infilling between the timbers was a wattle-and-daub combination and consisted of branches or thin lathes (wattles) plastered with clay (daub).



that fell between the separate, closed systems of control maintained by each trade. The law dealt with space between buildings, clearance between chimney and wood construction (added later), rights of light, drainage across property lines, and similar matters that involved an interaction between the trades and adjoining building operations. The assize, however, did not create a single system; it merely stopped up the void.

The law was a good instrument because it had the force to change the set ways that tradition imposed. It was superimposed on tradition so that thereafter the builders had to obey the law and the custom of the town.

In any case, except for the regulation against thatched roofs, the law was not enforced and London remained a city of largely half-timbered buildings until the Great Fire in 1666 which brought about the passage of the famous London Building Act in 1667 (See Box: The Great Fire).

The New Technology

The traditional building forms of masonry and frame used over 800 years changed slowly. However, starting in the late 19th century in both Europe and North America, a new kind of building knowledge, based on theory rather than custom, began to evolve. It was a building knowledge formulated on engineering principles and substantiated in

the laboratory before being applied in building.

In traditional building construction, the key to success was the form; the method of construction worked although no one knew why, and so as long as the building did not deviate substantially in form, there was a reasonable assurance of success. With the new method of construction, the key to success was theory, with the form its applied expression. Now the form of the building was free, so long as the principles were obeyed.

The initial change related to structure, when skeleton frame replaced gravity bearing walls. This was closely followed by changes of a mechanical nature with the development of the elevator being one of the first necessities.²

The use of this growing fund of knowledge regarding structural and mechanical engineering led to new and extraordinary applications in building. The modern urban landscape of clustered downtown skyscrapers vividly illustrates the profound influence of this new theoretical knowledge on the building world (See Box: The First Skyscraper).

In other aspects of building control, such as fire safety, however, no comparable development took place. Thus, while structural and mechanical design was based on applied theoretical knowledge, protection against fire continued to use building form as the essential

regulatory tool. The result was conflict: design through valid principles could create any form that was structurally safe, but building regulations limited these forms to what had been accepted in the past.

Meanwhile, the building professions showed the same insular characteristics that the craft guilds had shown before them. Structural and mechanical engineers each had their separate areas of expertise. The architects designed buildings as though they were singular and as if adjoining properties did not exist.

The result was that responsible authorities were again left to fill the interstices between the areas of professional expertise. No one took responsibility for voids or spaces between buildings where trouble naturally occurred. Consequently, officials discovered a whole new generation of voids to deal with. There were vertical shafts for stairs, elevators and services; there were holes for pipes which weakened joists; the space between buildings was still a problem, and with component building the cracks between the components permitted leakage.

The responsible authorities and their expert advisers who dealt with these problems did not have the time, money or inclination to develop sophisticated solutions based on applied scientific knowledge. The work was a voluntary, spare-time activity. Besides, they had the

authority of law which could dictate a solution whether or not there was a justification. Designers and officials became divided into two camps. The designers argued to ease the regulations; and the officials argued to strengthen them. Standard-making groups tried to balance these forces.

For example, the standard might call for a two hours' fire resistance. It was seldom asked whether fire resistance was an appropriate control for the hazard, what the hazard was, or even if there was a hazard. Within the time and money limitations of a voluntary activity, officials argued to strengthen the requirement, designers to reduce it.

The Codes of Today

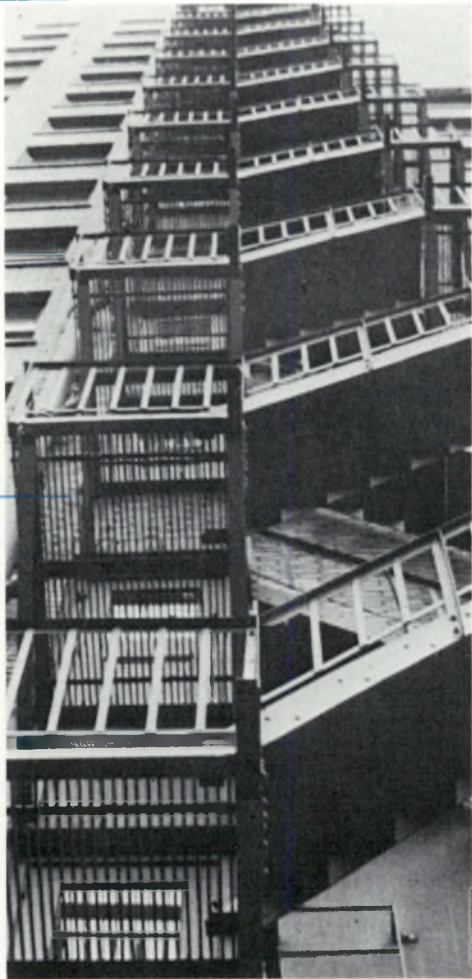
The difficulty was—and still is—how to integrate the new theoretical knowledge with the prevailing system based on tradition and law. The problem, as in 1189, lies outside the scope and sphere of influence of any single controlling group.

The members of the standard-making committees are selected for their expertise in a certain field, but it is seldom used. The mechanics of committee work are largely concerned with the phrasing of the commands, and not a statement of problems and acceptable solutions. The main difficulty is the limitation of the legal form as a means of expressing the technical problems and solutions that the code is addressing.

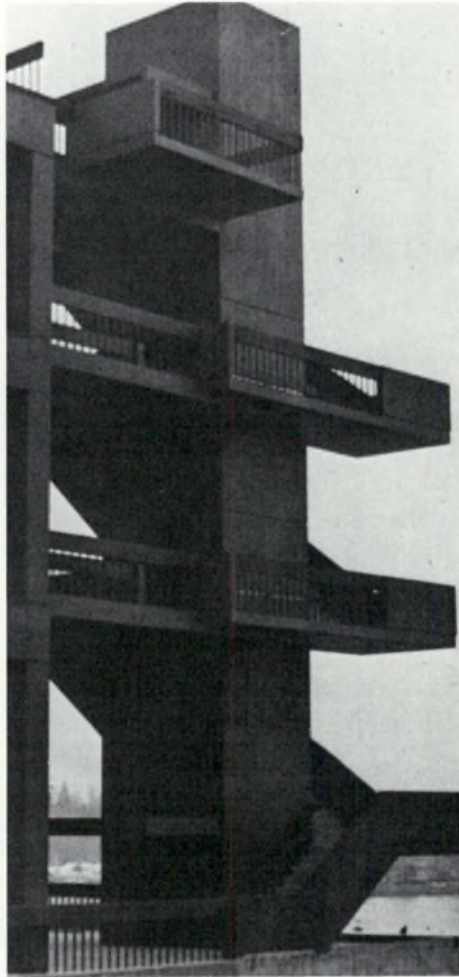
Another major problem today is conflicting standards resulting from the development of individual standards by special interest groups. For example, building codes regulate bleacher seating, but there are also special standards to control design of manufactured bleacher seats. Consumer products such as carpeting are controlled by both consumer standards and building codes, and the distance between buildings is regulated in both building and zoning standards. The examples are legion.

The problem is that each group finds that standards written by others do not entirely suit its needs. Consequently, the group writes its own standard which often creates conflict in areas of special interest to others.

The present method of overcoming the problem is by arbitration, a policy rather than a knowledge device. Liaison committees are formed and joint meetings are arranged. It is a system that serves well in a limited way. Liaison between committees preparing a standard for manufactured houses and the building code is a start. It becomes complicated, however, when it is necessary to consider manufactured houses such as summer cottages. Add to this the question of such a building adapted, or as an existing building, and furthermore to serve the handicapped. The available technical experts in building



The conflict between design and safety is apparent in the photograph on the left where outside fire escapes were required to be attached after the building was constructed.



The photograph on the right illustrates how design and safety concerns can work together. In this building, the outside combination elevator and stairs tower provides both a smoke-free egress and an architecturally interesting design.

Photos: J. L. Pauls

already have more meetings scheduled than they have time to attend. Unless another system can be developed, the concept of standards as a source of guidance will break down.

A New Approach

The solution appears to be to hasten the inevitable—to foster and encourage the development of the yet unwritten central document based on abstract principles instead of building form. Such a document could control and harmonize the growing proliferation of standards and eliminate or at least minimize the confusion and conflict.

In brief, this central document would deal with the facts and principles that relate to the problems of shelter by supplying data and theory in such areas as occupancy, climate loads and properties of material and form. The code would provide the values from which a building solution could be calculated, and the designer's solution would be judged on whether it solved the problems, not whether it matched some legally imposed criteria.

Within such a code, the "building" ceases to be part of the process; it is the result. The code would not say what to build and instead would say what process and what knowledge to use. Strictly speaking, it would cease to be a building code.

A necessary precondition would be statements or standards relating to the facts and principles. This would involve a greater commitment to standard-writing by owners, designers and experts because descriptive statements of occupancy in all its variety would be necessary.

Its Implications

One important implication of developing a building code based on applied scientific knowledge is that attention can be directed away from previous solutions towards new combinations of phenomena, such as new combinations of people, activities, properties of shape, materials and climate, soils and other features.

For instance, safety now largely provided through stilted imperatives, could become harmoniously integrated with design, so that owners, designers and authorities could all use the same knowledge base.

Another implication is that the functions of law and knowledge will become separate but complementary. With a knowledge-based code, the standards that replace the legal rules will probably become more of a design than a law function. The legal part of the code, relieved of technical matter, will be expressed in non-technical language. It will become a better law because it will be understandable by non-technical people.

Furthermore, the technical standards, freed from the limitations of legal form, will be written more like technical manuals. Illustrations and examples will be possible. The objective will be to achieve understanding, to convey something more than limiting conditions. The effect should be to assist the designer to choose the most effective, harmonious and economical way of achieving the intent.

For example, some authorities require by law that certain buildings be designed for use by handicapped persons. The stilted legal form and its forceful style leaves the impression that the additional requirements will result in inconvenience



This street of turn-of-the-century working class housing in northern England illustrates the change in house construction brought about by building codes. Note the all brick construction and the use of fire walls which extended beyond the roof. Housing of this kind was constructed by speculative builders for whom design was not a concern.

"The modern urban landscape of clustered downtown skyscrapers," says the author, "vividly illustrates the profound influence of this new theoretical knowledge on the building world." Photo: CMHC/W. Cadzow

and additional cost plus a separate set of specially designed facilities. A technical manual, on the other hand, could explain that non-handicapped persons can use the facilities for the handicapped and that often they will find them more, rather than less, convenient.

When thoroughly developed, design for the handicapped really means design for a larger percentage of the population. If this attitude were to become prevalent, especially among designers and suppliers, buildings might become more accessible and usable to a larger group of people at no greater cost.

Problems of the Future

The greatest lack of knowledge is in human factors or building use, with the most pressing problem being to assign valid loads or characteristics to occupancies. This will be a difficult process because occupancies are identified by naming, and names such as "institutional" do not express adequately what loads and hazards the occupancy entails.

Thus, profiles of occupancies are needed, indicating the characteristics of individual activities. From these, separate activity standards can be developed. Examples are standards for paint spray booths, storage of flammable liquids and commercial kitchen equipment.

Then when an owner applies for a permit, he would have to indicate schem-

atically the activities involved. The building control office could then check the plans to assure that they met the standards for these activities and other more general standards, such as provision of escape from the fire area at some agreed upon point. The kind, extent, and choice of precaution would depend on the characteristics of the activities involved and the ability of the safety measures to perform and so achieve the goals that were set.

With such a system, all building, that is to say, building design becomes what it is necessary to satisfy both the public's and the owner's occupancy needs. Thus all needs are integrated, and the relationship between hazards and safety is direct. Performance is more predictable and failure more accountable. It is a knowledge-based code integrated into a system of building safety control. □

¹ The date of the appointment of London's first Lord Mayor is a matter of conjecture. Some documents give the date of 1193 while others use the date of King Richard the First's coronation, 1189. What is certain is that Henry Fitzwilliam held the office of Lord Mayor until his death in 1212.

² The first practical passenger elevator was installed in 1857 by Elisha Otis in the Haughwout department store on Broadway in New York City.

The First Skyscraper

It is generally recognized that the first modern skyscraper (a self-supporting steel skeleton independent of enclosing walls) was the 10-storey Home Insurance Company Building erected in Chicago, Illinois in 1885. Engineered by Major William LeBaron Jenney, it was not a true skyscraper in the modern sense because the first six floors of the skeleton were of wrought iron with only the top four storeys of Bessemer steel beams. Nevertheless, it was the first office tower in which the walls were not used for support, but were hung on the outside of a supporting skeleton frame or cage.

Prior to the development of steel skeleton construction, highrise office buildings of up to 16 storeys had been constructed using the traditional bearing-wall system of construction. This construction form (essentially the

Code of Hammurabi

Probably the first set of recorded building regulations were contained in the famous Code of Hammurabi. Dating back almost 4,000 years to the days of the great Babylonian empire, the parts of the Code dealing with housing are remarkable both for their concern with good building practices and the severity of their punishments for builders who constructed unsafe housing.

Hammurabi's Code could be surprisingly fair. It contained a basic housing guarantee that if a poorly-built house fell down, the builder had to rebuild that house at his own expense. And if the fallen house destroyed other property, the builder was required to restore the damaged property as well.

The Code could also be grimly punitive, following the ancient tribal law of an eye for an eye and a life for a life. Under the Code, if a house fell down and killed its owner, the builder was to be put to death; likewise if the house collapsed killing the owner's son, then the builder's son too must die.

Certainly, Hammurabi's Code was primitive in comparison to modern building laws. His Code dealt with

post and lintel type still employed in wood frame house construction) uses the exterior walls of the building as bearing walls to support the floors. It severely limited building height because of the enormous wall thicknesses required to support multiple storeys.

The old bearing-wall technique was pushed to its limits by the 16-storey Monadnock Building in Chicago which had solid masonry walls seven feet thick at sidewalk level to support the upper floors. This building (built six years after Jenney's Home Insurance Building) has often been called the last great monument to the bearing-wall age. □

housing only after it was built; it said nothing about how to build but rather set down punishments for faulty construction. Modern building regulations, on the other hand, are preventive in nature; they set down pre-building guidelines which say how a safe building is to be constructed.

Yet, despite its obvious legalistic simplicity and its predisposition to value property rights over human life, Hammurabi's Code shows a clear understanding of the importance of properly built housing as well as the obligations of the builder to ensure the safety of his structures. □

The Great Fire of London and its Aftermath

It started early on the Sunday morning of September 2, 1666 at Farryner's bakery shop on Pudding Lane.

The houses on Pudding Lane were typical of 17th century London—closely built wooden shacks, full of brush and faggot wood, with projecting storeys and gables that almost blocked the daylight to the ground below. The lane was narrow and filthy, an open sewer for waste (both animal and human) where contrary to numerous regulations the common people jerry-built their houses and shops on every available spot and in every imaginable manner. It was a colourful but deadly medieval setting and a breeding ground for repeated outbreaks of the Plague, such as the one of the previous year which killed over 75,000 Londoners.

The summer of 1666 had been a dry one, and this Sunday morning there was a strong easterly wind. The fire in Farryner's shop spread quickly, travelling from thatched roof to thatched roof. The people fled in terror; there was no stopping the Great Fire of London.

The fire lasted five days, and in the end consumed four-fifths of the City, destroying over 13,000 houses and 90 churches. Medieval London was gone forever.

It was not London's first fire, by any means, but it certainly was the worst, and the task of rebuilding from the charred rubble was monumental. On September 13th, Charles II issued a Proclamation, declaring his intention to create a new London of wide streets and stone houses. A law was drafted, and by the end of March 1667 the London Building Act had been passed by Parliament.

Among other things, the Act provided that all buildings should have exterior finishes of brick and/or stone and were to be on definite surveyed frontage lines. There would be only four types of

buildings in London: two-storey buildings on lanes, three-storey buildings on secondary streets, four-storey buildings on high or principal streets and mansion houses for the wealthy. For all but the mansion houses, the thickness of exterior and party walls were specified, and party walls were required to be built by both owners.

London city authorities were required to widen certain streets and narrow passages were required to be at least

regulation law to ever be enacted, and set the pattern for numerous building laws both in England and North America.

Unfortunately, as the original surveyors passed away, their positions were not filled and the 1667 Act was eventually repealed by the Building Act in 1774 which did not control the width of new streets and again allowed buildings of any height to be built on any street, be it narrow or wide. □



fourteen feet wide. The Mayor was given authority to impose a levy to meet the cost of street widening as well as a property tax for the construction of common sewers and drains.

The Act also set penalties for the over-pricing of building materials and gave general rules for the construction of building components such as foundations, joists, roofs, window frames and cellar floors.

Importantly, the Act also called for the appointment of surveyors to monitor compliance with its provisions.

Clearly, the London Building Act of 1667 was a truly remarkable document; it was the most comprehensive building

Photo: Courtesy of British High Commission.

Canada's National Building Code

Its Development and Use

Its Development

Although under the terms of the British North America Act provincial governments have broad responsibility for public safety, in general, the regulation of building construction has been delegated to municipal governments. This approach, while advantageous in some respects, resulted in a collection of local ordinances which varied greatly in technical content and sophistication. This was inevitable as few municipalities had either the technical or financial resources needed to deal adequately with the complexities of modern building regulations.

The idea of a "model" National Building Code to promote more uniform by-laws was first conceived in the mid-1930's with the introduction by the federal government of a National Housing Act. The Code was seen as an advisory document to be prepared by representative national committees utilizing the best technical and professional skills available.

The first National Building Code, prepared under the joint auspices of the Department of Finance (then administering the National Housing Act) and the National Research Council, was issued in 1941. Although the War years interfered with its general use, 10,000 copies of this Code were distributed, and its requirements were reflected to varying degrees in over 200 municipal by-laws.

In 1947, action was taken to associate work on the Code with research in the

building field. The National Research Council established the Division of Building Research and appointed a new committee, the Associate Committee on the National Building Code. This Committee was responsible for the content of the Code while the Division was charged with the task of providing the needed technical and secretarial support.

The second edition of the Code, completed in 1953, and all subsequent editions (1960, 1965, 1970 and 1975) were prepared under these auspices.

Its Research Input

The close association between the code writing mechanism and building research fits well into the Division's primary objective of providing an information and research service to the construction industry. Technical input to the Code committees can be a direct and rapid way of putting information to work in the interest of improved building. Correspondingly, work on the Code shows up many deficiencies in knowledge and serves to identify areas where research can be usefully undertaken.

There are many examples where this close interaction with the research capability of the Division has benefited the Code. One of these concerns the study of fire in high-rise buildings. The increasing numbers of tall buildings constructed in Canada in recent years focused attention on the need to re-evaluate current

fire safety practices in the light of the special features of these buildings.

