ARTICLES

Poverty, Distress, and Disease:

Labour and the Construction of the Rideau Canal, 1826-32

William N.T. Wylie

The construction of the Rideau Canal has usually been viewed as a British military engineering project. Imperial strategists intended the canal to provide a safe transportation route between Lake Ontario and Montreal by-passing the American border along the St. Lawrence River. While historians have differed on the strategic and financial viability of the project, they all have stressed the exploits of the engineers and entrepreneurs supervising construction. This has encouraged a dramatic distortion of the construction process. Because of the pre-steam technology employed, the participation of thousands of labourers and artisans became crucial to the realization of the design. In most accounts, these workers are portrayed as quarrelsome, unreliable, and disruptive. In short, they are viewed as their masters saw them, primarily as instruments in the work-process.

H. Clare Pentland advanced a revisionist portrait of canal workers generally, which has been expanded upon recently by Ruth Bleasdale. These writers have stressed the important role of labour in social development, the emergence of a capitalist labour market, and the incidence of social conflict between workers and employers. Building on the studies by Pentland and

1 The major studies are Robert W. Passfield, Building the Rideau Canal: A Pictorial History (Don Mills, Ont. 1982); Robert Legget, Rideau Waterway, revised edition (Toronto 1972); George Raudzens, The British Ordnance Department and Canada’s Canals, 1815-1855 (Waterloo, Ont. 1979).

2 E.P. Bush summarizes the traditional accounts in The Builders of the Rideau Canal, 1826-32, Parks Canada, Manuscript Report Series No. 185, 1976, 18-25; Passfield’s new study presents a somewhat more sympathetic view of the workers within the traditional context of the canal as an imperial project.

3 H. Clare Pentland, Labour and Capital in Canada, 1650-1860 (Toronto 1981); this is

Bleasdale, this paper will examine the lives of the workers on the Rideau during the construction period between 1826 and 1832. The analysis will consider the background of the labourers and then their employment including wages, conditions, and the problem of disease. The outbreak of disorder will also be examined though a study of this question is limited by the vagaries of the sources. Throughout the paper, the emphasis will be on explaining the difficult living and working conditions in the context of the structural forces of the economy which helped to produce them.

I. The Labour Market

IN SPITE OF BELIEFS at the time, there seems to have been no shortage of wage-earners seeking work in central British North America by the late 1820s. While craftsmen were still in demand, "common" labourers existed in Montreal and Quebec City in sufficient numbers to provide a plentiful supply for public works projects such as the Rideau. This resulted from two factors, one international and the other regional. After the Napoleonic Wars a wave of British emigration began to North America. This migration originated in changes in the home economy which led to the displacement of farm workers from the land and artisans from their crafts. While some of these emigrants were English and Scottish, the majority were Irish, coming mainly from Ulster and its immediate environs, where the textile industry was in crisis. Probably few of these persons were paupers. Most possessed sufficient means to afford the cost of passage. Yet they often arrived in desperate condition. Exhausted by the unhealthy circumstances of their voyage, many were penniless as a result of their travel expenses. In British North America they sought wage labour to sustain their families and to accumulate the funds with which to establish themselves on farms or in shops. Lieutenant-Colonel John By’s description of the workers assembling at the Rideau Canal in spring 1827 probably reflected the situation generally:

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I therefore expect to collect a great number of persons on the Works by the first May and fear from the wretched condition of most of the emigrants applying to me for work, that it will be indispensably necessary to issue bedding to prevent sickness... at present the poor fellows lay with nothing but their rags to cover them, and their numbers are increasing, and the rainy season coming on, I dread the effects of Sickness and feel convinced that the distribution of bedding will be of the greatest importance.  

The labour market which the immigrants found on the St. Lawrence was already crowded with persons seeking jobs. Between 1790 and 1820 there had been a continual exodus of French Canadian farm workers to the cities in part because of the inability of the agricultural economy to support the growing population. Some of these persons had been absorbed by the timber trade: by the late 1820s, about 2000 French Canadians were employed each winter in the timber shanties of the Ottawa Valley. Finding employment in Quebec and Montreal during the summers, however, was a constant struggle. In many years, there was a surplus of labour even before the arrival of the annual immigrant ships.

The chief opportunity for employment was provided by the canal projects which proliferated throughout North America following the completion of the Erie Canal in 1825. In America, major canals were begun in Pennsylvania and Ohio as various seaboard centres struggled to tap the trade of the interior. In Upper Canada between 1826 and 1832, the Rideau and Welland Canal projects together may have employed 8-9,000 persons per year. Compare this with the rate of immigration. During this period an average of more than 25,000 persons per year arrived at Montreal and Quebec City, with the largest numbers recorded in 1831 and 1832. Even allowing for the presence of women and children, the capacity of the public works was not enough to absorb the expanding labour force. This was reflected in the substantial outflow of recently-arrived persons to the United States which seems to have occurred during these years. On the Rideau the result of the labour surplus was that contractors were able to attract workers despite low wages and poor working conditions.

