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Unskilled Labourers On The Public Works Of Canada, 1840-1880

Ruth Elisabeth Bleasdale

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UNSKILLED LABOURERS ON THE
PUBLIC WORKS OF CANADA, 1840-1880.

by

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Submitted in partial fulfillment of
the requirements for the degree of
Doctor of Philosophy

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ABSTRACT

This study of canal and railway labourers on Canada's public works provides a detailed analysis of an important segment of the developing industrial working class during the years of transition to industrial capitalism. By examining changes in the industry, the composition of the workforce, and the labourers' behaviour and perceptions of that behaviour, it traces both the process of class formation and the growth of class tensions. Beginning with an analysis of the public contract system, it defines the nature of the relationship between contractors and governments and traces the impact of the technological revolution and the growth of a body of indigeneous contractors within the industry. Despite important advances within the industry, work on construction sites changed little, continuing to depend primarily on the energies of unskilled labourers who enjoyed little material reward for their back-breaking and dangerous labour. The forty-year period, however, witnessed a significant change in the composition of the workforce. Migrants from within Canada displaced Irish immigrants as the major source of unskilled labour, and the workforce on construction sites became increasingly ethnically heterogeneous. This change in the composition of the workforce effected a modification of the stereotype of the unruly, drunken, and violent public works labourer, as other members of society confronted the problems associated with

the creation of an indigenous lower working class.

Labourers' perceptions of themselves also changed during these years. In the early years of construction strong factional, ethnic, and sectarian bonds generated violent conflict amongst the diverse groups brought together in the workplace. At the same time such bonds were a powerful source of unity during the frequent strikes waged by the Irish labourers who dominated the workforce. Over the period the basis of identification shifted from ethnicity to class. The easing of tensions between ethnic groups and the unity of the various ethnic groups during frequent strikes demonstrated an increasing ability to unite in pursuit of common class interests. Although the labourers remained outside formal union structures, they sustained an aggressive struggle with employers and acquired the experience of militance and solidarity on which the working class movement of future decades could build.

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INTRODUCTION

Canal and railway labourers were an integral part of the major social and economic developments in nineteenth century British North America. They were crucial to the transportation revolution which ushered in industrial capitalism, literally laying the groundwork for the transformation of the economy. In this capacity, they also formed an important segment of the evolving industrial working class. They experienced early the full thrust of the changes in work and the work place brought about by industrial capitalism, and were amongst the first groups of workers to mount a persistent and systematic opposition to the demands of capital. Yet their history has emerged only slowly, fitting neatly into few of the strains of working class history which have developed in recent years. As migrants, they are not easily accommodated in the detailed community studies which have appeared.¹ As unskilled, their experience has largely been ignored in the investigations of Canadian artisanal labour and skilled workers.² And their protest, like that of the majority of nineteenth century workers who were as yet unorganized, has not been captured in the studies which have taken as their basis the organized labour movement.³

Labourers on the transportation projects in the middle decades of the nineteenth century have received some

attention, most notably in Pentland's study of labour and capital in the period up to 1860. As part of a general treatment of a developing unskilled labour market and capitalist labour relations, Pentland looks at the canallers of the 1840s and to a lesser extent the railway labourers of the 1850s, providing not so much a study of a particular group of labourers as a framework within which such a study might be pursued.⁴ His more detailed analysis of the Lachine strike of 1843 focusses directly on the canallers, as does this author's work on canal labourers in Upper Canada and Ellis' recent exploration of the effects of canal construction on the community of Cornwall.⁵ Together these works provide a preliminary analysis of labour on transportation projects in the 1840s. For the following decade Kesteman offers an innovative analysis of labourers on the Grand Trunk Railway between 1851 and 1853.⁶ However, the collective experience of canal and railway labourers during the 1850s' construction boom remains obscure, and despite the numerous histories of railway construction, most notably by Innis, Currie, and Stevens,⁷ we know little about the railway labourers of the later nineteenth century. The work of Avery, Bradwin, and McCormack has documented certain aspects of the navy experience in the "boom" years at the turn of the century.⁸ However, the men who built transportation networks in the years from 1850 to the early 1890s remain largely unknown to us.

This thesis concentrates on canal and railway labourers between 1840 and 1880, with particular emphasis on the periods of extensive construction. These were the years of the transportation revolution that brought Canada into the industrial age. The 1840s was a decade of vigorous canal construction; principally along the St. Lawrence waterway system; where work was undertaken on seventy miles of canals designed to improve navigation between the head of Lake Superior and Montreal and provide the backbone of a viable trade network which could link Upper and Lower Canada and funnel the trade of the west through Montreal.⁹ Canal construction tapered off in the following decade, but the 1850s saw an equally significant revolution in transport, the first railway boom. Early, feeble attempts at railway construction had provided British North America with only sixty-six miles of rail by the end of the 1840s. By the end of the 1850s 2,000 more miles of trunk and feeder lines were operating, pulling together previously isolated communities into one coherent communications and transport system, and facilitating the growth of industry and trade. The railway boom came to an abrupt end in the late 1850s, leaving in its wake enormous public and private debts; the decade that followed saw comparatively little canal or railway building. In the late 1860s, however, large-scale railway construction revived, filling out the existing network and linking the provinces of the new Dominion.¹⁰

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This revival coincided with the launching of a new, massive canal construction programme, as inland navigation was improved to keep pace with and facilitate industrial growth and the creation of a national economy.

Governments at every level were intimately involved in the building of transportation networks. The high level of government involvement, which has been a distinguishing characteristic of Canada's economic development, is seen most clearly in the construction and operation of transportation facilities. Primarily in response to the need for capital, government played a crucial developmental role, assisting private capital in a series of what Aitken has termed "forced moves", designed to maintain both political and economic unity.¹¹ The insufficiency of domestic sources of capital to fund a rapid transportation revolution and the unwillingness of British and American capital to assume the risk of construction in a largely agricultural economy forced governments to provide both direct public funding and security for private investment. The resulting costly public commitment to canal and railway construction was encouraged by powerful commercial interests who enjoyed both direct and indirect representation in government, and whose enthusiasm for economic development became identified with the broader public interest.¹²

In the improvement of inland navigation, government assumed not only enormous financial obligations but also the

direct responsibility for construction of facilities. Earlier attempts at canal building by private companies having failed miserably, the newly-created government of the Canadas opted for public construction. In 1841, with the backing of a guaranteed imperial loan of £1.5 million, it began a canal programme which by Confederation had cost well over ten times the original amount of the loan. Following Confederation the new Dominion, already carrying a staggering debt incurred in canal construction, threw its expanded credit behind further, extensive improvements to inland navigation, in particular the St. Lawrence waterway. On the recommendation of the Canal Commission of 1871, the federal government implemented a policy of canal enlargement to stimulate the new Dominion's commercial development.¹³

In the building of railways governments were less directly involved. After the inauspicious beginnings of construction at the hands of private railway companies in the 1840s, men in government and business circles discussed the feasibility and desirability of public construction.¹⁴ In the Maritimes Joseph Howe, the strongest colonial advocate of government construction and ownership of railways, succeeded in securing construction of the Nova Scotia Railway as a public venture, after private enterprise bowed out of what appeared to be a losing proposition. Similarly, in New Brunswick the European and North American Railway became a public work when the original private contractors reneged on their agreement

with the colony. On most lines in the Maritimes, and in the Canadas, however, advocates of private construction carried the day, and the railways of the 1850s were primarily the work of private companies.¹⁵ These companies, anxious to participate in projects which could offer a more immediate and certain return on their investment than canals, competed fiercely for the right to construct railways and for a share of the public largesse. The government's role was largely restricted to that of assuming the risk associated with railway ventures. From all levels of government funds poured into the hands of private enterprise, in the form of subsidies, grants, and guarantees on loans. In the decades following Confederation railway construction continued to be the preserve of private enterprise backed by public funds. There were important exceptions, however. The federal government assumed a direct role in the construction of two projects considered crucial to the new nation's political and economic survival. When private enterprise proved reluctant to construct the Intercolonial along the route favoured by the British and Canadian governments, the railway was undertaken as a public work. Similarly some sections of the Canadian Pacific Railway were constructed directly by government before private interests could be enticed into involvement.¹⁶

In general governments played a crucial role in the development of transportation networks, to the point of taking

on as public works major canal, and to a lesser extent railway, projects. Yet there were limits beyond which a government normally did not trespass in its venture into the transportation industry. While the desirability and even the necessity of government action to protect and foster private enterprise was widely accepted by politicians and businessmen in the latter half of the nineteenth century, equally widespread was the belief that governments should not usurp the role of private enterprise. As Bliss' study of business attitudes in the late nineteenth century has demonstrated, businessmen shared a view of politicians and government officials as too corrupt and inefficient to engage in commercial endeavours. Too ready to preside over the pork barrel, favour special interests, and yield to the baleful influence of democracy, politicians could not be entrusted with the management of commercial concerns. Rather they should limit themselves to the broad task of supporting private business, though what form that support should take was frequently a source of conflict amongst businessmen.¹⁷ In keeping with these assumptions, governments turned to the private sector for assistance in the building of public works. Although governments funded and supervised construction, the work itself was contracted out to the private sector. Public works contractors did not enjoy the same degree of independence as their counterparts on private projects. Government officials and regulations kept a tight rein on their operations.

Nonetheless contractors were a crucial part of the system, and thus it was a combination of public and private enterprise which defined the system under which labourers on public works were employed.

This study begins by analysing the public works system as it operated in British North America and central and eastern Canada. In the absence of relevant secondary literature, it provides an analysis of the system of awarding and regulating public contracts, demonstrating the precise nature of, and difficulties associated with, contractors' relations to governments. It also highlights the growth of an indigenous construction industry and traces the impact of technology in one industry during Canada's industrial revolution. This examination of the industry itself is followed by an investigation of the nature of the work and the unskilled workforce recruited to build canals and railways. Despite the changes in the construction industry and the impact of the technological revolution, the work continued to require tens of thousands of men to undertake what remained unskilled, back-breaking, low-status work. This thesis builds on the work of Pentland and Avery, who have demonstrated the importance of immigration in supplying the needs for such unskilled labourers throughout the nineteenth and early twentieth centuries. In addition, it charts the increasing role of migrants from within North America. During the 1840s

and 1850s the workforce was dominated by unskilled immigrant labourers and migrants from the United States, a portion of whom were recruited specifically for construction work. Only a fraction of the overall labour force on canals and railways consisted of migrants from within British North America. By the 1870s, the proportion of labourers drawn from within Canada had increased dramatically. Though Canada was to turn again to immigration as a primary source of labour for the trans-continental railways, during the depression years of the 1870s, when the infant industrial economy was unable to provide sufficient jobs for natives,¹⁸ Canadians turned to work on canals and railways for a livelihood.

For immigrant and native alike labour on canals and railways was not the avenue to individual social and economic advancement which some contemporaries held it to be. This study demonstrates that as members of the lowest segment of society, public works labourers were exposed to grim working and living conditions. The work was gruelling and dangerous, destructive of health and life, and it offered little reward. Around the public works were clustered communities of labourers characterized by their extreme poverty. These communities were also notorious for social disorder; drunkenness, rowdiness, and more serious crime and rioting drew frequent comment from contemporaries. In an analysis of contemporaries' response to this poverty and disorder, the thesis traces the evolution of the stereotype

of public works labourers as threats to the social and moral order. Examination of this stereotype reveals more than the attitude of society to one segment of workers. It illustrates a broader process of socio-economic development which was creating dislocation and anxiety. In the 1840s and 1850s respectable society could attack public works labourers as the dregs and scum of other lands. Central to this attack was the rejection of poor, Irish, Roman Catholics, who seemed to be at war with Anglo-Saxon society. But by the 1870s, with a change in the composition of the workforce on public works, this stereotype was no longer applicable. Instead, public works labourers were denounced as part of a growing underside of the social order, as Canadians confronted the development of their own, indigenous, lower working class at the base of an industrializing society.

The final chapters examine the nature of the labourers' response to their situation. Beginning with an analysis of divisions within the workforce, sectarian and factional conflicts are viewed in the light of recurring and massive unemployment. The conflicts which fractured the labour force in the 1840s maintained their intensity into the 1850s. In the 1870s there remained the potential for ethnic clashes when new groups were introduced into the workforce. The absence of old conflicts on construction sites, however, suggests a significant weakening of the old basis of identification with faction and ethnic group, and a movement towards the creation of a less-fractured working class. Labourers

are seen to have developed a broader identification, participating in cooperative attempts to confront the massive unemployment of the 1870s.

While the conflicts amongst workers eased over the forty-year period, that between workers and employers remained bitter, if anything increasing in intensity. This study reveals that during the 1850s the frequent strike pattern of the previous decade was repeated; and despite the significant change in the character of the labour force over the ensuing twenty years, in the 1870s frequent strikes were once again a feature of canal and railway construction. As in the 1840s, public works labourers were unorganized and their strikes undertaken without formal union structures. In this respect they were similar to other unskilled workers of the decade, who mounted an unorganized resistance to employers. There are, as yet, few studies that can begin to suggest the dimensions of this type of unorganized protest. But this work demonstrates the magnitude of this form of collective action in one industry. In doing so, it also suggests the existence of a widespread discontent which may have provided the foundations on which the Knights of Labour built in the following decade.

In addressing these issues, the study focusses on labourers on a number of major public works spread throughout eastern and central Canada. For the 1840s it considers the improvements to the St. Lawrence Canal system undertaken by

the Board of Works of the Province of Canada, in particular the work on the Beauharnois,achine, Welland, and Williamsburg Canals in the years from 1842 to 1846. For the 1850s the focus is on two further canals executed by the United Canadas under the Department of Public Works: the Junction Canal, constructed between 1851 and 1857 to connect the Point Iroquois and Galops Canals on the St. Lawrence, and the Chats Canal, worked on between 1854 and 1856 as part of an abortive scheme for improving the navigation of the Ottawa River.¹⁹ In the same decade the thesis looks at labourers on two Maritime Railways, the Nova Scotian and the European and North American, undertaken as public works by the Nova Scotia and New Brunswick governments respectively after earlier plans for an Intercolonial link fell through. Between 1854 and 1858 the Nova Scotia Railway Board, comprised of a commissioner-in-chief and five other commissioners, supervised construction of sixty one miles of rail between Richmond and Truro and thirty two miles between Halifax and Windsor. A similar Railway Board, appointed by the government of New Brunswick, oversaw construction for five years on the European and North American Railway between Saint John and Shediac.

For the 1870s the major projects considered are those constructed by the government of Canada, on whom the responsibility for public works of national significance devolved. Prominent amongst these was the Intercolonial Railway, finally undertaken in partial fulfillment of the

conditions of the Maritime provinces' entry into Confederation. A body of four railway commissioners supervised intermittent construction between 1868 and 1876 of approximately 450 miles of rail connecting the Nova Scotia Railway at Truro to the Grand Trunk Railway at Riviere du Loup. The study also looks at the canal improvements prosecuted by the federal government, in particular the Lachine and Welland Canals, commenced in 1873 and continued into the 1880s. Less spectacular, but important to Maritime trade, was the enlargement of the St. Peter's Canal, linking the Bras d'Or Lakes of Cape Breton to the Ocean and facilitating trade between the island and Prince Edward Island.

There was some variation in the nature of the government bodies supervising these projects. The canals were constructed under the aegis of permanent government bodies charged with the general and ongoing responsibility for public works. These bodies evolved with changes in the political and constitutional system. The Board of Works of the Province of Canada, which operated from 1841 to 1846, was more powerful and more independent of political influence than either the Department of Public Works which replaced it for the Province of Canada, or the new Department of Public Works established in 1867. What made all these bodies similar, however, was their mode of operation. Each had a permanent and extensive engineering staff which provided continuity from project to project and administration to administration. In contrast,

various commissions established to oversee construction of railways were ad hoc bodies, appointed for the duration of construction. Consequently staff was also hired on a temporary basis. Despite variations in the form and composition of public bodies overseeing the operations, general policies and principles pursued by them imposed a remarkable uniformity on the construction process on public works throughout this period. This uniformity makes it possible to generalise from one project to another.²⁰

The material available for a study of the labourers on public works is scattered and diffuse. Although they were highly visible in the areas in which they concentrated, they were frequently outsiders and remained largely anonymous. They have left little record of their lives in the sources available for the study of other groups of workers. No formal union records exist for these unorganized workers. Community sources such as censuses, which have proved so valuable in reconstructing nineteenth century working class life, particularly in the work of Katz, Gagan, Kealey, and Palmer,²¹ do not include these migrant labourers, except in rare instances in which they were concentrated on a project at census time.²² Memoirs and letters of unskilled migrants have disappeared, if they ever existed. We do not even have the benefit of the contemporary accounts of railway navvies, such as popular novels, poems and missionary tracts, that provide a wealth of material for those investigating Britain's

unskilled migrant labourers.²³

Government documents, published and unpublished, provide one of the few sources in which material on canal and railway labourers has survived. It is primarily in the reports of government supervisors and engineering staff that details concerning day to day operations and the behaviour of labourers can be found. Additional information is sprinkled through the records of all government departments and quasi-official bodies involved in any way with the construction of public works. A second valuable source is newspapers. Labourers did not go unnoticed in the area of construction. Though newspapers were random in their reporting of incidents involving labourers, they add considerable material concerning their behaviour and their relations with various segments of society.

These sources have serious limitations. They provide little material generated directly by the labourers. What they do provide is filtered through biased, at times distinctly hostile, contemporaries. Such limitations, however, must be accepted if we are ever to have a history of this important segment of the nineteenth century Canadian working class.

Notes

1. See for example: Bryan D. Palmer, A Culture in Conflict: Skilled Workers and Industrial Capitalism in Hamilton, Ontario, 1860-1914 (Montreal: 1979); Gregory S. Kealey, Toronto Workers Respond to Industrial Capitalism, 1867-1892 (Toronto: 1980); Craig Heron, "Working Class Hamilton, 1865-1930", Ph.D. Thesis, Dalhousie University, 1981.
2. See Gregory S. Kealey, "'The Honest Workingman' and Workers' Control: The Experience of Toronto Skilled Workers, 1860-1892", Labour/Le Travailleur, 1 (1976), 32-68; Wayne Roberts, "The Last Artisans: Toronto Printers, 1896-1914", in Gregory S. Kealey and Peter Warrian, eds., Essays in Canadian Working Class History (Toronto: 1976); Palmer, Skilled Workers and Industrial Capitalism; Craig Heron, "The Crisis of the Craftsman: Hamilton's Metal Workers in the Early Twentieth Century", Labour/Le Travailleur, 6 (1980), 7-48.
3. The most comprehensive and recent study of this type is Eugene Forsey, Trade Unions in Canada, 1812-1902 (Toronto: 1982).
4. H. Pentland, "Labour and the Development of Industrial Capitalism in Canada", Ph.D. dissertation, University of Toronto, 1960. Now published as Labour and Capital in Canada, 1600-1860 (Toronto: 1980).
5. H.C. Pentland, "The Lachine Strike of 1843", Canadian Historical Review, 29 (1948), 255-77; Ruth Bleasdale, "Irish Labourers on the Cornwall, Welland and Williamsburg Canals in the 1840s", M.A. Thesis, University of Western Ontario, 1975. Ruth Bleasdale, "Class Conflict on the Canals of Upper Canada in the 1840s", Labour/Le Travailleur, 7 (1981), 9-40; R. Ellis, "Labourers, Contractors, and Townspeople: The Social, Economic, and Demographic Impact of the Cornwall Canal, 1834-1843", Paper presented to the C.H.A. Annual Meeting, 1983.
6. Jean-Pierre Kesteman, "Les Travailleurs à la Construction du Chemin de fer dans la région de Sherbrooke (1851-1853)", Revue d'histoire de l'Amérique Française, 31 (1978), 525-45.
7. See G.R. Stevens, Canadian National Railways (2 Vols. Toronto: 1960-62); A.W. Currie, The Grand Trunk Railway of Canada (Toronto: 1957); H.A. Innis, A History of the Canadian Pacific Railway (Reprinted Toronto: 1971). For a recent popular history of the Pacific Railway see

- Pierre Berton, The National Dream: The Great Railway, 1870-1880 (Toronto: 1970) and The Last Spike: The Great Railway, 1881-1885 (Toronto: 1971).
8. Donald Avery, 'Dangerous Foreigners': European Immigrant Workers and Labour Radicalism in Canada 1896-1932 (Toronto: 1979); Donald Avery, "Canadian Immigration Policy and the Foreign Navy 1874-1914", Historical Papers, 1972; Edmund Bradwin, The Bunkhouse Man (Toronto: 1972); A. Ross McCormack, Reformers, Rebels and Revolutionaries: The Western Canadian Radical Movement (Toronto: 1978).
 9. The most comprehensive account of the canal era is John P. Heisler, The Canals of Canada (Ottawa: 1973).
 10. For an overview of this see Stevens, Canadian National Railways, I, passim. For the transportation revolution of this period see G.P. de T. Glazebrook, A History of Transportation in Canada (Toronto: 1938), chs. 6-10.
 11. H.G.J. Aitken, "Government and Business in Canada: An Overview", Business History Review, 38 (1964), 4-21. See also H.G.J. Aitken, "Defensive Expansionism: the state and economic life in Canada", in T.W. Easterbrook and M.H. Watkins, eds., Approaches to Canadian Economic History (Toronto: 1967).
 12. On the relationship between government and powerful private interests, see in particular G.J. Tulchinsky, The River Barons: Montreal Businessmen and the Growth of Industry and Transportation, 1837-1853 (Toronto: 1977); D.G. Creighton, The Commercial Empire of the St. Lawrence (Toronto: 1956); Wallace Clement, The Canadian Corporate Elite (Toronto: 1975); Tom Naylor, The History of Canadian Business, 1867-1914 (2 vols., Toronto: 1975) I, ch. 8. The role of the American government in the promotion of canals, and to a lesser extent railways, has been more thoroughly analysed. Here recent studies have revealed the extent of government involvement in promotion and funding, and even direct construction of transportation facilities. See, inter alia, C. Goodrich, Government Promotion of American Canals and Railroads 1800-1900 (New York: 1960); N. Miller, The Enterprise of a Free People: Aspects of Economic Development in New York State during the Canal Period, 1792-1838 (Ithaca: 1962); R.J. Parks, Democracy's Railroads: Public Enterprise in Jacksonian Michigan (New York: 1972); Harry N. Scheiber, Ohio Canal Era: A Case Study of Government and the Economy, 1820-1861 (Athens, Ohio: 1969). For an overview of the level of government

involvement in the construction of Britain's canals and railways, see W.C. Lubenow, The Politics of Government Growth: Early-Victorian Attitudes Towards State Intervention, 1833-1848 (Hamden, Conn.: 1971); H. Parris, Government and the Railways in Nineteenth Century Britain (London: 1965).

13. Canada, Sessional Papers, 1871, No. 54, Report of the Commission on the Inland Navigation of the Dominion, 58-65.
14. Glazebrook, History of Transportation in Canada, 175.
15. Stevens, Canadian National Railways, 1, passim.
16. Innis, History of the Canadian Pacific Railway; Stevens, Canadian National Railways, ch. 5.
17. Michael Bliss, A Living Profit: Studies in the Social History of Canadian Business, 1833-1911 (Toronto: 1974), chs. 5-6. See also H.V. Nelles, The Politics of Development: Forests, Mines, and Hydro Electric Power in Ontario, 1849-1941 (Toronto: 1974).
18. The term "native" is used to distinguish those resident in British North America and Canada from the newly-arrived immigrant. It does not imply native-born.
19. The Junction Canal was also known as the Galops Canal.
20. The political wrangling and in-fighting which developed around each public work do not constitute part of this study.
21. Palmer, Skilled Workers and Industrial Capitalism; Kealey, Toronto Workers Respond to Industrial Capitalism; Michael Katz, The People of Hamilton, Canada West: Family and Class in a Mid-Nineteenth Century City (Cambridge, Mass.: 1975); David Gagan, Hopeful Travellers: Families, Land, and Social Change in Mid-Victorian Peel County, Canada West (Toronto: 1981).
22. The value of such sources to a study of canal and railway labourers has been demonstrated in J.A. Patmore, "A Navy Gang of 1851", Journal of Transport History, 5 (1962), 182-9, and Kesteman, "Les Travailleurs à La Construction".
23. For the excellent use made of such material see Terry Coleman, The Railway Navvies, (London: 1968) and James Handley, The Navy in Scotland (Cork: 1970).

CHAPTER ONE
CONTRACTORS AND THE CONTRACT SYSTEM
ON THE PUBLIC WORKS

Throughout the period from 1840 to 1880 the contract system was considered particularly well-suited to public works. Experienced entrepreneurs, continually alert to cut costs and maximize their profits, were seen to possess both the ability and incentive to ensure rapid and efficient construction at the lowest possible cost. In contrast, direct construction by government bodies carried the threat of excessive bureaucracy and the temptation to use the public works as a source of political patronage. For this reason, government bodies were normally careful to avoid the direct employment of labourers and skilled tradesmen, and throughout the period usually opted to contract out even the smallest projects.¹ Although ideal in theory, in practice the contract system was fraught with problems for it brought together government bodies and private contractors whose interests were not always compatible. In their anxiety to protect against the squandering of public money and charges of patronage, the colonial governments and later the federal government awarded contracts at the lowest possible rates, then attempted to adhere rigidly to the terms of those contracts, even when prices became clearly inadequate. In this, they came into conflict with contractors, whose hopes of

turning a profit from the work frequently degenerated into a battle to remain solvent as they wrestled with inadequate contract prices and unexpected difficulties during construction. Over the period, as technology encouraged consolidation and capital investment, large contracting firms came to dominate the industry. But even experienced, well-capitalized contractors ran into financial difficulties in the face of government parsimony. These tensions inherent in the contract system were exacerbated by the practice of subcontracting. Not only were subcontractors' prices significantly lower than those on the original contracts, but they were dependent for payment on the contractors who might themselves be in severe financial difficulties and might pass these on to their subcontractors.

Bedevelled by competing interests, the contracting system on public works was characterized by financial crisis and instability. Contractors and subcontractors alike ran into serious difficulties maintaining a cash flow. Unable to meet commitments to their creditors and continue the work, many ultimately defaulted. It was this system which helped to define for public works labourers an often precarious livelihood.

The nature of contractors on the public works reflected the extraordinarily uneven scale of enterprise in canal and railway construction throughout the nineteenth

century. Canals and railways attracted both major international construction firms and smaller, local operators, some with little or no previous experience in the industry. Over time large contractors with experience and capital played an increasingly prominent role in the industry, as native Canadian contractors expanded their operations to vie with the international giants. Through the 1870s, however, there remained room for the relatively small businessman to enter the industry:

The canals of the 1840s and 1850s were in part the work of international firms such as Carmichael and Company of New York, makers of earthmoving machinery, who took several contracts on the Welland. The Maritime railways of the 1850s also imported capital and experience from abroad.² During this period, however, local operators with significantly less capital and experience bid for and won public works contracts. In one 30-mile section connecting the Main Trunk of the Nova Scotia Railway to Windsor, three of the five contracts awarded in 1855 went to Pictou businessmen.³ International firms remained important on public works in the 1870s. Dennison, Beldon and Company of Syracuse offered years of experience and the latest in technology for contracts on the Welland; J.C. Rogers came to the Lachine from extensive railway operations in the eastern United States.⁴ But the significance of such firms decreased in relation to a

developing indigenous construction industry. Large and experienced Canadian firms won the lion's share of contracts in the 1870s. On the Welland Canal, for example, nine of the ten firms holding contracts in 1875 were Canadian.⁵

Although there were suggestions that some Canadian bidders acted as fronts for American money,⁶ it is possible to distinguish the growth of an independent body of native contractors during the middle decades of the century.

Not all of the Canadian contractors of the 1870s represented large firms. Small, locally-based operations could still find a place in construction.⁷ The movement, however, was towards the bigger and better-capitalised Canadian companies. Paul Ross of Goderich was typical of this new group of Canadian entrepreneurs. His experience included public contracts on canals, railways, and harbours during the 1860s and 1870s.⁸ F.B. McNamee of Montreal, who by 1877-78 held contracts simultaneously on the Welland, Lachine, and Carillon Canals, and the Quebec Graving Docks, was another domestic contractor building up a reputation in the industry.⁹ Also prominent was the firm of Hunter, Murray and Co., of St. Catharines, which, according to an 1878 report in the Welland Tribune had "commenced operations on a very modest scale" and through a combination of "practical knowledge, backed by capital", moved to a "foremost place in the ranks of the heavy and successful contractors of the country". They had \$2 million

worth of contracts on the Welland, major dredging contracts on the Lachine, and the task of dredging Toronto harbour.¹⁰

Some of these Canadian contractors developed international reputations. John Brown is a case in point. He had come to Canada from the United States in 1838 and had taken his first large contracts on the Welland between 1844 and 1850. From that time he steadily expanded his operations to include extensive contracting throughout Canada and the United States; in the process he had also acquired quarries, limekilns, plaster beds, cement and plaster mills in order to control the supply of materials for his contracting business.¹¹ One of the largest contractors on the third Welland Canal, Brown had contracts worth close to \$2 million when, in 1876, accidental death terminated his career.¹²

Both the survival of small firms and the expansion of Canadian operations in the construction industry were in part attributable to the nature of technological development within it. In comparison with the rapid mechanization which revolutionized the mode and scale of production in many industries during this period, technological innovation in the construction industry was only gradual and piecemeal.¹³ Most aspects of the work on canals and railways were labour intensive, requiring little in the way of capital outlay on plant, machinery, and working premises. Thus it was always relatively easy to enter the industry.

On the other hand, the new technology that did become available gave a comparative advantage to those in a position to make use of it. Technology therefore played a somewhat ambiguous role; without driving the weak to the wall, it allowed the strong to expand.

Technical innovation was most dramatic in the methods of dealing with water on construction sites. This proved most applicable to canal building, where all contractors confronted at some stage in their operations the problem of water removal. The increasing sophistication of steam-dredging machines in the latter half of the nineteenth century, reduced the occasions on which canals needed to be drained before work could commence. Thus in the 1870s much of the work on the Welland Canal could be accomplished by steam dredging;¹⁴ three decades earlier similar tasks had been performed by labourers. Noticing this dramatic shift towards machinery, the Welland Tribune was moved to complain of "the universal employment of improved labor-saving machinery".¹⁵ Dredges such as "Goliath", "Samson", and "Little Giant", each displaced hundreds of labourers.¹⁶ On improvements along the St. Lawrence, even more sophisticated dredges were needed to withstand the currents. For their contract deepening the channel at Gallop's Rapids, Davis and Sons built a combination drill/dredge at a cost of almost \$100,000. It was said to be "one of the most complete structures of the kind now in use".¹⁷ An only

slightly less spectacular machine was used by Hickler and Kelly on the Lachine Canal.¹⁸ Where such dredging machinery could not be employed contractors had recourse to increasingly sophisticated steam pumps for draining and keeping cuttings dry. Steam pumps were employed extensively in the 1870s, contractors bringing a variety of "mammoth" pumps to the works.¹⁹ On Section 24 of the Welland Canal McNamee employed a "monster pump...capable of lifting as much water as all the pumps in this vicinity put together". It was run by a Grand Trunk engine.²⁰ On Section 11 of the Lachine Canal Davis and Sons set up a large Heald and Sisco steam pump which could pump water at a rate of 35,000 gallons a minute. It was thought to be the largest of its kind on the continent.²¹

The introduction of steam to the actual excavation process was more gradual, but nonetheless significant. Steam was applied to excavation to a greater extent in North America than in Britain. Although steam excavators were available to British contractors as early as the 1840s, not until the 1880s, at the end of the railway construction period, did these machines threaten to replace unskilled labourers on Britain's railways.²² By this time, most of Britain's miles of rail had been constructed, in the same manner as the canals at the turn of the eighteenth century - with pick, shovel, wheelbarrow, and gunpowder. In contrast, in the United States, technological developments more

rapidly took hold. Use of steam excavators which could do the work of up to a hundred men became so common that the word "navvy" was used to apply to these machines, not to the labourers who worked with them, though some American railways built in the late nineteenth and early twentieth centuries still relied heavily on gangs of unskilled labourers for large sections of the work.²³

As in the United States, the four decades covered in this study saw the irregular introduction of steam excavators into the construction process in British North America. Only a few contractors, such as the firm of Carmichael and Company, used steam excavators on the canals of the 1840s and 1850s.²⁴ By the 1870s steam was in wider use for excavation. Yet, either through necessity or as a cost consideration, even a large contractor like John Brown, in possession of the latest machinery, carried out much of the excavation on his section of the Welland Canal with pick and shovel.²⁵ Similarly, steam excavators, employed by relatively few large firms on railway construction sites in the 1850s,²⁶ had become more common on the railways of the 1870s. However, they were still far from replacing the traditional methods of hand excavation. On the New Brunswick section of the Intercolonial there were only two steam shovels, one owned by contractor Berlinquet, the other available for rent.²⁷ Most contractors had to be content with hand labour for the major portion of their

contract. The government also had to rely almost entirely on man power when it took over Berlinquet's contracts, and was unable to prevent the sale of his steam shovel.²⁸

For excavation in rock, the major innovations were twofold. Steam was gradually applied to the drilling process. Some contractors attempted to employ steam drills in the 1840s and 1850s. Such drills, however, proved too cumbersome and expensive for use on any but a smooth surface.²⁹ By the 1870s, more sophisticated and mobile machinery was in much wider use, contractors investing in steam drills which could go through sixty feet of solid rock in a day. Although such drills broke frequently, they appear to have been cost-efficient.³⁰

Concomitant with the use of more sophisticated drilling equipment were advances in blasting materials. In the last third of the century nitro-glycerine rapidly replaced gunpowder for excavation in hard rock, contractors using it in conjunction with steam drills or sledge hammer and spike.³¹ Some contractors also used dualin, an expensive, but highly effective combination of glycerin.³² Other contractors, however, continued to rely on hand-driven borers and gunpowder, in common use for mining and construction works throughout Europe and North America;³³ and one large contractor on the Intercolonial in the 1870s attempted to move hard rock by hand. When Berlinquet ran out of gunpowder on his section of the Intercolonial his

labour force proceeded to hack its way through solid rock with picks, a dramatic testimony to the persistence of traditional construction techniques.³⁴

As in other areas of construction, the hoisting and hauling of materials underwent a gradual but steady transition to steam power. In the 1840s and 1850s the movement of materials out of cuttings, onto embankments, and generally about the works was carried out primarily by horse power. Horses were required for pulling wagons, scows, scrappers, and for working winches, derricks, and other mechanical devices; and it was here that most contractors faced a considerable capital outlay. The nature of this outlay, however, was such that it need not have deterred men without capital from entering construction. While some large contractors might invest in a supply of horses for their contracts, many more spread the cost of horse power over the lifetime of the contract by renting horses and wagons from local farmers as they needed them. There were nevertheless disadvantages to not owning a stock of horses. Farmers were not always dependable suppliers. They might be reluctant to hire out any horses during planting season, or they might pull all their horses off the canals and railways for the fall harvest, just the time that contractors usually endeavoured to accelerate the work before the winter freeze. In the winter horses might be off in the lumbering camps, unless contractors were

willing to pay exorbitant rates to keep them on the railways. Contractors ran into similar difficulties attempting to rent wagons for hauling, particularly in the fall when they were needed for harvesting or hauling to lumber camps.³⁵

Such problems in securing horses and wagons could hold back construction or add considerably to its cost, but they were not sufficient to deter men from entering construction.

In this earlier period some contractors did use steam for hoisting and haulage, but it was not crucial to most operations. In the one area of railway construction where it was indispensable, it was supplied by the government. Contracts usually stipulated that the government would provide steam engines and flat cars for hauling supplies along the advancing rail lines. Few contractors were in the position of men like Peto and Brassey who owned not only their own rolling stock but also the workshops in which it was produced. Therefore, such arrangements removed what might have been a major stumbling block to men seeking public contracts.³⁶ But they did not guarantee adequate engine power when required. In the late 1850s both engineers and contractors on the Nova Scotia Railway and the European and North American complained of frustrating delays to their operations while commissioners endeavoured to juggle too few engines among too many contractors.³⁷ When commissioners did come through with locomotives, they were frequently pathetic machines which, like "Sir Gaspard"

of the Nova Scotia Railway, could not take three loaded cars up the grade.³⁸

By the 1870s steam was more widely used for hoisting and hauling on both canals and railways. Those men able to invest in steam derricks, steam engines, and rolling stock freed themselves from a dependence on horses and generally exercised greater control over the construction process as a result. At the same time other contractors continued to rely on renting a supply of horses each season, and like the Quebec firm of J.B. Bertrand on the Intercolonial, continued to face frustrating delays in their operations.³⁹

Thus technological advances changed every aspect of the work on canals and railways between 1840 and 1880, not only altering the work, but also helping to create the large, experienced, well-equipped contracting firms that came to dominate the industry. It was central to the formation of what one engineer described approvingly as "a class of men who devote themselves almost exclusively to works of this nature".⁴⁰ But advances in technology did not entirely eliminate the contractor unable or unwilling to invest in them, and contractors with the latest steam machinery worked side by side with those totally reliant on horse and man power.

Governments secured contractors for the public works through a system of public tendering. By inviting tenders

from any interested parties and by choosing contractors on the merits of their bids, governments hoped to secure quality workmanship at reasonable rates. They hoped also to avoid, at the very least, the appearance of patronage and corruption, charges of which so frequently accompanied the disbursement of public funds. Motivated by these ~~two~~ considerations, the governments of the Canadas and the Maritimes before Confederation, and the federal administration of the new Dominion, adhered consistently to the principle of public tendering on public works.

Although there were variations in the minor details of the mechanics of tendering from one administration to another,⁴¹ the essentials of the process remained the same. Work was subdivided into sufficiently small sections that no one contractor could dominate a major public work. Thus the fate of the project would not rest with one or two contractors. On the Maritime railways of the 1850s a typical contract was between five and ten miles. Contracts on the Intercolonial were larger, the majority between twenty and twenty-five miles.⁴² Canal work was sub-divided to such an extent that the masonry work for the improvement of the Welland Canal alone in the 1870s involved some fifteen separate contractors.⁴³ On both canals and railways special contracts were frequently awarded for special types of work, such as culverts, dams, locks and bridges, rather than included as part of a larger section. The call for

tenders for each section was published widely in newspapers and posted in public buildings and those seriously interested in bidding were invited to consult detailed maps, plans and specifications, available in communities near construction sites and at the seat of government. The specifications might also be reproduced in newspapers. Contractors at a distance were given ample time to consider plans and submit tenders. The closing date for tenders was rigidly adhered to.⁴⁴ In all details, the overriding consideration was to protect the political integrity of governments, to ensure a measure of impartiality and avoid the appearance of collusion and patronage.

In assessing tenders, governments over the period adhered to the same basic principles. In consultation with its engineering staff, the government-appointed Board or Commission selected the successful contractor primarily on the basis of the price of his tender. If at all possible, governments tried to choose the lowest tender. The lowest tender might be passed over if the contractor could not provide adequate security, or if he was judged indisputably incompetent. Thus the capital backing and reputation of a contractor were used in considering his bids, but in a largely negative fashion. It was possible to lose a contract on these bases; it was unlikely that a low tender, with security and no bad reputation, would be passed over in favour of a higher bid by a larger, more experienced

firm. Thus the overriding consideration in the awarding of contracts was price.⁴⁵ This was partially an attempt to avoid charges of patronage and favouritism in the awarding of contracts. It was also a calculated effort to keep down contract prices, and ensure that the public did not pay an unnecessarily high cost for construction. Although laudable in principle, in practice the lowest bidder policy was surrounded in controversy, men supervising construction in particular arguing that it created serious problems.

On all projects considered in this study, supervising engineers insisted that acceptance of the lowest tender resulted in inadequate contract prices. On the St. Lawrence and Welland Canals of the 1840s, officials urged the Board of Works to accept reasonable, not the lowest, tenders. Acknowledging that its policy had resulted in contract prices which were far below actual costs, the Board considered abandoning the principle of invariably accepting the lowest bid. Nonetheless, the Board and its successor maintained the practice.⁴⁶ Consequently, the controversy over lowest bidder policy continued into the 1850s, coming to a head in 1854 over the repeated defaulting on the Junction Canal. After the first contractors had to abandon the work because of inadequate prices, the government entered into an agreement with the second-lowest tenderers, whose prices were only marginally higher. When they in turn failed, the contract went to the third-lowest

bidders, and even their prices had to be "considerably increased" before they could complete the work.⁴⁷ Such incidents, "the experience of every season", led John Page, Superintending Engineer on a number of canals, to condemn the policy of letting out important parts of the work "to parties, simply because they [were]...the lowest bidders".⁴⁸

The governments of Nova Scotia and New Brunswick also persisted in accepting the lowest tenders despite the difficulties which this created on the railways.⁴⁹ In its turn, the federal government contracted with the lowest bidders for the canals and railways under its superintendence. The folly of this practice became brutally clear on the Intercolonial when, within one year of the commencement of construction, four of the first five contractors had broken down, a "self-evident proposition", according to engineer William Shanly, since the government had insisted on awarding contracts to the lowest bidders.⁵⁰ The government persisted, however, in following the same policy on the canals. On the Welland Canal, it let a number of sections to contractors at what informed parties considered "hazardously" and "ridiculously" low rates.⁵¹ Similarly, though Page knew that the lowest tender for work on the Carillon Rapids was "much too low", he felt bound by "an obligation on the part of [the]...Dept. to offer the execution of the work to the lowest tender".⁵²

Throughout the period men in charge of supervising

public projects complained not only that the lowest bidder policy ensured financial difficulties and bankruptcies, but that it also gave the advantage to the inexperienced and the incompetent in the tendering process. Men who did not understand the real cost of executing the work were most likely to submit the lowest tenders, which the government was forced to accept, while the most competent contractors submitted tenders at more cautious rates.⁵³ The Engineer on the European and North American Railway, George Light, pointed out that this "promiscuous way of letting works" stood in marked contrast to the practice in Britain. In that country public works were rarely let except to bona fide contractors well known to have extensive experience and capital. But in British North America they were let "to men of all classes...without any special regard being had to their qualifications".⁵⁴ While this was an oversimplification of the system on both sides of the Atlantic, such sentiments were voiced by engineers such as Page, on the canals of the Canadas, who protested the dichotomy between "competent contractors" and the lowest bidders.⁵⁵ The idea that lowest bidder policy put work in the hands of incompetents was so widely accepted that it was used by contractors themselves in pleading for special consideration. In 1858 after one of his partners on the Beauharnois Canal had drowned and another had absconded, James Jack argued

that he had been "induced" into taking the contract "under the impression that the said John Wilson and David W. Hughes were acquainted with the carrying on of such works...he himself knowing nothing about the same". In fact none of them had any experience and, pooling their ignorance, had taken the work at ruinously low rates.⁵⁶

During the 1840s and 1850s government bodies did at times pass over the lowest bidder. Tenders were rejected because the security appeared dubious, because nothing was known of either the bidder or his referees, or because what was known suggested the probability of default or corruption. In general, however, the inexperienced and incompetent contractor had little difficulty securing an important role on public projects in British North America. According to Page governments were the victims of their own over-rigid policy; by bidding low a novice like James Crawford could find in the public works an excellent opportunity for "serving an apprenticeship" in canal and railway construction.⁵⁷

On the public works undertaken by the Dominion of Canada Superintendents were still struggling against automatic acceptance of the lowest tender, and arguing for contractors "selected fully as much for the capabilities indicated by the scheme submitted with his tender, as from the actual prices at which he offers to do the work".⁵⁸ John Page, Chief Engineer for the Department of Public

Works in the 1870s, became so angered by the type of contractor forced on him that he violated Section 20 of the Public Works Act of 1867 in letting a difficult section of the Welland Canal. Instead of inviting tenders and choosing the lowest, he issued private circulars to ten persons, then chose the most competent from among the six that responded. He justified his actions on the grounds that the department could not afford to hand this particularly demanding contract to just anyone.⁵⁹ The government of the day defended Page, arguing that there were instances in which it was in the public interest that contractors be chosen on the basis of competence rather than the price of their tenders. But the issue raised the spectre of patronage on the public works, and the government was forced to defend itself on that charge in the House.

To avoid such charges but still secure competent contractors, Page could have asked the Department of Public Works to apply for an Order-in-Council allowing them to pass over the lowest tender, or the two or three lowest tenders, for reasons clearly specified, such as the inexperience or poor record of the tenderer or the insufficiency of his prices.⁶⁰ But passing over a tender for whatever reason left the government vulnerable to attack from the Opposition. As engineer Shanly pointed out during a debate over the Intercolonial contracts, the system of awarding work to the lowest bidder might be uneconomical

ultimately and generally unsatisfactory, but if the Commissioners of Public Works did not adhere strictly to it they would find it "a hard task to satisfy the representatives of the people...that favouritism had not been exercised".⁶¹ Consequently, most governments scrupulously followed the practice of accepting the lowest tender, preferring to risk incompetent contractors than the charge of corruption. When contractors ran into difficulties, as they inevitably did, the government could always fall back on the argument that their hands were tied as to the type of contract which they could accept.

