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Claims on Housing Space in Nineteenth-Century Montreal

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Résumé de l'article

L'espace-personne est une mesure fondamentale de l'équité dans une société urbaine. À partir de petits échantillons de la population montréalaise entre les années 1861 et 1901, nous concluons qu'il y a eu, durant cette période, une amélioration substantielle de la surface habitable moyenne disponible par personne, mais aussi une injustice flagrante et persistante dans la distribution de cet espace entre les ménages. Le marché du logement est demeuré polarisé en termes de classes sociales et d'identité culturelle. Au fur et à mesure que le surpeuplement diminuait, la densité urbaine augmentait, et le problème du logement de la classe ouvrière devenait de plus en plus un problème d'espace collectif plutôt qu'individuel. Par des réseaux de parents et de voisins, les familles ont trouvé de nouvelles façons d'exercer un certain contrôle sur de micro-espaces urbains vitaux. La restructuration des ménages a été, dans le processus permanent et exigeant de leur adaptation à l'espace d'habitation, un facteur aussi important que leurs déménagements d'une maison à une autre.

Claims on Housing Space in Nineteenth-Century Montreal

Jason Gilliland and Sherry Olson

Abstract:

Space per person is a fundamental measure of equity in an urban society. From small samples of the Montreal population over the years 1861–1901, we infer substantial improvement in the average dwelling space available per person, but an extreme and persistent inequity in the distribution among households. The housing market remained polarised in terms of class and cultural identity. As crowding diminished, urban density increased, and the problem of working-class housing became, increasingly, one of collective rather than individual space. Families, through networks of kinship and neighbouring, found new ways to exert some control over vital urban micro-spaces. In a continuous, demanding process of adjustment of households to dwellings, the re-structuring of households was a factor as important as their moves from house to house.

Résumé :

L'espace-personne est une mesure fondamentale de l'équité dans une société urbaine. À partir de petits échantillons de la population montréalaise entre les années 1861 et 1901, nous concluons qu'il y a eu, durant cette période, une amélioration substantielle de la surface habitable moyenne disponible par personne, mais aussi une injustice flagrante et persistante dans la distribution de cet espace entre les ménages. Le marché du logement est demeuré polarisé en termes de classes sociales et d'identité culturelle. Au fur et à mesure que le surpeuplement diminuait, la densité urbaine augmentait, et le problème du logement de la classe ouvrière devenait de plus en plus un problème d'espace collectif plutôt qu'individuel. Par des réseaux de parents et de voisins, les familles ont trouvé de nouvelles façons d'exercer un certain contrôle sur de micro-espaces urbains vitaux. La restructuration des ménages a été, dans le processus permanent et exigeant de leur adaptation à l'espace d'habitation, un facteur aussi important que leurs déménagements d'une maison à une autre.

The built environment of the city is shared by tens of thousands of families, each of them boxed up in plank and brick and plaster. Because space per person is a fundamental measure of equity in an urban society, we ask how space is shared. How are the small packets of people matched with the pockets of dwelling space? Taking the case of Montreal, the nation's largest city and its industrial powerhouse, we examine the trends of a half-century between 1850 and 1900. Was there improvement in the space available to the average family? Was there improvement in its environmental quality? To what extent did working-class people, who amounted to three-quarters of the population, exercise control over their habitat?

In the fast-growing urban economies of nineteenth-century Canada, both immigration and housing stock expanded in powerful surges, roughly parallel. Since at any moment the stream of rents was generated from disposable income, it

matched what people could afford and what investors were prepared to build. Information has been very sparse, and we attempt here to measure and interpret trends in the ratios of people to rooms and of households to acres of land.

This half-century was a period of intense urbanisation of the social fabric of the nation, and the shape of the built city changed dramatically. The skyline was punctuated with new forms — cylindrical elevators, tall chimneys, and spherical gasholders. Larger work forces were collected into corporately owned factories, functioning in seven- and eight-storey cubes or vast sheds extending over whole city blocks. In the financial core, the streetscape was remodelled into canyons. The department stores pioneered a new uptown shopping district, and service institutions were built on a new scale: sober brick orphanages, barn-like meeting halls, huge and handsome churches with domes and spires. But did the family-sized boxes change? Measured by the municipal tax on rental spaces, the housing component expanded with the same rhythm, in exact proportion to commercial and industrial spaces. For elegant mansions and the generous image-conscious terraces of the well-situated, a new architectural vocabulary was adopted every twenty years, with each surge of construction. But the basic box in which three-quarters of Montreal families were housed was, as we shall see, a relatively stable element in the urban landscape.

Already apparent in the course of the 1860s was a greater separation of some activities of production from consumption; by 1870 fewer enterprises and families were housing their apprentices, clerks, and servants, and by 1900 housing was becoming a cadre for a new organisation of consumption. This phase of urbanisation was accompanied by an intensified struggle over resources which had earlier been taken for granted — water, air, light, and space.¹ We shall show that working-class households gradually obtained more space per person *inside the dwelling*, with a decrease of room-crowding. But the stacking of dwellings at higher densities on urban land created greater pressure on collective spaces. The city became more different from the countryside, and households became more dependent on the efficiency with which the city was engineered and managed. Through networks of kinship and neighbouring, families found new ways to exert some control over vital urban micro-environments.

From the point of view of an individual family, securing satisfactory housing was a delicate process, of overwhelming importance. In 1901, the average household was spending 15 to 20 per cent of its earnings on rent and, in addition, a comparable sum for heat and taxes on the space. The dwelling specified the standard of living of the household, its basic comforts. It projected an image of the social status of its members. It influenced their access to jobs, their health, sometimes their survival, and, in the U.S. expression, their "pursuit of happiness".

Measures

In our inspection of the pressure-cooker of urban growth, we devised a strategy for sampling the population and monitoring

Claims on Housing Space in Nineteenth-Century Montreal

the pressure. The sources are briefly described, so that we can then return to the basic questions: What progress was made in living standards? What progress was made toward equity in housing? What were the strategies of families in the housing market?

The analysis is based primarily on a set of very small samples, between 180 and 370 households in a given year, as shown in Table 1, stratified to represent the city's three major cultural communities: French Canadian (half), Irish Catholic (one-fifth) and Protestants of British origins (one-quarter). The representativity of the small samples has been tested against larger samples, as described in the methodological appendix. For each household, data are matched from several sources, including rental valuations from taxrolls at five-year intervals and household composition from census manuscripts at ten-year intervals.² From the relatively rich source of the 1901 census, which reports address, rooms occupied, and incomes of all members of a household, we have used larger samples to estimate crowding, and in the context of a wider-ranging study of the life course, we added information about marriages, births and deaths in these families. Because sampling by surnames selects related families, we can locate Francis and Bridget in the same block of Little Manufacturers street over 40 years, and track their 16 children and 19 grandchildren from house to house, and from the cradle to the grave.

Table 1: Sizes of Small Samples, Based on 12 Surnames (Number of households in taxrolls of city and suburbs)

Year	French Canadian	Irish Catholic	Protestant
1861	42	42	49
1866	45	37	50
1871	57	45	49
1876	75	49	57
1881	99	61	69
1886	107	59	67
1891	127	73	67
1896	145	88	83
1901	173	89	104

Progress ...