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6 Public Archives of Canada (hereafter cited PAC), RG8, C, Vol. 43, p. 212, By to Durnford, 12 April 1827.
7 The basis of the agricultural crisis is a source of contention. While F. Ouellet stresses declining crop yields, J.-P. Wallot and G. Paquet argue that the failure of the economy to adjust to changes in international demand was the major problem. The most recent contribution to the argument is R.M. McInnis, "A Reconsideration of the State of Agriculture in Lower Canada in the First Half of the Nineteenth Century," Canadian Papers in Rural History, 3 (1982), 9-49.
10 These estimates are based on the data in Pentland, Labour and Capital, 81-4; the statistics probably err on the low side as Akenson argues in "Whatever Happened to the Irish?" 206-11.
II. Employment on the Rideau

While the Rideau Canal was distinguished from other public works by the involvement of the British military, this made little difference in the treatment of the workers. This was partly because of the attitude of the military and particularly of Lieutenant-Colonel John By who was directly responsible for the project. By was a man of his class. As an officer and a “gentleman,” he did not question the justice of a hierarchical social order or the inevitability of poverty. His main duty was to produce a canal of good quality as quickly and cheaply as possible. With these considerations in mind, the military decided to contract most of the construction to private entrepreneurs rather than undertake the work themselves. This was expected to result in lower costs. The contractors were paid only according to the work done, not for the expense of maintaining an establishment in a primitive environment during those seasons of the year when construction might be difficult.\(^\text{11}\)

Thus, the establishment on the canal consisted of a small military component and a large number of private contractors. The military was stationed at Bytown where plans were drawn up and from which overseers were sent to supervise progress along the line of the works. Since different contractors tended to be employed for excavation jobs and construction of masonry locks and dams, there tended to be several entrepreneurs at each of the 23 stations. Moreover, many of these individuals sub-contracted part of their responsibilities to other businessmen. The result was a mélange of contractors with different backgrounds. Some of the most successful were Scottish immigrants from Montreal such as John Redpath, Thomas McKay, and Robert Drummond. Several were already residents in the area of the canal: Philemon Wright of Hull and John Haggart of Perth. Others were Americans eager to profit from the international boom in canals.\(^\text{12}\) Most of the workers were hired by the various entrepreneurs though some were taken on directly by Lieutenant-Colonel By to do work not contracted out. Because of the number of employers and the scarcity of extant private papers, it is difficult to generalize about the condition of the work camps. Nonetheless, a common viewpoint was visible among employers. For purposes of the project, it was expedient to view the workers primarily as instruments of production required to facilitate the most economical completion of the project.

At the beginning of construction, the officers at Bytown took several steps to insure a supply of cheap labour. To attract workers, they advertised in the press that the government would furnish provisions, accommodations, and medical care at every site where they were not readily available. More notably,

\(^\text{11}\) PAC, MG12, WO44, Vol. 18, pp. 72-3, Carmichael-Smyth to Mann, 14 March 1826.
\(^\text{12}\) Bush, Builders of the Rideau, 14-17, 101-17; Queen’s University Archives, Benjamin Tett Papers (hereafter cited Tett Papers), Business Records, Transfer Case 10, Day Book, 1828-1833.
to thwart an expected shortage of skilled labour, Lieutenant-Colonel By acquired the services of two companies of Royal Sappers and Miners comprising 162 soldiers skilled in such crafts as masonry, carpentry, and smithing. In fact there was little difficulty in obtaining civilian labour. Not only was the country experiencing a great upsurge in immigration at the time, but there was

also a depression in the timber trade which made even more workers available. As a result, only when disease drove workers from the sites did the military show much concern for their welfare. Civilian artisans were allowed to complete most of the skilled work while the Royal Sappers and Miners were held in reserve for emergency construction situations, supervisory work, and above all as a quasi-police to encourage order on the works. By refused the offer of two additional companies of artificers commenting on the high price of their labour, since they must be paid year round regardless of the progress of the work.

Because of lack of information, only a rough estimate is possible of the number of workers on the Rideau. During early spring 1827, observers were predicting that work would be provided that year for 1,000 craftsmen and 4,000 labourers. The work force probably varied between 2,000 and 5,000 during the following years. Major sites such as Bytown, the Isthmus, and Jones Falls employed approximately 500. The smaller stations may have averaged about 50 each. Most seem to have been recruited from Montreal and Quebec or nearer the works at Bytown and Kingston.

The ethnic composition of these workers is the subject of some dispute. Traditionally, the skilled tradesmen have been described as English and Scottish with a smattering of French Canadians. Because of the comments of persons at the time, the labourers have been assumed to be overwhelmingly Irish. However, the two enterprises for which detailed information is available, Philemon Wright and Sons and McKay and Redpath, seem to have employed a very large population of French Canadians. These contractors were responsible for much of the work at Bytown, Dows Swamp, Hogsback, Burriitts Rapids, and Jones Falls, which included several of the major sites. About 50 per cent of their skilled workers were French Canadians with the rest being distributed among English, Scottish, and Irish names. This mixture seems to have held for all of the trades including masonry, stone-cutting, quarrying, smithing, carpentry, coopering, and harness-making. A large proportion of the unskilled were also French. About 75 per cent of Wright's workers and two-thirds of the Redpath-McKay work force fitted into this category. Faced with unemployment in the timber trade and in the cities of Lower Canada, the French joined the British in the search for jobs on the Rideau.

