Early Industrialization and Inequality in Toronto, 1861-1899

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I Introduction

THE QUESTION OF THE IMPACT of early industrialization on the distribution of income and wealth has been central to social and economic history. The question takes several forms. Did the division between working and capitalist classes visibly widen? Did standards of living broadly deteriorate or improve? Did the distributions of property, wealth, and income change shape? Like other questions that initially appear elemental, these turn out to be quite controversial.

One troublesome aspect of these debates is the tendency to confound the separate, though related, questions of standards of well-being and of distributions of wealth or income. In fact, one can infer rather little about living conditions from only a knowledge of the extent of inequality — that is, from a knowledge of the relative scatter or dispersion of wealth and income. Both questions are of interest in assessing the effects of the widening of labour and commodity markets in the course of an "industrial revolution."

In this paper, I focus on the extent and pattern of inequality revealed by assessment data for nineteenth-century Toronto. I establish and trace trends in distributions of assessed wealth from the eve of the city's industrial revolution to the turn of the century. The analysis is based on the flawed, but valuable, evidence provided by assessment rolls for each of the census years 1861, 1871, 1881, 1891, and also for 1899.

II Inequality and Nineteenth-Century Industrialization

THE LATTER HALF of the nineteenth century saw increasing sensitivity to the question of the effects of industrialization on the division of wealth and welfare. The existence of poverty amid rising productivity and prosperity was a

recurrent theme of Toronto's journalism after mid-century.[1] For the most part continuing poverty was treated as an unfortunate blight on the city's progressive growth, rather than as a structural condition of capitalist development. By the 1890s, however, labour radicalism and the visible concentration of industrial production coincided to generate more widespread concern with both the standards of living of the working class and with the question of shares in an expansive economy.

Of course, there was considerable difference of opinion regarding the consequences of industrialization for inequality. Many emphasized that, despite continuing abuses and problems, there had been general improvement in living conditions for all social groups. Despite other divisions this appears to be the general consensus of the members of the Royal Commission on the relations of labour and capital, reporting in 1889.[2] Guarded optimism was also expressed in the common view at the end of the century, that if the rich were getting richer, at least the poor were not so poor.[3] On the other hand, if Toronto had passed through a phase of impressive demographic and industrial expansion, more and more families were dependent on an unpredictable market for their very existence, and radical opinion could well take the position: "The mass of people are not one penny richer because of this enormous endowment of riches."[4]

Establishing historical trends in patterns of inequality and their relation to industrialization have proved to be elusive endeavours. There are a number of historical studies of individual communities and cities estimating wealth and income distributions at one or more points in time in the last century and there are a few series for nations that allow systematic comparisons in the past.[5] There are also cross-sectional comparisons of currently developing countries

[1] D.C. Masters, *The Rise of Toronto, 1850-1890* (Toronto 1947).
[2] H.A. Innis and A.R.M. Lower, eds., *Select Documents in Canadian Economic History* (Toronto 1933), 628; Gregory S. Kealey, *Canada Investigates Industrialism* (Toronto 1973), 30, 35, 70-1.
[3] Lee Soltow, *Men and Wealth in the United States: 1850-1870* (New Haven 1975), 111, citing Carroll D. Wright, "Are the Rich Growing Richer and the Poor Poorer?", *The Atlantic Monthly*, 80 (1897), 300-9.
[4] Gene Howard Homel, " 'Fading Beams of the Nineteenth Century:' Radicalism and Early Socialism in Canada's 1890s," *Labour/Le Travailleur*, 5 (1980), 12.
[5] Irving B. Kravis, *The Structure of Income: Some Quantitative Essays* (Philadelphia 1962); Lee Soltow, *Toward Income Equality in Norway* (Madison 1965); Lee Soltow, "Long-Run Changes in British Income Inequality," *Economic History Review*, 21 (1968), 17-29; Stuart Blumin, "Mobility and Change in Ante-Bellum Philadelphia," in Stephan Thernstrom and Richard Sennett, eds., *Nineteenth Century Cities* (New Haven 1969), 165-208; Robert E. Gallman, "Trends in the Size Distribution of Wealth in the Nineteenth Century: Some Speculations," in Lee Soltow, ed., *Six Papers on the Size Distribution of Wealth and Income* (New York 1969); Michael B. Katz, "Social Structure in Hamilton, Ontario," in Thernstrom and Sennett, eds., *Nineteenth Century Cities*, 209-44; Peter R. Knights, *The Plain People of Boston, 1830-1860: A Study of City Growth* (New York 1971); Howard M. Gitelman, *Workingmen of Waltham: Mobility in American Urban Industrial Development* (Baltimore 1974).

from which some historical clues might be drawn.[6] The studies vary widely in the nature and the quality of the data employed; they are all bedeviled by the limits of available evidence and by questions of appropriate measurement. The most detailed and systematic work is that of Soltow for several countries and historical periods.[7]

Two very general conclusions might be ventured from a review of studies: one is firm, the other is very tentative. First, during the course of early industrialization inequalities in wealth were everywhere quite startling. Soltow's remark on the relative dispersion of wealth among males in Milwaukee County in 1860 neatly captured the phenomenon: he reflected, "A statistician might never again witness such an extreme case of skewness . . . ."[8] He is referring to distributions of real and personal property in which the top ten per cent of wealthholders controlled over 80 per cent of all wealth. The finding is not unique for the last century.[9] Moreover, if income and wealth inequalities were very great in general, they were markedly more so in urban areas than in rural. For the United States as a whole, Soltow has shown that urban wealth was nearly twice as concentrated as that in rural areas. Specifically, the top two per cent owned almost half of all urban wealth.[10] In fact, it was common in United States cities for half of all adult males to own no property whatsoever.[11] The census definitions of property on which the finding is based even included items such as furniture; to be propertyless meant quite literally to own one's own clothes and perhaps some petty cash. Others have largely replicated these findings.[12]

The second, more tentative, generalization from studies of the nineteenth century might be that there was considerable stability in patterns of inequality, but some tendency toward equalization in the long run.[13] Given the limits of the historical series that have been studied, any generalization regarding trends is daring. The evidence for increasing equality over the latter part of the century comes mainly from studies of shares of national income, rather than from estimates of wealth and property-holding; the two distributions can be quite

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[6] For example, Simon Kuznets, "Economic Growth and Income Inequality," *American Economic Review*, 45 (1955), 1-28 and *Modern Economic Growth: Rate, Structure and Spread* (New Haven 1966).

[7] Soltow, *Men and Wealth;* Lee Soltow, *Patterns of Wealthholding in Wisconsin Since 1850* (Madison 1971); Lee Soltow, "The Wealth, Income, and Social Class of Men in Large Northern Cities of the United States in 1860," in James D. Smith, ed., *The Personal Distribution of Income and Wealth* (New York 1975), 233-76.

[8] Soltow, *Patterns of Wealthholding*, 31.

[9] Gallman, "Trends in the Size Distribution."

[10] Soltow, "Wealth, Income and Social Class," 108.

[11] Soltow, *Men and Wealth*, 36.

[12] See Blumin, "Mobility and Change," and Katz, "Social Structure, Hamilton."

[13] Felix Paukert, "Income Distribution at Different Levels of Development: A Survey of Evidence," *International Labour Review*, 108 (1973), 120.

independent.[14] Further, a trend for studies of urban areas is really impossible to detect: local studies provide evidence of both decreasing and increasing inequality before 1900.[15] Perhaps local conditions dictate changes in patterns of inequality more than the general effects of the concentration of capital and expansion of labour and commodity markets. It is just as likely, I think, that current evidence is too weak and varied to withstand comparison. In any case, it would be a heroic act to speculate about patterns of inequality in Toronto during early industrialization on the basis of existing studies.

III   Inequality in Toronto 1861 - 1899: Sources and Measures

TORONTO'S RAPID INDUSTRIALIZATION after mid-century is clear in broad profile. The last half of the century was marked by several periods of depression and severe recession and by as many economic booms. Yet the basis of factory production was laid down between 1860 and 1880, while the last two decades of the century witnessed a truly massive transformation in both labour force and production.[16] The question of timing is of some interest later when trends in the distribution of assessed wealth are examined.

In order to examine changes in the distribution of wealth in the city during this industrializing era, I drew random samples of about 400 of the assessed residents from the assessment roll records in each of the years 1861, 1871, 1881, 1891, and 1899. The rolls provide one of the few means of estimating wealth or welfare in the last century in Canada and are the most readily accessible source. They have become increasingly popular as historians have turned to census-like sources. But they also present some very particular problems of interpretation. I discuss these as a context for the detailed analysis.

The assessment rolls are available on microfilm for the years 1834 to 1899 (thus, the last year of the sampling). The first sample was drawn for 1861 since it is a sufficiently early date in the industrialization of the city and the assessment of the preceding census year, 1851, appeared to be significantly more deficient than later assessments. I chose samples from census years in order to

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[14] Soltow, *Toward Income Equality;* Soltow, "Long-Run Changes;" Kravis, *The Structure of Income.*
[15] Soltow, *Toward Income Equality;* Blumin, "Mobility and Change"; Daniel D. Luria, "Wealth, Capital and Power: The Social Meaning of Home Ownership," *Journal of Interdisciplinary History,* 7 (1976), 261-82; Gitelman, *Workingmen of Waltham.*
[16] John E. MacNab, "Toronto's Industrial Growth to 1891," *Ontario History,* 47 (1955), 59-80; Peter G. Goheen, *Victorian Toronto, 1850-1900: Pattern and Process of Growth* (Chicago 1970); Gregory S. Kealey, *Toronto Workers Respond to Industrial Capitalism 1867-1892* (Toronto 1980); Michael J. Piva, *The Condition of the Working Class in Toronto, 1900-1921* (Ottawa 1979).

have a series which corresponded to the census data, which other authors have largely used.