In North American cities, the mean sizes of households and dwellings have changed gradually, as speculative builders tended to build for a modal market. Based on our samples, the modal dwelling size in Montreal increased from 3 rooms in 1861 to 4 rooms in 1901, the mean size from 4.6 to 5.7 rooms. Mean household size fell from 6 persons in 1861 to 5 persons in 1871, remained at that level until 1901, and has since fallen below 3 persons. That represents progress, and it suggests that by the end of the nineteenth century, about

the time municipal reformers like H.B. Ames turned the spotlight on the problem of crowding, the proportion of "overcrowded" families was, at the modern standard of over one person per room, about 40 per cent. In 1860 it may have been as high as three-quarters. If we adopt the British statutory standard — more than two persons per room, with children under ten counted as half-persons — only six per cent of Montreal dwellings were overcrowded in 1901, and the Montreal norm looks very good indeed relative to British and European cities.³

To appreciate the meaning of these modest improvements of living standard, let us peer into a few lanes at strategic points in the century. As late as 1850, two-thirds of Montreal houses were wooden, with a steeply pitched gable roof, one storey with

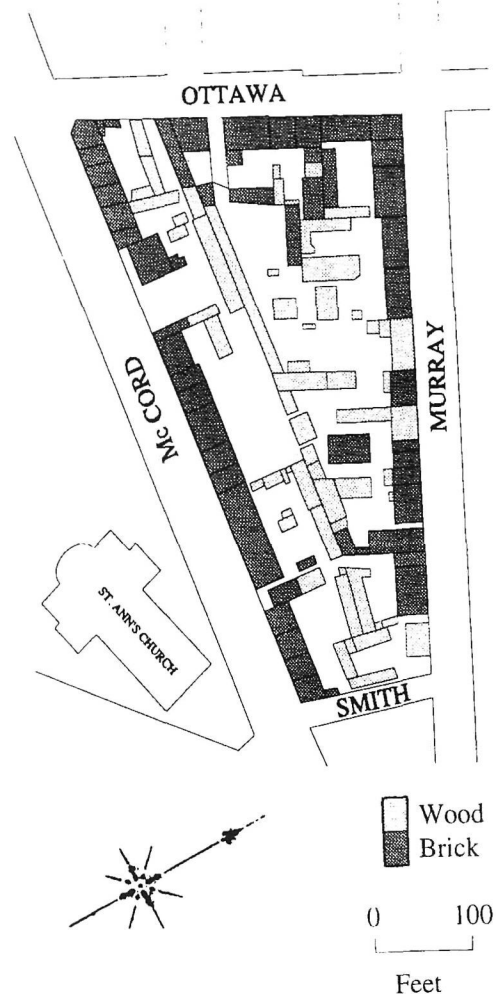


Figure 1: Plan of McCord street block, showing brick-clad façades. (Drawing by Julie Dionne, from Charles E. Goad, Atlas of the City of Montreal, 1881)

attic and dormer windows. They were conceived as single-family dwellings, and homeownership was frequent.⁴ The fundamental class distinction was between stone and wood. Fronting on working-class streets like McCord street were wooden houses with brick cladding, while along the alley in the interior of the same block were lower-grade plank houses vulnerable to fire and rot (Figure 1). Very few such houses remain today, but of the 4000 infants born in Montreal in 1859, one in ten lived — or died — in the rear habitat of alley or courtyard.

In response to fires of 1850 and 1852 which destroyed over 15 per cent of the housing stock, the city prohibited construction of all-wood buildings and wood shingles, and required brick cladding in new housing. (A brick wall was erected both inside and outside the plank structure.) Much of the new housing was “duplex” or double-decker, with two families stacked one above the other, and twinned in “double duplex” buildings, aligned in terraces (photos). Despite prompt replacement of the burnt district and a surge of construction, immigration was heavy, and demand outran construction throughout the 1850s. As Engels expressed it, “The housing crisis is not chance, it is an institution”.⁵

In 1861 half our sample families were still living in plank houses, comfortably-off households of the Protestant sample more often in brick-clad or all-brick dwellings. Variations of household composition were considerable, and even prosperous families were large, complicated and crowded. A thriving fire-wood dealer, for example, owner of several properties, lived in a one-storey plank house at the centre of town, with his family of five, his three young men employees and two servant-girls. A two-storey brick house was occupied by two Irish families — a young man with wife and two children, and a grocer with his wife, three children, two lodgers, and the grocery. Nineteen families inhabited a labyrinthine three-storey brick building. A woman housed her workshop of eight young seamstresses. On the outskirts, an old ship carpenter lived by himself in his waterfront shop, and, in Saint-Jean-Baptiste Village, a goldsmith whose working capital was valued at 2000\$, lived with his wife and five children, his newly-married sister and her husband, his brother and his wife’s sister — eleven persons in a one-storey plank house.

In the next building boom, which peaked in 1872, half the houses built were duplexes, nearly two-thirds if we include variants like triplexes, a few boarding houses, and flats over shops (9 per cent of dwellings, see photo).⁶ While building materials and techniques improved, they continued to reflect class distinctions: for “the classes” a stone or solid brick building with mansard roof and a usable lighted basement, for “the masses” brick-clad plank, no basement, and a flat roof covered with felt-asphalt composition and gravel. The basic two-storey four-family box, with no setback and no indoor plumbing, was built for the same market down to the end of the century. In the 1880s, a labourer described such a home in the east end: his family of five rented a two-storey house with about 400 square feet of floor area: a ground-floor room 20 feet by 10 feet, the upstairs divided into two rooms. His wife carried water from the

yard, and next door a similar layout was shared by nine persons. A skilled worker, able to pay a higher rent, could obtain 65 per cent more floor area (660 square feet) in a new triplex layout of three rooms on the same floor (22 feet front by 30 feet deep), with three families stacked on the same lot.⁷ By 1900, more working-class families were living in the larger units of 600-750 square feet, partitioned into four or five rooms.

... Without Equity

But larger spaces did not mean equity in housing. Over half a century there was no easing of the lines of social class. Merchants, professionals, and salaried white-collar workers, together comprising a quarter of the population, enjoyed dwellings of great variety and style, nearly all terraces or rows. While some were one-family houses, more were four-storey luxury duplexes in which each family occupied two full floors of living space. The individualized dwellings of the classes averaged four times the size of the standardized dwellings of the masses, and the gap in housing standard was associated with substantial residential segregation between them.⁸ To estimate the disparities, using rent per person as a measure of space occupied, we generated Lorenz curves for the cumulative distribution in 1861 and for each successive decade down to 1901. No change can be discerned between 1861 and 1891, only a slim improvement in the 1890s. The most comfortable tenth of families occupied one-third of all dwelling space, and the most comfortable third of all families occupied two-thirds of all dwelling space. Since rents show near-perfect correlation with floor areas and moderate correlation with incomes,⁹ the inequality of rents accurately represents the inequality of household purchasing power in general, as well as the inequality of claims on space in particular.

Let us attempt a more concrete measure. Since in 1901 households average five persons and dwellings average six rooms, the number of rooms is somewhat greater than the number of people, and it should not be difficult to provide reasonable spaces for the entire population. Yet many large households are living in relatively small spaces (see Figure 2). If space per person is a fundamental measure of equity in an urban society, Montreal is a profoundly inequitable society.

The maldistribution of housing space is hardly startling news. What is more interesting is who the people are. The more and less crowded families are quite different populations in terms of their occupations, their social status and class positions, and their cultural identities. The polarisation is radical, and it persists in much the same form over the forty years. As shown in Figure 3, French Canadians in 1901 dominate the market for small dwellings (2–4 rooms). Irish Catholics, who constitute one-fifth of all families, dominate the market for five-room dwellings, while Protestants of Irish, Scottish and English origins dominate the market for dwellings of six rooms or more. (One quarter of the population, they occupy half of the six-room dwellings, three-fourths of the dwellings of ten rooms or more).

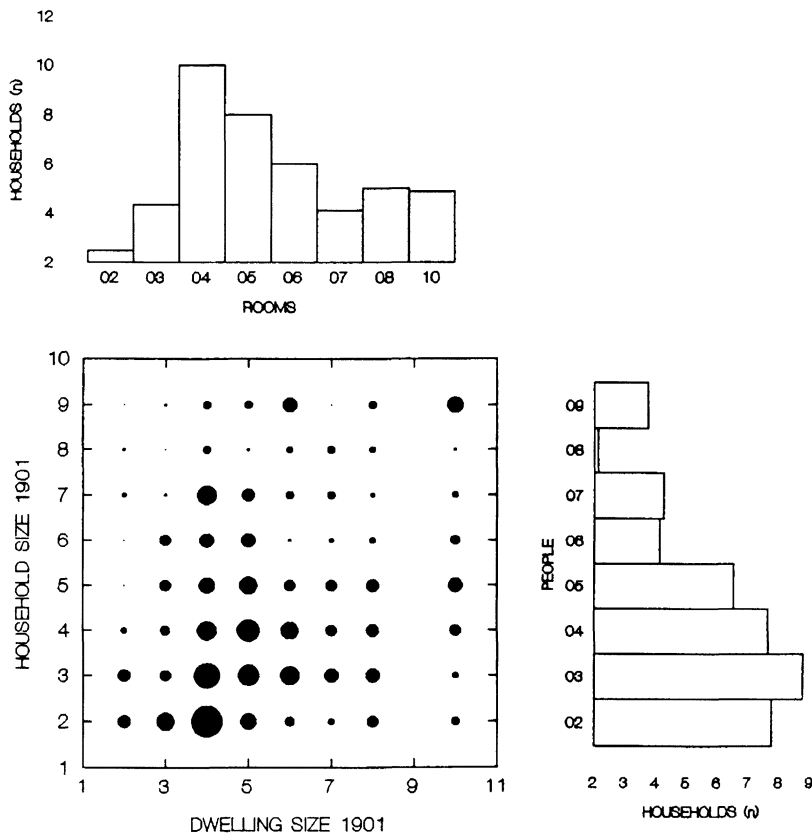


Figure 2: Sizes of households and dwellings in 1901. Circles are proportionate to the numbers of families of specified dwelling-size and household-size. For source, see Table 2, column C.

