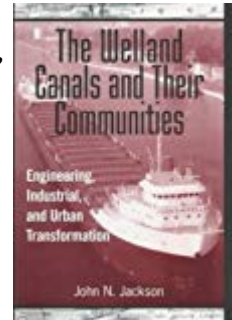


**John N. Jackson.** *The Welland Canals and Their Communities: Engineering, Industrial, and Urban Transformation.* Toronto: University of Toronto Press, 1997. xvi + 535 pp. \$70.00, cloth, ISBN 978-0-8020-0933-3.



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In the Niagara Peninsula of Ontario, Canada, four successive Welland Canals have linked Lakes Ontario and Erie to circumvent the great Falls on the Niagara River, a permanent barrier to navigation. Along the canal banks have developed nearly a dozen communities, each deeply influenced by the changing waterway. Since 1829, the Welland has been reconstructed three times, has been part of the St. Lawrence Seaway since 1959, and was partially rebuilt 1965-73. Unfortunately, this remarkable system, its construction, its influence on its hinterland, and its role in North American history has attracted little attention from academic historians. In fact, Canadian canal-building in general has been largely ignored by scholars. Few studies of specific canals exist and there is only a handful of popular works.[1] Nearly half a century ago Hugh J.G. Aitken produced his *The Welland Canal Company: A Study in Canadian Enterprise*,[2] a fine book that, however, did not inspire further studies of the Welland.

Consequently, the publication of John N. Jackson's book is a long-awaited effort to fill this gap in Canadian historiography. Now professor emeri-

tus, Dr. Jackson taught Applied Geography at Brock University, St. Catharines, Ontario for thirty years, making his home in that city. Apart from several studies of town planning, he has written much local history, notably on Niagara's railways and on the cities of St. Catharines and Welland.[3] He has also been an active supporter of the Welland Canals as historic sites. Because of its scope and length, his latest work calls for the detailed attention of knowledgeable readers. Consequently, I have consulted my associate and former colleague, Dr. Roberta M. Styran. This review is a synthesis of both our notes on Jackson's book.[4]

Jackson describes chronologically the evolution of the towns and cities that have grown up along the Welland, discussing the construction of the First Canal (1824-33), followed by successive reconstructions (Second Canal 1840-45, Third Canal 1871-81) through the building of the present, Fourth or Ship Canal 1913-1932 and the By-Pass, completed 1973; including incorporation of the Ship Canal into the St. Lawrence Seaway after 1959.

Jackson's thesis is that each reconstruction of the canal created and shaped local urban centres and their industries resulting in "a novel grouping of interrelated industries" (337). By 1900, "a distinctive, highly integrated, regional economy had...emerged along the canal waterway, its locks, and the hydraulic raceways created from the canal" (239). Moreover, the great ditches have had ecological consequences, as they altered both the landscape and the natural waterways of the area. "The impact of the Welland Canal," he notes, "was (both) positive and negative" (130).

Part One deals with the First and Second Canals up to c. 1850 as businessmen began to exploit the canal's reservoir of water. William Hamilton Merritt, who inspired the First Canal, was only one of several millers whose establishments benefitted from the channel's water power. Wilderness settlements on the canal route soon became thriving villages and towns, the character of which, Jackson claims, was often determined by the decisions of the canal-builders. For example, when engineers decided to make the Second Canal's first two locks at Port Dalhousie larger than the others, the village grew quickly into an important Lake Ontario port. Elsewhere, the street layout of towns was determined by the siting of the canal's bridges. Canal construction could also restrict urban development, especially where a river lay nearby, as in the case of Chipewawa Creek and the town of Welland (103).

In Part Two Jackson discusses the era of the Second and Third Canals, c. 1850 to c. 1910, showing the further growth of the lake towns (Ports Colborne and Dalhousie), inland centres (Welland, Port Robinson, Allanburg), the Thorold-Merritton-St. Catharines complex, and the "Feeder" communities. He offers details on the many canal-oriented industries and their products in endless, even stupefying, variety. Several important industries with American connections, such as Empire Carpet in St. Catharines (258), were attracted to the waterway. At the same time, the canals had a neg-

ative effect. For example, when Canada Furnace arrived in Port Colborne, it eliminated a picnic ground, revealing a typically "fundamental clash between industrial development and resource-based recreational opportunities" (194). When the Third Canal was widened for the new Ship Canal, the same town lost its "post office and customs building, the Imperial Bank, a commercial block, a hotel and two stores" (196).