In preparation for the 1970 edition of the Code, the Associate Committee established a special task group for this purpose. The work of this task group supported by an intensive research effort by the Division led to the development of new safety requirements for high buildings and publication of a supporting document giving detailed measures for smoke control. These latter measures are not a direct part of the Code but are prepared in the form of "deemed to satisfy" clauses and as such offer valuable guidance to the building official and the designer on ways in which the smoke control requirements included in the Code can be met. These measures are based on an understanding of the air movement mechanism within buildings and of the air leakage characteristics of building enclosures and could not have been developed without the extensive applied research studies conducted by the Division.

The need to develop special requirements for high buildings is indicative of the type of problem currently facing the enforcement official. As a review of most Codes will show, many of the new and larger building complexes being designed today present fire safety situations not previously envisaged and with which the designer is not well equipped to cope. To deal with these new situations, additional knowledge is needed not only on the effect of fire on buildings but also on the nature of activities in buildings and on the factors influencing the behaviour of occupants under emergency conditions. These so-called "user" studies are receiving increasing emphasis within the Division and constitute an important part of the Division's programme which, stated in basic terms, has at its objective the development of an improved understanding of building science and technology. Such understanding is clearly very important to the further development of the Code.

In addition to being knowledge oriented, a Code must respond to the pressures of society by sensing the degree of safety demanded and the price which will be accepted. An example of such response in the current edition of the Code is the requirement that so-called "public" buildings shall be made accessible to the physically handicapped through the provision of certain facilities.

The Associate Committee Mechanism

The Code is published by the NRC as a public service, but is prepared under the direction of the Associate Committee.

The Associate Committee on the National Building Code consists of about two dozen interested and expert Cana-

dian citizens appointed by the Council for three-year terms. The members sit as individuals and not as direct representatives of a particular industry, association or other special interest group. Except for the Deputy Chairman who is responsible for all supporting services provided to the Committee by the Division, committee members have no connection with the National Research Council.

A related committee is the Associate Committee on National Fire Codes which is responsible for the preparation of the National Fire Code of Canada—a model fire prevention by-law—a new edition of which was published in 1975.

Preparation of the technical parts of the Code is delegated by the Associate Committee to specialist committees representative of technical expertise throughout Canada. Over 250 such committee members were involved with the drafting of the sixth edition of the Code, which was released in January 1975. They are greatly assisted by informed criticism and comments regularly submitted by interested Code users. Members of all committees give their time and expertise freely and are reimbursed only for travelling expenses incurred in attending meetings.

In addition, a Codes and Standards Group has been established by the Division of Building Research to coordinate supporting secretarial and technical services to the Code committees.¹

One important function of this group is to assist in drafting new or revised Code requirements. It is clear that this is best done by the professional Code writer to ensure uniformity of style, format and arrangements throughout the document.

In future the Code will be issued in an up-dated form every two years instead of every five as in the past. Revisions between editions will be eliminated unless warranted by special circumstances. This action was taken because of the large number of revisions issued between editions and the corresponding difficulties faced by Code users in keeping their working copy of the Code up to date.

Extent of Code Use in Canada

Events have strongly endorsed the model code approach to uniform building regulations in a federal state such as Canada. Today, well over 70 per cent of the population resides in organized areas where the National Building Code has been voluntarily adopted as the local building by-law or forms the primary basis for it. The Code is also widely used by federal and provincial government agencies including, at the national level, the Department of Public Works, the Department of National Defence and Central Mortgage and Housing Corporation.

These moves toward uniformity in building regulations in Canada, through adoption of the National Building Code, are currently receiving further stimulus directly from the provincial governments most of which have announced their intention to seek a single uniform code based on the National Building Code for application within their respective jurisdictions. Some have already taken formal action and others are in the process of doing so.

Among the benefits claimed from such action are that it will facilitate the work of builders and designers who operate in more than one area of jurisdiction and allow the marketing of standard building products on a wider scale thus leading to reductions in cost to the consumer.

The National Building Code has undergone considerable refinement over the years and many of these changes have

led directly to cost reductions without compromising basic levels of safety. The inclusion of a performance test requirement for wood roof trusses is one example. The development of such a test and related criteria following an extensive research programme by the Division, has facilitated the use of timber truss roofs for residential construction and allowed more efficient use of both lumber and fasteners.²

Two other areas where Code requirements have been revised to allow cost reductions (without sacrificing safety) include the elimination of requirements for sheathing and bracing for walls and cross-bridging between wood joists and

floors. These and many similar changes to the National Building Code have resulted from the continuing study and modification of requirements by the appropriate Code committees stimulated by informed public comment and by feedback from Code users, such as Central Mortgage and Housing Corporation.

Code Format and Arrangement

The National Building Code has been drafted in the form of a by-law to encourage its adoption by a local government authority. To allow such adoption with a minimum of change, the administrative provisions that are liable to local variation have been assembled in one part of the Code (Part 2) and not mixed with the technical requirements that are capable of wide general application. Similarly, design requirements such as snow, wind and earthquake loads which vary with climate and regional terrain factors are referenced to basic data for each locality, the latter being provided in a supplement to the Code.

The Code requirements are intended to ensure that a building and the activities associated with it do not present an undue hazard to occupants or to neighbouring buildings. Safety of the occupants is paramount, with structural sufficiency, protection from fire hazards and provisions for public health providing the main basis for the individual regulations.

A unique feature of the Code arrangement is the compilation in Part 3 (appropriately called Use and Occupancy) of the fire and health provisions for safe building design based on the degree of hazard presented by the building occupancy.

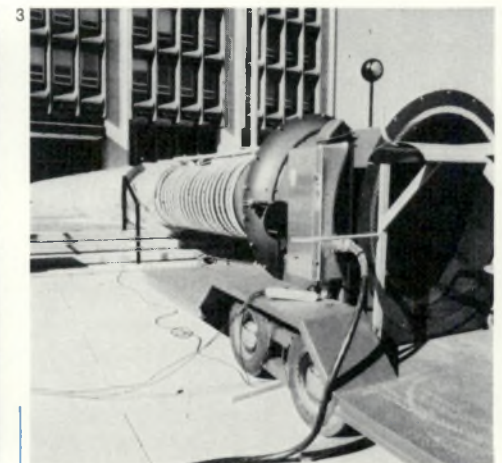
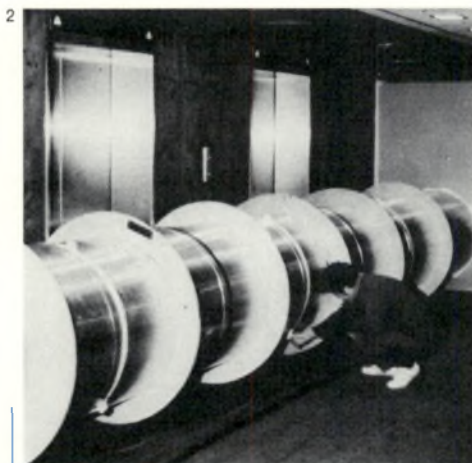
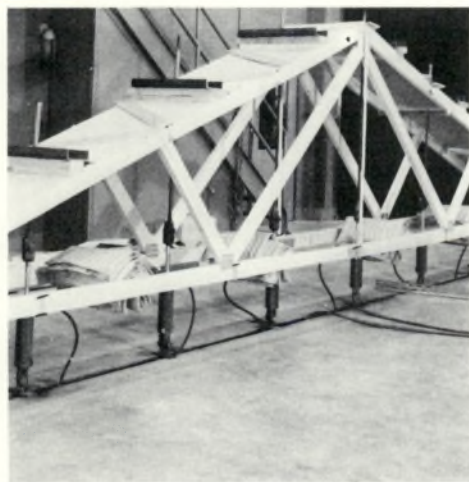
Part 9 of the Code, Housing and Small Buildings, provides regulations for non-engineered or traditional forms of building and incorporates detailed specifications for such construction in the form of "rule-of-thumb" requirements. It covers buildings up to three storeys in height and up to 6,000 square feet in area and all occupancies with the exception of those classed as "assembly," "institutional" and "high-hazard industrial."

This Part 9 is popular with many smaller communities as it provides most of the technical requirements needed for the control of residential and small commercial buildings.

The Code is supported by several supplements that contain relevant technical information. Supplement 4, for example, contains the design requirements for Plain and Engineered Masonry together with related detailed information to assist the designer in meeting the structural safety requirements stated in Part 4 of the Code.

The design requirements for the other principal materials such as concrete, steel and timber are contained in the standards published by the Canadian Standards Association which are referenced in the Code. About 200 other standards are recognized by the Code, these being referenced by title throughout the Code itself. This device of having the legal requirements in the Code and supporting material in supplementary documents provides one solution to the continuing problem of how to cope with rapidly changing technology.

In addition to the Supplements, the Associate Committee issues five special Codes which are published as separate documents to facilitate their use by the appropriate technical group. Three of these are referenced directly by the 1975 edition of the National Building Code



and comprise: Canadian Heating, Ventilating and Air-Conditioning Code, Canadian Plumbing Code and Canadian Construction Safety Code. The fourth Code deals with Farm Buildings and is used mainly as an advisory document at present.

The fifth document in this series is "Residential Standards" formerly known as the "Canadian Code for Residential Construction." This document is published separately in order to provide a single set of housing standards which will satisfy both safety and mortgage requirements. It gives the detailed requirements for residential construction from the National Building Code which are based on safety considerations as well as additional quality and amenity requirements needed for regulating construction under the National Housing Act.

These two kinds of requirements are differentiated in the document by the use of bold face type for the former and light face type for the latter. The former are intended to ensure that a building and the activities associated with it do not present an undue hazard to occupants or to neighbouring buildings. The light type requirements on the other hand are conditioned to a large extent by the risks involved in guaranteeing the mortgage. This reflects the traditional philosophy that building legislation should be limited to building safety leaving it to the marketplace to determine the type and quality of what is built. The document is not intended for direct legal adoption but does serve a most useful purpose by providing between two covers a compilation of all housing requirements prepared on a national basis.

The present edition applies to houses and apartment buildings up to 6,000 square feet in floor area and three storeys in height. The document has been designed to accommodate the traditional or non-engineered forms of construction which make up the bulk of Canadian housing by providing a set of detailed technical requirements based on rule-of-thumb. These requirements contain sufficient information to permit the structural detailing of small residen-

tial buildings without the necessity of engineering or architectural services.

An important feature which facilitates this approach has been the development of span tables for roof framing members and for beams. These relate the various conditions of loading and wide variety of timber species utilizing the grade marking system now well established on a national basis in Canada. The height and area limitations of the document are primarily dictated by fire safety considerations and by the maximum size of building to which these rule-of-thumb requirements can safely apply. There are a few requirements, however, such as those dealing with room sizes and sound insulation which apply to all residential buildings regardless of size.

The document is in a sense both a performance and specification code. Where the rule-of-thumb requirements do not apply and engineering analysis is required, the document makes reference to the appropriate sections of the National Building Code for this purpose. □

1 In conjunction with the Codes and Standards Group, research officers from the various specialist sections within the Division are attached to each of the Code committees as advisers. Their input is advisory only; the advisers have no voting rights and the committees retain full responsibility for the technical content of the Code.

2 See Habitat, Volume 18, No. 3, 1975.

Photos:

1 The studies by the Division of Building Research of the National Research Council on roof structures have led to a much wider use of trusses in house construction. In the test shown, the loads were produced by hydraulic jacks placed at approximately the quarter points along the roof to simulate a uniform load. A trussed roof design must be capable of withstanding the load of the ceiling plus a live load of $2\frac{1}{2}$ times the design snow load. The design snow load varies with each region of the country and for different types of roofs.

2,3 The spread of smoke during a fire is recognized as a major hazard in high-rise buildings. This is particularly so in winter when there is a great variation between interior and exterior temperatures, and a high-rise building behaves like a chimney. Under these conditions, the difference in air pressure forces the heated air in the building to rise to the upper storeys. Then, when a fire occurs, this chimney effect (called building stack action) carries the smoke up through the stairs and elevator shafts to the upper storeys, making evacuation during a fire difficult.

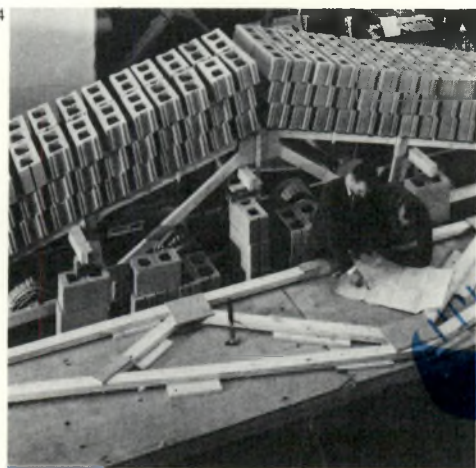
The Division of Building Research of the National Research Council had done extensive tests in several high-rise buildings in Ottawa to develop preventive solutions to smoke movements and to develop data for safer building design.

The photographs show two such tests using a mobile pressurization fan designed by the NRC. The pressurized fan system is placed against the elevator or stair door opening and the air is forced in. The flow of air is then measured at a point in the duct system attached to the fan. Other measurements are taken at various floors in the buildings to determine the air resistance of the walls and doors of elevator and stair shafts. From these measurements, the researchers can determine the degree of air resistance necessary to prevent smoke from entering and rising up into the elevator or stair openings.

The immediate result of the smoke control tests has been the development of a computer program which can predict how much smoke will migrate through a building. In the longer term, the tests will provide new data for the modification of high-rise building code requirements.

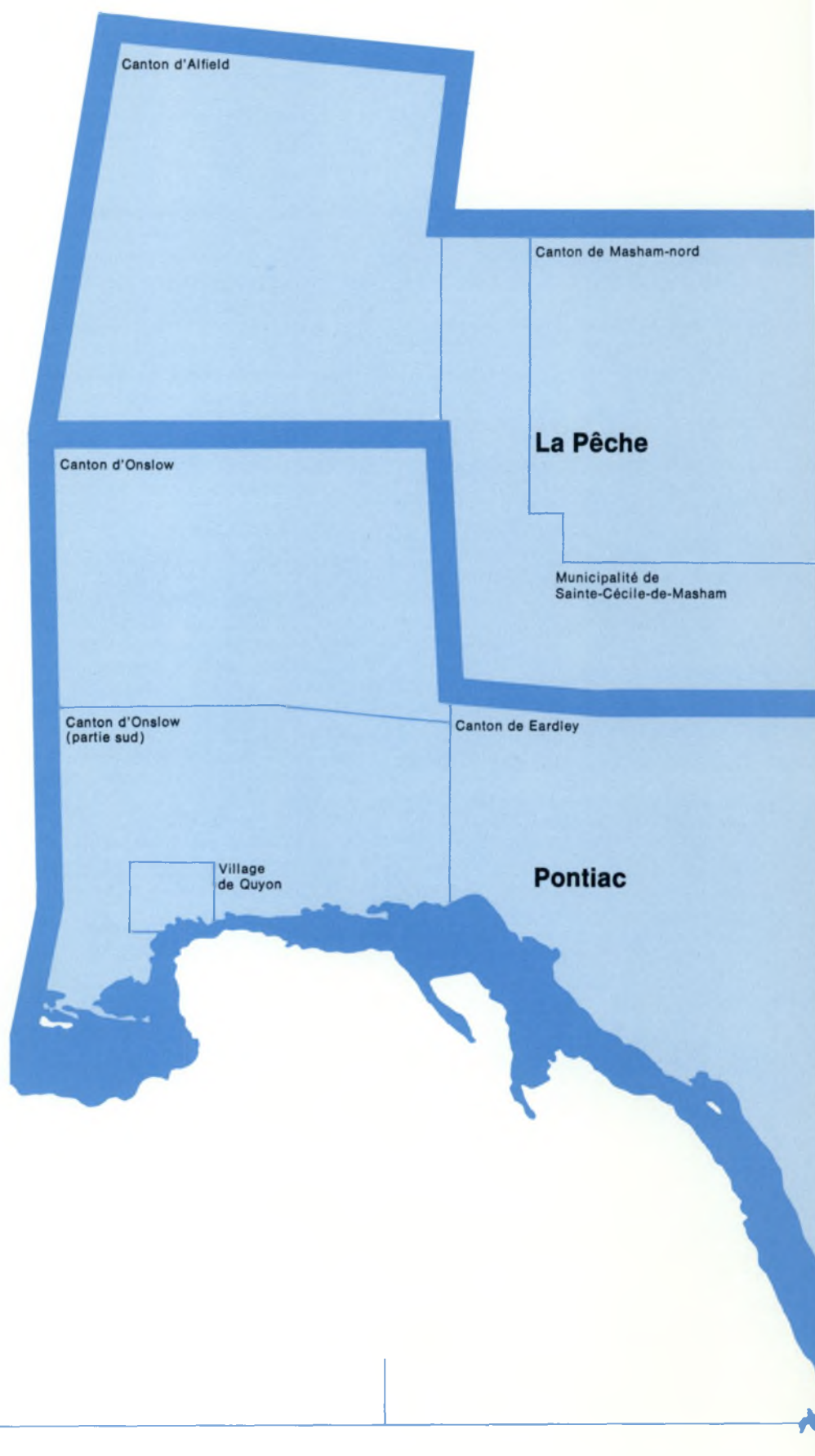
4 In this test, concrete blocks were used to determine the performance of the truss roof design under long-term loading conditions. Tests such as this led to the inclusion of performance test requirements for wood truss roofs in Residential Standards, a supplement to the National Building Code. These requirements provide for simple load tests to determine the strength of roof truss systems to ensure that such roof systems are strong enough to support the required load.

Photos: Courtesy of Division of Building Research.