The larger mean dwelling size, and therefore the reduction of crowding, was made possible by stacking dwellings at higher densities of development. The new triple-deckers offered 65 per cent greater floor area in each unit (660 square feet) than the older model, but they housed the same number of families on an acre of land and three times as many on a kilometre of street frontage. Montreal, as a smaller city, less confined by its site, did not build tenement houses at the densities of Glasgow, New York, Chicago and Paris,¹⁰ but residential densities in Montreal nevertheless increased greatly. In the most densely populated areas of Montreal, residential density tripled between 1860 and 1900, ranging in working-class neighbourhoods of 1900 from 100 to 300 persons per residential acre.¹¹

The consequences for health are difficult to assess, and in the Montreal case one might expect contradictory effects of the decline of room-crowding and the rise in population density. For U.S. cities in 1911, Preston and Haines report higher child mortality (ages under 5 years) in smaller dwellings; and in Stock-

holm, Bernhardt reports a 25 per cent higher risk of child mortality in the most crowded houses. She hypothesizes higher mortality from air-borne contagious diseases, such as scarlet fever, diphtheria, measles, whooping cough and respiratory diseases. Diarrheal infections, on the other hand, are associated with high population density, poor nutrition and defective sewers. In Montreal infant diarrhea accounted for a huge summer mortality, and streets of high residential density show the highest infant death rates (ages under 12 months).¹²

While in 1860 the working-class housing problem was a scarcity of private space, at the end of the century the critical problem was the connection of a private dwelling to the larger public space and services. Here, too, there had been some improvement, important in terms of hygiene and housework. As Bradbury says, "A water connection, a cast-iron cooking stove, and, for the best-paid workers' families, an indoor toilet, constituted the major advances for wives in working-class households during the second half of the century". By 1897 nearly all Montreal dwellings had a water connection in house or yard, but half were still served by a single tap for two or three families, and one household in six was still relying on the outdoor pit privy.¹³ The old alley dwellings behind McCord street (Figure 1) were described in the 1880s as "rickety, propped up facing dirty sheds and germ-breeding closets..." In one house, adjoining a stable, eight families were reported, including a family of four persons in two rooms, all of them ill with diphtheria or typhoid.¹⁴

Progress, with all its limitations, was achieved without municipal zoning or regulation of building. Every few years fire or contagion provoked questions about the risks, but municipal responses were limited to the requirement of brick cladding, a collective water supply (to restrain the cost of fire insurance), smallpox vaccination campaigns, and occasional short-lived efforts at "cleansing" the city. The silence of a "non-policy" in housing confirms the power of wealth over space. The wealthy were enjoying an ever higher-quality habitat, and private enterprise provided them with ever higher-quality services such as gas lighting, indoor plumbing, and, in the 1890s, electric light, telephone and the tramway. For the working class, none of these services was within reach by the end of the century. The inequalities reflect a complex social relation, a form of cultural domination and an exercise of power of the haves over the have-nots.

The Housing Adjustment Process and Family Strategies

How did working-class families adapt their strategies to the duplex/triplex housing environment? As Marc Choko has

Claims on Housing Space in Nineteenth-Century Montreal

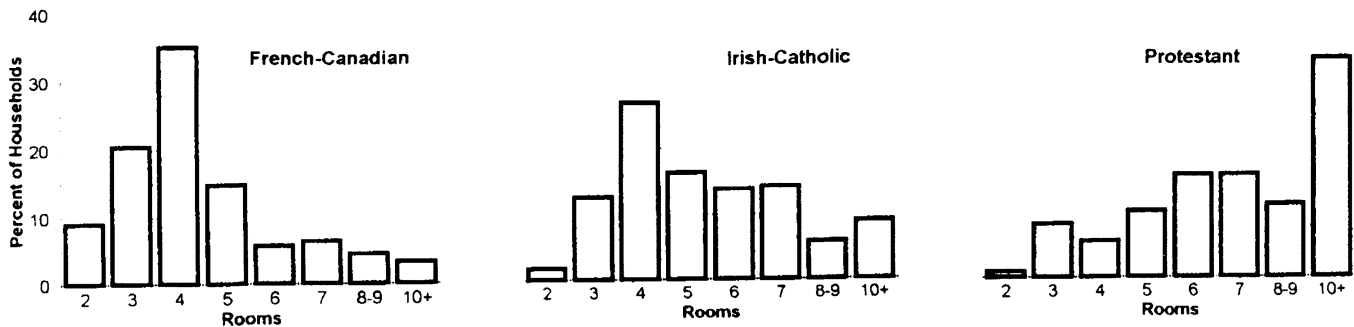


Figure 3: *Dwelling sizes by cultural community 1901. Based on small samples and estimated from rents, as shown in Table 2.*

pointed out, “plex” housing remained the fundamental pattern in Montreal until the 1950s. We shall see the flexibility and advantages of this type of housing as we examine the process of adjustment by which families are filtered into dwellings.

In the formation and dissolution of families, some changes are, of course, associated with the biological life cycle. As individuals pass through stages in the life cycle, the household changes in size, the needs of its members change, and their earning capacity shifts. Such changes are recognized in modern studies of household moves, and particularly in the search process. People at certain ages are more likely to move, and emphasis has been placed on the importance of emotional attachments to dwelling and neighbourhood and the development of inertia with age. But let us once more step back into the late nineteenth century, where we can explore operation of an enormously demanding adjustment process. For several reasons, household moves are more frequent in the 1890s than in the 1990s: people are flitting around like fleas in a bottle. The adjustment is unending, sensitive and volatile. Let us consider briefly three reasons: a fast-paced life-cycle, family dependency, and ever more intense competition for space.

First, the life cycle is running at a fast pace, with a high temporal density of vital events: lives are short, the shared lives of couples are short, gross rates of family formation and family dissolution are high. A preliminary estimate from our sample of 1000 couples married between 1840 and 1900 suggests that within five years seven per cent of marriages are severed by death, 14 per cent within ten years, 20 per cent within fifteen years. Women are very young when they have their first baby (18–21), and if they and their husbands live so long, are likely to give birth every 24 months, and to continue for 25 years. In the French Canadian households in our sample, a death occurs on the average every two years. All these events affect the size of the household. Boarders, country cousins and extra hands for the shop come and go, servants are readily engaged or dismissed.¹⁵ Family is an elastic structure, rapidly inflated or

deflated, and many of these events are, from the perspective of the household, unplanned, hard to manage, and unpredictable in their timing. “Ye know not when the hour cometh ...”

Second, to pay the rent, the late nineteenth-century household depends almost exclusively on the cash earnings of its members. There is almost no welfare, no social security, no disability insurance, in fact little insurance except burial insurance, no workmen’s compensation, no sick pay, no pensions, and for most people no job security. Accident, illness, seasonal recession or an industrial lay-off has to be accommodated either by cutting expenditure — by occupying a smaller space — or by re-adjusting the household to include a new source of income. Under these conditions, the cyclical nature of the economy forces short-term adaptations on a massive scale. In terms of impact on individual households, we should also take into account the substantial rate of work accidents (peaking in boom years) and the heavy incidence of tuberculosis, a disease which undermines earnings and household efficiency for months before death ensues.

