

ISLAND HOPPING: THE VOYAGES OF CANADIAN
DEEP-SEA SAILING VESSELS TO THE WEST INDIES,

1863-1890

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The West Indies have been a major trading area since the sixteenth century. The archipelago, stretching from the Bahamas in the north to Trinidad and Tobago in the south, was an intense battleground for more than two centuries in the European competition for colonies and trade. The prize was largely a rich staple —sugar— and hence the generic term «sugar islands» become synonymous with the West Indies.

Settlers in British North America had long been involved in trade with the area. The West Indies, with their predominantly plantation-style economies dependent on slave labour, were an important destination for the fish caught off the shores of Newfoundland and Nova Scotia¹. This trade, broadened to include produce from the forests of New Brunswick and the farms of Prince Edward Island, continued to be one of the most important avenues of commerce for British North Americans throughout the first half of the nineteenth century².

But by mid-century the West Indies were entering a period of change and, in many instances, relative decline. The Ten Years' War in Cuba (1868-78) would ravage the eastern Cuban sugar industry; the long-term decline in the Jamaican economy showed few signs of abating; and islands such as Barbados, Antigua, Trinidad, Tobago, Grenada, St. Vincent and St. Lucia, while relatively prosperous, were facing a half-century of market dis-

1. On the Newfoundland fishery see, for example, C. Grant Head, *Eighteenth Century Newfoundland: A Geographer's Perspective* (Toronto 1976). The Nova Scotia fish trade is analyzed in Lewis R. Fischer, «The Corner of the Triangle: Trade and Society in Eighteenth Century Halifax», in Walter Minchinton and Janina Konczacki (eds.), *Eighteenth Century Port Cities* (forthcoming).

2. The New Brunswick trade is cogently analyzed in Graeme Wynn, *Timber Colony: An Historical Geography of Early Nineteenth Century New Brunswick* (Toronto 1981). Prince Edward Island involvement is discussed at length in Lewis R. Fischer, *Enterprise in a Maritime Setting: The Shipping Industry of Prince Edward Island, 1787-1914* (forthcoming, St. John's, 1983), Chapter V.

locations and declining prices for their basic exports³. Economic instability was to become an operative characteristic of the second half century of the nineteenth century.

At the same time, a «revolution» was occurring within the Canadian shipping industry. Before mid-century, British North Americans concentrated principally upon shipbuilding. In most parts of the region, between eighty and ninety percent of the output constructed was speedily sold in the British market. Those few vessels retained by local entrepreneurs were employed primarily as «merchant ships»; that is, they were used in the carriage of goods which were the property of the owner. But in the 1850s this pattern changed. Canadians increasingly retained a greater share of the output of the local shipbuilding industry, and they used the expanding stock of locally-owned vessels to enter the crosstrades. Simultaneously, a growing economy permitted increasing occupational specialization; by the middle of the decade it was possible for the first time to speak of shipowners, people who concentrated on the management of vessels. With this development, it became less common to find «merchant ships»: henceforth, the bulk of the eastern Canadian fleet would be employed carrying other people's goods. Profits would no longer be made on both the carriage and the eventual dis-