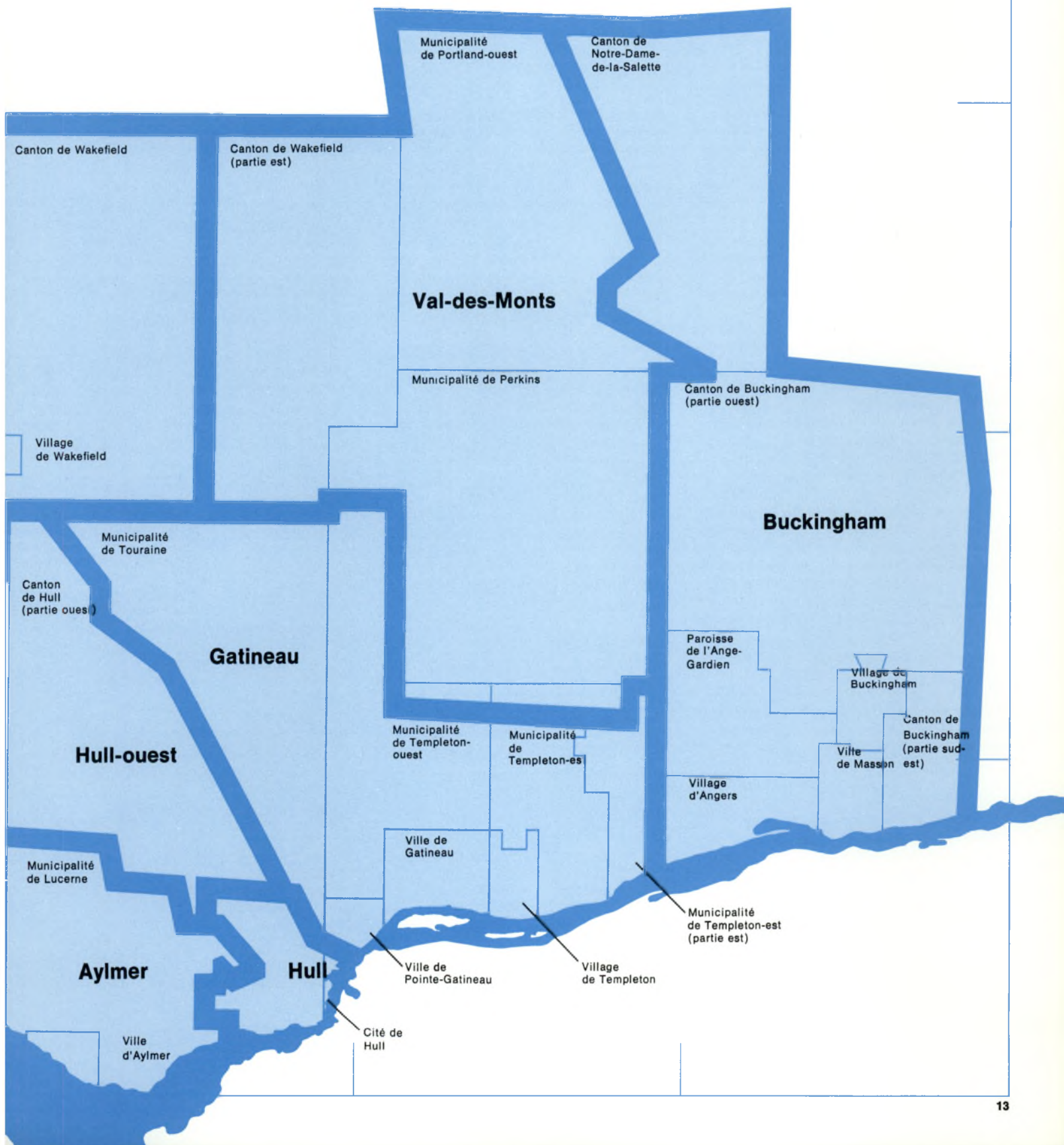
Le regroupement municipal au Québec des villes à réinventer

C'est au milieu du XIX^{ème} siècle que le système municipal que l'on connaît actuellement a été institué au Québec. En cent ans, ce régime a prouvé son importance et plus personne ne met en doute la nécessité de conserver la décentralisation administrative territoriale en vertu de laquelle l'Etat reconnaît à des collectivités locales le droit d'administrer, de gérer et de contrôler elles-mêmes une partie des affaires publiques. Mais en même temps, on garde l'impression que les Québécois n'ont pas encore su tirer tout le parti possible du système municipal que le régime britannique leur a apporté. Ils ont notamment jusqu'à maintenant failli dans la tâche d'ajuster le développement du système municipal en fonction de leur propre développement. Assez rapidement, en effet, la société québécoise, de rurale qu'elle était, s'est transformée en société urbaine. Mais les institutions locales n'ont pas été adaptées à cette profonde transformation. Non seulement les «cités et villes» du Québec ne jouent-elles pas le rôle qu'elles devraient jouer, mais il se perpétue, au sein du régime municipal, des anachronismes pour le moins déroutants. Comment expliquer, par exemple, qu'une association groupant les «conseils de comté», institutions locales strictement rurales et jouant un rôle de plus en plus modeste, ait réussi après d'intenses pressions à faire modifier, en 1971, une décision gouvernemen-



Communauté régionale de l'Outaouais

A noter, la multiplicité des juridictions sur un territoire souvent limité.



tale de les transformer en leur donnant un rôle plus moderne, et même à faire tomber la tête d'un ministre des Affaires municipales?

Le morcellement des unités administratives

De tous les problèmes auxquels fait face le système municipal québécois, un des plus graves est certes celui du morcellement des unités administratives. Il existe actuellement au Québec plus de 1,500 municipalités dont environ 1,050 ont une population inférieure à 1,500 habitants; ce qui signifie que 70 p. 100 du nombre total des municipalités québécoises représentent à peine 18 p. 100 de la population. Ce morcellement du territoire québécois s'est poursuivi jusqu'au début des années '50 et les mécanismes d'ajustement des frontières municipales en vigueur jusqu'à tout récemment ne peuvent de toute évidence constituer une politique efficace de revivification municipale.

Pourtant, au début des années 60, le gouvernement provincial, à la suite notamment de la publication du rapport La Haye et de la grande vogue d'urbanisme, a pris conscience de l'urgence de diminuer le nombre de municipalités au Québec. Comment assurer en effet le développement harmonieux d'une communauté lorsqu'elle est divisée en toutes sortes d'institutions locales toutes interdépendantes les unes des autres? Pour

assurer un aménagement rationnel, il faut une planification unique, des règlements de zonage compatibles, etc. Comment assurer aux citoyens d'une communauté déchiquetée en de multiples corporations locales forcément disparates au niveau des ressources financières, des services d'une qualité comparable? Comment éviter les injustices fiscales à l'intérieur d'une même communauté lorsqu'à cause de divisions territoriales superficielles, les payeurs de taxe y sont soumis à des taux d'évaluation non uniformes ou reçoivent à eux seuls les bénéfices d'une industrialisation concentrée dans leur secteur?

A partir de 1963, la diminution du nombre des municipalités est devenue l'un des objectifs majeurs du ministère des Affaires municipales. Mais alors que dans le domaine scolaire, on a procédé d'abord par la création d'une vaste commission d'enquête à partir de laquelle a été mise au point une réforme globale, jamais une telle planification n'a pu être réussie dans le domaine municipal. On a tout simplement fait des expériences...

Le regroupement volontaire

C'est le gouvernement provincial qui donne vie aux corporations municipales. Mais une fois ces dernières bien vivantes, il a toujours répugné à leur père législatif de les faire mourir. Pour des raisons politiques évidentes, le gouver-

nement y réfléchit à deux fois avant d'enlever à une communauté, aussi réduite soit-elle, sa dimension corporative. Il risque en effet de s'y faire des ennemis jurés.

Aussi, le ministère des Affaires municipales a toujours préféré laisser les municipalités se regrouper elles-mêmes. Des mécanismes législatifs ont toujours permis le regroupement libre et en ont défini les modalités. Ainsi, la Loi des Cités et Villes et le Code municipal permettent depuis leurs origines de procéder à des regroupements de municipalités par la voie des annexions totales, avec ou sans le consentement des conseils municipaux des municipalités annexées, à la requête d'au moins la moitié des propriétaires concernés.

Cependant, jusqu'en 1960, bien peu de regroupements ont été ainsi réalisés. En 1965, à la suite de la prise de conscience dont nous parlions tantôt, le gouvernement a voulu faciliter les modalités du regroupement spontané. Il a fait voter la Loi des Fusions volontaires, en vertu de laquelle les conseils municipaux reprenaient en main l'initiative de réaliser des fusions, fut-ce contre le gré des populations elles-mêmes. Et en 1971, l'Assemblée Nationale votait le remplacement de la Loi des Fusions volontaires par la Loi favorisant le regroupement des municipalités. En vertu de cette loi, il peut y avoir des regroupements de muni-

cipalités, à la requête conjointe de toutes les municipalités intéressées ou à la requête conjointe des municipalités intéressées si elles sont comprises dans une «unité de regroupement». Ces fameuses «unités de regroupement», pierre d'assise de la grande réforme municipale annoncée en 1972, n'ont bien sûr jamais vu le jour, tout comme d'ailleurs d'autres projets semblables amorcés par les fonctionnaires du MAM.

De 1961 à 1974, il y a eu au Québec environ une soixantaine de «regroupements volontaires», sous forme de fusion ou sous forme d'annexion. De toute évidence, ce n'est donc pas du côté du seul regroupement libre qu'il faille attendre la solution au problème du morcellement municipal. Il faut que ces gestes spontanés d'union soient provoqués au départ par une vaste politique d'animation à l'échelle du Québec. Les humbles succès obtenus en la matière sont d'ailleurs souvent imputables à des facteurs externes à une décision purement locale. Dans une des seules études consacrées à la question, Jean Meynaud et Jacques Léveillé, observant quelques cas de regroupement volontaire, réussissent à établir hors de tout doute l'importance de deux facteurs externes pour la période étudiée (1965-67): la régionalisation scolaire et la campagne d'incitation au regroupement menée intensivement par le MAM¹.

Si le regroupement volontaire présente l'avantage d'une plus grande «fusion des esprits» que le regroupement imposé, il reste qu'on ne voit pas pour le moment des signes permettant de conclure à une augmentation prochaine de ce type de regroupement. Bien au contraire. Le Québec vit plutôt, à l'heure actuelle, une période de remise en question des grandes réformes de la Révolution tranquille. L'esprit d'initiative a fait place à une recrudescence du conservatisme. Tant qu'elles ne sentiront pas un soutien éclairé de la part du gouvernement, les populations locales auront de plus en plus tendance dans les années à venir, à se méfier du regroupement.

Le regroupement imposé

En 1965, en même temps qu'il faisait voter la Loi des Fusions volontaires, le gouvernement québécois réalisait unilatéralement une des plus grandes fusions de toute l'histoire de la province: la fusion des municipalités de l'île Jésus et la création de Ville-de-Laval. Et depuis, malgré les promesses de non-intervention «brutale», les divers ministres qui se sont succédés aux Affaires municipales ont dû utiliser la coercition pour réaliser une ou plusieurs fusions d'envergure.

En l'absence d'un plan d'ensemble, de tels regroupements imposés paraissent encore plus arbitraires et encore moins justifiés. On entre là dans le domaine confus des influences politiques, des rapports de force, des jeux de coulisse. L'absence de planification ouvre la porte à toutes les critiques et jette même le discrédit sur certaines fusions qui sont par ailleurs des opérations parfaitement bien menées. En somme, le ministère des Affaires municipales a malheureusement perdu beaucoup de crédibilité en ce domaine.

D'autant plus que les grandes fusions, depuis 1965, sont à peu près toutes des fusions imposées: Laval, Bécancour, Percé, Gaspé, Sainte-Scholastique (Mirabel), Hull et la région, Kénogami-Jonquière-Arvida... On fait des «expériences». Ainsi, alors que Laval a été créée en une seule étape, on a voulu procéder autrement pour Jonquière-Kénogami-Arvida. On a commencé par fusionner ces trois villes à la fin de l'année dernière. Le texte de loi prévoit en outre, pour le 1er janvier 1976, un regroupement analogue autour de la ville de Chicoutimi et un autre pour Bagotville-Port-Alfred. Enfin, en 1978, toujours selon le texte de loi, l'ensemble Kénogami-Jonquière-Arvida aura fusionné avec la nouvelle ville de Chicoutimi. Une ville comme Jonquière, par exemple, va donc subir deux fusions. Or, chaque fusion pose des problèmes administratifs, notamment au niveau du personnel. Ces problèmes devront être résolus à deux occasions. Est-ce une meilleure solution que Laval? On le saura dans dix ans... De plus,

lorsque le gouvernement provincial agit unilatéralement, il est parfois soumis à des pressions plus ou moins obscures, au lieu de vider l'ensemble de la question sur la place publique comme dans le cas des regroupements volontaires. A cet égard, la fusion récente dans la région de l'Outaouais n'a pas été sans soulever de nombreuses critiques. La formation de cinq grandes municipalités (Gatineau, Lucerne, La Pêche, Val-des-Monts et Pontiac) regroupant vingt-deux municipalités de diverses dénominations constitue en réalité un compromis entre les vues du gouvernement québécois et la résistance farouche d'une certaine partie de la population locale. Cette résistance est venue de la minorité de langue anglaise qui, on le sait, est très attachée à ses institutions, particulièrement au Québec où les anglophones, noyés par la majorité francophone au niveau de l'Etat provincial, se retrouvent maîtres chez eux dans leurs institutions locales. L'intervention de la minorité anglophone a été suffisamment puissante pour faire modifier le tracé des nouvelles frontières municipales qui avait été d'abord prévues. Hull-Ouest, demeurée intacte, et Lucerne, une des nouvelles villes, assurent aux anglophones le maintien de leur homogénéité.

Enfin, il faut souligner qu'au moins quatre grandes fusions imposées l'ont été pour préparer le terrain à des projets d'envergure: Bécancour, pour l'aciérie,

¹ *Quelques expériences de fusion municipale au Québec*, Université de Montréal, Editions Nouvelles Frontières, 1972.

Mirabel, pour l'aéroport, et Percé et Gaspé pour l'établissement du Parc Forillon. Il reste, cependant, que dans le cas de Percé et de Gaspé, on avait, par les travaux de l'Office de développement de l'Est du Québec, sensibilisé les populations locales aux avantages de la fusion par un travail d'animation à long terme.

Les communautés urbaines

Le morcellement des municipalités ne provoque pas le même type de problèmes selon qu'il se produit dans une zone très urbanisée ou au contraire dans une région rurale. C'est pour résoudre les problèmes posés dans les ensembles métropolitains que le gouvernement québécois instituait, en 1970, les communautés urbaines de Montréal et de Québec. Pour la région de Hull, à la fois urbaine et rurale, Québec préférait une Communauté régionale. D'autres semblables devaient d'ailleurs suivre dans les régions de Joliette, du Saguenay et ultérieurement sur tout le territoire. Mais on s'est arrêté à la Communauté régionale de l'Outaouais...

Créées pour répondre à de nombreux besoins, les communautés urbaines devaient, entre autres, préparer des plans de regroupement des municipalités situées sur leur territoire. Après cinq ans d'existence, cet objectif est loin d'avoir

été atteint. En effet, les regroupements de la région de Hull se sont faits sans l'intervention de la CRO. On prépare à Québec un plan de regroupement de quatre municipalités entourant la ville de Charlesbourg avec cette dernière. Bien que situé sur le territoire de la Communauté urbaine de Québec, ce plan a été conçu sans que le gouvernement n'ait fait appel à cette dernière. Enfin à Montréal, non seulement on ne parle plus Communauté urbaine de Montréal, mais de regrouper les villes-membres de la on remet en question l'existence même de la Communauté. Les déficits croissants de la Commission des Transports de la CUM, l'augmentation vertigineuse des coûts de police et le dossier olympique vont certainement apporter des modifications importantes au jeu des forces en présence sur l'île de Montréal. Il faut espérer que le gouvernement provincial en profitera pour reprendre en main les responsabilités qui lui reviennent et pour faire de l'île de Montréal un territoire plus rationnel au niveau des frontières municipales.

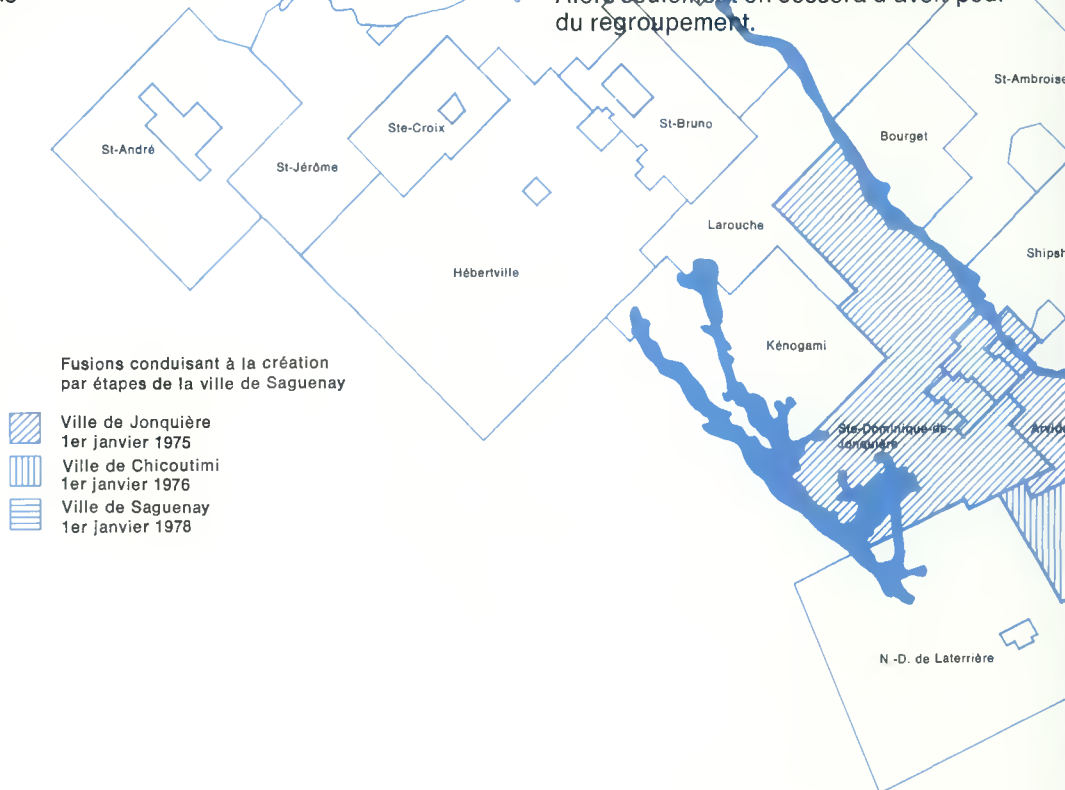
Ainsi donc, contrairement à ce que l'on avait cru au départ, l'établissement d'organismes supramunicipaux comme les communautés urbaines et régionales n'a déclenché aucun mouvement de regroupement.

Les projets de regroupement

On a renoncé aux grands projets d'ensemble. Il n'est plus question au ministère des Affaires municipales, du moins pour l'instant, de pondre un nouveau plan généralisé de restructuration municipale. On va plutôt tenter de continuer à régler les cas un par un. Ainsi, des projets de regroupement majeur sont prévus pour Chicoutimi, Port-Alfred-Bagotville, Charlesbourg, Beauport et Saint-Hyacinthe.

Pourtant on n'arrive pas à comprendre pourquoi une politique globale de restructuration n'est pas mise sur pied. Elle permettrait à tout le moins d'uniformiser les modalités de regroupement tout en facilitant l'application d'une véritable politique provinciale d'urbanisme et d'aménagement du territoire.