At the same time (the third factor), the rapid growth of the city as a whole intensifies the competitive nature of the adjustment process. Between 1860 and 1900 Montreal grows fivefold, from 12 000 to 65 000 households. Under a severe walk-to-work constraint, the growing population is contained within a small area, the city is intensely centred, and, as a consequence, land values rise.¹⁶ Surges of immigration add drama to the cultural complications: in the late 1840s the Irish arrival is associated with epidemics of cholera and typhus; in the 1850s and 1890s off-farm migration of French Canadians to the city is associated with vulnerability to tuberculosis and typhoid fever. Overall, Montreal is a low-wage city, low-wage sectors like shoe and garment manufacture are expanding, and the income distribution does not begin to change until the 1890s. In 1901, the basic wage of working-class fathers shows little increase from ages 25–29 to 50–54, that of labourers no increase at all. Given the wage-gaps between men and women (\$500/\$200 in 1901), be-

Claims on Housing Space in Nineteenth-Century Montreal

tween men and teenagers (comparable), between skilled and unskilled labourers (\$600/\$350), "making the rent" is severely affected by the withdrawal of an adult male, linchpin of the household economy.

In the Montreal rental market, regulated by monthly payments and the one-year lease, adjustments were fine-tuned. As stated to the Royal Commission of 1887, a tenant usually signed for a dwelling in February and took possession 1 May. One can conceive of still more extreme sensitivity, observable in the low-income rental market of Baltimore, regulated as late as the 1970s by weekly rents and the thirty-day eviction notice. A rental market was highly appropriate to the nineteenth-century context with its fast-running life-cycle, its family dependence, and its low-wage industrial economy. Indeed, where terms of the standard lease were more conservative, such as the three-year lease in eighteenth-century Rouen, an informal parallel market emerged among labourers, with subletting and evasion.¹⁷

In the perennial re-matching of people to dwellings, two kinds of adaptation are common. The household may move from one dwelling to another, adjusting the size of the dwelling and its other assets (such as location, sanitary factors, sun or damp), in response to changes in the composition and earning power of the household. Alternatively, the family may stay in the same dwelling and readjust its size and earnings by re-composition, that is, by taking in relatives, lodgers or boarders, for example, or by farming out children, youth or aged dependents. In a particular case it is difficult to know whether the addition of a grandmother is a response to the problem of housing grandma or whether it adds services such as washing, cooking and child-minding, which allow mum to work outside the home; whether the addition of the wife's brother solves the problem of brother's layoff or takes advantage of his earnings to support grandma.

Despite the ambiguities of individual situations, we observe some consistent patterns. Annual rates of household moving are high, and successive censuses show much readjustment of household composition. These are the consequences of a capitalist housing market, matching housing with the inequitable division of income and the unequal remuneration of the labour of men and women. Coping strategies are legion, but we shall look more closely at the two major alternatives of household mobility and household re-composition because they reveal the distinctive advantages of tenancy and ownership, and the more powerful advantages of kinship (see Figure 4).

Household mobility

Rates of household mobility can be inferred from rates of persistence at an address. Mobility appears to be high, since by the end of five years only 31 per cent of households remain at the same address. (The rates are fairly steady throughout the 40 years of study.) About one-third of Protestant households are still at the same address at the end of five years, one-quarter of French and Irish Catholic families. By the end of ten years, persistence falls to 25, 15 and 15 per cent respectively, by the end of fifteen years to 15, 10 and 10 per cent. Higher rates of per-

sistence among Protestant families can be attributed to their higher incomes, higher-status occupations and their higher rates of ownership. Household heads employed in higher-status occupations have greater disposable income and a steadier income, as well as greater job stability, which is itself an enticement to remain in one location. If occupations are classed in three categories (of roughly equal size), 40 per cent of those in the high-status category remain at the same address after five years, 32 per cent of the middle group, and 22 per cent of the low-status group.¹⁸

Consistent with the modern literature,¹⁹ our nineteenth-century homeowners moved less often than renters. Nearly two-thirds of owner-occupiers were present at the same address at the end of five years, one-half at the end of ten years, one-quarter at the end of fifteen years.²⁰ Of tenant households there remained only one in four, one in ten, and one in twenty. Throughout the forty-year period of study, Protestants, with their higher incomes, were always prominent as owner-occupants. They owned one-quarter of the homes they occupied (24.4), compared to 14.9 per cent for French Canadian and 10.3 per cent for Irish Catholic families. While home ownership was low in Montreal relative to other North American cities, the differentials reflect a strong relationship between owner-occupancy and occupational status.²¹

Consistent with Choko's evidence for the twentieth century, French Canadians seem strongly oriented to the homeowner option. Their rate, ranging 12 to 18 per cent over the 40 years, is decidedly high relative to the Irish, a group of comparable socio-economic status. The explanation probably lies in the stronger role of French Canadians in the building trades and in the adaptability of the small duplex to small owners.²² Couples in our sample attained ownership about the time the family ceased to expand, as they approached 40 (the Irish couples 50). As Lauzon puts it, "On ne devient pas propriétaire au moment où on a le plus besoin d'espace".²³

Also consistent with modern mobility research,²⁴ age of household head has a strong positive effect on persistence in nineteenth-century Montreal. In every sample year older couples show higher persistence rates. Almost half of household heads over fifty years old (48 per cent) stay at the same address for another five-year period, 43 per cent of middle-aged households (31–49 years), only 20 per cent of younger households. In addition to the emotional attachment to home, financial reasons appear to be a factor: as a couple reaches 45 or 50, some of their children reach an age to contribute to the family income, and their standard of living is improved, resulting in greater housing satisfaction and stability. In 1901 more of the older household heads in our sample report total family incomes in the highest category (over 1000\$/year).

At least one-third of moves are triggered by vital events. Of all cases of "non-persistence" at the end of five years, at least four per cent are explained by the death of both husband and wife, and one-third involve the death of one partner. A widow faced



Moving.

Figure 4: *The cartoon of a bourgeois family 'Moving' appeared during a cabmen's strike in Canadian Illustrated News, 13 May 1871.*

an affordability crisis, while a widower faced a crisis of household management. Of the recently widowed, only one in five or six stayed, while persistence rates reach one-third among surviving couples.

While job-related moves are hard to document, they must have been frequent since job security was rare. Despite the electrification of transit in 1891, the working class was still walking at the end of the century and sought to minimize the journey to work. Hoskins has shown that in 1880 ninety per cent of Grand Trunk Railway workers lived within two miles of the shops, and their persistence in the neighbourhood was coupled to their persistence on the job. Salaried managers and white-collar employees usually stayed with the company for years, while skilled shop workers and the running trades (engineer, conductor) were paid weekly, their hours and pay envelopes varied, and their persistence on the payroll was moderate. Machinists and carpenters, for example, showed an eight-year residential persistence between 10 and 20 per cent. Of those who were *still employed* in the GTR shops at the end of the eight years, nearly two-thirds were still living in the same dwelling. Labourers, often hired for the day or the task, showed much lower rates of persistence in GTR employment and seem more often to have left the city.²⁵

Owning a home reduced the ease with which workers could follow employment opportunities. The problem was greatest for labourers who shifted according to the season and the market, even from day to day. Job relocation can be seen among skilled workers as well: Bischoff has described the inter-city moves of highly skilled iron moulders, and the kinship network

of chain migration into Montreal. In our French Canadian sample, skilled construction workers were continually re-moving to the outer rim of the city, a frontier of construction; and in our Irish sample, two skilled wall-paper printers, father and son, came to Montreal from the U.S. about 1884, settled in Sainte-Cunégonde, and in 1891, when the wallpaper factory relocated, moved their families across town to Maisonneuve. In all three cultural communities butchers show exceptional stability and a high rate of owner-occupancy, explained by the fact that the city confined the sale of meat to three sites. All these butchers had stalls in the city markets, and were part of effective family networks with a guild control of apprenticeships.²⁶ Among both movers and stayers, careers and residential choices were founded on kinship networks.