This was how Charles Tupper, Minister of Public Works in Macdonald's administration, justified his record in letting contracts for the public works, a record distinguished by defaulting contractors and financial chaos:

our system of letting contracts is such that if parties come forward, however unable to do the work, however little confidence we may have in them, the hon. gentleman knows the difficulty of refusing the lowest tender, provided the party is prepared to make the deposit. 62

He went on to explain that the only fixed test for a tenderer was whether he could put up the initial fee and whether he could deposit five per cent of the contract price as security. If he could, he got the contract, even if he was not a skilled contractor.⁶³

There was considerable merit to the argument that

accepting the lowest bid was necessary to avoid charges of patronage and corruption. The history of public works contracting during this period reveals a number of instances of dubious practice. Suspicion surrounded the election to the federal parliament in 1878 of Dr. Christie, who was said to have received funds from a prospective contractor on the Grenville Canal.⁶⁴ Similar charges arose over the Quebec Graving Docks, when the Harbour Commissioners passed over the three lowest tenders from "solvent and reputable firms", already experienced on public works. To make their actions appear "decent and plausible", they altered the specifications and invited only four of the original bidders to re-tender. If their intention was to secure competent contractors, this was blurred by the fact that the four contractors invited to resubmit had provided "the sinews of war for the late Provincial election". Mackenzie reversed this decision and awarded the contract to McNamee, the lowest of the original tenderers and an experienced contractor.⁶⁵ McNamee again became embroiled in political controversy later in the year on the Carillon Canal.⁶⁶

Despite the instances of corruption and jobbing, the system of tendering for public works stood in marked contrast to the method of awarding contracts on many private projects. For private railway companies, the awarding of contracts was often tied up with the financing as well as the actual construction of the line, work on

private railways being let out to men who could either supply the Company with the capital necessary for construction or attract investment on the strength of their reputations and connections in financial circles.⁶⁷ Thomas Brassey was among those who secured contracts for major railways in British North America in this way. It was Brassey's experience as a contractor and his connections with the Baring Brothers financial house in London which enabled the Quebec and Richmond Railway to float stock. Brassey also became the key to the financing of the Grand Trunk, contracting for six-sevenths of the line on the understanding that his firm would raise all the necessary capital.⁶⁸ Initially the firm of Peto, Brassey, Betts and Jackson was to have filled the same function for the European and North American Railway. In return for its services in raising capital, the firm was to have constructed the railway virtually on its own terms. Only after the company failed to live up to their agreement did the New Brunswick legislature take over the railway as a public work and call for public tenders.⁶⁹ The same firm was to have helped finance and construct the Nova Scotia Railway, but backed out of the agreement when it discovered that it would not be a profitable venture.⁷⁰

On private projects the frequent connection between financing and construction could give contractors ample latitude for scamping and jobbing. The system of tendering

for the public works was partially successful in preventing the worst excesses of the private system. It also curbed the potential for patronage implicit in public works. Yet it created its own problem of unrealistically low contract prices, opening the door to the inexperienced and the incompetent.

Having let the work out to contract, governments did not then leave its execution entirely in the hands of the contractor. Rather, they attempted to stay intimately involved in and in ultimate control of the construction process. They did so through a corps of government engineers. These trained specialists, some attached permanently to the government service and others hired for specific projects, were given the day-to-day responsibility of holding the contract system together. Engineering as a profession, and engineers as professionals, came into their own during the transportation revolution. Both their numbers and status grew with the construction of canals and the early railways, which created an unprecedented demand for non-military engineers. Although practical experience remained central to the engineer's education, building not only his expertise but also his reputation, it was increasingly linked to more formalised training which emphasised the scientific and helped to create a professional body of knowledge. This knowledge, so crucial to Victorian notions of progress, brought the engineer

enormous responsibility and respect. He was entrusted with millions of dollars in public and private funds, and with the safety of all who travelled on his works.⁷¹

Throughout the period, governments were able to draw from a pool of experienced engineers supplied largely from England and the United States, and increasingly from within British North America.⁷² These men were capable; some, such as Samuel Powers, John Page, and Sandford Fleming, extremely talented. Their ability and integrity were seldom questioned.⁷³ Indeed, they were so widely respected that engineers were considered the "ethical safeguard" in the system, men who brought to their job the skill and detachment of professionals. Theoretically they possessed a disinterested integrity which equipped them to mediate between two conflicting interests, the government and the entrepreneur.⁷⁴ At the same time, however, the engineering staff on a public work was there to represent the government, execute its policies, and protect its interests.

Two broad systems of utilizing engineers were common during the period. Under what was referred to as the English system, the government employed a limited staff of resident engineers and inspectors, sufficient for the general supervision of the work. The contractor hired his own private staff of engineers to make day to day decisions and to carry out routine inspections. Company or government engineers came in to assess the completed work

and offer advice for overcoming difficulties. In contrast, under the so-called American system of supervision, the company or government provided an extensive engineering staff which had the supervision of the entire project, contractors being answerable to them at every stage of operation.⁷⁵ The Railway Commission of Nova Scotia attempted to employ the British system, offering contractors little in the way of immediate help and supervision; but according to James Laurie, civil engineer brought in by the government to assess the work on the railway, the result was less than satisfactory. Inadequate engineering resulted in work which was out of line, too wide, or too narrow, and in unnecessary attempts to cross bogs and lakes which should have been skirted.⁷⁶ It was such reports that helped to convince Light, on the European and North American Railway, that the English system could not work in North America. Here contractors were chosen less discriminately and were frequently men lacking a private engineering staff and without money to secure one. Consequently they required close supervision. It was in the government's interest to furnish this supervision, otherwise it would only end up paying for mistakes.⁷⁷

Recognizing this need to protect their interests, most other government bodies commenced construction with the "American" level of engineering staff. A Chief or Superintending Engineer was responsible for the entire project. Under him was the Resident Engineer stationed

permanently on site to supervise day to day operations. Depending on the size of the project, he had under him a number of district engineers, and under them were various assistants and rodmen. Governments competed successfully with private companies in acquiring the services of respected and talented engineers for the key positions on public works; these men, in turn, appear to have been generally satisfied with the ability and performance of their junior staff.⁷⁸

Charged with the supervision of every stage of construction, engineers attempted to control the quality of the work and to ensure that its progress was commensurate with contract deadlines. They were responsible for laying out the work, measuring and inspecting materials and progress from day to day, and generally overseeing the manner in which contractors carried out the construction process. Crucial to every stage of the work, the engineering staff had the authority to rectify any situation which it felt jeopardised the work. Engineers attempted to keep tight control on the quality of materials used in construction, and on the way in which materials and men were deployed. A major responsibility was to ensure that contractors were employing an adequate workforce, that it was effectively supervised, and that it was being used most efficiently. If contractors refused to comply with engineers' suggestions, the latter might temporarily assume direct control over the

workforce. But that represented the limits of their interference in contractors' relations with their workers.⁷⁹

The engineer's power rested ultimately in his effective control of the purse strings. His was the job of drawing up the regular, usually monthly, estimates of the work for which a contractor was entitled to payment. He measured only work and material which was up to specifications, in this way enforcing compliance with his instructions, for contractors needed the engineer's approval if they were to receive payment for work completed.

In fulfilling their function engineers might come into conflict with the government body in charge of construction. A major source of controversy was the level of staffing on projects. Always alert to the possibility of cutting costs, boards and commissions seldom listened sympathetically to appeals for extra help from overworked engineers. This attitude was carried to an extreme on the Intercolonial. At a time when Chief Engineer Fleming was complaining that inadequate staffing was retarding the progress of the work and costing contractors and the Commission money, the Commission, under pressure from Parliament, began systematically to strip the engineering staff to the bone. Members of Parliament were convinced that the staff was "far beyond what was required". The Committee on Public Accounts only encouraged them in this belief when it accidentally counted the same engineer half a dozen times

in a report of 1870.⁸⁰

Conflict might also centre around the wide range of decisions faced in the construction process. Once again it was the Intercolonial which stood out in this respect. Taking their responsibilities too seriously, to the point, perhaps, of abusing their powers, Commissioners on the Intercolonial challenged their Chief Engineer Sandford Fleming, on a variety of issues ranging from the appointment of staff to the types of material best suited to construction. This level of interference provoked what one Member of Parliament referred to as a "civil war" between Commissioners and engineering staff, and was a contributory factor in the delays and difficulties of construction.⁸¹

It was, however, unusual. The engineering staff on public works generally enjoyed greater independence, respect, and, consequently, power. Their conflicts were much more frequently with contractors. The very nature of their job placed them at the centre of the controversy between government and contractors which characterised public works. It was they who had to administer a system controlled by government but within which contractors often faced considerable difficulties.

The system of public works construction, devised by governments to represent a balance between public and private enterprise, between political necessity and fiscal responsibility, rarely operated as well in practice as the

theory dictated. Throughout the years between 1840 and 1880 contractors faced serious problems operating within the system. Historians have created a stereotype of the nineteenth century construction contractor as a callous, hard-driving, profit-grasping individual who mastered the art of manipulating companies and governments alike. Typically he emerges as a combination robber baron and confidence trickster.⁸² Both these types undoubtedly were represented on the public works, but it is crucial to appreciate that they operated within a structure which at times created serious difficulties for them.

Contractors' problems began at the tendering stage. The tendering process was based on the assumption that a prospective contractor could estimate in advance of construction the price at which he could complete the work. Yet neither experienced contractors nor government officials could be confident in projecting accurately the cost of canals and railways during this period. The science of engineering was still largely in its infancy, with engineers developing new techniques of construction and new technology as they were needed to overcome new problems. On the railways and canals of Britain and the United States cost projections of the best engineers frequently ran as much as fifty per cent under actual cost.⁸³ British North America was able to benefit from mistakes made in those countries, importing both newly-developed technology and

skilled engineers. Nonetheless, when as respected an engineer as Sandford Fleming referred to some of his cost projections for the Intercolonial as "mere guesses", he was not being modest.⁸⁴

In British North America, the difficulty of arriving at reasonable estimates was exacerbated by the fact that many projects ran through unsettled and undeveloped territory for which geological surveys were incomplete. Such territory called for carefully prepared plans and specifications. Too frequently, plans furnished for the information of prospective bidders were sketchy and randomly accurate, of limited value for cost projection. This could lead to unpleasant confrontations. In 1858 contractors on the Nova Railway complained to a House of Assembly Committee that the depth of embankments had been "accidentally" misrepresented by the Railway Commissioners; as a result construction costs had expanded appreciably.⁸⁵ Similarly, in 1871, contractors on the Intercolonial faced unanticipated expenditures when it was discovered that the crossing over the Miramichi river on the Intercolonial had to be footed on a shifting foundation of gravel and sand, not rock, as the contractor had been led to expect.⁸⁶

Sometimes political wrangling over the routing of a railway line could force a government to advertise for tenders before the precise location had been agreed on, let alone surveyed. When Commissioners on the European

and North American could not reach agreement on the exact location of the eastern portion of Section 6, they went ahead and let the contract anyway, at a total price. Several months later they handed the contractor a route which included Groom's Cove Embankment, the heaviest embankment on the entire line. It was little wonder that contract prices proved inadequate, though the Railway Commissioners managed to appear outraged as costs spiralled.⁸⁷

Not all of the unknowns could be eliminated by detailed and complete surveys. Even experienced contractors found it difficult to calculate how much fill would be needed for a bog, or by how much an embankment would subside. A contractor who had run into difficulty with bottomless bogs on the Nova Scotia Railway considered this "one of the risks contractors had to take". But this was small comfort as costs escalated towards and beyond the contract price.⁸⁸

Contracts which specified a total price for all the work included in a particular section created the most serious problems for governments and contractors, since to arrive at a total price the contractor had to estimate not just the cost, but also the quantity, of each type of work in the contract. For this reason government engineers usually argued for a schedule of prices system of letting public works.⁸⁹ Under this system contractor and

government agreed in advance on a schedule of prices for various types and grades of material, and the contractor received payment by the cubic yard for each category of work at his schedule price. The amount of work was determined as construction progressed. This method of contracting eliminated the grossest errors of total price contracting; but it was used less frequently in British North America than in Europe and the United States. Even when it was employed, as on some sections of the Inter-colonial, the schedule of prices could prove inadequate or a maximum total cost might be written into the contract and render the schedule meaningless.⁹⁰

The difficulty of estimating contract prices should have encouraged cautious tendering. There is little evidence that it did. Without sufficient appreciation of ultimate costs, many contractors offered miserably low bids, hoping to make their tender most attractive by undercutting their rivals. Governments' policy of accepting the lowest tender not only encouraged this practice, but almost made it a necessity for those who hoped to win contracts. In bidding so low, however, a contractor invited financial difficulties. He might be able to proceed without serious problems for some time, but eventually the discrepancy between his contract price and the actual cost of the work would catch up with him. The monthly payments from the government would begin to fall below actual expenditures,

the contractor falling further and further behind every month. Even when contract prices were realistic, the monthly estimates could prove inadequate. Unexpected difficulties such as a slide or a breach would not appear in the estimates, though they would cost the contractor time and money. Redoing a section of condemned work also consumed materials and man hours, for which there was no compensation.⁹¹

Inadequate estimates produced regular altercations between contractors and government officials, charges and counter-charges of under-payment and under-performance, suspicions that the estimates were being manipulated to the advantage of one side or the other. Considering that estimates, however carefully measured, were still estimates, and not actual representations of the work completed each month, such suspicions may have been well-founded. Contractors struggling to remain solvent probably did attempt to misrepresent quantities of materials and man hours in order to increase their payments. Conversely, engineers may have felt under pressure to estimate under the mark as contract costs escalated. Their reports reveal that engineers appreciated the possibility of manipulating estimates in order to control the progress or lack of it on the works, though the manipulation was usually not to the disadvantage of the contractor. Informally estimating or formally authorizing monthly advances to struggling

contractors was a means of helping to "carry them along".⁹² Thus, in an attempt to encourage contractors on the Intercolonial, Fleming instructed his staff to make returns of work done "full and liberal", to estimate "in the contractors' favour", to estimate "over the mark".⁹³ But if it was possible to over-estimate, both contractors and engineers knew it was possible to under-estimate. This possibility, as much as the practice, soured relations between contractors and government bodies.

Hostility over the estimates also centered around the fact that they were frequently late, a source of real hardship for contractors operating on a shoestring. At times a dispute over measuring the work might keep the contractor waiting for full payment of his estimate.⁹⁴ At other times late estimates appear to have been the result of government mismanagement or lack of liquid capital to pay them. On the canals of the Canadas in the 1840s, the Board of Works' tardiness in issuing monthly returns became a regular feature of the system and a major obstacle to the systematic prosecution of the work. In the following decade late estimates caused less trouble on both the canals and the railways of the Maritimes, but the problem still arose, particularly when the amount of the estimate was in dispute. Similarly, in the 1870s, late estimates could still increase the financial pressure on contractors.⁹⁵

Inadequate and late estimates meant that in practice the whole system of paying estimates became not so much an orderly procedure for regulating contractors but a source of distrust and hostility, dramatizing the underlying conflict between contractors and governments. As governments struggles to protect their interest and keep to the contract price, contractors wages an often losing battle against escalating costs. If a contractor had sufficient financial backing he might be able to keep going through a period when monthly payments were falling below costs. But contractors without such support quickly became unable to meet their commitments; for a short period they might be able to extend their credit and continue operations. When credit ran out, however, they could no longer buy materials or pay the wages of their labourers.

The problems that derived from inadequate prices and monthly estimates were exacerbated by subcontracting. Although the extent of the practice cannot be established, many major contractors, particularly on canals, appear to have sublet only small sections of their contracts and to have maintained direct responsibility for the majority of the work and the workforce.⁹⁶ But others sublet more extensively and in a variety of ways. A contractor might sublet those sections of the work requiring particular expertise to men who possessed it.⁹⁷ Or he might sublet all the

work of a particular class, such as haulage or quarrying. In other cases he divided up his work geographically into what he considered manageable sections.⁹⁸ Less frequently, the contractor sublet all or most of his contract, leaving himself to function primarily as middleman. Whatever its purpose, subcontracting usually had the effect of reducing the scale of operation, creating contracts which the small entrepreneur could pick up more easily than the large contracts. It also opened the way for an ambitious entrepreneur with limited resources to take one of the large contracts, by restricting his liability and allowing him to share his risks with subcontractors. At the same time subcontracting did not necessarily hand the work to a smaller, less competent operator. There were numerous instances in which contractors sublet the work to men with more experience and capital. The engineering staff on the Welland Canal during the 1840s was delighted to learn that a number of crucial contracts had been sublet to persons more competent than the contractors.⁹⁹ Similarly, the American contractors who sublet sections of the European and North American Railway were reportedly more "responsible" than those who held the contracts for the work.¹⁰⁰

Whether or not the subcontractor was competent, the system frequently led him into financial difficulties. Allowing himself a wide margin for profit on the transaction, the contractor left the subcontractor to attempt to

squeeze his profit from prices significantly lower than the original contract. Keen competition amongst subcontractors for major sections of the work might drive prices down by as much as fifty per cent of the original.¹⁰¹ Given that the original contract prices were so frequently well below actual costs, widespread financial difficulties could be expected amongst subcontractors. What little information there is suggests that these difficulties fall into the pattern established by Bradwin for the National Trans-continental Railway.¹⁰² On contracts where the head contractor's monthly estimates were falling below costs, it was inevitable that the subcontractor's would do likewise. Even when this was not the case, subcontractors might encounter the delays and difficulties associated with this type of work, and ride the downward spiral of debt until they were unable to meet obligations to those supplying material and labour. All subcontractors faced the added problem that they were entirely dependent on the contractor for payment. The government paid monthly estimates only to contractors, who were expected to pass them along. If the contractor was himself in financial difficulties, he might retain the money or see it claimed by his creditors. In either case it did not reach the subcontractor. In such circumstances subcontractors could appeal to governments for redress; but governments usually refused to intervene between contractor and subcontractor. Although they

tolerated the practice of subletting the work even on projects where it was clearly prohibited by the terms of the original contract, government Boards and Commissions argued that as they had made no legal agreements with subcontractors, it was within neither their rights nor their powers to interfere. As a result, the damage to the work might be irreparable and the subcontractor hopelessly in debt before either the contractor or the government was forced to step in.¹⁰³

On all the public projects considered throughout the period of this study, there were standard procedures through which government and contractor might resolve financial difficulties. Built into the contract system as a safeguard to contractors was the provision for compensation for extra work and materials which did not appear in the original specifications. If the work was clearly unavoidable and resulted from the error or decision of the government, and not from the contractor's incompetence or miscalculation, he could expect straightforward payment of the claim. But claims for extras were frequently a source of conflict and in disputed cases contractors were at the mercy of the government, which usually had the last word.¹⁰⁴ Disputes were often settled in the contractor's favour, if for no other reason than to keep operations moving. Compensation, however, might come months or years later, too late to ease immediate financial difficulties. Few of the

contractors on public works were in the position of Samuel Zimmerman, contractor for the Cobourg and Peterborough Railway. On this as on other railways Zimmerman acquired a reputation for sharp practice. His contracts were running behind schedule when the Company finally decided to take the half-finished works off his hands. They included a three mile bridge over Rice Lake, so poorly constructed that part of it was carried away by ice and a gradient so steep in places that locomotives could pull only one-tenth what they could haul on the level. Despite his obvious incompetence, Zimmerman demanded to be paid in full and for extras. When the Company balked, he refused to turn over their assets until he had received what he, not the Company, deemed a fair settlement.¹⁰⁵

If payment of questionable extras could not keep a contractor afloat, a government might consider increasing the prices or the bulk sum in the contract. This step was taken with the greatest reluctance, a reluctance derived from considerations of cost and principle. Even if money could be found to cover increases, such generosity was considered by men such as Light, on the European and North American, to be "not fair to other Contractors who bid on the work at the first what they fairly knew it would cost". More importantly, it would "have the effect of perpetuating the System" of overly low tendering. As he warned the New Brunswick government in 1858, it would encourage "the

designing men" who secured contracts by offering low bids, "thereby obtain[ing] a living in the meantime trusting to chance, a raise of prices, highly paid extras, fortuitous circumstances, lawsuits".¹⁰⁶ The same concerns were expressed in the 1870s. When Cooke and Company ran into difficulty on the Carillon Canal in 1875, Engineer Sippell gave it as his opinion that the contractors were capable and energetic, and could easily handle the work if their prices were raised. But this "could hardly be considered admissible, without doing injustice to contractors who tendered at reasonable prices".¹⁰⁷

The powerlessness of contractors in dealing with government bodies is demonstrated by the experience of Bertrand and Berlinquet. These major Quebec contractors took over the contracts of defaulting contractors on the Intercolonial in 1870. The government welcomed them as men with extensive experience, solid assets, and good reputations in the construction industry.¹⁰⁸ Before they too were forced to abandon the work they went through a heated conflict with the Commissioners over estimates and contract prices. From his position at the centre of the controversy, Chief Engineer Fleming professed to being "at a loss" as to what to do. The certificates were falling far short of actual expenditure through no fault of the contractors. Even given that the work was being measured accurately, the prices established for such work

would have to be increased at least twenty per cent. The Commissioners appeared to accept Fleming's assessment of the contractor's difficulties and agreed to increase the schedule of prices temporarily. But they added an incredible proviso which nullified this concession: the total cost of construction was not to exceed the total price in the original contracts.¹⁰⁹ Confronted with repeated assurances that the government was only trying to be fair, Bertrand and Berlinquet expressed their frustration: "We are perfectly aware there is every disposition to see justice done us from the powers that be. All we ask is, let us have an outward and visible sign of it". Another letter expressed their disbelief that the government would "allow any part of the cost of such a great national work to be sustained by private individuals".¹¹⁰ Other contractors, struggling with such problems, confronting governments more interested in cutting costs than in the actual costs of construction, may also have wondered whether the public works were being "constructed at the cost of private individuals".¹¹¹

The attitude towards appeals for extras and price increases appears to have varied somewhat from government to government. During the 1840s the Board of Works for the Canadas professed to being scrupulous in not listening to claims for extras or price increases, even though it readily admitted prices were too low to enable contractors

to complete their work.¹¹² In contrast, the government of New Brunswick believed itself generous in honouring claims for extra work.¹¹³ Yet an overriding consideration appears to have shaped each government's relations with its contractors: what would be the cheapest course of action? On occasion it proved cheaper to "back up" a contractor than to cancel the contract and relet the work at much higher prices.¹¹⁴ In such instances the government might honour inflated claims or even increase prices, and allow the contractor to continue under his own authority. Or the government might ease the financial pressure on the contractor, and leave the contract in place, but at the same time force him to work more directly under the control of government engineers.¹¹⁵ Always a government was under pressure to demonstrate that it was making efficient use of public moneys. Public works were very visible examples of government spending and the suspicion of mismanagement quickly provoked opposition and press criticism. To prevent such attacks governments were forced to look always for the cheapest means of carrying on the work.¹¹⁶

With or without government intervention to assist them, many contractors defaulted. Faced with the impossibility of carrying on some men chose, others were forced, to abandon the work, leaving the government to cancel the contract and either call for new tenders or continue the work directly under their own engineering staff. The case of John Lyons

demonstrates the successive stages by which a contractor broke down. In January 1876 Lyons entered into a contract for Section 9 of the Lachine Canal "at rates which at the time were looked upon as exceedingly low". Struggling through one year of capital shortages, he became insolvent in March 1877. The work limped along into the summer when the Department of Public Works advanced the full percentage retained as security. Again unable to continue, Lyons and his assignees passed the work to a subcontractor. Although under the terms of the contract the government could not formally recognise this arrangement, "no objections were made nor intended to be made so long as the work was satisfactorily executed". The subcontractor absconded a few months later and the government cancelled Lyons' contract.¹¹⁷

There appears to have been no consistent pattern to the way in which the colonial governments dealt with defaulting contractors such as Lyons. The Federal government, however, usually adopted a fairly lenient approach. A defaulter was normally paid for that part of the work which he had managed to complete. Under the Macdonald administration, this practice was interpreted as a variety of favouritism, special treatment for special friends. Edward Blake questioned the motives of the Conservative administration in paying the contractors on the Grenville Canal for the work they had completed as if they had fulfilled their contracts,

when in fact they had defaulted.¹¹⁸ But Tupper was able to respond that this was the usual manner of handling defaulting contractors, and that "this had always been the practice with regard to the canals". As an example he cited the payment of \$334,000 to Cooke and Co., before their contract on the Carillon Canal was taken from them.¹¹⁹

Critics pointed out that this policy was far more generous than anything a contractor could expect in the private sector. In a debate over the cancellation of A.B. Foster's contract for the Georgian Bay Branch of the Canadian Pacific Railway, Cardwell M.P. Dalton McCarthy argued:

When a person entered into a private contract he did not look to be relieved of it if he afterwards discovered that he could not make it profitable, and certainly he would not expect a sum to be paid him which would cover all expenses with a very wide margin for profit on the actual work done, 120

This was, however, the type of treatment which contractors could expect on federal public works. While he might not make his fortune, a contractor was not likely to lose his shirt.

The federal government was equally lenient with sureties. It did not make them carry on the work when contractors reneged, unless they wished to do so. This was once again used as a charge of favouritism. But William Shanly, long involved in public and private construction, told the House of Commons during an 1870 debate over the contracts on the Intercolonial that he knew of no instance

in his experience "where work taken below its acknowledged value had been completed by sureties".¹²¹ The following year in debate over the same contracts, Senator Tessier argued that it was "generally understood that it was better to leave those sureties alone". The government had tried to have sureties pay in a few cases, but had ended up paying the cost of the proceedings, and not retrieving any money.¹²² A decade later, in defending the Conservatives' treatment of defaulting contractors, Tupper pointed out to Blake that they were only following the policy of Mackenzie's government:

The Government of which you were a member settled a score of large contracts in which they took the work out of the hands of the parties and paid a large sum of public money over and above the amount of the contract, and yet they were not able to obtain a single dollar of the securities. 123

Lenient treatment of defaulting contractors may have been justified, considering the role of governments in the creation of financial difficulties on the public works. It did nothing, however, to resolve fundamental problems in the contract system and supervision of construction. On the contrary, by adopting this policy governments helped to make crises inevitable. They eliminated what might have been a major check on the cavalier spirit in which many contractors entered the public works. Parsimonious in the awarding of contracts and in their response to

contractors' difficulties, but then lenient in their treatment of defaulters, governments found what was perhaps the worst formula for the construction of public works.

The various difficulties which bedevilled the contract system on public works all redounded to the labourers' disadvantage. Throughout the period labour remained a major, usually the principal, expenditure for most contractors. When the natural inclination to decrease expenditures combined, as it frequently did, with the urgent need to cut costs, contractors turned by necessity to reducing labour costs. Payment for labour also required the maintenance of a steady cash flow. Any insufficiency or interruption in the payment of estimates immediately impaired the contractors' ability to meet the cost of labour and jeopardized the labourers' livelihood. Thus the full weight of the deficiencies in the contracting system pressed down on the least powerful participants in public works construction, the labourers.

Notes

1. Public officials were censured for any unwarranted deviation from this principle and a government risked charges of patronage and squandering public funds if day labourers were discovered on work which might have been contracted out. Under special circumstances day labour was accepted as preferable to contracting. Permanent operations staff on a public work were frequently asked to put in extra time on improvements without extra pay, thus providing what amounted to free labour. See for example: Public Archives of Canada, Record Group 11, Department of Public Works, Welland Canal Letterbook (WCLB), Power to Begly, 26 January 1845, Vol. 18m #17406, Page to Begly, 7 August 1852; James Laurie, Report on the Nova Scotia Railway (Halifax: 1858); Public Archives of Canada, Manuscript Group 9, Provincial, Local, and Territorial Records, A1, New Brunswick Executive Council, Vols. 51-52, passim; Commons Debates, Mitchell, 30 March 1876, 949; Langevin, 10 April 1876, 1156; Mackenzie, 10 April 1876, 1160; RG 11, Vol. 151, #50088, Woodruff to Trudeau, 30 October 1860; Vol. 177, #39816, Sippell to Braun, 31 March 1874; Vol. 176, #31305, Order in Council, 4 June 1874; Ibid., #13489, Sippell to Braun, 9 June 1873; Record Group 30, Records of the Canadian National Railways, Vol. 12470, Papers relating to the contract of F. Berlinquet on the Intercolonial, Report of Committee of Privy Council, approved 30 May 1873.
2. J.P. Merritt, Biography of the Hon. W.H. Merritt (St. Catharines: 1875), 310; Nova Scotian, 11 July 1855.
3. Ibid.
4. RG 11, Vol. 161, #38794, Fisher to Braun, 20 February 1874; Ibid., #38796, Sweet to Langevin, 21 February 1874; Vol. 469, #56863, Mowbray to Braun, 19 January 1876. See also Montreal Star, 1 November 1878.
5. RG 11, Vol. 448, #49842, Departmental Memorandum, 24 April 1875.
6. RG 11, Vol. 475, #77515, Girouard to Tupper, 14 November 1878. There are also some hostility to the awarding of contracts to Americans in depressed economic times.
7. RG 11, Vol. 448, #49842, Departmental Memorandum, 24 April 1875.

8. RG 11, Vol. 159, #28430, Benner to Langevin, 18 May 1874.
9. Ibid., #26872, McNamee to Langevin, 14 November 1877; Montreal Star, 17 November 1877; 22 October 1878.
10. Welland Tribune, 3 May 1878.
11. Ibid., 7 July 1878.
12. Ibid., 30 June 1876. Brown was thrown from his buggy while returning home after an inspection of the works. See also the case of contractor John Sullivan, who went from the Lachine canal to extensive contracts in Mexico. Montreal Star, 12 May 1879.
13. For a summary comparison across industries see Raphael Samuel, "Workshop of the World: Steam Power and Hand Technology in mid-Victorian Britain", History Workshop, 3 (1977), 6-72.
14. RG 11, Vol. 159, #26872, McNamee to Langevin, 14 November 1872; Welland Tribune, 8 October 1874; 19 August 1875.
15. Welland Tribune, 17 November 1876.
16. Ibid., 7 December 1877; 7 June 1878; 28 May 1880.
17. Montreal Star, 22 July 1880.
18. Ibid., 24 October 1877. Machines were considered sufficiently useful that some contractors without the money to buy them rented from government. One contractor on the St. Peter's Canal rented a dredge for \$1,000 a month. RG 11, Vol. 487, #82503, Perley to Braun, 16 June 1879. Such machines nevertheless did not entirely displace human labour. Under certain circumstances it was still both cheaper and more efficient to let labourers carry out the whole operation. Despite the claims of promoters that their machines would cut costs, the operating charges alone for a steam dredge could exceed that of drawing off the water and hiring labourers. Thus when a contractor applied to borrow a government steam dredge for his section of the Lachine Canal, the government engineer, with an eye to contract prices, advised him that it would be cheaper to drain the basin. RG 11, Vol. 690, #48234, Sippell to Harrington, 22 August 1879.
19. Welland Tribune, 5 November 1880.

20. Ibid., 20 August 1880.
21. Montreal Star, 22 July 1880.
22. Coleman, The Railway Navvies, 50.
23. For a comparison of technological development in Britain and the United States see: H.J. Habbakkuk, American and British Technology (Cambridge: 1962) and S.B. Saul, ed., Technological Change, the United States and Britain in the Nineteenth Century (London: 1970).
24. Merritt, Biography of Merritt, 310.
25. Welland Tribune, 7 July 1876.
26. See, for example, the "steam shovel" which did the work of fifty men on the Nova Scotia Railway. Morning News, 30 July 1858.
27. RG 30, Vol. 12471, Home to Schreiber, 6 April 1871.
28. RG 30, Vol. 12470, Murphy to Bell, 1 August 1873.
29. RG 11, Vol. 24, #27582, Gallway to Begly, 6 October 1885.
30. Welland Tribune, 4 November 1875; 1 February 1878; 3 September 1880.
31. Ibid., 4 November 1875.
32. RG 11, Vol. 163, #42373, Brown to Braun, 25 June 1874. Contractors also experimented with new forms of nitroglycerin, such as the Mica blasting powder used at Fort Francis, and Tri-nitroglycerin. Vol. 486, #65825, Shanley to Mowbray, 19 March 1877.
33. Gosta E. Sandstrom, The History of Tunnelling (London: 1963), 277-85.
34. RG 30, Vol. 12470, Townsend to Bell, 16 August 1873. Other contractors on the Intercolonial were using nitroglycerin. Vol. 12471, Home to Schreiber, 6 April 1871.
35. RG 30, Vol. 2027, Nova Scotia Railway Letterbook, Morse to Forman, 19 June 1856; Ibid., Morse to Forman, 18 November 1857; Ibid., Morse to Forman, 4 April 1857.
36. Evidence of the principal agents of Peto, Brassey and Betts in the construction of the Grand Trunk Railway,

in Arthur Helps, Life and Labours of Thomas Brassey, 1805-1870 (London: 1872), 190-1.

37. RG 30, Vol. 2027, Morse to Commissioners, 18 May 1858; Morse to Forman, 4 February 1858; Report of the New Brunswick Railway Commissioners, 1859, 36.
38. RG 30, Vol. 2027, Morse to Commissioners, 7 February 1858.
39. In March 1871 Bertrand complained that he could not hire extra teams for as much as \$3.50 per day, a rate well above the \$1.50 which the government had initially estimated horses would cost in the area long the Bay Chaleur. RG 30, Vol. 12471, Peterson to Smith, 10 March 1871. See also Ibid., Odell to Smith, 3 June 1871 and Vol. 12470, Schreiber to Brydges, 4 June 1871. The contractor relying almost solely on horses worked side by side with the contractor possessing the latest in steam technology. Welland Tribune, 30 June 1876; 10 December 1874.
40. Public Archives of Canada, Manuscript Group 9, Provincial, Local, and Territorial Records, A1, New Brunswick Executive Council, Vol. 52, Light to Jardine, 8 April 1858.
41. There were, for example, variations in the number of weeks allowed for public perusal of specifications, and in the methods of advertising. But these did not detract from the public and open nature of the tendering system.
42. MG 9, Vols. 51-52, passim; James Laurie, Report on the Nova Scotia Railway (Halifax: 1858); Sandford Fleming, The Intercolonial: A Historical Sketch (Montreal: 1876), passim.
43. RG 11, Vol. 450, #54378, Page to Braun, 18 January 1876.
44. Plans were available for inspection either on site or at the seat of government. Five or six weeks was usually allowed for the submission of tenders.
45. Concern to keep down costs was also an aspect of the award of contracts for private projects. Without the added consideration of political patronage, however, private companies could be more flexible..

46. RG 11, Welland Canal Commission (WCC-7), Begly to Power, 3 March 1844, enclosure; Welland Canal Letterbook (WCLB), Power to Begly, 26 January 1845.
47. Ontario Archives, (OA), RG 18, Civil Court Cases, C-11-23, Report of the Committee to enquire into the non-fulfillment of the contract entered into by John Counter, 24 July 1857; Canada, Legislative Journals, 1855, Appendix EEEE.
48. Ibid., 1854, Appendix Q, Report of the Commissioners of Public Works.
49. Laurie, Report, passim; Report of the New Brunswick Railway Commissioners, 1859, 36; MG 9, Vol. 52, Jardine to Tilly, 18 October 1858; Ibid., Jardine to Tilly, 27 February 1858.
50. Commons Debates, Shanley, 12 April 1870, 994; Senate Debates, Tessier, 6 March 1871, 267. Tessier noted that the parties who took up the vacated contracts had, in some cases, taken them at double the original price.
51. Welland Tribune, 14 September 1877; 28 September 1877; 12 October 1877.
52. RG 11, Vol. 479, #76949, Page to Secretary of Public Works, 19 October 1878.
53. Canada, Legislative Journals, 1854, Appendix O, Report of the Commissioners of Public Works; Report of the New Brunswick Railway Commissioners, 1859, 56-7; Commons Debates, Blake, 1 May 1882, 1242, 3.
54. Report of the New Brunswick Railway Commissioners, 1859, 56-57.
55. Canada, Legislative Journals, 1854, Appendix O, Report of the Commissioners of Public Works.
56. RG 11, Vol. 33, #37973, Petition of James Jack to Governor-General Head, 17 August 1858.
57. OA, RG 18, Report of the Committee on John Counter, 24 July 1857.
58. Page's outburst was provoked by the tenders submitted for the improvement of the channel through the Galops Rapids. The variation amongst the eleven tenders was such that the highest was six times greater than the lowest. RG 11, Vol. 475, #82526, Page to Secretary of Public Works, October 1877.

59. Commons Debates, Mackenzie, Tupper, Blake, and McCallum, 1 May 1882, 1240-44.
60. Ibid., Langevin, 28 February 1878, 634-5.
61. Ibid., Shanley, 12 April 1870, 994.
62. Ibid., Tupper, 11 May 1883, 1159.
63. Ibid., Tupper, 15 May 1883, 1221.
64. Montreal Star, 20 September 1878.
65. For press coverage of the incidents see Ibid., 15 May 1878; 13 June 1878.
66. Ibid., 23 October 1878.
67. For a discussion of railway promotion, capitalization, and the inevitable jobbing of contracts see F.A. Cleveland and F.W. Powell, Railroad Promotion and Capitalization in the United States (New York: 1909). Much of the Canadian railroad history closely paralleled, indeed was intimately connected with, the American experience.
68. Currie, The Grand Trunk, 284-6.
69. Stevens, Canadian National Railways, 1, 158-68.
70. Ibid., 158-9.
71. Important general treatments of the rise of engineering are: L. Rolt, Victorian Engineering (Middlesex: 1970) and George and Robert Stephenson (London: 1960), and W.H.G. Armytage, A Social History of Engineering (London: 1961). Of particular relevance to this study is Raymond H. Merritt, Engineering in American Society 1850-1875 (Kentucky: 1969).
72. For Canadian engineers and engineering see: Ludwick Kos-Rabcewicz-Zubkowski and William Greening, Sir Casimir Gzowski: A Biography (Toronto: 1959); Frank and Gladys Walker, eds., Daylight through the Mountain: Letters and Labours of Civil Engineers Walter and Francis Shanly (Montreal: 1957); O.D. Skelton, The Railway Builders (Toronto: 1916).
73. Power came to prominence through his superintendence of the Welland Canal improvements in the 1840s. Page's career in government service spanned three decades. He was

the single most important engineer on the canal improvements of the 1850s and again on the improvement of the 1870s. Fleming's distinguished career included engineering on the major federal railway projects and contracting in his own right.

74. See Thomas Keefer's discussion of the role of engineers, in T. Keefer, Philosophy of Railroads and other essays, (Reprinted, Toronto: 1972), 93-103.
75. Report of the New Brunswick Railway Commissioners, 1859, 56-57.
76. Laurie, Report. On the strength of his report Laurie was appointed Chief Engineer of the Nova Scotia Railway in 1858.
77. Report of the New Brunswick Railway Commissioners, 1859, 56-57. On the Intercolonial Smith argued that government engineers had to supply not just the deficiency of contractors' engineers but also the deficiency of the contractors' gangers and foremen who were principally farmers or people of the district who had "no experience on railway works", and "needed looking after". RG 30, Vol. 12470, Smith to Brydges, 20 January 1872.
78. There were some complaints about the quality of their staff on the Intercolonial in particular, where Commissioners attempted to make political appointments. Smith complained that one assistant was not only a mining engineer with little experience on railways, but he was "physically unable to get over the ground in a hilly country". RG 30, Vol. 12471, Smith to Fleming, 10 October 1870. Smith also felt the need to point out that rodmen were expected to do more than "hold up a rod". Ibid., Smith to Peterson, 1 January 1871. This type of criticism appears to reflect more the pressures of the job than a serious obstacle to the construction process.
79. Outside engineers might be consulted on particularly complex aspects of the work and asked to evaluate the finished product. But ultimate responsibility rested with the government engineers.
80. RG 30, Vol. 12471, Smith to Fleming, 17 November 1870; Vol. 12470, Brydges to Smith, 4 April 1872; Ibid., Smith to Burpee, 30 December 1871; Senate Debates, Wilmot and McLellan, 6 March 1871, 269.

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81. Commons Debates, Jones, 18 April 1872, 68. One side of conflict is presented in Fleming's The Intercolonial.
 82. The classic vilification of railway contractors is Gustavus Myers, A History of Canadian Wealth (Toronto: 1972). This view has been reproduced, if moderated, in the major studies of railways such as Currie, The Grand Trunk and Stevens, Canadian National Railways.
 83. Rolt, Victorian Engineering, 37-38.
 84. RG 30, Vol. 12470, Fleming to Ross, 9 February 1869.
 85. Evidence taken before a Committee of the House of Assembly of the Province of Nova Scotia, appointed to investigate the claims of the Contractors of the Nova Scotia Railway for extra work performed by them on their respective Contracts. Published in Morning Journal, 26 April 1858.
 86. See the concise discussion of this in Fleming, The Intercolonial, 187-9.
 87. Report of the New Brunswick Railway Commissioners, 1859, 37.
 88. Morning Journal, 26 April 1858.
 89. See for example: Report of the New Brunswick Railway Commissioners, 1859, 37-38; Fleming, The Intercolonial.
 90. RG 30, Vol. 12470, Report of Committee of the Privy Council, approved 30 May 1873.
 91. See, for example, Ibid., Bell to Berlinquet, 2 August 1872.
 92. RG 11, Vol. 26, 31136, Gallway to Secretary of Public Works, 7 October 1856.
 93. RG 30, Vol. 12470, Fleming to Smith, 17 November 1870; Ibid., Smith to Lawson, 16 June 1871; Ibid., Fleming to Smith 21 December 1871.
 94. RG 30, Vol. 12470, Schreiber to Fleming, 4 June 1871; Vol. 12471, Smith to Peterson, 2 February 1872. Such disputes could find government engineers at odds with each other.
 95. To meet this problem the Board devised a system of paying estimates in certificates on which banks advanced money.

Even this device proved inadequate, however, as the Board simply delayed issuing certificates. When they did arrive, contractors found it increasingly difficult to procure money on them. RG 11, WCLB, Power to Begly, 14 January 1843; Vol. 388, file 87, Cotton and Rowe to Killaly, 26 June 1849; Ibid., file 88, Killaly to Begly, 27 June 1849; Vol. 388, file 87, Killaly to Begly, 7 June 1849; WCC-7, Begly to Power, 28 January 1843; Vol. 388, file 89, Keefer to Begly, 14 March 1849; Ibid., Keefer to Begly, 2 May 1848. For the connection between financial and administrative problems see Doug O'ram, "Management by Enthusiasm: The First Board of Works of the Province of Canada, 1841-1846", Ontario History, 70 (1978), 171-88. Incidents such as these are sprinkled through the reports of the engineering staff on the later projects.

96. This appears to have been true, for example, for major contractors on the Lachine Canal in the 1870s.
97. Such subcontracts could vary in size from the letting of several stone culverts to a stonemason all the way up to the subletting of the harbour dredging at Port Dalhousie. Welland Tribune, 4 November 1875.
98. Particularly in railway construction, gangs of labourers headed by a ganger might take the contract for preparing the right of way over a small section of the line, or making side ditches. This is discussed in chapter 2.
99. RG 11, WCLB, Power to Begly, 31 August 1842.
100. New Brunswick Courier, 9 September 1854. Subcontracting was the means whereby men without capital or experience broke into the industry. Sir Edward Banks, George Stephenson - among the most spectacular success stories of their generation - entered railway construction as minor subcontractors and helped create the image of an industry in which the humble man could rise the prominence. The way was open for a labourer to save a little capital, and take a small subcontract and make his fortune, or so the story went.
101. Welland Tribune, 3 May 1878.
102. Edmund Bradwin, The Bunkhouse Man (Toronto: 1972), ch. 2.
103. On some contracts the whole process of subletting and re-subletting was carried on to such an extent that government engineers could not even identify the men responsible for the work, let alone control them. Work on the Eastern Railway was re-sublet so often

that the head contractors themselves claimed not to be able to contact the subcontractors. They suggested that many of them had left the province rather than face their creditors. But after repeated and fruitless efforts to identify them, the government began to wonder whether they even existed, whether the contractors had invented them. Nova Scotia, Assembly Debates, Holmes, et al., 5 March 1878, 47-53.