The samples are relatively small, but I judge adequate for the task. The samples were randomly selected, though stratified by ward in each year in order to represent the ward populations proportionately. Thus, they are sufficient to estimate overall wealth distributions for the city and to permit descriptive and statistical comparisons among a few subgroups. Drawing larger samples than were required for descriptive purposes, given the limits of my resources and of the records, seemed inadvisable in a first study.[17]

The limitations of assessment data have not usually been featured in studies employing them. Variations in the actual number of cases involved in analyses below are due to missing data for specific assessment items. For example, although assessors were clearly instructed to record the age of residents in all cases, age is given in only 37 per cent of the sample cases in 1861, the smallest proportion, and for a maximum of 75 per cent in 1891. Luckily, the evidence is more complete for real and personal property and for total assessed value on which the analysis rests, but even for these items of assessment there are inconsistencies.

It is useful to note that the assessors' task in this period was fraught with pitfalls, given limited training, limited supervision, and, indeed, limited notions of the valuation of real and personal property. A reading of the Minutes of the Proceedings of Toronto City Council reveals that there were frequent concerns about assessment procedures and blunt comments on their inadequacies. For example, the 1874 report on assessment claimed, that "owing to a want of definite understanding among the assessors themselves as to the principles on which the valuation of real estate should be made, and the hurried manner in which the work is of necessity performed, the assessment is

[17] I was first made aware of the potential use of the rolls by Peter Goheen's *Victorian Toronto*. I also thank him for initial interest in the project. Another valuable and more detailed source are the mss. records of the agricultural and industrial censuses. However, they are available only for 1861, 1871 and 1881 and require linking individuals across records. Soltow refers to an Ontario sample for 1871, *Men and Wealth*, 23. A constant sample size may seem particularly problematic in a case where the city population was rapidly expanding. Determining an appropriate sample size in any study combines some information on the risk of error, with guesswork about actual population values and considerations of cost. My guesses were based on limited data of a few previous historical studies. The question of the adequacy of a *constant* sample size is more directly answered. Though it appears to be counterintuitive, it can be readily shown that the most important factor in reducing error in sample estimates is the *absolute* size of the sample itself, not the proportion of the total population which the sample represents. In fact, the absolute size of the sample will be found to be of vastly greater significance in reducing errors of estimate, though both the size of the sample and the proportion it is of the total are involved. For an introductory discussion see Donald P. Warwick and Charles A. Lininger, *The Sample Survey: Theory and Practice* (New York 1975), 92-5.

neither equitably nor efficiently made . . . ."[18] The report from the assessment department of 1881 avers, ". . . great difficulties exist in the removal of all inequalities in assessments of this kind (personal property), not the least of which is the ease in which it may be concealed."[19]

These comments should be sufficient to warn against the tendency to interpret quantitative values, in this case, of assessed wealth and income, as if they are valid and precise indicators of actual values. The wise course is to consider the distributions and the values presented here as estimates of, or better still, as judgements about, the actual values.[20] At the same time, I doubt that these data are more demanding of careful interpretation than many other historical sources: on the contrary, their biases are perhaps more systematic and readily detected. Risking excessive qualification, it is useful to set out the specific limitations at the start; they provide an account of the privileges of property, on the one hand, and a context for further interpretation, on the other.

The municipal assessment intended to provide a valuation of real and personal property, and of taxable income, for all residents of the municipality who were subject to tax. This was a quite specific group of people; many adults were clearly *excluded*, as I point out in a moment. However, it was not only property owners who were included, even for the purpose of real estate assessment. The assessed parties included freeholders — unconditional owners — but also included householders and some tenants. Householders were those *who did not own, but occupied a dwelling and were usually responsible for a family*;[21] the owners of the property were separately recorded when they were not taxable parties. There was a provision that no one was to be counted twice as a ratepayer, but the assessment could be paid by either owners or occupants.[22]

The assessment was hedged by a wide variety of exemptions, both statutory ones and unintended ones. The exemptions varied somewhat throughout this

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[18] *Minutes of the Proceedings of the Council of the Corporation of the City of Toronto*, 1874, 49, Appendix item 34; hereafter called *Minutes*.

[19] *Minutes*, 1881, 511, Appendix item 133. A revised special audit was conducted in 1872 and justified by reference to ". . . unfortunate irregularities in the Chamberlain's department" and to the "gross injustices" resulting, *Minutes*, 1872, 327.

[20] I borrow from Kuznets' warning in his pioneering work, see Paukert, "Income Distribution," 113.

[21] *Black's Law Dictionary*, 4th edition (San Francisco 1968), 793 and 873; *Municipal Manual of the City of Toronto*, 1866, item 16.

[22] The relevant Acts are for 1861, *Statutes of Canada*, 13 and 14 Vic. ch. 67 (1850) and *Statutes of the Province of Ontario*, 32 Vic. ch. 36, after Confederation. There are many amendments over the years; I note the relevant ones in the following text and the relevant Statutes. Householders were distinguished from tenants in all the years studied except 1899. Tenants were boarders and lodgers. In 1899 residence status was tabulated as freehold or as household tenure. The Assessment acts also specified that taxes paid by occupants who were not owners could be recovered from rents, unless some contrary agreement was in force.

period, but were surprisingly uniform. Personal property under $100 was exempt in all years. Up to 1880 annual income under $400 was exempt; by 1891 only income over $700 was taxable (between 1880 and 1887, the exemption of the first $400 of income applied only to those whose total income was less than $1000 annually).[23] Household effects, including books and clothes were excluded, and debts, other than mortgages, could be deducted from personal property. In addition, a host of specific exemptions affected a small class of property owners. Stocks in provincial banks and railway companies were exempt, as was all out-of-province stock. All rental or other real estate income (except interest on mortgages) was exempted. Property in vessels and inventories of many kinds were free from assessment. Finally, the assessment of incorporated companies was varied and ambiguous. In 1880 a statutory amendment allowed assessment as if they were unincorporated firms, that is, directly against the company, rather than as the personal property of shareholders. In 1886, the law was revised so that stock in incorporated companies was itself exempt if the other personal estate of the owners was assessed.

I have been able to locate very little documentary evidence of the effects of these changes on assessment, though two consequences are clear. Real estate was the main basis of assessment, while personal property was largely free from tax or escaped it.[24] Also, the exemptions applying to income must simply have excluded many of the working class from assessment altogether. Again, Soltow's important work provides an essential context for any analysis of assessment data. He has briefly reported the results of a study of Ontario census manuscript data on property for 1871; precisely 47 per cent of adult males owned *any* property in the province in that year, including a home or any land.[25] The proportion must have been much less in the city of Toronto than in

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[23] After 1885 one could enter the rolls as a "wage-earner," and hence qualify for the vote; to qualify one had to earn at least $250.00, but less than the taxable minimum income for the year, $400.00.

[24] As taxable parties, incorporated companies were frequently said to escape any assessment, even though not legally exempted. The authorities attributed this to the difficulty of establishing, tracing, and collecting from owners. In 1880 the statutory revisions allowed the first assessment of incorporated companies as such, that is, as if the company was the owner. The assessment department attributed the increased assessments for 1881 of over $130,000 in part to this change and in part to the abolition of the $400 exemption for those with incomes exceeding $1,000. *Minutes*, 1881, 510, Appendix item 133. Assessment authorities expressed doubts that personal property of any kind was ever adequately assessed. The assessment commissioner complained in 1896, ". . . personal property is easily concealed and easily removed and hence a very uncertain article of assessment, even under the present law." *Minutes*, 1896, Appendix "A," 44. He also cited a series of cases from the U.S. and elsewhere to document his view. Also see the estimates of underevaluation in Craig Buettinger, "Economic Inequality in Early Chicago, 1845-1850," *Journal of Social History*, 11 (1978), 414.

[25] Soltow, *Men and Wealth*, 23. The proportion is identical to that found by Soltow for the U.S. as a whole.

a regional economy still predominately made up of family farms.[26] Even though the assessment aimed to evaluate every separate residence, whether owner-occupied or rented, only the heads of such households are represented in these data and households were relatively large: many nineteenth-century households housed adult relatives as well as unrelated boarders and lodgers. Thus, one must keep in mind throughout an analysis of the assessment data that quite large numbers of adults are simply not represented.

My samples are intentionally restricted to households. The sampling procedure excluded public institutions, vacant land, and any business property that had no occupant identified as a taxable party.[27] Some of the dwellings are artisanal places of work or small shops as well as residences, especially in the early years.[28]

In sum, then, what can we take differences in assessment to mean in terms of social and economic inequality? First, the data do not allow us to make a

[26] Davey and Doucet report that for Hamilton just 7.2 per cent of the assessed population of 1852 owned 50 per cent of the city's 1,922 houses, although they indicate some 36 per cent owned at least one house. Ian Davey and Michael Doucet, "The Social Geography of a Commercial City, ca. 1853," in Michael Katz, *The People of Hamilton Canada West* (Cambridge, Mass. 1975), 371n3. Katz elsewhere says that three-quarters of the people rented accommodation in the city, *The People,* 25. Katz, Doucet and Stern very recently report that about a third (35, 30, 33 per cent) of Hamilton's assessed population owned homes in 1851, 1861 and 1871 and using census schedules for 1871 indicate that some 29 per cent of household heads owned one or more houses, though fully 12 per cent of the total owned two or more, see Michael B. Katz, Michael J. Doucet and Mark J. Stern, *The Social Organization of Early Industrial Capitalism* (Cambridge, Mass. 1982), 132 and 136-7.