Au fond, il n'y aura pas de politique efficace de regroupement au Québec tant qu'il n'y aura pas de véritable politique régionale. La régionalisation n'est pas que le réaménagement des institutions locales. Elle suppose que dans tous les domaines qui sont de sa compétence, le Québec planifie d'abord son développement et y fait participer les régions, non seulement à titre de courroies de transmission de directives venues d'en haut, mais aussi en tant qu'éléments dynamiques et initiateurs, représentant les forces vives des populations locales. Alors seulement on cessera d'avoir peur du regroupement.



Créer de «nouveaux» quartiers

Le regroupement municipal s'effectuerait aussi peut-être plus facilement si l'on en profitait pour faire revivre, par le bas, des unités de population plus humaines, plus viables. Le gouvernement municipal est une institution qui nous vient d'une époque où la ville représentait l'expression spatiale d'une société à l'intérieur de laquelle les rapports de tous ordres pouvaient se définir assez simplement. En tant que structure politique, le gouvernement municipal a pu s'adapter aux changements sociaux qui sont intervenus tout au long du développement historique des villes.

Mais avec l'apparition du nouveau type de société dans laquelle nous vivons, on n'assiste plus seulement à une augmentation en densité des agglomérations urbaines existantes. Il s'est produit un changement qualitatif dans l'organisation même de l'espace, imputable en particulier à la diffusion spatiale des activités, des fonctions, des groupes et à leur interdépendance suivant une dynamique largement indépendante de la liaison géographique. Ce changement a complètement bouleversé le comportement du citoyen urbain. On a longtemps cru que l'homme des grandes villes se dirigeait implacablement vers une civilisation de robots. Mais l'on se rend compte aujourd'hui que, par exemple, la faible participation à la vie publique, le sens très peu développé de la vie

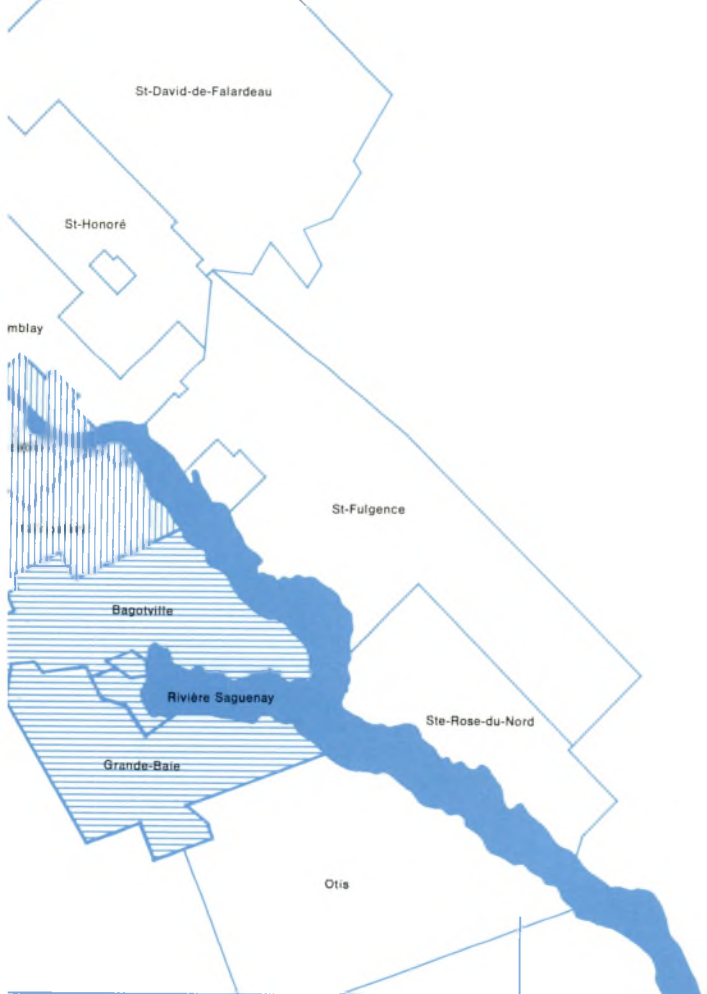
collective n'étaient pas nécessairement l'expression d'une indifférence absolue. Des sociologues ont essayé d'analyser les variations dans l'intégration collective imputables à l'urbanisation. Leur conclusion: un nouveau type de citoyenneté se développe en même temps que la société de consommation de type urbain: individualisme, division des tâches, etc.

Mais il reste que les relations entre ces nouveaux citoyens et le pouvoir ont tendance à devenir de plus en plus ténues. C'est donc que l'incapacité des structures politiques locales traditionnelles à assurer des canaux de communication efficaces est devenue évidente. Il faut rétablir le contact entre les citoyens et le pouvoir. En même temps que l'on regroupe les unités locales, il faut décentraliser les points de décision.

D'ailleurs, il s'agit là d'une tendance qui se manifeste spontanément (comités de citoyens, associations de quartiers, etc.) Au fur et à mesure que le pouvoir s'aggrave, il tend à engendrer des pressions en sens inverse vers la déconcentration. Ce phénomène est déjà observable dans le monde industriel, où le mouvement en est un de concentration croissante des fonctions d'élaboration des politiques globales au niveau le plus élevé, d'une part, et d'augmentation de la discrétion administrative et de l'autorité décisionnelle aux échelons infé-

rieurs, d'autre part. Des tendances semblables commencent à apparaître dans la sphère politique métropolitaine avec les pressions croissantes pour une concentration des pouvoirs au niveau régional, d'où la nécessité constante de «regrouper» et une demande pour une plus grande autonomie des quartiers d'autre part, d'où la nécessité de décentraliser. Même si ces tendances peuvent apparaître contradictoires à première vue, elles peuvent fort bien présager de l'évolution future du développement des structures gouvernementales municipales.

En confiant à un gouvernement régional, métropolitain ou à une nouvelle grande municipalité, juridiction sur les principales fonctions d'entretien de la région, ce que les Américains appellent les «maintenance functions», l'attribution aux quartiers de certains pouvoirs permettant de déterminer le style de vie («life-style powers») devient possible, sinon désirable. Ce type de décentralisation peut gagner de plus en plus d'adeptes si, comme le maintiennent certains, le contrôle par le quartier des décisions publiques affectant directement la vie quotidienne de ses membres, contribue au maintien de la paix sociale. Il devrait, selon nous, être en tout cas très présent à l'esprit de ceux qui devront à l'avenir mettre en application quelque regroupement municipal que ce soit. □



The Forgotten Ingredient Paying Nature's Rent

By Harold D. Foster

The Threatening Landscape

Cities are individualists; each one has a character which reflects not only the architectural design, temperament, style and occupation of its inhabitants but also its physical milieu. Indeed, despite all efforts at subjugation, the landscape inevitably remains an enigmatic presence in the urban scene, playing a dual, supportive and disruptive role.

A unique juxtapositioning of mountains, rivers or shorelines can be a major civic asset, having a beneficial influence on growth, form and aesthetics. Conversely, the landscape can also threaten because its diversity creates patterns of risk over which the human infrastructure is superimposed (See Box—Geomorphology). The hazards so created are ever present, but largely ignored, elements in the urban environment, which thrust themselves into societal consciousness only during occasional disasters.

Since a major aim of planning is the reduction of social and economic waste, the delineation of such physical threats should be given high priority. Yet recognition is not enough. Areal variations in risk should also be harmonized with spatial variations in construction. Known as disaster mitigation, this process involves the siting of low density activities (of little value or significance) in high risk locations, while conversely extensively developing low risk areas. This approach to urban development, however, has been largely ignored by Canadian planners.

Defining the Risks

A first step in disaster mitigation is the determination of risk. The process of identifying and delineating areas of risk, at a scale suitable for use by urban planners, is termed microzonation. It involves establishing the presence or absence of those factors, such as a particular sediment type, slope angle, altitude or proximity to water bodies, which singly, or in combination, could create a threat from one or more hazards.

Earthquakes

Earthquake microzoning provides an example of this process. Repeated experience has shown that damage from seismic events can vary greatly within small areas. It is generally accepted that structural factors being equal, buildings on deep, moist, unconsolidated sands, clays or particularly fill which are on, or adjacent to, active faults, suffer the most damage during earthquakes. It is, therefore, possible to microzone urban areas according to their seismic vulnerability. Examples of such maps have been produced for several Romanian, Turkish, Yugoslavian and Soviet cities, such as the Romanian towns of Galati and Arges. Wellington, New Zealand and Santiago, Chile have also been microzoned, as has Tokyo, Japan.

In Canada, earthquake microzonations are available for only Victoria and Vancouver. These maps clearly indicate

that in both cities great variations in seismic risk occur over short distances, a factor which has been ignored in their development.

Landslides

Landslides are a common feature of many urban areas built over steep terrain; yet, damage from their occurrence is largely unnecessary. Mass movement occurs when shear stresses overcome shear strength—a process which can now be predicted with considerable success. Microzoning maps, which delineate variations in landsliding potential, invariably show that the highest risks occur in areas of steep gradients and great precipitation, particularly if building has taken place on weathered and well-jointed or fractured bedrock in seismically unstable areas.

Los Angeles, because of its relatively weak rocks and steep slopes, has had a long history of landslide damage, most of which occurs during periods of intense rainfall. Before 1952, no studies of landslide potential in the Los Angeles area were required before building was permitted. After 1952, a moderately effective grading ordinance was in effect, while from 1963 to the present time detailed geomorphological site surveys have been required before any construction was allowed. During the wet year 1969, of the 10,000 hillside lots developed prior to 1952, of these some 1,040 failed, causing \$3.3 million damage. Of the 27,000 sites built on during the period 1952-1962, 350 were also damaged, causing losses of \$2.8 million. In contrast, of the 11,000 home sites developed in the area since 1963, only 17 showed any damage.

These figures indicate that the careful application of landsliding microzonations and site stability studies in Los Angeles have reduced the percentage of lots being adversely affected by landsliding from 10.4 to 0.15 percent. Despite their obvious advantages, only a few landslide and avalanche potential maps have been produced for isolated areas of Canada, the United States, Scandinavia and Central Europe.

Other Hazards

Microzoning maps have been prepared for a variety of other hazards showing, for example, areas likely to be flooded by storm surges and lake seiches (waves), the probable paths of volcanic lahars (mud flows), glowing avalanches and lava flows as well as tsunami inundation potentials (See Box—Tsunami).

However, only in flood plain mapping has any great quantitative progress been made. Many river valleys in North America, Europe and elsewhere have been microzoned to illustrate the expected areal extent of ten, twenty-five, fifty or even one hundred year floods. These maps are based partially upon projections from river gauging records, on past experience of flooding and on meteorological predictions of maximum potential precipitation.

It is of interest to note that the Canadian federal government has just announced a \$20 million flood hazard mapping programme which will cover over 200 urban and rural regions that have already experienced damage.

Counting the Costs

Once spatial variations in risk have been established delineating high, medium, low or no risk zones for certain hazards, attempts can then be made to assign economic costs to such threats. By drawing analogies with similar areas from accumulated experience within the region itself and by the mapping of damaged vegetation and distinctive sediments, it is often feasible to determine the frequency with which damaging events have previously occurred.

Once this has been achieved, it then becomes possible to estimate the average annual per capita loss, suffered by residents of each zone, from each hazard. This process normally involves giving a monetary value to life lost and to injury sustained. In the author's experience, figures chosen to represent such tragedies vary from \$75,000 to \$1 million per fatality, and are generally some \$25,000 for each injury sustained.

One of the most successful attempts to calculate such annual disaster losses has been that of the California Division of Mines and Geology. In California, for example, residents of high risk earthquake zones suffer a per capita \$31 annual loss from this cause, those in low risk zones \$14 and in intermediate areas \$27; similarly, losses from landsliding are \$53, \$1 and \$35 respectively. Annual losses from flooding are \$290 in high risk areas and \$96 in those of moderate risk. It is estimated that unless more effective disaster mitigation is carried out in California, \$55 billion of damage can be anticipated by the year 2000.

The author is unaware of any comparable Canadian studies, although economic losses from floods, land-

sliding, forest fires and tsunamis have undoubtedly been high in this country and will continue to remain so unless planning practices are improved.

Responding to the Risks

Once variations in risk have been established, there are a variety of possible planning responses. Attempts can be made to affect the cause, for example, through the use of afforestation or cloud seeding to reduce flooding. The hazard itself may be modified by the erection of sea wave or lava flow barriers or the use of flood storage reservoirs or snow fences. The loss potential can also be lowered by effective forecasting and warning systems, emergency evacuations or the use of adequately enforced building codes, land use zoning regulations or control through mortgages, sewer permits and building licences. When losses are likely to be incurred, their impact can be spread by public relief or through subsidized insurance schemes (such as that functioning in New Zealand), by private insurance or the use of reserve funds.

Naturally such responses to risk are expensive, but so too is simple loss

Geomorphology

Landscape diversity is the result of the uneven operation of what are called geomorphological processes. A relatively new branch of science, geomorphology is the study of the origin and evolution of the earth's landforms, both on the continents and within the ocean basins. Originally developed from the theories of the American geographer, William Morris Davis, around the turn of the century, geomorphology is concerned with the internal geologic processes of the earth's crust, such as volcanic activity, as well as externally driven forces of wind, water, waves and glacial ice that modify the shape of land. □

bearing. The previously cited California study shows that if all feasible measures were applied to reduce risk in that state, disaster mitigation would have a benefit/cost ratio of 20:1 for expansive soils, 9:1 for landsliding, 5:1 for earthquake shaking, 5:1 for volcanic hazards, 1.5:1 for subsidence, tsunamis and erosion and 1.3:1 for flooding. Although these benefit/cost ratios are calculated for California, Canadian planners should give them the attention they merit.

Minimizing the Risks

Even when all possible mitigation steps have been taken, risk still remains. Priorities must, therefore, be established. One example of this is the initial attempt by the Puget Sound Governmental Conference to determine maximum allowable risk for differing types of land use.

The standards set for major lifeline facilities, such as emergency command centres, regional power inter-tie systems, large dams and nuclear power stations, are that no annual property damage is permitted and that the maximum structural integrity (currently technologically feasible) should be attained. It is suggested that other slightly less important lifeline facilities, such as hospitals, blood banks, police and fire departments and water mains and works should be located in risk zones where damage will average less than 0.5 per cent of their total value per annum.

Less significant lifeline facilities, which may be interrupted but which must be restored immediately on a priority basis, such as communication and power networks, nursing homes, jails, asylums, county court houses and city halls should be built with sufficient structural integrity to ensure the rapid normalization of service after damage. They should not be located in risk zones where the average annual property loss will exceed one percent. Similar standards are proposed for industries which are major employers, transportation networks (including airports and railways), commercial and residential development.

Tsunami

Tsunami is a Japanese word meaning a great sea wave produced by submarine earth movements or volcanic eruptions. Probably the most destructive and best-documented tsunamis occurred following the eruption of the volcano Krakatoa in the East Indies on August 27, 1883 when over 36,000 people were killed as a result of tsunami activity. Waves 100 feet high and, traveling at speeds between 350 and 450 m.p.h., carried away the town of Merak, 30 miles from the volcano. □



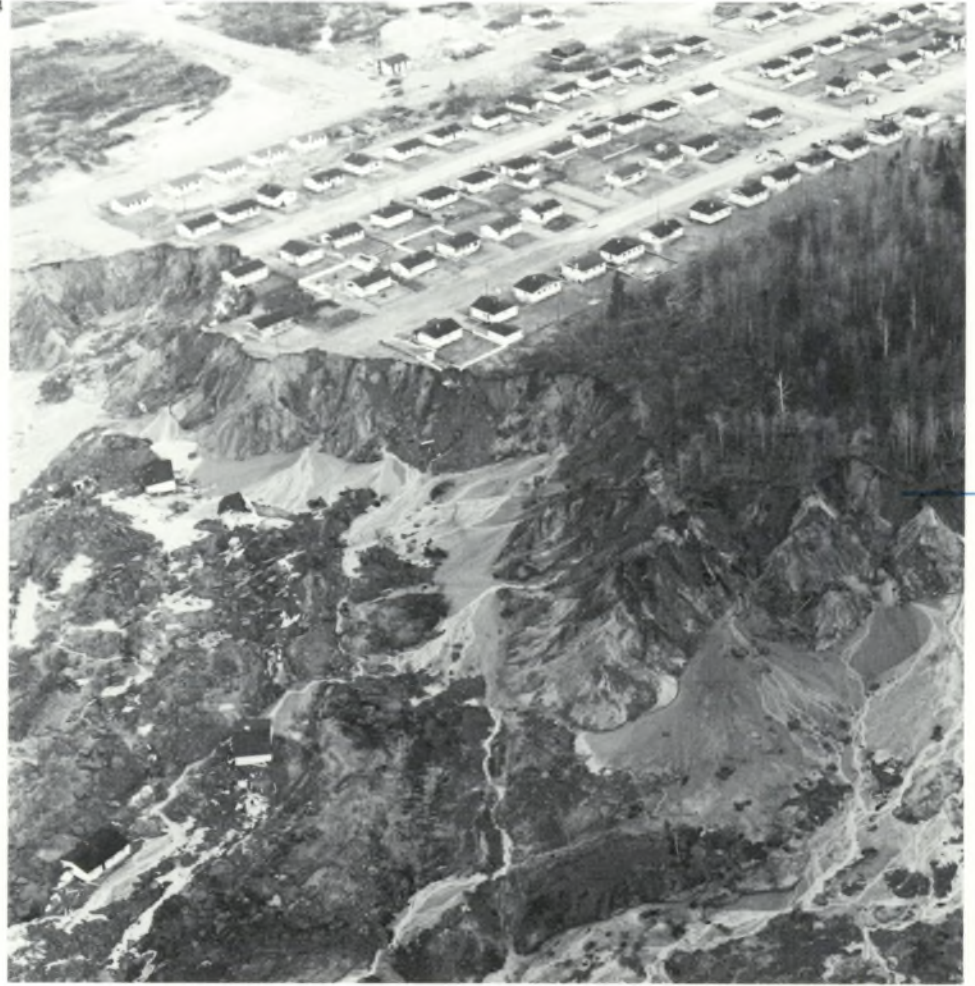
Certain occupations are by their very nature high risk, or must in some cases be undertaken in high risk areas. These are often developments that have a strong locational requirement. Typical of such activities are the extraction of sand and gravel from river terraces, agriculture and water related industries such as port facilities. Such activities should be limited to areas where the annual average property damage is less than seven percent.

Obviously, these standards, developed in the United States, are not necessarily suited to Canadian needs, but do provide a starting point for national discussion.

What Should Be Done

The provision of security is a major, often stated, Canadian goal. Despite this, innovations in disaster mitigation, developed elsewhere, have yet had little impact in this country. The time has come for delineated areal variations in risk to be given full cognizance in future Canadian urban plans.