Part Three covers c. 1914 to the 1960s. By this time "the canal's versatility had extended far beyond ships, trade, and its industrial and community developments" (303). Now its water was being used for hydroelectric production, as at De Cew Falls. But after the Ship Canal was opened in 1932, vessels and cargoes began to pass through the channel without stopping. The Welland's communities therefore had to rely for their existence on industries that, although they may have been created by the canal, no longer depended on the waterway's commerce (300). As for the corridor of the First and Second Canals (which still existed in the Thorold-Merritton-St. Catharines area), mills here declined, even vanished. The surviving channel of the Second Canal became "a degraded sewer" (323).

Part Four discusses the Welland as part of the St. Lawrence Seaway. Ironically, by c. 1960, the canal-side towns that had hoped for further growth after the Seaway opened were disappointed, because, whereas in 1970, 63.1 million cargo tons passed through the improved waterway, "only a small proportion of this volume either originated or had a destination in the canal" (398). These communities now faced a serious challenge. Today, as the Niagara area continues to suffer from relative economic depression, "it is obvious that the communities created then built up by the canals will have to change their economic base as both their manufacturing industries and their service support from the canal decline" (415). The author's penultimate chapter, "Towards a Welland Canals Parkway," describes

the potential role of the canals as recreational sites and historic monuments. In this regard, local residents trying sensitively to exploit the old and newer canals have encountered "a bureaucratic jungle" (440). His description of efforts to transform the abandoned channel of the Fourth Canal at Welland into a recreational waterway is a sobering picture of "the multiform layers, regulations, ambiguities, and conflicting interests of modern government" (453).

Jackson's detailed and lengthy study is occasionally enlightening and interesting. Unfortunately, in the final analysis the book is disappointing. His thesis, though somewhat bland, is valid and his argument generally convincing, but I have reservations about its presentation. First, his viewpoint is not complex or controversial enough to justify such massive detail. Second, technical problems, scholarly lapses, errors or distortions of fact, and misrepresentations caused by his idiosyncratic expression are so numerous as almost to undermine the credibility of his thesis.

The work is far too descriptive and narrative, with (for a book of this length) relatively little attempt at analysis or interpretation. In such a long study, one would have appreciated more sense of the meaning of the transformation wrought by the canals. Geographers, in particular, may want to ask: Is the Welland corridor really so unique? Moreover, much of the text is merely a paraphrase of local directories. The thesis could have been proven without extensive descriptions of industries and their products. Endnotes or an appendix could be used for such material.[5]

Despite the overload of detail, one aspect of the canals' influence has been slighted: the extent of employment opportunities offered by their building and maintenance. The small army of office staffs and common labourers hired by building contractors and engineers helped to invigorate the local economy, as did the permanent staff of toll collectors, repair men and lock- and bridgetenders needed for operation. Even a few para-

graphs on this matter would have strengthened his argument.

To describe the canal corridor, he uses the phrase "urban agglomeration" (313), a term he repeats several times. The non-geographer needs to have this expression explained for it may suggest that the canal banks from Lake Erie to Lake Ontario are lined with asphalt, factories and high-rises, which is not so. Indeed, Jackson notes that c. 1910 the Allanburg-Port Robinson stretch of the canal "remained without industry" (227), and later (372) states that "fruit trees and vineyards" predominate at St. Catharines. Imprecision or excessively technical language here will confuse many readers.

My disappointment in the book derives partly from technical flaws, many of which are the publisher's fault. For example, dates for some of the illustrations (pp. xviii, xx, and xxiv) are lacking. The maps are dimly reproduced and hard to read. Riddled with spelling and factual errors, the bibliography is difficult to use. For example, Jackson is confused about the correct titles of several books, including one in which he had a hand (Styran and Taylor, *The Welland Canals: The Growth of Mr. Merritt's Ditch*). The form of bibliographical entries is imprecise. The entry, "Papers of William Hamilton Merritt," should be under "Merritt ...," the usage of most librarians and archivists.[6] Listing secondary sources separately from primary ones would have been helpful. Plans and maps, in particular, would be more clearly identifiable in a separate list. Finally, in the index readers will struggle to locate many important persons, industries, locations or topics.