[27] The procedure was simply to substitute a household from a larger list of random numbers whenever one of the cases to be excluded was drawn. Vacant land made up an especially large portion of real estate assessment in every year and of the excluded cases. As many as 150 random substitutions were made for a given year in selecting samples of about 400 households; the great majority were for vacant land. These exclusions represent a great deal of wealth in property holdings that cannot be attached to sampled households as part of their "conditions of life." The inclusion of them would surely increase my measures of inequality. I have discerned no particular trends in the numbers or types of excluded properties in the samples.

[28] Of particular interest is the fact that the property exclusions did *not* exclude from my samples prominent members of old families or of the rising capitalists of the city. Among those who are readily recognized in the small samples are Casimir Gzowski, R.B. Denison, Bishop Bethune, Reverends George Whittaker and J.G. Spragge, George Boulton, J.D. Ridout, Frank Smith and a number of others. They appear to be assessed in their places of residence in each case. The assessment of their real and personal property is always high, although there is evidence that the property of the well-off was often undervalued. The Royal Commission on the Relations of Labour and Capital reported in 1889, "In some cities, if not in all, the houses of the comparatively poor are, in proportion to their value, more highly taxed for municipal purposes than those of wealthy people," cited by Kealey, *Canada Investigates Industrialism,* 10, also see 249-50.

clear distinction between the propertied and the propertyless. Being a resident householder alone could confer liability for real estate assessment, as did some earnings. On the other hand, much property was free from assessment entirely. Moreover, since I use samples I cannot accumulate property holdings for individuals across the city. Given the qualifications, I think the assessment information can be best interpreted as representing differences in the *living conditions* of families, or at least among those who occupied and were responsible for a dwelling. Most adult boarders and lodgers are excluded as separate taxable parties.[29] In this sense, I expect distributions of assessed values for households are more akin to income than to wealth distributions. They are not income data though, and I refer to *assessed* values throughout in order to underscore the distinctions.

Table I

Sample Proportions of Those Assessed for Property and/or Income,
Toronto, by decades 1861-1899

Assessment	Year				
	1861	1871	1881	1891	1899
Real Property	— — —*	.73	.76	.81	.86
Personal Property	.04	.15	.13	.08	.03
Taxable Income	.42	.13	.16	.08	.05
Total Value	.91	.83	.92	.87	.92
N	401	399	406	407	408

* The 1861 assessment is incomplete in comparison to post-confederation assessments. See the text.

IV Household Assessments, Toronto 1861-1899; Distributions and Trends

IN EACH YEAR, THE ASSESSMENT rolls provide a separate tabulation of the values of real property, personal property, and taxable income subject to assessment. They also provide a total assessed value. Table 1 indicates the proportions of the samples in each year for which data was reported on the rolls.

The 1861 assessment is quite different from the others, especially given that real property is simply not reported in that year, with rare exception. Setting aside the 1861 returns for a moment, there is a consistent increase in the extent to which real property is the basis of wealth assessment in the city; 73 per cent of those listed on the rolls were assessed for real property in 1871, 86 per cent

[29] No lodger was to be rated for assessment, whatever portion of the dwelling he or she occupied, so long as any portion was occupied by the legal householder or freeholder. *Municipal Manual*, 1866, 127, item 166, note c.

in 1899. Moreover, exactly the reverse trend appears to hold for the assessment of personal property, declining from 15 per cent of all assessments in 1871 to just 3 per cent at the turn of the century (one could be assessed for both in any year). By 1900, obviously, very few people were assessed as holding any taxable personal property. Most of those who were so assessed also had real estate assessments.[30]

The table also indicates that from 1871 to the turn of the century, a tiny minority of persons had sufficient income to be taxable. The exemptions, as noted earlier, were income under $400 in 1871 and 1881 and under $700 in 1891 and 1899. Thus, hardly any families apparently, had annual incomes that exceeded these minimum levels. The values accord with other evidence; for Ontario in the 1870s, for example, skilled labourers or artisans might have earned $400 annually and common labourers, $250, if they were regularly employed: they often were not. By the 1890s average earnings for manual workers might be estimated at around $400 and could have been less.[31]

Observing a decline in the relative proportion of assessed values represented by personal estate, Gitelman guesses that it reflects increasing tax evasion over time in Waltham, Massachusetts.[32] No doubt evasion was fairly easy and fairly frequent in Toronto, since assessors had to rely on individual reports of personal estate and income. In the absence of evidence regarding the effects of evasion on distributions of assets, however, there is no alternative but to take the assessments at face value. The possibility of increasing evasion, both among those with minimal assets and among those with large personal estates, should be kept in mind as a qualification. There is another possible, if not probable, reason for the increasing proportion that real estate is of all assess-

[30] The percentages in Table I refer to the proportions of the total sample assessed in each category. Those who were assessed in more than one category are obviously a small proportion in any year. The percentages of total value assessed are less than 100 since they include those who were taxed only in lieu of statute labour because they had no taxable income or property. A few cases were also recorded in each year as unassessed. There were specific means of entering the assessment rolls for voting purposes if one was assessed in another municipality or if one was not a property holder.

[31] One source is J.G. Snell, "The Cost of Living in Canada in 1870," *Histoire Sociale/Social History*, 12 (1979), 186-91. The daily wage reported for artisans and skilled labourers was in the order of $1.50 or $2.00. Common labourers earned around $1.00 per day. If a skilled worker was employed a full 350 days in the year, say, in the 1870s, he might earn as much as $700 a year, but probably earned much less. A common labourer might earn $250 or $350. The uncertainty and seasonality of employment and the vicissitudes of age and illness make 350 working days an improbably large number; frequent unemployment cut deeply into earning power. A very selective estimate for the 1880s can be made from evidence given by the Bureau of Industry. Annual earnings for a small number of union members were reported to average $439.44. The workers averaged only 244 days work in the year. *Ontario Sessional Papers*, 1844, 37; Vol. 16, part 7, no. 55. I acknowledge these are only guesses based on readily available sources. They seem to accord with other information.

[32] Gitelman, *Workingmen of Waltham*, 81.

ments: assessors may simply have come to rely increasingly on their own assessment of real estate and less on contacting and extracting information from residents.

In any case, real property was clearly becoming the predominant form of assessed wealth as the century progressed. The 1861 evidence simply lends weight to the view that assessment was intentionally and increasingly directed toward real estate with each decade. The Act that applied to assessment in that year made real estate a taxable item, but required assessors to make a more complicated evaluation of its "yearly value" (an estimated yearly interest on the actual value, at 6 per cent) or to estimate its real "rack-rent."[33]

The question of real estate as an increasing basis of assessed wealth in the city raises the further question of the extent and possible spread of home-ownership. I discuss here only the limited information with respect to overall distributions that can be extracted from the record of the residence tenure of assessed parties.[34] Unfortunately, the assessors often failed to record residence tenure in 1861 and quite frequently thereafter. The main trend in my data is the progressive increase in the numbers of households for which the information is recorded; in 1861 it is given for only 47 per cent of households and thereafter for 70, 74, 82, and 90 per cent, by decades. The increasing attention given to the item likely only reflects the increasing reliability of assessment records.

There is considerable evidence to indicate that homeownership was a priority for many nineteenth-century families in North American cities. A number of studies have suggested that working-class families made extraordinary efforts to purchase housing.[35] Most accounts have assumed that home-ownership was a more or less unqualified advantage, primarily as a hedge against the insecurities of the nineteenth-century urban economy. However, the purchase of a home entailed some liabilities. Luria has argued, for example, that there were distinct class implications to nineteenth-century home-

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[33] *Statutes of Canada*, 13 and 14 Vic., ch. 66 and 67. The main assessment principles and exclusions remained in force from the 1850 Act that applied in 1861 with few amendments. The post-Confederation Act was passed in January 1869 as *Statutes of the Province of Ontario*, 32 Vic., ch. 36.

[34] Tenant status in the years in which it is recorded appears to refer to *single* boarders-lodgers only, and presumably only when they were the sole occupant of the premises; see n. 30 above. In any case few were recorded: none in 1861 or 1899, 22 per cent in 1871 and 5 per cent in 1881 and 1891. I cannot account for the differences.