- 104. That the government was the final arbiter in disputes between itself and a contractor was clearly spelled out in the contracts. A few contractors threatened to test government decisions in the courts. For example Black threatened to sue for the cost of the extra depths of some of his embankments. RG 30, Vol. 2027, Morse to Forman, 7 January 1857. But the cost and the improbability of winning a suit against the government were prohibitive, as the case of Bertrand and Berlinquet illustrates. RG 30, Vols. 12470 and 12471, passim.
- 105. Currie, The Grand Trunk, 284-6; J.K. Johnson, "'One Bold Operator': Samuel Zimmerman, Niagara Entrepreneur, 1843-1857", Ontario History, 74 (1982), 26-44.
- 106. MG 9, Vol. 52, Light to Jardine, 8 April 1858.
- 107. RG 11, Vol. 478, #54365, Sippell to Braun, 15 October 1875.
- 108. RG 30, Vol. 12470, Commissioners to Smith, 27 April 1870.
- 109. Ibid., Fleming to Langevin, 15 January 1872; Ibid., Report of the Committee of the Privy Council, approved 31 May 1873; Ibid., Clerk of Privy Council to Commissioners of Intercolonial, 3 January 1874, Ibid., Smith to Fleming, 21 September 1871; Ibid., Smith to Fleming, 27 April 1871; Ibid., Fleming to Jones, 15 July 1872.
- 110. Ibid., Berlinquet and Bertrand to Commissioners of Intercolonial, 3 February 1873; Vol. 12471, Home to Schreiber, 20 April 1871.
- 111. Commons Debates, Tupper, 11 May 1883, 1158.
- 112. In its report of 1844-5, however, the Board did make a special appeal on behalf of contractors on the Welland who had suffered unexpected losses as a result of circumstances beyond their control. Canada, Legislative Journals, 1845, Appendix AA, Report of the Board of Works.

113. Report of the New Brunswick Railway Commissioners, 1859, 41.
114. MG 9, Vol. 52, Light to Jardine, 8 April 1858.
115. See for example, RG 11, Vol. 791, #22652, Braun to Page, 3 November 1873; Vol. 12470, Report of Committee of Privy Council, approved 30 May 1873.
116. A rare analysis of public works in politics is Brian Young, Promoters and Politicians: The North Shore Railways in the History of Quebec (Toronto: 1978).
117. RG 11, Vol. 474, #73408, Page to Secretary of Public Works, 12 April 1878; Vol. 472, #66451, Page to Secretary of Public Works, 19 April 1877; Ibid., #66551, Minister of Justice to Department of Public Works..
118. Commons Debates, Blake, 15 May 1883, 1222.
119. Ibid., Tupper, 11 May 1883, 1158; Ibid., Tupper, 15 May 1883, 1222; Ibid., Tupper and Mackenzie, 25 April 1882, 1146.
120. Ibid., McCarthy, 28 February 1877, 340-1.
121. Ibid., Shanly, 12 April 1870, 994.
122. Senate Debates, Tessier, 6 March 1871, 267.
123. Commons Debates, Tupper, 11 May 1883, 1158.

CHAPTER TWO

THE WORK AND THE WORKFORCE

For the unskilled labourers employed in canal and railway construction, work was gruelling, demanding heavy and unremitting manual labour. With little in the way of mechanical aids, labourers dug and hacked their way through all types of rock and earth. The work also required labourers to migrate in search of what were at best temporary jobs. For these reasons it was one of the most demanding and least desirable occupations at the base of an industrialising society. Yet it proved able to draw on labourers from various backgrounds, who found it necessary to take this type of work. The impoverished immigrants pouring into North America provided a major source of labour. In a pattern well documented in numerous studies of international labour migration, immigrants took up the least desirable jobs and settled in at the bottom of the social hierarchy.¹ In addition to immigrant labourers, British North America and Canada could rely on a supply of labourers who migrated into the country on a temporary basis to take up construction work. In the years between 1840 and 1880 such migrants came principally from the United States and comprised part of a continental pool of labourers whose search for work carried them back and forth across the American border.

Over the period work on canals and railways also drew

labourers from within the borders of British North America, men whose role in the construction of transportation networks has received little attention. Like Europe, North America experienced the shift of population from rural to urban areas that accompanied industrialisation. In search of either part-time, seasonal, supplementary employment or of an alternative livelihood to that offered in a declining rural economy, farmers and fishermen took jobs on canals and railways. They were joined on construction sites by members of the unskilled labour force building up in the emerging urban centres. Such migrants from within British North America played a minor role in construction during the 1840s and 1850s, when their contribution was dwarfed both by that of migrant workers from the United States and, most importantly, by the European immigrant labourers. By the 1870s, however, urban and rural migrants from within Canada dominated the workforce on projects considered in this study. Newly-arrived immigrants still found work in construction, and labourers still migrated across the American border in search of employment, but rural decline and the depression of the 1870s ensured that Canada could meet a major part of its unskilled labour needs from within its own borders. In the closing decades of the century immigrants would become once again the major source of unskilled labour on transportation projects. This study, however, charts the temporary rise to prominence of indigenous labourers dislocated and displaced by the changing economy.

The nature of the work dictated that men could be drawn to construction from diverse backgrounds. The work required neither formal training nor experience. Skilled workers were central to the production process throughout the period. On many contracts workmen such as stonemasons, carpenters, and blacksmiths were necessary to the preparation of construction materials, the maintenance of tools and machinery, and the building of massive bridges and locks and the less spectacular drains and culverts. As much as ten per cent of the workforce on canals, and a smaller percentage on railways, might consist of skilled workers.²

But the canals and railways which brought British North America into the industrial age were primarily the product of gangs of unskilled labourers. Working with picks, shovels, and sledges, these men performed the roughest and most arduous tasks on construction sites.

There was little light work for construction labourers. Every facet of their job involved strenuous physical labour, and technological innovations throughout the nineteenth century did little to alter this sweat and muscle aspect of the work. Technology increased output through modifications in hoisting and hauling, and through the harnessing of steam power to dredges and excavators, but where such advantages touched the labourer they operated primarily to replace him, not to lighten his work. Even improvements in hand tools which did directly affect the labourer were designed to increase

his productivity, not to ease his task, so that where men were not replaced by steam excavators their work continued to demand the constant paying out of physical energy.³ Even in this work, however, men acquired some skill through experience. The work was unskilled in the sense that it required no formal preparation or apprenticeship and was consequently open to all-comers. But a labourer with experience on canals and railways almost invariably acquired adroitness with pick and shovel, a knowledge and expertise in all types of earthwork, and a practical know-how in the judging of soils and rocks, the consistency of clays, and the testing of stratifications. Increasingly there was also a place for a relatively small number of semi-skilled machine tenders and operators as it became necessary for labourers to control and work with more sophisticated machinery.

The best available accounts of the labourers' work in the nineteenth century are those provided by Coleman and Handley in their studies of navvies in Britain.⁴ Scattered references in the Canadian sources demonstrate that much the same techniques were used in North America, though Canadian conditions placed greater demands on labour. This was especially true during the excavation stage on both canals and railways. Without mechanical aids, labourers cut their way through all types of earth and rock, varying their techniques to suit the material being excavated. When excavating in soft earth, they worked to a vertical face

varying from half a dozen to twelve feet and upwards, then undercut the face at the bottom and drove wedges into the top to produce a large fall of earth. The fall broke up the earth so that the workers could shovel it into wagons. Together, a labourer and his partner filled a daily average of fourteen wagons, the equivalent of swinging roughly twenty tons of "muck" more than six feet high into the wagon or box car.⁵ Excavation in rock could be carried out in similar fashion, labourers hacking with pick and shovel through solid sheets to create an overhang, then drilling from the top to produce the fall. More frequently, gunpowder or nitro-glycerin were used to blast the rock, labourers drilling or hacking the holes for charges and cartridges and driving jumpers into the rock with sledges. The loosened rock was pounded into manageable sizes and loaded into carts, wagons, or scows, to be carried off. In addition to the stamina necessary for such labour, experience gave a man the ability to judge the amount of overhang which could be safely allowed in each type of material.

Where possible, rock and earth were transported out of the cuttings along temporary rails laid by labourers into the base of the hill and extended concurrently with the excavation. If the distance to the tipping ground warranted, horses or steam locomotives pulled wagons along these rails. If the distance was short, and the incline permitted, the wagons coasted to the dumping ground, a man riding the load

and regulating the speed with a foot lever. The ride was far from pleasant along an uneven track in a springless vehicle. But the job was soft enough to be reserved for old men, young boys, and any labourers not strong enough to toil at the face.⁶ The more arduous method of removing material demanded the exertions of the strongest men on the construction site. Thick timber planks inclined on a rough framework ran up the side of the cutting and provided a road for wheelbarrows. Men and horses furnished the power. A rope ran from a labourer in the cutting through a pulley to a horse on the bank. At a signal the driver led the horse away from the cutting while the labourer simultaneously began his ascent up the plank, balancing in front of him a wheelbarrow loaded with muck. The horse provided the power for pulling the barrow to the surface, but it required a combination of great strength and agility to balance the barrow. After a period of idleness even an experienced man found his hands bleeding from the pressure of the run.

On the canals excavation was followed by puddling, that is, lining the cutting with a watertight mixture. Labourers applied successive layers of a lightish loam mixed with sand or fine gravel, working it into the bottom and sides of the cutting from one end of the trench to the other. They pummelled the mixture with their feet and hands, and poked holes through it with poles to allow water to seep through the mass. Puddling was the most tedious, and one of the

most exhausting of the labourer's tasks.

Railway construction involved the building of an embankment, usually in one of two ways. Where necessary labourers dug a side cutting running the length of the intended embankment, then ran the earth up one side of the cutting to create a mound. The preferred method of construction was to transport earth from a cutting further back on the line. Labourers laid a light tram road from the cutting to the point at which the embankment was to begin, fastening a timber at the end of the road to prevent wagons from running over the edge. Within fifty yards of the edge a horse was hitched to a wagon loaded with earth. A worker walked beside the horse, gradually increasing its speed to a gallop until at the last moment, with horse and runner approaching the edge of the embankment at top speed, the runner detached the horse's halter and horse and man leapt aside, leaving the wagon to crash against the timber and tip the earth down the embankment. The embankment progressed wagon load after wagon load. When completed, the earth was smoothed out and covered with a layer of tightly-packed broken stones, in preparation for the final stage of construction, the laying of the track.

To secure dry and solid foundations for structures such as locks and bridges, labourers on canals and railways built and worked in coffer dams. With or without the aid of a pile-driving machine, they drove a double row of piles a few

feet apart into the bottom of a canal or river bed, creating either a circular or rectangular double timber wall. They cleaned out the space within the walls, filled it with successive layers of clay puddle, and packed the puddle down, continuing the process until the space was filled above the water level. After the water had been pumped out, labourers dug in the mud down to rock bottom. Where coffer dams could not be used for underwater excavation, such as on bridges on the New Brunswick section of the Intercolonial, workers excavated in the compressed air of the chambers of caissons.

In addition to their principal jobs of preparing the canal bed or the right of way, and laying rail, labourers undertook a variety of subsidiary tasks. They worked in quarries, breaking and crushing stone, manned mechanical devices and steam machinery, and cut away sod, trees, and brush. All of these tasks were linked by a common factor; they required hard, unrelenting, physical labour.

With the expansion of canal and railway construction over the years from 1840 to 1880 the demand for labourers to undertake these many tasks grew steadily and enormously. Machinery displaced human labour in some aspects of the work, particularly on canals. The work involved in enlarging the Welland Canal in the 1870s, for example, required fewer men than would have been necessary for similar work in the 1840s, for steam dredges were used extensively. Local merchants who had hoped to profit from a

greater influx of labourers lamented this effect of technological improvement: "If for every dredge employed we had 300 or 400 Irishmen digging mud...times would be a great deal flusher than they are".⁷ Nonetheless most aspects of work on canals and railways remained labour intensive, and any reduction in the demand for labourers for specific tasks was more than offset by the increased scale of construction activity. Demand fluctuated dramatically from year to year, in response to the rise and fall in construction activity. It also fluctuated seasonally. But the troughs and crests of demand existed within a longterm framework of an expansion of labour requirements.

During the canal-building boom of the 1840s, the need for unskilled construction labour expanded enormously over that of previous decades. In any one of the peak construction years between 1842 and 1848 over 10,000 labourers might be required. The Lachine and Welland Canals absorbed the major portion of these labourers, in some years employing as many as 4,000 labourers each. Smaller projects such as the Beauharnois and Williamsburg Canals demanded anywhere between a few hundred and two thousand workers.⁸

Canal construction in the following decade was on an altogether more modest scale, labourers being needed in the hundreds rather than the thousands for each projects. The numbers required on the Junction and Chats Canals were typical. Between 1851 and 1857 seasonal demand on the

Junction Canal dropped as low as sixty and never rose above two or three hundred.⁹ The Chats Canal appears to have employed slightly more labourers between 1854 and 1856.¹⁰ The total annual demand for labour on all the numerous small projects of the 1850s probably did not exceed 3,500.¹¹ This reduced demand on canals, however, was more than offset by the railway boom of the 1850s. The 2,000 miles of line constructed throughout Canada and the Maritimes required tens of thousands of labourers in the peak construction years from 1852 to 1858. The government-built Maritime railways employed only a fraction of the construction workforce, but the size and fluctuation of demand on these two projects was representative of that on railways of the period. Between 1854 and 1859 the numbers working on the European and North American Railway could vary between 4000 and 1,500 from one season to the next.¹² A similar pattern can be discerned on the Nova Scotia Railway between 1854 and 1858. In some seasons demand could exceed 2,000 labourers, while at other times it fell well below a thousand.¹³ The dramatic fluctuations on any one project are demonstrated by contractors' hiring practices; when contractors wished to expand their force they usually advertised for hundreds, perhaps as many as 500 additional men.¹⁴

In contrast to the preceding decades, the 1860s saw relatively little need for canal and railway construction labour. Although discussion of the improvement of inland

navigation continued, most of the work on canals took the form of repair and maintenance contracts. Similarly, there was little demand for railway labour as both public and private railway construction all but ground to a halt. At the end of the decade, however, with renewed large-scale construction, demand for labour revived and quickly surpassed that of earlier decades. One of the major railway projects undertaken in the late 1860s and early 1870s, the Inter-colonial illustrates both the size and the fluctuating nature of construction labour requirements. Demand was staggered over the seven years that it took to build the railway. The slow and uneven progress of the work meant that in the first two years of construction labour requirements fluctuated between five and ten thousand in peak season.¹⁵ The variation on individual contracts could be even more dramatic. On the eighty miles of line in the Restigouche District, as few as 500, or as many as 3,500, men might be employed in any one season.¹⁶

Coinciding with the resurgence of railway construction was the boom in canal-building. Commencing in 1873, the construction of the Lachine and Welland Canals led a resurgence in demand for canal labourers which continued into the 1880s. In any one season either of these projects might require two or three thousand labourers.¹⁷ A smaller project such as the St. Peters Canal used many fewer men,

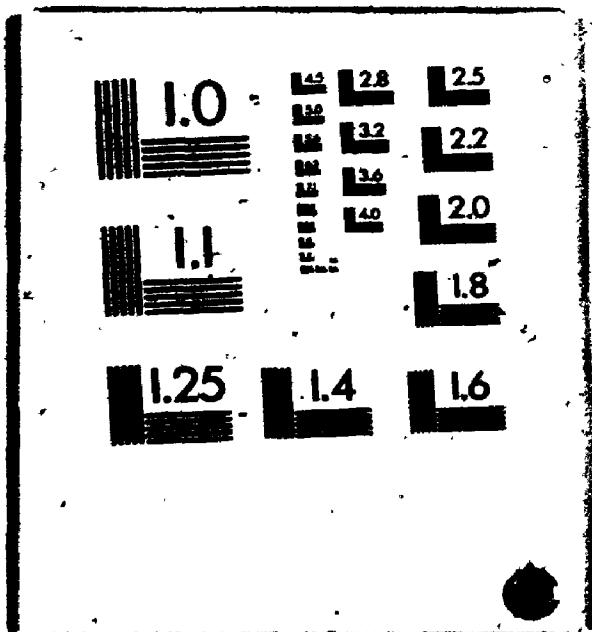
demand fluctuating between 60 and 200 in the years between 1875 and 1880.¹⁸

While the demand for construction labourers grew enormously in the years from 1840 to 1880, the nature of that demand remained unchanged. In the 1870s as in the 1840s, labourers were needed only on a temporary and intermittent basis. Thus construction work could offer only a temporary and unstable form of livelihood. Nonetheless it filled the needs of a variety of workers. To immigrants who arrived with no resources it could offer an immediate means of subsistence and a possible avenue to establishment in the community; to men from a rural economy a means of supplementing their subsistence or of moving off the land; to migrants from the United States or the urban centres of British North America an alternative to unemployment. All of these types of workers were represented on the public works throughout this period, but not in equal portion. It is possible to chart a significant shift in the relative proportion of each group over time, and analysis of the workforce must be divided into two distinct periods. In the 1840s and 1850s immigrants predominated on the public works. In contrast, during the 1870s, a majority of labourers were drawn from the indigenous rural or urban economies, and their appearance in large numbers on the public works reflected the broader socio-economic changes within Canada.

During the 1840s and 1850s local labour was available for construction projects in British North America. It is not possible to determine how many colonists were available and willing to work at construction, or even to calculate how many did so. It is possible, however, to establish the presence of significant numbers of local inhabitants on projects in certain areas and to suggest why they may have been impelled to seek this type of work, and thus to trace the broader patterns of their participation in the building of transportation networks in the middle decades of the nineteenth century.

That participation varied in cause and extent from region to region. In Lower Canada French Canadians secured jobs on canals in the 1840s and to a greater extent in canal and railway construction in the 1850s.¹⁹ They were searching either for sustained employment away from the rural economy or to supplement their rural incomes.²⁰ This search was part of a larger pattern of migration which carried French Canadians into unskilled work throughout the Canadas and the eastern States. The canal boom of the 1840s came when many were being forced to seek a change from traditional methods of earning a livelihood. Since the early decades of the century an agricultural crisis had been forcing thousands to emigrate to the United States. In the 1840s they were increasingly joined by migrants from urban centres thrown out of work by a depression in the timber trade.²¹

2



Surprisingly few French Canadians, however, found employment on the public works. Pentland's suggestion that they were reluctant to assume this type of unskilled labouring job may in part explain their minimal presence on the public works.²² They may not have wished to make the type of commitment to the unskilled labour market which this work represented. Alternatively, for those seeking to make a decisive and permanent break from a stagnant rural economy, construction work may have appeared too temporary and unreliable. But Pentland's hypothesis is thrown into contention by the fact that so many French Canadians took unskilled work much further afield; indeed, many of them went to work on railway construction in the United States.²³ More compelling reasons can be found for the French Canadians' relative absence from the public works. The Irish labourers' bitter fight to exclude French Canadians from these projects has been well demonstrated.²⁴ Less carefully documented has been the reluctance of contractors to hire French Canadians, for a variety of reasons. This reluctance may have derived in small measure from a perception that French Canadians were not hardy enough for the work. Other contractors may have had the experience of Thomas Brassey who recruited large numbers for the Grand Trunk, only to conclude that they were not capable of the heavy work. When used in operations such as ballasting they had to ride back and forth to the tipping site on wagons.²⁵

A more important reason why contractors may have discriminated against French Canadians in hiring was that they preferred to employ men who came from a distance and were thus more dependent on their employers for lodgings and food. In the 1843 investigation into the conditions on the Beauharnois Canal, French Canadians complained that they had agreed to the construction of the canal on the understanding that they would be given "a preference of employment on the works". But they had found themselves "partially excluded, and their places filled by strangers". To them the reason was clear: "the certainty which the contractors have of making money on the provisions which they furnish to strangers; while the inhabitants of the place provision themselves; and also because they receive rents from those who came from a distance".²⁶

A final explanation for the unwillingness of contractors to hire French Canadians was the tension between the rhythm of agricultural work and that of construction. On the Chats Canal, for example, where some French Canadians were employed, contractors found that as they were gearing up for the spring push, farmers were "leaving the work for the spring cropping of their farms". In the last drive of construction before winter, they were "leaving for the harvest".²⁷ This problem surfaced again later in the century during construction of the Canadian Pacific, when the company professed reluctance to hire settler-navvies

and instead recruited Italian and Polish "industrial" navvies through private employment agencies.²⁸

The role which men from the agricultural sector in Upper Canada might have played on the public works is much more difficult to assess. Without direct evidence of their presence, we can only speculate. The 1840s and 1850s were prosperous decades for commercial agriculture in Upper Canada; not until the 1860s did agricultural depression foster a pronounced migration from the land.²⁹ Consequently, farmers and farm labourers were not under the same degree of pressure to find alternate employment as their counterparts in Lower Canada. Many may still have attempted to fit construction jobs into the rhythm of agriculture. Certainly when public works commenced in 1842 the Board of Works expressed fears that high wages on canals and railways might tempt farmers "from their more legitimate, and (to the Province) much more beneficial employment in agricultural pursuits and settlement, to that temporarily afforded by public works".³⁰ If labourers came to public works from Upper Canada's agricultural sector, however, their contribution was dwarfed by that of labourers from other sources.

Another potential source of labour for public works in the Canadas in the 1840s and 1850s was the pool of unemployed and underemployed developing in the urban centres. A necessary feature of the transition to industrial capitalism, by mid-century this build-up of labourers unable

to establish themselves on the land or to find other steady employment was sufficient to create seasonal and more prolonged gluts of labour in major urban centres such as Hamilton and Toronto.³¹ As studies of geographic and social mobility have indicated the members of this labour pool were highly transient, moving about from community to community seeking work, and their pursuit of migrant work on canals and railways would have been consistent with this general pattern of mobility.³² The presence of such migrants on the public works considered in this study, however, cannot be traced with certainty. Montreal probably did supply labour for the Lachine Canal, the unskilled coming from Griffintown, home of the successive waves of poor Irish Catholics.³³ But if the urban unemployed laboured on projects such as the Welland and Junction Canals they did so anonymously, and not in sufficient numbers to occasion comments by contemporaries.

The construction of the Maritime railways of the 1850s, also attracted labour to public works from traditional, primarily rural, pursuits. The sparse New Brunswick population, concentrated in the Saint John valley and the southeast of the colony, subsisted in an economy based on farming, fishing, and, above all, lumbering. Through the first half of the nineteenth century this 'timber colony' provided its people with an adequate, if not prosperous, existence. But by the 1850s rural decline and a consolidation of lumbering

interests were pushing farmers, fishermen and small timber operators to seek alternative or complementary employment.³⁴ The same was true for Nova Scotia, more populous but similarly dependent on the rural economy. In the years from 1860 to 1900 this economic dislocation fostered a relative population decrease in each province, as hard times forced inhabitants to migrate outwards.³⁵ The movement out of the rural economy, however, was already underway in the 1850s; and the farmers and fishermen who went on the public works to supplement their subsistence were part of this larger process.

Like the French Canadians who took to construction work for much the same reasons, local labourers on the European and North American and the Nova Scotia Railways created problems for contractors by abandoning the works to pursue their primary occupation in peak construction seasons. They also had the irritating habit of leaving the works to look for employment elsewhere just as a contract was drawing to a close.³⁶ Contractors nevertheless made efforts to draw on this source of labour, distributing handbills amongst the farming and fishing communities and placing advertisements in such newspapers as the Antigonish Casket and the Cape Breton News.³⁷ The Maritimes also supplied local labourers from the unemployed workers of the major urban centres. Unemployment was widespread amongst the day labourers of Saint John, many of whom were Irish immigrants

from earlier decades,³⁸ and some of their number were successful in finding work on the European and North American. In the same period, Halifax newspapers welcomed the advertisements for labourers for the Nova Scotia Railway as "good news for the numerous unemployed labourers...strolling about [the] streets in search of employment", the "men and lads of Halifax seen all day idle in the marketplace".³⁹ Many of them found work on the Nova Scotia Railway.

The public works of the 1840s and 1850s thus attracted many inhabitants of British North America. Farmers, fishermen, lumbermen, and the urban unemployed all travelled to the public works in search of an alternative to unemployment or an additional income to supplement an increasingly marginal primary occupation. Their contribution was sufficient to be noticed in contemporaries' reports. Those same reports, however, show clearly that these locally-based labourers constituted only a fraction of the total workforce on canal and railway construction sites. They were consistently outnumbered by large bodies of men who travelled much greater distances for work--migrants from the United States and immigrants from Europe, who in this period represented the bulk of the construction workforce.

Migrants from the United States were an important source of labour for public works projects. Although immigration officials in British North America complained that prospective labourers and settlers were constantly

migrating south across the border; movement also took place in the opposite direction, the search for employment that carried labourers throughout the States of the Union also propelling them north into the Canadas and the Maritimes. This influx was particularly noticeable in the early 1840s when depression put a stop to public works in America. Migration north fell markedly in the last half of the 1840s but rose again in the 1850s when the United States provided much of the labour for canals and railways in the British colonies.⁴⁰

The individuals within this pool of American migrant labourers remain anonymous to the researcher. It is not clear whether the majority were recent immigrants to the United States or established residents, or indeed whether they were former residents of British North America who had crossed the border only to return when large scale public works held out the prospect of employment. Many represented a spillover from the pool of transient unskilled at the base of American society. They were part of the floating population of American cities,⁴¹ constantly "on the wing" in their search for work. Their appearance at construction sites in the Canadas was part of a haphazard movement throughout eastern North America. Although influenced by the seasonal patterns of employment, their wanderings were not wholly defined by them. Rather their migration represented the

more chaotic flow of displaced labour attempting to find a place in the workforce, however temporary. They appear to have operated without a home base, to have travelled as individuals or in small family groups and to have arrived en masse wherever there was a prospect of work. Immigration officials could predict their coming whenever a slowdown in the American economy created serious unemployment.

Buchanan's report of 1854 noted that, following the pattern of past years, the distresses in the large American cities would induce many of the jobless to seek work on the public works in the Canadas.⁴²

Among these American migrants were men who moved from one construction job to another, pursuing navvying as an occupation, men such as "Bloody Hammer", whose experience navvying had already earned him an unsavoury reputation before he arrived to work on the European and North American.⁴³ They were genuinely rootless, bringing families and possessions with them and establishing temporary homes on railways and canals. On a major canal construction site a home might be maintained for as many as four or five years. Although work on railways demanded greater mobility, labourers could establish a home for a number of years by commuting to work over the advancing line of rail.⁴⁴

Contractors did not rely solely on the unregulated flow of navvies and other unemployed labourers from the United States. In the mid-1850s, contractors in the

Maritimes took steps to secure the "Irishmen, by the thousands [who] were out of employment in the large cities of the United States" and who would otherwise be reduced to "sweeping the streets and living in soup kitchens".⁴⁵ Some of the American contractors and subcontractors brought their own labour force to their operations in British North America.⁴⁶ Others advertised for labourers in American cities and contractors' agents journeyed throughout the States arranging for the shipment of fifty, one hundred, or two hundred men. Most of the labourers brought in by contractors were Irish from the seaports of the northeast. But contractors also appear to have transported German and French labourers from centres such as New Orleans.⁴⁷

While migrants from within North America made their appearance on public works in the 1840s and 1850s, it was primarily European immigrants who provided the labour for canal and railway construction. As in Europe and the United States during the process of industrialization, impoverished immigrants took the heaviest and least desirable jobs. Their central role was established at the commencement of the massive public works programmes in 1842. The previous year the Report of the Board of Works had noted that cheap labour was so scarce contractors on the Chambly Canal could not secure hands even at exorbitant rates.⁴⁸ Less than twelve months later, however, the Board was pressing the Legislature to take advantage of a massive labour surplus and consequent

low wages, by commencing construction immediately.⁴⁹ This dramatic turnaround in the supply of labour was provided by a surge in immigration, as destitute immigrants arrived in the Canadas in record numbers. Throughout the 1840s and 1850s, wave after wave of peasant labourers, displaced by the restructuring of the rural economies and impoverished by cyclical depressions, supplied the manpower necessary to the North American transportation revolution.

Government officials and private pamphlets addressing the question of British North America's economic progress pointed to what appeared to be the natural connection between immigration and public works. Immigrants arriving in the new world without the means to become farmers could provide the cheap labour requirements for the canals and railways necessary to social and economic development. Lord Grey clearly defined this connection during consideration of the most effective means of colonization:

I cannot but believe that more would really be accomplished towards encouraging emigration by applying it to the construction of great public works; such, for instance, as railways, by which employment would be provided for a large number of emigrants in the first instance, and a great extent of land would be rendered far more accessible, and therefore available for settlement, than it now is.

The demand for labour thus created would, I am inclined to believe, create a spontaneous emigration to a large extent. 50

In turn, the development of public works would touch off an

even greater demand for labour to build bridges, roads, houses, mills and factories: "for every labourer employed on the line, at least four would be employed in the formation of settlements growing up on either side".⁵¹

At the same time work on construction projects would enable poor immigrants to accumulate capital and ultimately to establish themselves on the land. In the short term canal and railway construction would "give immediate employment to thousands of families, now destitute", who had otherwise to go to the United States to find work.⁵²

Emigration literature used this argument to attract emigrants, attempting to spell out the magnitude of the demand for labour on each project.⁵³ In the long term public

works would give labourers the means for social advancement. After working for two or three years at construction, the theory ran, the poorest of immigrants could save enough capital to become "owners and farmers of land".⁵⁴ In a

country in which there were "no monopolies, exclusive privileges, or great and impassable gulfs between grades of society", the immigrants who at home had been parasites and a drain on the economy could become respected and productive members of society.⁵⁵ Thus employment of immigrants on

railway and public works construction was presented as the path to both individual advancement and to the social and economic development of the colonies.

There was no shortage of poor immigrants to staff the public works projects. Ireland was the primary source of immigrant labourers for the canal and railway construction boom of the 1840s and 1850s. Part of a mass migration which carried principally Catholic Irish peasants throughout the British Isles and the world in search of a livelihood, the emigration of the Irish to North America reached unprecedented proportions during the 1840s and the first half of the 1850s as the land squeeze and famine catapulted the destitute off the land. Stripped of possessions and capital before leaving Ireland, the majority were "labouring paupers", unable to purchase land immediately and consequently directed to construction sites by immigration officials. Many were "so reduced" physically by hardship in the old world and the transatlantic crossing that they were unfit for strenuous work for some months after their arrival.⁵⁶ Nonetheless Irish labourers quickly developed a reputation as men with an enormous capacity for physical endurance.⁵⁷ This reputation, together with the plentiful supply of Irish immigrants at mid-century, created a "transatlantic demand for Irish labour;" and throughout the Maritimes and the Canadas they comprised the majority of workers on virtually every construction site.⁵⁸

During the 1850s the Irish were joined on construction sites in both the Canadas and the Maritimes by immigrants from outside the British Isles, primarily Germans and Swedes.

Although these "foreign immigrants" never challenged the dominance of the Catholic Irish, a significant proportion of their number went into construction. In 1854 Buchanan reported that as many as four-fifths of the "foreign" arrivals at Quebec had gone to public works and railways in the Canadas.⁵⁹ German immigrants also appeared on the Maritime railways.⁶⁰ Like the immigrants from Britain, those Germans and Swedes who sought work in construction came primarily from the "poor peasant class".⁶¹ Typical were the half-naked immigrants dropped at the Junction Canal in 1854 and those from the Duchy of Baden.⁶²

Government officials and contractors worked both cooperatively and independently to channel suitable immigrants to canals and railways. Immigration agents in the Canadas and the Maritimes directed new arrivals to jobs on construction sites, at times providing tickets and money to aid them in reaching their destinations.⁶³ Contractors' agents operated in the same manner, providing information on the terms at which work was available and arranging transportation for prospective labourers.⁶⁴ In addition, immigration officials and contractors provided newspapers in centres such as Cornwall and Halifax with reports on the numbers required at particular construction sites and the wages being offered, while contractors also sought to attract immigrants by advertising directly in newspapers and on placards.⁶⁵

During the 1850s the flow of immigrant labour to the public works was facilitated by the formal recruitment in Europe of men who came out under formal contract to labour on canals and railways. Formal recruitment was in part a response to the difficulties involved in securing and maintaining a steady and reliable supply of labour for construction. The supply of labour for the canal boom of the 1840s had in most years exceeded demand, unemployed labourers congregating around construction sites and creating pools of surplus labour.⁶⁶ By the early 1850s, however, when canal and railway construction touched off an even greater demand for labour, contractors were complaining of difficulties in securing labourers at peak seasons without offering exorbitant rates. From 1852 to 1855 contractors on the Junction and Chats Canals professed to being plagued by recurring labour shortages. They were not alone in lamenting the "scarcity of men" and the consequent "high price of labour".⁶⁷ Contractors on railways also experienced difficulties in securing labour at prices they wanted to pay.⁶⁸ Contractors' statements as to the availability of labour are not entirely reliable, since they were frequently combined with attempts to secure increases in contract prices or extensions of deadlines from government. In the early 1850s, however, contractors' observations were backed up by government officials on construction sites and by emigration agents, who all

concluded that labour shortages peaked in the spring and summer of 1854, when employers experienced "great difficulty" in securing labour to meet the "unprecedented" demand, and public works were consequently "retarded".⁶⁹ The labour shortage eased in the mid-1850s, though some contractors still complained of the difficulty of keeping sufficient labour on the works in peak construction seasons; and by 1858 contractors were pushing their work to take advantage of the pools of "cheap labour".⁷⁰ The pattern was similar in the Maritimes, where contractors experienced difficulties in securing labour in the early years of the decade and in the later years enjoyed both an increase in the supply of labour and a drop in its price.⁷¹ In both areas importation of contract labour provided a solution to the shortages and made a contribution to the gluts.

Importation of labour from Europe under contract was also related to the shift in the type of contractors undertaking construction projects in the 1850s. It was a costly expedient, favoured by the major contractors who undertook work on railways in Canada and the Maritimes. Contractors such as Peto and Brassey brought in thousands of labourers from their operations in Britain. To the Grand Trunk alone, Brassey brought in an estimated 3,000 skilled and unskilled men and their families, guaranteeing five years' employment at good wages.⁷² Other employers imported labourers on a smaller scale, by the hundreds not the thousands.

It is not clear from what area of the British Isles and from what sectors of the economy these immigrants were drawn. Although most of the unskilled were Irish, others came from Nottingham and the Highlands of Scotland.⁷³ Many may have been agricultural labourers or the urban unemployed. But a significant number of them appear to have come from the ranks of the estimated 150,000 railway construction labourers "thrown suddenly out of employment" by the completion of the major railways of Britain in the late 1840s.⁷⁴ The experience which these men possessed at construction work made them an ideal source of labour. Immigration agents also considered them desirable as future settlers, enticing them to emigrate by the promise not only of work at good wages but also of cheap land at the end of their labour. It was not always a satisfactory arrangement. In some seasons contractors complained of the difficulty of keeping such labourers on the works under the original terms: "with every farmer and lumberman round them offering double wages, and the States in the neighbourhood as a 'land of promise' to tempt them away", engagements were "only regarded as chains that ought to be snapped asunder, and soon the navvies took themselves off".⁷⁵ But the system appears to have met its primary objective of increasing the supply of labour available to contractors.

It is impossible to trace with certainty the movements of these immigrants. As early as 1843 the report of the

Board of Works noted that "the great majority of men who have been for some time engaged on public works, became a class of migrating labourers, neither valuable as settlers, nor disposed to fix themselves as such."⁷⁶ Considering the barriers to social and occupational mobility for Irish labourers and the massive labour surplus throughout much of the 1840s and 1850s, this may have been the regular and continuing pattern.⁷⁷ Unable to secure steady jobs or to immediately establish themselves on the land, many of the immigrants who arrived in the 1840s probably continued to move from one construction site to another, and may still have been doing so. Thus the immigrants who laboured on public works in the 1850s may have been an amalgam of the newly-arrived and those who had come as early as the 1840s. Such men, experienced at construction and able to move out of it only with difficulty, provided the ideal workforce for public works.

The dominance of immigrants in the public works labour force in mid-century was not re-established when large scale public works revived in the late 1860s. The decade of the 1870s stands out as one in which migrants from within various sectors of the Canadian economy made up the majority of labourers on construction projects in central and eastern Canada. The rural decline which had impelled inhabitants to the public works in the 1840s and 1850s continued and deepened, and combined with the widespread

unemployment created by the depression of the 1870s⁷⁸ to ensure an abundant supply of labour for construction. For most of the decade the supply of labour exceeded demand. There may have been a scarcity of labour for construction in the late 1860s and early 1870s; when work started on the Intercolonial both government officials and contractors expressed fears that with the number of railways and public works being commenced, the Intercolonial would suffer from a scarcity of labour. In the early years of construction contractors did complain of the difficulties in maintaining adequate supplies in peak seasons.⁷⁹ Similar fears were expressed when work began on the Welland Canal in 1872, and contractors experienced some problems with maintaining their workforce in the first season of construction. In the same year the Department of Agriculture predicted that the demand for all types of labourers would continue to exceed supply "for some time yet".⁸⁰ The shortage, however, was short lived. When depression hit hard in 1873 the impact on the labour market was immediate. In the winter of 1873 the Superintendent on the Welland could report that "the supply of labourers [had] become more abundant in Canada than it [had] been for years", and could predict that the abundance of labour would continue for construction.⁸¹ The surplus only eased at the end of 1879, when newspapers in the areas of major projects reported that there were "not half the number of men...looking for work" that there had been.⁸²

The Maritimers who worked on the Intercolonial and other public works projects in the 1870s came chiefly from the counties experiencing population loss during this period, "predominantly rural, farming and fishing areas" which offered "few alternatives to rural decline".⁸³ Problems in the rural economies, which predated the general decline of the depression, meant that labourers could be drawn from along the line of the Intercolonial in Nova Scotia and New Brunswick. In 1867, before the commencement of the railway, the federal government undertook a detailed study of the "number and kind of labourers which the settlements in the vicinity of the proposed routes (in New Brunswick as well as Canada) [could] supply". It concluded that Restigouche, Gloucester, Northumberland and Kent counties in New Brunswick could provide a total of 2,800 labourers.⁸⁴ As the report predicted, local farmers and fishermen became a valuable source of labour for contractors, so much so that when the government offered to bring in "emigrant labour" to speed up construction in the summer of 1870 Berlinquet declined the offer on the grounds that they were "in a tolerably well settled part of country, and... found a considerable amount of local labour available".⁸⁵ Berlinquet was not unusual in this respect. Along the New Brunswick section of the line, in the fall of 1871, "instead of large numbers of workmen coming in from other parts, [local] farmers, lumberers, mechanics and labourers were

engaged on the works".⁸⁶ In the same year the work along the entire length of the line was done "almost exclusively by the labour of the country".⁸⁷ Contractors still complained that during seeding and harvesting and in the peak fishing season the "railway works were stripped of labour".⁸⁸ But this did not deter them from a reliance on local labour much greater than in the 1850s. In the 1870s contractors also drew labourers from among the unemployed miners of Nova Scotia,⁸⁹ and local labour was also employed extensively on the St. Peter's Canal, where Cape Bretoners fitted the work into a precarious cycle of fishing and bare subsistence agriculture.⁹⁰

In central Canada, as in the Maritimes, the pattern of migration into canal and railway construction established in the 1850s emerged again in the depression years of the 1870s, as hardship forced men from the rural economy to utilise the public works either to supplement their rural income or as a stepping stone off the land. The pace of French Canadian migration from the land increased during the decade, creating anxiety in the home parishes over the depopulation of areas of Quebec.⁹¹ French Canadians still migrated to the United States, where their ability to save part of their low wages earned them the soubriquet of the Chinese of the east.⁹² But a much larger proportion than in previous decades successfully sought work on canals and railways closer to home. Although

it is difficult to distinguish between French Canadian labourers who came from the rural economy and those who came from urban centres, there are references to contractors bringing in "habitants" from around Trois Rivières or one hundred labourers from the Quebec region, to labour on local projects such as the Lachine Canal and the North Shore Railway, and those as distant as the Canadian Pacific Railway.⁹³

It is harder to establish the extent to which men from the rural sector of Ontario laboured on public works, but we know they laboured on private railways in the late 1860s and the 1870s.⁹⁴ Some may have been driven there by the rural decline and consolidation in long-settled areas during the 1860s.⁹⁵ Others attempted to combine railway labour with land clearance in areas of the province opening up to settlement and lumbering.⁹⁶ Given this pattern, it is reasonable to assume that Ontario farmers joined their French Canadian and Maritime counterparts on public works.

More significant than the rural areas in supplying a labour force for public works in the 1870s were Canada's emerging cities. The depression of this decade forced tens of thousands of urban workers out of work and into soup kitchens, where they were joined by the destitute from the rural areas who flocked into the towns and cities. Desperate for any type of work, the unskilled besieged construction sites, descending on the Lachine from "Ottawa,

Quebec and other places", and on the Welland from Montreal, Toronto, and Hamilton.⁹⁷ Even men "of the better walks of society", applied for jobs on public construction projects.⁹⁸

Concern over the widespread unemployment amongst labourers found expression in the way in which public works were perceived and promoted. Governments still discussed the central role of canals and railways in general plans for colonization and for social and economic development. But while Macdonald began to formulate the policies that would link immigration, colonization and railways once again, public construction projects were also promoted as an answer to unemployment, a means of halting the exodus to the United States and of preventing the buildup of large numbers of unemployed in the cities. Politicians urged the construction of projects such as the Welland Canal, on the grounds that they would "find employment for a large number of people who had every winter to leave the country to look for work".⁹⁹ Similarly, the Lachine Canal was held out as the answer to the destitution in Griffintown and the North Shore Railway as the solution to the unemployment in Quebec.¹⁰⁰ However sincere these gestures towards making work, they indicated that politicians could no longer discuss public works only in terms of providing jobs for the unemployed and starving of Europe. Now they were also constrained to confront the unemployment and suffering in large areas of Canada.

Some of the unemployed received aid in finding work on

construction projects. Municipal politicians assisted those in their midst to travel to public works. The Mayor of Ottawa, for example, handed out about 500 passes for transit in late 1876 and early 1877 to "poor men" wishing to go and work at "Lachine, St. Catharines, and elsewhere".¹⁰¹ The following year he sent "another batch of the unemployed labourers to Grenville, where they would be furnished with work on the Grenville Canal".¹⁰² Contractors' agents also recruited in the major urban centres, particularly for projects at some distance from populated areas. Contractors on the Canadian Pacific, for example, recruited amongst the unemployed in cities such as Toronto, Montreal, Quebec and Ottawa.¹⁰³ Contractors may also have recruited formally for projects in well-populated and easily accessible locations, such as the Lachine and Welland Canals. For such projects, however, they needed to do little more than advertise in newspapers, distribute circulars, or merely post notices on the works, confident that the required labourers would quickly appear.¹⁰⁴

With little prospect of work elsewhere, the surplus collected around major construction sites where the demand was greatest and most concentrated. Both the Welland and the Lachine Canals experienced labour build-ups reminiscent of the 1840s. Labourers unable to secure work immediately on their arrival hung around waiting for old sections to expand, or new sections to open. Labourers no longer

required by one contractor also remained in the area hoping to secure work with another. Thus, when work resumed on the Lachine Canal in December 1878 after many sections had been suspended for months, contractors were "at no loss for labourers". All the "old Hands" were still available and "in addition there had been a large influx of labouring men from both the east and the west".¹⁰⁵ The situation was similar along the Welland, even in the early 1880s when the glut had eased somewhat:

Watching for work from day to day is the story of the hundreds of men who are compelled to lay around here doing nothing but running in debt. Men are advertised for, and when they arrive they find no work, and only go to swell the body of dissatisfied idlers. 106

Their numbers were further increased by the migration north of unemployed American labourers, who returned again to Canada in the 1870s to find jobs on the canals and railways. Labourers from the New England States were prominent among the early arrivals at the commencement of the Welland Canal;¹⁰⁷ and their countrymen continued to swell the ranks of would-be labourers until 1879, when officials noted a marked drop off in migrants from south of the border. In Stonebridge that year "not half the number of men were looking for work...as last year", which the newspaper attributed to the "brisker" times in the United States.¹⁰⁸ Similarly, migrants from the United States swarmed into Montreal hoping to find jobs on the Lachine Canal and the North Shore Railway.¹⁰⁹

The intrusion of labourers from the United States at a time of high unemployment provoked an outcry from press, politicians, and workers worried about the competition which they posed to native labour. On the Welland Canal contractor Charles Dunbar was accused of importing "labourers from the other side" while Canadians starved under his nose. Although Dunbar may have been correct in his estimate that barely one-tenth of his labourers were American, the spectre of a wholesale importation of Americans became an argument against awarding contracts to Americans.¹¹⁰ The use of workers from south of the border also became an issue on the Lachine Canal. The Member of Parliament for Lachine urged the federal government to adopt the "'National Policy' in its broadest sense" and exclude Americans from any part in the contracting process, lest they flood the Canadian market with American labour: "It has long been felt in my own country a great public grievance that contracts should be awarded to Americans who brought with them from their own country not only plant, but also labourers, boardinghouse keepers etc."¹¹¹ Even on much smaller public works the cry against American labour was raised. In Ottawa workingmen organised a mass meeting to protest the extension of the water works by contract, on the grounds that contractors would bring in "foreign", not "local", labourers.¹¹²

With the massive surplus of local labour available for public works projects in the 1870s, it is not surprising that

European immigrant workers were not crucial to public works, as they had been in previous decades. Precisely how large a role immigrants played in building the public works of the 1870s is difficult to determine. Although immigration was much curtailed during the depression years, destitute immigrants continued to arrive and many of their number may have gone directly to construction sites as earlier immigrants had done.¹¹³ We know that parties of immigrants were recruited as labourers or as settler-navvies along private railways.¹¹⁴ Similarly, contractors on the Inter-colonial brought in small groups of labourers from Britain, though many of these were skilled.¹¹⁵ On the Lachine and Welland Canals newly arrived immigrants were probably among the Irish. Some of the Germans and Swedes on major projects were recent arrivals, like Erickson Ross, in 1874 "out from Sweden eleven months".¹¹⁶ Italian immigrant labourers also made their appearance on construction sites in this decade. The beginning of the mass migration which would carry tens of thousands of Italians to North America in later decades¹¹⁷ was evident on the Welland Canal, where hundreds of Italian labourers were brought in. In November 1879 they were reported to be arriving at Stone bridge "on nearly every train".¹¹⁸ How many Italians laboured on the Welland, and whether they were brought in direct from Italy or from the United States, is not clear. Many of them, possibly the

majority, were stonecutters, not part of the unskilled workforce. 119

In the following decade Italians would become a primary source of unskilled labour for transportation projects.¹²⁰ During the 1870s, however, neither they nor any other immigrant group dominated the labour force on public works. Government and newspaper reports present a clear picture of a workforce comprised largely of native Canadian labourers. In the Maritimes the workforce on the Intercolonial and on the St. Peters Canal was made up primarily of local labour. This stands in stark contrast to the situation in the 1850s, when contractors relied principally on immigrant labourers. The same shift in the composition of the workforce is evident for the Lachine Canal. During the 1870s French Canadians alone made up as much as half of the workforce in some years. The relative proportions on the Welland Canal are more difficult to ascertain, but with no immigrant group predominant contractors relied largely on an amorphous pool of labour drawn from throughout Quebec and Ontario.