17 These descriptions are reviewed in *ibid*.
The contribution of the French was greater at some sites than others. It seems possible that they were preferred over the Irish by contractors experienced in working in Lower Canada. While the latter had a reputation for rowdiness, the French were considered more reliable and more familiar with the conditions of the country. Both the Wrights and Redpath and McKay seem to have maintained continuing relationships with some of their workers. Wright, who was involved in the Ottawa timber trade, may have shifted some of his labourers to construction during the depression of 1826-7 and afterwards moved them freely between his Gatineau farming operations and the works at Dows, Hogsback, and Burritts Rapids. McKay and Redpath were already employing considerable numbers of workers in their masonry and building activities in Montreal and agreed to send portions of the paycheques of their workers on the Rideau to their wives in Montreal.\(^{19}\)

\[\text{Old Saw Mill at Kingston Mills; labourers working on timbers probably to be used at lock site visible in the background; Burrowes Sketch, Archives of Ontario}\]

The proportion of Irish was probably exaggerated by commentators at the time because the migrants were so highly visible in their poverty and behaviour. Nonetheless, they may have played a greater role at sites where the contractors were not from Lower Canada. For instance, at Chaffeys Lock where the principal contractor was John Haggart from Perth, the workers seem to have been almost exclusively British and perhaps mostly Irish.\(^{20}\) These immigrants seem to have come directly from the St. Lawrence and not over-

\(^{19}\) Wright Papers, Vol. 127; Redpath Papers, Item 5, Workers’ Salaries, 1827-8.

land from American ports. The sources agree that persons in the United States at this time could see no advantage in travelling north when there was work closer at hand on the American canals.21

Was employment on the Rideau profitable? In the absence of careful studies of the colonial standard of living, a rough comparison of wages and costs may be attempted. The general picture sketched in both Canadian and American literature seems applicable to the Rideau. A distinction was made between craftsmen and the less skilled. The former were in short supply and were treated with some respect. The latter were plentiful and regarded chiefly as commodities. The labourer on most North American canals existed near the subsistence level and frequently was unable to support a family.22

Workers on the Rideau usually were hired by the month and paid a daily rate. There was little piece work with the exception of some stone cutters and quarry men and some common labourers hired directly by the military. The latter were described as of inferior abilities to the average workmen and thus were paid according to the amount of work done.23 Skilled labour seems to have been paid between five and seven shillings a day. Lieutenant Edward Frome, who participated in the project, noted the following levels: carpenters, 5/ to 5/6; masons, 5/ to 6/6; stone cutters, 6/ to 7/; sawyers, 5/ to 6/; and smiths, 5/ to 6/.

While the average labourer’s salary was 2/6, there were variations in the rate between 2/ and 3/.24 Levels were of course lower if room and board were provided: Philemon Wright who seems to have operated in this way paid 1/3, 1/6, and 1/10.25 The variations were perhaps dependent in part on the type of work performed. The contractors themselves received different rates for the excavation of soil and rock, for puddling and embanking, and other activities. Wages, however, also varied according to the season and the year. They were generally higher in the summer than in the winter when there were fewer jobs to be filled. The general wage levels in the eastern part of the province were driven down in 1827 when too many workers arrived on the Rideau to be employed. There may have been some recovery in 1828-9 when it became necessary to raise wages as disease drove men from the works.26

21 MacTaggart, Three Years in Canada. I. 329.
The costs of living in the camps would have taken most of the earnings of a common labourer. Expenses were high not only because of the difficulties of transporting provisions over long distances, but because of the determination of many contractors to make a profit on supplies as well as construction. Even in the Wright camps where board was provided, the company made substantial profits on whiskey which they purchased from local settlers at 2/ a gallon and sold in large quantities to the workers at 2/9. The situation was worse when all necessities had to be purchased at the company store. The Redpath and McKay workers seem to have been constantly dependent on the company for credit and continually in debt. 27

The plight of the workers was exacerbated by the insecurity of employment. Many contractors came to the works with insufficient resources to fulfill their responsibilities. On some occasions they were late in paying wages; at other times they gave up their contracts entirely plunging their crews into unemployment. 28 Conditions were worse in winter when some sites shut down altogether, the price of provisions rose, and the climate aggravated health problems. Describing the labourers returning from the Rideau to Kingston in October 1827, one commentator noted that he had never seen such distress: “There is scarcely a hut or log-house here but is filled with sick and needy, who are suffering, not only from Disease, but also from Hunger, and from almost every other misery concomitant upon the want of the common necessities of life.” 29

III. The Working Life of the Rideau Labourer

THE CONSTRUCTION OF THE RIDEAU was conducted mainly by hand with the aid of small tools and animals for heavy hauling. The shortage of mechanical labour-saving devices is striking. Short tramroads were constructed across the sites at Hogsback and Jones Falls probably for the use of horse-drawn cars. A horse pump was placed at Bytown and a steam pump apparently existed at Kingston Mills to cope with leakage into the lock pits. Plows, scrapers, and dredges used for clearing the land on the Erie and Welland Canals were not visible on the Rideau probably because the rocky terrain of much of the region would have rendered them ineffective. 30 The failure to make more extensive use of steam power to facilitate construction was a feature of the canal projects

27 Wright Papers, Vol. 103, Oxford Snye Day Book 1828-9; Redpath Papers, Item 6, Ledger, 1826-9; ibid., Item 7, Day Book 1828-32.
28 PAC. MG24, E6, MacTaggart Papers, pamphlet “Notices on the Rideau Canal” (Kingston 1832), 9.
29 Ibid., RG5, A1, R.W. Tunney to Hillier, 27 October 1827.
generally in North America and also of the early railway camps in Britain during these years. Experiments with new equipment seem to have been discouraged by the abundance of cheap labour.\textsuperscript{31}