[35] Stephan Thernstrom, *Poverty and Progress: Social Mobility in a Nineteenth Century City* (Cambridge, Mass. 1964); Laurence Glasco, "The Life Cycles and Household Structure of American Ethnic Groups: Irish, Germans, and Native-born Whites in Buffalo, 1855," in Tamara K. Hareven, ed., *Family and Kin in Urban Communities, 1700-1930* (New York 1977), 122-43; Harvey Graff, *The Literacy Myth: Literacy and Social Structure in the Nineteenth Century City* (New York 1979), 95. Richard Bushman, "Family Security in the Transition from Farm to City, 1750-1850," *Journal of Family History*, 6 (1981), 238-56. Also see n. 27 above.

ownership.[36] Homeownership was the major form of wealth of working-class families, but it did not immediately confer control over their life circumstances, much less that of others. For example, Luria suggests owning homes tied up limited "marginal" incomes in a single investment, foregoing other forms of consumption and possible investment; further the investment in housing may have retarded job mobility in a highly unpredictable urban economy and further limited opportunity.[37]

These questions of economic "strategy" are clearly important, yet, the class implications of ownership do not stop with a consideration of economic costs and benefits; homeownership had wider consequences for social life and for sustenance than questions of investment or mobility reveal. Recent accounts have begun to unravel this more intricate set of implications.[38] Homeownership was a means of supplementing family incomes through boarding and lodging, it served as the basis of a system of family-centred social welfare and, more subtly, was a major resource in the acquisition and maintenance of status and respect. Bushman provides a succinct summary of the social significance of freehold status in nineteenth-century cities: "The value of a house rested ultimately on its capacity for producing income and connecting the ill and the aged with the work system of the city. But its worth enlarged as it became a bargaining chip in the intricate family negotiations for care and respect."[39]

There are two related aspects of the Toronto data on residence tenure that are of interest. First, after 1871, there appears to be a completely stable proportion of owner-occupiers, although the city grew at a tremendous rate. The per cent who had freehold status was 28.5 in 1871, 28.9 in 1881, 28.5 in 1891, and fell slightly to 26.4 in 1899. In 1861, the per cent freehold was only 13.5, but, as I noted, the data were so deficient in this year that no conclusion of a sudden leap in homeownership in the subsequent decade would be warranted.

The most direct interpretation of these data is that they reflect an increase in housing stock that was approximately proportional to the growth in the city population. The latter grew from about 56,000 in 1871 to over 200,000 at the end of the century. Piva cites a 1918 *Report of the Toronto Housing Commission* to the effect that nearly 45 per cent of the city's houses were owner-occupied in the previous year, indicating that Toronto was a city characterized by single-family residences and quite high rates of owner-occupancy for a large city.[40] Since, in my data, the missing data curiously tend to underrepresent the

[36] Luria, "Wealth, Capital and Power."
[37] *Ibid.*, 268-9.
[38] Katz, Doucet and Stern offer a theoretically informed and detailed discussion of the issues, *Social Organization*, ch. 4. They also give a scathing review of Luria's article, ch. 4, n. 16. The work came to my attention after I had completed this paper. Also see, Michael J. Doucet, "Working Class Housing in a Small Nineteenth Century Canadian City: Hamilton, Ontario 1852-1881," in Gregory S. Kealey and Peter Warrian, eds., *Essays in Canadian Working Class History* (Toronto 1976), 83-105.
[39] Bushman, "Family Security," 251.
[40] Michael J. Piva, *The Condition of the Working Class in Toronto — 1900-1921*

wealthiest groups, the proportion of owner-occupiers might be 30 per cent or more of the assessed households in each of the years.[41] In any case, given the rapid growth of the city, Piva's characterization would largely apply to the city throughout its early industrialization, though housing availability may have increased in the early years of the twentieth century.[42]

The second point of interest is simply that a rate of owner-occupancy between 25 and 30 per cent is quite high for a relatively large nineteenth-century city. In general, we would expect larger cities to have higher rates of rented accommodation, given building technology and population turnover. Yet recent work indicates that rates of homeownership of this level were characteristic of much smaller nineteenth-century North American cities; it has been suggested that larger cities were much less likely to have a quarter or more of the workforce own their own homes.[43] At this relatively early stage of comparative urban analysis, the owner-occupancy rates for Toronto appear especially high throughout the last half of the nineteenth century.

The rates of homeownership are still more surprising, I think, when one considers the assessed value of real property over the period. Real property values are reported along with total assessed wealth in the following discussion. I focus on the implications of trends in the distributions. Table 2 provides mean and median values for real property and total assessment in each year. The standard deviations of the distributions are also given; they provide one straightforward indicator of the extent of inequality in each year, though as a

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(Ottawa 1979), 125.

[41] A tabulation of residence tenure by occupation, recorded for some cases, indicates that assessors may have been least concerned to record the status of those in commercial and professional occupations and most concerned to record it for labourers. Thus, we might revise the figures for freehold tenure upwards.

[42] Note that the base of Piva's figures is total houses available, while assessment data on owner-occupancy refers to assessed residences. Also, there may have been an expansion of homeownership toward the end of the last century; certainly there was in the early years of this century. A reviewer points out that in cities in the United States, house-building technology and mortgaging arrangements altered significantly, providing for wider home acquisition after 1900. On the moral and class implications of housing design and suburban development, see Gwendolyn Wright, *Moralism and the Model Home* (Chicago 1980) and, *Building the Dream* (New York 1981), especially chapter 6. Also see Sam Bass Warner, Jr., *Street Car Suburbs: The Process of Growth in Boston, 1870-1900* (Cambridge, Mass. 1978), 26, 120, and Peter Goheen, *Victorian Toronto*. Based on Doucet's work, Katz and his colleagues provide the first careful analysis of mortgaging and homeownership for the last century. A minority of homes were mortgaged between 1850 and 1880 in Hamilton and the terms were short and the amounts owed relatively small, *Social Organization*, 148-55.

[43] Theodore Hershberg, *et al.*, "Occupation and Ethnicity in Five Nineteenth Century Cities: A Collaborative Inquiry," *Historical Methods Newsletter*, 7 (1974), 192.

measure they require a very specific interpretation. The table reports only current dollar values.[44]

Average wealth and real property values were surprisingly high throughout the half century under study. The 1861 figures require special interpretation, so I put them aside for the moment. But consider that the arithmetic mean value of real property in 1871 was over $1200 and average total assessed wealth was over $1600. At the highest point in current dollars, real estate values averaged some $2155, in 1891, and the total assessed value stood at $2416. It is true that real estate was greatly inflated during the 1880-90 decade.[45] The report of the assessment commissioner to City Council in 1891 is worth citing in this case: "In submitting the assessment of 1891, I beg to say that the unprecedented rise in land values during the last four years has rendered it necessary to change land values each year. To show the large increases, I may just say that for 1887 the assessment was raised (using round figures) ten million dollars; for 1888, twelve million; for 1889, fifteen million; and for 1890, twenty-one million dollars."[46]

By 1889, real estate and total property holdings were assessed at considerably less than they were eight years previously, as indicated in Table II. Average total wealth assessments had dropped back almost to their level in 1881, twenty years earlier.

Since the figures are not adjusted for price or cost of living changes, they are not useful in considering changing standards of living. On the other hand, in current dollar terms they do indicate the alteration in values and wealth that people actually experienced through the period.[47]

What can we make of the fact that these average values of property and total assessment were apparently so high, considering that average annual earnings of wage workers were surely less than half the average assessments, very few had incomes sufficient to be taxed, and a minority were ever urban freeholders? In fact the averages bear directly on the question of inequality; if large numbers of families are without accumulated assets or have only minor holdings, of course, average values are high when a few have a great deal.

[44] Computing constant dollars requires a good series on purchasing power. I do not attempt the conversion. Also, assessors made the valuations in current dollars, of course. Thus, current dollars reflect the situation as experienced at the time. Current values are adequate for the main purpose here of estimating and computing the inequality in distributions.

[45] In fact, 1891 was a watershed year in which a serious recession began to set in marking the end of the real estate boom and helping fuel subsequent agitation for municipal reform; see Christopher Armstrong and H.V. Nelles, *The Revenge of the Methodist Bicycle Company: Sunday Streetcars and Municipal Reform in Toronto, 1888-1897* (Toronto 1977).

[46] *Minutes,* 1891, 1964, Appendix item 325.

[47] Table II also shows that the ratio of average real estate to the average total valuation is high throughout the period, rising steadily from about .75 to .94. Again this reveals the extent of the increasing reliance on real estate as a tax base.

Table II

Sample Means, Medians, and Standard Deviations, Assessed Property and Income, for Toronto by Decades
1861-1899 (in current dollars)

Assessment	1861*			1871			Year 1881			1891			1899		
	$\overline{X}$	MD	SD	$\overline{X}$	MD	SD	$\overline{X}$	MD	SD	$\overline{X}$	MD	SD	$\overline{X}$	MD	SD
Real Property	——	——	——	1218	600	2085	1679	745	3797	2155	1211	3768	1855	975	3319
Total Value Assessed	124 (2065)	54 (905)	442 (7364)	1633	650	4001	1903	800	4516	2416	1160	4876	1987	1000	3556
N		401			399			406			407			408	

* Total Value in 1861 is the sum of real and personal property or taxable income; in other years it is the sum of the three items. The values reported for 1861 are based on estimated rack rents and "yearly" values of personal property.

The values in parentheses are the dollar values for the statistics if the reported values were 6 per cent of actual values.

In 1861, one sample case gave extreme values; the statistics would be as follows when that case is excluded from the distribution:

$\overline{X}$ = \$1732   MD =\$904   SD = \$3157   (N = 400).

The inequality of assessed wealth can be considered in another way by simply comparing two measures of average value. The difference between the arithmetic mean of a distribution and the median, or mid-point, is a measure of the "skew" of the distribution. Relatively few extreme values "pull" the mean toward the skewed tail of a distribution, while the median is largely unaffected.

The median values of real property and of total assessed wealth given in Table II reveals exactly the same trend with time as mean values; they increase from values between $600 and $700 in 1871 to a maximum of over $1100 in 1891 and fall to $1000 or so in 1899. But the mid-points of the distributions are always half or less than half of the arithmetic means. In fact, an interesting trend is revealed here. In 1871 and 1881, the means are exactly 2.5 times the medians; the ratio falls to 2.1 in 1891 and is just below 2.0 by the turn of the century. Thus, the skew of the distributions is always considerable, but there is an intriguing, progressive, if modest, decline in the extent of the inequality among those assessed throughout this era of rapid industrialization.