This availability of unskilled native labour for one important sector of industry demonstrates the broader process of class formation at work over the period. By the 1870s Canada could provide much of its unskilled labour requirements from within its own borders. Accelerated migration from declining rural economies provided a pool of labourers available to take jobs on public works, either to

supplement their incomes or to abandon the rural sector altogether. The movement of population to the urban centres combined with the immigration of previous decades to produce a reserve of unskilled labour dependent on developing industries. In hard times this reserve was pushed to take up the least desirable jobs at the base of society.

Notes

1. For a general discussion of this phenomenon and its continuation into the twentieth century, see Stephen Castles and Godula Kosack, Immigrant Workers and Class Structure in Western Europe (London and New York: 1973); W.R. Bohning, The Migration of Workers in United Kingdom and the European Community (London: 1972). On the role of immigrant workers in nineteenth century Britain see A. Redford, Labour Migration in England, 1800-1850 (Manchester: 1926); Lynn Hollen Lees, Exiles of Erin: Irish Migrants in Victorian London (New York: 1979). On immigrant labour in the United States, see Charlotte Erickson, American Industry and the European Immigrant, 1860-1885 (Cambridge: 1957); Edwin Fenton, Immigrants and Labour: A Case Study: Italians and American Labor, 1870-1920 (New York: 1975); Gerald Rosenblum, Immigrant Workers: Their Impact on American Labour Radicalism (New York: 1973). For the role of immigrant labourers in the economy of British North America, the most important works are Pentland, Labour and Capital, and Avery, Dangerous Foreigners.
2. This figure is calculated from estimates in engineering staff reports of the numbers of skilled and unskilled on various construction sites throughout the forty-year period.
3. For the general pattern, see Samuel, "Workshop of the World".
4. Coleman, The Railway Navvies; Handley, The Navvy in Scotland. See also F.S. Williams, Our Iron Roads (London: 1852) and Anthony Burton, The Canal Builders (London: 1972).
5. This was Thomas Brassey's estimate, cited in Coleman, The Railway Navvies, 41-42.
6. Ages of the "young men" and "boys" who appear on construction sites are usually not specified. Kesteman, however, discovered 10-year-olds working on the St. Lawrence and Atlantic Railway. Moreover, it was not unusual for children of 11 and 12 to take construction jobs. Kesteman, "Les Travailleurs à La Construction", 535.
7. Welland Tribune, 17 November 1876.
8. Estimates of numbers required on the various public works projects in this study are based on both scattered references in government records and newspapers and on calculations of numbers needed for the various types of work. For a summary of the scale and nature of work on canals see Heisler, The Canals of Canada, 92-119.

9. See RG 11, Vol. 23, #26739, Baillargé to Begly, Vol. 18, #17406, Page to Begly, 7 August 1852; Vol. 17, #16078, Page to Begly, 17 March 1852; Vol. 21, #22496, Baillargé to Begly, 1 May 1854.
10. RG 11, Vol. 22, #25355, Gallway to Secretary of Public Works, 22 March 1855; Ibid., #25647, Gallway to Secretary of Public Works, 14 April 1855; Vol. 23, #26437, Gallway to Secretary of Public Works, 4 July 1855; Ibid., #26728, Gallway to Begly, 4 August 1855; Vol. 24, #27668, Gallway to Secretary of Public Works, 8 November 1855; Ibid., #28292, Gallway to Begly, 9 January 1856; Vol. 25, #28736, Gallway to Secretary of Public Works, 8 February 1856; Ibid., #29428, Gallway to Begly, 7 April 1856.
11. The total numbers employed on the various small projects can only be an estimate, based on Heisler's description of the repairs and improvements undertaken in the decade. Heisler, The Canals of Canada, 92-119.
12. See Morning News, 3 September 1856; New Brunswick Courier, 8 July 1854; 25 October 1856.
13. Catholic, 10 June 1854; 21 July 1855; RG 30, Vol. 2027, Forman to Morse, 14 February 1856; Ibid., Morse to Forman, 23 November 1857; 27 May 1858; Evening Express, 19 May 1858.
14. Nova Scotian, 3 May 1858; 25 January 1858; 13 September 1858; 26 May 1856; Evening Express, 20 January 1858; 7 May 1858; 23 July 1858; Morning Journal, 22 January 1858.
15. Union Advocate, 10 January 1872.
16. RG 30, Vol. 12471, Bell to Jones, 27 September 1873; Vol. 12470, Bell to Jones, 27 October 1873; Ibid., Berlinquet and Bertrand to Commissioners, 22 September 1871; Ibid., Glover to Walsh, 15 May 1872; Ibid., Smith to Jones, 9 December 1872.
17. For the Welland see, among others, Welland Tribune, 7 May 1874; 3 July 1876; 8 March 1878; 14 March 1879; 27 June 1879; 23 January 1880; 20 February 1880; 20 August 1880. For the Lachine see Montreal Star, 18 January 1877; 14 December 1878; 27 August 1880; 6 November 1880; RG 11, Vol. 177, #45525, Sippell to Braun, 31 October 1874; Ibid., #45526, Sippell to Braun, 31 October 1874; Vol. 473, #71442, Sippell to Braun, 19 December 1877; Ibid., #71633, Sippell to Braun, 29 December 1878; Vol. 469; #57638, Sippell to Braun, 6 March 1876.

18. RG 11, Vol. 487, #72686, Memorial and Petition of J.P. Haliburton and others, 4 March 1878.
19. French Canadians can be identified on a variety of projects in Lower Canada, such as the Lachine, Chats, and Beauharnois Canals, and the "Cascades Road". Pentland has claimed that they were employed primarily as carters and woodcutters, but it is clear that on the Chats Canal, at least, they also worked as labourers. Pentland, Labour and Capital, 119. See also below for the presence of French Canadian labourers on the Grand Trunk and other North American railways.
20. Some may have been making a decisive break with the rural economy, but others were clearly supplementing their rural incomes, using construction work in the same manner that they used lumbering. See, for example, R.C. Harris, "Of Poverty and Helplessness in Petite-Nation", Canadian Historical Review, 52 (1971), 23-50.
21. F. Ouellet, Economic and Social History of Quebec, 1760-1850 (Ottawa: 1980), 353-70; Albert Faucher, "L'emigration des Canadiens français au XIXe siècle: position du problème et perspectives", in Albert Faucher, Histoire Economique et Unité Canadienne (Montreal: 1970).
22. H.C. Pentland, "The Development of a Capitalistic Labour Market in Canada", Canadian Journal of Economics and Political Science, 25 (1959), 450-61.
23. According to the Report of the Select Committee of the Legislative Assembly to inquire into Emigration (Montreal: 1849), many French Canadians went to work on railway construction in the United States.
24. See in particular Pentland, "The Lachine Strike of 1843"; J.I. Cooper, "The Quebec Ship Labourers' Benevolent Society", Canadian Historical Review, 30 (1949), 336-43; M.S. Cross, "The Dark Druidical Groves", Ph.D. Thesis, University of Toronto, 1968; M.S. Cross, "The Shiners War: Social Violence in the Ottawa Valley in the 1830s", Canadian Historical Review, 54 (1973) 1-26.
25. Helps, Life of Brassey, 196-7. On this point Helps quotes Rowan, one of four agents supervising the work for the British contractors: "They could work fast for ten minutes and they were 'done'. This was not through idleness, but physical weakness. They are small men, and they are a class who are not well fed. They live entirely on vegetable food, and they scarcely ever taste meat". See also Kesteman's suggestions as to why only a very small number of French Canadians were found

- amongst the unskilled on the St. Lawrence and Atlantic Railway. Kesteman, "Les Travailleurs à La Construction", 535.
26. Canada, Legislative Journals, 1843, Appendix T, Petition of Loui's Dequane and others of the parishes of St. Clement and St. Timothée de Beauharnois; Joseph Berquevin's Examination; Martin Foretier's Examination.
 27. RG 11, Vol. 22, #25949; Gallway to Begly, 9 May 1855; Vol. 23, #26728, Gallway to Begly, 4 August 1855; Ibid., #26739, Baillargé to Begly.
 28. Avery, Dangerous Foreigners, 26-27.
 29. See John McCallum, Unequal Beginnings: Agriculture and Economic Development in Quebec and Ontario until 1870 (Toronto: 1980); David Gagan, "Land, Population, and Social Change: The 'Critical Years' in Rural Canada West", Canadian Historical Review, 59 (1978) 293-318; Gagan, Hopeful Travellers, ch. 3; R.L. Jones, History of Agriculture in Ontario, 1613-1880 (Toronto: 1977).
 30. Canada, Legislative Journals, 1843, Appendix Q.
 31. Leo Johnson, "Land Policy, Population Growth and Social Structure in the Home District, 1793-1851", Ontario History, 48 (1971), 41-60; Gary Teeple, "Land, Labour and Capital in Pre-Confederation Canada", in Gary Teeple, ed., Capitalism and the National Question in Canada (Toronto: 1972); Ouellet, Economic and Social History of Quebec, 448-546; Robert Tremblay, "La formation matérielle de la class ouvrière à Montréal entre 1790 et 1830", Revue d'histoire de l'Amérique française, 33 (1979), 39-50; J. Fingard, "The Winter's Tale: The Seasonal Contours of Pre-Industrial Poverty in British North America, 1815-1860", Historical Papers, 1974; Pentland, Labour and Capital, ch. 4.
 32. See for example Katz, The People of Hamilton, ch. 3. Amongst the voluminous literature which documents the same phenomenon in the United States, see in particular the overview by Stephan Thernstrom and Peter Knights, "Men in Motion: Some data and speculations about Urban Population Mobility in Nineteenth Century America", Journal of Interdisciplinary History, 1 (1970), 7-35.
 33. J.I. Cooper, "The Social Structure of Montreal in the 1850s", Canadian Historical Association, Report, 1956; Pentland, Labour and Capital, ch. 4.

34. See Graeme Wynn, Timber Colony: A Historical Geography of Early Nineteenth Century New Brunswick (Toronto: 1981).
35. Alan Brookes, "Out-Migration from the Maritime Provinces, 1860-1900: Some Preliminary Considerations", Acadiensis, 5 (1976), 26-56; See also another article by Brookes, "The Golden Age and the Exodus: The Case of Canning, Kings County", Acadiensis, 11 (1981), 57-82.
36. RG 30, Vol. 2027, Morse to Forman, 5 November 1857.
37. Nova Scotian, 21 April 1856; 2 June 1856.
38. Wynn, Timber Colony, 155-6.
39. New Brunswick Courier, 10 January 1857; Morning News, 21 September 1857; 29 January 1858; Morning Freeman, 11 December 1858; Evening Express, 20 January 1858; 25 January 1858; 28 April 1858; Morning Journal, 28 April 1858.
40. Pentland, "Labour and Industrial Capitalism", 273; Frances Morehouse, "Canadian Migration in the Forties", Canadian Historical Review, 9 (1928), 309-29; M.L. Hansen and J.B. Brebner, The Mingling of Canadian and American Peoples (New Haven: 1940), 123-8.
41. Charles Stephenson, "A Gathering of Strangers? Mobility, Social Structure, and Political Participation in the Formation of Nineteenth-Century American Working Class Culture", in Milton Cantor, ed., American Working Class Culture (Westport, Conn.: 1979); See also Stephan Thernstrom, "Working Class Social Mobility in Industrial America", in Melvin Richter, ed., Essays in Theory and History: An Approach to the Social Sciences (Cambridge, Mass.: 1970); Thernstrom and Knights, "Men in Motion"; Stephan Thernstrom, "Urbanization, Migration, and Social Mobility in Late Nineteenth Century America", in E.J. Bernstein, ed., Towards a New Past (New York: 1968).
42. Canada, Legislative Journals, 1854-55, Appendix DDD, Report of A.C. Buchanan on the subject of emigration.
43. Morning News, 18 September 1857; 21 September 1857.
44. New Brunswick Courier, 16 January 1858; Morning News, 10 June 1857; Nova Scotian, 19 July 1858; 26 July 1858; 9 May 1859.

45. Nova Scotia, Assembly Debates, Howe, 16 February 1857, 103; Evening Express, 13 September 1858; 15 September 1858.
46. New Brunswick Courier, 13 May 1854.
47. Nova Scotian, 21 April 1856; Catholic, 19 May 1885; New Brunswick Courier, 31 September 1854.
48. Canada, Legislative Journals, 1841, Appendix D.
49. Ibid., 1843, Appendix Q, Report of the Board of Works.
50. William Bridges, Ireland and America: Railway Colonization and a Colonization Currency (London: 1847), Appendix, Opinions of Earl Grey and Summary of evidence on the Subject of the Railway Colonization of British North America, before a Select Committee of the House of Lords; For an example of the many pamphlets addressing this issue see Emigration: Its Advantages to Great Britain and her Colonies together with a Detailed Plan for the Formation of the Proposed Railway between Halifax and Quebec (London: 1848).
51. Bridges, Ireland and America, Appendix, Evidence of M.H. Perley.
52. Ibid. See also Depopulation of the British Empire Unnecessary: Improved Bridge from Starvation to Plenty (London: 1850); R.C. Smyth, The Employment of the People and the Capital of Great Britain in her own Colonies (London: 1849); T. St. Leger Alcock, Observations on the Poor Relief Bill for Ireland and its Bearing on the Important Subject of Emigration (London: 1847); Joseph Howe, Speech of the Honourable Joseph Howe, on Inter-colonial railroads, and colonization (Halifax: 1851).
53. For example, the government of New Brunswick was so precise as to advertise that "in construction of the proposed branches of the European and North American one year's labour of sixty men" would be required for each mile of railway. M.H. Perley, Handbook of Information for emigrants to New Brunswick (London: 1854, 1857), 48.
54. Bridges, Ireland and America, Appendix, Evidence of George Pemberton.
55. Canada, Department of Agriculture, Canada: A Brief Outline of her geographical position, productions, climate, capabilities (1861), 49.

56. W.F. Adams, Ireland and the Irish Emigration to the New World (Connecticut: 1932), 127, The Elgin-Grey Papers 1846-1852, ed. A.G. Doughty (4 vols., Ottawa: 1937), Vol. 1, 45, 50 and 52; Elgin to Grey, 27 May 1847; 13 June 1847; 28 June 1847.
57. See for example: Pamphlet addressed to Lord John Russell (London: 1847) and Bridges, Ireland and America, Appendix, Evidence of George Pemberton. Indeed many would have agreed with Grey that the Irish not only excelled at manual labour, but were "fit for no employment that required the exercise of brains". Elgin-Grey Papers, I, 222-3, Grey to Elgin, 22 August 1848.
58. Pamphlet addressed to Lord John Russell, 34-36, 41. Kesteman's use of the 1851 census enables him to conclude that 75 per cent of the labourers on the St. Lawrence and Atlantic Railway were Irish Catholics, and a further 6 per cent Irish of other denominations. Of these he estimates that the majority were famine Irish from the migration of 1847-1849. Kesteman, "Les Travailleurs à La Construction", 535.
59. Canada, Legislative Journals, 1854-55, Appendix DDD.
60. MG 9, Vol. 52, Scoular to Tilley, 27 January 1858; Morning News, 2 September 1857.
61. Canada, Legislative Journals, 1854-55, Appendix DDD.
62. RG 11, Vol. 21, #23841, Petition of Counter to Elgin, September 1854; Ibid., #23376, Baillargé to Begly, 12 August 1854; Vol. 20, #25868, Baillargé to Begly, 30 April 1855; Vol. 21, #26888, Quarantine Report, 17 October 1854.
63. Nova Scotian, 4 October 1858; Canada, Legislative Journals, 1854-55, Appendix DDD; N. Macdonald, Canada: Immigration and Colonization, 1841-1903 (Toronto: 1966).
64. RG 11, Vol. 22, #26165, Gallway to Begly, 4 June 1855; Vol. 23; #26940, McDonald to Department of Public Works, 3 July 1855.
65. For a sampling of the various methods of advertising, see Cornwall Observer, 24 March 1842; RG 11, Vol. 389, File 90, Keefer to Robinson, 1 March 1842; Catholic, 10 June 1854; 21 July 1855; 25 August 1855; Evening Express, 20 January 1858; 7 May 1858; Nova Scotian, 15 August 1855; 14 December 1857; 25 January 1858; 3 May 1858; 13 September 1858.

66. Bleasdale, "Class Conflict", 12-13.
67. RG 11, Vol. 22, #26165, Galway to Begly, 4 June 1855; Vol. 23, #26940, MacDonald to Begly, 3 July 1855; Vol. 17, #16154, Page to Begly, 17 March 1852; Canada, Legislative Journals, 1854-55; Appendix EEEE, Crawford to Chabot, 26 September 1853; Crawford and Milner to Commissioner of Public Works, 3 March 1854.
68. See Brassey's experience on the Grand Trunk Railway, as recounted by his agent, Rowan, in Helps, Life of Brassey, 196-7.
69. See, for example, RG 11, Vol. 17, #16154, Page to Begly, 17 March 1852; Canada, Legislative Journals, 1854-55, Appendix DDD.
70. RG 11, Vol. 33, #38133, Meagher to Department of Public Works, 25 August 1858.
71. Report of the New Brunswick Railway Commissioners, (1858), 19.
72. Herepath's Journal, 4 March 1854. It is not clear how many navvies Peto and Brassey brought in before abandoning their contracts in the Maritimes.
73. MG 9, Vol. 50, Petition to Lieutenant-Governor of New Brunswick, 18 December 1854.
74. Bridges, Ireland and America, 3.
75. New Brunswick Courier, 9 September 1854.
76. Canada, Legislative Journals, 1843, Appendix Q.
77. See in particular: Katz, The People of Hamilton, ch. 2; Thernstrom and Knights, "Men in Motion". For a discussion of Irish immigration see Kenneth Duncan, "Irish Famine Immigration and the Social Structure of Canada West", Canadian Review of Sociology and Anthropology, 2 (1965), 19-41.
78. For the effects of the depression on Canadian industry see J. Clarence Ingram, "The Financial Depression of 1873 and Its Effects on Canadian Industry", M.A. Thesis, Queen's University. 1929. Also of interest is a contemporary view, W.W. Johnson, Sketches of the Late Depression (Montreal: 1882).
79. Papers and Correspondence Relative to the Contract between the Government of Nova Scotia and the

- International Contract Company (Ottawa: 1867); RG 30, Vol. 12470, Berlinquet and Schreiber to Fleming, 26 June 1871; Ibid., Schreiber to Smith, 26 June 1871.
80. RG 11, Vol. 160, #31775, Mitchell to Langevin, 17 June 1873; Canada, Department of Agriculture, Labour Wants of Canada (Ottawa: 1873).
81. RG 11, Vol. 161, #37327, Page to Commissioners, 23 December 1873.
82. Welland Tribune, 29 April 1877; 19 October 1877; 26 December 1879; 19 November 1880.
83. Brookes, "Out-Migration from the Maritime Provinces", 31.
84. Canada, Sessional Papers, 1867, 18.
85. RG 30, Vol. 12470, Berlinquet to Ross, 16 June 1870.
86. Union Advocate, 15 November 1871.
87. Morning Freeman, 12 August 1871.
88. RG 30, Vol. 12470, Schreiber to Brydges, 4 June 1871.
89. RG 30, Vol. 12471, Bertrand to Smith, 10 December 1869.
90. RG 11, Vol. 487, #77854, Drummond to Tupper, 15 November 1878; Brookes, "Out-Migration from the Maritime Provinces", 31.
91. Jean Hamelin and Yves Roby, Histoire Économique du Québec, 1851-1896 (Montreal: 1971), ch. 3; Faucher, "L'émigration des Canadiens français au XIXe siècle"; Gilles Paquet, "L'émigration des Canadiens français vers la Nouvelle-Angleterre, 1870-1910: prises de vue quantitatives", Recherches Sociographiques, 5 (1964), 319-70.
92. Montreal Star, 31 August 1878.
93. Ibid., 24 April, 14 May 1877; La Minerve, 25 April 1879.
94. References to the presence of farmers as labourers are sprinkled throughout local newspapers. The Orangeville Sun for 1870, for example, contain numerous references for the Toronto, Grey and Bruce Railway.
95. Gagan, Hopeful Travellers, 14-15 and ch. 3; Leo Johnson, A History of the County of Ontario, 1615-1875 (Oshawa: 1973), ch. 11; D.A. Lawr, "The Development

- of Ontario Farming, 1870-1914: Patterns of Growth and Change", Ontario History, 64 (1972), 240-251.
96. This was also a method of establishing immigrants on the land in territory opening up to settlement. See below, note 114.
97. Montreal Star, 1 February 1878; 6 February 1878; Irish Canadian, 13 February 1878.
98. Montreal Star, 8 January 1877.
99. Commons Debates, A.P. McDonald, 28 March 1870, 726.
100. RG 11, Vol. 469, #55951, McNamee, Gaherty and Frenchette to Braun; 18 December 1875.
101. Montreal Star, 6 April 1878.
102. Ibid., 25 February 1878.
103. Ibid., 24 November 1879; 2 April 1880. The eagerness with which labourers sought these jobs is demonstrated by an incident in Montreal. In spring 1880 250 labourers from Montreal were recruited for the Canadian Pacific. They crowded into Chaboillez Square to wait for a detachment from Trois Rivières. When their departure was delayed, some threatened to go to the hotel and mob the contractors. A special train was quickly engaged for them. Montreal Star, 2 April 1880.
104. Ibid., 16 May 1877; 6 November 1880; 7 June 1880; 3 April 1880; Orangeville Sun, 13 October 1870.
105. Montreal Star, 11 December 1878.
106. Welland Tribune, 23 January 1880.
107. Ibid., 3 December 1873.
108. Ibid., 26 December 1879.
109. Montreal Star, 22 January 1877.
110. Welland Tribune, 2 September 1875.
111. RG 11, Vol. 475, #77515, Girouard to Tupper, 14 November 1878.
112. Montreal Star, 31 May 1877. On the response of Ottawa working men to the depression see Debi Wells, "The

Hardest Lines of the Sternest School': Working Class Ottawa and the Depression of the 1870s", M.A. Thesis, Carleton University, 1982.

113. Macdonald, Canada: Immigration and Colonization, chs. 6-9 and 11, passim.
114. See for example the experience of Icelandic immigrants located at Kinmount on the Victoria Railway and expected to combine land clearance and labour on the railway. Ibid., 208-9.
115. Morning News, 28 September 1871.
116. Welland Tribune, 6 April 1876; 7 May 1874.
117. The Italian migration to North America had barely begun when they made their appearance on Canada's public works. See R.F. Harney, "Men without Women: Italian Migrants in Canada 1885-1930", in B. Caroli, R.F. Harney, and L. Tomasi, eds., The Italian Immigrant Women in North America (Toronto: 1978); Avery, Dangerous Foreigners, ch. 1; Bruno Ramirez and Michael Del Balso, The Italians of Montreal: From Sojourning to Settlement, 1900-1921 (Montreal: 1980).
118. Welland Tribune, 28 November 1879.
119. Ibid., and 8 February 1878.
120. The use of immigrants to supply a pliant and transient unskilled labour force is analysed in Avery, "Canadian Immigration Policy" and Dangerous Foreigners. See also Robert F. Harney, "Montreal's King of Italian Labour: A Case Study of Padronism", Labour/Le Travailleur, 4 (1979), 57-84.

CHAPTER THREE

WORKING AND LIVING CONDITIONS

Studies of working conditions in the nineteenth century have demonstrated the anguish of the adjustment to factory work rhythms. Thompson and Gutman have led the way in analyzing the difficulties experienced by workers confronted for the first time with factory discipline and regimen.¹ In contrast studies have tended to romanticize outdoor work such as navying in the same period, arguing that it maintained much of its pre-industrial work rhythm, and going so far as to suggest that it attracted workers because it offered freedom, even excitement.² While there was clearly a significant difference between working in a factory and labouring on a construction site, the latter was affected by the move towards a more regimented and impersonal workplace.

Work on construction sites was disciplined, rigorous, and dangerous. Labourers were subject to a regime more disciplined than that of traditional outdoor work yet different from that imposed by the factory. Working to the dictates of foremen and gangers, labourers kept up a steady pace which made heavy work gruelling. The combination of rigorous toil and an outdoor environment made workers susceptible to chronic ailments and epidemics. In addition they were threatened by accidents both inherent in the nature of the

work and attributable to inadequate safety precautions. They received little material benefit in return. The temporary housing in which most labourers were forced to live was crowded and squalid, and these inadequate accommodations were part of a generally low standard of living. Wages were low, frequently late or paid in truck, and too often not paid at all. In total, public works labourers enjoyed a miserably low standard of living as a reward for work that was never less than arduous.

Labourers did not work to the oppressive dictates of the machine; and the open air nature of the work and the scattering of gangs on excavations and embankments made detailed supervision difficult. But supervision was nonetheless keen. Labourers were organised into gangs. Contractors on private works frequently gave sections of the work to "butty gangs", the aristocrats of the pick and shovel, who were only indirectly responsible to contractors and consequently enjoyed considerable independence on the job.³ On public works contracts this system was infrequently used, however. Here the division into gangs was a means of supervision, not a measure of autonomy. Contractors hired gangers to oversee a gang of labourers and to ensure that it functioned smoothly. Over the ganger was the foreman, employed to supervise and coordinate the work of a number of gangs.⁴ In addition to the gangers and foremen, government agents patrolled the

works, checking on progress and on the manner in which contractors deployed their forces.⁵ Constantly looking over each other's shoulders with an eye to costs and deadlines, the staffs of both contractors and government bodies attempted to maintain rigid control of the work process, setting a pace which forced maximum and disciplined output from the men. On a well-run construction site, work progressed at a steady, gruelling pace. One writer described what he had witnessed on construction sites in England:

I think as fine a spectacle as any man can witness who is accustomed to look at work, is to see a cutting in full operation with about twenty wagons being filled, every man at his post, and every man with his shirt open, working in the heat of the day, the gangers looking about and everything going like clock-work. Another thing that called forth remarks was the complete silence that prevailed among the men. (6)

Another writer testified to the remarkable regimen on construction sites:

Everything on the ground appears to be conducted a la militaire, the strictest discipline being enforced and every movement like clockwork. So strict are the regulations that amongst the hundreds employed there is not such a thing to be seen as a labourer leaning on his spade or enjoying a whiff of his pipe. (7)

Closer to home the Antigónish Gasket provided a picture of the regime on the St Peter's Canal, where in the summer of 1855 some three hundred men and thirty to forty horses were employed: "The work seemed to go on quietly without the slightest unnecessary noise; the men were well divided

into sections and regularly seemed the particular object of the several overseers engaged to superintend the work".⁸ Twenty five years later mechanisation had altered the construction site but it remained a hive of ordered and orderly industry: "It's fairly alive with men, horses and derricks-- for even the derricks move and have their being....Three steam derricks, five quarrying derricks, and five wall-building derricks, continually swing their ponderous arms over the work" while the men and horses were "steadily employed".⁹

In mid-century the gruelling pace on construction sites was maintained for as much as twelve hours in the summer months and ten hours through the winter. By the 1870s working hours were generally shorter, labourers commonly putting in ten hours in a regular working day. Labourers were also asked to work overtime, into the night and even around the clock. When contractors were rushing to meet deadlines, bonfires lit around the site illuminated the labourers' tasks.¹⁰ However many, stipulated hours were strictly enforced. Men began and ended work to the whistle and days' end presented "a very interesting sight": "when the whistle blows to shut down work, and the men grab their coats and make a rush for the embankments one would think an army of men were scaling the walls and were bent on taking the town by storm".¹¹

In addition to the normal or extended work day;

labourers were expected to be available at all times for emergencies. For example, when cracks appeared in the canal bank workers might be called from bed and expected to work around the clock to repair them.¹² When a retaining wall on the Welland Canal gave way on a Sunday morning in June 1879, labourers were called from church to meet the emergency.¹³

The demands of the job spawned the myth of the brawny navy, a man set apart from the mass of labourers by his prodigious strength.¹⁴ In North America, as in Britain, contemporaries wrote with fearful awe of the men who cut through the countryside to build transportation networks, and they romanticized about the hardy and rural environments which built up the "brawn, muscle, and massive frames which enabled these men to move mountains".¹⁵ Yet the myth tells only half the story. The picture of fine specimens of manhood should be balanced by the view of the labourer in middle age. For this was an industry which broke men. Canal and railway construction became notorious for the toll it took on workers in Britain and North America. During the 1840s and 1850s Irish-American papers such as the Boston Pilot warned their readers to avoid these construction jobs for they were "the ruin of thousands of our poor people" who were broken and "worked like slaves".¹⁶

In addition to the constant demands of the job, which took their toll over the years, the destruction of lives was speeded by chronic and epidemic disease. Much of the

disease on construction sites, particularly in the 1840s and 1850s, can be attributed to the fact that the labourers were immigrants. There were grounds for the popular hysteria that immigrants carried disease wherever they went throughout the new world. Despite increasing attempts by public health officials to quarantine immigrants on arrival, many of the afflicted escaped detection and detention, as work on the spread of the epidemics throughout British North America indicates.¹⁷ Even those not already infected when they started work on construction sites were sufficiently run down by inadequate food and facilities on the ocean journey that they easily fell prey to diseases. But even healthy men fell victim on construction sites.

Labourers' susceptibility to disease was heightened by the fact that work continued in all types of weather. A week of rain turned canal and railway construction sites into bogs. But if it was possible, or if the contractor was racing to meet a deadline, work carried on regardless of conditions, the men labouring knee-deep in mud, never dry. In spring and fall, earth mixed with freezing rain chilled navvies to the bone in the mud of the excavations, puddle trenches, and coffer dams. In winter, as the temperature dropped, a smaller percentage of navvies continued to labour in conditions which drove everyone else indoors. They shovelled snow and ice from embankments and cuttings and chopped ice from canals before climbing into the freezing

water. Even in blinding storms, contractors might try to press the work ahead. On the Intercolonial they built shelters to protect their men from the freezing wind, and on the Chats Canal foremen continued operations in weather so bitter that the men finally refused to go to the works.¹⁸

Working in these conditions, the men suffered with fevers, pneumonia, inflammation of the lungs, chronic bronchial ailments and rheumatics. Their battered constitutions were susceptible to any disease making the rounds in their area, such as typhus or the cholera which struck with particular force at labourers on the Junction Canal in 1854. Dysentery, common amongst navvies in the old world, also infected those in the new, brought on by the combination of grim working conditions and unsanitary housing in temporary camps and crowded boarding houses.¹⁹ In North America labourers were also subject to attacks of malaria. The *Anopheles* mosquito thrived on low-lying construction sites throughout the nineteenth century. It attacked labourers on the Rideau and Welland Canals in the 1820s and 1830s, and struck particularly hard on the Erie Canal, where "the annual sickly time so decimated the ranks that the blockhouse of Fort Schuyler was turned into a hospital."²⁰ Among labourers on the Welland in the 1840s the toll was equally heavy. Dr. Jarrow, attending the labourers in the fall of 1842, warned the Board of Works: "Scarcely an individual that has been upon the works will escape". He reported

four hundred out of a workforce of nine hundred already suffering from the disease. Even more alarming was the number of victims among the labourers' families, three-quarters of whom were reported sick. Very few of the children under two years were expected to survive.²¹

Malaria also attacked low-lying construction sites in the following decade. Silas Burt, engineer on the western branch of the Great Western, described its onslaught. Burt was initially concerned only with the attack on the engineering staff. Someone like "the old axeman, Johnson...was not much loss". But the toll amongst the unskilled proved costly to contractors, severely retarding the progress of the work.²² Malaria still appears to have been a serious problem in British North America when major reconstruction work began on the St. Lawrence and Great Lakes Waterways in the 1870s. Along the Welland Canal, both labourers and those living in the area of construction fell victim. In August 1877 between seventy and eighty cases were reported amongst labourers and inhabitants in Port Robinson alone.²³ Most adult malaria victims recovered, but once bitten an individual was subject to intermittent, recurring, incapacitating attacks for the rest of his life, so that many labourers carried away from the canals a lifetime of suffering.

The toll which the work and working conditions took on the labourers made this a young man's occupation. Old age came prematurely to men crippled by rheumatics, tuberculosis,

and remittent attacks of malaria. By middle age a man who had spent years at navying was usually unfit to continue at heavy manual labour, and often incapable of any type of work.²⁴

Accidents also threatened the labourers. Death and mutilation were an accepted part of a job in which men blasted and hacked their way through rock and earth. No official agency recorded accident statistics, and though newspapers such as the Montreal Star considered accidents newsworthy, and attempted to report them, they complained that contractors tried to suppress such incidents: "Our columns have already teemed with fatal accidents, and many have occurred which the contractors have kept from public notice". Fragmentary evidence suggests, however, that during the century the accident rate increased, as the casualties in canal construction were outstripped by the brutalities of the railway age.²⁵

Some of the accidents on canals and railways were perhaps unavoidable, occurring when a labourer lost his footing or his balance. Even for the experienced, running earth out of the cuttings on barrow runs was extremely hazardous in rainy weather when mud clung to uneven boards and cut traction to a minimum. If the labourers slipped while ascending the wooden planks, or if the horse pulling the barrow faltered, the labourer could be crushed under the barrow and dragged up with it.²⁶ When tipping soil for an embankment, the man guiding the horse and wagon to the tip

site ran the risk of falling across the rails or in front of the horse and being crushed, particularly on congested construction sites featuring simultaneous tips. Even on the straightforward job of running wagons over temporary rails to a dumping site, limbs were crushed by overturned wagons and drivers thrown into the path of horses.²⁷ Drowning was also common on canals. Labourers were knocked or slipped into the water from dredges and derricks, or pulled out of their depth when watering horses.²⁸

A very small percentage of the casualties reported on construction sites was the result of freak accidents. In May 1878 Thomas Costello was seriously, though not fatally, injured while positioning stones in a timber crib on the Welland Canal. "Through some mistake" another labourer emptied a barrowload of stones on him.²⁹ Most accidents, however, were neither freakish nor unavoidable, but part of a regular pattern of disregard for safety.

The machinery in use on construction sites was a source of serious accidents. Relatively crude horse-powered dredges, derricks, and cranes maimed and killed the men operating them. Labourers were struck by broken poles, or buckets on derricks and dredges.³⁰ Men were also caught in the machinery. No safeguards prevented a young man, Slattery, from being trapped between the arm and framework of the horse derrick he was operating on the Welland Canal in June 1876. His skull was crushed.³¹ Other labourers suffered the fate

of Michael O'Connor, working on the Welland Canal in February 1844. O'Connor was crushed when a stone he was guiding slipped from the crane.³² When machinery malfunctioned workers were in grave danger. If the rigging gave way on a derrick, the operator might be thrown from his precarious position, or buckets might fall on loaders.³³ If an entire derrick collapsed, as they frequently did during storms, anyone in the vicinity was in jeopardy.³⁴ Even a simple hand-rig could be dangerous if a crowbar jerked out of control while lowering timber into a pit.³⁵

The application of steam power to machinery only added new risks to an already dangerous industry. Steam itself claimed its victims, badly scalding machine operators or anyone in the vicinity of an accident.³⁶ In addition, steam power increased the speed of operations, with the attendant risks, most dramatically evidenced in the numerous accidents involving the engines used for haulage to and from construction sites. Such accidents usually involved solitary labourers, such as Marcotte, crushed under cars on the North Shore Railway, or Eric Johnson, dragged into the path of a steam engine while watering horses on the Welland Canal in May of 1874. But the daily movement of hundreds of men and tons of material over uneven track, as yet unequipped with adequate signal and switching devices, carried the potential for large-scale injury, as an inquest into the death of John Brown on the Nova Scotia Railway demonstrated. Brown

was one of a group of between forty and fifty labourers being transported back to their homes from a day's work on the line in November 1858 when the engine and platform cars in which they were riding collided with a lorry lodged across the track. Two of the cars derailed on impact, throwing labourers in every direction. Many men sustained injuries, but only Brown died on the spot, pinned under tons of steel. Testimony revealed that an incredible combination of defective switches, inadequate signalling devices, and bad judgment on the part of the trackmaster, had contributed to an accident which might easily have claimed dozens of lives. Weighing the factors responsible for this collision, the inquest jury ruled that the trackmaster be charged with manslaughter, though the trial jury was willing to accept that faulty equipment, lack of safety precautions, and unnecessary risks were all part of carrying on a great public work.³⁸

The largest percentage of casualties resulted from cave-ins on cuttings. Some cuttings were more dangerous than others. The excavation for the retaining wall between the new and old aqueducts on the Welland Canal ran so close to the canal itself and was cut to such a depth that it resembled a mine. Unusually complicated and numerous braces and stays were required to support the bank, and workers laboured under the constant threat of cave-ins.³⁹ Even in the simplest cuttings, however, labourers worked in continual danger, if inadequate attention and material were devoted to

shoring up the sides. Excavation was also rendered dangerous by the way in which banks were routinely undermined. When too large an overhang was created, and no look-outs posted to warn of cracks, disaster ensued. Men were buried alive or crushed under tons of earth and rock.⁴⁰ Men were also injured in falls from embankments or the bank of a cutting.⁴¹

The most gruesome accidents were those associated with the use of explosives. By mid-century engineers' knowledge of blasting techniques had expanded sufficiently to allow them to destroy four-hundred foot cliffs in seconds with one carefully placed series of charges. As practised on nineteenth century construction sites, however, blasting was extremely dangerous. The routine gunpowder blasting was carried on frequently on a trial and error basis by labourers who learned their skill on the run.⁴² In the space of a few weeks in the spring of 1871 Berlinquet had three serious accidents in the blasting on the Intercolonial. All were apparently of the same nature. In the one reported to the Commissioners, one man was killed and two badly injured.⁴³

The introduction of new types of explosives only increased the risks. Nitroglycerin was welcomed by contractors and engineers, but it was an extremely unstable compound, hazardous to store and to transport, let alone to handle. Its introduction into the construction industry provided late nineteenth century newspapers with some of their most sensational and gruesome stories, such as the search for Barnum, whose one moment of carelessness in handling nitro

scattered his body, in one-pound pieces, over five acres.⁴⁴

On a well-run construction site attempts were made to clear the works before blasting. On Section 35 of the Welland Canal, under the direction of "Old Bill", who had worked with explosives for forty years, the procedure was strictly regulated. Once the wires were run from cartridges to power source, "the horn blows as a signal of danger, & then comes the scramble of men and horses to a safe distance. And singular to say the horses know well the meaning of the notes from the horn and are uneasy and anxious to move away from the coming explosion".⁴⁵ Despite such precautions, there were still innumerable risks involved in the handling of explosives. They had frequently to be thawed, a dangerous process, particularly when carried out in a forge. In February 1877 the Lachine Canal was the scene of a serious accident when a stray spark alighted on nitroglycerin cartridges spread on the floor of a blacksmith's shop. The "resulting explosion...blew the forge into atoms, [and] shook every house in Côte St Paul. Had the accident happened at any other time than when the men were at dinner, a frightful disaster would have occurred and many lives been sacrificed".⁴⁶

Labourers were in constant danger from explosives which discharged prematurely. In a typical accident on the Nova Scotia Railway in 1855, three labourers were injured by the "untimely explosion of a blast".⁴⁷ Such accidents were still frequent two decades later.⁴⁸ More commonly, the

charge failed to blow initially, and men were killed or injured going back to check it. Sullivan and Deamers, working on the Lachine Canal in 1877, had returned to drill out a fuse when it exploded, mangling them so badly that they could not be moved to a hospital but were taken instead to die in a shanty on the canal bank.⁴⁹ If such disasters occurred "at a distance from civilisation" victims lingered without adequate treatment. In October 1878 Foreman Mackenzie, on Section 15 of the Canadian Pacific, lost a hand, both eyes, and his nose when he went back to check a charge. His wounds were "bandaged up as best the 'navvies' knew how", and only when he had recovered his strength was he transported to his home in Nova Scotia. He stopped in Montreal to have an arm properly amputated.⁵⁰

Even men not directly handling explosives could be killed or injured by missiles thrown out by the blast. It was the boast of contractors on Section 35 of the Welland Canal that over a period of a few months in 1880 no labourers had been injured by explosives. True or not, some were injured by debris, though the Welland Tribune jokingly described them as "foolish fellows who tried to stop falling rocks".⁵¹ Such rocks could be enormous, as large as two hundred pounds; or they might be small fragments, as two accidents on the Lachine Canal demonstrate. In February 1877 a small piece of rock pierced the heart of Joseph Granger; later that year a small stone struck down a French Canadian father of five.⁵²

Newspaper reports of such accidents frequently held the

labourers themselves responsible. They argued that drunkenness and fatigue arising from long nights of debauchery dulled the workers' wits to the point where they made fatal slips. They also argued that some strange perversity prompted labourers to vie with each other in taking unnecessary risks. The Montreal Star referred to the "suicidal mania" amongst construction labourers.⁵³ This attitude was summarised, succinctly by Charles Tupper during a Commons debate over the great number of accidents to employees on the operations end of the Intercolonial. Tupper told the House that it "is one of the things which it is difficult to understand, but which is familiar to the minds of gentlemen who turn their attention to these subjects, that nothing is so surprising as the recklessness of the risks taken by persons engaged in hazardous employments."⁵⁴

A British Select Committee of 1846 into railway labourers found other, more compelling, reasons for the casualty rate in the industry, resting the blame for accidents primarily on the heads of the employers of labour. The committee argued that "what was called accident, too often arose from neglect of precautionary arrangements or of improved implements or methods of working, recourse to which was entirely within the power of the Company". If labourers suffered in some degree from their own recklessness or negligence, they also suffered from the negligence of their employers. These conclusions were based largely

on testimony of the contractors themselves, who frankly admitted that they scrimped on safety measures and moved quickly without adequate precautions. They justified their actions on the grounds that it would cost more to avoid accidents than it did to kill or injure workers. For example, when asked why he did not use the safety fuse, considered much safer than those in operation, an engineer explained to the committee that considering the time that would be lost in using it, he "wouldn't recommend it for all the extra lives it would save".⁵⁵ This was an attitude understood by men in the industry of North America. Speaking from years of experience in the transportation industry, Sandford Fleming put it bluntly: "it cost nothing to kill a man, but it would cost something to make use of a mechanical contrivance that might save his life".⁵⁶

Considering the importance of cost-cutting to contractors' operations, this apparent indifference to human life should not be interpreted as a manifestation of individual greed, but as a necessity for survival in the industry. Extra time expended on safety fuses, extra wages spent for lookouts on cuttings, and expenditures on safer machinery, could all mean the difference between keeping afloat and going under. This concern with saving time and money and the resulting "terrible cost in human life" has been depicted as part of a more general spirit of commercialism, of "frantic progress and improvement...which brought

increasingly heavy pressure to bear on all ranks from superintending engineer to navvy, forcing them to take risks in order to speed the day when a new line would begin to earn revenue".⁵⁷ This mentality was pinpointed by the great British engineer Telford, who warned of the consequences of sacrificing safety for speed. Living to see the cost in human misery which railway construction produced, he denounced the indecent haste with which railways were being constructed, "such haste pregnant as it is, and ever will be with risks".⁵⁸

Combined with this haste and commercialism were the technological improvements of the industrial revolution, which in themselves "encouraged owners and employers to take risks with safety and health". New techniques and machinery which carried unknown dangers to human life were not introduced cautiously. Instead, even innovations known to be extremely dangerous were used to speed up the work and cut costs, as the utilisation of nitroglycerin demonstrates graphically.⁵⁹ Not by evil intent, but inevitably, the cost of new hazards, of the drive to completion, was borne by the labourers who lit the charges on raw explosives, operated the faulty machinery, and paid for the inaccurate assessments of stress and strain made too quickly and optimistically.