\textit{Construction at Kingston Mills; work on dam in progress in centre background; the steamboat 'Pumper' at the far left was used to drain water flooding the lock pits; Burrowes Sketch, Archives of Ontario}

Some tools and implements were provided by the labourer, while others were furnished by the contractor. Picks and shovels, for instance, were usually supplied by the former, while wheelbarrows were the property of the latter. Drivers with teams of oxen and horses were usually recruited from the thin ranks of nearby settlers or from farmers around Hull and Kingston. Being in short supply, these carters tended to receive good wages.\textsuperscript{32}

Work on the Rideau included the clearing and excavation of earth and rock, masonry quarrying and construction, the erection of wooden weirs and bridges, and the building of rubble embankments and dams. A description of several of these activities will serve to underline their essential character. The first task was the clearing or grubbing of the land. This involved the extensive use of the axe to remove brush and trees and was work with which the French Canadians especially were already familiar from their experience on the farms and in the bush. Large timbers would be hauled away by oxen, but the stumps presented a


more formidable problem. They had to be undermined by “pooling in” (digg-
ing under them) or occasionally by blasting. Workers not familiar with the
techniques were sometimes injured by falling trees or collapsing stumps.\textsuperscript{33}

Large volumes of earth and rock were moved at the sites to produce canal
cuts or embankments. This involved pick and shovel work which was the forte
of the Irish, some of whom may have worked on roads and canals in the British
Isles before emigrating. The earth was usually loaded into wheelbarrows or
horse-drawn carts for transport. The removal of these loads from lock pits and
cuts was accomplished by the construction of barrow runs, composed of planks
laid up the sides of the embankment and up which the barrows were wheeled
(see drawing). The running was performed by the strongest of the men who
frequently were aided by ropes attached to the barrow and to their belts which
then ran up the side of the slope and round a pulley at the top.\textsuperscript{34}

\begin{figure}
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\caption{Brewers Lower Mill; excavations of canal and construction of locks in pro-
gress; note the barrow run on the left side of the picture; Burrowes Sketch,
Archives of Ontario}
\end{figure}

The quarrying of stone masonry required special skills. For this reason and
because of the fact that the quarries were often isolated from the rest of the
works, separate camps were provided for some of these gangs. The work was
conducted partly in winter when one of the methods for splitting rock was to
insert water into drill holes which would then expand with freezing. Blasting,
however, was unavoidable. This was probably the most dangerous aspect of an
accident-prone environment. The process involved the drilling of holes with

\textsuperscript{33} MacTaggart, \textit{Three Years in Canada}, II, 103-4.

\textsuperscript{34} Harry Hanson, \textit{Canal People} (London 1978), 18-9; Coleman, \textit{The Railway Navvies},
46-7.
hand equipment, the insertion and packing of powder and its detonation. There were injuries firstly because of the so-called "merchand powder" which was composed of three parts "nitre" to one part sulphur and charcoal.\textsuperscript{35} Even an experienced quarry man was not able to anticipate the size of the resulting explosion. The danger was compounded by the inexperience of the workers and the carelessness of management. Seeking to blame the Irish labourers whom he reviled, John MacTaggart, the Clerk of the Works, commented that some would take quarrying work "never thinking that they did not understand the business. Of course, many of them were blasted to pieces by their own shots, others killed by stones falling on them."\textsuperscript{36} Yet he also revealed that elementary safety precautions had not always been taken, for only "at length... [was] the matter so systematized, that a number of shots were always prepared to be fired at once... so that all the quarriers got out of the quarry to a respectable distance before the mine was sprung."\textsuperscript{37}

After being split, much of the further preparation of the stone was done by masons working with chisels and other tools at the quarry. The blocks were then hoisted on to sledges or carts with the aid of hand winches and transported to the lock pits. At the sites, the blocks were raised into position by hauling them up inclined planks by means of a block and tackle. Crowbars and hard wooden mallets were used to manoeuvre them into position. The joints between the stones were customarily grouted with a mixture of cement and clean white sand. The cement was obtained from Hull which provided a better quality than that imported. The backs of the walls were packed with water-resistant puddle which was a mixture of clay and water. Carpenters and smiths were then employed in completing the lock chambers. The large gates were constructed from oak obtained in the region. Crabs and other pieces of cast iron were furnished by the forges at St. Maurice in Lower Canada. Flat iron, on the other hand, was English and available in large quantities in Montreal.\textsuperscript{38}

The working life of the labourer was arduous. During the summer, he worked fourteen to sixteen hours, six days a week. While some sites were not active in the winter, those operated by P. Wright and Sons and by McKay and Redpath were, meaning that work went on in extreme climatic conditions.\textsuperscript{39} By their nature, the tasks were at the same time repetitive, boring, and dangerous. There is some evidence that the employee approached the job with the expecta-

\textsuperscript{35} Legget, Rideau Waterway, 46-7.
\textsuperscript{36} MacTaggart, Three Years in Canada, II, 245; it is regrettable that in analyzing worker behaviour we have to rely on the descriptions of MacTaggart and a few other commentators, who, almost without exception, subscribed to the racist stereotypes of the Irish then current in Britain.
\textsuperscript{37} Ibid., II, 246.
tion of injury. MacTaggart wrote of the foolhardy disregard of the labourers for their own safety. As he put it, "it is vain for overseers to warn them of their own danger, for they will pay no attention." If such carelessness existed, it was born of the economic necessity to keep working regardless of the risks. A similar attitude was reported among the timber workers in British North America in this period, and also among the railway navvies in Britain. They exhibited a bravado amounting to a kind of group pride in their ability to endure in the face of daily danger.  