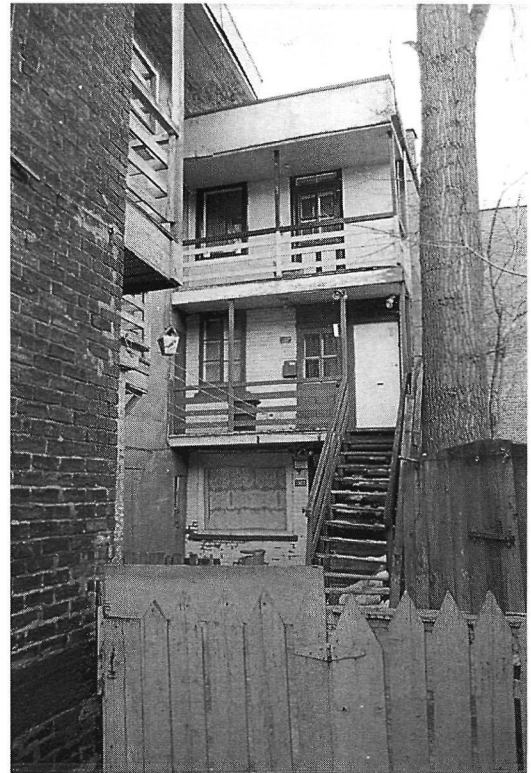
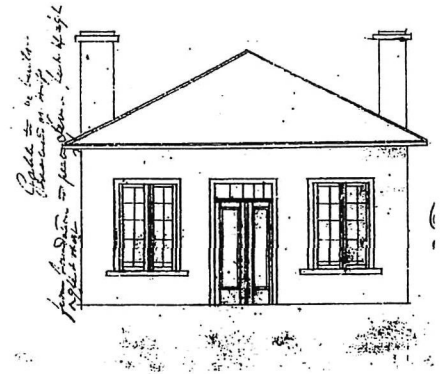
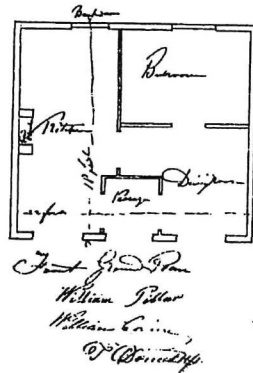
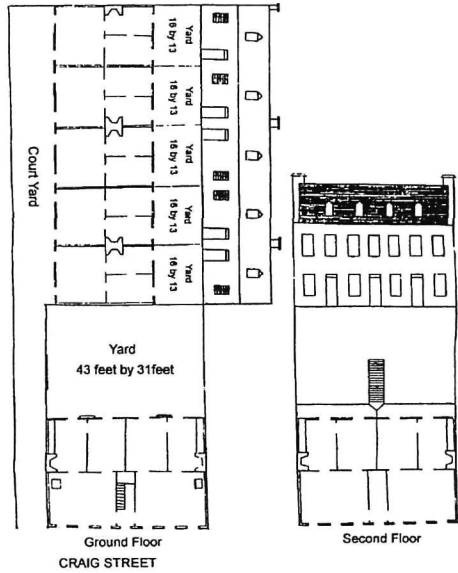
Given the high risk of widowhood, ownership of a dwelling was valued as a form of life insurance. A small but appreciable share of the homes in our sample are listed as owned by the wife, although the husband is recorded as household head. Negligible during the early years, the strategy emerges toward the end of the nineteenth century, to avoid losing the home in a business failure. In the years 1886–1896, one-fifth of owner-occupied homes are listed in the wife's name, and if we include wives, widows and spinsters, nearly one-third of owner-occupied property (31.7 per cent) is in the hands of women. A woman who owns her home is more likely to remain there after her husband's death, and to reappear as head of household. This is especially remarkable among the Irish, where ownership is achieved late in life, two-fifths of owner-occupants are widows, and persistence reaches forty per cent among newly widowed women. This suggests cultural factors somewhat different from the psychology inferred in modern studies of mobility.²⁷

Each form of tenure has advantages. The acquisition of a home provides a form of insurance, while tenants are able take advantage of the flexibility of the rental market. Rental offers another degree of freedom to a family under a severe budget constraint.

Household Re-composition

Among the more stable households we see the alternative strategy in operation: readjustment of household composition. Let us introduce you to some of our acquaintances. Two brothers who learned cabinet-making from their father, open a coffin factory in the lane behind the duplex they share. Three brothers-in-law, all glove-makers and leather-cutters, move every couple of years, but the several families are always sharing a house. François, a cooper, widowed and remarried, is living with his second family while the eight children of his first marriage are living as a separate family a block away. (The eld-

Some Nineteenth-Century Dwellings



Upper left: On plans and elevations of two buildings on Craig street in the 1830s. The one-and-a-half storey row measures 84 feet long and contains five separate units, each 16 feet wide with 4-inch walls. Access to these rear dwellings was granted through a narrow court yard off Craig. The better-quality, two-and-a-half-storey frame house stood at the front of the lot, on a stone foundation; it measured 43 feet by 30 feet thick, and measured 43 by 30 feet, with an equally large court yard and contained four separate dwelling units, laid out on the same three-room plan as the smaller units at the rear of the lot. The two ground-floor units had use of the basement, while the two second-floor units had use of the half-storey above.

Upper right: Plan and elevation of a trader's house built in the 1840s on Saint-Urbain street near Sherbrooke street. This bourgeois house was small, 22 by 18 feet, but contained four rooms as well as a usable basement and attic.

Photograph lower left: The little house at 1295 Montcalm street, 19 feet x 25 feet, shows the size of most houses of the 1840s, 1850s and 1860s, with its dormer windows. It stands beside a mansard-roofed triplex of a generation later. The photograph on the right shows the same triplex from the rear.

Claims on Housing Space in Nineteenth-Century Montreal



Working-class homes of the 1872 boom were still of plank construction “pièce sur pièce” as shown for a double-duplex on Liverpool street; the brick cladding has been removed, for replacement.



A triplex on Mountain street at Barré. Members of our sample population lived in some of these dwellings.



The most common habitat is the double duplex, such as this one on Drolet street south of Rachel.



Above the corner store, Ontario and Saint-Timothée, the butcher or grocer usually occupied the two upper floors.

Sources: Archives nationales du Québec à Montréal, repertory of notary Arnoldi act no. 1114, 29 February 1832, Joseph R. Bronsdon builder for John Tierney owner on Craig street; and notary T. Doucet, act no. 158, 9 September 1845, William Caine builder for William Pillar on Saint-Urbain

Photos: by Ben Johnson and Jason Gilliland

est is 21.) Near the Grand Trunk station in 1871, Maggie is keeping house for her four brothers, all of them recent immigrants from Ireland; the brothers work as porters on the trains and in a rail-side hotel. Ten years later one has died, one is managing the hotel and a household of eight employees at the same downtown location; two have families in newer lodgings, and Maggie is keeping house for her husband and three children, her widowed brother and his two babies. Julie for thirty years keeps a poultry stall in the St-Lawrence market. Her husband was an alcoholic, and a few years after his death we find her living with her son who has become a butcher in the market. A decade later (1881) she is living with a second son, also a butcher, and a daughter, but they share the house Julie owns with a married daughter, her husband (a tinsmith) and four youngsters. In 1891 Julie still lives in the same house, with the family of a second married daughter, and after Julie's death in 1900 three of her children continue living in the house, with their families, each contributing a small share (equivalent to a third of the market rent) to a fourth family consisting of Julie's three orphaned grandchildren.

All of those household strategies involve the operation of extended networks of kinship, including some very stable partnerships between related households. The duplex or triplex building is ideally suited to this kind of joint strategy. A witness to the Royal Commission of 1887 remarks on the practice of families "clubbing together".²⁸ We can identify many of these situations as kin-based, and speculate that the practice of sharing a heating-stove, a kitchen, a yard, a stable or a privy was best regulated in a family context. Collaboration among kinfolk meant greater control over the housing environment, and, given the sanitary threats, better life chances.

Strategies of family re-composition operated among high-status and middle-income families as well as working-class families. Taking boarders was often a strategy for maintaining a middle-class life-style; it allowed a family to maintain a respectable address in a healthy street and to employ a servant. Lodgers made a critical contribution to the income of a widow trying to avoid falling into a working-class life-style. Among the wealthiest Protestants, men postponed marriage to establish themselves in business, and the difference of age increased the wife's chances of a long widowhood. This was already obvious in 1860, and over the next 40 years, possibly in response to this risk, women of this stratum began to marry later and to sign marriage contracts which guaranteed them a life insurance policy, their right to acquire property independent of their husbands, and to hold it invulnerable to their husbands' creditors. By the end of the century these practices can be seen among couples of more modest resources in all three sample communities.

In the larger working class, we can trace the evolution of housing conditions over the life-cycle (Figure 5). In 1901, for example, household size peaks among couples in their forties. The average number of rooms occupied rises steadily. As the family grows, crowding rises, at about age 40 couples are experiencing greatest stress on the budget, paying out a larger

share of their income for housing. As they move into their fifties, crowding diminishes. Using rent as an indicator of dwelling size, and rent per person as an indicator of crowding, the same pattern can be discerned in earlier decades. As the household head approaches 50, the living standard begins to improve because income is supplemented from the earning power of adolescent or grown children, or from boarders who replace them in the dwelling.