3. The best general history of the islands in this period remains J.H. Parry and Philip Sherlock, *A Short History of the West Indies* (Third Edition, London 1971), although we also make extensive use of general histories, such as Philip Sherlock, *West Indian Nations: A New History* (Kingston 1973); A. Curtis Wilgus (ed.), *The Caribbean: Its Economy* (Gainesville 1962); Eric Williams, *From Columbus to Castro: The History of the Caribbean, 1492-1969* (London 1970); Louise L. Cripps, *The Spanish Caribbean: From Columbus to Castro* (Boston 1979). On Cuba see, for example, Julio LeRiverend, *The Economic History of Cuba* (Havana 1967); Jaime Suchlicki, *Cuba from Columbus to Castro* (New York 1974); Jules R. Benjamin, *The United States and Cuba: Hegemony and Dependent Development, 1880-1934* (Pittsburgh 1974); Philip S. Foner, *A History of Cuba and Its Relations with the United States. Vol. II: 1845-1895, From the Era of Annexationism to the Outbreak of the Second War for Independence* (New York 1963). On Jamaica the following were especially useful: Gisela Eisner, *Jamaica, 1830-1930: A Study in Economic Growth* (Manchester 1961); W.J. Gardner, *A History of Jamaica* (London 1873). On some of the other islands, see Rayford W. Logan, *Haiti and the Dominican Republic* (Oxford 1968); F.A. Hayos, *Barbados: A History from the Amerindians to Independence* (London 1978); Eric Williams, *History of the People of Trinidad and Tobago* (London 1964); Michael Craton, *A History of the Bahamas* (London 1962); Sabra Holbrook, *The American West Indies: Puerto Rico and the Virgin Islands* (New York 1969); Sumner Welles, *Naboth's Vineyard: The Dominican Republic, 1844-1924, 2 vols.* (New York 1928).

posal of cargoes. In the new industry of the later nineteenth century, revenues would be gleaned chiefly from ship operations⁴.

These simultaneous alterations in both the West Indian economy and the Canadian merchant marine would have profound effects upon the manner in which Canadian vessels were employed in the West Indies. Increasingly, the principal links between West Indian exports and the Canadian economy was a vessel owned and registered in a Canadian port. This paper will attempt to describe the patterns of deployment of Canadian sailing vessels in the West Indies and to offer some tentative explanations for the phenomena observed.

Before beginning the analysis, however, a brief comment on sources may be useful. The principal source for data on Canadian vessels is a remarkable set of documents known somewhat prosaically as the «Agreements and Accounts of Crew». These «crew lists», comprising some four and one half miles of shelf space for the period 1863-1913, are particularly valuable for the maritime historian. Basically, they are the actual agreements between the master and crew of an ocean-going vessel. The Maritime History Group at Memorial University of Newfoundland possesses about eighty percent of these agreements for the above period⁵.

The crew lists can be used for a variety of purposes. In this paper, however, we will concentrate upon only a few. In particular, we will use these documents to trace voyage patterns. This is possible because under British maritime law, masters were required to deposit their agreements with either the British consul or the local shipping master within forty-eight hours of arrival in foreign ports. The articles were then stamped and the dates of arrival and departure noted. Hence, they provide a much more accurate method of actually following a vessel from port to port than was heretofore possible. It should be noted, though, that the crew lists give no information

4. This process is described in Eric W. Sager, Lewis R. Fischer and Rosemary Ommer, «Landward and Seaward Opportunities in Canada's Age of Sail», in Lewis R. Fischer and Eric W. Sager (eds.), *Merchant Shipping and Economic Development in Atlantic Canada* (St. John's 1982), 7-31.

5. Keith Matthews, «Crew Lists, Agreements, and Official Logs of the British Empire, 1863-1913», *Business History*, XVI (January 1974), 78-80. The MHG is also now in possession of the Crew Lists for the 1914-1939 period.

about cargoes; students interested in a micro-analysis of commodities carried on specific voyages must resort to alternative sources⁶.

A large number of the Canadian crew lists have been coded and analyzed using computers as part of the Atlantic Canada Shipping Project. This six-year effort to comprehend the eastern Canadian industry between 1820 and 1914 has been discussed at length elsewhere, and those interested in the project and its data files can consult the relevant literature⁷. A subset of these larger data files, comprising all voyages with one or more ports of call in the West Indies, forms the backbone of the following analysis⁸.

(I)

What were the patterns of Canadian vessels in the West Indian trade? To answer this question, we can begin by analyzing the computer file deriv-

6. For a discussion of alternative sources, see Lewis R. Fischer and Eric W. Sager, «An Approach to the Quantitative Analysis of British Shipping Records», *Business History*, XXII, No. 2 (July 1980), 135-151; Lewis R. Fischer, «Shipping and the Baltic Wood Trades, 1863-1908» (paper presented to the Eighth International Economic History Congress, Budapest, Hungary, August 1982).