IV. Living Conditions

TWO KINDS OF COMMUNITIES sprang up during construction, the work camps which were scattered along the line of the canal, and the urban shanty towns which emerged in the centres of Kingston and Bytown. In the camps, the primary problem was supplying the physical wants of a large labouring force in a wilderness environment. To attract workers, contractors felt compelled to import provisions, but always with an eye to minimizing costs or generating profits where possible. They also made what arrangements for accommodation as seemed necessary to keep workers on the sites. Their activities varied with the isolation of the station and the size of the camp.

Most provisions were ordered from Montreal, though quantities were also assembled at Kingston, Brockville, and Hull. Montreal was preferred in part because it was the major regional entrepot. It was also the home base of influential contractors such as McKay, Redpath and Thomas Phillips and the location of the military supply depots of the Ordnance Board. During 1827, the military shipped large amounts of supplies up the Ottawa to Hull to insure that there would be sufficient quantities for contractors to keep the work going. In ensuing years, the Merrickville section received goods overland from Prescott on the St. Lawrence. For the works near the Rideau Lakes, roads between Brockville and Oliver's Ferry and Portland were used. The stations between Davis Mills and Kingston Mills were supplied from Kingston. Because of the limited development of the region along the canal, local settlers were mainly limited to providing hay and oats for the livestock at the works.

The rudiments of a healthy diet were made available at most sites to keep the labourers fit for work. As previously described, the organization of food distribution varied. While Wright provided room and board, Redpath, Haggart and others kept stores where large profits could be taken. Nonetheless, they all

40 MacTaggart, *Three Years in Canada*. II, 245-6.
provided certain staples including beef and pork, flour which was baked into bread at the camps, and potatoes. These were supplemented with peas, beans, corn, tea, sugar, and salt and also by small amounts of local butter, eggs, and fish in season. The volume of consumption seems comparable to that in the timber camps and in the railway construction camps of Britain. The workers there were voracious eaters, frequently consuming four to five pounds of food and drink per day.\(^\text{43}\)

Whiskey and tobacco were available to relieve the drudgery of the daily routine. Free supplies of grog were sometimes distributed to encourage the men to stay on the works in winter or during periods of disease. More commonly, both commodities were sold in quantities which suggest a high rate of consumption. It was not unusual for the individual to purchase a half pound of tobacco and a gallon of whiskey at weekly intervals.\(^\text{44}\)

Some arrangements for shelter were made by the contractors at many sites. Where it was possible, skilled workers were boarded with local settlers. At small sites, such as Black Rapids, several large log houses might be constructed. These buildings were more numerous at larger sites such as Jones Falls where Redpath provided lodgings for 200 and one building was described as 30 feet by 40 feet and of log construction. At the Isthmus in 1830, the military felt compelled to build what amounted to a small village of shanties to lure back workers frightened away by disease. The most ambitious undertaking was that at Bytown where the basis of a permanent settlement was laid. A military encampment was constructed on the west side of the locks and a series of large houses, described as barracks, for the civilians on the east side. Here as elsewhere, shanties erected by the labourers existed side by side with those provided by the employers.\(^\text{45}\) The shanties were probably similar in most respects to those in French Canadian timber camps and at British construction sites. These buildings housed the workforce in a communal setting composed of a single room with beds arranged around the walls. If MacTaggart’s description of Upper Canada may be relied upon, these beds may have consisted of little more than a plank, perhaps cushioned with straw stuffing, on which several men may have struggled to sleep at one time. The shanty was also a centre for eating. It usually included a central fireplace with an opening in the roof to permit the escape of smoke.\(^\text{46}\)


\(^{44}\) Legget, Rideau Waterway, 40; Wright Papers, Vol. 103, Oxford Snye Day Book, 1828-9.

In matters of dress of course, the workers were primarily dependent on their own resources. The French Canadians and many of the British immigrants seem to have been appropriately clothed for the environment. The typical dress included trousers, shirt, and various combinations of vests, frocks, jackets, and headgear. While some boots and shoes were purchased in the camps, moccasins were favoured because of their comfort by the French Canadians and other long-time inhabitants of the country. Shirts seem usually to have been of linen. Sometimes they arrived in the camps ready-made and sometimes as materials to be made up, presumably by the wives of local settlers employed for the purpose. Some French Canadians purchased the colourful sashes for which they are well known. Winter clothing included mittens, perhaps the French Canadian capote (blanket coat) though there is no direct evidence of this, and a few sheepskins and buffalo robes which some of the artisans could afford to buy.47

The labouring Irish, arriving with whatever had been on their backs at home, were particularly unprepared for the rigours of work in the bush. MacTaggart reported many appearing in "breeches that bind at the knee and stockings." This was unusual in North America where trousers had been common since the end of the eighteenth century. More importantly, as Lieutenant-Colonel By noted, the thin clothing of the Irish did not leave them prepared for winter. Though he provided 1,000 blankets the expense of which was to be deducted from their wages, these deficiencies probably contributed in part to the illness which was almost endemic among the Irish on the canal.48