Another straightforward, conventional measure of inequality is a measure of the variance of the distribution, or its square root, the standard deviation. The standard deviation is an appropriate measure of inequality in a rapidly expanding economy where, say, doubling productivity and wealth overall also doubles the "gap" between rich and poor, in the absence of other changes.[48] What happened to the "gap" between rich and poor in Toronto as industrial wealth exploded between 1871 and the turn of the century?

The standard deviations reported in Table II suggest a pattern of very large and increasing economic distance between the privileged and poorer segments of the population up to 1891, with a dramatic reversal in the last decade. In 1871, the average dispersion of assessed values was some $4000 — a large "gap" considering again it was likely more than ten times the average annual income of wage-earner. The distance increases most in the next ten years, nearly $500 by 1881, and another $300 by 1891. Then, the gap declines to around $3500 at the end of the century, a level well below that of 1871 and

[48] The standard deviation is the square root of the arithmetic mean of the squared deviations about the mean of the distribution. As a measure of the average dispersion of values about the mean, it is not adjusted for changes in the entire scale of increasing average wealth, as are most other measures of inequality. Atkinson has forcefully argued that no single measurement of inequality is adequate for comparative purposes in the absence of a "theory" of inequality, or, at least, of an account of the normative implications of the measure in question; any measure of inequality involves a judgement about what Atkinson calls "social welfare." All conventional measures will *rank* different forms of income or wealth distributions differently with respect to the degree of inequality: each is sensitive to different aspects of the distributions and to changes in distributions. A.B. Atkinson, "On the Measurement of Inequality," *Journal of Economic Theory,* 2 (1970), 244-63. It also bears comment that inequality is by definition a distributive notion and, hence, implies some attempt at measurement. Jonathan Kelly and Herbert S. Klein, "Revolution and the Rebirth of Inequality: A Theory of Stratification in Post-Revolutionary Society," *American Journal of Sociology,* 83 (1977), 78-99.

following the pattern of average real estate and total assessment values.[49]

This view of inequality is useful to show how visible the sheer difference in living conditions must have been at the outset of industrialization in Toronto. The pattern of change indicates how economic expansion itself, fueled by inflation, increases the dispersion along a wealth continuum, unless there are powerful countervailing forces. Thus, even if every family that stayed in the city maintained its relative position in the distribution, the effect of rapid industrialization was to widen the gap between top and bottom. The felt experience in an expanding and inflationary economy is that those with fewest or no assets watch the values of accumulating assets soar, and presumably, recognize their increasing handicap.

In summary, the familiar statistics of Table II provide three perspectives on patterns of inequality through this period of rapid change. First, taken at face value, the distributions of taxable assets and income reflect relatively deep inequality throughout the period, especially considering estimates of the limited average worker incomes and homeownership. Second, comparing two average values indicates that the "skew" of the distributions, the distance between the wealthiest few and those in the middle, declined systematically between 1871 and 1900, whereas the visible dispersion of assets, the "gap" between rich and poor in current values, increased for twenty years and only then declined after the inflationary peak of 1891. There is nothing contradictory in these differences; they are just different aspects, and experiences, of the same trends in the distributions.

Briefly, I turn to the values for 1861 which were left aside in the foregoing discussion. As noted earlier, they require separate consideration because of missing real property valuations and because the form of the assessment itself differed from the post-Confederation ones.[50] In terms of the actual values recorded, the 1861 assessment simply cannot be directly related to those of the other years. But it is useful to have at least one point of comparison prior to the onset of industrialization. Table II shows mean and median values for the total assessment to be $124 and $54 and the standard deviation to be $442 in 1861. These are based on the assessment for taxable income and an estimated 6 per cent or "yearly" value of personal and of real property. In parentheses in the Table I report what the values would be if all assessments were just 6 per cent of the actual values of that year. The resulting distributions in general were sensible in current dollar terms.[51] However, the mean of this estimated distribu-

[49] Another common measure of inequality, the coefficient of variation (V), is just the standard deviation divided by the mean of the distribution in question; V is, thus, adjusted for changes in the overall scale. The values of V for the 30 years 1871-99 suggest declining inequality, just as a measure of "skew" did above. V is 2.45 in 1871, 2.37 in 1881, 2.01 in 1891 and 1.79 in 1899.
[50] See n. 34 above.
[51] There was one exception, and "outlier" of 8,100; this is four times the next largest sampled valuation. I also reported in a note to Table II the results for 1861 when this one case is excluded. My guess is that these are the best estimated of the actual values and

tion is higher than that of any other year, except 1891 ($2065), and the standard deviation exceeds any post-Confederation value ($7064).

The 1861 data may be inflated by my assumptions. Knowing the limits of the 1861 assessment, the data still suggests to me that a smaller portion of all households were assesssed in the city in this year, resulting in the higher average values. Moreover, the dispersion among those assessed was very great, as indicated by the standard deviation. These results could derive from a distribution that is relatively flat among those with fewest assets and rises steeply among those who control some property and wealth. In contrast, the "skew" of the 1861 distribution is slightly lower than that in 1871 or 1881 and slightly greater than the skew of 1891 and 1899 (the mean is 2.3 times the median).[52] There is a hint that inequality, in this sense, increased after 1861 and only later returned to a lower level. I pursue the question of trends in inequality further and in different terms in the next section.

V   The Shares of Assessed Wealth During Industrialization

INEQUALITY CAN BE CONSIDERED in terms of the shares in total wealth or income. Table III gives the size distribution of assessed wealth in Toronto by quintiles for each year. The cumulative percentage distributions are also given. The 1861 distributions are considered with the other years, since proportional distributions are not directly affected by the scale, although the caveats discussed above should be kept in mind. For simplicity I present only the distributions of total assessed values.

This form of presenting the distributions perhaps most vividly reveals the depth of the disparity in assessed wealth in all years. In no year does the poorest 20 per cent of the families and individuals hold more than 2 per cent of all assets. In 1871 and 1891 this lowest quintile of the population had virtually no resources, although it was composed of householders who were, as I noted, responsible for dwellings and, usually, for families; if they had achieved the proverbial "stake" in propertied Toronto society, it was barely a toehold.

At the other end of the glissando of wealth and income, the wealthiest fifth

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that the extreme case was one in which the assessor recorded actual values, rather than the "yearly" values of approximately six per cent of the actual. The assessment record provided no further clue.

[52] The coefficient of variation for 1861, V, was also the highest at 3.57. Also the rolls reported a "statute labour tax" for those males aged 21-60 who were taxable parties not otherwise assessed because of insufficient assets or earnings. The proportion of all assessed parties so enumerated was highest in 1861, at 15 per cent. The proportion was about 13 per cent in 1871 and fell to about 4, 8, and 3 per cent in each subsequent decade. The assessment in earlier years may have been based more on the assets of wealthier families than it was later on.

Table III

Size Distribution of Total Assessed Wealth, Toronto, by Decades 1861 - 1899

Quintiles	1861*		1871		Year 1881		1891		1899	
	%	Cum. %	%	Cum. %	%	Cum. %	%	Cum. %	%	Cum. %
Lowest Fifth	1.6	1.6	0.2	0.2	1.3	1.3	0.1	0.1	1.9	1.9
Second	4.6	6.2	4.7	4.9	5.4	6.7	6.9	7.0	6.4	8.3
Third	8.5	14.7	7.8	12.7	8.7	15.4	10.5	17.5	11.9	18.8
Fourth	17.4	32.1	15.0	27.7	14.1	29.5	17.2	34.7	16.6	35.4
Highest Fifth	67.7	99.8	72.3	100.0	70.6	100.0	65.4	100.0	64.6	100.0
Top 10%	53.9		56.2		56.1		49.4		49.9	
GINI Ratio	.656		.690		.661		.624		.598	

* With one extreme case eliminated for 1861 the distribution varies somewhat. See the text.

of the assessed families held a maximum of over 70 per cent of all assessed wealth, in 1871 and 1881, and never appear to control less than 65 per cent of all value. Whether one conceives of assessed wealth as an indirect indicator of capital ownership and of social power, or of the quality of living conditions, as I prefer in this case, the distributions are markedly unequal.

Even in relatively small samples it is of descriptive interest to consider the total assessed wealth that accrues to the very top of the social and economic hierarchy. The table provides an estimate of the total wealthholding of the top 10 per cent for each year. Again in 1871 and 1881 the distributions are most top-heavy with over 56 per cent of all wealth controlled by this elite. The 1861 elite held 54 per cent, and those of 1891 and 1899 had apparently slipped to being assessed for just less than half of the city's wealth. As a point of comparison, using assessment data for the total assessed population, Katz has reported that in Hamilton in 1852, the richest fifth of the population held 74 per cent of all assessed wealth and the top 10 per cent held 60 and 66 per cent in 1852 and 1881. The figures are somewhat higher than the estimate for Toronto even in 1871, but given the differences between the cities they may not be surprising.[53]

Table III also gives the most conventional summary index of inequality, the Gini coefficient.[54] The coefficients show that, for these samples, inequality was greatest in 1871 (.69) and least at the end of the period, 1899 (.60). The

[53] Katz, *The People of Hamilton*, 31 and Katz, Doucet and Stern, *Social Organizations*, 76. Katz sensibly suggests in the first work that inequality may have been greatest in larger cities, though my data do not support the speculation.