The same figure reveals the trend from one generation to the next. By 1881, couples in their fifties are likely to be paying more rent per person and occupying a larger, less crowded dwelling. Although the carters still keep horses, the family is less likely than in 1861 to share the yard with a couple of pigs.²⁹ In each age-group, the trend of forty years is toward more space per person, with fewer crowded families. Change is most dramatic in the 1860s as household size declines, and in the 1890s when we see more five-room dwellings built and a higher rent per person in the working class. These facts seem to be most consistent with an interpretation of later marriage and a rising proportion of individuals who do not marry. Young adults who live at home or in boarding houses continue to contribute to the income of their family of origin.

Confirmation of distinctive cultural practices will have to wait for fuller analysis of the demographic database. The evidence suggests that household structure, earnings and housing quality all depend to a high degree on the deployment of the labour of unmarried members of the family. Earlier improvement in the situation of the Irish, for example, arises from their later marriage and survival of a larger percentage of their children to ages of earning power.³⁰ Conversely, the crowding in French Canadian households seems to be associated with earlier marriage; the young couple often boards with one set of parents for a couple of years, widowers are more likely to remarry, and widows often move in with the families of their children. The improvement of the 1890s is marked among French Canadians and reflects trends toward smaller families and toward more older couples maintaining their own households. If we distinguish rural immigrants to the city from their sons, born or raised in the city, French Canadians show an intergenerational improvement of occupational and housing status comparable to the Irish.

To interpret the adaptive strategies of families, we would, from the hints in our samples, call attention to the shift in housing conditions over the life-cycle of the couple, to the perennial restructuring of households, to the concerted strategies of larger kin-groups, and to the degree of improvement from one generation to the next. In the matching of households to dwellings, we would emphasize the advantages of tenancy for keeping open the option of a move, the achievement of ownership as an anchor of the extended family and a form of life insurance, and the value of taking boarders as a means of maintaining class position over the life cycle. These strategies were important at several life transitions and at several thresholds of status, but their operation overall tended to perpetuate class disparities of

Claims on Housing Space in Nineteenth-Century Montreal

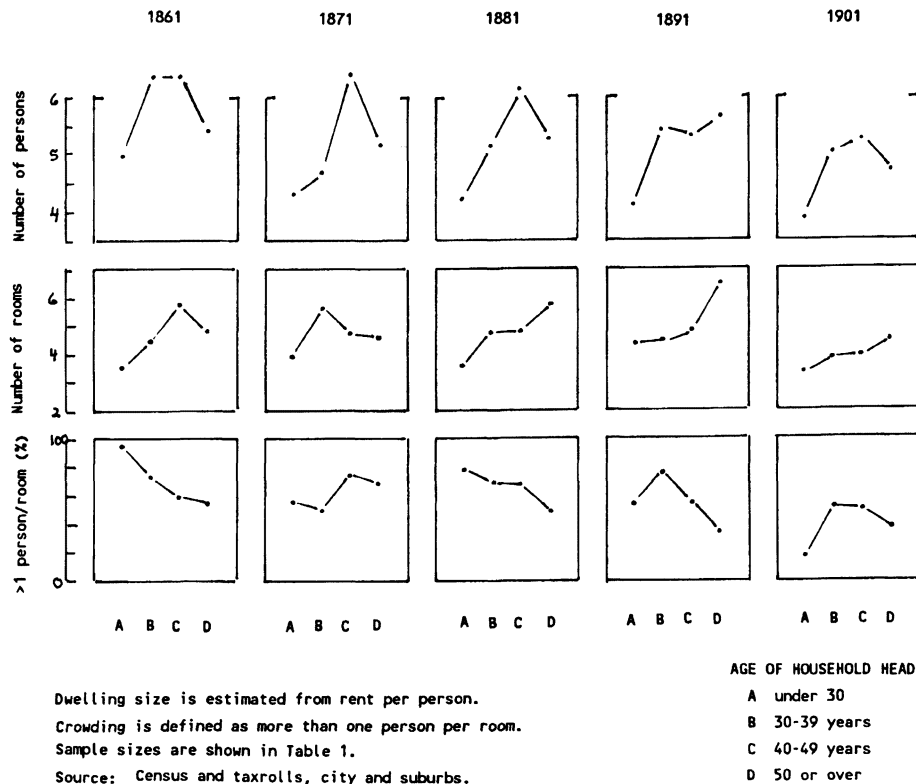


Figure 5: Trends in space occupied, by age of household head, 1861-1901. (Mean size of household and dwelling, and percentage crowded). Based on small samples shown in Table 1.

living standards and to maintain intact over half a century an ideology of social class.

In Montreal, as late as 1901, there was no blurring of the line. The life-style gap between high-status occupations and the working class was enormous. Even between the skilled trades and labourers, the housing gap was important because the larger space occupied — the factor we can measure — was associated with assets like ventilation and sunshine, a lower-den-

sity neighbourhood, and greater labour power available to support and manage that space. The struggle of each working-class family to control a minute fragment of the urban habitat can be seen as a micro-geopolitics. In the fragmentation of spaces was a coherence of class structure, and it is in this sense that Henri Lefebvre's statement takes on meaning: "The fragmentation of space is a social text, itself the context for other texts".³¹

Methodological Appendix

Our observations are based on nested samples, created in the context of a broader study of demographic behaviour in Montreal 1850-1900. From the municipal taxroll of "rent valuations" for the years 1848, 1861, 1881 and 1901, we established a scale of occupational status, based on median rents of household heads reporting each occupation. A substantial and fine-textured segregation by social status can be demonstrated from either occupation profiles or median rents of street segments. To explore social differences of infant mortality, a variable considered sensitive to environmental conditions, we

examined three samples of infants born in Montreal in the years 1859, 1879 and 1899, and families were located in taxroll and census one year after the birth (censuses of January 1861, April 1881 and 1901). As we explored an expanding city, and as we acquired greater confidence in the records, we reduced the sampling density: 100% in 1859 (n=3600), 50% in 1879 (4700), and in 1899 (the cohort is six times that of 1859), a ten per cent sample was drawn by selecting surnames beginning with the letter 'B' (n=1477), as shown in Table 2.

Claims on Housing Space in Nineteenth-Century Montreal

Table 2: Percentage Distribution of Sizes of Dwellings, Montreal 1901

<i>A</i>	<i>B</i>	<i>Large samples (surname-B)</i>			<i>Small samples (16 surnames)</i>			
		<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>
<i>Rooms</i>	<i>Rents</i>	<i>Rooms as</i>	<i>Rooms as</i>	<i>Entire</i>	<i>Labourers</i>	<i>French</i>	<i>Irish</i>	<i>Protestant</i>
<i>n</i>	<i>(\$/yr)</i>	<i>reported</i>	<i>estimated</i>	<i>taxroll-</i>	<i>families</i>	<i>Canadian</i>	<i>Catholic</i>	
		<i>in census</i>	<i>from rent</i>					
2	<40	3.3	2.3	5.4	9.2	9.1	1.6	0.9
3	40– 59	12.0	14.5	15.0	31.4	20.5	12.6	8.3
4	60– 72	28.6	33.3	27.2	40.9	35.2	26.8	5.5
5	73– 90	20.8	18.4	15.4	11.7	14.8	16.3	10.1
6	91–119	13.0	9.9	10.0	3.4	5.7	13.8	15.6
7	120–150	8.1	9.8	11.4	2.6	6.4	14.2	15.6
8–9	151–200	8.6	4.5	6.1	0.3	4.5	5.7	11.0
10	>200	5.6	5.4	9.5	0.4	3.2	8.9	33.0
Sample size n		1477	1477	7382	1380	173	246	104

Column C gives dwelling sizes reported by census families with a child under 4, column D the number of rooms as estimated from rent ranges shown in column B. The large samples (columns C-F) refer to surname-B samples (about 10%). Column E makes similar estimate of dwelling size from rent appraisals for all households (100%) in taxrolls of city and its suburbs, 1901; column F the subset of household heads who are labourers. The small samples (G-I) are a subset of 16 surnames, 523 households in all. (The Irish sample was supplemented.)