Problems of academic form may also impinge on the credibility of his conclusions. In the absence of foot- or endnotes, his citations (given parenthetically within the text, with only the author's last name and the publication's date) should include page numbers. For example, with his frequent reference to "Upper Canada Assembly 1836-7," finding his citations would be almost im-

possible since this volume is a 574-page Report of a Select Committee of the (provincial) Legislative Assembly. As well, certain sources referred to in the text are not in the bibliography, for example, "(Thompson 1897-98)" (67) and "(White 1909)" (93). Jackson rarely gives page or volume numbers for periodical articles or the source of statistics. For example, the figure of 19.1 percent unemployment in Niagara is "supposedly the second highest in Canada" (413). Why "supposedly"? In whose opinion?

Jackson does not situate his research in a historiographical context.[7] Nor does he relate his thesis to the work of historical geographers[8] or to the publications of historians.[9] Moreover, he seems to be unaware of current popular publications and relevant unpublished academic research.[10] He relies excessively on the findings of sincere but untrained amateur historians or undergraduate Geography students. My experience with these works suggests that, while interesting, they are often unreliable. Nowhere does he suggest that these sources should be used with care. His dependence on, and quotation from, secondary sources, whether professional or amateur, amounts to "the argument from authority" and is not convincing.[11]

The University of Toronto Press' readers have done a disservice both to that institution and to Jackson, for the book is marred by serious historical and geographical mistakes and distortions of fact. For example, the First Canal was "planned" in 1824, not 1825 (474). The sod-turning ceremony for this canal is given as 1825 (34 and 79), whereas it was in 1824. He tells us twice that the Fourth Canal was officially opened in 1933 (xi and 4); the correct date is 1932. These dates are not obscure but relatively well known. In another example of carelessness, he gives the size of the entrance locks on the Second Canal as 200 by 45 by 9 feet (52); the correct dimensions are 185 by 45 by 10 feet. In noting the authorities mandated to administer the canal, Jackson twice neglects to include

the Department of Public Works (xi and xiv) which ran the canal from 1867 to 1879. Regarding the St. Lawrence Seaway Authority's takeover of operation in 1959, he states that this transfer was from the Department of Railways and Canals (269), whereas it was from the Department of Transport, which had absorbed Railways and Canals in 1936. He implies that the boxlike "canallers" were built for the Third Canal (151) whereas these ships were originally developed to fit the locks of the Second.

His understanding of the canal's urban and industrial history also leaves much to be desired. For example, he asserts that there were "grist and saw mills at many of the locks" (237) in the "Merittton" area c. 1829-1855 (i.e. including the First Canal period), but offers no proof. He later asserts, without evidence, that there was "industrial development at each lock" (336) here in the period 1914-c. 1960. Given the reams of fact he gives elsewhere, one expects at least some supporting data on this point, but none is offered because, as I know from my own research, none can be found.

He describes certain lockkeeper's cottages as being "of 1840 vintage" (437). The earliest date for construction of such houses seems to be 1848, but tenders for most of them were called in 1851, and they were built in the 1851-54 era. Therefore, "of 1850 vintage" would be correct. He asserts that there were only two bridges over the Second Canal in St. Catharines (264). In doing so he mislocates Lock 2 of that Canal which was at the western end of what was later Welland Avenue, not St. Paul Street. Three bridges crossed the waterway at St. Catharines, at Lock 2, at St. Paul Street, and at Geneva Street (or Lock 4). The above are only a selection of the blatant errors that mar this book.

Readers may also be misled by distortions of fact that could be due to awkward style and/or to poor copy-editing. He says that the threat from the Erie Canal arose "suddenly in 1825" (29), but construction of that waterway began in 1817,

when such a threat was already perceived. He claims that Second Canal locktenders' cottages were constructed "for safety reasons" (115), whatever that means. A settled work force was a concern of the canal authorities, as it was for many nineteenth-century employers when industrial development and public works projects were causing the frequent migration of workers. He says that the Third Canal aqueduct's 1887 opening "marked the passing of the old tow horses and the start of tug boats and the larger cargo boats known as propellers" (209), which seems to suggest that few tug boats operated on the canal before this date and horses little used after it, but Jackson himself notes tugboats' existence in the 1850s and again in the 1870s (i.e. well before 1887). Moreover, tow horses were in use on a reduced scale until at least 1902. Clumsy expression rather than error may be at fault here, but readers will still be misled.