[54] Like most other measures, Gini is defined independently of average values: if the

pattern reflects the proportional distributions. Several points of comparison may be usefully cited. These Gini values are similar to those calculated for *income* distributions in one *very detailed study of nineteenth-century Norwegian cities*, though they are not nearly as great as those usually found for wealth distributions.[55] It may also be noted that all the Gini coefficients for Toronto are higher than those computed for income distributions for third-world countries in the middle of this century (the latter range from about .40 to .50).[56] And, the Gini for income inequality of families in Canada in 1961 was, by contrast, relatively low, at .35.[57]

The Gini coefficients facilitate comparisons across the 40 years of the city's early development. The pattern they reveal was first suggested by the consideration of the skew of the distributions. Apparently, overall inequality of assessed assets and income increased between 1861 and 1871 and subsequently declined in each decade to the turn of the century. We can have least confidence in the 1861 results for reasons discussed earlier.[58] Nevertheless, the orderliness of the decline from 1871 is unmistakable and of considerable interest.

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distribution of assessed wealth in 1891, say, was just a scaled up version of the distribution of 1871, Gini would be identical for the two years, though average assets were considerably higher in the former year. Gini tends to be particularly sensitive to changes in the middle of typical wealth and income distributions. A value of 1.0 for Gini means a completely unequal distribution: one party has all the wealth or income. A value of 0.0 means a perfectly equal distribution. It is common to present Lorenz curves of inequality on which Gini is based. The inter-decadal differences are as readily summarized in Table III and Figure I. See Atkinson, "On the Measurement of Inequality," also see useful articles by Paul D. Allison, "Measures of Inequality," *American Sociological Review*, 44(1979), 867-9. I thank John Fox for bringing Allison's paper to my attention.

[55] Soltow, *Toward Income Equality*. Soltow's investigation of wealth distributions for U.S. cities uniformly provides Gini indexes of .90; see Soltow, *Men and Wealth*, 235. This extraordinary level of inequality results from the fact that median wealth in these cities is zero: fully 50 per cent of men had no assets whatsoever. Many of these propertyless people would not qualify as taxable parties or otherwise are missed in assessments such as those I use.

[56] Paukert, "Income Distribution," Table 6.

[57] Jenny R. Podoluk, *The Incomes of Canadians* (Ottawa 1968), 374. The percentage of total before-tax *income* going to families and unattached individuals in the top 20 per cent of earners was virtually unchanged between 1951 and 1978 — 42.8 per cent in the former year and 42.5 in the latter, but the middle quantiles have much greater shares than in the last century; see Alfred A. Hunter, *Class Tells: On Social Inequality in Canada* (Toronto 1981), 56, Table 5.2.

[58] Removing the one extreme case found in the sample for 1861 yields the following cumulative per cent distribution, from lowest to highest quintile, 1.8, 7.3, 17.4, 38.2, and 99.9. The top 10 per cent of asset holders would control 45.2 per cent of total value compared to the 53.9 per cent reported in the text. These changes only reinforce the trend in the table since the recalculated 1861 distribution would be the least unequal of any year.

The pattern of the Gini coefficients reflects the pattern of the cumulative distributions of Table III.[59] In 1871 the lowest 80 per cent of all householders did not hold even 30 per cent of all assessed wealth; in every other year the lowest four fifths had at least 30 per cent and the per cent increased steadily to 1900. The poorest 40 per cent had less than 5 per cent of all assets and income in 1871, whereas in 1861 and again by 1881 they had a little over 6 per cent and increased their claim on the city's material conditions bit by bit to the turn of the century.

The general patterns can be presented as in Figure I. It shows quite graphically the main shifts accounting for the changing Gini indices. The Gini's are plotted at the top of the figure. The step-like increase of the shares of total assessed wealth held by the lower 40 and 80 per cent of the families is readily seen. However, there is a hint in these data that the elite, top 10 and 20 per cent consolidated their position before the century closed.

[59] Since measures of inequality are sensitive to different kinds of changes in distributions, changes in Gini may not be sufficient evidence of reduced inequality. For population distributions, we can unequivocally conclude that one distribution is more equal than a second only if all points on the first are above those of the second when plotted as Lorenz curves, that is, if all points are closer to a line of perfect equality. Several of the curves of this study do intersect, but in such ways that a conclusion of decreasing inequality is readily drawn; below the twentieth percentile, as Table 3 shows, the curves are equivalent for all intents, above the thirtieth percentile the 1871 curve is clearly least equal and the 1899 curve is identical to or above the others. The 1891 distribution is above that of 1881 at all points greater than the thirtieth percentile. For sample distributions there is the question of whether the differences could have occurred merely by chance. It is a question that is particularly difficult to address in the analysis of inequality, since the sampling distributions of indices such as Gini are quite complicated. One could test for differences in the means or in some proportions among the samples, but this is a quite different question than whether the patterns of inequality are significantly different. Allison has suggested an approach which uses the fact that the logarithm of the variance of the distributions can be shown to be related to Gini and other measures of inequality — the variance itself being such a measure. One might use the ratio of the logarithm as a test statistic; it has an F distribution, if the original distributions are lognormal. For samples as large as the ones used here, this approach can be reformulated as a test of the differences between variances of the log distributions, using the normal distribution. The test statistic was suggested and worked out for me by my colleague, Michael Ornstein. I much appreciate his interest. Using this test, I find that the 1871 and 1881 variances are significantly larger than that of 1861, at the .05 level, and both are significantly greater than the 1891 and 1899 variances at least the .01 level. The variance of the 1881 distribution is not significantly different from that of 1871, nor is the 1891 distribution significantly different from the 1899. In sum, these indexes of inequality indicate a more general pattern of increase and subsequent decline in inequality than the Gini indices did, but the change is in the same direction and the main differences are very unlikely to have occurred by chance even in samples as small as these. The tests are restricted to variances of the logarithms and must exclude all non-zero cases, since the log of zero is undefined. This leaves out of consideration *all* households recorded as having no assessable property or income. Their exclusion alters

Figure I

Distributions of Assessed Wealth, Toronto, By Decades, 1861-1899,
Showing Shares of Major Groups

Proportion
of total
wealth
assessed   Gini Ratio
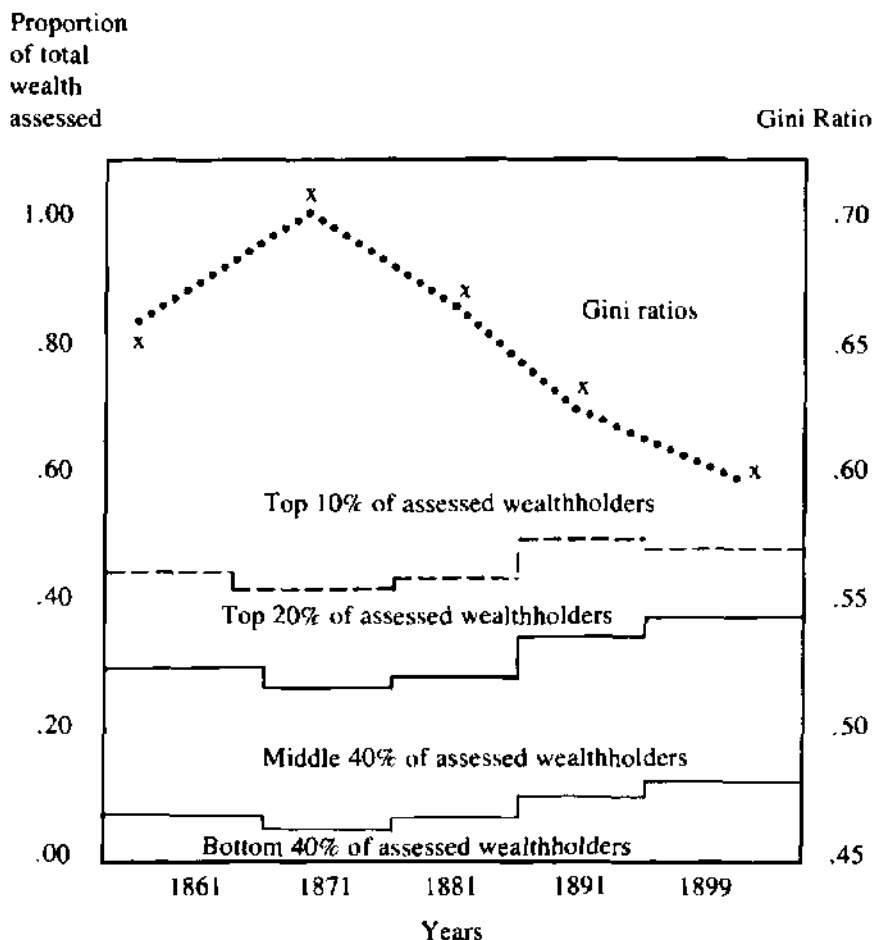
Source: Samples of assessment rolls. Based on Table III. Diagram adapted
from Paukert, 1973: 119.

the distributions considerably. The 1871 variance of non-zero values, for example,
misses 17-18 per cent of the cases included in a Gini computation; there were more
propertyless households recorded in 1871 than any other year — an important aspect of
the pattern of inequality in that peak year. I am inclined to attribute the lack of a
significant difference between the variances of the log values for 1871 and 1881 to this
exclusion. See Allison, "Measures."

Again, taken at face value, these trends suggest an intriguing possibility. Was the first wave in the concentration of industrial capital and the expansion of factory labour to 1871 accompanied by a markedly deeper structure of inequality? Thereafter was inequality moderated slowly but consistently as industrial capitalism became a way of life in Toronto? One must choose terms carefully here; nothing in assessment distributions themselves allows an analysis of the sources of inequality or of changes in the distributions. The task at hand is wholly descriptive.