To provide a thread of continuity and greater detail on the life course, yet smaller samples were drawn, using twelve surnames to represent the city's three major cultural communities. For individuals of the twelve "clan" surnames we collected all records of marriages, births and deaths between 1840 and 1920 (*état civil*), nominal entries from five census manuscripts (at ten-year intervals 1861–1901), nine taxrolls (at five-year intervals 1861, 1866... 1901) and annual city directories. Sample sizes are most constraining for the subsample of Irish Catholic origin.

The taxrolls distinguish tenants from owner-occupants, but for household heads in both groups they provide an appraisal of market rent on the same basis. Census manuscripts report the number of persons in a household, their names, ages, occupations and relationships; and the census of 1901 offers, for the first time, information on the number of rooms in the dwelling and the incomes of wage-earners.

Certain relationships, notably the measures of crowding, are estimated, tested or calibrated against larger samples. By matching rent (from the taxroll) with number of rooms (from the census), we establish for a ten-per-cent sample of the 1899 birth cohort (1477 families) the ranges of rents for dwellings of various sizes. A rough yardstick is 20\$ per year per room, and we employ a more elaborate algorithm, shown in Table 2. If we compare this population with all surname-B families in the taxroll (n=3300) or with the entire taxroll (n=33 000), the distribution of dwelling sizes of families with a young child approximates roughly the structure of the housing stock as a whole (Table 2). By excluding childless households, we under-

estimate, as we might expect, the number of one- and two-room dwellings.

We then apply the yardstick of 1901 to rental values for our small samples, to estimate room-sizes in the housing stock for earlier years. The critical assumption here is the absence of inflation, and it is, we submit, a reasonable one.³² Measures of mean household size and mean rent per person are reliable, despite the smallness of the samples. Estimates of mean number of rooms and percentage of "crowded" dwellings are not dependable as absolute values, but provide satisfactory comparisons between subsamples in a given year. Even from one census to the next, the estimates derived for mean size of dwellings show considerable stability and consistency. The magnitudes are subject to debate, but the direction of trends is defensible.

Municipal appraisals of rent were established on the basis of market rental values. By measuring a stratified sample of sixty houses, we confirmed the close correlation with floor area ($r=.99$), and Lauzon has shown that rental tax valuations in Saint-Henri were virtually identical with contract rents recorded in notarized leases.³³ Two problems of coverage arise nevertheless. Because the assessments of 1861–1876 cover only the City of Montreal, analyses requiring both rent and family size exclude the suburbs. Since they are primarily French Canadian and low-income (in Saint-Jean Baptiste and Saint-Henri villages), we are understating the poorest housing by 7 or 8 per cent. Prior to 1856 the taxrolls frequently treat "double" families as a single family. They are often a father and son with their respective families, or two brothers whose families occupy

Claims on Housing Space in Nineteenth-Century Montreal

separate dwellings in the same house. By 1861 most dwellings are individually taxed, with separate house numbers and entrances, the ambiguous cases are fewer, and the problem does not interfere greatly with estimation of average dwelling size or average rate of owner occupancy. Similar questions have been raised about census identification of family, household and dwelling unit.³⁴

In our small samples, uncertainties of identification are largely overcome through confrontation of so many source documents. The genealogical and demographic sources allow us to distinguish kin from other boarders and thus to overcome a constraint on most studies of household structure. We can assert that cohabitation of unrelated families was exceedingly rare: many of the families who shared a house were kinfolk, and most of their boarders and lodgers were relatives as well.

Acknowledgments

Patricia Thornton of Concordia University shared in the creation of the data base and contributed her advice at every stage. The work was supported by a research grant of the Social Science Research Council of Canada to Olson and Thornton, and by a Canadian Mortgage and Housing Corporation fellowship to Gilliland. We are grateful also to the many archivists and librarians at the Municipal Archive of the City of Montreal, les Archives Nationales du Québec à Montréal, Mount Royal Cemetery, and McGill University.

Notes

1. Henri Lefebvre, *Espace et politique, Le droit à la ville II* (Paris Anthropos, 1972), 58.
2. Procedures for compiling and matching the samples are reported in Patricia A. Thornton and Sherry Olson, "Family contexts of fertility and infant survival in nineteenth-century Montreal," *Journal of Family History* 16, 4 (1991):401-417; and Jason Gilliland, "Modeling residential mobility in Montreal 1860-1900," *Historical Methods* 31, 1 (1998): 27-42; and *ibid.*, "Residential mobility in Montreal 1861-1901 (M.A. thesis Geography, McGill University, 1994).
3. Even in the worst district surveyed in Montreal in 1897, only 14 per cent of families were living in two rooms or less, where in Glasgow 30 per cent of families were living in one room, half in two rooms (H.B. Ames, *The City Below the Hill*, University of Toronto Press, 1972 reprint edition, 48). In Stockholm room-crowding worsened over the late nineteenth century, and by 1910 three-quarters of apartments had three rooms or fewer, 30 per cent were merely one room and a kitchen, and the average number of persons per room was 1.4 (Eva M. Bernhardt, "Crowding and child survival in Stockholm 1895-1920," Paper presented to International Union for the Scientific Study of Population, Meeting of 7-9 October 1992 Montreal). On British cities see Richard Dennis, *English Industrial Cities of the Nineteenth Century, A Social Geography* (Cambridge: Cambridge University Press, 1984, 368pp.) and Lynn Hollen Lees, *Exiles of Erin, Irish Migrants in Victorian London* (Ithaca: Cornell University Press, 1979, 276pp.); for a French example J-P Bardet, *Rouen aux XVIIIe et XVIIIe siècles* (Paris-SEDES, 1983, 2 vol.); on U.S. cities Elizabeth Blackmar, "Re-walking the 'Walking City': housing and property relations in New York City, 1780-1840", *Radical History Review* 21 (1979): 131-48; and *Manhattan for Rent, 1785-1850* (Ithaca: Cornell University Press, 1989); Roy Lubove, *The Progressives and the Slums: tenement house reform in New York City, 1890-1917* (University of Pittsburgh Press, 1962); Richard Plunz, *A History of Housing in New York City* (New York, Columbia University Press, 1990, 422pp.), and Richard B. Stott, *Workers in the Metropolis: Class, Ethnicity and Youth in Antebellum New York City* (Ithaca: Cornell University Press, 1990, 168-174). The Montreal means imply, nevertheless, that as late as 1901 16 per cent of all individuals were living in households with more than two persons per room.
4. Gilles Lauzon reports owner occupancy at nearly half in the early years (ca. 1850) of Village Saint-Augustin (later Saint-Henri), in *Habitat ouvrier et révolution industrielle: Le cas du Village Saint-Augustin* (Mémoire Histoire, Université du Québec à Montréal 1986, Collection RCHTQ Etudes et Documents numéro 2, 1989, 209pp.)
5. Friedrich Engels, *The Housing Question* (London, Lawrence, 1872/1935). See also Henri Lefebvre, *La Révolution urbaine* (Paris, Gallimard, 1971, 248pp.) and *Espace et politique*; Blackmar, *Manhattan*; and, on Montreal's successive housing crises, Marc Choko, *Crises du logement à Montréal, 1860-1939* (Montreal: Éditions coopératives Albert Saint-Martin, 1980, 2 vol.)
6. While the triplex was an innovation of the 1860s, it became the dominant model about 1900. Hanna has identified a prototype in Sebastopol street, near the Grand Trunk Railway shops; the row of houses consists of groups of four flats, with a shared doorway and interior staircase for each pair of upstairs flats. (David Hanna, "Montreal, a city built by small builders, 1867-1880," Ph.D. thesis Geography McGill University, 1986, 70.)
7. Testimony of Thomas Gratorex and Fred Judah, Canada, Royal Commission on Labour and Capital (Queen's Printer, 1889), *Quebec Evidence*, 85-6 and 660-4. For a plan, elevation and photograph, see Jean-Claude Marsan, *Montréal en évolution* (Montréal, Fides, 1974), 271-2.
8. See housing types in *The Historical Atlas of Canada* (Toronto, University of Toronto Press), for houses built about 1872, Vol. II (1993), Plate 49; for houses built about 1886, Vol. III (1990), Plate 30.
9. For 1901 we can confirm the correlation of rents with incomes: $r=.40$ between rent and earnings reported by the household head, $r=.65$ between rent and total earnings reported by all members of the household. Weighting of children makes little difference to the estimates of equity.
10. Stott, *Workers in the Metropolis*, 168-74, reports working-class tenement dwellings in New York City before 1850 at 640 square feet. Those built in the 1850s were smaller: 300 to 400 square feet, and about 1860 certain working-class neighbourhoods had mean crowding levels over 1.225 persons/room. One quarter of the family budget was needed to cover rent and fuel.
11. *Historical Atlas of Canada*, Vol. II, Plate 49.
12. Half of infant deaths occurred in the summer quarter. S.H. Preston and M.R. Haines, *Fatal Years, Child Mortality in Late 19th-Century America* (Princeton University Press, 1990); Dennis, *English Industrial Cities*; and Bernhardt, "Crowding and child survival". On the vexed question of housing and mortality, see also Alex Mercer, *Disease, Mortality and Population in Transition* (Leicester University Press, 1990); R. Schofield, D. Reher and A. Bideau, eds., *The Decline of Mortality in Europe* (Oxford: Clarendon Press, 1991); and a more extensive bibliography in Thornton and Olson, "Family contexts."
13. Bettina Bradbury, *Working Families: Age, gender, and daily survival in industrializing Montreal* (Toronto, McClelland & Stewart, 1993), 156; Ames, *City Below the Hill*, 45.
14. At the end of the century the houses were still inhabited; Ames (*ibid.*) describes them as an example of the city's worst housing.
15. For employment-cycle effects on boarding in Toronto and Hamilton, see Richard Harris, "The Flexible house: the housing backlog and the persistence of lodging, 1891-1951", *Social Science History* 18:1 (1994):31-53; and, on postponement of marriage, Bradbury, *Working Families*.
16. See, for example, S. B. Warner, *Philadelphia, The Private City* (Philadelphia, 1968).
17. See Bardet, *Rouen*. Dennis, *English Industrial Cities*, has pointed out that in the development of high-rent terraces and the universal one-year lease, the Montreal model resembles the Scottish rather than the English model, understandable in light of the Glasgow origins of Montreal merchants of the early nineteenth century.