Facts about local canal and urban geography are misrepresented. Thorold lies north, not south (181) of Welland; Fonthill is west, not east (144) of the canal; the community known as "The Junction" is described as "where the western end of the Feeder Canal...met the main line" (102) but in fact the western end connects with Dunnville. These details may mean little to readers outside Niagara but anyone trying to do research "on the ground" will be confused. Important structures are also mislocated. The raceway between Merriton and St. Catharines lay on the north and east side of the canal, not the "south" side (125). On page 371, he situates Lock 8 of the Ship Canal at Port Colborne where in fact it lies, but earlier (368) he has it at Thorold. He writes that the present canal was built "along a substantially new alignment to Port Colborne" (4) whereas the totally new route was only from Thorold north to Port Weller. These are only a few examples of the many errors and distortions of fact.

The University of Toronto Press's editors are at fault in not correcting Jackson's idiosyncratic

use of English. Too often his style is so vague or convoluted that readers may misunderstand his intent or not understand at all. For example, "the more practical route that had been selected was rebuilt along broadly the same route" (51). A chapter heading "refers to the transition period in the growth of settlement along the canal between the outbreak of the First World War in 1914, when transport by rail was dominant and the motor vehicle had just started to appear on the urban horizon, and 1959 after the Second World War, when the railway had started to decline and the motor vehicle to predominate" (301).

Many instances of bad grammar and faulty syntax further obscure Jackson's meaning. For example, "pound locks with...gates...were used from about AD 100. They...followed in Europe from about the fourteenth century" (5). To what or whom does the pronoun "they" refer? And what did "they" follow? Jackson uses certain words in an unusual or incorrect sense, a habit that will irritate some readers: for example, a certain type of lock was developed by "the resilient (my italics) Chinese" (5); to what ethnic quality does this word refer? As well, he has the annoying tendency of repeating words or phrases in close proximity to each other. "Establishment" is used three times in one paragraph (p. 177), followed by three more usages in the next paragraph; many other examples could be cited. The book has relatively little geographical jargon, but a short glossary, defining such technical terms as allodial, attornment, kame, or riparian, would have been useful.

Such a massive volume, by dint of its size alone, demands a degree of respect from a charitable reviewer. I should conclude, therefore, by saying that Jackson has valiantly assaulted a subject that is too large for one book and too great a challenge for one academic. We would have been better served if he had omitted much of the detail about industries and businesses at specific times, and chosen instead representative examples of such enterprises, offering in genuine foot- or end-

notes references that the interested reader could consult. A shorter text would have been less tedious to read, yet no less scholarly. Better prepublication assessment and more conscientious editing at the University of Toronto Press would have eliminated many of these problems.

To date, a good academic history of the Welland Canals and their communities is still lacking. Due to the errors and peculiarities in Jackson's book, professional historians, geographers, and their students should use this study with great caution.

#### Notes

[1]. The only creditable scholarly work on British North American canals is John P. Heisler, *The Canals of Canada* (Ottawa: National Historic Sites Services, Canadian Historic Sites: Occasional Papers in Archaeology and History, no. 8, 1973). Among the few useful studies of individual canals are James T. Angus, *A Respectable Ditch: A History of the Trent-Severn Waterway 1833-1920* (Kingston and Montreal: McGill-Queen's University Press, 1988); Robert W. Passfield, *Technology in Transition: The "Soo" Ship Canal, 1889-1985* (Ottawa: Ministry of Supply and Services, Studies in Archaeology, Architecture, and History, 1989). Robert F. Legget introduced a general readership to our waterways with his *Canals of Canada* (Vancouver: Douglas, David & Charles, 1976); *Rideau Waterway* (Toronto: University of Toronto Press, 1955/1975); *Ottawa Waterway: Gateway to a Continent* (Toronto: University of Toronto Press, 1975); *Ottawa River Canals and the defence of British North America* (Toronto: University of Toronto Press, 1988). Roberta M. Styran and I have published two illustrated accounts, *The Welland Canals: The Growth of Mr. Merritt's Ditch* (with John N. Jackson), and *Mr. Merritt's Ditch: A Welland Canals Album* (Erin, Ontario: Boston Mills Press/Stoddart, 1988 and 1992 respectively).