There was some public awareness of the reckless construction methods of many contractors, most noticeably

in areas near large-scale blasting, where the local population experienced first hand the dangers faced by workers. Ladies out for a drive on a summer evening in 1857 barely escaped injury when stone fragments thrown up by blasting on the European and North American ripped through their carriage top to alight on the seat beside them.⁶⁰ Travellers and residents in the immediate area of construction sites could still be at risk in the 1870's. Lovers riding through Montreal streets at dusk were "terrorized" by debris from the Lachine Canal blasting.⁶¹ Families sitting down to afternoon tea in Welland were interrupted by missiles from the excavations.⁶² Such "remarkable hair breadth escapes" were carried by an outraged press, which demanded that contractors exercise greater supervision over their blasting operations, the Montreal Star at one point advising its readers: "If this kind of cannonade goes on the people might as well be in the Turko-Russian war at once, as there is quite as much danger in one place as the other".⁶³

A private citizen of Montreal supported the appeal, taking the contractors on Section 5 of the Lachine Canal to court in February 1887 and charging them with committing a dangerous nuisance in the way they conducted the blasting. But this "seems to have had no effect in inducing more care". Six days after their first appearance in court the contractors were once again experimenting with explosives. Unable to break up a bank of clay using ordinary charges, they

tried a much larger charge without knowing what the outcome might be. A "terrible explosion was the consequence....The windows and roofs of the buildings in the vicinity being shattered and some of them broken". A large lump of clay passed within a few inches of a little boy who was playing in his father's garden, about two hundred feet from the canal, the force of which threw him to the ground.⁶⁴

Contractors were also publicly condemned for their recklessness in hand excavation. Inquests were conducted into the deaths of brothers-in-law Joseph (Honore) Bellair and Eustache Filiatreault, killed early in 1877 while undermining a bank of clay. Testimony revealed that nobody had been stationed on top of the excavation to watch for any fault developing and to warn the men underneath. The subcontractor's defence was that he had always warned his men not to do anything dangerous. The jury accepted this plea, and brought in a verdict of "accidental death and not otherwise". But the Montreal Star was sceptical and offered the opinion that it was "strange that no person was specifically employed to watch the bank when the men were employed in such close and dangerous proximity to it". Expanding on the general problem of accidents on the canal, it argued:

Although juries seem to think that 'no one is to blame' after an accident that hurries two heads of poor families so suddenly into eternity, how does it come that so many fatal accidents have occurred under precisely similar circumstances? Until juries do their duty,

and fasten responsibility on contractors for the lives of their workmen, these accidents will go on plunging wives and children into the saddest grief and distress. (65)

The British Select Committee on railway labourers had reached the same conclusion a quarter of a century earlier. Although acknowledging that the gruesome toll in railway construction seemed part of the very rationale of the industry; it would not accept that it was "part of the necessary price" to be paid for the transportation revolution. So large a sacrifice of life and limb was not reasonable. It recommended that the only solution to a problem that seemed built right into the industry was to make railway companies prima facie civilly responsible for all injuries incurred and lives lost on the job, placing the burden of proving its innocence on the company.⁶⁶ The committee's recommendation was not accepted, however, and within Britain labourers or their survivors and public prosecutors remained in the position of having to prove negligence before they could demand compensation or secure criminal convictions. Similarly, within British North America and later, Canada, contractors could carry on largely unconcerned with safety precautions. The issue of safety on the public works was not even subjected to a legislative inquiry. If governments were aware of the numerous accidents on canals and railways, they were not prepared to act.

In return for this demanding and dangerous work, labourers enjoyed few material comforts. Inadequate and makeshift accommodations carried their own threat to the labourer's health. The construction of public works through relatively uninhabited sections of the country created a temporary demand for housing, forcing labourers into makeshift workcamps. Even in settled areas the concentration of labourers on a public work strained existing accommodation, and crowded workers into hastily improvised facilities. During the 1840s and 1850s the standard of housing for public works labourers was low, even in comparison with that of other segments of the lower working class. Contractors offered little more than crowded barracks. The twelve-foot square shanties constructed along the Williamsburg Canals in the 1840s were recommended by government officials as "very comfortable", and above the normal standard for such housing on public works. Even these shanties, however, became squalid when crowded with two dozen individuals.⁶⁷

The accommodation offered by contractors in the following decade was little better, as the situation on the Chats Canal demonstrates. With no houses within four or five miles capable of sheltering even the engineering staff, contractors constructed a wide range of suitable accommodation, "dwelling houses" for the engineers, foremen and skilled workers, and shanties for the labourers. All were built in the immediate vicinity of the works, far enough

removed to be out of the immediate range of the blasting yet close enough that they deteriorated under its effects.⁶⁸ Less spacious and congenial than the dwellings of the supervisory personnel and the skilled, the labourers' shanties were primitive bunkhouses. They might be as large as the pine shanties on the Petawawa improvements. Covered with two tiers of inch boards and floored with the same material, to an average size of 900 square feet, each shanty could shelter sixty to seventy five men.⁶⁹ Or they could be no bigger than shanties built by contractors on the Nova Scotia Railway, eighteen by twelve feet and housing fifteen men in addition to women and children, with the help of an upstairs sleeping loft.⁷⁰ The principle was always the same, to crowd as many men, women and children into as little space as possible.⁷¹

Even this minimum of accommodation was frequently not available to labourers. Many contractors and subcontractors failed to make any provision for housing, leaving the labourers to make whatever arrangements they could in the immediate vicinity of construction. Limited accommodation might be provided by local inhabitants, in barn lofts, farm houses, and improvised boarding houses. Through a combination of charity and enterprise citizens along the Welland Canal found room for a small proportion of labourers throughout the 1840s.⁷² Montreal could furnish a much larger share of the housing for labourers on the Lachine Canal, many

canalliers beginning life in the new world in the hovels of Griffintown, home to successive waves of Irish immigrants and one of Canada's earliest industrial communities.⁷³ In less populated areas of the country, however, labourers could rely on very little assistance in finding shelter. Between 100 and 150 German labourers arrived at the Junction Canal in the early 1850s to discover that there was neither housing provided by the contractor nor shelter available with local inhabitants. Already weakened by the sea passage, they lived outdoors, "under the trees and in the fields" in all weathers, until a local resident took steps to remedy the situation.⁷⁴

Along most construction sites, labourers left to their own devices pieced together shelters with whatever materials they could procure on the spot. Begging, scavenging, and stealing bits of board and timber, they dotted the landscape along canals and railways with an assortment of ramshackle huts. Where possible they burrowed into hills, squeezed timbers between boulders, and propped up boards against trees and fences. When necessary they erected free-standing structures with turfs and rough timbers.⁷⁵ These shanties could provide more privacy for a family unit than boarding houses and the bunkhouse of contractors. In a typical collection along the Welland Canal in 1843 the average shanty contained one or two families and a few boarders. But they were little more than huts and lean-tos and barely large enough to hold their occupants.⁷⁶

Clustered on canal banks and stretched along railway lines, combinations of improvised housing grew into temporary shanty towns. On major canal projects such shanty towns expanded to include hundreds of dwellings of various sizes. Along railways buildings were as numerous, though more spread out. In 1858, along a sixteen-mile stretch of the European and North American Railway, a reporter counted no fewer than 136 railway labourers' dwellings which had sprung up during less than a year of construction. Many other shanties were hidden from view further back from the road.⁷⁷ Bunkhouses, boarding houses, and labourers' huts mingled with the dwelling houses of engineers and skilled workers, and grog shops, groceries and chapels sprang up to service the occupants. On the edge of established communities, or alone in the wilderness, these shantytowns took on a life of their own, expanding and contracting with the work. The primitive and rudimentary nature of these shantytowns was caught in an 1855 newspaper account of a stretch along the Nova Scotia Railway. Like other observers, the writer was struck by the romance of new beginnings in "the long range of villages":

Like Jonah's guard, [they] have sprung up in the night, thickly settled with men, women and children....In imagination I was conducted to the morning of the world when our first parents erected a Booth to shelter themselves from the rays of an Eastern sun, or to the first year when Halifax was settled by Lord Cornwallis when the emigrants leaped from the boats into the greenwoods. (78)

The congestion represented a simple warmth and congeniality, achieved despite the ethnic diversity of the inhabitants:

The houses are stuck in among the rocks and green woods, so close together that you might hand a biscuit to your neighbor [sic] across the street, and with the other hand touch the tree which shades your home. The population is like Jacob's cattle - speckled and spotted. Highlandmen and Lowlandmen, Englishmen and Irishmen, and Natives of the Country. (79)

This account was undoubtedly idealized. But even such an approving reporter could not ignore the poverty of these shanty towns: "The buildings are constructed of the humblest materials, a few poles fastened together, the crevices filled with moss and roofed with hemlock bark". But he reminded his readers that the "very poorest huts on the Railway would contrast favourably with an earthen floor and a roof of straw in the Highlands of Scotland, or the bog of Allan in Ireland".⁸⁰ There were newspapers less sympathetic to Howe's railway project who used what they considered unacceptable conditions in shanty towns as part of their political attack on the government, charging that the labourers' shanties were no better than wretched barns and hovels. But to such attacks men in charge of railway construction offered an irrefutable argument: the shanties "answer[ed] the purpose".⁸¹

Construction shanty towns such as these appear to have been little better than those which appalled members of the Select Committee investigating conditions on British railways

in the 1840's.⁸² Bunkhouses and huts in the new world featured the same overcrowding, and there is little reason to think that they could have been kept any cleaner or less verminous in Canada than in the old world.⁸³ Indeed, in one important respect, the shanty towns in central and eastern Canada may have been considerably worse. A colder North American climate called for greater protection from the elements, and makeshift shanties and bunkhouses may not always have furnished this protection. It is not clear whether there was any change in the quality of the accommodation offered to labourers on railways and canals by the 1870s. Conditions in construction camps in Britain had not altered significantly by the 1870s, when the lines of north-east England and the highlands of Scotland were built: "Hovels remained hovels".⁸⁴ That the same was probably true for camps in Canada is suggested by Bradwin's finding that as late as the early decades of the twentieth century the accommodation offered to most railway labourers "could be classed only as squalid and unsanitary, a menace to the morals and health of the inmates".⁸⁵

Whether quality improved or deteriorated, there was a marked shift in the type of accommodation occupied by labourers in the 1870s. A smaller proportion of labourers than in previous decades was putting together the materials for their own shelters. The reasons are not clear. Labourers may have been discouraged from building shanties by an

increasing difficulty in acquiring materials and space.

They may have preferred to seek rooms in expanded boarding house facilities. Or contractors may have taken the initiative in providing greater accommodation for their workers. For whatever reasons, construction sites in the 1870s were not dotted by the huts and shacks which had characterised them in the 1840s and 1850s. Rather labourers resided primarily in bunkhouses and boarding houses in the neighbourhood of the works. Particularly along remote stretches of railway lines, but also on construction sites in populous areas of the country, many labourers found accommodation in bunkhouses. On the Welland, for example, contractors applied for and were given permission by the government to erect shanties on canal property "in the immediate vicinity of the works" and the letting of a new contract was frequently accompanied by the putting up of boarding shanties by carpenters hired by contractors.⁸⁶ They built with materials on the site and on adjacent government land. One employer applied to purchase "the old wreck of the Stockley Saw Mill at Allanburg", and appears to have built his shanties from its wood.⁸⁷ Contractors also tried to obtain local farm buildings in which to house their labourers, one contractor on Section 10 applying for the use of the farm of the late William Price, with the intention of housing his men in the farm house and out-buildings.⁸⁸

On projects in the vicinity of urban centres, and to a lesser extent in rural areas, a much larger percentage of labourers than was possible at mid-century made their own arrangements for renting rooms or for room and board. This is not to suggest that cheap housing was readily available. Throughout construction on the Welland Canal, labourers' housing was in short supply, government officials complaining of the difficulty of accommodating "the large number of Strangers" who came to the works.⁸⁹ The same was true in the area of the Lachine Canal. The years 1877 and 1878 in particular witnessed a dramatic turnover in housing as the poorest members of society hunted for cheaper accommodation "for the sake of retrenchment these hard times".⁹⁰ In the winter of 1877 so many houses were advertised "To Let" that "a stranger going through the various streets would at once conclude that there was about to be a general exodus of the population".⁹¹ In addition to the voluntary search for cheaper accommodation, rooms constantly became available through the inevitable evictions.

Joining in this general search for affordable housing, many labourers took spots in boarding houses. There was also some expansion of private facilities geared specifically to meeting the influx of labourers for construction work. A private house might be temporarily converted into a boarding house, or an existing boarding house expanded. Or a small hotel might be enlarged or modified to accept an expanded

clientele. Operating on the same principle as contractors, squeezing as many men and families in as possible, proprietors of boarding houses and hotels might turn a reasonable profit from accommodating construction labourers. James Upper, a small proprietor in Welland who improved his small hotel by the addition of a large kitchen and more bedrooms, was reportedly doing "a thriving business" in 1877.⁹² Accommodating public works labourers, however, could be an unprofitable and risky endeavour, as other proprietors along the Welland Canal discovered. According to one report, although hotels along the canal were filled at the end of 1877, they were "not... very profitable", because of "the low rate of wages, and...the fact that many of the labourers, who [had] moved up from Thorold, [had] had their wages attached for arrears in that place".⁹³ Thus men and women who provided housing might find themselves in as precarious a position as the labourers themselves. Eliza Hurley, who ran a boarding house for fifty labourers at Lachine, stepped out to buy groceries one evening in April 1878 and returned to find the bailiffs stripping the house. Furniture, bedding, even the proverbial shoes from her children's feet were expropriated to meet a debt to the local grocer. Her tenants came home to an empty house.⁹⁴

On each project a segment of the labour force was already resident in the immediate vicinity and had no need to seek accommodation. Some labourers in this category may have enjoyed a higher standard of living than those who

migrated into the area. Others were no better off than Joseph Bellair, one of the many who made the short journey from Griffintown, to the Lachine each morning. Bellair lived in a "cooped up, wretched shanty...in the same block with a stable".⁹⁵

Poor housing conditions contributed to the sickness which spread along construction sites. With other segments of the lower working class, public works labourers and their families were particularly susceptible to ailments and diseases associated with congested and unsanitary housing. Chronic dysentery and bronchitis were punctuated by epidemics such as the cholera which struck construction sites in mid-century.⁹⁶ The particularly virulent attack on the Junction Canal was directly attributable to the failure to provide any accommodation, let alone sanitary facilities, for many labourers' families. More than twenty three deaths in a three-week period in July 1854 created a general panic amongst the workers, many labourers fleeing the area. The Board of Health stepped in, and undertook a thorough cleaning-up of the construction site, burning the shanties in which the disease had been fatal and whitewashing the remainder.⁹⁷

The pattern of chronic ailments and epidemics caused in part by housing conditions continued amongst public works labourers in the 1870s. The inhabitants of Lachine complained to the Public Works Department that the strangers

who sought work on the canal were a sickly lot, and the cost of providing them with medical attendance proved to be a heavy burden to the town.⁹⁸ Along with less spectacular sicknesses, typhoid attacked labourers on the Lachine Canal, and smallpox appears to have been a recurring problem for canal labourers in the 1870s. The Montreal Star referred to it as "an institution with which the people [of Lachine did] not appear to be willing to part".⁹⁹ Those labourers resident in Griffintown were also hit by typhoid, diphtheria, and smallpox, which public health reports indicated were largely confined to the labouring class.¹⁰⁰

A low standard of housing was part of the generally poor standard of living for public works labourers in the nineteenth century. During the 1840s the typical contractor paid wages which remained consistently higher than those of farm labourers in the area of construction sites.¹⁰¹ But for their back-breaking labour, canal labourers received only the average or slightly above average daily wage for unskilled labour in British North America. Wages varied from canal to canal, and from section to section on the same canal, since individual contractors set wage rates. However, they usually hovered around 2/6, which official investigations revealed were barely adequate to sustain life.¹⁰²

In the following decade wage rates increased. On construction sites throughout British North America wages climbed steadily in the first half of the decade, fluctuating

between 4s. and 5/6 at mid decade, and then levelling off. It is not clear whether this increase represented an increase in real wages and in the labourers' standard of living.¹⁰³ What is clear is that they did not improve their position in relation to other segments of the working class. Their wages were still half those of skilled workers, and still only slightly higher than those of farm labourers in the area of construction.¹⁰⁴

Public works labourers were still amongst the lowest paid workers when massive public works construction recommenced in the 1870s. Wages varied from site to site, and in any given year were usually higher in Ontario than in either Quebec or the Maritime Provinces. But even in Ontario, wages were never more than half those offered to skilled workers on the same construction sites, and only marginally better than those offered to the lowest paid unskilled workers. They normally fluctuated between 80¢ and \$1.25, only rarely rising to \$1.30 or \$1.40, and sinking as low as 60¢ or 70¢. No investigations similar to those conducted in the 1840s collected information concerning the standard of living public works labourers could enjoy on these wages. A debate in the Montreal press in the late 1870s, however, provides a good indication of the cost of living for the largest concentration of labourers in this period, those working on the Lachine Canal. The debate centered around an announcement by the Corporation of Montreal that it was

reducing the wages of labourers to 80¢ a day. The Montreal Witness argued that this was a fair wage in view of the fact that all contractors in the area were offering this rate to the labourers. The Montreal Star took issue, however, maintaining that though some contractors paid as little as 80¢, the "regular rate paid by all respectable and honest contractors in the city, men who [did] not grind the labourer into the dust to throw his family upon charity" was \$1.00. The Star went further to argue that to reduce wages to 80¢ would deprive labouring families of many of the bare necessities. Even at \$1.00 a day, it told its readers, "the wonder is, how [they] can exist", and it asked all clear and fair-minded individuals to consider if wage reductions were the way to "prove to the working class that they [were] fairly treated, under the freest and best Government in the world".¹⁰⁵

To support its position the Star presented the text of an interview with a labourer earning 80¢ a day.

Here is what the poor fellow said: "I am living in Duquesne Street in rooms, and I have four children, and my baby and missus is sick. I can earn only \$4.80 a week, and the doctor's bill last week was \$1; I only get meat once a day, and the children none, because it is too dear. We have potatoes and bread always, and mostly always have tea, though we was out last Thursday and my money was done. I haven't had berries but one Saturday evening, and the children is crying for them all day long, or for apples. At a dollar a day I could get these things.

REPORTER.- You shouldn't use tobacco these hard times.

LABORER.- (After a pause) - my pipe is the only comfort left. If I go hungry, a smoke makes me more contented like. Its what the tea is to the woman, and only costs fifteen cents a week.

He went on to add that clothes and rent were the most costly items. On being asked if he put anything by for the winter he replied sadly: "No, not a red cent; and will need work right along or starve".¹⁰⁶

In similar articles the Star denounced \$1.00 a day as barely a living wage and asked: "How can a man with a family in these times, when bread and provisions are higher than they have been for years past, obtain sufficient on a dollar a day, [to] give those depending on him, the necessities of life?".¹⁰⁷ The newspaper argued that if it were winter, and the corporation were offering to help labourers "to pass an existence through the dreary months" at 80¢, that might be acceptable. But in summer, "with reproductive work to [be done], it [was] simply an outrage to ask hard working men to give ten hours labour, some of them working in a tunnel, for such a pittance".¹⁰⁸

Tinged with partisan politics though it was, the debate over what constituted a reasonable wage demonstrated that labourers on the Lachine Canal, whose wages fluctuated between 80¢ and \$1.00 a day, lived in the grey area of the edge of absolute destitution. They were a part of the working poor who struggled for the basic necessities of food

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and clothing, unable to maintain an adequate diet and clothed in such tatters as to be "almost in a state unfit to be seen on the streets".¹⁰⁹ The poverty of canal and railway labourers was compounded by the demands of their job. Work which demanded the constant paying out of physical energy also demanded an adequate diet, so that items such as meat, which might be a luxury for others, were a necessity for construction labourers. The work also made extra demands on clothing. As a labourer on the Lachine Canal pointed out to a reporter, canal labourers not only needed the heavy clothing necessary to all outdoor workers, but they wore out boots at a crippling rate on the rocks and in the water.¹¹⁰

The cost of living for labourers was also increased by the vendors and provisioners who took advantage of an influx of labourers and the consequent dramatic increase in demand to charge exorbitant prices. During the 1840s canal construction sites were frequented by "petty hucksters who swarmed around public works, charging whatever they could get", and by country storekeepers who similarly inflated prices.¹¹¹ Three decades later "irresponsible itinerant hash providers" were still a feature of construction sites. Operating on a small margin, these itinerant grocers and provisioners charged as much as the market could bear and cheated the labourers by providing inferior goods.¹¹²

Extended periods between pay-days--or the long pay--further strained the resources of the navvies. In defence

of this system of infrequent payments contractors argued that shorter intervals between pay days would only lead to more of the drunken sprees which cost them valuable time after each pay day. A contractor on the Lachine Canal explained to the Department of Public Works in January 1878: "on the Public Works as a Rule, a large number of men lose time after each pay day, and thereby disarrange and retard the progress of the Works". Nor would more frequent payment be in the best interests of the labourers who would both lose more time from their work and drink more of their wages.¹¹³ Labourers saw the issue differently, however. In a petition to the government in 1878, labourers on the Lachine Canal denounced the system of monthly payments on the grounds that it devalued their wages in two ways. Firstly, the "system of monthly payments force[d] the labourer to obtain his necessities of life on credit". Secondly, "the delay in payment oblige[d] the men to make sacrifice of portions of their earnings as discount for advance payments". The labourers took the occasion to remind the government that it was "a well known fact that the rate of wages [was] not high and in many cases not more than sufficient for the immediate and daily necessities of the labourer". But they were willing to work at that rate provided the system of monthly payment was abolished.¹¹⁴

Infrequent payment hurt labourers in another respect. Men discharged from the works were not paid until the

regular monthly pay day, which could result in a wait of two or three weeks. Meanwhile, the contractor earned interest on their money and the labourers were unable to leave the area to seek work elsewhere. The Montreal Star considered this treatment of workers so unfair that it advised the government to find "some summary method of putting an end to such treatment of labouring men, whose families [were] depending upon the daily wages of the head of the house for a support".¹¹⁵

Closely related to the problems caused by the long pay was the system of truck, or store pay. Under this system many labourers on the public works were forced to take their wages in the form of goods, either at a company store or at a store with which the contractor had made arrangements for the transaction. This method of payment was common in a variety of occupations throughout the nineteenth century, but it was particularly well-adapted to canal and railway construction projects. The influx of labourers into an area demanded the immediate expansion of retail outlets if all were to be fed and clothed. Indeed, contractors argued that they established their stores or made arrangements with local grocers as a convenience for their labourers. To the labourers, however, store pay was an imposition. It triggered protests in the 1840s, and was a source of grievance again in the 1870s. As labourers on the Lachine Canal explained to Mackenzie, truck deprived them of the freedom

to shop around for the cheapest grocer at the same time that it enabled the contractor or private store owner to charge whatever he or she chose for provisions, without regard for the going rate.¹¹⁶ Under this system it was immaterial whether the rate of pay was 80¢ or \$1.25 a day. Labourers never saw cash, working only for room and board, and not infrequently ending their term of work indebted to the contractor or the local grocer.

The contractor who operated on the long pay or the truck system of payment trapped the labourer in a relationship of dependency. But it was at least a relationship that was roughly defined and allowed the worker to subsist. The employer who posed the most serious threat to the labourer was the one who paid wages irregularly and not in full, who forced the labourer to wait indefinitely before coming through with payment. An even more serious threat was the contractor who went bankrupt, leaving wages unpaid. Whether the fault lay with the contractors' or subcontractors' incompetence, lack of capital, or with the politics of the public boards and commissions supervising construction, the resulting bankruptcy was the same for the worker. When inadequate contract prices forced contractors along the St. Lawrence in the 1840s into bankruptcy, the Board of Works reported that the frequent failures left labourers "more or less unpaid".¹¹⁷ This pattern continued on public works projects throughout the century. When inadequate prices

forced the bankruptcy of the first five contractors on the Intercolonial, labourers lost their wages,¹¹⁸ and labourers on the canals of the 1870s were "heavily pressed" by their creditors when contractors failed.¹¹⁹ The consequences were even more disastrous when contractors absconded. In April 1878 a total of 850 labouring men and carters were defrauded when the contractor on Section 9 of the Lachine Canal absconded. According to Superintendent Page, who investigated the situation for the Department of Public Works, "many of the men [were] left so destitute of means as to be unable to procure the ordinary necessities of life or even to obtain a place in which to shelter themselves or families".¹²⁰ This was not an isolated incident. "Fugitive contractors" were featured on every construction site,¹²¹ and for every contractor or subcontractor who took the money and fled, hundreds of labourers were left desperate.¹²²

Labourers in transportation construction were not alone in the loss of their wages during this period. The 1886 Report of the Royal Commission on Labour and Capital found that loss of wages was a frequent and serious imposition on both skilled and unskilled, in many branches of industry. But the nature of the contract system made labourers on transportation projects particularly susceptible. The law might give workmen a lien on the property and materials of their employer if he went bankrupt. But the unskilled labourers' relative lack of resources combined with the

possibility that they would have to move on in search of work before judgement was given, placed them at a disadvantage when pressing their claims against those of skilled workmen and trades people to whom the courts were more accessible.¹²³ Even when they did press their claims, they might be outmanoeuvred in the courts. Apparently subcontractors on the Lachine Canal were backed up by the courts in a "systematic method of defrauding their men". When labourers such as those at St. Genevieve seized the plant being used by the subcontractor as compensation for their overdue wages, the contractor himself stepped in as an opposing party and claimed that the plant which belonged to him could not be taken for the debts of the subcontractor.¹²⁴

When the details of a labourer's work, pay, and housing are pieced together, they add up to a precarious existence, the labourer frequently unable to provide the barest necessities. It was the unusual man who could plan for the future while eking out a bare subsistence. Into the 1870s the belief lived on in some quarters that the public works provided the avenue along which the industrious labourer might travel the route to social advancement. In a typical admonition to labouring men to persevere at their allotted tasks, the Montreal Star held that "one might today find prosperous families in the townships of Pullstinch, Pilkington, Peel, Arthur etc., who had once been common ditch diggers and canal men".¹²⁵ But for most labourers

the better life at the end of toil remained elusive. Without being able to document individual life histories, it is possible to recreate the pockets of destitution left as the residue of construction. When contractors abandoned the Saratoga Railway in 1854 they left one thousand women, children, and labourers "scattered through the northern wilderness, utterly destitute". Many were to die of starvation.¹²⁶ Similar, though less spectacular, stories came from eastern Canada. Whenever contractors completed a section of their work and moved on to take up new contracts, they left behind labourers and their families too destitute to move on in search of work elsewhere. At the end of construction on the Chats Canal in 1856, contractors were at a loss what to do with their former workers, a large percentage of whom were too poor to move on. Officials estimated that some one hundred men, fifty of them with families, were abandoned with no means of getting away, left in "extreme distress".¹²⁷ It was even harder to know what to do with the widows and orphans of those killed in accidents or by disease. Reporting on the "disposal" of some of the families of labourers killed on the Chats Canal during 1854, Superintendent Baillarge told his superiors that he had had to ship some of them to the United States, while some orphans had been taken in by local farmers.¹²⁸

Some labourers may have left the construction site with money laid aside.¹²⁹ But all the evidence suggests that the

majority of labourers earned no more, and frequently less, than a bare subsistence. Many would have ended their days in the manner of Charles Murray, a 70-year old ex-canaller who was one of a number of squatters on land alongside the Williamsburg Canals. When the government moved to evict the squatters in 1861, Murray petitioned the government of the Canadas. He noted that he had worked for twenty years on the public works before being hurt on "this last canal". He had a wife living, was himself helpless and desperately poor, and had no "son in this world or nothing to support him". His wife plaintively requested of the authorities: "allow me to remain while he lives which can not be long and God will bless you". 130

Notes

1. E.P. Thompson, "Time, Work-Discipline, and Industrial Capitalism", Past and Present, 38 (1967), 56-97; Herbert G. Gutman, "Work, Culture and Society in Industrializing America, 1815-1919", in Herbert G. Gutman, Work, Culture and Society in Industrializing America (New York: 1966).
2. See the two major studies of navvies, Coleman, The Railway Navvies and Handley, The Navy in Scotland.
3. Butty gangs usually entered into subcontracts which specified that they would execute a quantity of work at a given price. Such gangs appear to have been similar to the butty gangs utilized in mining.
4. Ideally, gangers and foremen were experienced labourers, with a knowledge of how hard and how fast they could drive the men, though this was not always the case. On the Intercolonial, for example, government engineers complained that contractors and subcontractors were hiring gangers and foremen who had less experience with pick and shovel than some of the labourers, and consequently could not push the work effectively. RG 30, Vol. 12471, Smith to Fleming, 12 September 1870.
5. These officials kept daily tallies of the workforce, noting whether progress was commensurate with the numbers employed. If they were not satisfied that the work was being pushed ahead efficiently, they had the power to insist that gangs be reorganized or moved about from one task to another.
6. Timekeeper of Thomas Brassey, cited in Helps, Life of Brassey, 72-73.
7. Cited in Handley, The Navy in Scotland, 18.
8. Cited in Nova Scotian, 3 September 1855.
9. Welland Tribune, 20 February 1880.
10. Morning News, 12 March 1858.
11. Welland Tribune, 20 February 1880.
12. Montreal Star, 17 June 1878.
13. Welland Tribune, 21 June 1879.

14. Coleman has estimated that the work was so hard that ideally it took at least a year at construction before an agricultural labourer could build up the stamina to endure the twelve hours shifts, let alone match the output of a seasoned labourer. Coleman, The Railway Navvies, 25.
15. This stereotype has persisted in the two major studies by Coleman and Handley. For this image of Irish navvies in the United States see Carl Wittke, The Irish in America (Baton Rouge: 1966). In British North America the same grudging respect for the Irish navvies' capacity for hard labour appears in the press.
16. Cited in Handley, The Navvy in Scotland, 38.
17. Geoffrey Bilson, A Darkened House: Cholera in Nineteenth Century Canada (Toronto: 1980); Macdonald, Canada: Immigration and Colonization, chs. 4-5; C.M. Godfrey, The Cholera Epidemics in Upper Canada 1832-1866 (Toronto: 1968).
18. RG 30, Vol. 12470, Belf to Smith, 9 July 1871; RG 11, Vol. 17, #15702; Page to Begly, 23 January 1852.
19. Canada, Legislative Journals, 1855, Appendix EEEE; RG 11, Vol. 21, #23941, Petition of Counter to Elgin, n.d.; Ibid., #23376, Baillarge to Begly, 12 August 1854.
20. Ronald E. Shaw, Erie Water West: A History of the Erie Canal, 1792-1854 (Kentucky: 1966), 19; Cross, "The Dark Druidical Groves", 457.
21. RG 11, Vol. 407, file 104, Memorandum of Dr. Jarrow, 1 October 1842; WCLB, Power to Begly, 1 October 1842; Vol. 407, file 104, Robinson to Begly, 1 October 1842; WCLB, Power to Begly, 18 August 1843.
22. University of Western Ontario, Regional Collection. Diary of Silas Burt, Engineer on the Great Western, 33.
23. Welland Tribune, 22 August 1877.
24. On the St. Lawrence and Atlantic Railway some 45 per cent of the labourers were under 25 and an additional 30 per cent between 25 and 35. Kesteman, "Les Travailleurs à La Construction", 532.
25. Montreal Star, 10 February 1877. Any such conclusion can only be tentative, since it is based solely on newspaper reports. The greater number of reported accidents in the 1870s than in earlier decades may in

part reflect the greater volume of construction activity and an increased interest in industrial accidents on the part of newspapers. Nonetheless, accidents appear to have increased out of proportion to these two factors.

26. Montreal Star, 23 April 1877.
27. For example, a young man, McLaughlin, working as a brakeman on the ballast cars of the St. Andrews Railway, "Became entangled among the waggons". Morning News, 26 April 1858. The transporting of stone was equally hazardous. John McCann, working on Hunter, Murray and Company's sections of the Welland Canal, had his foot crushed and his ankle broken by a large stone he was moving. Welland Tribune, 22 October 1880.
28. See for example the cases of Pierce, Dalton and Rousseau, Ibid., 7 October 1875; 19 August 1875; Montreal Star, 2 July 1878.
29. Welland Tribune, 10 May 1878.
30. See for example the case of the labourer who was struck on the knee when a block gave way. His leg was amputated. Morning News, 4 June 1858.
31. Welland Tribune, 30 June 1876.
32. St. Catharines Journal, 19 February 1844.
33. Daniel Keating was one of those struck down while working a derrick on the Welland Canal. Welland Tribune, 18 April 1879.
34. Edward Leady, aged about 35, was engaged in hoisting a stone when the derrick collapsed and killed him. He left a wife and five children back home in Cork. New Brunswick Courier, 12 February 1859.
35. Welland Tribune, 25 July 1879.
36. See the case of the young man, Everett, from Lockport, New York who was badly scalded when the wooden plug of a steam derrick on the Welland Canal became unstuck. Ibid., 10 December 1874.
37. Montreal Star, 20 July 1877; Welland Tribune, 14 May 1874.
38. Morning Freeman, 4 November 1858; 11 November 1858.

- 39. Montreal Star, 18 July 1879.
- 40. Such accidents usually claimed more than one victim. When the bank of an excavation on the Nova Scotia Railway collapsed, two men were instantly crushed, a third died immediately after being dug out, and a fourth was "so dreadfully mangled" that he was considered unlikely to recover. Nova Scotian, 14 February 1856. Three labourers on the Lachine Canal were luckier; they escaped with fractured limbs when a 60-ton bank of earth gave way. Montreal Star, 11 January 1877. Embankments could be as treacherous as overhangs. Seven men were seriously injured when an embankment growing out of an unusually deep cutting gave way on the European and North American Railway. Morning News, 9 July 1858.
- 41. One Ellis was working with a foreman drilling a hole in a large rock when the piece on which he was sitting suddenly broke loose and threw him to the bottom of the pit. Montreal Star, 14 February 1877.
- 42. Sandstrom, History of Tunnelling, 277-85.
- 43. RG 30, Vol. 12470, MacLeod to Smith, 4 May 1871.
- 44. Welland Tribune, 9 March 1876.
- 45. Ibid., 20 February 1880.
- 46. Montreal Star, 22 February 1877.
- 47. Nova Scotian; 10 December 1855.
- 48. Montreal Star, 17 September 1878.
- 49. Ibid., 9 February 1877.
- 50. Ibid., 12 October 1878.
- 51. Welland Tribune, 15 October 1880.
- 52. Montreal Star, 26 April 1877; 10 February 1877; 12 September 1877.
- 53. Ibid., 23 February 1877.
- 54. Commons Debates, Tupper, 18 May 1874, 632
- 55. Great Britain, House of Commons, Report of the Select Committee on Railway Labourers, 1846, XIII, 411.

56. Commons Debates, Fleming, 21 February 1878, 407.
57. Rolt, Victorian Engineering, 25.
58. Ibid.
59. Sandstrom, History of Tunnelling, 286.
60. New Brunswick Courier, 22 August 1857.
61. Montreal Star, 10 February 1877.
62. Welland Tribune, 28 February 1878.
63. Ibid., and 26 April 1877.
64. Montreal Star, 6 February 1877; 10 February 1877.
65. Ibid., 30 January 1877.
66. By singling out the company, rather than the individual contractors, the committee was attempting to lay the responsibility for injuries to workmen on the party which had the greatest power and resources to improve workplace safety and to pay up in the event of an accident. In entering into contracts, and in inspecting operations, the railway companies could make monetary allowances for contractors who provided safe working conditions and could force the reluctant to comply with safety guidelines. The recommendation seemed all the more reasonable since British contractors had learned to live with similar legislation when operating in countries such as France and the United States. Report of the Select Committee on Railway Labourers.
67. For a brief discussion of housing along canals in the 1840s, see Bleasdale, "Irish Labourers", 34-37.
68. RG 11, Vol. 23, #26940, MacDonald to Begly, 3 July 1855; Vol. 21, #23390, Galloway to Begly, 23 August 1854; Vol. 26, #30372, Galloway to Begly, 8 July 1856.
69. RG 11, Vol. 32, #37172, Dufton and Bell to Merrill, 7 May 1858; Merrill to Begly, 24 May 1858.
70. RG 30, Vol. 2027, Morris to Forman, 14 January 1856; Nova Scotian, 23 June 1856; 15 December 1856.
71. The best description of housing in North America remains Bradwin, The Bunkhouse Man. For the housing provided for railway labourers in nineteenth century Britain see Coleman, The Railway Navvies, ch. 5.

72. Bleasdale, "Irish Labourers", 34-37.
73. Cooper, "Social Structure of Montreal"; D.S. Cross, "The Irish in Montreal, 1867-1896", M.A. Thesis, McGill University, 1969.
74. RG 11, Vol. 20, #25868, Baillarge to Begly, 30 April 1855; Vol. 22, #24636, Slorah to Department of Public Works, 18 January 1855.
75. Although contemporaries commented on the predilection of Irish labourers for such squalid housing, they appear to have been more a matter of necessity than of choice for canallers in the 1840s and 1850s. See Bleasdale, "Irish Labourers", 34-37; A.H. Ross, Ottawa: Past and Present (Toronto: 1927), 109.
76. RG 11, Vol. 407; file 104, Memorandum of Dr. Jarrow, 1 October 1842. Kesteman has found that amongst labourers on the St. Lawrence and Atlantic Railway shanties normally contained one family and varying numbers of boarders. Kesteman, "Les Travailleurs à La Construction", 532, 537.
77. New Brunswick Courier, 16 January 1858.
78. Nova Scotian, 17 September 1855.
79. Ibid.
80. Ibid.
81. Ibid., 17 November 1856.
82. Report of the Select Committee on Railway Labourers.
83. Canada, Legislative Journals, 1843, Appendix T, Report of the Commissioners appointed to inquire into the Disturbances upon the line of the Beauharnois Canal during the summer of 1843.
84. Coleman, The Railway Navvies, 83.
85. Bradwin, The Bunkhouse Man, 135.
86. RG 11; Vol. 158, #21577, Mitchell to Braun, 2 March 1872; Ibid., Departmental Memorandum, 13 March 1872; Welland Tribune, 9 November 1877.
87. RG 11, Vol. 158, #21597, Mitchell to Langevin, 12 March 1872; Ibid., Departmental Memorandum, 14 March 1872.

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88. RG 11, Vol. 160, #35441, Thomas Munro to Braun, 14 October 1873.
 89. RG 11, Vol. 469, #59578, 23 May 1876, Request of the Corporation of the Town of Lachine.
 90. Montreal Star, 28 April 1877.
 91. Ibid., 12 February 1877.
 92. Welland Tribune, 28 December 1877.
 93. Ibid.
 94. Montreal Star, 25 April 1878.
 95. Ibid., 31 January 1877.
 96. For a general discussion of cholera see Bilson, A Darkened House. For the attack on construction labourers see Canada, Legislative Journals, 1855, Appendix EEEE.
 97. RG 11, Vol. 21, #23841, Petition of Counter to Elgin, n.d.; Vol. 20, #23376, Baillarge to Bagly, 12 August 1854.
 98. RG 11, Vol. 691, #49556, Secretary to Public Works to Mayor of Lachine, 31 May 1879, in answer to petition.
 99. Montreal Star, 4 February 1879; 13 February 1877.
 100. Ibid., 27 April 1877; 16 June 1877; 6 August 1878; 24 July 1879; 23 October 1879; 15 November 1879.
 101. Farm labourers' wages appear in Public Archives of Canada, Record Group 5, Emigration Records, B21, 1840-44, Information to Immigrants, April 1843, for Brockville, Chippawa, Cornwall, Fort Erie, Indiana, Niagara, Port Colborne, Prescott, Queenston, Smith's Falls; Ibid., For the Information of Emigrants of the Labouring Classes, December 1840, the Johnstown District. Wages were not consistently higher in the area around any one of the canals. Newspapers also contain references to wage levels. Little basis exists for a direct comparison of the relative difficulty of the work on farms and construction sites. But Brássey believed navying to be more demanding, a belief derived from his experience in trying to toughen farm workers for construction. Also, see above, n. 14.

102. See Bleasdale, "Class Conflict"; Pentland, "The Lachine Strike of 1843"; Canada, Legislative Journals, 1843, Appendix T.
103. This pattern has been reconstructed from the scattered references to wage rates in government documents and newspapers.
104. The comparison is based on wages of skilled workers on construction sites, and random references to farm labourers' wages in local newspapers.
105. Montreal Star, 7 August 1877.
106. Ibid.
107. Ibid., 3 August 1877.
108. Ibid., 4 August 1877.
109. Ibid., 10 March 1877.
110. Ibid., 27 August 1880.
111. Canada, Legislative Journals, 1843, Appendix Q; RG 11, WCLB, Power to Begly, 1 October 1842.
112. Welland Tribune, 8 March 1878.
113. RG 11, Vol. 473, #71912, Davis to Braun, 21 January 1878.
114. Ibid., #71894, Petition of labourer upon the Lachine Canal, 15 January 1878.
115. Montreal Star, 31 March 1877; 2 April 1877. The Royal Commission on the Relations of Labour and Capital concluded that the long pay was the most oppressive, arguing that it benefitted the contractor and the local merchant, but not the labourer.
116. RG 11, Vol. 473, #71894, Petition of labourers upon the Lachine Canal, 15 January 1878.
117. Canada, Legislative Journals, 1843, Appendix Q.
118. Commons Debates, Shanly, 12 April 1870, 994; RG 11, Vol. 12470, Berlinquet to Commissioners, 4 September 1873.
119. RG 11, Vol. 460, #80647, Rykert to Braun, 27 March 1879.
120. Montreal Star, 21 March 1878; RG 11, Vol. 474, #73508, Page to Secretary of Public Works, 12 April 1878.

121. Morning Telegraph, 17 June 1869.
122. A "large number of poor working men" were left without their wages when one Gallagher absconded with the amount due him for his subcontract on the Lachine Canal. The men working for Wilson on the Lachine were similarly abandoned when he ran off with the payroll. The "scoundrel" Norton, contractor on both the Lachine Canal and its subsidiary roads, left amongst his "victims" "poor working men" when he drew all the moneys due him from the government and disappeared. Montreal Star, 9 October 1877; 19 October 1877; RG 11, Vol. 475, #77515; Girouard to Tupper, 14 November 1878.
123. Gregory S. Kealey, ed., Canada Investigates Industrialism: The Royal Commission on the Relations of Labour and Capital, 1889, (Toronto: 1973) 18, 37. To overcome the difficulties which working men experienced in "obtaining their rights under these liens", the Commission recommended that liens for wages should form a first claim on any article on which a lien could be placed, and that wages should have a preferential claim on all insolvent estates. Without such legislation labourers were forced to compete for compensation with all other claimants against the contractors. Superintendent Page reminded the Department of Public Works that the labourers were too poor to take their case to court, when one contractor absconded from the Lachine Canal. RG 11, Vol. 474; #73408, Page to Secretary of Public Works, 12 April 1878.
124. Montreal Star, 9 May 1880.
125. Ibid., 15 August 1877.
126. New Brunswick Courier, 16 December 1854.
127. RG 11, Vol. 27, #31827, Gallway to Begly, 8 December 1856; Ibid., #31880, Egan to Lemieux, December 1856.
128. RG 11, Vol. 22, #24278, Baillargé to Begly, 4 December 1854.
129. Most striking was the wealth of James Low, a Lachine Canal labourer found to possess \$20,000. Low claimed that he had been able to save the money working as a construction labourer over the previous twenty five years. However, the fact that he had never earned more than \$1.25 and at times as little as 80¢ a day aroused the suspicions of the authorities and he was indicted for robbery. For those who relied only on their labour savings would be much less dramatic. Montreal Star, 3 September 1877.

130. RG 11, Vol. 165, #55755, Charles Murray to Trudeau, 26 October 1861; Ibid., #54931, Petition of Mary Murray, 7 September 1861; Ibid., #56041, Petition, 3 September 1861. The sources do not reveal the fate of Charles and Mary Murray.