There are some important differences among those who have considered the timing of Toronto's "industrial revolution."[60] Kealey's recent, detailed study, however, has the major sectors of the city's economy highly industrialized by 1871, ". . . with large concentrations of workers, extensive mechanization, and an elaborate division of labour."[61] He notes in addition that the central characteristic of industrial capitalism at this date was its extreme unevenness of development: there were very few exceedingly large shops (50 places employed over 50 workmen) and hundreds of more traditional small workplaces (about 500 employed fewer than 30 workers).[62] Perhaps the first wave of extremely uneven development had the effect of increasing the inequality in the conditions of life in these early years.

A simple correspondence of patterns can only raise the question of the historical relation. Still, the observed trend for the last quarter of the nineteenth century in Toronto does accord with limited historical evidence from some other places. For Great Britain, Denmark, the United States, and for Norwegian cities, there is evidence either of stability in wealth and income inequality or evidence of moderate, consistent reductions over the same nineteenth-century period.[63]

Moreover, the pattern of short term increase and subsequent moderation has been observed in a cross-section of a number of countries in mid-twentieth century. Studies of national development have suggested that "industrialization" first tends to be accompanied by increased inequality and, then, as development proceeds, the dispersion of incomes decreases.[64] The similarities in the evidence may be entirely coincidental, considering the differences in the

[60] J.M.S. Careless, "Some Aspects of Urbanization in Nineteenth Century Ontario," in F.H. Armstrong et al., eds., Aspects of Nineteenth Century Ontario. Essays Presented to J.J. Talman (Toronto 1974); Goheen, Victorian Toronto; Kealey, Toronto Workers Respond. Note that Goheen's and Kealey's figures regarding industrialization differ in some important respects, though they are purportedly from the same census sources.
[61] Kealey, Toronto Workers Respond, 29.
[62] Ibid., 25.
[63] See Paukert, "Income Distribution," 120 n. 1 with respect to Kuznets, "Economic Growth," Kravis, "The Structure of Income," Soltow, "Long-run Changes" and also see Gitelman, Workingmen of Waltham.
[64] Paukert, "Income Distribution," 111, in reference to Harry Oshima, "The International Comparison of the Size Distribution of Family Incomes, with Special Reference to Asia," Review of Economics and Statistics (1962), 439-45.

period and in the type and scope of the data; yet, there are provocative questions of historical continuity raised by the parallel.

Those who have examined international trends in this century have suggested that the greatest inequality in income shares results when small shares accrue to middle income groups, and that decreasing inequality is largely a result of middle groups enhancing their shares in comparison both to the lowest groups and those at the top.[65] Other distributional changes could yield the same overall differences in indices of inequality, but this is a description that fits the Toronto data rather well. The middle 40 per cent of wealthholders in Toronto seem first to have lost a substantial portion of assessed wealth in 1871 and then regained and visibly increased their share. Figure I shows the shifts.

One further comment on these distributions is in order. It has been common viewing evidence of the structure of inequality, both for the last century and for this one, to be impressed by the apparent stability of the distributions over relatively long periods. I have tended to emphasize the evidence of systematic change. But one can draw attention to the fact that the wealthiest 10 per cent of Toronto's families altered their portion of total assessed wealth a mere 6 per cent, at most, over an era in which the city nearly quadrupled in population and its industrial production and industrial employment increased about four and a half times.[66] The whole fabric of social and economic life was fundamentally transformed in the era; the ordinary wage-worker who persisted throughout could be forgiven for failing to notice any shift in the structure of inequality in wealth or in power.

The question of the visibility of structures of inequality aside, there is evidence in this assessment data of a quite orderly decline in inequality after 1871, even if the orderliness is more obvious than the magnitude of the change.

VI An Aging Population and the Structure of Inequality in Nineteenth Century Toronto

COMPARISONS OF STRUCTURES of inequality at several points in time have an unavoidable freeze-frame quality: we examine selected slices of the social reality. There are two problems of particular concern. First, the cross-sectional

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[65] Paukert, "Income Distribution," 111.

[66] Goheen, *Victorian Toronto*, 67, Table 4. Of course, it is possible that the stability in structures of inequality of shares is offset by individual income and wealth mobility. Individuals and families do exchange positions over time, but there is no study I know that suggests the exchange was very extensive from top to bottom, though nineteenth-century cities were by no means closed societies. See Knights, *Plain People*; Thernstrom and Sennett, *Nineteenth Century Cities*; Katz, *The People of Hamilton*, among others.

patterns hide the processes generating and maintaining the structures of inequality and the experiences of individuals and families that these processes entail. Second, assessments of inequality, the measures we employ, carry a considerable normative burden, since they must use some standard or baseline notion of equality against which to compare any observed distribution.[67] No measure, unhappily, is free of the burden. The two problems are intimately related. If we knew precisely the complex of processes generating and reproducing structures of inequality, we could adjust standards and measures accordingly.

One process of particular importance in the study of inequality turns out to be, simply, aging. In any society in which personal assets can be accumulated over time, just getting older will tend to enhance one's estate, even in an economy that is not expanding. Moreover, a number of authors have pointed out that most measures of inequality, such as the Gini index, imply very extreme standards of egalitarianism, since they fail to take account of the effects of the life-cycle on wealth and income.[68]

One wants to account for the effects of age alone on structures of inequality. Specifically, it is reasonable that a portion of observed inequality in Toronto in the last century can be accounted for by age differences among the heads of assessed households. Moreover, it can be shown that the more numerous the young are relative to the old in any population, the more unequal will be a cross-sectional structure of inequality. Thus, it is also quite possible that shifts in the city's age composition could account for the pattern of change in inequality in Toronto after 1861.

In Table IV I have provided evidence relevant to these questions.

The most striking data are given in the second part of the table. It shows the age distribution of the *total* city population by decades, as given in the censuses. The changes in age composition appear to be precisely the sort of broad shifts that might account both for the observed increase in inequality from 1861 to 1871 and then orderly decline, decade by decade, to the end of the century! For example, those under 19 years of age make up nearly half of the entire city population in 1871, whereas they are 47 per cent a decade earlier and decline a

[67] Morton Paglin, "The Measurement and Trend of Inequality: A Basic Revision," *The American Economic Review*, 65 (1975), 598.

[68] The indices usually take as a standard perfect equality among the units or individuals. Thus, the resulting measures assume that individuals and families at entirely different stages of the life-cycle could be expected to experience equality of condition — if only as an ideal. Clearly, it is one thing to consider as a standard equal lifetime income, wealth or well-being; it is a great deal more radical to imagine equality of condition for all age groups given differences among them in labour force experience, exposure to earning and investment opportunities and differences in family economic responsibilities. See Paglin, "Measurement and Trend;" Soltow, *Men and Wealth*, ch. 1, Robert E. Gallman, "Professor Pessen on the 'Egalitarian Myth,'" *Social Science History*, 2 (1978), 194-207.

Table IV

Age Distribution and the Relation of Age to Assessed Wealth, Toronto, by Decades, 1861-1899

| Age | 1861 | | 1871 | | 1881 | | 1891 | | 1899 | |
	Percent Population	Percent Assessed Wealth	Percent Population	Percent Assessed Wealth	Percent Population	Percent Assessed Wealth	Percent Population	Percent Assessed Wealth	Percent Population	Percent Assessed Wealth
Sample of Assessed Families										
Under 24 years	8.1	2.8	8.7	4.0	8.0	2.8	8.8	2.7	11.8	7.4
25-29	16.9	22.7	13.8	10.8	13.6	5.4	15.7	10.4	4.4	3.0
30-34	15.5	14.1	17.4	15.1	18.9	24.6	17.3	13.3	15.5	11.6
35-39	12.2	18.4	14.9	15.9	14.0	20.8	13.4	13.9	14.0	12.7
40-44	13.5	10.3	12.3	14.0	18.2	14.5	14.7	15.6	17.7	16.3
45-49	14.2	18.9	7.2	7.7	9.1	4.9	7.5	10.1	10.0	11.7
50 and over	19.6	12.8	25.7	332.6	18.2	27.0	23.5	34.1	26.6	37.3
Census Population:										
Under 19	47.2		49.2		45.3		40.7		35.4	
20-29	21.5		20.4		20.7		23.8		22.8	
30-39	14.4		13.1		13.9		14.6		15.9	
40-49	8.6		8.8		9.4		9.6		11.7	
50 and over	8.3		8.5		10.7		11.3		14.2	
Pearson's R, Age and Total Assessment	-.08		.20		.08		.21		.20	
Minimum GINI due to age	.170		.129		.250		.190		.157	
GINI (from Table 3)	.656		.690		.661		.624		.598	
Difference in GINIs	.486		.561		.411		.434		.441	
Sample N	148		276		286		306		271	

remarkable 5 per cent per decade to 1901. In the latter year they are just over a third of the population.

The change in the age composition of the adult population is less dramatic, so the effect on assessed households should be less obvious. About 17 per cent of the population was over 40 in both 1861 and 1871; those over 40 increased to 21 per cent in 1881 and 1891 and to 26 per cent by 1901.[69]

The correspondence between age structures and structures of inequality over the 40 years is an interesting, but very general association. Fortunately, the assessment rolls also recorded the age of the assessed parties, so we can try to explain directly the dispersion of the values among households in terms of age variation. There are several possible ways to proceed, and several problems. The first problem is that the age data are quite incomplete. The same sizes (N) given at the bottom of Table 4 indicate that between 70 and 80 per cent of the households had age of the head recorded in all years from 1871 to 1899 and age was recorded for only 40 per cent in 1861. The second problem is that categories of the assessed population cannot easily be made comparable to the census categories, since so few of the assessed were under the age of 20. Nevertheless, the first part of the table shows the shifts for the assessed population over time, along with the percentage share of the total assessed wealth that each age group had.