[2]. Hugh J.G. Aitken. *The Welland Canal Company. A Study in Canadian Enterprise* (Cambridge,

Mass.: Harvard University Press, 1954; reprinted for the Canadian Canal Society, St. Catharines, Ontario: Lincoln Graphics, 1997). Prof. Aitken also wrote several articles, notably "Yates and McIntyre: Lottery Managers" *Journal of Economic History*, Winter 1953, vol. XIII, 36-57; "The Family Compact and the Welland Canal Company," in J.K. Johnson (ed.) *Historical Essays on Upper Canada* (Toronto: McClelland and Stewart, 1975); "A New Way to Pay Old Debts: A Canadian Experience," in William Miller (ed.), *Men in Business: Essays on the History of Entrepreneurship* (Cambridge, Mass.: Harvard University Press, 1952).

[3]. John N. Jackson, *Railways in the Niagara Peninsula: Their Development, Progress and Community Significance* (Belleville, Ontario: Mika, 1978 (with John Burtneck)); and *St. Catharines, Ontario: Canada's Canal City* (St. Catharines, Ontario: St. Catharines Standard Limited, 1992 (with Sheila Wilson)). His *Welland and the Welland Canal* (Belleville, Ontario: Mika, 1975) is a study of the massive "By-Pass" which takes the Ship Canal past the city of Welland.

[4]. Our approach to the book uses research we have undertaken over the past twenty years, together or singly, in the National Archives (Ottawa), the Archives of Ontario (Toronto), resources in New York State, Britain, and Ireland as well as in local libraries and archives.

[5]. The history of the automobile (310-312)—almost general knowledge—or that of the Queen Elizabeth Way (the freeway connecting Toronto and the American border) are surely peripheral subjects (315).

[6]. Canadian government publications are usually listed under such headings as "Upper Canada," "Canada," or "Ontario," a convention ignored here.

[7]. It would have been interesting to know if he found Harold Innis' or Donald Creighton's famous theses on waterborne commerce relevant to his own work. See Harold Innis, *The Fur Trade in Canada* (Toronto: University of Toronto Press,

1927); or *Essays in Canadian Economic History* (Toronto: University of Toronto Press, 1956/1962); Donald Creighton, *The Empire of the St. Lawrence, 1760-1850* (Toronto, Macmillan, 1937/1956). Possibly more useful would have been later works such as that of Clare Pentland which considers canal-building's effect on Niagara's communities: *Labour and Capital in Canada 1650-1860* (Toronto: Lorimer, 1981).

[8]. R. Cole Harris and John Warkentin make useful remarks about the Welland in *Canada before Confederation: A Study in Historical Geography* (Toronto: Oxford University Press, 1974).

[9]. For example, Kenneth Norrie and Doug Owram, *History of the Canadian Economy* (Toronto, University of Toronto Press, 1991); or Peter Way, *Common Labour: Workers and the Digging of North American Canals, 1780 1860* (Cambridge: Cambridge University Press, 1993).

[10]. He makes no reference to a recent revisionist thesis which demands a response. See Elisa Ann Stanwick, *"Did St. Catharines Miss the Boat?": the Political Economy of the Welland Canal in the 1800s* (M.A. Thesis, Department of Politics, Brock University, 1994). He states that "no guide or map" (434) of the Ship Canal exists but quite useful is Colin Duquemin's *Driver's Guide to the Welland Canal* (St. Catharines, Ontario: Norman Enterprises, 1994). Some of the book's weaknesses might have been eliminated at the start had Jackson consulted fellow historians. In his Preface, he states that Dr. Styran and I "introduced him to several important facts and references" (xv). In fact, for this book, at no time did the writer consult either Dr. Styran or myself. He also notes that Dr. Styran and I are "currently working on a canal bibliography" (xv). For the past several years, we have been editing a collection of primary sources on the Welland, to be published as a documentary history for The Champlain Society.

[11]. Several of the works upon which Jackson's research is based are undergraduate essay

assignments of thirty years ago (e.g. "Wieler" 407), a fact which is not indicated in the text. Anyone reading the book might believe that the writers to which he refers are well known experts on the subject, whereas they are not. Moreover, experience has shown me that at least some of these works are unreliable. Equally questionable is J.P. Merritt's biography of William Hamilton Merritt (e.g. 61), which he uses without a hint that it is often faulty. See Jedediah P. Merritt, *Biography of the Hon. W. H. Merritt, M.P. of Lincoln, District of Niagara* (St. Catharines, Leavenworth, 1875).

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