CHAPTER FOUR

THE NAVVY AS A SOCIAL PROBLEM

The highly visible concentrations of poverty around construction sites did not go unnoticed by society. The primitive housing, sickly and ill-clad women and children, men cheated out of wages, and families on the edge of destitution, all forced themselves on the public consciousness, generating a mixture of compassion and unease. Individually and collectively other members of society were driven to attempt to alleviate conditions in shanty towns and boarding houses along canals and railways. Private and public charity offered a small measure of assistance; and some politicians and government officials expressed concern over the labourers' plight. But for their part governments throughout the period assumed only a very limited responsibility for addressing the worst abuses on public works. Like public protests, their efforts were sporadic and unsustained. They reflected a fitful public compassion.

In society's response to the labourers, unease triumphed over compassion. The old stereotype of the British navvy found new life in the colonies and the men who constructed canals and railways came to be regarded as an undesirable element in society, however necessary their labour may have been. During the 1840s and 1850s con-

temporaries wrote of "the abandoned class of men which usually attend[ed] the construction of great public works".¹ As inhabitants in the area of major construction sites came to dread the arrival of gangs of navvies, "people at a distance [were] made to believe that the Railway gangs consist[ed] of the rankings and scrapings of the whole earth, and that every virtue [had] fled from the line". In the 1870s navvies were still denounced as undesirable. In 1873 the Welland Tribune could write with authority that "Vicious, untamed characters must necessarily congregāte" around public works.³ Throughout the period the reasons for the condemnation of navvies remained the same. As transients and layabouts they appeared to threaten the ordered values of a settled society, and as rowdies, drunkards, and possibly criminals, they represented moral turpitude. There was nonetheless an important shift in the way in which navvies were perceived. In the 1840s and 1850s (they were characterised as the refuse of European cities and the "scum" of America, in total, "the profligate and abandoned of other lands",⁴ and denunciations centered on the fact that the majority were southern Irish Catholics. In the 1870s, when public works labourers were largely drawn from the underside of the Canadian working class, and from impoverished sectors of the rural economy, questions of race and ethnicity were no longer central to condemnations of unruly navvies. Rather, they were perceived as part of

Canada's own floating scum, part of an undesirable segment of the emerging lower working class.

The concentration of anywhere from a few hundred to a few thousand labourers around one construction site presented local inhabitants with a spectacle of destitution and suffering which they could neither ignore nor effectively alleviate. Poverty amongst the labouring poor was a familiar problem in all the areas in which construction labourers congregated. But the scale of the suffering along public works strained and in some regions went far beyond the capacities of local relief and charitable agencies. The type of institutions and organisations which offered help to the poor varied from region to region within British North America and Canada. In Nova Scotia and New Brunswick local Poor Laws ensured government involvement in poor relief. Although the nature and extent of public assistance varied dramatically between and within the two colonies, large numbers of the poor could count on either indoor or outdoor relief in hard times. This relief, however, was by no means sufficient to meet the total need; and when winter, economic downturn, or crises such as fire and disease increased the demand many labourers went without. In addition to public assistance, the poor could also hope to benefit from a range of private charities, "every church and every ethnic and interest group" offering some form of

relief to its members.⁵ But the proliferation of private charities during the nineteenth century still could not alleviate all suffering and meet every need. Under these circumstances, railway labourers working on the European and North American and the Nova Scotia Railways in the 1850s had to compete for any necessary assistance with a resident population of labouring poor inadequately provided for. In seeking assistance the railway labourers drawn from within the Maritime colonies may have had an advantage over both migrant labourers from the United States and immigrants from Europe. But immigrants were included in general schemes for relief and targeted for special types of aid, and consequently may not have fared much worse than native labourers on the railways in times of hardship.

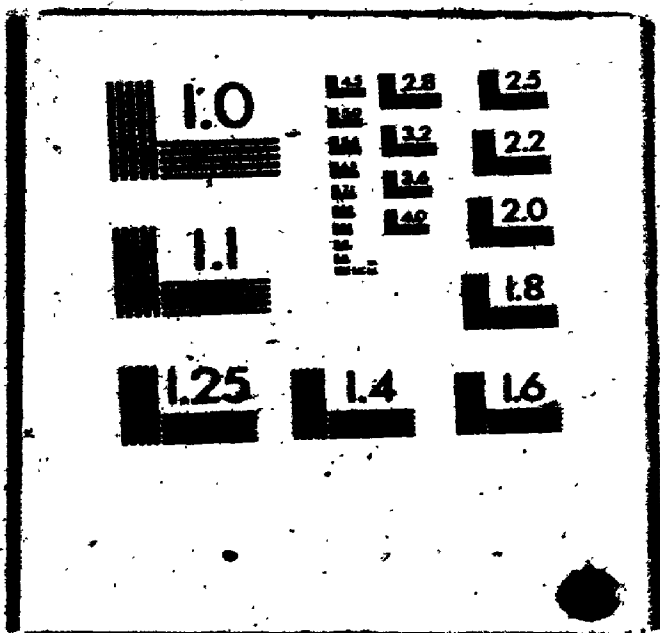
In the Canadas, the labouring poor could rely on the same range of private charities. Churches, ethnic organisations, and other interest groups offered various forms of indoor and outdoor relief both to the resident poor and to immigrants. In both Upper and Lower Canada, however, the formal exclusion of the Poor Law meant that in the middle decades of the nineteenth century public assistance was piecemeal and sporadic, as the colony moved only gradually to embrace the idea and practice of public responsibility for the poor.⁶ The inadequacy of available facilities both to meet the need of the resident poor and to accommodate large influxes of labourers was nowhere clearer than

on the major construction sites along the St. Lawrence canal system in the 1840s. Here, the congregation of thousands of destitute labourers brought with it appalling suffering which private citizens and public officials confessed to being unable to comprehend, let alone alleviate.⁷ During canal construction in the following decade, when labour surpluses were neither as prolonged nor as massive, the destitution along construction sites did not attract the same public attention. There were still, however, pockets of labourers who lacked the basic necessities of life.⁸

The inefficacy of public and private relief was as dramatic in the 1870s as in earlier decades. Although the 1860s and 1870s saw the gradual expansion of both public and private assistance to the poor, the depression years increased the numbers of those in want of food, housing and clothing. The destitute labourers along the Lachine and Welland Canals represented only a small fraction of those whose needs could not be met.

As members of the labouring poor public works labourers could not depend on adequate relief in hard times. Like most other members of their class any assistance that they received was sporadic and uncertain. But did the fact that they were employed on major public works entitle them to special consideration from the public and government?

4



acquiring men rendered him vulnerable to demands for higher wages. At the end of January 1855 his men struck for a wage increase. In March he gave in to further demands, this time for 4s.³³ For a short interval the work proceeded uninterrupted. But by July two more strikes had pushed wages to 5/10.³⁴ At some point during the remainder of the year the contractor succeeded in lowering wages to 5s, probably at the commencement of winter. But the following March labourers struck for 5s, and in May they forced the contractor to increase wages to 5/6.³⁵ Less information is available concerning strikes for higher wages on the European and North American and the Nova Scotia Railways, but labourers on these projects were at times successful in pushing wages to the level of those on the Chats and Junction Canals. On the Nova Scotia Railway in June 1856 labourers working near Windsor struck for an increase to 6/3.³⁶ In April of the following year labourers who were receiving 5s5d on the European and North American also demanded an increase to 6/3.³⁷

During the 1870s the majority of strikes on the canals of central Canada³⁸ were also attempts to secure higher wages despite the surplus of labour around construction sites and throughout the country. From the information available concerning such strikes on the Lachine and Welland Canals, it appears that increases of ten to twenty per cent were usually demanded, though on occasion they could rise to

close to forty per cent.³⁹ On the Welland Canal in March 1878, labourers struck for a raise from 90¢ to \$1.25. The following years labourers on the Lachine demanded an increase from \$1.10 to \$1.50.⁴⁰ When asked to justify their demands in such strikes, labourers did not merely point out the difficulty of subsisting on wages offered or appeal to the labourers' right to a fair wage.⁴¹ They also defined their demands by reference to what contractors could afford to pay and by a sense of what their labour was worth to the contractor. This could be couched in terms of the wages offered by other employers. For example, strikers on seven sections of the Lachine Canal in December 1877 argued that if one contractor could pay \$1 a day, so could the rest.⁴² Similarly, one thousand labourers on the Cross Lake Division of the Canadian Pacific engaged in a ten-day strike in May 1879 for a "uniform rate of wages" on the line.⁴³ Labourers also at times argued for a broader parity with other unskilled workers as much as five hundred miles away. The frequent migration of public works labourers from one job to another gave them an appreciation of wage rates elsewhere. Thus during a strike on the Lachine Canal in August 1880 a labourer could draw on his experience on other construction sites to instruct a reporter concerning comparative wage rates throughout Canada. Noting that "they always paid dreadfully low" in Quebec, he contrasted a rate of \$1.15, "the highest wage ever offered" on Section 4 of the Lachine

Canal with the \$1.25 available on the Canada Southern and the Canadian Pacific. On the Welland Canal, he himself had recently worked for as much as \$1.50 a day.⁴⁴ Such arguments carried little weight with either contractors or the press in a period of labour surplus. Moreover, during a temporary shortage, labourers might choose to pursue higher wages by moving to another construction site rather than fight for parity where they were. Consequently calls for some crude version of parity may have played only a small part in precipitating or resolving strikes. They do, however, reveal something of the perspective which public works labourers brought to their strikes and the context in which they viewed the struggle for higher wages.

Included in the category of positive strikes are strikes over non-monetary issues, principally control over some aspect of the work process. Particularly in the middle decades of the century, this type of strike disrupted construction. During the 1840s government officials complained that a serious impediment to the progress of the works was the fact that contractors were not "protected in the control [sic] and direction of their work".⁴⁵ On all the construction projects, government officials referred in general terms to "daily acts of insubordination among the labourers", which made it difficult for contractors to carry on their day to day operations.⁴⁶ That they were referring to more than simple insolence and indiscipline is clear from

an analysis of non-monetary disputes on the canals of central Canada. Labourers attempted to exercise some control over the length of the working day. Attempts to force maximum output from their men frequently prompted the contractors to extend the number of hours worked beyond what the labourers considered reasonable, and provoked protests that the work was being pushed faster at their expense. The 1843 enquiry into discontent on the Beauharnois Canal explained: "The dissatisfaction which sprang out of the feeling that their labour was not sufficiently remunerated was increased by the unreasonable length to which their daily hours of labour were extended". This perception was at the centre of a number of strikes on the canals, especially on the Beauharnois and the Lachine, and on the railways of the Maritimes.⁴⁷

Labourers also attempted to exercise some control over hiring and firing. When in the summer of 1844 the government of the Canadas attempted to institute a system whereby it might prevent the employment of those known to have arms, Killaly, Chairman of the Board of Works, pointed out that the major impediment to success would be the labourers' unwillingness to give contractors a free hand in hiring and firing: "It would be very hard for contractors to try to choose men without facing a strike".⁴⁸ Such a strike occurred on the Chats Canal in April 1856. When the contractors dismissed six men for "very disorderly conduct", which

included assaulting their foreman, the entire force of labourers "left the works in a body", and refused to return to work until the dismissed men were reinstated.⁴⁹

Labourers also challenged the contractors' authority over the supervision of the work and the supervisory personnel. In part this challenge took the form of physically intimidating foremen and contractors. Foremen might be beaten up or shot.⁵⁰ Contractors were subject to the same treatment. On the Williamsburg Canals in the fall of 1844 the contractors were so thoroughly intimidated that one of them did not dare go near the work, while another was "so much afraid" of the labourers employed by him, that they worked as they pleased, & set him at defiance".⁵¹ In addition to such intimidation labourers used the strike weapon to challenge contractors' authority in this area. A major strike on the Junction Canal in November 1854 was a challenge to the contractor's unpopular actions in the supervision of the work. The labourers protested the transfer of the general management from a Mr. Millan to Mr. Anderson, not a favourite with the men, and the dismissal of foreman Thomas Hoy for refusing to obey Anderson's orders. Hoy had refused to transfer some of the labourers from his pit to help in scowing stone up to the crib work at the head of the canal. Either in support of Hoy's decision not to transfer them to more unpleasant work, or in support of Hoy himself, the labourers in his pit "dropped their Picks and Shovels the Moment he was dismissed,

went to the other Pits, drove the rest of the men from the Works, extinguished the Fires in the Steam Engines and Stopped the Pumping". Government Superintendent G. Baillarge convinced the men at least to relight the fires of the engines so the pumping could continue during the night. He also secured a promise that the men would remain at work until the return of contractor Counter the following week, when their difficulties could be resolved. Baillarge's official report underlined the serious threat which this type of action posed: "Contractors...have already lost and will continue to lose all Control over the rest of the Men".⁵²

A similar conflict occurred on the Chats Canal the following year. Labourers' dissatisfaction with "American foremen" helped to precipitate a strike in January 1856. According to Superintendent Gallway, troubles with the supervision of the work had come to a head when the contractor's new agent, a Mr. Camp, had initiated many changes, such as the replacement of certain foremen. Gallway felt that the work had benefitted greatly but that the men had been "obliged to work a little more honestly than before" and consequently had threatened trouble. They intimidated one foreman in particular, dragging him out of a smithy, and they "would have seriously maltreated him were it not for the interference of a Clergyman". When intimidation failed they struck work.⁵³

↳ Attempts to exert a measure of control in the workplace

through strikes still occurred in the 1870s. Labourers demonstrated even greater concern than in earlier decades to limit working hours. In a strike on Section 8 of the Lachine Canal in April 1878, labourers and contractors haggled over both wages and hours, the contractor offering \$1.25 for a twelve hour day, the labourers preferring to accept less money for a ten hour day.⁵⁴ A few strikes over supervision have also come to light, such as that of three hundred men on the North Shore Railway at Trois Rivieres who walked off the job in October 1879 in a brief protest at a change of foremen.⁵⁵ There appear, however, to have been fewer strikes over non-monetary issues than in earlier decades. Perhaps this can be partially attributed to the diminished importance of experienced, professional navvies, who had played a major role in construction during the 1840s and 1850s. It might be argued that these professionals had provided the impetus in efforts to achieve workplace control. But equally the struggle for control may have been lost in earlier decades, the labourers of the 1870s confronting a more thoroughly regimented workplace, which allowed less latitude to those wishing to challenge the employer's authority.

Concern over workplace control has usually been associated with skilled workers, who brought to their work a culture of control, maintained through such prerogatives as the apprenticeship system and direct control over the quality of workmanship.⁵⁶ The strikes on canals and railways, however,

suggest that some unskilled labourers also pursued a very limited form of control over aspects of the work. In particular attempts to control hiring and firing and deployment of supervisory personnel reveal that the unskilled could share in some small measure the skilled workers' desire to regulate the changing workplace. Canal and railway labourers may have been unusual in this respect. Nonetheless, their pursuit of control, together with their aggressive struggles for higher wages, suggests that while the gap between the work experience of the skilled and the unskilled was wide, in important respects their reactions to the new demands of industrial capitalism were similar.

An analysis of how labourers mounted and sustained these strikes must begin with an examination of the serious barriers to effective strike activity. Foremost among these was the labourers' desperate poverty. Amongst the poorest members of society, these labourers put their own and their families' fragile well-being at risk whenever they chose to mount a strike. While all workers in the nineteenth century were constrained to some extent by the difficulty of sustaining themselves during strikes, the unskilled commonly lacked any resources to carry them through even the first few days of a strike. This was true for labourers in the 1840s and 1850s, many of whom were paid in truck and consequently were dependent on the contractor for their next meal. It was also true in the 1870s, when it was still an exceptional labourer

who could put money aside for the future. During a strike on the Welland Canal in March 1879 the Welland Tribune pointed out to its readers the difference between the hardship confronted by labourers and that faced by the skilled workers. The stonecutters could sustain themselves through a four-month struggle: "They make comparatively good wages when they work, and have more or less union and capital among them". They were "an entirely different class of men" from the labourers, who could be forced back to work quickly simply by the pressure of hunger.⁵⁷ In the first few days of a strike labourers might continue to receive credit from boarding-house keepers and grocers. Once credit was suspended, however, sometimes as early as the commencement of a strike, the labourers became desperate for provisions and even shelter. In the March 1879 strike on the Welland Canal the labourers were able to stay out for nine days, largely because the storekeepers who supplied the boarding-houses continued to furnish provisions. But as soon as the storekeepers "came to their senses" and refused further credit, the boarding-houses in turn were forced to suspend credit to the strikers, "leaving the labourers the option of going to work or leaving the place, as two days after pay day not one out of ten of them had capital enough to subsist a week on".⁵⁸

Ethnic divisions within the workforce could also pose serious problems for striking labourers. By the 1870s, when tension between groups such as the Irish and French Canadians

and Irish and Germans had eased considerably, and conflict with central and southern European labourers had barely begun, ethnic divisions were not a major impediment to united action. During the 1840s and 1850s, however, when such tensions were at their peak, they may have seriously impaired efforts to establish unity during strikes. They may also have facilitated the use of strikebreakers by contractors. Throughout the years from 1840 to 1880 contractors attempted to utilize strikebreakers in confrontations on the public works. The constraints within which contractors operated made them particularly anxious to continue work without interruption. Racing to meet deadlines and complete sections of the work before the opening of navigation or the onset of winter, contractors were seldom in a position to invest much time in a strike or a lockout, especially given that they were usually running behind schedule. Time constraints may in part explain why contractors sometimes chose to give in to strikers' demands within a few hours or one or two days, and they may go a long way to explain the success which strikers on public works projects enjoyed. On the other hand, the continuing struggle with escalating contract prices always gave contractors grounds for resisting strikers' demands outright, and this was the course of action more frequently adopted. Rather than accede to demands for higher wages or attempt to wait out a strike, contractors chose to continue working.

Initially contractors might attempt to do so with labourers in the immediate area, perhaps hoping to capitalise on ethnic differences to procure willing strikebreakers.⁵⁹ But they also brought in men from a distance. The rudimentary nature of the transportation network in the 1840s, and to a lesser extent in the 1850s, could mean delays in construction if they tried to bring in labourers from outside the area. However, this could appear preferable to giving in to strikers' demands. For example, when labourers on the Junction Canal struck in August 1854, immediately on the heels of a cholera epidemic which had already disrupted the work, contractor Counter sent his overseers to Quebec to hire one hundred labourers and to Kingston for further men to replace his present work force.⁶⁰ By the 1870s, when an efficient rail system linked many of the public works with sources of unskilled labour, contractors were able to draw on the general labour surplus more quickly and effectively to break strikes. Without having to depend on the labour available in the immediate area of construction, in less than twenty four hours contractors could bring in labourers from Montreal, Ottawa, or the northeastern United States, to replace strikers on the Welland Canal.⁶¹ In less time, French Canadians from the environs of Quebec City could be imported to continue the work on the Lachine Canal or transported from Trois Rivières to break a strike on the North Shore Railway.⁶²

In their attempts to continue work during a strike

contractors enjoyed the full support of the law. Although there were some modifications in the legal position of unions and the rights of strikers in this period, they did not change fundamentally the relative power of employers and labourers such as those on public works. Prior to 1872, in all parts of British North America, combinations to influence the conditions of work by acting against employers were criminal conspiracies under the terms of the British Combination Acts passed in the early nineteenth century. In 1867 Nova Scotia passed legislation allowing unions to enter into agreements to amend wages and hours, but it did not give unions the right to act in restraint of trade. Not until 1872 was this right granted to unions throughout the Dominion, with the passage of the Trade Unions Act and the Criminal Law Amendment Act. Together these Acts freed trade unions from criminal prosecution for acts in restraint of trade,⁶³ and represented a major breakthrough for trade unions. Technically, however, they did not change the status in law of strikes on the public works. Since the legislation applied only to those combinations of workers registered with the Registrar-General, unorganised labourers such as those on public works remained liable for prosecution as criminal conspirators if they went on strike.⁶⁴

Throughout the years from 1840 to 1880 labourers were also seriously restricted in the tactics that they could employ during strikes. Even after unions and strikes were

legalised in 1872, any action which could be interpreted as coercion of an employer rendered labourers liable to criminal prosecution. Included among coercive activities was picketing. The Criminal Law Amendment Act of 1875 legalised peaceful picketing, but also spelled out a strict definition of what might be considered as intimidation. Labourers could be charged not only for overt acts of violence but also for any threatening behaviour towards, for example, strike-breakers. In all, public works labourers faced severe legal barriers to any effective combination in defence of their own interests.⁶⁵

Throughout the period these laws were enforced by both the police and the military. The use of specially-created police forces on the canals of the Canadas in the 1840s has been documented.⁶⁶ Such forces do not appear to have been active on the canal projects considered for the following decade, nor was a special unit posted on the Nova Scotia Railway. The government of New Brunswick, however, established a special police force along the European and North American Railway. Like the canal police of the 1840s, the New Brunswick force worked with local magistrates and constables to apprehend trouble-makers during strikes.⁶⁷ By the 1870s, the expanding regular constabularies assumed a major role in controlling labour unrest. The Ontario Provincial Police on the Welland Canal, and the Montreal and St. Henri police on the Lachine Canal, advised labourers on the law during

strikes, guarded strikebreakers, and arrested those guilty of intimidation and molestation.⁶⁸ Supplementing the civil powers were troops. During the 1840s and 1850s both regular troops and the militia intervened in strikes on the canals. By the 1870s it was primarily the militia that provided this aid to the civil power.⁶⁹

Contractors themselves also adopted various methods of physical deterrence during strikes. There is no evidence that public works contractors took it into their own hands to police their contracts during the 1840s and 1850s, as their counterparts in private railway construction did.⁷⁰ During the 1870s, however, contractors on the Lachine Canal armed foremen to enable them better to resist strikers. An excellent means of protecting strikebreakers, foremen's pistols figure in a number of confrontations, and led to the near fatal shooting of the brother of a strike leader in December 1877.⁷¹ Also effective in combatting strikes was the whip carried by Michael Davis, son of the contractor for Sections 6 and 7 of the canal. Confronted in July 1880 with strikers who refused to leave the works, Davis "applied his blackthorn to their backs, and with good effect, for it soon dispersed them". Although perhaps idiosyncratic in this choice of weapon, Davis' enthusiasm demonstrates the extent to which contractors were willing to enter into the process of protecting their works.⁷²

Finally, labourers on strike could expect to encounter disapproval and opposition from other powerful interests in

society. Governments tended to be hostile to this method of redressing labourers' grievances; they viewed a strike both as a major impediment to the prosecution of the work and as a factor which could ultimately increase the costs of construction. Further, the government of the Canadas, Maritime governments, and in its turn the federal government, all saw labour troubles as endangering not just their public works programmes, but their overall reputation for efficient administration.⁷³ This attitude to strikes was reflected in the press. Partisan newspapers might condemn a strike for different reasons: an opposition newspaper might use a strike to criticise the administration, while the government press could disapprove even more of men who threatened to besmirch the government's record.⁷⁴ Even with no political axe to grind, a press generally critical of most aspects of the public works labourers' behaviour was particularly unsympathetic to the majority of strikes.⁷⁵ Only in strikes over the non-payment of wages or the truck system could labourers hope to attract sufficient public sympathy to force governments to act. Thus labourers appealed on occasions to the government through petitions, such as that of labourers at St. Gabriel's Basins on the Lachine Canal who struck in September 1874 when subcontractor Holland absconded with their wages. The petition demanded that Mackenzie demonstrate his "sense of justice on behalf of the poor working man" by stopping Holland from "availing himself of the fruits of [their] labours".⁷⁶

A similar petition from striking labourers on the St. Peter's Canal in February 1878 asked the government to intervene to secure their hard-earned wages.⁷⁷ A government which might otherwise have chosen to disregard the labourers' claims responded more favourably when forced to confront them directly on the floor of the House of Commons and ultimately at the next election. But labourers did not resort to such appeals when striking for higher wages. On this issue labourers almost invariably faced a hostile press and insensitive administrations.⁷⁸

In the face of hunger, ethnic tensions, strikebreakers, laws enforced for their disadvantage, and usually without support in the press or government circles, how did public works labourers achieve the solidarity necessary to successful strike action? Throughout the period they lacked such ongoing, formal, union structures as were invaluable in organising and sustaining the joint action of other, primarily skilled, workers.⁷⁹ Although by the 1870s legal restraints to the formation of unions had been largely removed, public works labourers did not take advantage of this, in part because of the barriers erected by the work itself. Not only was the workforce migrant, with all of the difficulties which that posed for organisation, but the work itself was constantly shifting location. With construction sites springing up and disappearing in some areas in a matter of months, there could be no organisation based on the place of employment

or even locality. This type of worker could be organised only within a large, umbrella organisation which could enable any "ad hoc" collection of labourers on a site to take action as a formal union.⁸⁰ As later attempts at the creation of such unions were to demonstrate, they were formidable to organise and virtually impossible to maintain.⁸¹ There must nevertheless have been powerful bonds of unity. As Tilly and Shorter have argued, workers cannot easily move from isolated grievance and protest to effective collective action. In their demonstration of the importance of organisation to strikes in France, they maintain that some type of group identity and either an informal or formal organisation is necessary to any united action.⁸² What then was the source of unity and organisation for these labourers?

Kerr and Siegel's theory concerning the inter-industry propensity to strike may be of some value in explaining the incidence of strikes on the public works. The workforce on canals and railways, composed largely of migrants, on some sites geographically isolated, and undifferentiated by skill, meets in some respects their definition of the isolated mass, prone to strike because either geographical or social separation heightened the workers' perception of a common condition as against other members of society, in particular employers.⁸³ This theory might be especially applicable to public works labourers during the 1840s and 1850s, when ethnic and religious conflicts sharpened the divide between

the labourers and other members of the community, and when many labourers were part of a migrating construction workforce, unattached to any community or to another sector of the economy. During the 1870s, however, when the majority of public works labourers were migrants from other communities and sectors of the economy, any apparent isolation of these workers was only temporary and transitory. Thus explanations of workers' unity during the 1870s must be sought elsewhere. Moreover, for the earlier period more compelling reasons for unity than the isolation hypothesis can be found in the strong ethno-cultural ties that bound public works labourers together.

During the 1840s a shared ethno-culture was an important factor in the successful strike action by public works labourers, the majority of whom were Irish Catholics. In frequent strikes along the canals of Upper and Lower Canada the antagonistic relationship between the factions of Cork and Connaught was subordinated to a common front in opposition to employers. The importance of their shared ethno-culture to united action was clearly stated by the labourers themselves in the Lachine Canal strike of 1843, one of only two well-documented strikes in this decade. Cork and Connaught men united to post notices warning employers and would-be strike-breakers that they were not simply all canallers, they were "all Irishmen".⁸⁴ As the Lachine strike also demonstrates, this unity between the factions could be fragile. But the

overriding pattern that emerges during strikes was one of co-operation.⁸⁵ The same ethnic solidarity which allowed the Irish to close ranks and resist the intrusion of other ethnic groups into the workforce was a powerful force uniting the labourers against their employers.

The Irish labourers' shared ethno-culture also provided concrete aid in the organisation of strikes. During the interval from April to July 1844, when there were four major strikes on the Welland Canal, leadership in the strikes appears to have overlapped with leadership in anti-Orange demonstrations.⁸⁶ Of greater importance to successful strike action was the vehicle of organisation furnished by their ethno-culture. There is evidence that, like other groups of Irish labourers, most notably the Molly Maguires of the Pennsylvania coalfields, canallers found that the secret societies which flourished in nineteenth century Ireland were well-suited to labour organization in the new world.⁸⁶ The oaths which swore labourers to secrecy shielded them from the law and the reprisals of employers at the same time that they bound each to be faithful to one another, ensuring solidarity and commitment, and enforcing sanctions against any who betrayed his fellows. In addition, secret societies functioned through an effective communication and command network.⁸⁷ The government's investigation into the 1843 strike on the Beauharnois Canal uncovered evidence to suggest that secret societies were the vehicle through which canallers executed

their strikes. But it was unsuccessful in discovering details concerning the societies' operations.⁸⁸ Reverend McDonagh, the priest ministering to labourers on the Welland Canal, offered the authorities more substantial evidence of the existence of such societies. With his intimate knowledge of the canallers' personal lives, he was able to furnish the government with the names of two societies utilized for organizing strikes, the Shamrock and the Hibernian societies. But he could not determine whether there were a number of small societies or a few large ones, whether only some or all labourers participated in them, or whether they were restricted to the Welland Canal or spread along other public works as well. And he "couldn't break them".⁸⁹

The canal labourers of the 1840s did not create a formal union structure. As a result, their direct action appears "ad hoc" in comparison with the activities of workers organized in the few trade unions in the first half of the nineteenth century.⁹⁰ But the fact that their organization was impenetrable to contemporaries and remains so to historians should not lead to the error of an ad hoc categorization.⁹¹ Although clandestine, secret societies were highly efficient; and although not part of the structured labour movement, they helped to organize sustained resistance, not spontaneous, isolated protests. The labourers' organization within secret societies, and not within formal unions, also restricted them from reaching out to establish visible ties with other segments

of the working class. Consequently they have left no clear evidence that they saw themselves as participants in a broader working class struggle. But while they did not establish formal links with other workers' protests, their secret societies testified to the labourers' link with a militant tradition of opposition to landlords and employers in the old world. Secret societies in Dublin during the first half of the nineteenth century were feared by moderates in the nationalist movement because of their aggressive pursuit of class interests. During the same years, agrarian secret societies organised agricultural labourers and cottiers around issues such as rising conacre rents and potato prices. Although the ruling class of Britain and Ireland insisted that these societies were essentially sectarian, they were, in fact, the instruments of class action, at times uniting Protestant and Catholic labourers in a common cause.⁹²

This cultural legacy of united opposition not only bound Irish Catholic labourers together but also equipped them with a belief system and values necessary to action against contractors. This belief system probably did not encompass a political critique which demanded fundamental change in the relationship between capital and labour. None of the diverse radical strains of Chartism made significant inroads in Ireland, which suggests that the Irish labourers may not have seen their interests as irreconcilable to the interests of

capital.⁹³ But if they had not embraced a theoretical framework within which to understand the conflict of capital and labour, they had, through experience, acquired a keen sensitivity to exploitation and suspicion of employers. As a magistrate with experience in meeting labour unrest along the canals of Upper and Lower Canada explained to the Board of Works:

They look on a Contractor as they view the "Middle Man" of their own Country, as a grasping, money making person, who has made a good bargain with the Board of Works for labour to be performed; and they see, or imagine they see, an attempt to improve that bargain at their expense ...such is the feeling of the people, that they cannot divest themselves of the feeling that they are being imposed on if the contractor has an interest in the transaction. 94

A notice posted on the Lachine Canal during a strike in 1843 expressed the labourers' feelings unambiguously: "Are we to be tyrannized by Contractors?...surrender to no Contractor who wants to live by the sweat of our Brow"⁹⁵

This analysis of the importance to strike action of a shared ethno-cultural tradition can be carried over into the following decade, when Irish Catholics once again represented the majority of labourers on canals and railways. As in the previous decade these labourers came directly from the British Isles, from the United States, or from the residue of previous construction projects and the surplus population of the urban centres. As such they maintained powerful ethno-cultural links which could facilitate united action in

the workplace. There is significantly less material on which to base an analysis of the role of ethno-culture in strikes during the 1850s. However, the continuing attempts by Irish Catholics to exclude other ethnic groups from the works suggests that ethnicity remained an important basis of identification and a factor in successful strikes on projects such as the Junction and Chats Canals and the Maritime railways.⁹⁶

The extent to which other ethnic groups participated in these strikes is unclear. The small numbers of French Canadian, German, English and Scottish labourers may have joined readily in confrontations with employers, but with very little evidence of their participation in strikes we can only explore the possibility of united action between the various ethnic groups. French Canadians probably united with the Irish on the Chats Canal, since these strikes appear to have included most workers on the site.⁹⁷ Despite the conflict between these two ethnic groups, we know that French Canadians joined with, and on occasion took the lead in, strikes against contractors on other public works projects of the 1840s and 1850s. Similar initiatives in strikes in other industries, such as longshoring, also indicate that French Canadians were developing militant traditions which could override ethnic rivalries.⁹⁸

English and Scottish labourers probably also united with the Irish on some projects, though once again their

participation cannot be documented. Despite their minor role on construction sites, and their conflict with the dominant Irish Catholics, they may have been an important element in strikes, particularly on the Maritime Railways. Considering the long tradition of opposition to employers and landlords in England and Scotland, it would be wrong to cast such labourers only in the role of strikebreakers. Before emigration to the new world many of them had probably participated in the violent agrarian and labour unrest which inflamed the British Isles in the first half of the nineteenth century.⁹⁹ The English labourers, though not necessarily the Scottish, possessed perhaps a more muted hostility to law and authority than their Irish counterparts. Their willingness to challenge contractors, however, may have equalled that of the Irish, and may have fostered their participation in strikes. Similarly, German labourers may have played a part in strikes. The German immigrants of the 1850s were likely familiar with the agrarian protests that precipitated the abolition of serfdom throughout the Germanic kingdoms and which represented a minor aspect of the German revolutions of 1848. The immigrants from south western Germany in particular came from an area riven with rural strife.¹⁰⁰ It may only have been a small step to translate this experience into an ability to find common cause with the Irish against contractors. The possibility of united action involving these many ethnic groups, however, must be weighed against the evidence of open and violent hostility between them.

In the 1870s, as in the 1850s, analysis of strikes is hampered by a lack of information concerning the nature of organisation and of the bonds of unity. For each individual ethnic group on a construction site, ethnicity was probably still a powerful source of unity. As in previous decades the Irish may have found strength in a common ethno-culture and a militant tradition. Similarly, a shared ethno-culture may have helped in turn to consolidate each individual ethnic group represented in the workforce, be it English, Scottish, French Canadian or German. Certainly newly-arrived immigrant groups such as the Italians found solidarity in their ethno-culture in the face of a hostile reception from other workers on the Welland Canal. As Avery's study of central and southern European immigrants has demonstrated for a later period, the Italian ethno-culture was not only a unifying force but the repository of a tradition of militance which could be as effective in the new world as in the old.¹⁰¹

This tradition was strong amongst the Italian stonecutters on the Welland Canal, who caused their employers considerable trouble, and indeed, in the opinion of the Welland Tribune, were harder to control than the powerful union of the Throld stonecutters.¹⁰² It was also evidenced in the action of the growing numbers of Italians brought in for construction work during the 1880s. On the Lennox and Addington Railway in 1884, for example, Italian labourers anxious to secure back pay almost succeeded in lynching a

contractor.¹⁰³

While ethnicity might draw together one segment of the labourers on a construction site, no one ethno-cultural tradition could unite the diverse groups which usually participated in any strike on the public works during the 1870s. Nor could labourers' unity derive from a geographically-defined community, except only on a very fleeting basis. The workforce on any one construction site was fluid and transitory, drawn from throughout North America and Europe. Even on the Lachine Canal, where many workers came from Montreal, many more migrated from outside the immediate area. In the absence of ethnically or geographically defined bonds, a shared experience as members of a developing lower working class may have acted as a powerful unifying force. Many labourers brought to construction sites a common experience in unskilled labouring jobs. Many probably came from other construction sites. On a broader scale they occupied the same position in society wherever they found employment. Whether on canals or railways, in central Canada or the Maritimes, they encountered the same pattern of social and economic differentiation that put public works labourers at the bottom of the social scale. Although some historians have argued that the high turnover rate in the population of North American communities during the nineteenth century may have been an important factor in retarding the growth of class unity,¹⁰⁴ the experience of these labourers

demonstrates that migrancy in itself did not inhibit militant class action. Indeed, the mobility of these labourers may actually have heightened their appreciation of the forces which everywhere directed their lives. Patterns were repeated in each individual life, without ties of community or job advancement to obfuscate the divisions between these men and the rest of society.¹⁰⁵ For those new to the work, perhaps new to unskilled migrant labour, how long did it take to understand, in a society in which social and power relations were so starkly drawn? Having once understood and participated in strikes, these labourers created for themselves what Hobsbawm has called the "habit of solidarity".¹⁰⁶ Whatever their previous experience, in the workplace and in the larger society, labourers on construction sites were quickly drawn into the struggle between labourers and contractors. This process of struggle in itself was important in maintaining solidarity.

Although this solidarity did not lead to the creation of formal organisations, the labourers' actions during the December 1877 strike on the Lachine Canal suggest that, at least on this construction site, they had some sense of belonging to a union or similar organisation. During the strike they paraded the streets carrying a large placard with the letters "T.U." painted on one side, "A.U." on the other. According to the Montreal Star the letters, of which the workers were "very proud", were intended "to symbolize

their unity of purpose and action". A letter to the Montreal Star, signed "Committee of Laborers Union", also suggests that the strikers created some type of structure which they considered to be a union, but which was not formally recorded or recognised as such.¹⁰⁷ Labourers in this strike, as in many others, demonstrated that they had created the substance of a union, if not the form.

The labourers have left little direct evidence as to what ideas, if any, might have cemented their unity and acted as a source of strength. Consequently it is only possible to speculate concerning the wide range of ideas which public works labourers may have shared. For the labourers on the Lachine Canal it is necessary to assess the influence of Charles Mckiernan, better known as Joe Beef, the notorious Montreal tavern owner. Far more than the proprietor of a popular drinking establishment, Joe Beef was a self-styled political leader of the waterfront community, and a man whose very tangible assistance to labourers such as those on the public works¹⁰⁸ appears to have earned him respect and influence amongst the canallers. This rapport was demonstrated repeatedly during the December 1877 strike on the Lachine Canal, when labourers frequently assembled at Joe Beef's canteen to thank him for his moral and material support, and for his advice.¹⁰⁹ During the strike contractors claimed that "all of the trouble" with their men during 1877 "started in a low Brothel kept by one Joe Beef who Seem[ed] to be at

the Head of it all".¹¹⁰ While the contractors no doubt exaggerated his influence, Joe Beef's largesse combined with his considerable oratorical skills probably ensured him a sympathetic hearing, and the ideas which he propounded may have found adherents among the canal labourers.

A prominent local conservative, Joe Beef did not counsel his patrons to challenge the social order or to create political alternatives specifically for the working class. His loyalties lay with the existing order and the conservative party. At the same time he was concerned with the injustices inherent in the system. Four important themes ran through Mckiernan's words and actions. In all of his orations a recurring theme was indignation at the poverty which the economic depression of the 1870s visited on the waterfront. In poetry and prose, he returned always to the same motif: "in the fall God help the poor of Montreal".¹¹¹

His attacks on poverty were coupled with a defence of the dignity of labourers, the least respectable members of society. He evinced a general disdain for middle class reformers and a lack of respect for the "Beaver Hat Aristocrat".¹¹² This was a message echoed by the canallers during their strikes. Expressing a similar hostility to the Beaver Hat aristocrat, they claimed to be as worthy as the "big bags of the City"; though "they were labourers, they were gentlemen at heart".¹¹³

Consistent with this attitude was Joe Beef's encouragement

to the labourers to fight to demonstrate and to preserve their dignity. Amongst men and women in Montreal who took it upon themselves to assist and advise members of the lower working class, Mckiernan was unusual in his support of labourers' militance. Although careful to warn against violence, which could only give the law an excuse to crush them, he encouraged labourers to take action to redress their grievances and endorsed their combinations and strikes. When he did act he was liberal with both material goods and advice. The nature of this advice, and of his own political philosophy, comes out most clearly in his speeches during the December 1877 strike on the Lachine Canal. Rejecting ideas of class antagonism, he called for the fair deal. Identifying himself as a "Son of the People", he told the canallers to trust him: "I have been brought up among you as one of yourselves since I was a boy running about barefoot". He counselled the strikers that though they had much to put up with, the public would sympathize with them: "They will not see you tyrannized over". But he added that he had "nothing against the contractors" and they would succeed only by speaking rightly to them", perhaps an allusion to the attempt roughly a year earlier to blow up the home of contractor Davis.¹¹⁴

Finally, in encouraging the labourers to action he warned them not to be divided by religious and ethnic differences. Openly advocating unity of all common labourers -

reduction by labourers on public buildings quickly spread to all labourers on public works throughout Quebec City then to other segments of the working class. Through a combination of inducing workers to join the strike and forcing employers to close their establishments the strikers succeeded in "putting a stop to almost all the work going on in the city". All commerce came to a halt, as retail merchants and even banks closed their doors against the growing numbers of strikers parading through the streets. In effect, the strikers were mobilizing a city-wide general strike for the dollar a day.¹¹⁶

The Montreal Star, picking up reports from Quebec newspapers, concluded that the "unfortunate strikers" were receiving miserably low wages and that "the workmen were primarily disaffected". They argued, however, that it was unlike the workmen to attempt to resolve their difficulties "by a resort to arms". Rather, "the opportunity was seized hold upon by the offscouring of society - men, possibly with some brains, and a little address - to lead the most pronounced of them into an open conflict with authority". Amongst these leaders, the press discovered "Parisian communists", who were primarily responsible for the whole complexion of the demonstrations: "The lost spirit of the Commune was strong upon them", and they led "the mob" through the streets "behind the red flag". Men who counselled peaceful measures, such as the choosing of

Catholic, Protestant, Irish, French Canadian, Black - he encouraged the men to act in common cause with any group of labourers, whatever their background. In line with these teachings, Mckiernan's charity was available to labourers regardless of ethnic or religious background. Joe Beef's influence with the day labourers of the waterfront community probably was not as great as he himself imagined it to be. He was reputed to have once told a reporter: "if I choose to give myself the trouble I could make them embrace any faith or none at all or become free thinkers".¹¹⁵ Canallers, however, do appear to have respected this enigma, and the version of class solidarity which they imbibed in his tavern may have been an important ingredient in the developing sense of identity amongst both the day labourers of Montreal and those who came from a distance to work on the Lachine Canal.

At the same time, the experience of any one group of public works labourers extended far beyond the local community and tavern, and on any construction site there may have been men committed to radical ideas and practice. The failure of government officials and newspapers to report concerning the ideas of even men most vocal during strikes leaves us with little concrete evidence of radical involvement. But a June 1878 strike by public works labourers in Quebec City reveals the possibility of a radical presence on construction sites. What began as a protest against a wage

delegates to meet with contractors and politicians, lost out to fiery radical orators like the Frenchman who told the strikers "they must go and have bread, or if not bread they would have blood", and the Belgian who charged the workers: "If I die during the struggle, I hope you will have someone to fill my place...we are poor; our families have no break; they are starving, and unless we get \$1 per day we will have blood (Applause)". The press also contended that Parisian communists, with their understanding of "the principles of street warfare", organised "the mob" to resist effectually and to evade the police and the military.¹¹⁷

These reports of radical involvement may have been based less on fact than on a growing unease during the 1870s that Canada was being infiltrated by foreign, radical elements, and labour agitators such as the Molly Maguires, who were steering Canadian workers in dangerous directions.¹¹⁸ Whatever their genesis, fears of radical involvement reveal a significant aspect of the way in which public works labourers' strikes were perceived. The Montreal Star did not believe that communism "was at the bottom of the whole affair". At the bottom were hungry men driven to action by desperation, not radical theory. The paper saw the strike as a serious threat to the social order, nonetheless, for hunger made men susceptible to radical ideas and action. The Quebec strike served to pinpoint for contemporaries the real and immediate threat to society, the potentially explosive union of hunger and radical leadership.¹¹⁹

The fears were no doubt exaggerated, but they suggest an important dimension to the militance of public works labourers throughout the country. Always drawn from amongst the poorest segments of society, the majority were day labourers who shifted from one unskilled job to another, many of them perpetually migrating in search of work. Always on the verge of destitution, and particularly hard hit by the economic depression of the 1870s, poverty may have given a dangerous edge to their militance. They had less to lose than the better-off members of the working class. In this they may have posed a more serious threat. Contemporaries may have overestimated the potency of this threat. Equally, historians have paid it too little attention.

Without direct evidence we cannot determine whether the majority of labourers accepted Joe Beef's version of class solidarity, whether radical ideas enjoyed a significant influence amongst particular groups, or indeed whether the labourers were bound together and moved by any common political critique of society. The labourers can only be assessed by their actions. Here the evidence is unambiguous. Their strikes demonstrate a unity which transcended ethnic diversity and reflected a common work experience. This unity could also reach beyond the workplace to include other members of the lower working class in the immediate area of construction, as a major strike on the Lachine Canal demonstrated. In December 1877 striking canallers rallied support from amongst the lower working class inhabitants of Griffintown who turned

out to cheer them during their processions and attended pro-strike meetings.¹²⁰ This is the only evidence of such support during strikes. It nevertheless reveals the broader solidarity developing in the 1870s amongst such labourers.