The canal labourers have traditionally been portrayed as living in isolation from their families in remote camps far from established communities. Ruth Bleasdale has recently qualified this image by pointing to the existence of large numbers of families near the works on the St. Lawrence and Welland Canals in the 1840s.49 This does not seem to have been the case on the Rideau where most camps were located farther from settlement. In this situation, the French Canadian women preferred to remain at home in Lower Canada while many of the immigrant families gathered in shanty towns at Bytown and Kingston close to sources of food and supplies.50

46 Gillis, The Timber Trade, 313-8; Samuel Strickland, Twenty-seven Years in Canada West or the Experience of an Early Settler (1853; Edmonton 1970), II, 285-6; MacTaggart, Three Years in Canada, I, 292; Coleman, The Railway Navvies, 80-2.
47 Wright Papers, Oxford Snye Day Book, 1828-29; Tett Papers, Business Records, Transfer Case 10, Day Book 1830; MacTaggart, Three Years in Canada, II, 211; Provincial Archives of Ontario, Costume Society of Ontario, Notes on Men’s Occupational Clothing of the 19th Century; I am indebted to Tina Bates for information on early nineteenth-century occupational clothing.
48 MacTaggart, Three Years in Canada, I, 290; PAC, RG8, C. Vol. 43, p. 212, By to Durnford, 12 April 1827.
50 Redpath Papers, Item 5, Workers’ Salaries, 1827-8.
Axeman in dress typical of Irish labourer at Long Island, c. 1830; drawing by J.P. Cockburn; Royal Ontario Museum

The impressionistic picture available of these predominantly Irish communities stresses their deprivation. The employer's interest in supplying his workers with food and accommodation did not extend to their families. Forced to rely on their own meagre resources, the residents of Corktown at the north end
of the canal constructed mud huts. Without proper ventilation or sanitation, these shanties were frequently the centres of disease. In the midst of the squalor, the immigrant women struggled to maintain the organization of their families while the men were away. The inhabitants clustered tightly together and demonstrated a high level of mutual aid in the fight to survive. They also drew on the Irish tradition of solidarity in opposition to outside authority, in this case reacting with hostility to the attempts of British soldiers to police their community.\textsuperscript{51}

V. Illness and Health Care

THE MOST SERIOUS THREAT to the well-being of the workers and their families was disease. This was in fact the case at canal projects across the continent where fevers were frequently reported, especially in swampy areas. Variously described asague or swamp fever at the time, this illness was usually malaria according to leading medical historians.\textsuperscript{52}

The disease was apparently brought to the continent before 1800 and spread by the anopheles mosquito which was abundant in swamps and bushy areas. By biting infected persons, the mosquito absorbed the micro-organism responsible for the sickness and then transmitted it to other inhabitants.

The symptoms were described vividly by MacTaggart who was himself a victim:

The Fever and Ague of Canada are different. I am told, from those of other countries: they generally come on with an attack of bilious fever, dreadful vomiting, pains in the back and loins, general debility, loss of appetite, so that one cannot even take tea, a thing that can be endured by the stomach in England when nothing else can be suffered. After being in this state for eight or ten days, the yellow jaundice is likely to ensue, and then fits of trembling — these come on some time in the afternoon, mostly, with all. For two or three hours before they arrive, we feel so cold that nothing will warm us; the greatest heat that can be applied is perfectly unfelt; the skin gets dry, and then the shaking begins. Our very bones ache, teeth chatter, and the ribs are sore, continuing thus in great agony for about an hour and a half; we then commonly have a vomit, the trembling ends, and a profuse sweat ensues, which lasts for two hours longer. This over, we find the malady has run one of its rounds, and start out of the bed in a feeble state, sometimes unable to stand, and entirely dependent on our friends (if we have any) to lift us on to some seat or other.\textsuperscript{53}

On the Rideau, the illness was most prevalent in the marshy portions of the canal during the periods of hot muggy weather in late summer. In three consecutive years, 1828-30, it stopped work in August-September on much of the southern portion of the canal between the Isthmus and Kingston Mills. The

\textsuperscript{51} PAC. RG5. A1, R.W. Tunney to Hillier, 24 October 1827; MacTaggart, \textit{Three Years in Canada}, II, 243-4.


\textsuperscript{53} MacTaggart, \textit{Three Years in Canada}, II, 17-8.
mortality rate was relatively low, 4.1 per cent during the peak period in 1830, yet this represented 55 deaths. The proportion of persons infected was quite high, 59.8 per cent at this time. Since the sickness left the worker debilitated for several months, it posed a serious threat to the schedule and the cost estimates of the project.\textsuperscript{54}

The military took several steps to minimize the effect of the disease on the process of construction. The prevailing theory was that ague was caused by bad air. (This was the original meaning of the word "malaria.") Hence, Lieutenant-Colonel By acted to establish a 250 foot corridor along each side of the canal to improve air circulation. Land purchases were made for this purpose at Clowes Quarry, Old Sly's, First Rapids, Chaffey's, Upper and Lower Brewers, and Kingston Mills. The policy was actually implemented at the Isthmus where a substantial amount of ground was cleared around the works. The canal design was also changed in several places to minimize the labour required to complete the project. Once again, the alterations made at the Isthmus were the most striking. Here the depth of the canal-cut was reduced by four feet over a distance of almost a mile by raising the water level with the assistance of locks at the entrance of Mud Lake and at the Narrows on Rideau Lake.\textsuperscript{55}