Damage from geophysical hazards is the rent nature levies on society for the use of the earth's surface. It can be paid by installments, as in Los Angeles, or in a lump sum, as in St. Jean-Vianney. The choice is ours. □



For further reading:

John T. Alfors, John L. Burnett and Thomas E. Gay, Jr., *Urban Geology Master Plan for California*, California Division of Mines and Geology, Bulletin 198, Sacramento, 1973.

Kenneth Hewitt and Ian Burton, *The Hazardousness of a Place*, University of Toronto Press, Toronto, 1971.

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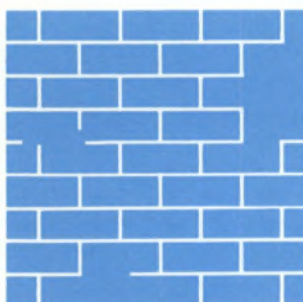
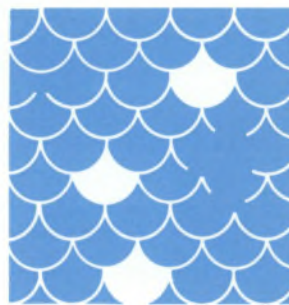
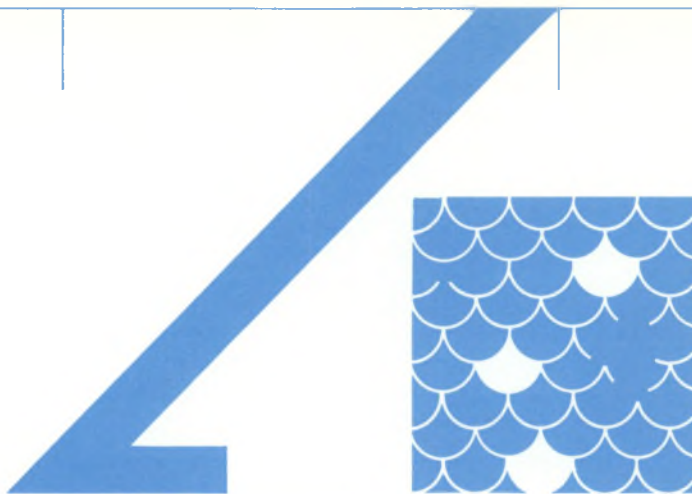
- 2 This aerial shot shows the aftermath of a landslide, which occurred along the South Nation River in Eastern Ontario on May 16, 1971. The slide which took place four miles north of Casselman, Ontario involved nearly seventy acres. Photo: National Air Photo Library, Department of Energy, Mines and Resources.
- 3 A landslide scarp showing the succession of land slippages. The slide occurred during a heavy thunderstorm. Photo: Courtesy of Division of Building Research, National Research Council.
- 4 On May 4, 1971, thirty-one people died in a major landslide at St. Jean-Vianney in the Lake St. John District of Quebec. The slide occurred along the banks of Rivière aux Vases, destroying some forty houses in a recently established subdivision. Photo: Information Canada Photothèque.

Maisons laides par milliers

On dit parfois que du goût et des couleurs, il est inutile de discuter, puisque chacun de nous a ses préférences pour des raisons qui lui sont personnelles et qui ne concernent que lui seul. Cependant, dans tous les domaines de l'art: littérature, théâtre, musique, peinture, sculpture et architecture, il existe des oeuvres nombreuses, anciennes et contemporaines, qui plaisent à la majorité du public comme aux spécialistes tandis que d'autres choquent le goût de ce même public comme celui des esthéticiens; le public, le plus souvent pour des raisons qu'il ne saurait exprimer, alors que les spécialistes peuvent analyser et justifier ces raisons.

Dans le domaine de l'architecture, et plus particulièrement celle de l'habitation dont nous traiterons ici, soit les maisons unifamiliales et d'appartements, il faut bien reconnaître que les réalisations de mauvais goût ou d'un goût douteux sont de beaucoup plus nombreuses et fréquentes que pour l'architecture de nos édifices publics.

par Denis Tremblay



Il faut aussi souligner que ces oeuvres de mauvais goût s'imposent aux regards de toute la population, qui se trouve forcée de les subir, alors que pour les oeuvres littéraires ou pour la peinture par exemple, l'on n'est pas forcé, au même degré, d'en subir l'influence corruptrice. Toutes ces maisons laides, banales, en désaccord avec leur voisinage, sont en effet exposées en permanence sur nos rues, comme des peintures dans une galerie de musée, et offensent journellement le bon goût de la majorité, croyons-nous, de la population.

Il faut considérer qu'une rue, un quartier domiciliaire, de même qu'une ville dans son ensemble, sont des oeuvres collectives qui concernent toute la population. Ces ensembles et chacun de leurs éléments reflètent le sens de la beauté, de l'ordre et de l'harmonie que possède une société, comme aussi les moyens dont elle dispose pour réaliser les aménagements correspondant au genre de vie et aux idéaux qui sont les siens.

En architecture, avons-nous dit, c'est dans le domaine de l'habitation, maisons unifamiliales et maisons de rapport, que les fautes contre le bon goût et le bon sens sont les plus fréquentes en même temps que les plus ostensibles, et cela pour plusieurs raisons dont la principale est que leur conception est le plus souvent artisanale, folklorique et

populaire, alors que l'architecture de nos édifices publics est réalisée par des concepteurs ayant acquis une formation professionnelle adéquate. Nous ne saurions prétendre que notre architecture publique, réalisée par des architectes, soit indemne de toute faute contre le bon goût, puisque trop d'exemples prouvent le contraire. Il faut reconnaître cependant que notre architecture publique a fait des progrès notables depuis un quart de siècle et se compare avantageusement à celui des autres pays, alors que la qualité architecturale de nos maisons a plutôt régressé pendant la même période. Mais pourquoi employer le mot *architecture* dans le cas de ces maisons, puisqu'elles sont sa négation même?

Existe-t-il des règles, des principes généraux, dont on puisse s'inspirer, que l'on doive suivre, pour éviter tout au moins de commettre les fautes les plus graves contre le bon goût? Certes! et ce sont justement ces principes que les vrais artistes, de tout temps, ont mis en pratique, le plus souvent même d'une façon instinctive, puisqu'ils sont pour ainsi dire inscrits dans la nature et dans l'homme, et qu'ils se reflètent dans nos oeuvres quand nous savons imiter la nature et respecter ses lois.

Qu'il nous suffise de rappeler quelques une de ces règles simples et de montrer, par des exemples, des fautes qui peuvent les mettre mieux en évidence,

croyons-nous, que toute analyse et comparaisons basées sur ces règles.

Le premier principe, qui concerne tous les arts, est un principe moral: il a trait au respect de la vérité, pour autant que nous puissions la percevoir et qu'elle nous paraisse évidente par elle-même.

En vertu de ce premier principe, les formes doivent exprimer, le plus directement possible, les fonctions auxquelles elles doivent correspondre. Les formes extérieures d'une maison: les murs, les toitures, les corniches, les saillies et les retraits, les ouvertures, etc., constituent l'enveloppe des espaces intérieurs. Elles doivent découler du plan et de l'agencement fonctionnel des différents locaux et accuser les espaces et leurs diverses fonctions utilitaires.

Eviter par conséquent les faux pignons, les faux combles qui ne recouvrent rien, les formes compliquées à dessein, en somme tous les artifices et tous les mensonges dont le but est de produire l'illusion de réalités absentes.

Les matériaux doivent être vrais: du vrai bois, de la vraie pierre, de la vraie brique, du vrai béton, etc., et non pas des imitations, des ersatzs souvent aussi coûteux de ces matériaux, ou des camouflages qui ne trompent personne. L'on doit aussi éviter d'employer plusieurs matériaux disparates dans le traitement des façades d'une maison, comme par exemple de la fausse ou de la vraie pierre au sol sur la façade princi-

la lumière et de l'ombre sur les surfaces, à la couleur et à la texture des matériaux et à toute cette combinaison d'éléments subtils qui résultent de la sensibilité et de l'imagination de l'artiste.

Il faut tenir compte aussi, dans les proportions et dans l'apparence extérieure d'une maison, des maisons voisines et de leur style. Il ne s'agit pas ici de similitude et d'uniformité, bien au contraire, mais surtout d'harmonie, soit d'une certaine «parenté» entre les maisons d'un même voisinage en respectant des gabarits de hauteur, de recul, de distances entre les maisons voisines, ainsi que dans le traitement des façades et l'aménagement des parterres. Il est possible et même nécessaire d'avoir une assez grande variété de types et de styles de maisons dans un même voisinage sans que l'harmonie d'ensemble en souffre aucunement.

Les constructeurs d'habitations ont un choix assez restreint de plans de maisons qu'ils répètent à satiété, par cinquantaines et par centaines dans un même développement, toutes enlignées à la queue leu leu sur les deux côtés d'une même rue ou sur plusieurs rues contiguës. On les a laissés libres de créer dans nos banlieues ces tristes ensembles monotones et sans vie alors qu'ils auraient pu, sans qu'il en coûte plus cher, réaliser des ensembles plus humains. Le même plan de maison, en

effet, peut se prêter à plusieurs traitements extérieurs différents et donner ainsi une personnalité propre à des maisons de même superficie habitable et de même coût.

Une autre erreur enfin consiste à vouloir imiter l'un ou l'autre des styles anciens ou étrangers sans en respecter les principes et les formes. Pour beaucoup, en effet, comme le notait Viollet-Le-Duc «le style en architecture ne consiste que dans une enveloppe extérieure décorative, un ensemble d'artifices, de placages et d'imitations», alors que la bonne architecture n'a pas besoin d'être ornée et enjolivée, et que l'ornement ne doit jamais paraître adventice, sura-

pale seulement, alors que le haut de cette façade et les autres élévations seront traités avec des matériaux disparates, et qu'on trouvera dans les parements de brique des pierres irrégulières distribuées au hasard, tandis que les pignons seront peints de couleurs vives qui détonnent avec les autres teintes ou couleurs des matériaux.

On voit souvent des porches en pierre, de dimensions étriquées et de formes capricieuses, en appareil mal agencé, et qui n'ont aucun rapport de style et de proportions avec la maison sur laquelle ils sont plaqués. Toutes ces fautes de goût proviennent de ce que l'un pourrait nommer le «complexe de la façade».

Un troisième principe, et des plus importants en architecture, est celui de la proportion ou des proportions relatives des différents éléments de l'ensemble. Il est difficile de donner ici des règles précises puisque les bonnes proportions sont des éléments qui se perçoivent plutôt qu'ils ne s'expliquent. Elles consistent en des rapports mathématiques simples entre les différentes parties d'un ensemble: entre les volumes, les surfaces, les pleins et les vides, les saillies et les retraits, que l'esprit perçoit d'emblée. Quand les proportions sont mauvaises, on éprouve à leur vue un sentiment de malaise, d'insécurité et d'une faute contre le bon sens. Les proportions tiennent aussi aux jeux de



1 Une maison dont le moins qu'on puisse dire est qu'elle souffre du complexe de la façade et pêche gravement contre la vérité. L'interruption du faux mansard en fait ressortir la tromperie. Les fenêtres, sans rapport de style avec le toit, la difficulté d'accès à l'entrée principale et le manque d'alignement des ouvertures concourent à en faire un tout disparate et disgracieux. Photographie: E. Taylor/SCHL

2 Il en est des garages comme des porches. La beauté de l'ensemble exige qu'ils soient proportionnés et subordonnés à la maison. Ceux-ci prennent tout l'avant-plan et cachent l'entrée principale. Photographie: E. Taylor/SCHL

3-4 Tristes ensembles monotones et sans vie où règne la répétition. Photographie: E. Taylor/SCHL, W. Cadzow/SCHL

5 Voici un bâtiment inspiré de la grange sur pilotis dont les lignes harmonieuses se trouvent rompues et abâtardies par la présence d'une forme pyramidale très lourde, sans relation avec le reste. Photographie: E. Taylor/SCHL

jouté. «L'architecture, objet à la fois construit et sculpté,» écrivait Auguste Perret, signifiant par là que la bonne architecture est par elle-même sa propre décoration.

Si l'on veut une maison de style ancien ou exotique, soit une maison «Canadienne», «Cape Cod», «Coloniale», «Victorienne», etc., ou encore «moderne», il faut nécessairement respecter les proportions et le détail qui caractérisent ces styles, en observer surtout l'esprit sinon la lettre, et non pas les mélanger comme la chose est si fréquente. Il faut aussi se garder des styles tropicaux, méditerranéens, peu adaptables à notre climat.

Dans le réaménagement d'une maison ancienne ayant une certaine valeur architecturale ou historique, il faut observer le même style et employer autant que possible les mêmes matériaux pour les agrandissements qu'on y apportera. Il ne faut pas confondre restaurations avec réaménagements et réparations, puisqu'une restauration consiste à rétablir un édifice ancien dans son état primitif, en lui conservant ses caractéristiques d'époque.

Toutes ces fautes contre le bon goût, perpétrées à grande échelle, nous amènent à penser qu'elles sont la conséquence d'une trop grande liberté laissée aux constructeurs d'habitations. En

liberté en matière d'esthétique. Il nous semble, cependant, qu'il y aurait moyen, par la persuasion et de judicieux conseils, d'empêcher les erreurs les plus graves, du genre de celles que nous avons décrites dans cet article.

Ce ne sont pourtant pas les moyens d'information et d'éducation qui manquent. Le Conseil canadien de l'habitation, fondé en 1956, est un organisme national qui vise à encourager l'amélioration de la conception domiciliaire au Canada et poursuit son travail depuis près de 20 ans déjà, grâce à des subsides de la Société centrale d'hypothèques et de logement. Chaque année, ce conseil attribue des prix pour les meilleures réalisations, tant pour les maisons unifamiliales que pour les autres immeubles à logements multiples et l'aménagement d'ensembles domiciliaires de tous genres.

La SCHL par Cadres de vie, Habitat et autres publications poursuit les mêmes fins éducatives et d'information. Elle publie aussi des cahiers de modèles de maisons dont on peut se procurer les plans techniques pour une somme modique.

On doit se demander jusqu'à quel point ces diverses publications et leur large diffusion portent fruit, quand on constate les graves erreurs que l'on continue de commettre un peu partout et que l'on accepte, et ce qu'il faudrait bien faire pour arrêter ce gâchis. □



conséquence il nous paraît qu'il faudrait, de la part des municipalités dans l'octroi des permis de bâtir comme des compagnies de prêts dans l'approbation des plans, un plus grande sévérité en ce qui concerne l'apparence extérieure des maisons et leur convenance au milieu où elles seront construites. Il nous faudrait donc des règlements ou des normes au sujet des abus et des erreurs que nous avons signalés plus haut. Nous concevons bien qu'il serait difficile, sinon impossible, d'édicter des règles en architecture, puisque de telles règles pourraient imposer des barrières, des empêchements à la création de nouveaux types de maisons et restreindre la



Let me among you. To work by your side, laugh and cry with you, stumble and succeed as you do, to face the challenges of living beside you, in your communities, your buildings, your homes.

Don't make my decisions for me, deprive me of my responsibilities, over protect me, patronize me.

Don't imprison the real me in your fearful perception of me. Give me freedoms such as you enjoy, and struggle with. Do you realize that I value independence as much as you do?

What is so difficult about accepting the physically disabled in our midst and seeing



them as human beings with similar aspirations, needs and ambitions, but with physical maneuverability problems and limitations? Other people have limitations, albeit less obvious, which are some times much more debilitating than ours.

Can we not stress the many similarities rather than the few differences? Can we not accommodate those extra physical needs in as natural a manner as possible? Do we have to focus on a wheelchair or other physical aid as the primary defining characteristic of that being?

Two articles by Patricia Falta

Much has been written about "normalization" for the handicapped, and many of its painfully obvious and natural forms are slowly passing from theory into practice. Mistaken attitudes and age-old prejudices are being abandoned, and the handicapped are starting to breathe in an environment that accepts their existence, even though it still severely limits their freedom.

This article presents some psychological viewpoints as well as a general practical model of what can be done to expand that freedom.

Equal Quality of Life

Quality of life is defined in terms of a dynamic interaction of social, psychological and physical attributes. On the large scale, it is moulded by many factors which are more or less out of the control of the individual. But on the small, personal scale, the quality of life can be infused with positive values which arise from individual quests for dignity and a meaningful control of one's existence. Only the continual use of one's capacities of mind, soul and body lead to life satisfaction and a genuine sense of worth.

The quality of the environment also contributes to the quality of life. And, the overall improvement in environmental quality in the last decades has favourably affected the medical and physical facilities available to the handicapped. Nevertheless, a large gap continues to exist between the possibilities offered to the able-bodied and those available to the disabled.

If the environment is to serve equally to the whole of the population, it must take into account the many who are handicapped—one person in seven—and must allow for their functioning and self-expression. This refers not only to the physical environment, but also to its socio-economic aspects as well as the cultural climate. Doors must be opened so that communication between the able and disabled can flow and awareness flourish.

Personal freedom is a much sought after goal in our society. But for the handicapped, who live in a world designed for the able-bodied, the freedom to live is a rare commodity indeed.

In the **first** article, Patricia Falta talks about the needs of the handicapped in our society and how our present-day social service and urban support systems can be adjusted to give both the able and the disabled greater freedom of access to our cities.

The **second** article, Integrated Living in Action, talks about an on-going project in Montreal which hopes to demonstrate the concept of "integrated living" for the handicapped.

The Disabling Definition

The image that a society assigns to a group, and the bind into which that image forces the group, is readily reflected in the self-concept each member projects onto himself. It deeply affects the human expectations that are individually and collectively developed, and influences the behaviour adopted to fulfill these expectations. Thereby society unfortunately, unavoidably, defines what each human being will eventually achieve. In the case of the handicapped, the stigmas that have been attached have severely limited individual prospects for a meaningful quality of life.

In the proper usage of the term, a disability is a medically identifiable condition of physical impairment which becomes a handicap in circumstances when external obstacles hinder the achievement of specific goals. A disability need not manifest itself as a handicap, but it invariably does so when it encounters barriers that impede not only physical but also social, intellectual and economic advancement.

A disability can become an excessive handicap, a type of mental impotence, when an individual's perception of the disability is magnified as a result of inappropriate surroundings and unapproachable people about him. Both the built and the human environments con-

tinually relay messages about one's physical and mental ability to function. If these messages are negative, even hesitant, they create emotional restrictions which are far more limiting than those imposed by the physical impairment itself.

No matter how physically disabled a person may be, inside the body is a human being that has enormous potential to live and contribute. The environment in which that person operates must have the qualities that sustain the morale and provide an impetus to define and pursue individual goals. It should be an environment that is personal, obstacle-free and independent to nurture and support self-determination, self-responsibility and self-fulfillment.