Thus by the 1870s the basis of labourers' unity during strikes on the public works had changed. The growth of class solidarity, however, did not greatly expand the power of labourers in relation to their employers. Consequently, it did not significantly alter the tactics which labourers were compelled to employ during strikes. Violence remained a crucial means by which labourers forced concessions. Particularly during the 1840s and 1850s, but also during the 1870s, canal and railway labourers demonstrated a profound disregard for the law and the rights of private property, engaging in a wide range of violent tactics to achieve their ends. This violence has been analyzed by social scientists in a variety of ways. It has been associated with the dislocation and disorientation experienced both by immigrant groups and by groups emerging in a new social order.¹²¹ It has also been linked to the early, primitive, protests of the nascent labour movement groping its way towards an understanding of industrial capitalist relations.¹²² From a slightly different perspective, it has been seen as the product of Irish traditions transplanted to the new world.¹²³ Such theories may have some explanatory value for the 1840s and 1850s, but throughout the period violence was primarily used during a strike for tactical reasons. Its continuation into the 1870s demonstrates that

interpretations which focus on dislocation or ethnicity downplay the principal, tactical, reason for violence.

Analysis of the patterns of violence during strikes demonstrates the importance of tactical violence to striking labourers.

Much of the violence in strikes can be attributed to labourers' desperation to secure the most basic necessities. This type of violence was most often a feature of strikes over the non-payment of wages. In such strikes during the 1840s and 1850s labourers usually acted quickly to apply maximum pressure to contractors and the government. As the Superintendent on the Welland Canal explained to the Board of Works in the summer of 1845, when labourers struck for overdue wages, the "safety of the vessels navigating the canal, the peace of the surrounding country and the security of the work itself were greatly endangered".¹²⁴ During a strike for back pay on the Welland Canal in May 1846, labourers took steps to blow up the canal.¹²⁵ In a similar strike on the Buffalo and Brantford Railway in January 1855, labourers took possession of the line, preventing the passage of trains, burning a depot, killing a constable, and moving to spike the bridge at Fort Erie.¹²⁶ During the 1870s, when the federal government responded more quickly to demands for overdue wages, labourers had less need to resort to such tactics. But the threat of this type of violence remained. When labourers on the Lachine Canal struck for payment in

wages in March 1878, the head contractor and government officials worked to forestall a serious riot. Labourers threatened to flood the canal, and there were also reports that some labourers attempted to blow out the gates at the western entrance of the canal, going so far as to bore a hole for the dynamite before they were discovered.¹²⁷ An official on the Western Extension Railway in Nova Scotia captured the spirit of such disturbances when he reported to his superiors in December 1877 concerning labourers' growing impatience for their arrears of wages: "The men have an idea that Govt. will not come to their assistance until they have made a disturbance and have created quite an excitement in the place".¹²⁸

The pressure of hunger also provoked violence in strikes over wage rates. During the 1840s observers reported that strikes turned nasty when labourers ran out of food, and attempted to secure it by force. Violence associated with the need to secure food could still figure in the strikes of the 1870s. When labourers on the Cross Lake division of the Canadian Pacific Railway struck in May 1879, their first act was to seize the contractor's provisions.¹²⁹ When men working on the Quebec Parliament buildings struck in June 1878 they took dramatic steps to solve their most pressing problem - the need for food. A crowd several hundred strong broke into Renauld's grocery store in the heart of the city and seized several thousand dollars worth of flour. Dragging

it out into the street; they sold some for 25¢ a barrel, and simply stole the rest, stopping carters and forcing them to transport the barrels to their homes.¹³⁰ Reporting on this incident, the Montreal Star insisted that this type of depredation was not the work of "hard-working honest labourers, fighting for bread for themselves and their families", that the lead was taken by "characters who perhaps never did a stroke of work in their lives, and what is more [did] not want to while they [could] live otherwise or avail themselves of the opportunities afforded by the grievances of honest men to indulge in public pillage and disorder". The perpetrators of such crimes were characterised as "a class lower than the labourers".¹³¹ Yet such incidents on public works in various parts of the country, employing workers from a variety of backgrounds, testify not to the infiltration of the strikers' ranks by a low, criminal, element, but to the very real pressure which hunger exerted on the unskilled during their strikes.

During the 1840s and 1850s violence was also employed frequently to intimidate contractors into a settlement. Contractor Moore on the Welland Canal was threatened during a confrontation in January 1844.¹³² Similarly, during a strike on the Nova Scotia Railway in June 1856, labourers threatened a contractor with death if he attempted to continue the work.¹³³ According to contractors questioned concerning the Beauharnois strike of 1843, this tactic could

be decisive. Many of them claimed that they had been intimidated into settling by actual physical violence directed at them by armed labourers. Contractors Macdonald, Brown, and Elliott each recounted harrowing tales of being threatened with severe injury or death.¹³⁴ Intimidation of contractors also included attacks on their property.¹³⁵ One of the most serious of such attacks took place on the Chats Canal. During a bitter strike in April 1856 the barns and stables of a contractor were set on fire. All the horses but one were rescued, but one hundred tons of hay and two hundred bushels of wheat went up with the building.¹³⁶ Given the state of tension and open hostility between the labourers and the contractors, suspicion immediately rested on the former, though evidence of their involvement was circumstantial and their guilt never proven. The fact that the labourers had rushed to save the horses suggested to one observer that they were not responsible,¹³⁷ though Superintendent Gallway remained convinced that the destruction during a strike was more than a coincidence.¹³⁸

The attack on contractors' property frequently centered on machinery, a tactic which if successful could effectively prevent a contractor from carrying on his operations during a strike. Labourers destroyed contractor Buell's railway cars during a strike between Allenburg and Thorold on the Welland Canal in March 1844. They attacked the "implements of labor" in their conflict with contractors on the

Williamsburg Canals in the summer of 1845.¹³⁹ Similar instances were reported on the Chats Canal in the following decade. During a strike for higher wages in January 1855, labourers attacked one of the derricks and blew up a powder magazine. A report on the incident by Superintendent Gallway suggested that the motivation for this kind of action could go beyond the simple desire to hold up the work or intimidate the contractor. Gallway explained to his superiors that what appeared to be the vandalism which often accompanied strikes was really an expression of the labourers' opposition to "all labor saving machinery". The contractors' attempts to overcome the shortage of labour and the consequent power which the labourers exercised in their dealings with them had fostered "the determination of the people here...to destroy all the machinery". Gallway warned that given this general hostility to labour saving technology the damage to the machinery was likely to be very great.¹⁴⁰

In strikes during the 1870s violence directed against the persons and property of contractors was much less frequently reported. A number of reasons can be suggested for this. More effective law enforcement agencies may have counselled greater caution in the use of violence. Alternatively the change in the nature of the workforce may have been responsible for restricting the scope of violence. The traditions of direct action and willingness to defy the law which Irish Catholic labourers brought to strikes in the

1840s and 1850s may have been watered down by the 1870s through the greater participation of other ethnic groups in the construction workforce. These two factors probably combined to ensure that labourers did not assault contractors and destroy property as readily as they had done in earlier decades.

The diminution in the incidence of some forms and uses of violence, however, did not mean that the labourers of the 1870s rejected the use of violence. The noticeable decrease in attacks on contractors stands in marked contrast to the consistent pattern of assaults against strikebreakers throughout the years from 1840 to 1880. During the 1840s and 1850s, the methods employed to keep strikebreakers off the works included the posting of threatening notices, the patrolling of the works by armed bands, driving labourers off the works en masse, and taking possession of the entire works.¹⁴¹ Similar tactics were repeated during the 1870s. In a few instances labourers took possession of the works at the beginning of a strike to forestall any attempt to bring in strikebreakers.¹⁴² As in the earlier decades, however, the usual tactic was to patrol the works in bands, systematically confronting any who attempted to return to work.¹⁴³ If such tactics were not successful, the labourers grouped en masse to drive others off the works. A walkout on the Lachine in January 1877 began peacefully; the strikers told the Montreal Star that they did not intend any violence.

But they were determined not to allow work on the section. When some of their number returned to the pits on the fifth day of the strike, approximately two hundred men assembled and marched along the bank to the spot where the men were working. An exchange of words escalated into the throwing of snowballs, then stones, and finally the strikers ran into the pit and ordered the labourers to quit work.¹⁴⁴

One final use of violence was to challenge those charged with protecting the works and strikebreakers. During the 1840s there were numerous instances of labourers assaulting police officers who worked singly or in pairs. Officers who interfered to protect strikebreakers and effect an arrest were attacked with clubs, stones, knives and pistols.¹⁴⁵

During the 1850s labourers on the Maritime railways were also willing to pose a physical challenge to the authority of law officers.¹⁴⁶ By the 1870s, however, public works labourers appear to have been either more respectful or more timid in their relations with police. The evolving capacity and efficiency of police forces probably accounted for this significant alteration in attitude.¹⁴⁷

Assessment of the level and nature of the violence is made difficult by misrepresentation, and it would be easy to overestimate the violence in public works strikes. Conflicting accounts of strikes indicate that the violence was at times grossly misrepresented. In order to secure police and military protection, contractors overstated the

threat which strikers posed to the public peace. During a strike of labourers, quarrymen, and stonecutters at Thorold, for example, contractors united to solicit government aid on the grounds that "many acts of violence were being committed", and they feared that the labourers would not "hesitate to take life and destroy property" unless adequate protection were granted. But the Welland Tribune, normally quick to condemn any violence, reported that the strikers were "good-natured throughout", behaving remarkably well, except for a "few rows" amongst themselves in the taverns on Saturday night.¹⁴⁸

A subtler, but more consistent, distortion of violence lay in the language in which it was reported. In the 1840s and 1850s the press and government officials wrote of strikes as "rioting", "riotous conduct", or "disturbances", the uncontrollable excesses of an ethnic group addicted to senseless violence. Strikers were "turbulent and evil-disposed", "bent on violence", "beyond the control of the law" and "in a lawless condition", while strikebreakers were "brave" and "orderly".¹⁴⁹ The most sympathetic analyses described walkouts as the culmination of a process by which "discontent ripened into tumult and disorder".¹⁵⁰ More hostile reports castigated "the revolting and disgraceful conduct of these lawless and senseless ruffians, who forgetting their duty, alike to GOD and man, seek the attainment of their illegal ends by murder and robbery".¹⁵¹

Reporting of strikes in the 1870s was only slightly more temperate. Striking labourers on the public works were described as "riotously inclined", and "not slow in adopting violent measures".¹⁵² Intimidation of strikebreakers was presented as the most serious of crimes, one which could destroy the basis of the economy and of civilized society. Men who resorted to intimidation began by stealing food from the mouths of innocent children and ended by jeopardizing the most sacred of assumptions on which civilized society rested. They were men without moral and scruple, and they were "placed in the same category as the Stretor assassins", miners of Stretor, Illinois, alleged to have poisoned a community of strikebreakers in what the Montreal Star described as "an exhibition of hatred which stands without a parallel" in human history.¹⁵³

Distortions notwithstanding, strikes of public works labourers were amongst the most violent in this period of Canada's economic development. Violence was not the preserve of the unskilled migrant, and figured in confrontations between skilled workers and their employers on the public works. Yet in at least three important respects, violence was particularly well-suited to the strikes of the unskilled and unorganized. Unskilled labourers could be easily replaced and for most of the decade faced a serious challenge from strikebreakers. Although skilled workers also had to contend with their share of strikebreakers, the threat to

them was less sustained. In addition, skilled workers were more likely to possess, in their formal union structures, nonviolent means for dealing with strikebreakers, such as fining and blacklisting. In contrast, unorganized workers lacked all but the instrument of brute force for keeping strikebreakers out of their jobs. Poorly paid, they also lacked those alternatives to violence which money could buy. When contractors brought in stonecutters from New York and Montreal to break a strike, the Thorold stonecutters paid the men's fare home.¹⁵⁴ Although in other strikes stonecutters met strikebreakers with pistols, not tickets home, they had options denied the unskilled.¹⁵⁵

Viewed in the light of these limitations, the violence of the unskilled and unorganized becomes a function of their powerlessness and lack of alternatives. For some groups of labourers, violence may have fitted more comfortably with their preconceptions of appropriate behaviour. The Irish labourers' tradition of collective action may have inured them more than others to the violence necessary in strikes. Labourers migrating to construction sites with years of experience on similar projects may have been better prepared to confront contractors than labourers off the farms of Quebec. Peasants from pre-industrial backgrounds may have brought a sense of community vital to collective protest. Without minimizing the utility of theories concerning various groups' propensities to violence, the overall

pattern of strikes on the public works illustrates the importance of analyzing violence in terms of the objective conditions and constraints which fostered it.¹⁵⁶

Taken together, analyses of the issues involved in strikes, of the basis for the labourers' unity and organisation, and of their use of violence, reveal that strikes on the public works were much more than defensive outbursts of individual frustration precipitated by immediate injustice. Although labourers were frequently forced to fight to resist wage reductions and to secure the true value of their wages, throughout the period their strikes were also aggressive attempts to appropriate a larger share of the fruits of their labour and, at least in the early decades, to exert a measure of control over the work. The frequent use of violence gave their strikes the appearance of impromptu riots; however, that violence was rational, its use a deliberate choice by labourers as powerless as these. During strikes labourers did not coalesce temporarily as individuals to redress an immediate grievance. During the 1840s and 1850s powerful ethno-cultural bonds sustained the united action of a workforce comprised primarily of Irish labourers. By the 1870s, the labourers appear to have transcended ethnic identification and to have found unity and organisation through their shared experience as members of the lower working class. They remained outside formal union structures; nonetheless they consistently demonstrated an ability to

mount sustained resistance to employers. This was most clearly revealed during one of the largest and best-documented public works strikes of the decade, the Lachine Canal strike of December 1877.

Notes

1. Gregory S. Kealey and Bryan Palmer, Dreaming of What Might Be: The Knights of Labour in Ontario 1880-1900 (Cambridge: 1982)
2. Palmer, Working-Class Experience, 37 and 300-3
3. Bleasdale, "Class Conflict", 26-28. Attempts to calculate the number of strikes on any one construction site are frustrated by the inadequate and random reporting of strikes. A large proportion of those strikes reported in government documents were not recorded in the press and vice versa. This less than comprehensive reporting of strikes by both important sources for this study suggests that a significant number of strikes have gone undetected. Strikes appear to have been more disruptive in the 1870s than in previous decades, for interwoven into the strikes of the unskilled were those of the skilled stone cutters. Usually of greater duration than labourers' strikes, those by skilled workmen significantly increased the number of man hours lost on the canals.
4. Despite this notoriety, it is even more difficult to estimate the incidence of strikes on railways. In the absence of the type of government reports available for canals, estimates can only be based on general reports of "many" or "the usual" strikes and on the inadequate newspaper coverage. See above, footnote 3.
5. Diary of Silas Burt, 21
6. Morning News, 12 May 1858
7. Palmer, Working-Class Experience, 91-95. Many of the strikes in this decade were by unorganized and unskilled workers, and remain buried in newspaper columns. On unrest in the United States see Philip Foner's overview, History of the Labor Movement in the United States (New York: 1947), 454-74, and his monograph, The Great Labor Uprising of 1877 (New York: 1977). See also Herbert Gutman, "The Worker's Search for Power", in Gutman, Work, Culture and Society.
8. RG 30, Vol. 12470, Berlinquet to Smith, 12 August 1873
9. Montreal Star, November 28, 1878; Welland Tribune, 14 March 1879; 28 February 1878

10. The recent major studies of the developing labour movement focus primarily on organized workers. See for example Palmer, Skilled Workers and Industrial Capitalism; Kealey, Toronto Workers Respond to Industrial Capitalism; Kealey and Palmer, Dreaming of What Might Be; Forsey, Trade Unions in Canada
11. Melvin Dubofsky, Industrialism and the American Worker, 1865-1920 (New York: 1975)
12. For a concise presentation of this argument see: Stephen Langdon, The Emergence of the Canadian Working Class Movement, 1845-75 (Toronto: 1975)
13. See for example Palmer's discussion of the strikes of railway labourers in the 1850s, and their absence from the "Insurrection of Labour", during 1853 and 1854. Palmer, Working-Class Experience, 67-71
14. Pentland, Labour and Capital, 196-7
15. See for example Peter Stearns, Revolutionary Syndicalism and French Labor: A Cause Without Rebels (New Brunswick, N.J.: 1971); Peter Stearns, "Patterns of Industrial Strike Activity in France during the July Monarchy", American Historical Review, 70 (1965), 371-94; Neil J. Smelser, Social Change in the Industrial Revolution (Chicago: 1959); E.P. Kelsall, "A Theoretical Setting for the Study and Treatment of Strikes", Occupational Psychology, 32 (1958), 1-20; T.R. Gurr, "A Comparative Study of Civil Strife", in H.D. Graham and T.R. Gurr, eds., Violence in America: Historical and Comparative Perspectives (New York: 1969); James C. Davies, "The J-Curve of Rising and Declining Satisfaction as a Cause of Some Great Revolutions and Contained Rebellion", in Ibid. This is a necessary simplification of the complexities of such theories. Despite important differences between them, however, these studies by scholars from diverse disciplines each erect an argument to define a category of strikes provoked by individual frustration. For the application of such an approach to unskilled and unorganised labourers see Stearns' argument that such workers preferred an undisciplined worklife, that they were not fully ready for the discipline and assiduity of a formal labour movement. See also Graziosi's examination of common labourers in late nineteenth and early twentieth-century America. He argues that their strikes more closely resembled a violent outburst than a conscious effort to improve a situation. Peter Stearns, "The European Labor Movement and the Working Class, 1890-1914", in Harvey Mitchell and Peter Stearns,

- eds., Workers and Protest: The European Labor Movement, the Working Classes and the Origins of Social Democracy, 1890-1914 (Itasca, Ill.: 1971); Andrea Graziosi, "Common Laborers, Unskilled Workers, 1880-1915", Labor History, 22 (1981), 512-44
16. Edward Shorter and Charles Tilly, Strikes in France 1830-1968 (Cambridge: 1974), 338
 17. For a clear statement of this see Stearns, "Patterns of Industrial Strike Activity".
 18. See Palmer, Skilled Workers and Industrial Capitalism; Kealey, Toronto Workers Respond to Industrial Capitalism
 19. RG 11, WCLB, Power to Begly, 4 October 1845
 20. Nova Scotian, 26 July 1858
 21. See for example, two such strikes in Montreal Star, 6 January 1877; 8 January 1877; RG 11, Vol. 177, Petition of labourers on New St. Gabriels Basin of Lachine Canal, 10 September 1874
 22. RG 11, WCLB, Power to Begly, 18 August 1845; Pentland, "The Lachine Strike of 1843; Canada Legislative Journals, 1843, Appendix T, Cross, Deposition; Dowling's Deposition; Petition of Carnes and others.
 23. Ibid., Begley's Examination
 24. La Minerve, 11 May 1877
 25. Wesleyan, 14 July 1869; Daily Telegraph, 7 July 1869
 26. Montreal Star, 18 January 1877; 22 January 1877; 23 January 1877; 29 January 1877; La Minerve, 24 January 1877; RG 11, Vol. 475, #77990, Girouard to Tupper, 14 November 1878; Montreal Star, 28 November 1878
 27. For the 1840s see Bleasdale, "Class Conflict", 26. For the 1870s see the strike on Clark's section of the Welland Canal in May 1878, and a similar stoppage on the Canadian Pacific Railway in July 1879. Montreal Star, 7 May 1878; 30 July 1879.
 28. Bleasdale, "Class Conflict", 26-27
 29. See the discussion of wages on the Junction Canal. RG 11, Vol. 17, #16154, Page to Begly, 17 March 1852;

- Ibid., #16508, Bowie and Cassels to Begly, 3 May 1852
30. Ibid., #16154, Page to Begly, 17 March 1852
31. Ibid., 16508, Bowie and Cassels to Begly, 3 May 1852
32. Ibid., #23376, Baillargé to Begly, 12 August 1854;
Ibid., #24055, Baillargé to Begly, 4 November 1854
33. RG 11, Vol. 22, #24799, Gallway to Begly, 31 January 1855; Ibid., #25355, Gallway to Begly, 22 March 1855
34. RG 11, Vol. 23, #36940, McDonald to Commissioners Public Works, 3 July 1855; Ibid., #26437, Gallway to Begly, 4 July 1855
35. RG 11, Vol. 26, #29856, Gallway to Begly, 20 May 1856; Ibid., #30080, Gallway to Begly, 9 June 1856
36. Nova Scotian, 23 June 1856
37. Morning News, 29 April 1857
38. Strikes on the Intercolonial Railway have not been included in this analysis because of insufficient material concerning their nature and frequency.
39. Wage demands on both the Lachine and Welland Canals seem to have conformed to this pattern.
40. Montreal Star, 28 April 1879; 29 April 1879; Welland Tribune, 8 March 1878; La Minerve, 29 September 1879
41. See for example: Montreal Star, 22 January 1877; 21 December 1877; Welland Tribune, 7 May 1874; 8 March 1878
42. See below, chapter 7
43. RG 11, Vol. 473, #71442, Baillargé to Braun, 19 December 1877; Montreal Star, 7 May 1879
44. Ibid., 27 August 1880
45. RG 11, Vol. 390, file 93, Mills to Killaly, November 1844
46. RG 11, WCLB, Power to Begly, 7 January 1845; Vol. 390, file 93, Mills to Killaly, 29 November 1845; Canada Legislative Journals, 1844-45, Appendix Y, Mills, 20 December 1844

47. Canada, Legislative Journals, 1843, Appendix Q; Ibid., Appendix T; Morning News, 8 March 1858. Whether strikes over hours are included under the category of non-monetary or that of monetary issues, they fall under the rubric of aggressive strikes.
48. Public Archives of Canada, Record Group 5, CI., Provincial Secretary's Correspondence, Canada West, 1844, #8410, Daly to Killaly, 1 August 1844, Ibid., Killaly to Daly, 20 August 1844
49. RG 11, Vol. 25, #29400, Gallway to Begly, 12 April 1856; Ibid., #29459, Gallway to Begly, 12 April 1856
50. St. Catharines Journal, 17 May 1844; Canada, Legislative Journals, 1844-45, Appendix Y, McIlmoyl, 2 November 1844.
51. Ibid., Jarvis to Begly, 20 October 1844.
52. RG 11, Vol. 17, #24055, Baillargé to Begly, 4 November 1854
53. RG 11, Vol. 24, #28292, Gallway to Begly, 9 January 1856; Ibid., #28959, Gallway to Begly, 26 February 1856
54. Montreal Star, 10 April 1878; 11 April 1878
55. Ibid., 2 October 1879; La Minerve, 10 October 1877
56. For a discussion of this culture of control see Palmer, Skilled Workers and Industrial Capitalism, ch. 3.
57. Welland Tribune, 27 March 1879
58. Ibid. For a similar discussion of the pressure of hunger during a strike on the Lachine Canal see Montreal Star, 23 January 1877
59. See for example Pentland, "The Lachine Strike of 1843"; Nova Scotian, 23 June 1856; Morning News, 5 May 1858; Welland Tribune, 8 March 1878; Montreal Star, 27 August 1880
60. RG 11, Vol. 17, #23376, Baillargé to Begly, 12 August 1854
61. RG 11, Vol. 451, #56650, Contractors on sections 1 to 16 of the New Welland Canal to Mackenzie, 18 January

- 1878; Welland Tribune, 20 March 1879; 28 November 1879
62. Montreal Star, 28 April 1879; La Minerve, 23 November 1877
63. Canada, Department of Labour, Trade Union Law in Canada (Ottawa: 1935); A.W.R. Carrothers, Collective Bargaining in Canada (Toronto: 1965). The provisions of the Master and Servant Act do not seem to have been used either by or against casual labourers such as those on public works. Paul Craven, "The Law of Master and Servant in Mid-Nineteenth Century Ontario", in D. Flaherty, ed., Essays in the History of Canadian Law (Toronto: 1981), 181
64. Canada, Department of Labour, Trade Union Law in Canada.
65. Ibid.
66. Bleasdale, "Class Conflict", 34-36; Bleasdale, "Irish Labourers", 115-23; Pentland, Labour and Capital, 191-3
67. MG 9, Vol. 52, passim. Although such forces were not found on the Chats or Junction Canals, special provision was made for their use in two pieces of legislation. 14-15 Vic., c. 76 and 77
68. Welland Tribune, 28 February 1878; 21 March 1879; 8 March 1878; See below, chapter seven, for the Lachine Canal.
69. Bleasdale, "Irish Labourers", 130-7; Pentland, Labour and Capital, 191-5; RG 11, Vol. 25, #29400, Gallway to Begly, 12 April 1856; Ibid., #29459, Gallway to Begly, 12 April 1856; Morning News, 9 September 1857; 5 May 1858. No instances of troops being brought in during strikes on the Maritime railways have come to light, though they were used to quell sectarian and ethnic clashes amongst workers and between labourers and members of the local community. For the 1870s see Morton, "Aid to the Civil Power" and J.J.B. Pariseau, Disorders, Strikes and Disasters: Military Aid to the Civil Power in Canada, 1867-1933 (Ottawa: 1973), ch. 4
70. Pentland, Labour and Capital, 193
71. La Minerve, 22 January 1877; Montreal Star, 22 January 1877; 23 January 1877. La Minerve, 19 December

1877; 20 December 1877; Montreal Star, 19 December 1877; 20 December 1877; 21 December 1877

72. Montreal Star, 27 July 1880. The police could not ignore the zeal with which Davis attacked strikers. Charged with assaulting a man named Trudeau during a strike in August 1880, Davis was convicted and fined \$1 and costs, "for the offence, such as it was". Ibid., 1 September 1880.
73. In the attitude of the Board of Works of the Canadas and the role of its officers see Bleasdale, "Class Conflict". In the following decade officials on the Junction and Chats Canals considered the suppression of labour unrest an important aspect of their responsibilities. RG 11, Vol. 17, #16154, Page to Begly, 17 March 1852; Ibid., #23376, Baillarge to Begly, 12 August 1854; Ibid., #24055, Baillarge to Begly, 4 November 1854; Vol. 22, #24799, Gallway to Begly, 31 January 1855; Ibid., #25355, Gallway to Begly, 22 March 1855; Vol. 23, #36437, Gallway to Begly, 4 July 1855; Vol. 26, #29856, Gallway to Begly, 20 May 1856; Ibid., #30080, Gallway to Begly, 9 June 1856. The role of government officials on the Maritime railways during strikes is unclear. During strikes in the 1870s, however, officials on canals played the same role as their counterparts of earlier decades. See the intervention in the strike on the Lachine Canal in December 1877, below, chapter seven.
74. For example, see the coverage of a strike on the North Shore Railway in April 1879. La Minerve, 25 April 1879; Montreal Star, 26 April 1879
75. See below, footnotes 149-53
76. RG 11, Vol. 177, Petition of labourers on the New St. Gabriels Basins of Lachine Canal, 10 September 1874
77. RG 11, Vol. 487, #72935; Minutes of a Meeting of labourers at Big Bras D'Or, 11 January 1878 and Petition of J.P. Haliburton and others to McKenzie, February 1878; enclosure, list of Names of labourers at Big Bras D'Or.
78. No such petitions have survived in government reports or documents.
79. See Forsey Trade Unions in Canada, for the preponderance of skilled workers' unions.

80. For a general discussion of the difficulties involved in organizing this type of workers see E. Hobsbawm, "General Labour Unions in Britain, 1889-1914", in E. Hobsbawm, Labouring Men: Studies in the History of Labour (London: 1964)
81. David Bercuson, Fools and Wise Men: The Rise and Fall of the One Big Union (Toronto: 1978); McCormack, Reformers, Rebels and Revolutionaries.
82. Shorter and Tilley, Strikes in France, ch. 7
83. Clark Kerr and A.J. Siegel, "The Interindustry Propensity to Strike--An International Comparison", in C. Kerr, Labor and Management in Industrial Society (New York: 1964)
84. Montreal Transcript, 28 March 1843, cited in Pentland, "The Lachine Strike of 1843", 266
85. Pentland described the betrayal of one faction by the other in one of the large strikes on the Lachine. Pentland, "The Lachine Strike of 1843". See also: RG 11, Vol. 407, file 104, Cotton and Row to Wheeler, 26 August 1846.
86. Williams, Secret Societies in Ireland; Clark, Social Origins of the Irish Land Wars, 65-95. On the Molly Maguires see Wayne G. Broehl, The Molly Maguires (Cambridge, Mass.: 1964)
87. Williams, Secret Societies in Ireland, 31
88. Canada Legislative Journals, 1843, Appendix T
89. RG 11, Vol. 407, file 113, Thorburn to Daly, 10 January 1844
90. Langdon, The Emergence of the Canadian Working Class Movement, 3-4
91. Williams, Secret Societies in Ireland, 31
92. Ibid., 7, 25-7
93. Rachel O'Higgins, "The Irish Influence in the Chartist Movement", Past and Present, 20 (1961), 83-96
94. Public Archives of Canada, Record Group 8, British Military and Naval Records, C Series, Vol. 60, Wetherall to Board of Works, 3 April 1843

- 95. Montreal Transcript, 28 March 1843
- 96. See above, Chapter 5
- 97. RG 11, Vol. 25, #29400, Gallway to Begly, 12 April 1856; Ibid., #29459, Gallway to Begly, 12 April 1856; Vol. 24, #28959, Gallway to Begly, 26 February 1856
- 98. See the strike on the Cascades Road in May 1844, cited in Pentland, Labour and Capital, 120. See also Cooper, "The Quebec Ship Labourers Benevolent Society"
- 99. Thompson, The Making of the English Working Class; E.J. Hobsbawm, "The Machine Breakers"; in E.J. Hobsbawm, Labouring Men (London: 1964); E.J. Hobsbawm and George Rudé, Captain Swing (London: 1969); Foster, Class Struggle and the Industrial Revolution; Young, The Rousing of the Scottish Working Class.
- 100. Rudolph Stadelmann, Social and Political History of the German 1848 Revolution (Athens, Ohio: 1975), ch. 2; P.H. Noyes, Organisation and Revolution: Working Class Associations in the German Revolutions of 1848-1849 (Princeton: 1966)
- 101. Avery, Dangerous Foreigners. Avery's work challenges the interpretation which casts immigrant workers in the role of strikebreakers during this period. For similar refutations Richard L. Ehrlich, "Immigrant Strikebreaking Activity: A Sampling of Opinion. Expressed in the National Labor Tribune, 1878-1885", Labor History, 15 (1974), 529-42, and Victor Greene, The Slavic Community on Strike: Immigrant Labour in Pennsylvania Anthracite (Notre Dame, Ind.: 1968)
- 102. Welland Tribune, 28 March 1879
- 103. James A. Eadie, "The Navy Riots on the N.T.Q. Railway", Papers and Records of the Lennox and Addington Historical Society, 15 (1976), 127-9
- 104. Stephen Thernstrom, "Working-Class Social Mobility in Industrial America", in Peter Stearns and Daniel Walkowitz eds., Workers in the Industrial Revolution: Recent Studies of Labor in the United States and Europe (New Jersey: 1974), in Stephen Thernstrom and Richard Sennett, eds., Nineteenth Century Cities (New Haven: 1969); Kerr and Siegel, "The Inter-Industry Propensity to Strike"
- 105. For a similar argument see Alan Dawley, Class and Community: The Industrial Revolution in Eynn

(Cambridge, Mass.: 1976), 230-1

106. Hobsbawm, "The Machine Breakers", 9
107. Montreal Star, 18th December 1877; 21 December 1877
108. Montreal Witness, 5 February 1877; 21 March 1877. See also above, Chapter 4
109. See below, Chapter 7
110. RG 11, Vol. 473, #71442, Baillargé to Braun, 19 December 1877
111. La Minerve, 7 November 1873; 20 January 1874
112. Montreal Star, 5 June 1878; 15 January 1878; 25 March 1880; Globe, 14 April 1876; La Minerve, 2 August 1873
113. Montreal Star, 21 December 1877
114. Montreal Witness, 21 December 1877; 20 December 1877
115. Montreal Star, 31 July 1876
116. Ibid., 11 June 1878; 12 June 1878; 13 June 1878
117. Ibid., 15 June 1878; 13 June 1878; 14 June 1878; Morning Chronicle and La Minerve, June 1878, passim
118. At the height of the Molly Maguire trials and exposes newspapers carried warnings that members of the fraternity had escaped. Fears that they would seek refuge in Canada appear to have been confirmed by the capture of one Martin Bergin, implicated in a Molly Maguire murder of a mine clerk, who was labouring in the Thorold area under an assumed name. In February 1878 a man named Martin McClusky was arrested for a Molly Maguire murder committed in Schuylkill County, Pennsylvania, in 1870. At an investigation before the County judge a witness swore that he had known the prisoner as one Martin Bergin of St. Clair, Pennsylvania, the alleged murderer of Patrick Burns, a mine clerk. Bergin was ordered to be extradited, and on March 15th two members of the Pinkerton force arrived to convey him to Pottsville gaol, Pennsylvania. Ten months later he was hanged, the nineteenth man to die on the gallows for his role in the coal-field turbulence. Montreal Star, 20 July 1877; Welland Tribune, 8 February 1878; 15 February 1878; 15 March 1878; Montreal Star, 15 March 1878; The Irish World and American Industrial Liberator, 25 January 1879;

- 8 February 1879; New York Times, 17 January 1879
119. Montreal Star, 13 June 1878
120. Ibid., 18 December 1877
121. Neil J. Smelser, Social Change in the Industrial Revolution (Chicago: 1959)
122. Pentland employs this argument as partial explanation of the violence of the Irish in the 1840's and 1850's. Pentland, Labour and Capital, 196-7
123. Duncan, "Irish Famine Immigration"; Bleasdale, "Class Conflict". Pentland also underlines the importance of Irish traditions of direct action.
124. RG 11, WCLB, Power to Begly, 8 August 1845
125. Ibid., Power to Begly, 2 May 1846
126. RG 8, C Series, Vol. 319, Simpson to Commander Canadian Rifles, 22 January 1855; Ibid., Douglas and Stanton to Commander Canadian Rifles, 23 January 1855; Simpson to Tulloch, 30 January 1855; Ibid., Tulloch to Military Secretary, 2 February 1855; Ibid., Campbell to Henry, 31 May 1855
127. Montreal Star, 20 March 1878; 16 April 1878
128. Public Archives of Nova Scotia, Record Group 28, Railways, Vol. 17, Davison to Hill, 24 December 1877
129. Montreal Star, 7 May 1879
130. Ibid., 12 June 1878; 13 June 1878
131. Ibid., 14 June 1878; 15 June 1878
132. RG 11, WCC, Power to Begly, 3 January 1844
133. Nova Scotian, 23 June 1856
134. Canada, Legislative Journals, 1843, Appendix T, McDonald's Deposition, Brown's Deposition; Elliott's Deposition
135. Striking labourers at a quarry on the Williamsburg Canal in the winter of 1844 attempted to bring their employers to terms by threatening to destroy their shanties and offices. In the 1843 strike on the

Beauharnois Canal labourers also threatened to destroy contractors' property if they did not yield. When contractor Macdonald was slow in responding to the labourers' ultimatum, he saw his store broken open and plundered. Labourers dragged out foodstuffs which they destroyed in the road, and carried off bolts of cloth which they displayed in a parade as an object lesson to other contractors. Canada, Legislative Journals, 1844-45, Appendix Y, John Riley, 1 January 1845; J. Brouse, 20 November 1844; Ibid., 1843, Appendix T, Brown's Deposition; Elliott's Deposition; May's Deposition

136. RG 11, Vol. 25, #29400, Gallway to Begly, 12 April 1856; Ibid., #29459, Gallway to Begly, 12 April 1856
137. RG 11, Vol. 25, #29598, O'Shanahan to Lemieuse, 22 April 1856
138. RG 11, Vol. 26, #29726, Gallway to Begly, 8 May 1856
139. RG 11, WCLB, Power to Begly, 4 March 1844; Vol. 390, file 94, MacDonnel to Begly, 6 August 1845; Ibid., 26 July 1845
140. RG 11, Vol. 25m #28959, Gallway to Begly, 26 February 1856; Ibid., #28939, Gallway to Begly, 23 February 1856. For a discussion of the various ends to which machine-wrecking was employed see: Hobsbawm, "The Machine Breakers".
141. Montreal Transcript, 26 January 1843; RG 11, Vol. 407, file 113, Thorburn to Daly, 10 January 1844; Nova Scotian, 23 June 1856; Morning News, 5 May 1858; 12 May 1858; Acadian Recorder, 17 May 1858
142. In one dispute on the Fredericton Branch Railway in June 1869, forty men took over the line, "providing themselves with sticks, stones, and other weapons of defence and threatening the lives of any who would dare to work on the road at a less rate than \$1.25 per day". The contractors regained possession only after a squad of the 60th Rifles chased the strikers into the woods and arrested fifteen of them. Morning Telegraph, 8 June 1869; New Brunswick Reporter, 4 June 1869. Labourers on the Intercolonial Railway near Woodstock Junction, New Brunswick took possession of the line in a dispute over late wages. They blockaded it with boulders, frozen earth, and telegraph poles to prevent the passage of trains. St. John Daily News, 8 December 1874; Morning Freeman, 12 December 1874

143. RG 11, Vol. 162, #40971, John Brown, Manning and Ginty, Casius Morse Hart and Company to Mackenzie, 7 May 1874; Vol. 452, #59541, Contractors on sections 1 to 16 New Welland Canal to Mackenzie, 17 May 1876
144. La Minerve, 22 January 1877; Montreal Star, 22 January 1877; 23 January 1877
145. RG 8, C Series, Vol. 316, MacDonald to Elliott, 2 April 1844; Ibid., 16 July 1844; Vol. 317, Military Secretary to MacDonald, 9 July 1849; Vol. 316, MacDonald to Fraser, 1 December 1843
146. Although the few details concerning strikes do not include incidents of labourers attacking police or military, such attacks occurred at other times. See for example Nova Scotian, 23 June 1856; Morning News, 22 December 1858; Morning Freeman, 21 December 1858; 23 December 1858; 28 December 1858
147. In some instances, however, clashes between strikers and agents of the law were only narrowly averted. During a strike at Cross Lake on the CPR in May 1879, for example, the labourers, who were primarily French Canadian and Irish, assembled at 3 a.m. to rescue five of their fellows locked in a boxcar. As a "dark moving mass" of close to three hundred labourers descended on the lock up, the troops loaded their weapons and took aim. Only at the last moment did the labourers disperse. Montreal Star, 12 May 1879. For violent clashes between the military and public works labourers see the strike in Quebec City in June 1878. Morning Chronicle and La Minerve, June 1878, passim
148. RG 11, Vol. 162, #40971, John Brown, Manning and Ginty, Casius Morse Hart and Company to Mackenzie, 7 May 1874; Welland Tribune, 7 May 1874
149. St. Catharines Journal, 31 August 1843; Niagara Chronicle, 10 July 1844; St. Catharines Journal, 16 November 1843; 14 December 1843; 21 December 1843; 17 May 1844; 2 August 1844; 16 August 1844; 20 September 1844; Niagara Chronicle, 20 February 1845; Brockville Recorder, 7 September 1843; 21 December 1843; 21 March 1844; 8 August 1844; Cornwall Observer, 8 December 1842; 9 January 1845.
150. Canada, Legislative Journals, 1843, Appendix T
151. Montreal Transcript, 15 June 1843

- 152. Montreal Star, 23 January 1877
- 153. Ibid., 16 May 1877
- 154. RG 11, Vol. 451, #56650, Contractors on sections 1 to 16 on the New Welland Canal, to Mackenzie, 18 January 1876
- 155. Welland Tribune, 8 February 1878
- 156. Amongst the most significant studies are Thompson, The Making of the English Working Class; E. Hobsbawm, Primitive Rebels: Studies in Archaic Forms of Social Protest Movements in the 19th and 20th Century (Toronto: 1959); Stearns and Walkowitz, Workers in the Industrial Revolution; Cantor, ed., American Working Class Culture; A. Kornhauser et al., eds., Industrial Conflict (New York: 1954)

CHAPTER SEVEN

THE LACHINE STRIKE OF DECEMBER 1877

Against the fragments of information concerning numerous strikes on the public works, it is possible to lay the more complete pattern of one strike on the Lachine Canal in late 1877. Of the eight major strikes which can be identified on this project,¹ the dispute in December 1877 is the only one for which sufficient information exists to allow a detailed reconstruction. The shooting of a labourer on the second day of the strike attracted attention in the press and government circles, consequently generating numerous reports and accounts. While the amount of material available for study makes this strike unusual, in important respects it was typical of other work stoppages on the public works. The twelve hundred strikers represented the ethnic diversity characteristic of the labour force on canals and railways during the 1870s. Roughly half of the labourers were French Canadians. The remainder were largely Irish, with some Scots and a small number of Germans. A few Italians may also have been working on the canal during the strike, though their presence went unnoticed. Amongst this ethnically diverse workforce were men from the immediate area of the canal, who travelled to work each morning from Griffintown, home to a large segment of Montreal's working

class. Many more were strangers to the area, drawn from the rural economies and urban centres of Canada and to a lesser extent the United States, and, perhaps, Europe.²

This heterogeneous workforce staged an impressive demonstration of unity against the major contractors operating on the Lachine Canal. These large Canadian concerns, based in Ottawa, Montréal, and Quebec City, were typical of the indigenous group of contractors whose rise to prominence was a feature of the construction industry of the 1870s.³ Some of them appear to have subcontracted small portions of the work, particularly the masonry. But with the exception of McNamee on Section 3 these contractors employed the majority of the unskilled labourers on their sections directly, and thus it was against major, well-capitalised firms that labourers waged their strike.⁴ Labourers also faced government officials, whose desire to see the work resumed immediately and without an increase in the cost of construction placed them squarely on the side of contractors. Against these odds, and confronting an even more powerful opponent--hunger--it was a foregone conclusion that the labourers would stage only a short strike. Like most strikes on the public works, the December 1877 conflict lasted only a few days. Its brevity, and the absence of a formal organisation among the labourers, contribute to a superficial picture of the strike as an impromptu venture by desperate men, who lacked the commitment and unity to

sustain a lengthy struggle. Analysis of this strike, however, reveals that the labourers were defeated not by lack of organisation or unity, but by the combined power of contractors, government, and law enforcement agencies, and by their own desperate poverty. As much as any one strike can, the December 1877 conflict on the Lachine Canal demonstrates the unequal nature of the contest between capital and labour on the public works.

At seven o'clock on the morning of Monday, December 17, 1877, six hundred labourers working for Davis and Sons on Sections 6 and 7 of the Lachine Canal walked off the works. Their strike represented a major interruption of the winter construction programme, for these two sections comprised the largest contract on the canal. Grumbling had been chronic since Davis and Sons of Ottawa had commenced their operations in the summer of 1876. But this appears to have been the first major strike confronted by this contracting firm.⁵ It was precipitated by an unannounced wage reduction. Early in December Davis had posted a notice that wages would be reduced for the winter from one dollar to ninety cents per day. The men had accepted this reduction without serious protest; however, on the evening of Saturday the 15th, the contractors had paid them off at 80 cents per day. Angry that their labour had been secured under false pretenses, the labourers refused to continue work until Davis guaranteed

a wage of ten cents an hour, or at the very least ninety cents a day.⁶

Their demands rejected, the strikers marched from Davis' section to begin what the Montreal Witness characterized as a campaign of terror and intimidation "against the labourers on the adjacent sections":

Descending to section five, the army of strikers, numbering 550, drove the men from the cuts with sticks and stones, and with awful yells continued to pour down the banks of the canal holding out threats to all who continued to work . . . Advancing down the banks, they drove the laborers from the pits, declaring that no one should wield a pick axe until their demands were complied with. Reaching section four, they upset carts and gathered up tools belonging to the men, who were of course forced to join them. They continued down to Wellington Bridge, sweeping the workmen from the bed of the Canal along its whole course. . . 7

The Witness also reported gentler means of persuasion. In their progress along the canal banks, the strikers organized conventions in each section and "called upon all to unite to resist what they considered cruel oppression".⁸ Within a few hours, roughly one thousand men employed under four different contractors had laid down their tools and joined the strike, bringing work on Sections 1 through 7 to a complete halt.⁹

As the strike expanded so did the strikers' demands. Labourers from the other sections agreed with Davis' men that the wage reduction had been "unfair in the extreme",

both because it had come unannounced and because a man could not feed his family on 80 cents a day. The consensus amongst the labourers was that a man needed a dollar a day to support himself and his family, and they determined to demand a uniform rate of a dollar from all the contractors, whether their men worked a nine or ten hour day.¹⁰ Had it been spring or summer this would not have been considered an unreasonable demand. Only four months earlier the Montreal Star had campaigned for a summer wage of one dollar a day for public works labourers employed by the City of Montreal. During winter, however, labourers fortunate enough to find work normally had to be content with 80 cents.¹¹ To ensure true value for their dollar, the labourers also demanded the abolition of the long pay and store pay, both of which were widespread along the canal.¹² Other grievances were to come to the attention of the press during the strike. Labourers complained that if a man was "summarily discharged from the works" he was not paid until the regular pay day. Men lucky enough to find alternate employment in the area generally had to give up one day's labour in order to collect their pay on the canal. Men forced to seek work at a distance had to wait around for their pay before leaving or come back to collect it, in either case losing more than one day's pay. Another grievance was the contractors' practice of keeping back more than three days' pay, "under the plea of 'making up the books'".¹³ The primary demand

of the strikers, however, was a dollar a day in cash at frequent intervals.