Specific provisions were required for health care. The military had anticipated this need at the beginning of construction. Writing in the press in winter 1826, MacTaggart had promised that, "Surgeons shall be engaged, and furnished with medicines for the benefit of the sick; as the swamp wilderness and swampy water, may sometimes create distempers."\textsuperscript{56} The only steps taken, however, were intended for the permanent employees of the military including the Royal Engineers, the Royal Sappers and Miners, and a handful of civilian functionaries including the Clerk of the Works. For these persons, a system of wage stoppages was adopted which amounted to a form of health insurance. Deductions were made from the pay of each individual in return for treatment in the event of illness. To provide care, a hospital was constructed at Bytown under the supervision of Dr. M.H. Tuthill, an Ordnance surgeon.\textsuperscript{57}

The military response to the epidemics was to appoint a second surgeon and to construct a temporary hospital at the Isthmus where the Royal Engineers took over direct supervision of construction from the private contractors. Medical care was provided to the labourers along the line on an ad hoc basis. While By proposed extending a scheme of insurance to them by deducting sums from the crown payments to the contractors, this was never approved. Since the original contracts had contained no reference to this, it would have invited

\textsuperscript{54} Dianne Patychuk, "Malaria on the Rideau: A Case Study in the History of Health Care in Canada," revised draft, B.A. Hons. Thesis, Queen's University, 1979, copy on file Parks Canada, Cornwall; this source forms the basis for much of the following discussion.
\textsuperscript{55} Ibid., 25-6.
\textsuperscript{56} MacTaggart, Three Years in Canada, 1, 160.
\textsuperscript{57} Bush, Builders of the Rideau, 28-9.
litigation from the entrepreneurs. More importantly, such a scheme would have entailed a much larger medical establishment on the Rideau than the military were prepared to provide.\footnote{Patychuk, ‘‘Malaria on the Rideau,’’ 74-7.}

Consequently, the contractors were deemed responsible for the health care of their workers and no attempt was evident to establish a system of insurance analogous to that of the military. The majority of workers and their families received attention only when they could afford it and when persons with some medical knowledge were in the region. These were sometimes the military surgeons and sometimes local physicians. The costs of visits and medicine were beyond the means of most labourers. The typical medical visit cost at least one pound at Burritts Rapids and perhaps much more at other places. The most effective medicine was quinine — from the extract of cinchona bark — which had been in use since the eighteenth century, but which was in short supply. MacTaggart observed that, ‘‘it seems to be a very potent medicine, but being very dear, poor people are at a loss to procure it.’’\footnote{Wright Papers, Vol. 103, Oxford Snye Day Book, 1828-29; Patychuk, ‘‘Malaria on the Rideau,’’ 12; MacTaggart, Three Years in Canada. II, 18.}

The burden of malaria rested most heavily on those least able to bear it, the common labourer and the destitute immigrant, who were often the same person. The disease was more devastating to those with lower health resistance. Living in crowded quarters and working exhausting hours, the common labourer was probably more vulnerable than the artisan and manager whose conditions tended to be much better. Moreover, in delayed fashion, the Irish immigrant was now reaping the bitter fruits of his dislocation and miserable existence en route to the new world. Because of his wretched physical state, he was likely more susceptible than the French Canadian. The outbreak of disease drove many of the labourers away from the works and employment. It meant that many others returned to their families in Kingston or Bytown sick and unable to work, if they returned at all.

VI. Labour Unrest

THE INFORMATION REGARDING LABOUR conflict on the Rideau is sketchy. Nonetheless, an analysis reiterates the arguments made by Pentland and Bleasdale for early nineteenth-century British North America. They link labour unrest primarily to economic factors but also to ethnicity. Particularly they emphasize the importance of the Irish tradition of direct action against the property and persons of their enemies, regardless of the boundaries of the law. Reacting against the inequities of their homeland, the Irish expressed their frustration in terms of conflict with one another — especially between Protes-
tants and Catholics — and by opposing those in positions of authority — especially representatives of the British government.60

Violence and disorder appeared on the Rideau soon after the arrival of the workers. In spring 1827, a prominent Bytown citizen reported to the Civil Secretary:

It is with deep regret, that I have the honour to acquaint you, — for the information of His Excellency the Lieutenant-Governor, that the public peace is most dreadfully disturbed — and the lives and property of the inhabitants in danger day and night in this new Town, by drunken, riotous, persons employed on the works of the Rideau Canal, — as there is not an evening passes — not even the Sabbath excepted — wherein there is not a riot and general fight.61

These conflicts often involved Irish workers. Sometimes they quarreled with one another and sometimes with persons outside of the Irish community. The latter incidents tended to occur when traditional ethnic, occupational, or geographical boundaries were crossed. The outbreaks were typically limited in scope, rarely outlasting the particular confrontation. For instance, when the local gentry held a village fair at Bytown in 1829, brawling broke out between Irish workers and farmers who had assembled from the surrounding area.62