The sample data do show that, like the total population, the assessed heads of households tended to be youngest in 1871: 54.8 per cent were under the age 40 in that year. The oldest assessed population was also that of 1899: 45.7 per cent were under 40 at the end of the century. However, the differences among the other years are very slight, with no marked trend: about 54 or 55 per cent of assessed parties were under 40 years in each. In general, then, the clear pattern of aging evident in the census data is not duplicated among the samples of assessed households.

Consider the shares of assessed wealth held by the age groups in each year as given in Table IV. In three of the decades the older groups have a disproportionate share of the assessed wealth, as we would expect from a life-cycle process of accumulation. In 1861 and 1881 the older groups have less than a proportional share or hold their own. If I rank the age groups by average assessed wealth, only in 1891 does the age-wealth relation follow a strict pattern of increasing assets over the life-cycle. Thus, in these data, the relationship between age and assessed wealth is neither very strong in any year nor shows a clear trend.

The weak relation between age and assessment is confirmed for each year by the simple correlation of the two variables for all households. The Pearson

[69] It can be noted in passing that the "life-cycle" squeeze which working-class and artisanal families routinely felt in the last century was probably most acute in Toronto's early years of industrialization when the dependency ratio was higher than in any other decade. The large number of young families was most likely a result of recent city-ward migration in these years.

correlation coefficients are given in the table. They range from a negative association in 1861 of -.08, to a maximum positive association of .21 for 1891. In statistical terms, age explains at most 4 per cent of the differences among households in assessed values. Others have found stronger age-wealth relationships than these for the nineteenth century.[70] I look at the question in another way that tends to maximize the effects of age.

Since I have relied on descriptive measures of inequality throughout the analysis, it is sensible to ask whether we can adjust such measures to reflect the relation of age and wealth. In fact the Gini coefficient of inequality can be so adjusted. I have calculated a minimum Gini index of wealth inequality that could be due only to the variation in age in each decade.[71] This minimum Gini assumes all the dispersion of wealth is between the age groups. The minimum Gini's due to age are reported in the last part of Table IV along with the previously reported, actual Gini's and the difference between the two. The difference is a measure of the actual inequality that *cannot* be accounted for by age variation among householders in each decade.

The values of the hypothetical indices due to age are modest. The largest is that for 1881 at .250 and the smallest for 1871, at .129. Adjusting the actual Gini's to delete the age effects gives the following results: in 1881 some 60 per cent of observed inequality would remain, while in 1871, over 80 per cent is unexplained, and in each of the other years about 70 per cent is residual to age. Even trying to maximize the effect of age leaves the impression that the structure of inequality in nineteenth-century Toronto was very largely independent of life-cycle causes. The observed trend toward decreasing inequality over the 1871-1900 period also seems unrelated to the altering age composition of the city's population.

It may be that the limits of the sample data for which age is given are responsible for the lack of life-cycle effects found here. I suspect, on the other hand, that age was not of particular importance in these volatile years because such a large proportion of the assessed population was over the age of 25 and quite substantial proportions were over 40. The accumulation of assets for most people amounted to the acquisition of a dwelling or very small property and took place most rapidly before the age of 40; thereafter accumulation tapered off quickly and declined in old age.[72] The evidence for Toronto during its rapid

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[70] For example, see Soltow, *Men and Wealth*, 28-31 especially; also see Katz, "Social Structure."

[71] Simply, the procedure assumes equal distributions of assessed wealth within age groups for the seven groups of Table I. The Gini index is based on the average for the groups and the proportion of the population in each age group. See Peter M. Blau, *Inequality and Heterogeneity* (New York 1977); also see a more complex procedure proposed by Paglin, "Measurement and Trend."

[72] This description is drawn from Soltow's comprehensive analysis of U.S. data on property ownership. Soltow says, "The increase for all years after age 40 is essentially no more than that occurring in the first ten-year period," *Men and Wealth*, 28, 180. But

industrialization in the last century is that one could expect aging alone to provide little assurance of the accumulation of any assets at all.

VII   Conclusion

A STUDY OF nineteenth-century inequality is hampered by the limitations of the evidence. Assessment rolls provide one valuable and readily accessible source. They provide evidence on real property, personal property, and income assessment, though there were very substantial legal exclusions. From the variety of exclusions and limits of the data, I judge that assessed values are best interpreted as reflecting disparities in everyday living conditions, rather than in the control of property and wealth *per se*. Samples of the assessment data for Toronto for each decade from 1861 to the turn of the century permit the measurement of inequality in several ways.

Inequality among householders in all decades was such that the most privileged fifth of the assessed families held at least 65 per cent of all value; the poorest 40 per cent never had the benefit of more than about 8 per cent of all assessed holdings and income. Moreover, the sample data revealed an intriguing pattern of change in the structure of inequality. Inequality was most extreme in 1871, having increased slightly from the previous decade; thereafter each decade to the turn of the century saw a modest reduction in the dispersion of assessed values among households. An important consideration in the study of inequality is the effect of age differences among individuals on the distribution of wealth or income at any given time. Census data indicate the population of the city was youngest in 1871 and aged distinctly with each successive decade. However, using the available data on age from the assessment rolls in a number of ways indicates there was a very limited direct effect of life-cycle differences on patterns of inequality; there was no pattern that would account for the orderly decline in inequality after 1871.

Recent study also suggests that the early 1870s marked a turning point in the early industrial revolution of the city. The coincidence of the two patterns raises provocative questions about the relationship between nineteenth-century urban industrialization and inequality. For the most part we are not now in any position to answer these questions. We are just beginning to understand the implications of industrialization for standards of living, for trends in employment, for wages, for family life, or for the process of class formation. Specific links between the form industrialization took in the city and structural trends in

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the Toronto data conflict with Soltow's finding of an apparent growth rate of nearly five per cent a year in wealth arising from aging alone. Also see Katz, *The People of Hamilton*, 83 for a similar cycle of homeownership, and Katz, Doucet and Stern, *Social Organization*, 137.

inequality simply cannot now be drawn. The absence of the detailed analysis should not, however, serve as an excuse for merely attributing a trend toward reduced inequality in general to some ineffable, benign effect of "industrialization" or "modernization:" only a historical trend is revealed in the data.

One suggestion of merit is that the lowered inequality may have resulted in part from the known trend toward lower commodity prices which affected Canada as all the North Atlantic countries.[73] The decline took place mainly between the early 1870s and late 1890s. Declines in commodity prices might have been followed by more moderate declines in wages and incomes and, hence, enhanced the chances for asset accumulation by lower-income families. So far as I know trends in wages and incomes have not been established in general in the era, and certainly not for Toronto, so the notion is merely speculative at this point.

With respect to the larger question of the relation of economic inequalities and class, it is important to reiterate an earlier point. The trends in the data represent very large scale and slow structural changes in the distributions of wealth and everyday living standards. In any era such changes are not readily visible to men and women leading their lives within the smaller milieux of work, households, kin, and community — indeed, they are largely invisible even to those who are actively engaged in attempting to discern economic and social patterns. Hence, I noted that few, if any, contemporaries could be expected to recognize and comment on the glacial trends in inequality, which apparently surrounded them. Thus, the increased sensitivity to class divisions and socio-economic inequalities, which mark the city's politics in the latter years of the century, must be understood largely in their own terms.[74] The material setting is always relevant, of course, but as we have learned elsewhere the processes of class formation and expression do not mark lock-step with changes in material conditions, much less mirror them.

Finally, in this context, I note again that the data used here, as all assessment data, do not capture the circumstances of those in the city's labour force who were not responsible for parcels of land or residences on them. In the last century, this was a very substantial proportion of the labour force. In fact, many families and many households had multiple income earners and multiple sources

[73] See Gordon W. Bertram, "Historical Statistics on Growth and Structure of Manufacturing in Canada, 1870-1957," in J. Henripin and A. Asimakopulos, eds., *CPSA Conference on Statistics 1962 and 1973* (Toronto 1979), 93-146.
[74] The city's class politics followed a course of increasingly perceived and increasingly articulated conflict. Gregory S. Kealey, "The Honest Workingman and Workers' Control: The Experience of Toronto Skilled Workers, 1860-1892," *Labour/Le Travailleur*, 1 (1976); Homel, " 'Fading Beams,' " 12 cites Walter Burnill, Toronto Labour Council President and radical campaigner to the effect that the widening gap between wealth producers and monopolists was alarmingly obvious (from the *Globe*, 15 June 1894). For a contrast see the 1872 view of the essential harmony of interests among classes, despite inequality of condition, in John Battye, "The Nine Hour Pioneers: The Genesis of the Canadian Labour Movement," *Labour/Le Travailleur*, 4 (1979) 25-56.

of sustenance. In addition to the wages of, perhaps, two or more members, forms of sustenance included boarding, gardening, petty commodity production, and normatively governed exchanges within family and neighbourhood networks. Thus, it is possible that a trend toward reduced inequality in assessments was paralleled by some simplification in the uses of the household and its modes of sustenance, especially in increased reliance on wage-labour. A fuller understanding of the relations between economic inequality, standards of living, and the class conditions of production and reproduction will need to unite studies of household, family, and community with studies of the distribution of assets and incomes.

REVIEW

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