Claims on Housing Space in Nineteenth-Century Montreal

18. Using the entire rental taxroll, a status ranking was assigned to each occupation according to the median rent of households whose heads reported the occupation. The high-status group included merchants, professionals and white-collar occupations; the middle group was dominated by skilled trades, and the low-status group was dominated by labourers. Details in Gilliland 1994, pp. 188–189.
19. See H.A. Morrow-Jones, "The housing life-cycle and the transition from renting to owning a home in the United States: a multi-state analysis", *Environment and Planning A* 20 (1988):1165–1184; Larry S. Bourne, *The Geography of Housing* (New York: V.H. Winston & Sons, 1981, 288pp.); Martin Cadwallader, "Migration and intra-urban mobility", pp. 257–283 in M. Pacione, ed., *Population Geography: Progress and Prospect* (London: Croom Helm, 1986); W.A.V. Clark, "Recent research in migration and mobility", *Progress in Planning* 18 (1982):1–56; and John R. Short, "Residential mobility", *Progress in Human Geography* 2 (1978):419–449.
20. Of owner-occupants 64, 50 and 26 per cent; of tenant households 25, 11 and 7 per cent.
21. Rate of owner-occupancy observed among high-status households was 30%, medium status 13% and low-status 3%.
22. The continuing dominance of small entrepreneurs distinguished Montreal from Toronto and Baltimore. See Hanna, "Montreal, a city built by small builders," chapter 5. Based on analysis of building permits issued 1868–1877, Hanna documents a close match of status between owner and tenant in a duplex habitat.
23. Lauzon, *Habitat ouvrier*, p. 147.
24. The effect of age is discussed by E.G. Moore and M. Rosenberg, "Migration, mobility and population redistribution" pp. 121–137, in L.S. Bourne and D. Ley, eds., *The Changing Social Geography of the City* (Montreal, McGill-Queen's University Press, 1993, 121–137); Clark, "Recent research"; Cadwallader, "Migration"; A. Speare Jr., S. Goldstein and W.H. Frey, *Residential Mobility, Migration and Metropolitan Change* (Cambridge, Mass., Ballinger, 1975); and C.G. Pickvance, "Life cycle, housing tenure and residential mobility: a path analytic approach", *Urban Studies* 11 (1974):171–188.
25. Ralph F.H. Hoskins, "An analysis of the payrolls of the Point St. Charles Shops of the Grand Trunk Railway", *Cahiers de Géographie du Québec* 33, 90 (1989):323–344; and "A Study of the Point St. Charles Shops of the Grand Trunk Railway in Montreal 1880–1917 (M.A. thesis Geography McGill University, 1986, 221pp.)
26. On moulders see Peter Bischoff "Des forges du Saint-Maurice aux fonderies de Montréal: mobilité géographique, solidarité communautaire et action syndicale des mouleurs, 1829–1881", *Revue d'histoire de l'Amérique française* 43, 1 (1989):3–29; and "Traveling the country 'round': migrations et syndicalisme chez les mouleurs de l'Ontario et du Québec membres de l'Iron Molders Union of North America, 1860 à 1892", *Journal of the Canadian Historical Association* N.S. 1 (1990):37–71; on butchers Sylvie Brouillette, "Les Marchés publics à Montréal 1840 à 1860." Mémoire de maîtrise Université du Québec à Trois-Rivières, 1991, 134pp.; on construction tradesmen, Robert Lewis and S. Olson, "Residential ecology of construction workers in nineteenth-century Montreal", paper presented at Conference on Labour History, McMaster University, 1988. In the 1890s electric transit extended the range of housing development to about 4 kilometres from the centre.
27. On the increasing attachment to home and a conservative pattern of behaviour, see Morrow-Jones, "The housing life-cycle"; W.A.V. Clark and June L. Onaka "Life cycle and housing adjustment as explanations of residential mobility", *Urban Studies* 20 (1983):47–57; and Pickvance, "Life cycle."
28. Testimony of Dr DeCrow to Royal Commission on Labor and Capital, *Quebec Evidence*, 606.
29. Keeping pigs was made illegal in the central parts of the city in 1868. As Bradbury has pointed out in *Working Families*, the animals contributed to the household economy and nutritional standard.
30. In the Irish subsample, improvement in housing was associated with improvement of occupational status in the second generation. In the earliest years of analysis half of Irish household heads were in the lowest occupational category; by 1876 they were more often in the middle ranks, where, throughout the forty years, we find half of the French Canadian households. Of protestants, at least half of household heads were always in the high-status group, with remarkably few in the lowest rank — below 15 per cent in any year. On the Irish community, see Sherry Olson and Patricia Thornton, "Le raz de marée irlandais à Montréal", pp. 69–80, in Y. Landry, J.A. Dickinson, S. Pasleau and C. Desama, eds., *Les chemins de la migration en Belgique et au Québec, XVIIe – XXe siècles* (Louvain-la-Neuve, Académia, 1995).
31. Lefebvre, *La Revolution urbaine*, 28. As an example see Steven Marcus, *Engels, Manchester, and the Working Class* (New York: Random House, 1974) or his article in H.J. Dyos, ed., *The Victorian City; images and realities* (London: Routledge Kegan Paul, 1973).
32. The best contemporary discussion of temporal variation in rent valuations is found in the testimony of George E. Muir, city assessor, to Royal Commission on Capital and Labor, *Quebec Evidence*, 258–264. Rents ran higher than normal in 1871 and 1876, apparent also in Gilles Lauzon, *Habitat ouvrier*.
33. David Hanna and Sherry Olson, "Métiers, loyers et bouts de rue: l'armature de la société montréalaise de 1881 à 1901," *Cahiers de Géographie du Québec* 27, 71 (1983):255–275; and Lauzon, *Habitat ouvrier*. Ames, in *The City Below the Hill*, also estimates \$20 per room.
34. For correction of earlier misapprehensions in the literature, and comparison of the relative merits of taxrolls and censuses of the 1840s, see Robert Lewis, "Homeownership reassessed for Montreal in the 1840s," *Canadian Geographer* 34, 2 (1990):150–152; and for census-takers' behaviour later in the century, see Gilles Lauzon, "Cohabitation et déménagements en milieu ouvrier montréalais," *Revue d'histoire de l'Amérique française* 46–1 (1992):115–142.