On a few occasions, the traditional division between Catholics and Protestants was manifested. In Ireland this cleavage was grounded not only in religious and ethnic differences, but also in economic circumstances. Protestants and Catholics in Ulster struggled over land and jobs.63 Members of both factions were present on the Rideau. While the actual numbers are unknown, the proportions of Catholics and Protestants may have been similar to those recently computed by Donald Akenson for the whole period 1815-46. According to his calculations, approximately two Irish Protestants had arrived in Upper Canada for each Irish Catholic.64 Only one major confrontation occurred on the Rideau. In December 1829, a battle took place between Orange and Green at the Isthmus in which more than 400 partisans were involved. This was likely precipitated by a struggle for jobs. Construction had been shut down earlier in the year because of disease and the difficulties of excavating through rocky and spring-filled terrain. Workers had flocked back to the site in late fall for the resumption of construction.65

64 Akenson, "Whatever Happened to the Irish?," 220-1.
65 Independent Examiner and Bathurst District Advertiser, 1 January 1830; Price.
Given the circumstances it is surprising that there were not more instances of religious confrontation. During the building of the canal, the membership of the rabidly anti-Catholic Orange Order spread through the communities touched by the work-force. 66 Catholics and Protestants were in almost daily contact on the works. But instead of fighting each other, the two factions seem to have directed their energies primarily towards survival in a hostile environment. This struggle tended to bring them into conflict with third parties.

Much Irish lawlessness was clearly economic in origin. Concerning Bytown, Lieutenant-Colonel By wrote during winter 1826:

I have had some trouble with the lower class of Irish, and I think it will be indispensably necessary, when the stores are set up in January to have a Sergeant and twelve men stationed under my orders on the Rideau to protect the stores and buildings, and to preserve the trees, there being no civil authority in the neighbourhood of Hull. 67

Arriving penniless, the immigrants required food, shelter, and firewood to survive the winter. Without other means, they tended to take what they needed without regard to the legalities of property rights.

The "Battle of Merrickville," which actually seems to have taken place at nearby Clowes in 1829, was another example of this. Trespassing on the farm of Benjamin Mosier, an immigrant canal labourer by the name of Thomas Foley cut timber which he probably intended to use for firewood. When the farmer called on the law, Foley's friends first repulsed a constable and later a sheriff and his deputy. Finally, Captain Daniel Burritt and a company of the Grenville militia took three of the labourers into custody and transported them to Brockville where they were acquitted after the authorities could get none of the Irish to testify against the others. 68

Low wages and poor working conditions presented another occasion for solidarity among the Irish. In spring 1827, the labourers staged at least three strikes at Bytown. Little is known about these struggles. While the ethnic cohesion of the Irish probably facilitated organization, there is no evidence of the secret societies visible in the strikes on the Welland and St. Lawrence canals in the 1840s. The strikes at Bytown apparently involved all the workers of the area, not only the Catholic and Protestant Irish, but also the French Canadians in the neighbouring timber trade. This set these incidents apart from the friction between French and Irish workers typical in the timber trade, the ship yards, and in canal construction in the first half of the nineteenth century. This strife was usually occasioned by competition for jobs. On the Rideau, the

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66 Houston and Smyth, The Sash Canada Wore, 18-9, 22.
oversupply of workers at the beginning of construction seems to have led to unexpectedly poor terms of employment which united the workforce against their employers.69

During the construction of the Rideau, the strike actions of 1827 were isolated incidents. Most labour unrest seems to have focused on the acquisition of the immediate necessities for survival such as food and firewood, and to have been directed against individual property owners and contractors who stood in the way of their provision. Why were there not more instances of concerted actions against contractors? Ethnic and religious divisions within the workforce were certainly a factor. Probably more important was the sustained opposition of the military. The civilian magistrates and constables scattered among the adjoining settlements were no match for the potential might of groups of workers. In the absence of an effective civil authority, Lieutenant-Colonel By mobilized the military to suppress strikes and maintain order. After the arrival of the first company of Royal Sappers and Miners in 1827, there was no further systematic opposition to authority. Small detachments of soldiers were stationed as needed along the line of the canal to "check the disorderly

conduct of the labourers." In so doing, By had established an important precedent in the history of Canadian labour relations. This use of troops to suppress labour unrest was one of the first instances of a practice which became quite common in Canada during the next century. 

VII. Conclusion

THE RIDEAU AND THE WELLAND CANALS were the first projects in Upper Canada to attract wage-earners in the 1000s. In many respects the experience of the workers on the Rideau may be considered a preview of what labourers generally could expect in Upper Canada in the 1830s and 40s. Because of an unfavourable labour market, workers were forced to endure difficult and often dangerous working and living conditions. They responded with a militant, although sometimes fragmented, resistance. This in turn was met by provincial authorities with powerful new methods of social control. Because the Rideau was an explicitly military project, troops were more readily available there than they would be elsewhere. But during the 1830s efforts were made to establish more effective civil institutions such as the police, the provincial penitentiary, and prisons to suppress labour unrest. The economic future of the workers was bleak. The evidence suggests that few wage-earners on the Rideau were able to save much from their earnings. While some may have become struggling farmers, artisans, or storekeepers, the majority had to continue competing for jobs with successive annual waves of immigrants. Some of these persons became members of an embryonic international proletariat seeking work in the timber trade of the Ottawa, on the public works projects north and south of the American border, and finally in the factories which began to proliferate in the 1850s. In this sense, the history of the workers on the Rideau was one episode in a continuing story of poverty, transience, and fruitless pursuit of the elusive opportunity.

The research for this article was conducted under the auspices of Parks Canada. I would like to thank my colleagues for their helpful criticisms.

70 PAC, RG5, A1, By to Mann, 10 June 1828; Pentland, Labour and Capital, 190.
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