7. On the technical side of the project, see David Alexander, «Objectives and Methodologies of the Atlantic Canada Shipping Project», *The Great Circle: The Journal of the Australian Association for Maritime History*, I, No. 2 (October 1979), 36-42; Fischer and Sager, «An Approach to the Quantitative Analysis»; Lewis R. Fischer and Rosemary E. Ommer, «Clio and the Machine: Computers and Quantitative Methodology in the Study of Maritime History», in Glyn Williams and Sarah Palmer (eds.), *Charted and Uncharted Waters: The Study of British Maritime History* (forthcoming, Greenwich, England 1982). The results of the project have been published widely, but for some of the major conclusions, see Keith Matthews and Gerald Panting (eds.), *Ships and Shipbuilding in the North Atlantic Region* (St. John's 1978); Lewis R. Fischer and Eric W. Sager (eds.), *The Enterprising Canadians: Entrepreneurs and Economic Development in Eastern Canada, 1820-1914*, (St. John's 1979); David Alexander and Rosemary E. Ommer (eds.), *Volumes Not Values: Canadian Sailing Ships and World Trades* (St. John's 1979); Rosemary E. Ommer and Gerald Panting (eds.), *Working Men Who Got Wet* (St. John's 1981); Lewis R. Fischer and Eric W. Sager (eds.), *Merchant Shipping and Economic Development in Atlantic Canada* (St. John's 1982); Lewis R. Fischer and Keith Matthews (eds.), *Change and Adaptation in Maritime History: The National Fleets of the North Atlantic Rim, 1820-1914* (forthcoming, St. John's 1983); Eric W. Sager and Lewis R. Fischer, «Patterns of Investment in the Shipping Industries of Atlantic Canada, 1820-1900», *Acadiensis*, IX, No. 1 (Autumn 1979), 19-43; Eric W. Sager and Lewis R. Fischer, «Atlantic Canada and the Age of Sail Revisited», *Canadian Historical Review*, LXIII, No. 2 (June 1982), 125-150.

8. Only those voyages beginning in the period 1863-1890 were used in the analysis. The decline of the Canadian fleet became so pronounced after that date that trends and patterns were no longer discernable.

ed from all voyages made by vessels registered in Saint John, New Brunswick, and Halifax, Windsor and Yarmouth, Nova Scotia. Of the more than 18,000 voyages completed by vessels registered in these ports, 2010, or just under eleven percent, touched on the West Indies (see Table 1). As the table indicates, not all of the eastern Canadian ports were equally represented in trade to the Caribbean islands. This connection was relatively less important for vessels from Yarmouth or Windsor than for those from Halifax or Saint John. Almost three of every five voyages were undertaken by craft registered in Saint John, but since the fleet registered in that New Brunswick port was so large, the West Indian component of her trade was slightly less important than for Halifax⁹. But even though about one voyage in seven by Halifax-registered vessels called in the Caribbean, this proportion was less than might be inferred from the literature on Halifax trade¹⁰. Obviously, the West Indies occupied an important niche in the trading patterns of Canadian vessels.

We know the West Indies were important trading entrepôts in the late eighteenth and early nineteenth centuries. But did the tropical islands retain their allure after 1860? The answer, as revealed in Figure 1, would appear to be mixed. Voyages to the West Indies were quite important in the 1860s and early 1870s, after which a long-term decline set in. While the 1870s were the single most important decade, and more than ninety percent of all voyages occurred prior to 1880, most years after 1870 witnessed a

9. See Lewis R. Fischer, «The Great Mudhole Fleet: The Voyages and Productivity of the Sailing Vessels of Saint John, 1863-1912», in Alexander and Ommer (eds.), *Volumes Not Values*, 117-155.