Self-image and the Home

Since input from the outside world affects the receiver's perception of a handicap, the setting that is closest to one's experience—the home—is of critical importance in the moment-to-moment consciousness of the disabled individual. He defines himself both socially and physically in terms of the home image, and society relates to him on those terms. Since the disabled person often feels self-conscious, uncertain and distant, he needs positive messages that relay social acceptance and personal reassurance of capacity to cope. These can be transmitted by qualities inherent to a normal living environment.

For the able-bodied and disabled alike, the home engenders a range of meanings that are intimately related to psychological and physical well-being. It encompasses important intangible values such as independence, pride, responsibility, individuality, security and permanency, along with equally valid practical demands of size, functionality, privacy, location and safety. Both sets of needs must be reasonably well satisfied before an individual feels secure enough to move to a stage of motivation where he wants to develop new interests, abilities and relationships, and thus reach toward a stronger dignity.

In order that human response be positively directed, the home environment must accommodate as completely and naturally as possible the physical limitations innate to the disability, and must do this in an inconspicuous manner to minimize negative reactions. The home must encourage maximum responsibility and independent functioning in order to increase self-confidence and practical activities. By minimizing the incapacities and differences related to the disability, both the real and the perceived handicap are decreased. This frees the path to developing the potential for a meaningful life.

Freedom with Assistance

Personal experience has poignantly demonstrated what constitutes the struggle for independence, and what are the values engendered in freedom—freedom to interact on an equal basis with one's fellow man, freedom from control of others, freedom to assert and do for oneself as much as possible.

It is painfully clear that the severely disabled cannot achieve complete freedom; in fact, nobody can. After all, dependency is a fact of life in our society. All functioning is necessarily interdependent, and everyone matter-of-factly relies upon an almost endless range of services that come regularly to the home in the process of everyday life.

Although the handicapped are dependent upon others for physical help in some of their daily living activities, the form of that dependency should not destroy the basic spirit of individual self-determination. The need for periodic personal assistance at home adds one more degree of dependence, but should not necessarily limit the expression of individual freedom as we understand it today.

"Integrated Living" Defined

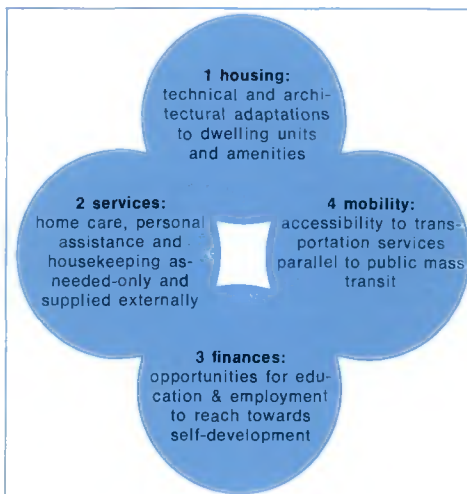
Here then is the concept of "integrated living." It is not a special idea, nor a fancy system. The elements that comprise it are not new, and are not ordered into a mini-system of their own. On the contrary, the elements are integral parts of other systems which have already been organized and are functioning for the good of society as a whole.

The goal of the integrated living concept is to provide a free, uninstitutionalized environment where the disabled can find the stimulation and the ambition to challenge life. In order to provide the necessities of a protective setting, integrated living aims to extend the resource delivery systems which are presently in use, and to include within these systems provisions that will serve the disabled as well as the able-bodied. The social responsibilities of the existing organisms have to be expanded only slightly to encompass whatever adaptations and resources are necessary to

help the severely physically disabled live and function in their everyday activities.

The hardware that is necessary to implement an integrated life-style is by now known and well-documented. Most of this hardware is basic, and easily and economically provided. The cost-benefits associated with integration, calculated in both human and financial worth for the short-term and particularly in the long-term, are undisputably in favour of its acceptance. The areas that seem to be holding up the integration process are the software areas such as building consciousness, re-shuffling priorities, budgeting resources and changing socio-cultural attitudes.

Its Four Components



Perhaps what is missing is a simple example to demonstrate how little has to be done, and how uncomplicated integration actually can be. The following, therefore, briefly describes the four components that constitute "integrated living." It can be readily appreciated how easily they fit into the existing systems, and how small are the adaptations necessary to incorporate the needs of the disabled.

- 1 Dwelling units which are functional and safe for severely disabled persons should be dispersed in apartment buildings housing the able-bodied, located in urban centres close to services and activities and available on a rent-to-income basis. Such apartments should form only a very small proportion of any one housing project and should not be outwardly distinguishable from the others. The housing industry, both the private and public sectors, can construct them routinely, for it is neither costly nor difficult.
- 2 The support services required in the home, such as personal assistance, housekeeping and food delivery, should become extensions of a broad system now providing health care and social services in the community. These should be supplied on an individual, as-needed basis, person-to-person, equal-to-equal, and would constitute just one more

service added to the many now operating in our communities.

- 3 The main objective of the integrated life-style is to provide opportunities for improvement of mental and physical skills which inevitably lead to greater self-development and self-esteem. Therefore, availability and accessibility to a variety of educational and career-training openings are essential. This educational and occupational activity focuses upon an individual's abilities, away from the disability. And the greater this focus, the stronger is the potential for self-acceptance, and the better the personal as well as societal image or, in other words, the higher the chances for a rewarding life.

Attainment of economic self-sufficiency is a corollary to the above objective, and a reasonable goal in itself. In our culture, self-sufficiency still represents a means of 'keeping score', and ranks among the best morale-booster and dignity-builder to date. If this goal cannot be attained due to excessive limitations, then adequate financial support should be guaranteed to ensure that the advantages of an integrated life-style are not strangled. Where possible, however, any efforts toward a productive independence should be stimulated and assisted.

- 4 If the components of housing, services and training are to be truly useful, they must be complemented by independent mobility. This implies personal mobility and maneuverability in terms of electrical and electronic equipment where necessary, as well as large-scale urban mobility. Inexpensive public transportation, parallel to a mass transit service must be provided, and all architectural and design barriers in the built environment must be removed. The whole of the urban infrastructure has to be easily accessible to the disabled, so that their functioning can be unhampered and totally independent. No matter how well the brain is working, one feels only partially effective unless one is completely mobile.

The efforts toward rehabilitation and re-integration of the severely physically disabled will be only partially successful if the living environment is not psychologically stimulating and behaviourally appropriate. What a waste of effort and of human determination that would be. How many disabled are there who yearn for the challenge to function effectively to the maximum of their capacities?

The handicapped, too, need the freedom to live. □

2 "Integrated Living" in Action

Standard kitchens can be adapted for use by the handicapped by starting storage areas at counter height. Pull-out chopping boards provide easy to reach work areas.

The majority of physically handicapped persons have social and emotional needs to live as "normal" an existence as possible. This includes the freedom to enjoy family life, to have rights of equal citizenship and to pursue economic self-sufficiency. Unfortunately, many severely disabled persons are too often relegated to an abnormal existence in an institution. For instance, quadriplegics (persons who are bound to a wheelchair and have weak use of their arms and hands) are expected to lead aimless lives of isolation and dependency, despite the fact that they are young, mentally alert and have ambitions and desires similar to the able-bodied.

This unproductive situation is forced upon them in part because of the practical reasons that quadriplegics require an environment that is free of physical barriers and that provides a short period of personal assistance each day. There are more direct means of providing these necessities which are not only much more economical for governments to support, but are also socially and humanly constructive.

A Swedish Model

Models already exist which offer a meaningful life-style to even severely handicapped persons. In Sweden, for the past twelve years, the Fokus Society and now the government have operated a program of "integrated living" which offers the



handicapped social integration along with freedom of choice, independence and security. Apartments are provided for them in housing projects occupied by the able-bodied, interspersed among the regular dwellings, but specially fitted and made accessible for the disabled user. These accommodations are complemented by at-home assistance for personal help, food preparation and housekeeping.

A similar program for "integrated housing" is necessary in Canada.

Canadian Initiatives

In 1973, Patricia Falta, an architect specialized in housing, herself a para-

plegic as a result of a car accident, and Ghislain Cayouette, also a paraplegic and at the time interim director of the Canadian Paraplegic Association, Quebec Division, undertook a feasibility study under a CMHC Part V research grant to explore the possibilities of integrated housing for the severely physically disabled.

The study, published in French and in English in October 1974, documents the Quebec situation regarding the housing needs of the severely handicapped. It also examines the potential for implementing a program that would provide accessible apartments and home support services to the severely disabled at subsidized costs in non-segregated dwellings.

The move toward "normalization" of the handicapped has been accepted in recent years by the health and social welfare services. Normalization implies that the handicapped are to be integrated into the social and economic stream alongside the able-bodied. It also means that facilities and resources are to be provided so that in the future the handicapped will cease to form a separate group, and will have similar opportunities to develop their potential as productive and fulfilled human beings.

At the present time the federal and provincial governments are expanding their mandates vis-à-vis the handicapped, and are developing methods

which will bring more meaningful and comprehensive resources to their aid.

A Demonstration Project

In the fall of 1974, the team of Cayouette and Falta, in collaboration with the Canadian Paraplegic Association in Quebec and the Maison Lucie Bruneau (a reception centre and residence for the physically disabled) began a Demonstration Project called "Projet pilote: normalisation de la vie des handicapés physiques." Funded by the Department of National Health and Welfare, the project was formed to institute a "normalized" housing program in Montreal.

Its purpose is to define and help develop resource requirements necessary for integrated housing and to set up a pilot program wherein quadriplegics are given help to embark upon a normal self-reliant life-style.

The project will be thoroughly evaluated, both as to process and results, in terms of the advantages and disadvantages to users and the cost-benefits and adequacies of the resource-delivery system. It is expected that results of this demonstration will help define the policies and programs adopted for the handicapped in the future.

The thrust of the project is toward finding long-term solutions, not to providing temporary band-aids. For this reason the three-year project provides no funds for the actual cost of housing, services and other aids directly required by the disabled. Instead, its aim is to develop the awareness of the municipal, provincial and federal government bodies to the "normalized" needs of the disabled, and to ensure that the public sector provides appropriate resources so that the handicapped can form an integral part of the social urban milieu.

The government agencies most directly involved are those responsible for housing, welfare, home-care, education, manpower and transportation. Each agency is given the responsibility to include the handicapped as part of the public they serve, and to expand the nature of their resources so that this minority group can become free to parti-



cipate in the system. Each subsystem ought to accommodate the additional needs of the handicapped at the planning and design stage, so that the environment will function not only for the able-bodied but also for its disabled members.

The First Changes

Since the fall of 1975, the Montreal Municipal Housing Bureau has been regularly providing accessible and functional dwelling units in their high-rise projects. Thus, integrated apartments are slowly made available at rents geared to income throughout the city.

Central Mortgage and Housing Corporation has also agreed to make available functional and subsidized dwelling units in appropriate housing projects which are owned and operated by them. Various building regulations have been recently enacted or are about to be so at the federal and provincial levels which, in the future, will provide accessible units on the private market.

The redesign of health and social service delivery in Quebec—Bill 65—has included proposals for decentralized consultation and home services to individuals living in the community. Since these plans are not yet implemented, the Social Affairs Department has temporarily mandated that at-home assistance be provided on a regular and continuous

basis through the resources of the reception centre for the disabled. Initial apartment furnishings are also to be part of the package.

The Department of Education has agreed to adjust student bursaries for the handicapped so that moneys will be available for living expenses to quadriplegics outside of an institution. Similarly, the Manpower Department provides employment training subsidies. Both are essential since education and employment ensure that the handicapped will assume a productive role in the economic field.

Transportation for the handicapped is presently provided by mini-bus service which offers limited urban transport at mass public costs. It is temporarily federally subsidized, but plans are being explored to have the Montreal Transport Commission enlarge and operate this service in the future.

Results—Year One

At the end of the first year, a group of quadriplegics moved into housing with appropriate services and assistance. Other groups will be similarly integrated in the next two years. Starting now, the effectiveness of the program will be tested, and the problem areas resolved. Professional evaluation has already begun and will continue with enlarged surveillance. The costs and inadequacies, as well as the direct and indirect benefits, will be assessed.

Two beneficial effects have already been observed.

One: The quadriplegics, in anticipation of a new life-style, have become more confident about the future potential of their existence, and are much more positive about pursuing studies, employment and citizenship responsibilities.

Two: Many able-bodied persons who have hitherto isolated the handicapped to the charitable and forgettable spheres have increased their awareness of the disabled as rightful citizens in their midst, and are reorganizing their mandate and priorities to include them.

The handicapped are at last standing up to be counted. □

- 2 A usable ramp should have two handrails and a maximum slope of 1 in 10 for independent use.
- 3 Steep ramps without handrails are useless. Even with someone to help, they are dangerous and difficult to use.
- 4 Narrow doorways and balcony thresholds are perennial obstacles.

Photographs: Courtesy of Ball Berezowsky Associates.



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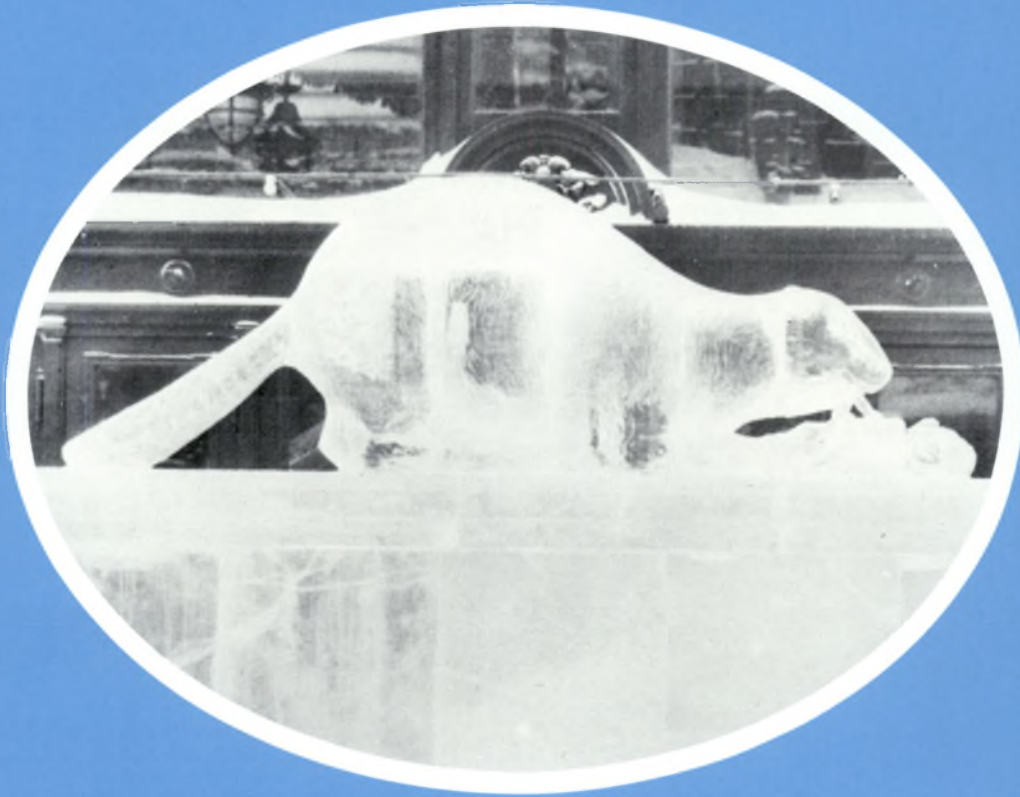
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A beaver ice sculpture
in Quebec City.



W i n t e r ' s P a s t ...

*The winter – with its often
bitter cold and its endless snow – has shaped our cities
and our lives in ways we often forget in our
modern centrally-heated world. Habitat offers these photographs of
Canadian winters past as both a reminder and a tribute:
a reminder of the way things were in our snow-draped cities not so long ago,
and a tribute to those who in spite
of the season's harshness filled the icy winds of
winter with laughter and with play.*

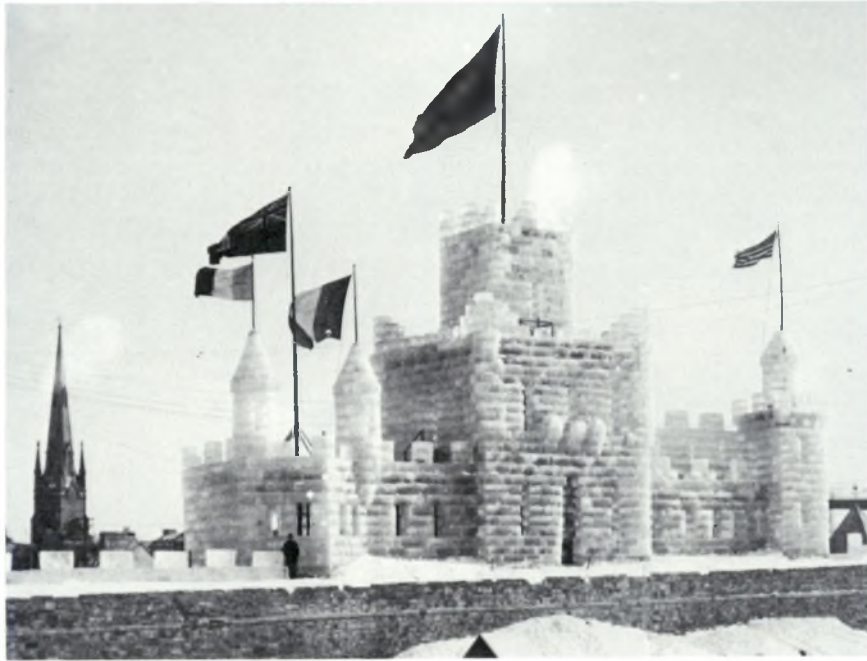
**... and
now it's
Spring**

Horse drawn
sleigh of Ottawa Gas Co.
in 1908.



Ox drawn sleigh
on the Prairies, circa 1900-1910.

Ice Fort and
St. Louis Gate in Quebec City
circa 1896.



Ice skating
in the Governor General's residence,
Rideau Hall, Ottawa, 1915.

A group sleigh ride.



Security Grain
Elevator in Melville, Saskatchewan
in 1911.

Photographs: Public Archives
of Canada

De la conception à la réalisation d'un ensemble urbain

De	la	conception	à	la	réalisation	d'un	ensemble	urbain
De	la	conception	à	la	réalisation	d'un	ensemble	urbain
De	la	conception	à	la	réalisation	d'un	ensemble	urbain

Louvain-la-Neuve -

La présente note vise à présenter les techniques mises au point par l'Université Catholique de Louvain pour réaliser et surtout pour assurer à plus long terme le maintien de la qualité souhaitée par les promoteurs du projet de Louvain-la-Neuve. Il sera successivement question des aspects suivants:

- le plan d'urbanisme à long terme
- le mode d'acquisition et de cession des terrains et des constructions
- le mode de financement.