The contractors' immediate response to these demands was to deny that the labourers' complaints had any legitimacy. To a man, they argued that their workers were not discontented with either wages or conditions. Davis maintained that on his section "there was not a feeling of dissatisfaction", and, despite the fact that the strike had commenced with his men, argued that most of the strikers were labourers from other sections of the canal.¹⁴ The contractor on Section 5, A. Charlebois, insisted that Davis' men were causing all the trouble. When the labourers from Section 6 and 7 had confronted those on his section on the morning of the strike, his men had declared themselves "well satisfied with their wages and [his] regulations and wished to continue work". Similarly contractors Whitney and Boyd on Section 4 and Lawson and McRae on Section 3, reported that "perfect contentment" prevailed amongst their men. Estimates of how many of their men wanted to work varied. Davis suggested "several hundred" out of a force of five hundred. Charlebois claimed to have "300 men ready to go to work... if their lives were not endangered". Whitney and Boyd and Lawson and McRae argued that all their men were opposed to the strike and anxious to recommence work. If only adequate protection were provided work would proceed as usual.¹⁵

With most of their own men content and willing to work, contractors explained the strike as the work of outside agitators. Interviewed by reporters, they maintained that the strike "had been instigated by ruffians in no way interested". It was loafers from the city, not men employed on the canal who had made trouble, a sentiment frequently voiced by contractors in such strikes.¹⁶ According to Davis, these loafers had met the canallers in the fourteen taverns in the immediate vicinity of the works and there had turned their minds towards violence and disorder. The Montreal Star elaborated on this perception of taverns as hothouses for working class discontent, a perception shared by reformers and employers in a wide range of industries:

"Certain tavern-keepers in the village and neighborhood [sic] of Cote St. Paul are believed to have done harm in this way. Men gather in their shops to chat and pass time, and receive their poor liquor, and worse advice. This, at any rate, is the opinion of a good many who have been much about the sections".¹⁷

Government officials initially took the same line as the contractors. Conway, Superintendent of canal construction, told La Minerve the strike had been inspired by vagabonds and good for nothings, not by the labourers. The reports of Baillarge, Assistant Engineer, went further to argue that not only had outsiders inspired the strike, but that "the great majority of the strikers were outsiders who had nothing to do with the Canal works". In his final

report to the government, Baillarge argued that the labourers had only stayed off the job from fear that "the outsiders would drive them away from their work".¹⁸

Operating on this assumption, officials took steps to ensure that any labourers willing to return to work were protected in doing so. On the second morning of the strike, Chief Benoit of the St. Henri police appeared at Section 5 to address the workmen. Explaining their obligations under the law, and warning them against intimidating those who wanted to work, Benoit told the labourers that if they wanted to continue working to pick up their tools and he and his men would help them "to resist the strikers from other sections if they endeavoured to molest them". But if contractors and government officials genuinely believed many of the labourers wanted to work, they were mistaken.. The labourers on Section 5 were adamant that "they would hold out for \$1 per day like all the other men wanted." According to the reporters from the Montreal Star, very few showed any desire to resume, the majority willingly enough joining the general body on strike".¹⁹ The situation was the same on all but two of the other sections. By the end of the second day only twenty to thirty men were at work on Sections 1 to 7 where twelve hundred had been previously employed. Twelve men were working on Section 10 and none on Section 11, the work there having been suspended for the winter. One hundred and sixty-nine labourers continued at

work on Section 9, though discontent was starting to show there also and within three days men from this section would join the strike en masse. Only on Section 8 was work continuing at a normal rate, and that because the contractors were already paying the dollar a day demanded by the strikers.²⁰

This degree of unanimity appears to have been achieved and maintained with very little violence. Following the violent encounters in the early hours of the strike, the labourers settled down to harass, but not attack, the few who chose to continue working. They organized into bands and spent their time patrolling the canal banks; however, they did not drive men from the work. According to the press, violence was deemed unnecessary, "as the men all seemed willing to act together". "That there was no serious breach of the peace was due, no doubt, to the fact that all the labouring men were off work."²¹ Late in the afternoon of the second day, however, the strike took a nasty turn. Shortly before four o'clock the strikers' patrol took them to Davis' section, where foremen were engaged in clearing away materials and closing down the works. Initial reports from the canal indicated that the strikers attacked the office, smashing windows and doors with rocks and ripping boards off the sides.²² Later reports told a different story. The labourers' patrol had arrived at Section 4 to discover some of Davis' supervisory personnel packing the

tools into sheds. A few of the strikers grabbed pick handles. Davis' foreman, Cosgrove, ordered them to drop the handles and get off the works. "Hot words" were exchanged and Cosgrove, who like many foremen on canals and railways came to the job armed, pulled a revolver and shot one of the strike leaders, Lucien Paquette, in the chest.²³

Newspapers carried various embellishments of the incident. Some witnesses reported that "many shots were fired from Davis' premises in reply to the strikers' "volleys of stones". Others maintained that Paquette had threatened Cosgrove with a pick handle and that Cosgrove fired in self defence.²⁴ By far the least creditable account was a statement by Davis and Sons printed in the Montreal Star, which alleged that Davis, his two sons, two bookkeepers, and a foreman had been confronted by an angry mob, brandishing firearms. The leader of the mob yelled "shoot, shoot", and four of the strikers caught Cosgrove, as he attempted to escape. When Davis' son went to the foreman's rescue he was grazed by a bullet from the leader's gun. By implication, it had been one of the strikers who had shot Paquette. The labourers responded with a letter to the editor pointing out that there had been no pistols in the crowd. For his part, the wounded man signed a deposition that Cosgrove had not only intended to shoot him but had threatened to kill him.²⁵ Amid these wildly divergent reports, one fact stood out, according to the Star's

investigations: "At this stage there is certainty on this point, the serious wounding of . . . Lucien Paquette, by a bullet from Cosgrove's weapon. The shot entered the left breast, a little below the nipple...."²⁶ Cosgrove himself had no doubt that the authorities and the labourers would come looking for him after the shooting. The police searched for him in the vicinity of Côte St. Paul, but could only conclude he had left for parts unknown. Rumour had it he had fled to Prescott where his family resided.²⁷

The shooting focussed public attention on the strike. Although public works strikes were frequently violent, in the 1870s they seldom involved loss of life or serious injury. The wounding of Paquette attracted an unusual degree of press coverage. From this point on the local papers kept citizens informed of developments, running interviews with labourers, government officials, and contractors. In the long run, by keeping the combatants and the issues involved in the limelight, this extensive press coverage may have been instrumental in fostering the various attempts by government officials, local politicians, and private citizens to bring about a settlement. The immediate short term effect of the shooting, however, was the beefing up of efforts to protect contractors and their operations, by the calling in of the military and the expansion of police protection. Government officials and contractors had already been clamouring for military

protection. Sippell's first telegram to Mackenzie had warned of the need for troops, and contractors had urged the necessity of protecting the works in their first statements to the press,²⁸ Now the shooting provided the opportunity for military intervention. The Mayor of St. Henri informed the authorities that there had been "riotous demonstrations along the canal", in the face of which the outlying municipalities were unprotected or inadequately protected by police. Along with two other magistrates he signed a requisition asking that one hundred men of the Prince of Wales Rifles be stationed at Côte St. Paul.²⁹

The request was in keeping with the general role of troops as supplements to the civil power during strikes, and with the long tradition of military intervention in disputes on the public works. Thus by 9 o'clock the following morning, the militia was on the job at Côte St. Paul.³⁰

There had been no further disturbances or confrontations following the shooting, and the troops discovered that their presence was unnecessary. They were not even required to protect those who wished to work. If the contractors had hoped that a military presence would signal a massive return to work, they were disappointed. The strikers collected along the canal banks for their daily meetings and organized to patrol the canal; but they would not resume work. The Pensioners had little to do but hide behind buildings keeping an eye on the labourers' gatherings.

They "had no trouble or active duty to perform during their stay"; and within twenty-four hours were ordered to abandon the canal.³¹ Similarly, the police who had been stationed at key positions to protect labourers working within the city limits; discovered their services were not required. The experience of Sergeants Hilton and McCambridge was typical. They marched to Black's bridge with twelve men early in the morning to protect strike-breakers. Before seven, a few labourers appeared at the construction site. But when the bill sounded for work at seven; "the workmen present, to the number of about thirty, scattered like sheep," and returned to their homes. Like the military, the police reported that the unanimity of the men rendered their services unnecessary for the moment. The troops returned to Montreal and were not called out again; the police returned to the Central Station to await further trouble.³²

Left behind to encourage the strikers to maintain the peace was Father Barber of the Peres Oblats, who throughout the strike played a role very similar to that of the moral agents stationed along the canals in the 1840s.³³ Pastor of the little chapel on the canal, Father Barber tended to the spiritual needs of the canallers. In addition to his regular services as a priest, he probably played an active part in the temperance movement amongst the labourers, like his counterpart Father Mulligan on the Welland Canal.³⁴ He also took particular pains to counsel the

labourers to obey the laws of God and man and be faithful to their employers. Since the commencement of the strike he had spent much time at Côte St. Paul admonishing the labourers to return to work. With the shooting of Paquette he increased his vigilance, "exerting his influence, quietly, however, in the interests of peace and order", encouraging the abandonment of the strike before more blood was shed.³⁵ A man who already occupied an important position in the canallers' lives, Barber brought to his task a moral force which neither the police nor the military could possess.

Military, police, and priest provided a forceful reminder of the labourers' duties to God and man and a powerful temptation to any reluctant to continue on strike. In the face of such pressure, the strikers maintained their solidarity by an almost festive round of demonstrations and meetings, typical of the methods used by both the organized and unorganized to bolster and maintain their collective spirit and to attract public support to their cause. On the second day of the strike they began what would become regular processions along the canal banks and in and out of the city. At any time of the day hundreds of canallers could be seen moving in formation, encouraging would-be strike breakers to remain off the job and rallying support in the area around the canal.³⁶ While city officials watched in consternation, inhabitants of working class neighbourhoods such as Griffintown turned out to meet the strikers with

cheers and "God be wid yees".³⁷ Through meetings held early each morning, some days more frequently, a large proportion of the strikers devoted their time to the pursuit of a settlement, considering developments in the strike and drawing up plans of action.³⁸ Decisions reached at these meetings were implemented by a committee chosen at the commencement of the strike from amongst the larger body. It was this committee which approached public figures such as politicians, who might be willing to act in support of the labourers, and presented the labourers' position to contractors and government officials.³⁹ All of this activity appears to have been carried on without a formal organization. There is no evidence that the labourers belonged to a union before the strike or that they took formal action to organize one during the strike. They may, however, have taken some steps in this direction, for they clearly perceived themselves as members of some collective body. At the head of their processions standard-bearers carried a blue, white and red flag, bearing on one side the letters "T.U." and on the other "U.A.", symbols of their "unity of purpose and action", as the Montreal Star put it.⁴⁰ The name which the labourers gave to their committee, Committee of the Labourers' Union, is also suggestive.⁴¹ No further details, however, can amplify our understanding of the nature of their organization.

Even less information is available concerning the men referred to in the press as the leaders of the strike. They

were the most visible of the canallers; they walked and rode at the head of processions and addressed the labourers regularly concerning their rights. Yet even they remain largely anonymous. One, Ratelle, was a French Canadian who spoke both French and English fluently. Another was a Scotsman.⁴² According to the press they filled the labourers' minds with "absurd" and dangerous theories. But we know as little about these theories as about the men who propagated them.⁴³

The one aspect of the labourers' organization which emerges clearly from reports of the strike was the extent to which it accommodated both French and English-speaking labourers, who together made up the overwhelming majority of labourers on the Lachine Canal. The cooperation of these two groups demonstrates the unity achieved by the diverse ethnic groups during public works strikes in the 1870s. Meetings appear to have been conducted and speeches delivered in both languages, Ratelle usually speaking in French and the Scotsman addressing the labourers in English. The strike committee was comprised of representatives of the two language groups; and the leadership was split between French-speaking and English-speaking labourers.⁴⁴ The language barrier may have complicated the process of communication; there is no evidence, however, of dissension or conflict along ethnic lines. Davis attempted to raise the spectre of ethnic division, but his charge that five

hundred French Canadians had prevented his men from returning to work on the second day of the strike was as groundless as his attempt to single out French Canadians as perpetrators of the shooting incident on his works.⁴⁶ Rejecting any suggestion of ethnic dissension within their ranks, and underlining the participation of Francophone and Anglophone, the strikers' committee wrote to the Montreal Star that the strikers who had visited Davis' section "represented all nationalities".⁴⁶

By the third morning of the strike this unanimity was beginning to produce results. When the labourers met for their morning conference they received word that Charlebois was interested in reaching a settlement. Proceeding to Charlebois' headquarters on the works, the labourers waited outside the office while their delegates worked out the terms of an agreement. They won concessions on the issue of fortnightly payments in cash. Charlebois also agreed to raise wages immediately to a dollar a day. The real victory, however, was the winning of a written agreement with their employer.⁴⁷ The delegates left Charlebois' office with a document which stated:

We, the undersigned contractors, have agreed to pay to all men employed on our respective section for every day's work, for laborers \$1, and for every day's work, for carters \$1.50, pay to be made every fortnight subject strictly to regulation and by-laws of the Company, and employees will be obliged to work

ten hours if the contractors find it possible to do so.

(Signed) A. Charlebois & Co.⁴⁸

The insistence on a written document was not uncommon, at least in strikes on the Lachine Canal. Although they lacked the formal structure of a union, the labourers had learned from experience, explained the Montreal Star, that contractors could not be trusted to live up to their commitments to their men and that only written agreements could guarantee contractors acted in good faith, particularly on the issue of truck payment.⁴⁹ The importance which the labourers attached to the written document is indicated by the fact that they now included written agreements amongst their terms for settlement with all the contractors.⁵⁰

Rather than insist on Charlebois' men remaining on strike until all the contractors had come to terms, the strikers agreed that work on Section 5 should resume immediately. This was partially an attempt to encourage the remaining contractors to settle with their labourers quickly. Of greater, even vital importance, it would aid the strikers in solving what was becoming their most pressing problem--the need for food. Already the men were feeling the loss of income. On only the third day of the strike the prospect of any part of the force holding out much longer was not good. With this in mind, one of the leaders suggested that all the labourers should form a mutual aid society, and that those fortunate enough to be able to return to work should contribute to meeting the needs

of those "continuing the struggle for a proper wage."⁵¹ The suggestion met with wild cheers. The labourers had attempted to secure aid from local charitable societies, but claimed to have been uniformly rejected on the grounds that they were not legitimate charity cases.⁵² For the barest necessities, food and even shelter, many of them were solely dependent on gifts from supporters of the strike. Fortunately some of these supporters were in a position to be generous. In addition to storekeepers who helped with credit and provisions, private citizens contributed to a strike support fund, set up early in the strike by the labourers' committee and sympathetic citizens. Individuals such as S. Carsley, a prosperous dry goods merchant, contributed twenty dollars. In addition local workers' organizations appear to have offered assistance. Among other unspecified associations, the Grand Trunk Engineers contributed twenty dollars,⁵³ interesting, but only suggestive evidence of a growing identification of shared interest between skilled and unskilled and organized and unorganized.

One donor's efforts stood out as crucial to the maintenance of the strike. Joe Beef contributed so substantially to the daily needs of the canallers that he earned the hatred of the contractors. From his establishment he dispensed enormous quantities of food to the strikers and their families, at one meal serving four hundred loaves of bread.⁵⁴ On the sixth day of the strike,

Joe Beef was still providing both food and shelter to the strikers:

"Joe Beef, today, is still the good samaritan, having sheltered and fed hundreds daily since Monday last, and to-day, again, casting a large quantity of both bread and soup upon the waters. He housed 300 last night, and was busy this forenoon carving loaves and making good, rich soup in mammoth boilers. As if he were a commissary-general with the resources of an army at his back." 55

Help from these individuals also took the less tangible but equally important form of attempts to rally public support for the labourers' struggle. Along with his gift to the strike fund, Carsley paid for advertisements supporting the labourers in the Montreal Witness. In the spot in which he normally advertised his leather gloves and silk undergarments, Carsley published denunciations of conditions on the canal. One advertisement dramatized a typical exchange between a heartless contractor and desperate labourers:

Contractor--"I won't give you a cent, and if you bother me in this way you need not come back to work."

Men--"But please give me what is coming to me and I will try to get work somewhere else."

Contractor--"Clear out of this! You must wait until pay day. Yourself, wife and children may starve for what I care."

Men--"But we have nothing to eat."

Contractor--In a patronizing manner, "well to oblige you, I'll give a bon for what is coming to you." Take it to Mr. Fleecer, a friend of mine; he'll give you groceries for it."

Comparing contractors to "the worst class of slave-owners", and asking the public if they were surprised that the labourers "got worked up to deeds of desperation," the advertisement concluded with an appeal to the public and the press to "stand by the men, giving them substantial aid".⁵⁶ A second advertisement, addressed as much to the labourers as to the public, attacked the so-called "workingmen's representatives" who "promised on the hustings, if elected to do all in their power for the workingmen": Since they could not count on politicians, the labourers were counselled:

STRIKE!! STRIKE!! STRIKE!!

We recommend all laboring men everywhere to insist upon their wages every week, and to keep striking until they get it. Never take store pay.

It is just like Canada to expect a man to support a wife and family on 90¢ per day, and to be called a rowdy if he insists upon his pay every week. 57

Joe Beef also helped to publicize the labourers' grievances. During the strike his hotel carried a display of the typical goods given to a labourer instead of cash. Visitors were shown a platter of sugar, tobacco, cheese, bread, and whiskey valued at \$1.05, but for which a canal labourer paid \$1.75.⁵⁸ His hotel was also used as a meeting place for the strike committee and as a rallying point for the labourers. Already notorious for his flamboyant lifestyle and outspoken support of day labourers, McKiernan was able to attract public attention to the labourers' struggle

in a way that few personalities in Montreal could. The press carried reports of the meetings at his establishment and printed lengthy paraphrases of the proprietor's speeches to the strikers.⁵⁹

Over the course of the strike, a core of less visible but enthusiastic supporters worked to mobilize public opinion behind the strikers. They met together to consider tactics and worked with the strike committee to organize mass demonstrations.⁶⁰ In the closing days of the strike as many as two thousand people were assembling for meetings such as the one in Chaboillez Square, Griffintown, on the 21st of the month. Amongst the speakers who called for action on behalf of the labourers was Joe Beef, who explained why the labourers were justified in demanding the "Almighty Dollar":

My friends, I have come here tonight to address you on "the Almighty Dollar". The very door bells of Montreal ring with the "Almighty Dollar". The wooden-headed bobbies nail you, and you have to sleep on the hard floor provided by the City Fathers, and the next morning the fat Recorder tells you: "Give me the "Almighty Dollar," or down you go for eight days. The big bags all have their eyes on the "Almighty Dollar", from the Bishop down, and if you die in the hospital, they want the almighty dollar to shave you and keep you from the students. No one can blame you for demanding the "Almighty Dollar" a day. The man who promises 90¢ a day and pays only 80¢ is no man at all. The labourer has his rights. 61

At the end of the third day the labourers appeared to be in a strong position. They had secured a settlement on

their own terms with one contractor, they had worked out arrangements for mutual aid, and they had acquired support from outside their own ranks. Concessions from other contractors appeared likely. It was at this point that government inspector Conway tried to negotiate a settlement. It is not clear whether Conway was acting on his own initiative or on instructions from his superiors in the Department of Public Works, or indeed whether he was receiving orders from the Prime Minister's office. But his was not a neutral intervention. From the commencement of the strike there had been no question that Conway took the contractors' side in the dispute. On the first day of the strike he had ordered the strikers back to work "in vigorous language", warning that if they stayed out he would let the water into the canal, thus ruling out the possibility of winter work for any of them. Now, "on behalf of all the contractors", he offered the labourers ten cents an hour for nine hours a day, till the fifteenth of February, after which they would be paid a dollar a day for ten hours work. Conway invited the men to consider this offer and meet him at St. Gabriel locks at two o'clock that afternoon to consolidate an agreement.⁶²

But the chance that the labourers would settle for ninety cents a day was lost when Conway did not show up at St. Gabriel Locks. Whether he had failed to reach an agreement with all the contractors or had simply been held up

somewhere on the works, the canallers considered his absence a statement of bad faith, and reiterated their demands for a dollar a day. Their leaders urged the strikers to continue the fight for their rights, repeating their willingness to give contractors a "liberal day's work" for fair pay. The meeting concluded with cheers for Joe Beef, the leaders, the committee, and the men, the "dirty, lousy strikers", as the Scotsman put it, the men who "put bread in the mouths of the big bags of the city."⁶³

Developments over the next twenty-four hours indicated that the labourers had been wise to hold out for one dollar a day. At their regular morning meeting, the strikers were joined by a representative of the firm of Whitney and Boyd who seemed prepared to offer one dollar a day at fortnightly intervals after the fifteenth of January. They would not budge on the written agreement. This, however, the men were now ready to waive in return for an immediate settlement. After "some deliberation" the labourers concluded that Whitney and Boyd "could be depended upon" and agreed to allow them to recommence operations that afternoon, on the strength of a verbal agreement.⁶⁴ The Star took the opportunity to counsel the labourers to abandon the strike:

From this time forth the men should not treat the contractors as enemies, but as friends, and endeavour to soften down and extirpate all the asperities of the late contest. There is no doubt the employers will meet the men in a kindly spirit, and

- treat them as liberally as in their power.
- All public demonstration should cease, and the men quietly go to work.

According to the paper's sources, all of the remaining contractors were also willing to pay a dollar a day in fortnightly installments as soon as there was sufficient light to employ the men ten hours. Having won on principle, the labourers should "gracefully yield" on the details.⁶⁵

Such reasoning did not impress the labourers whose agreements with two contractors appeared to bring them within reach of more than a moral victory. Though Lawson and McRae were "not available" to meet with the strike committee, and though Worthington and Company refused to meet with them, the strikers determined to hold out until all the contractors had yielded the terms conceded by Charlebois and Whitney and Boyd. Their resolve was strengthened when the labourers on Section 9 decided to join in demanding one dollar a day.⁶⁶

The disintegration of the strike in the next forty-eight hours is puzzling considering the progress to this point. Work continued on Charlebois' section, but the agreement with Whitney appears to have broken down. Either Whitney or the labourers had second thoughts about their agreement, and the men whom Whitney set to work with the labourers' blessing one day were driven from the works the next.⁶⁷ This represented a serious blow to the strikers' unity. More serious still was the defection of Lawson and

McRae's men. The labourers on this section were holding firm for a dollar a day when, on Saturday evening, three days before Christmas, the contractors gave to each of their employees a Christmas goose. To men with large families they gave two. Turkeys were also distributed liberally. In the opinion of the strikers on the other sections, "the turkeys and geese...broke up the general strike". The contractors' well-calculated gesture of goodwill hit the labourers where they were most vulnerable, in their stomachs; and on Monday morning Lawson and McRae's men went back to work at ninety cents a day, the first group to settle for less than a dollar a day, fortnightly in cash.⁶⁸

Those remaining on strike did not interfere with their return. Instead, their resistance seriously weakened by the wholesale defection on Section 3, they listened with resignation to the overtures of Superintendent Conway, who once again offered to secure the contractors' consent to a uniform rate of 10 cents an hour, provided the men returned to work without further delay. Again making no attempt to appear impartial, he warned that the government would "sooner let the work lie than...pay one dollar per day". The press reported that the labourers seemed disposed to accepting these terms.⁶⁹ Yet at the same time they took steps to present their case for the consideration of the Liberal Member of Parliament for Montreal Centre, Bernard Devlin. A committee of twelve strikers went to Devlin's

office to present their case. The response of Devlin, the politician, stands in contrast to that of Conway, the government official. Apparently acting on his own initiative and not under instructions from Mackenzie, Devlin assumed a more conciliatory approach. Although many of the labourers on the canal were probably not electors, he appears to have been genuine in his concern to reach an equitable settlement, motivated either by political or humanitarian considerations, or a combination of the two. Nonetheless, his overriding concern, like that of Conway, was to get the labourers back to work immediately. After some discussion Devlin suggested that rather than continue a pointless and destructive confrontation with the contractors, the labourers should opt for arbitration, the French-Canadians and the "old country" people each choosing a representative. They should immediately return to work and await the result of the arbitration; but that whatever the result, they should accept it without protest: "If the result be \$1, it would be all right, and if 90¢ they must adhere to it." Devlin's intervention represents an interesting, early example of recourse to arbitration to attempt to diffuse industrial conflict by a quasi-judicial process. Devlin did not appear prepared to compromise, however, on the issue of fortnightly payments in cash, since "the 'bon' system was a source of loss to workingmen". Thus he suggested that the strikers should make application directly to Mackenzie, who could

force contractors to pay their men in cash every fortnight.⁷⁰

The labourers' committee accepted the suggestion, the English-speaking representatives choosing Devlin as their arbitrator, the French-Canadians selecting the Liberal Member of Parliament for Montreal East, Sir Louis-Amable Jette. Devlin agreed to call on the contractors and ask them to appoint two arbitrators, and an "umpire" would be agreed on by both parties. The committee thanked Devlin for his efforts on their behalf, and assured him they would welcome the opportunity to return to work under these conditions. However, the Montreal Star makes it clear that the labourers' committee, or the labourers in general were not unanimous in accepting arbitration: "The men who were most intelligent and wide awake said they were quite satisfied with the arrangement."⁷¹ Some obviously were not.

What transpired over the next forty-eight hours is unclear. But two days later newspapers carried reports of a settlement. At seven o'clock on the morning of the twenty-sixth the labourers reported for work at each section along the canal. By noon 650 labourers were back on the job and the canal presented "the old busy scene". There were not jobs for all who had gone on strike: "idle men in considerable numbers [could] be seen loitering about the bridges and other points on the canal". But the Star was pleased to note that the contractors, and in particular Davis, were not replacing the strikers with new men. On Davis' section, for example,

out of 650 men taken on, "only six were strangers who had not worked there before". As contractors geared up their operations, all of the men previously employed were expected to find places on the canal.⁷²

Conflicting reports circulated as to how the settlement had been reached. Devlin reported that on Christmas day he had informed the contractors of the labourers' willingness to return to work immediately on the old terms, provided their grievances were arbitrated "as quickly as possible". Accordingly, the labourers had presented themselves for work at 7 the following morning.⁷³ Papers also carried statements by the contractors which claimed that they had reached agreement with their labourers through Inspector Conway, not through Devlin acting for a committee of the labourers. Persisting in making a distinction between outside agitators and the actual labourers, the contractors argued:

"As regards the leaders of those outsiders that waited on B. Devlin, Esq., M.P., we repudiate them, as they had no authority from the working class to act as they did, and as the men have taken advice from Mr. Conway and resumed work, contrary to the wishes of these would-be leaders, the Proposed arbitration is quite uncalled for".⁷⁴

The report of government agent Baillarge concurred with the contractors' statement, and underlined that the strike had been settled "without the participation of any arbitrators announced by the newspapers".⁷⁵

Whether the labourers thought they were returning to work under Conway's terms or under Devlin's proposal and the expectation that outstanding grievances would be settled by arbitration, is not clear. What is clear is that the contractors' refusal to accept the legitimacy of arbitration left the labourers with no prospect of winning further concessions. They returned to work at a uniform rate of ninety cents. Even Charlebois, whose men had been working for four days at one dollar, dropped wages back to ninety cents, reneging on his written agreement with the labourers.⁷⁶ The strike represented a victory for the men employed under Davis, who had successfully fought off the winter reduction to eighty cents. Their immediate protest probably also forestalled other contractors from attempting similar winter wage cuts. Nonetheless the labourers had lost their bid for a dollar a day.

The labourers also returned without concessions on store pay and the long pay; on this issue, however, they determined to continue the fight. What had been lost in the strike might be won through an appeal to the government. Following up on Devlin's suggestion, and with money provided by individuals such as McKiernan, the strike committee travelled to Ottawa, where they presented the Prime Minister with a petition signed by 122 labourers.⁷⁷ The petition outlined the abuses inherent in "the system of paying in credit notes" and "the system of monthly payments", and asked for weekly

cash payments of wages "fairly earned". The petitioners recognized that the law offered no protection against truck. Nonetheless they argued that the government could still take action if it chose to do so. Anticipating the government's plea that they could not interfere between an employer and employees, they pointed out that the contractors were "to a certain extent" employees of the government, "dependent upon the Dominion Government for favors in the way of extension of time on their contracts and prompt cash payments on their estimates". Consequently the government did have the power through its relations with the contractors to enforce: "Justice and fair treatment in the matter of payment of wages".⁷⁸

Mackenzie could not afford to ignore the labourers' complaints. The strike had focussed public attention on the abuses of store pay and the long pay on the public works. With the delegation's visit to Ottawa, these issues were again laid before the public. Editorials and letters to the editors of influential newspapers called for immediate government action to suppress the truck system.⁷⁹ A labourer in the District of Parry Sound added his voice to the protest. Professing to speak for a great many others throughout the country, he wrote to the Globe:

The suppression of the truck system would be an act that would be hailed with joy in the homes of hundreds of men whose blood and muscle are making our country what it is. 80

Confronted with a situation which could reflect seriously on his administration's public works construction record and damage the Liberal party's relations with the working class electorate, Mackenzie assured the labourers that he would look into the matter immediately. On returning to Montreal the deputation reported on their interview with the Prime Minister to a meeting of roughly one thousand canal labourers who crowded into Chaboillez Square. The delegates assured their fellow workers that Mackenzie "would do all in his power for them". Local Conservative politicians were more skeptical, taking the platform to attack the government's handling of the canallers' grievances.⁸¹

Mackenzie's action, less dramatic than the situation warranted, took the form of a letter to the contractors from the Secretary of the Department of Public Works. The letter directed the contractors to pay their men in cash fortnightly, if there was "serious objection to weekly payments", and stressed that it was "absolutely necessary that no workingman should be obliged to take payment in anything but current money of the country". The contractors were asked to inform the Minister of Public Works of their commitment to comply with these "reasonable requests".⁸² The government appears to have done nothing more than issue this warning, the success of which depended on the goodwill of the contractors. That this goodwill could not be assumed was demonstrated by the contractors' response to the directive. Most denied

that store pay was practised on the Lachine Canal, and expressed their indignation that the Minister would accuse them of such an activity. Two contractors who did admit to giving credit tickets argued that they did it only in the "best interests" of men who expressly asked for them. The contractors' response is best captured in the succinct, but according to his labourers' false, statement of Worthington: "We always paid fortnightly, we always paid in Cash, we have paid the highest wages paid in this part of the Country, and our Workmen are, and have always been Satisfied".⁸³

Mackenzie also provided for the insertion into future contracts of a clause prohibiting payment in goods. Neither this clause, nor the departmental circular, however, was successful in eliminating truck. The following November the Conservative member for Montreal West appealed to the government concerning his constituents on the canal. Amongst other grievances he cited the still prevalent truck system; "the labouring class have felt it to be a grave imposition, to which they have had to submit to obtain employment, that they were paid in goods partly or in whole".⁸⁴

The labourers had not secured advances on which future strikes could build. Although they had focussed public attention on their condition, and had forced the government to intervene, they had not resolved the principal issues

to their satisfaction. The struggle over wages, credit arrangements, and the long intervals between pay days continued in strikes along the Lachine Canal. The labourers had done little more than maintain their ground. But what was won or lost is a sterile measure of strikes by labourers as powerless as those on the public works. In this as in other strikes a range of powerful forces were allied against them: major contracting firms, military, police, and the government in the person of Superintendent Conway provided a formidable obstacle to the strikers. With such opponents, and pressed by hunger, the labourers' ability to maintain a nine-day strike stands as evidence of a measure of unity and a degree of organisation which, though not victorious, was the foundation on which working class victories could be built. The various ethnic groups brought together in this strike demonstrated a unity based neither on a shared ethno-culture nor on membership in a geographically-defined community, but on a perception of common interests and common goals. Out of this unity the labourers could create an organisation maintained not by formal structures, but by their sense of a shared class interest.

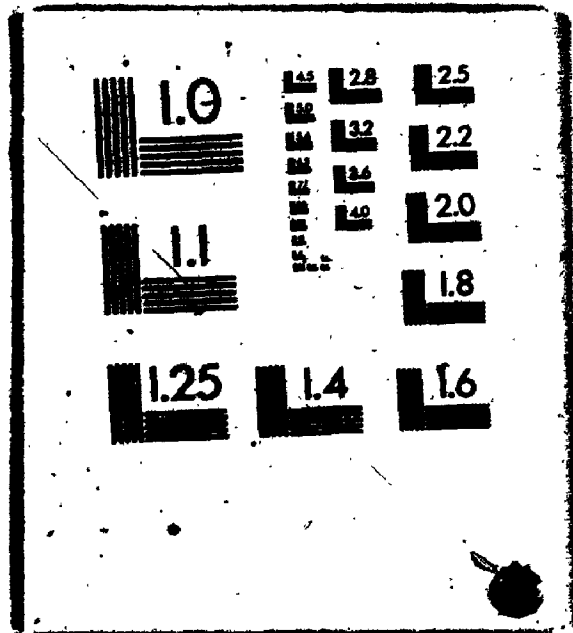
Notes

1. Government documents and newspapers provide evidence of nine labourers' strikes in these years, in January and December 1877, January, April and September 1878, April and September 1879, and in July and August 1880. Strikes by stonecutters also took place in March-April and May 1877 and November 1878. This statistic may be quite worthless, however, for not only would there have been more strikes, there might have been many more. It is possible that a great number went unreported, for newspaper coverage of strikes was sporadic and incomplete.
2. Newspaper reports note the presence of Irish, Scots, and French Canadians amongst the strikers. Montreal Star, 20 December 1877; 21 December 1877. A letter from the labourers published in the Montreal Star, however, asserted that "all nationalities" were represented in the strike. Perhaps the small number of Germans and Italians present in a later strike were also involved in this one. Ibid., 24 December 1877; 24 August 1880.
3. RG 11, Vol. 159, #26872, McNamee to Langevin, 14 November 1877; Montreal Star, 8 April 1876; 24 October 1877; 23 November 1878; 22 July 1880.
4. If there were a number of subcontractors this would have been ignored in the reports of government officials, who dealt only with the contractor and turned a blind eye to subcontracting. But the role played by the principal contractors during the strike suggests that they maintained an active interest in and exercised a direct responsibility over the labourers on their sections, even if they did subcontract.
5. Again, they might have faced other strikes which have not come to light. We do know that Davis' labourers were involved in a majority of the strikes after December 1877. See above, note 1.
6. Montreal Witness, 17 December 1877; Montreal Star, 17 December 1877; 20 December 1877; La Minerve, 17 December 1877.
7. Montreal Witness, 17 December 1877; La Minerve, 18 December 1877.
8. Montreal Witness, 17 December 1877.
9. RG 11, Vol. 473, #71436, Baillargé to Braun, 18 December 1877.

10. Montreal Star, 17 December 1877.
11. Ibid., August 1877, passim.
12. La Minerve, 20 December 1877; Montréal Star, 22 December 1877.
13. Montreal Star, 22 December 1877.
14. Ibid., 17 December 1877; La Minerve, 21 December 1877.
15. Montreal Star, 17 December 1877.
16. Ibid., 19 December 1877; 21 December 1877.
17. Ibid., 17 December 1877; 20 December 1877.
18. La Minerve, 20 December 1877; RG 11, Vol. 473, #71633, Baillargé to Braun, 29 December 1877.
19. Montreal Star, 18 December 1877.
20. Ibid., RG 11, Vol. 473, #71442, Baillargé to Braun, 19 December 1877.
21. Montreal Star, 18 December 1877.
22. Ibid.; La Minerve, 19 December 1877.
23. Montréal Star, 19 December 1877.
24. Ibid.
25. Ibid., 20 December 1877; 21 December 1877; La Minerve, 20 December 1877.
26. Montreal Star, 19 December 1877.
27. La Minerve, 20 December 1877; 21 December 1877.
28. RG 11, Vol. 473, #71424, Sippell to Mackenzie, 18 December 1877; Montreal Star, 17 December 1877.
29. Ibid., 19 December 1877.
30. Morton, "Aid to the Civil Power"; Pariseau, Disorders, Strikes, and Disasters.
31. Montreal Star, 20 December 1877; 19 December 1877.
32. Ibid., and 18 December 1877.

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33. Bleasdale, "Class Conflict"; Pentland, Labour and Capital, 192-3.
34. RG 11, Vol. 453, #65207, Norris to Mackenzie, 23 February 1877; Petition of Patrick Mulligan to the Governor General; Petition of James Norris et al, 3 February 1877.
35. Montreal Star, 20 December 1877; La Minerve, 21 December 1877.
36. Montreal Star, 18 December 1877; 20 December 1877; 21 December 1877; 22 December 1877; 24 December 1877.
37. Ibid., 18 December 1877.
38. Ibid., 18 December 1877; 20 December 1877; 21 December 1877; 22 December 1877; 24 December 1877; La Minerve, 21 December 1877.
39. Montreal Star, 21 December 1877; 22 December 1877; 24 December 1877.
40. Ibid., 18 December 1877; 21 December 1877; 22 December 1877.
41. Ibid., 21 December 1877.
42. Ibid.
43. Ibid., 20 December 1877.
44. Ibid., 18 December 1877; 21 December 1877; 24 December 1877.
45. Ibid., 20 December 1877; 21 December 1877.
46. Ibid., 19 December 1877; 20 December 1877; 21 December 1877.
47. Ibid., 20 December 1877.
48. Ibid., 24 December 1877.
49. Ibid., 21 December 1877.
50. Ibid., 20 December 1877; 21 December 1877; 22 December 1877.
51. Ibid., 20 December 1877; 21 December 1877.
52. Ibid., 26 December 1877.

53. Ibid., 22 December 1877; 24 December 1877.
54. Ibid., 22 December 1877; 21 December 1877; 24 December 1877; 26 December 1877; La Minerve, 21 December 1877.
55. Montreal Star, 24 December 1877.
56. Montreal Witness, 2 December 1877.
57. Ibid., 18 December 1877.
58. Ibid., 22 January 1877.
59. Montreal Star, 20 December 1877; 21 December 1877; 22 December 1877; 24 December 1877; 26 December 1877; Montreal Witness, 21 December 1877; 24 December 1877; La Minerve, 21 December 1877, 22 December 1877.
60. Montreal Star, 21 December 1877.
61. Montreal Witness, 21 December 1877.
62. Montreal Star, 21 December 1877.
63. Ibid.
64. Ibid., 22 December 1877.
65. Ibid.
66. La Minerve, 24 December 1877; Montreal Star, 22 December 1877.
67. Ibid., 24 December 1877.
68. Ibid., 24 December 1877; 26 December 1877.
69. Ibid.
70. Ibid., 24 December 1877.
71. Ibid.
72. Ibid., 26 December 1877.
73. La Minerve, 27 December 1877; Montreal Star, 26 December 1877.
74. Ibid., 26 December 1877.
75. RG 11, Vol, 473, #71633, Baillarge to Braun, 29 December 1877.

76. Montreal Star, 26 December 1877.
77. Ottawa Citizen, 18 January 1878.
78. RG 11, Vol. 473, Petition of 122 labourers upon the Government Works upon the Lachine Canal Enlargement, 15 January 1878.
79. See for example Globe, 24 January 1878; 25 January 1878; 25 January 1878; Ottawa Citizen, January 1878, passim.
80. Globe, 25 January 1878.
81. Ottawa Citizen, 24 January 1878; Globe, 24 January 1878.
82. RG 11, Vol. 691, #42937, Circular from the Department of Public Works to Contractors on the Lachine Canal, 19 January 1878.
83. RG 11, Vol. 473, #31959, Worthington to Braun, 23 January 1878. See also Ibid., #71904, Rodgers and Kelly to Braun, 21 January 1878; Ibid., #71912, Davis and Sons to Braun, 21 January 1878; Ibid., #71948, Whitney and Doty to Braun, 22 January 1878; Ibid., #71957, McNamee, Gaherty and Frechette to Braun, 23 January 1878; Ibid., #71958, Charlebois to Braun, 23 January 1878; Ibid., #72191, O'Brien and Sullivan to Braun, 24 January 1878.
84. RG 11, Vol. 475, #77990, Girouard to Tupper, 14 November 1878.

CONCLUSION

The experience of canal and railway construction labourers in the years from 1840 to 1880 demonstrates the significant social and economic changes that accompanied the transition to industrial capitalism. The rise of capitalist industrial production precipitated the formation of new social classes, which in turn forced a redefinition of the relations between classes. At the same time the lower working class created during these years experienced its own process of development, evolving from a class marked by divisions and antagonisms to one with a much greater degree of unity and consciousness, able to act collectively in defence of common interests.

Canal and railway construction was one of the first capitalist enterprises to require the concentrated labour of thousands of unskilled labourers. An examination of the origins of these workers reveals the shift from immigrant labour to an indigenous construction workforce. During the 1840s and 1850s the construction workforce was composed principally of Irish immigrants and migrants from the United States. By the 1870s public works labourers were drawn from those living on the margins of poverty in the new industrial cities or eking out an inadequate livelihood in declining rural economies. The experience of public works labourers therefore demonstrates two broad processes

in the transition to industrial capitalism. It confirms the important role played by immigrants in the creation of an industrial proletariat, while also illustrating the process by which indigenous labour was forced by economic dislocation to feed the labour needs of the industrial revolution.

This process of class formation and the accompanying growth of class tensions was reflected in the changing perception of canal and railway labourers. In the 1840s and 1850s they were viewed by respectable society as the refuse of other countries, their presence considered a necessary evil if transportation networks were to be expanded. It was hoped that their anti-social behaviour would cease to be a problem when the labourers either left with the completion of their work or settled in some more stable and respectable occupation and altered their social mores accordingly. By the 1870s, however, it had become clear that public works labourers represented an indigenous lower working class whose values appeared to threaten the social order. The attack on these labourers was part of a more general assault on members of that emerging class, who were necessary to, but at the same time threatened to undermine, social and economic progress.

Class formation was reflected not only in respectable society's attitudes towards the labourer, but also in the changing relations between the diverse groups brought together in the workforce. The process by which industrialisation brought hostile sub-groups of workers into contact and

conflict with each other is nowhere clearer than on the canals and railways. The labour force of the 1840s and 1850s was fragmented by ethnic division and sectarian conflict, as groups of workers literally fought to carve out for themselves a place in the emerging working class. In this, the Irish took the initiative, at times even fighting amongst themselves to secure their position. By the 1870s ethnic and sectarian tensions had eased. There remained the potential for conflict when new groups, such as the Italians, were introduced into the workforce, but the earlier rivalries of Irish, French Canadian, English and Scottish labourers were subsumed in an evolving unity. In part the easing of hostilities can be attributed to the improved capacity of law enforcement agencies to control disorder. In this sense unity may have been partially imposed from outside. Nonetheless the cessation of open hostilities allowed previously hostile groups to unite more effectively in pursuit of mutual interests.

This augmented unity was most evident in the labourers' collective action against their employers. The numerous strikes on public works in the years from 1840 to 1880 demonstrate a significant shift in the basis of unity amongst workers. In the 1840s and 1850s shared ethno-culture appears to have been crucial both to the organisation and the conduct of strikes, which were primarily undertaken by Irish labourers. In the 1870s, however, strikes usually

brought together labourers from diverse ethnic backgrounds, who needed more than a shared ethno-culture to effect unity. Their strikes suggest the increasing capacity of the unskilled to identify common class interests. Unable to rely on ethnic bonds, their collective action was rooted in their shared experience and perception of common interest as members of the lower working class. They did not create formal union structures, but their failure to do so should be interpreted as evidence of the barriers to formal organisation for this type of worker, and not as a measure of consciousness. Without unions they mounted some of the largest strikes of the period, strikes which were not simply spontaneous stoppages or impromptu riots precipitated by immediate and transitory grievances. Through organisation and well-chosen tactics, they sustained an aggressive struggle with employers and created the habit of solidarity on which the working class movements of future decades could build.

It is impossible to calculate how many such strikes were mounted by other unorganised and unskilled workers in this period. Further studies might well reveal a high level of strike activity amongst the unorganised and force a redefinition of our views of the nineteenth century labour movement. Of necessity analyses have been focussed to date on the process of organising workers into formal structures. This study demonstrates, however, that much was happening

outside these formal structures. Labourers such as those on canals and railways were acquiring experience in collective action, and each strike, won or lost, became part of a collective experience, altering their perceptions of themselves and their society. Without a fuller understanding of this collective experience our concept of what constituted the nineteenth century labour movement will remain incomplete.

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