Le plan d'urbanisme à long terme

Lorsque les autorités académiques ont pris, en 1968, la décision de transférer

l'U.C.L. sur le plateau de Lauzelle, elles ont décidé en même temps de ne pas construire un campus universitaire autonome comme ceux des nombreuses universités anglaises ou américaines; leur choix s'est porté, on l'a vu, vers une université intégrée à une ville nouvelle complète qui représentait, dans un esprit contemporain, la tradition des villes universitaires européennes.

Pour atteindre cet objectif au sein d'une nation dominée par l'économie de marché, l'Université a estimé devoir partir d'une analyse des tendances de l'habitat dans la région retenue à 30 km du centre de Bruxelles. A cet accroissement s'ajouterait le poids de son propre développement.

L'U.C.L. a estimé que pour l'année 1980, on pourrait atteindre une population totale en activité de quelque 20,000 personnes comprenant les étudiants (11,000), le personnel universitaire résident (3,500) auxquels s'ajoutent 6,000 étudiants non résidents. Ceci est en fait la seule base de programmation urbaine possible, le reste étant lié à l'attractivité espérée de l'ensemble nouveau. Il conviendrait donc de garder une très grande flexibilité pour le développement de la ville tout en créant une épine dorsale robuste et la possibilité d'une croissance conforme au projet.

Compte tenu de ces éléments, l'U.C.L. a opté pour un plan directeur prévoyant sur le total des 900 hectares acquis par

par Pierre Laconte



L'U.C.L. une aire urbanisée de 350 ha (parc industriel non compris). Sur ces 350 ha une construction dense bien qu'excluant les bâtiments hauts devrait permettre d'héberger une population résidente et diurne atteignant un maximum de 50,000 personnes à l'horizon de l'an 2000. Le diamètre moyen ne dépasse pas 1800 m.

Le schéma général est structuré selon un tracé linéaire et s'étend du sud-est au sud-ouest. Cet axe principal est recoupé par une transversale orientée du nord au sud.

Le centre urbain est situé au croisement de ces deux axes, tandis que les équipements communautaires urbains et universitaires trouvent leur place au sein du tracé linéaire et de l'axe transversal.

L'habitat est conçu en fonction des options suivantes:

- exclusion de maisons unifamiliales détachées car celles-ci comportent une occupation du sol incompatible avec l'option d'une ville
- développement basé sur l'hypothèse de répartition suivante:
env. 10% de maisons unifamiliales attachées (env. 40 logements à l'ha)
env. 55% d'appartements dans des immeubles de deux étages au maximum
env. 35% d'appartements situés dans des immeubles de quatre à sept étages.

Les fonctions universitaires sont groupées de part et d'autre du centre. Au

sud-ouest du centre se situent les Facultés des Sciences. L'organisation même de l'enseignement et de la recherche, ainsi que le fonctionnement de ces Facultés exigent leur groupement en un ensemble susceptible de se développer dans le prolongement des bâtiments existants. La programmation universitaire a prévu un besoin maximum de 450,000 m². A cet effet un total de 36 ha environ a été retenu. Ces espaces ont été disposés afin d'éviter qu'ils ne se présentent comme un secteur inoccupé, le soir et en vacances. L'habitat y est présent en plusieurs endroits.

Les espaces universitaires sont en fait des lieux de rencontre de la population universitaire et urbaine. Ils sont situés le plus possible sur des places reliées par des voies piétonnes à fonctions socio-culturelle et commerciale. Cette proximité est également destinée à assurer la meilleure rentabilité des espaces non universitaires.

Le schéma directeur est conçu de manière à permettre la croissance des services parallèlement à celle de la population. Un tracé à croissance principalement linéaire a été adopté à cette fin. Ce choix s'imposait d'autant plus que le rythme de développement de la nouvelle agglomération est inconnu et qu'à partir d'un certain palier, ce développement risque d'être lent.

L'accès de la ville est prévu par le réseau autoroutier, routier et le chemin de fer. Une gare souterraine a été prévue au centre de Louvain-la-Neuve, dans le voisinage immédiat du coeur commercial. Elle a été inaugurée en octobre 1975. Ceci constituera un atout majeur du développement. En ce qui concerne les circulations internes, le schéma des circulations vise à dissuader les occupants du site à utiliser la voiture pour les déplacements urbains. La voirie de tous les quartiers aboutit sur les routes de contournement de la ville. Les voiries internes constituent un réseau piéton continu accessible aux transports exceptionnels. Ce genre de tracé est destiné à multiplier les occasions de rencontre et à réduire l'espace pris par les voiries automobiles et les terrains de stationnement.

Les modes d'acquisition et de cession de terrains

La contrainte et l'atout économique du site de Louvain-la-Neuve sont le fait que l'Université a pu acquérir l'ensemble des 900 ha grâce à un prêt de l'Etat Belge de 747 millions FB remboursables en 40 ans, à un taux de 1,25% soit 3,18% remboursement compris. A partir de ce capital, l'U.C.L. est en mesure d'assumer le rôle de promoteur général de l'ensemble universitaire et urbain par des techniques financières adéquates.

Elle a par ailleurs décidé de pratiquer une politique foncière analogue à celle souvent proposée pour les pouvoirs

publics, c.a.d. le maintien à perpétuité de la nue-propriété des terrains, seuls des droits réels démembrés (baux à long terme appelés emphytéoses) étant cédés aux candidats constructeurs.

La politique pratiquée par l'U.C.L. est relativement nouvelle pour la Belgique mais conforme à une pratique très ancienne dans les pays anglo-saxons où elle a fait ses preuves. A titre d'exemple, Letchworth, la première cité-jardin anglaise a été constituée de la sorte, chaque acquéreur de bail restant coresponsable dans la mesure de son apport en capital. C'est notamment ce qui a permis à cette communauté de trouver les ressources nécessaires pour mettre en échec une tentative par un groupe financier extérieur de reprendre l'ensemble des terrains et d'y pratiquer une politique de développement spéculatif.¹

Le canon des baux emphytéotiques et des redevances à payer par le candidat constructeur ont été établis en vue d'assurer l'équilibre financier de l'opération, à long terme, compte tenu des charges financières. L'équilibre financier est recherché à la fois:

1. pour l'ensemble du site, compte tenu des espaces communs (bois de Lauzelle) ou non destinés à être mis en valeur et qui constituent plus de la moitié du site total, et
2. pour chacun des quartiers.

¹ Ce système a été remarquablement décrit par C. B. Purdom dans l'ouvrage: "The Letchworth Achievement; From the establishment of the first Garden City to the recent dramatic defeat of a Take-Over" publié en 1963.

nautés urbaines nouvelles et en particulier de celles constituant un ensemble autonome public ou privé. On peut citer à cet égard aussi bien Reston, aux U.S.A., que Tapiola en Finlande.

Les conditions particulières du bail emphytéotique de Louvain-la-Neuve sont les suivantes:

- sa durée est de 75 ans pour la construction d'appartements et de 99 ans pour les parcelles destinées à des habitations unifamiliales.
- le paiement annuel ou canon correspond aux charges réelles supportées par l'U.C.L. Il n'est pas révisable par le propriétaire contrairement à la pratique hollandaise selon laquelle le propriétaire peut réviser le canon tous les cinq ans.
- le canon est payable annuellement, ce qui permet au candidat constructeur de ne pas immobiliser un capital au départ pour l'acquisition de terrain. L'acquéreur a cependant la possibilité de se libérer de l'ensemble des paiements annuels en une fois ce qui correspond à la pratique anglo-saxonne du "Sale of Leasehold".
- au moment où le contrat prend fin, le propriétaire accède sans indemnités à la propriété des constructions.
- le canon emphytéotique ne couvre que la charge foncière correspondant au terrain nu. Le propriétaire garantit en outre la réalisation des infrastructures et impose une charge couvrant leur coût.

Au fur et à mesure que Louvain-la-Neuve se développe, l'approche économique, y compris la gestion des parties déjà réalisées, prend une importance croissante. Un dialogue constant se noue entre, d'une part la fonction urbanistique consistant à assurer le respect du plan directeur et des valeurs sociales et esthétiques que l'université s'est assignées et d'autre part à la fonction de promotion et de gestion urbaine chargée de veiller à l'équilibre des recettes et des dépenses à long, moyen et court terme, compte tenu des charges financières et les exigences de la trésorerie.

Cette orientation tend à rejoindre les préoccupations de toutes les commu-

Le financement des acquisitions foncières

Le financement de l'emphytéose pose un problème pour les pouvoirs publics ou privés pratiquant cette formule. En effet, les charges foncières sont amorties par le propriétaire public ou privé sur une période de 30 ans au maximum, alors que les recettes provenant de l'emphytéose sont étalées sur 75 ans. Cette différence de durée entraîne un problème d'intérêts intercalaires.

Dans le cas de Louvain-la-Neuve, ce problème est résolu par la modicité du taux payé à l'Etat pour l'acquisition du terrain, mais il reste posé d'une manière générale pour les pouvoirs publics pratiquant l'emphytéose.

Actuellement, à la suite de l'intérêt accru manifesté pour l'emphytéose, le Crédit Communal de Belgique, principal banquier des communes, envisage de pratiquer une aide spécifique à l'emphytéose sous la forme suivante: il s'agit de prêts à 30 ans non indexés dont les intérêts des trois premières années sont capitalisés (pas de paiement immédiat par la commune). Le paiement de ces trois premières tranches d'intérêt peut être étalé sur le reste de la période de remboursement de l'emprunt. Comme par ailleurs, les communes peuvent indexer les paiements à effectuer par leurs emphytéotes, elles sont assurées de recettes à long terme plus importantes que les sorties. Les problèmes éventuels de trésorerie à court terme peuvent être résolus en pratiquant certaines emphytéoses avec paiement anticipé d'annuités.

Moyennant le respect des conditions indiquées ci-dessus l'emphytéose pourrait devenir un moyen pour les pouvoirs publics, en particulier les communes, de financer les projets d'urbanisation sans se dessaisir de la pleine propriété des terrains. Ceci devrait leur permettre de maintenir à plus long terme la maîtrise sur l'aménagement des zones qu'elles urbanisent.

Ainsi le projet pilote de Louvain-la-Neuve indique peut-être une orientation que les pouvoirs publics ou les organismes privés à caractère coopératif ailleurs en Belgique et à l'étranger pourront suivre avec profit. □



La place des Sciences

by Alan de Jourdan

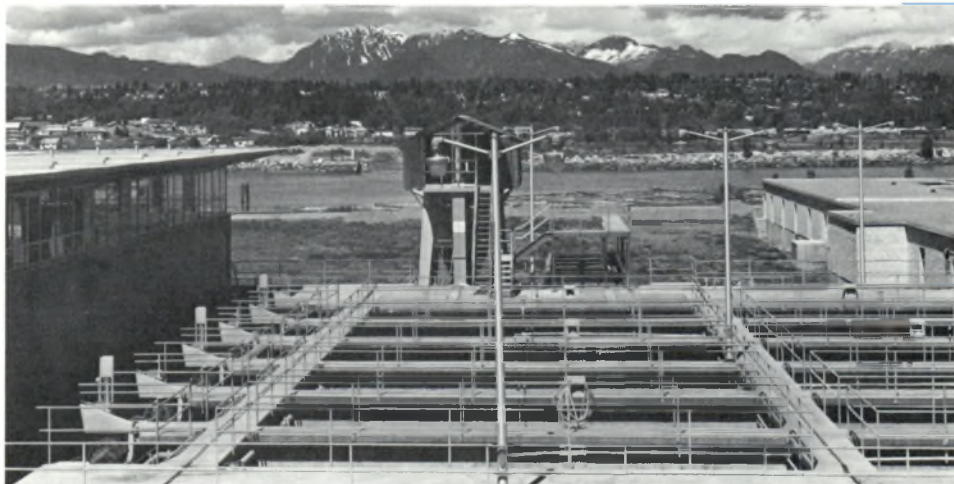
Helping to Meet
Housing's Prerequisite:
Serviced Land

One of the basic needs of a municipality which must be met before housing can be built is to ensure that serviced land is available in the community and is coming on the market at a rate sufficient to satisfy yearly demands. Serviced land presupposes a supply of clean water as well as facilities to treat sanitary wastes, and most Canadian municipalities have both. But exact information on the extent and capacity of these facilities has, until now, been dispersed in municipal and provincial files. Yet rational planning for urban growth obviously requires such information on a country-wide basis.

CMHC's Role

CMHC's Municipal Infrastructure Program takes an active role in meeting the housing demand by providing loans and grants to provinces, municipalities and municipal sewerage corporations to help them meet their serviced land needs. Since the inception of the Program in 1961, this role has been expanding at an increasing rate, with total loans to date in excess of \$1 billion.

The responsibility of the Program does not end with the provision of financial aid however. The ever-broadening scope and complexity of this Program implies a further obligation—to ensure that the funds are distributed equitably on a national basis and that areas which have immediate servicing needs are so recognized.



Serving the metropolitan areas of Greater Vancouver the Iona Island Sewage Treatment plant is one of the most modern in Canada.



Suburban communities, like Laval West just outside Montreal, have used the financial assistance available under the National Housing Act to install up-to-date sewage treatment facilities.

In order to meet this obligation, the Municipal Infrastructure Program is placing strong emphasis on the acquisition of a national municipality-specific information base to monitor the Program's performance and subsequently increase its effectiveness.

A National Inventory

It was to meet this need that early in 1975 CMHC along with six other federal agencies launched the National Inventory of Municipal Waterworks and Wastewater Systems. For the first time Canada is taking account, on a municipality-by-municipality basis, of the water and sewer facilities across Canada. In total

some 1,500 municipalities will be examined.

CMHC and the Federal Department of the Environment co-ordinated the formation of an Interdepartmental Committee which included representatives from the Department of Regional Economic Expansion, Ministry of State for Urban Affairs, and the ten provincial representatives of the Federation of Associations on the Canadian Environment (FACE). In June, 1975, after a number of committee meetings, the information gathering procedure was finalized and approved.

The key to the Inventory is a nine-page questionnaire, designed by federal and provincial authorities, which covers

the capacities of the water distribution system, the wastewater collection system, costs and revenues to the municipality concerned, efficiencies of the systems and qualifications of the staff and operators. Ultimately, the information will be used by all levels of government to facilitate improved planning and decision making in the municipal area.

Its Purpose

The results of the questionnaire will be analyzed to determine where major pollution problems exist and whether these are restricting development because of a shortage in water supply or over-taxing of treatment plants. Forecasts of future needs both long-term and over the next five years will enable better funding and will better identify priorities.

The information gathered will be coded and entered into a computer program to be maintained by the federal and provincial agencies, thus eliminating the needless duplication and retrieval problems which have plagued piecemeal efforts in the past.

The total federal cost of the National Inventory is estimated at \$200,000 of which Central Mortgage and Housing Corporation, through its Municipal Infrastructure Program, is supplying \$100,000. Other contributors are the Ministry of State for Urban Affairs, \$20,000, Department of Regional Economic Expansion, \$20,000 and Environment Canada, \$60,000.

CMHC is acting as central banker and financial controller for the Inventory, monitoring and dispersing funds as they are expended during the progress of the survey. As well, the Corporation's regional offices are actively involved with their respective provincial counterparts in a supervisory and control capacity during the information-gathering phase of the Inventory.

Many of the questionnaires have already been completed and are at present undergoing close scrutiny by the staffs of the Department of the Environment and CMHC's Municipal Infrastructure Program.

Completion of the National Inventory of Municipal Waterworks and Wastewater Systems in 1976 will mean that in the very near future, the Municipal Infrastructure Program will have at its disposal a complete and comprehensive data base upon which to draw in order to more effectively assist the municipalities across Canada towards meeting their servicing requirements. □



In western Canada sewage treatment lagoons have proved to be both economical and efficient. This installation serves the city of Regina. CMHC photos

BOOKS

**Contemporary Cathedrals:
Large Scale Developments
in Canadian Cities**

by Robert W. Collier,
Harvest House, Montreal,
1975, 216 pp, \$6.50.

As part of the Environment Series of books published by Harvest House, Robert Collier's excellent book examines the development of large scale urban complexes by documenting specific examples of such projects in various Canadian cities. The bulk of these projects are events of the sixties, although the earliest (Place Ville Marie) was initiated in 1958, and the newest, Scotia Square in Halifax, was completed in 1974.

The eleven specific projects examined come from seven cities, and include Place Ville Marie, Westmount Square, and Place Bonaventure in Montreal; Coal Harbour and Project 200 in Vancouver, St. James Town and the Toronto-Dominion Centre in Toronto, plus one development from the cities of Ottawa (Place

de Ville), Edmonton (McCauley Plaza), Winnipeg (Lombard Place) and Halifax (Scotia Square).

Although quite genteel in contrast to many recent books dealing with growth and development in Canadian cities, this book provides an overview of the processes involved in the creation of these projects and, in doing so, illuminates some interesting aspects of the phenomenon. In examining the process of massive development across the country, for example, a disquieting view of the various relationships between municipal politicians, the planning departments of city hall, and the developers is revealed.

Another aspect of the developer/city hall relationship which this book, by virtue of its general nature, is able to display involves the question of the bargaining strengths enjoyed by the developers on one hand, and the city's representatives on the other.

The developer's goals are clear, and all his efforts are unified in the pursuit of his objectives. With these large projects, he is frequently able to muster both financial resources and expertise unavailable to city hall. In addition, as demonstrated in the book, the developers are active in many cities, and thus are often able to translate their experiences from city to city.

On the other side of the table, city hall is frequently playing for much lower stakes in terms of payoffs to the protagonists; its goals are unclear and further muddled by the machinations of special interest groups. As well, the experiences of many of the actors at city hall are purely at the local level and without a background in the development field.

This mismatch at the bargaining table, has resulted in developers largely getting their way.

It should be noted that by and large the examples cited antedate the citizen activist era, and consequently a new factor has entered the equation.

In sum, however, this book gives an excellent overview of a process which by its near universality is more serious than one might assume by examining one specific example in greater depth. *Carl Aass*

BOOKS

Future Land Use: Energy, Environmental and Legal Constraints

edited by Robert W. Burchell
and David Listokin, Centre for
Urban Policy Research, Rutgers
University, New Jersey, 1975,
369 pp, \$17.95

This book is a collection of invited papers which looks at trends and future alternatives for land use, and in particular housing and urban development, in the United States. Published in 1975, it is right up to date with prognostications of the impact of both recent changes in social and physical factors affecting urban development, and the increase in sophistication of land use decision-making processes.

The emphasis of the book, measured by number of papers per subject, is on future land use controls, environmental planning and the constraints placed on traditional development by the energy crisis.

Although written exclusively about the American situation, with its own special features and problems such as an extensive environmental protection legislation and racial conflicts, the book is very relevant to Canada which has parallel emerging lifestyles, increased awareness for the conservation of energy and similar other land use constraints.

The book encompasses seven major concerns with some papers dealing exclusively with one topic while others offer commentaries and forums on future land use patterns in general.

Firstly, it is suggested that changes in urban patterns will be slow and will take place over a long time period because of the "underlying stability and consistency of American life." Since

urban land use and housing markets are formed by secular forces which represent the amassed will of many millions of people, and since buildings have considerable life spans, new factors influencing land use today will have little effect on large scale land use patterns or urban form in the short run, say 15 years.

Secondly, however, basic and key "urban trends" can be identified which will affect housing and land use in the United States in the near future. A slowing down of demographic and economic growth, the space-time-communications revolution, and increased racial segregation will be reflected in the form and nature of future urban growth. The third major concern dealt with new rent control regulations and a changing economic situation which have led to the decline and fall of the rental housing market in America. Rents geared to cost-of-living indices, the high cost of labour intensive operating procedures for rental facilities and the lack of cheap capital for mortgages have forced developers away from rental accommodation and towards condominium construction. Concurrently, "changes in lifestyles" that lead to greater diversity in household makeup and a reduction in the number of traditional modular households are affecting housing demand.

The fourth major concern of the book is the development of "managed growth and its legal concomitants." Here the major trends are toward increased public participation in planning, and a growing awareness of the necessary relationship between local land use decisions and regional needs. Thus the planning initiative is passing to the general public acting through government agencies, and private enterprise in land is being replaced by collective decisions on economic and other benefits inherent in changes in land use.

A large section of the book is devoted to "growth versus the environment," a collection of papers that discuss firstly the 1969 National Environmental Protection Act (NEPA) together with the state and local legislation that is spawned, and secondly Environmental Impact Statements (EIS), the tool of American environmental protection. Environmental awareness

has led to a new emphasis being placed on the "no-go" option of postponing development, while to get developments approved proponents now have to undertake environmental impact studies at their own expense. NEPA has undoubtedly had an effect on the environment, development and land use, but the American experience of EIS and delay or cessation of development has shown these to be crude controls. It is suggested that environmental land mapping showing the distribution and interrelationships of both natural and man-made systems should be used widely in the future as the basis of development control.

The sixth section of "Future Land Use" is concerned with the energy constraints on urban development and land use. Papers by the directors of three major research studies into United States policy for the supply, demand and conservation of energy write of the effects of the energy crisis on housing. The cost of domestic heating will undoubtedly rise rapidly in the future, and various conservation methods are discussed ranging from unit alterations to more compact building clusters to an urban move towards warmer climes.

Last, but by no means least, the conflicts and ideological dilemmas of city dwellers and land use planners are discussed in a series of forums predicting "the shape of metropolitan areas in the year 2000."

The book is a solid one, both intellectually and physically. If the small type and 350 pages appear too formidable, then it is still worthwhile to read those papers of specific interest to the reader, the introduction, and the general comments contained in the last chapter. In addition, there is an extensive bibliography on land use controls, environmental constraints and opportunities, and energy restraints and alternatives. *Janet Kiff*

BOOKS SEEN

Cities and Geology

by Robert F. Legget,
McGraw-Hill, New York, 1973,
624 pp.

Geology and its effects on urban growth, development and planning are the topics of this comprehensive and fascinating volume by the former director of the National Research Council's Division of Building Research.

The author explores the history behind the growth patterns of urban centers in relation to their geological milieu and then goes on to provide present-day urban development professionals (geologists, architects, city planners, civil engineers and others) with an outline of what should be included in an urban development plan. There is also an extensive section on the geophysical hazards which can be avoided if subterranean conditions are properly studied, and

LU POUR VOUS

the concluding chapter outlines how cities can gather information for such studies at minimum cost.

Designed for courses in urban, environmental and geological studies, the text contains an extensive list of references to the existing literature in the fields of geology, engineering and planning.

Sylvia Porter's Money Book, by Sylvia Porter, Doubleday and Company, New York, 1975.

The fact that Sylvia Porter's money book has been at the top of the US best seller list for over six months is a clear indication that a great many people are interested in making, saving and spending their inflation money wisely.

Although the book is decidedly American in orientation (mentioning Canada only as a place to visit), as residents of the same continent and economy, Canadians are subject (for better or worse) to many of the same benefits and hazards of living in the complex financial world of 20th century North America. As such, Porter's book is a storehouse of information on surviving and perhaps even thriving in North America.

Its generous 150 page section on housing entitled "A Roof Over Your Head" covers all aspects of owning and renting from moving in to moving out, and from remodelling your house to building it yourself.

Porter's advice throughout the book is sound, commonsensical and straightforward. The book is virtually an encyclopedia of money and in time could well join the select group of standard family reference books along with Spock's *Baby and Child Care* and Rombauer and Becker's *Joy of Cooking*.

Revitalizing Ontario's Downtowns: Guidelines for a New Program,

prepared by Peter Barnard Associates, available from the Community Revenue Branch, Ontario Ministry of Housing.

This is a study prepared for the Province of Ontario which looks at the alternative strategies for a possible new provincial urban renewal program.

The study starts from the basis that Ontario's downtowns should be preserved and then goes on to look at the effects of past urban renewal programs. The report concludes that, despite its limitations, the Urban Renewal Program of the mid-1960's did help to revitalize the decaying downtown areas in the larger cities. However, in the 1970's, it is the medium size cities (25,000—100,000 population) which will face the greatest redevelopment problems.

The study recommends that the Province introduce a program of limited assistance for medium size cities by adopting a policy which supports downtowns, encouraging downtown planning, introducing development controls and by providing loans and grants for rehabilitation, urban services, land acquisition and clearance.

Partage foncier en banlieue: l'exemple de Sainte-Foy

Pierre Houde, Les cahiers de l'I.N.R.S.—Urbanisation. Les Presses de l'Université du Québec, Montréal, 1975, 185 pages.

Le sol urbain, ressource non renouvelable et de plus en plus rare, reflète, par sa tenure, la structure socio-économique de notre société contemporaine. Les inégalités sont flagrantes, le pouvoir de décision et d'action face au développement est concentré entre les mains de quelques-uns et, souventes fois, une partie importante du patrimoine foncier est possédée et gérée par des particuliers ou des sociétés résidant à l'extérieur du territoire.

Ces réalités apparaissent, parmi tant d'autres, dans le canevas de l'étude publiée dans le cadre des Cahiers de l'I.N.R.S. de l'Université du Québec.

Le lotissement et la tenure des terres en milieu rural ont fait l'objet de plusieurs analyses détaillées, particulièrement chez les géographes; cependant, cet aspect du milieu urbain n'avait pas été suffisamment scruté avant la parution de cette étude.

La recherche, la compilation et l'analyse des données statistiques mettent en lumière des réalités connues mais peut-être jamais à ce jour analysées sous cet angle particulier. On y révèle, entre autres, qu'à Sainte-Foy, 90% des propriétaires n'occupent que 50% de la superficie et que les organismes publics et para-publics possèdent 66% des réserves foncières. Le rôle de l'Etat en tant que grand propriétaire foncier et agent de développement urbain fait l'objet d'une analyse critique où les hypothèses posées soulèvent des débats de fond.

Dans cette lancée, le phénomène de nationalisation, ou municipalisation du sol est remis en question, compte tenu de l'expérience de remembrement des terres à la pointe sud-est de Sainte-Foy. L'étude de plusieurs autres cas-types aurait cer-

tainement été préférable, sinon nécessaire, avant de tirer des conclusions fermes à propos de ce type d'intervention de l'Etat dans la gestion du sol urbain.

L'analyse, du point de vue du statisticien, s'avère singulièrement étayée dans ce document mais il aurait été également important de relier les conclusions à une esquisse de politique de développement urbain vue sous l'angle de l'aménagement du territoire et de l'urbanisme.

L'étude de Sainte-Foy constitue une autre étape dans la connaissance de la gestion du patrimoine foncier, particulièrement en regard de l'intervention de l'Etat, de ses multiples organismes et des grands propriétaires privés. *Claude Lavoie*

LU POUR VOUS

Survivre, sept questions sur le futur

Arnold Toynbee, Editions Marabout—Monde Moderne, Paris 1974, 220 pages.

Il est excessivement rare de rencontrer un intellectuel qui, par sa parfaite maîtrise de l'histoire de l'homme, atteigne avec aisance les plus hauts niveaux de la philosophie.

Fait d'autant moins fréquent pour un historien, si Arnold Toynbee se réfère assez souvent au passé, c'est chaque fois pour nous rendre sensibles des comportements ou des faits actuels et tracer aussitôt les perspectives plus ou moins lointaines qu'il entrevoit.

Sa démarche intellectuelle franche et nette nous fait aborder les grands problèmes de l'époque et les sujets controversés avec une extrême simplicité et une sobriété d'expression auxquelles nous ne sommes pas tellement habitués.

L'engagement de la jeunesse en laquelle il croit ardemment, contribuera selon lui à faire réviser et contrôler les pesées faites sur la balance sociale et politique à l'équilibre trop souvent rompu.

Il prône l'insertion de l'Homme dans l'action et la création et dit tout uniquement que «vous ne ferez rien de convenable à moins d'en avoir le goût».

Après avoir fustigé le dilettantisme, il s'engage personnellement en affirmant que «l'action des étudiants radicaux et l'attitude de ceux qu'on appelle 'les hippies' représentent pour moi les deux façons qu'a de manifester sa détresse, la génération actuelle face à la disparité existant entre l'idéal et la réalité.»

Tout au long de son ouvrage, il montre son horreur de l'esprit partisan et de l'intolérance car il sait que «les révolutions violentes ont presque toujours provoqué une violente réaction» et que les révolutionnaires parvenus au pouvoir prennent souvent le visage de ceux qu'ils ont chassés.

La technologie inquiète Toynbee quand elle tend à être une fin en soi : «La technologie épaulée par les applications de la science a produit des richesses dépassant les rêves de nos an-

cêtres, mais nous avons maintenant commencé à en payer le prix et il se montre élevé d'une manière alarmante.» De la technologie, son inquiétude s'étend à la trop grande spécialisation, à une surspécialisation et il avoue être attaché à un enseignement de base large, général, la spécialisation venant en second lieu.

La maîtrise de plusieurs langues est un avantage en soi, signe d'une ouverture d'esprit : «nous devons sentir que ces autres cultures ne sont pas étrangères mais qu'elles constituent une part précieuse du commun héritage culturel de l'humanité au même titre que notre propre culture. Ici encore, la clé, c'est l'amour.» Il s'inquiète de la dépersonnalisation de la société, en nous rappelant que «dans les relations humaines, la grande sauvegarde demeure le tête à tête entre individus.»

Il se défie de la télévision : «un téléspectateur est plus passif et parvient moins bien que le lecteur ou l'auditeur à distinguer ce qui est réel et véritable de ce qui ne l'est pas. Le téléspectateur est par conséquent conditionné pour avaler tout ce que les gens en place veulent qu'il accepte.»

Toynbee traite dans la dernière partie de «Survivre», avec une indiscutable autorité, des disparités régionales et nationales, de l'exploitation spatiale qu'il estime «moralement indéfendable» parce «qu'on lui a accordé la priorité sur la satisfaction en vivres, en vêtements et en maisons, des besoins de la majorité pauvre de l'humanité.»

Sur l'urbanisme, la langue et l'écriture, il professe des idées qui, si elles ne nous rallient pas d'emblée, nous forcent à convenir avec lui que des révisions fondamentales deviennent nécessaires.

Tout est à commenter de ce maître-livre d'un auteur exceptionnellement lucide que les Parques viennent de nous ravir. Le dernier hommage à lui rendre : à quelque page que le livre soit ouvert, une méditation profonde s'impose, une telle densité de pensée émeut, trouble puis reconforte. *Georges Robert*

La Grande-Borne à Grigny.

Ville d'Emile Aillaud.

Textes d'Emile Aillaud, Fabio Rieti, Gilles Aillaud, Hachette 1972. Nombreuses photographies.

«Malgré tous ses mérites, c'est poétiquement que l'homme habite.» — Hölderlin. «L'acte d'habiter couvre des valeurs inconscientes.» — Bachelard. Placées en exergue au texte de *La Grande-Borne à Grigny, Ville d'Emile Aillaud*, ces phrases annoncent l'étendue et la portée de la démarche de l'architecte. Les textes rassemblés dans ce volume dépassent largement le cadre d'une description physique de la Grande-Borne, cette ville neuve de 15.000 habitants située au sud-ouest de Paris et dont la création date de 1971.

Par une pensée créatrice originale et une compréhension éclairée des besoins des habitants d'une ville, Emile Aillaud remet en question la vision d'une majorité d'architectes contemporains : «L'unanimité des bâtisseurs fait croire à une fatalité ! Pourquoi construire un bâtiment qui n'amuse qu'eux ? Il faut placer l'acte de bâtir dans un déroulement temporel et non pas comme la projection d'un principe sur le plan maître». Afin de rendre possible et bénéfique la vie en commun, l'auteur demande un urbanisme dans lequel on marche et non pas que l'on survole. L'homme est en relation constante avec le milieu urbain. Il vit et se déplace à l'intérieur d'une cité. Il en a rarement une vision globale. L'ignorance de ce principe transforme en expériences déshumanisantes des projets spectaculaires où règne l'esthétisme. L'auteur de l'introduction, Gérard Gassiot-Talabot, définit ainsi la vision de l'auteur : «... Emile Aillaud ne demande pas au public l'intelligence de l'écriture (architecturale) mais il sait le pouvoir lent et implicite qu'elle exerce sur lui.»

Création collective, le projet architectural d'Emile Aillaud s'élabore en collaboration étroite et constante avec les sociologues... qui ont leur place à la droite de l'architecte..., les artistes et les coloristes qui ne sont pas uniquement des *décorateurs* et enfin, idéalement, avec les pouvoirs publics dispensateurs des services essentiels à la survie d'une ville.

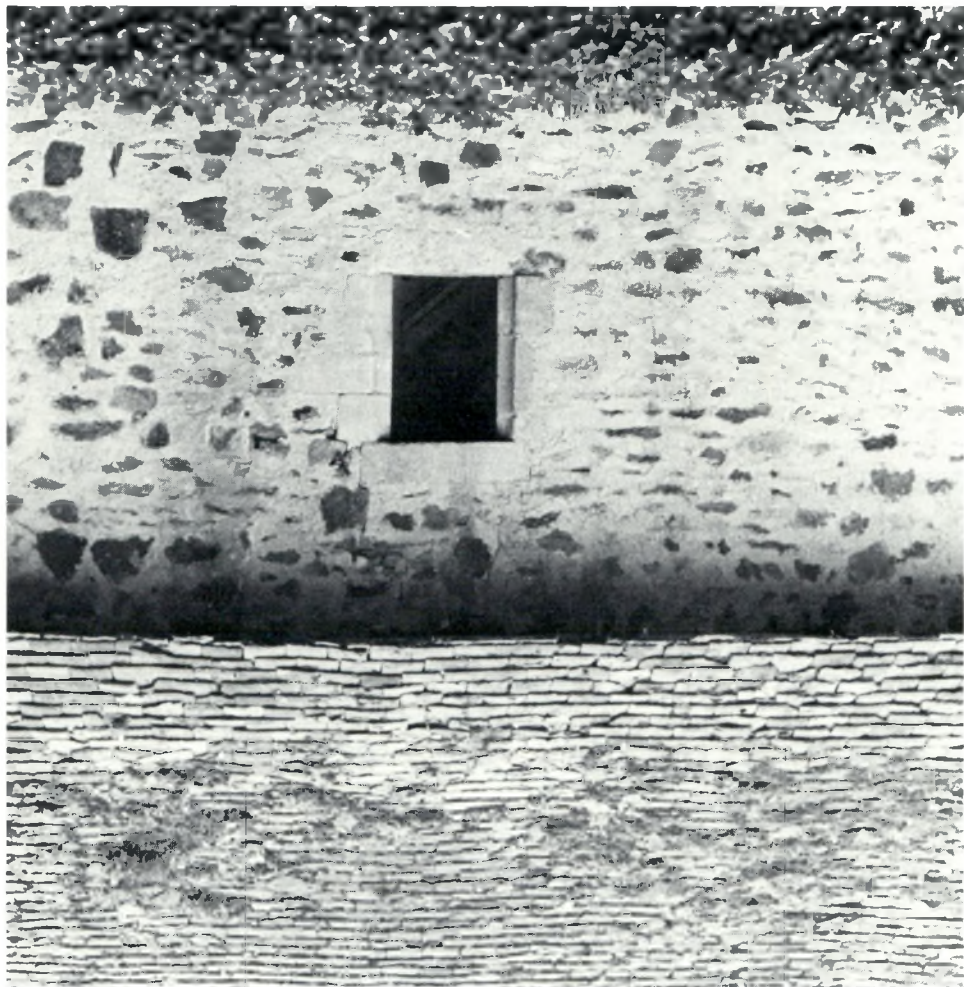
Les futurs habitants d'une ville sont présents, dans la pensée du créateur, statistiquement

et à l'aide de profils socio-économiques. Il ne précise pas comment il arrive à la connaissance de leurs besoins et ne mentionne pas la possibilité d'une mise en place de mécanismes de consultation. Procédé arbitraire ? «On a donné aux lieux, dit-il, des noms que l'usager aurait pu leur attribuer.»

Les photographies d'Eustache Kossakowski présentent la Grande-Borne comme un univers ludique où l'enfant et le piéton sont rois. Depuis 1947, le logement social est la préoccupation quasi unique d'Emile Aillaud. L'architecte démontre de façon remarquable que l'architecture de qualité et les contraintes imposées par le logement social ne sont pas incompatibles. A la Grande-Borne on a osé penser que le superflu est nécessaire. Pour Emile Aillaud, la préfabrication et le grand nombre de logements à construire ne sont des contraintes que pour ceux qui manquent d'imagination.

Fausse simplicité, artifice, irréalisme ? La recherche d'une synthèse urbaine est-elle une utopie ? Une excellente bibliographie commentée permet au lecteur qui le désire de poursuivre le débat. On peut difficilement contester l'opportunité et l'actualité de la perception d'Emile Aillaud : «... la cité n'est que secondairement un événement architectural, c'est essentiellement un événement humain... il faut absolument rompre l'ordre des valeurs... pour cela, il faut changer de morale, ne plus croire que le confort est le bonheur, que la femme est la ménagère et que la voiture doit être devant la porte...»

Empruntant le même sujet, Emile Aillaud a aussi publié chez Fayard : «Désordre apparent, ordre caché». *Christiane Bacave*



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