10. See, for example, David Sutherland, «Halifax Merchants and the Pursuit of Development, 1783-1850», *Canadian Historical Review*, LIX, No. 1 (March 1978), 1-17; Sutherland, «The Personnel and Policies of the Halifax Board of Trade, 1890-1914», in Fischer and Sager (eds.), *The Enterprising Canadians*, 203-229. The best current overview of Halifax shipping in this period is Eric W. Sager, «Sources of Productivity Change in the Halifax Ocean Fleet, 1863-1900», in Alexander and Ommer (eds.), *Volumes Not Values*, 93-115.

11. When the Maritime History Group acquired the Crew Lists from the Public Records Office, it was agreed that a sample would be retained in England for research purposes. Without resorting to any sophisticated sampling process, it was agreed that voyages terminating in years ending in «5» (1865, 1875, 1885, etc.) would remain in England. Some of these documents, however, inadvertently were transferred to Newfoundland. As well, vessels starting in years ending in «5» but concluding in the next year *were* part of the holdings transferred. Thus, we possess a sample of the agreements for those years, although it is impossible to determine the precise percentage. For this reason, data for the middle year in each decade should be interpreted with care.

Table 1

Voyages to the West Indies by Vassels Registered in Selected Canadian Ports, 1863-1890

Port of Registry	N.^o Voyages to WI	% of WI Voyages	WI Voyages as % of All Voyages
Saint John	1167	58.0%	13%
Yarmouth	308	15.3%	7%
Windsor	286	14.3%	3%
Halifax	249	12.4%	14%
Total	2010	100.0%	11%

Source: MHG, «Agreements and Accounts of Crew», 1863-1890 (hereafter referred to as West Indies Data File).

decline in the number of voyages¹². We will explore this phenomenon later in the paper.

The West Indian trades historically had been staple-based: timber and fish were shipped from Canada, while sugar, cocoa, coffee and tobacco comprised the bulk of the exports. Nevertheless, Canadians used principally medium-sized vessels in the trade (see Table 2). The favoured carrying capacity was the 250-499 ton class, and more than sixty percent of all voyages were undertaken in vessels of less than five hundred tons burthen. This reflects not only the nature of the production function for the staple exports but also the relatively primitive port facilities in the region. This latter constraint was especially important: many ports in the islands were hazardous to navigation, shallow, or totally lacking in facilities for loading and unloading cargoes¹³.

To which ports did Canadian vessels trade? Table 3 lists the ten most important ports in the islands, ranked both by number and tonnage of entrances. Five of the ten were located in Cuba, with Havana and Matanzas ranking far above the other ports in importance. Of interest as well is the wide divergence in mean tonnage entering. Clearly, Havana, St. Thomas and Port of Spain, all of which accommodated vessels of more than five hundred tons on average, appear different. On the other hand, ports such as Kingston, Martinique, Cardenas and Cienfuegos were frequented by much smaller vessels.

The importance of Cuban ports is further illustrated by Table 4, which examines entrances by island. Over fifty-seven percent of all entrances into West Indian ports (N = 1598) were into harbours in Cuba. Barbados and St. Thomas (Virgin Islands) were the only other islands to account for even ten percent of entrances. No other island, even the long-time entrepot of Jamaica, comprised as much as four percent of regional entrances.

The predominance of Cuba thus becomes evident. Indeed, a correlation of first differences between *changes* in the number of entrances into

12. This impressionistic pattern is confirmed by calculating growth rates using a linear regression model of the form $\text{Log } Y = a + bt$. The following equations are obtained:

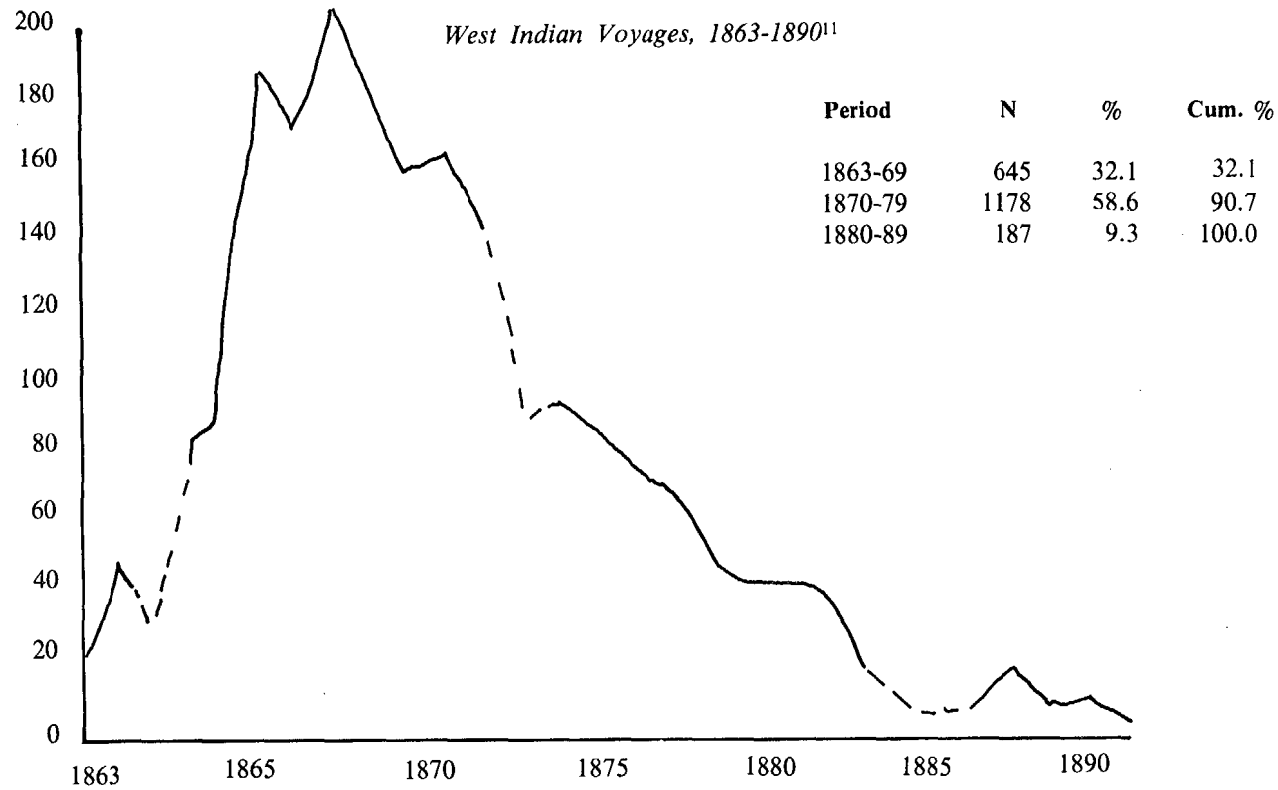
1863-70: $y = 1.897 + 0.1323t$, growth rate = 14.2% per annum

1870-79: $y = 1.858 - 0.0572t$, growth rate = -12.3% per annum

1880-89: $y = 1.013 - 0.1682t$, growth rate = -8.1% per annum

13. Good contemporary descriptions of West Indian ports may be found in G.D. Urquhart (comp.), *Dues and Charges on Shipping in Foreign Ports: A Manual of Reference* (London 1888).

Figure 1



Note: Dotted lines indicate the figures for years ending in «5». For an explanation of this problem, see footnote 11.
Source: West Indies Data File.

Table 2

West Indian Voyages by Tonnage Class

Tonnage Class	N.º Voyages	%
Under 250	344	17.1
250- 499	894	44.5
500- 999	603	30.0
1000-1499	152	7.6
1500+	17	0.8

Source: West Indies Data File.

Table 3*Principal Ports of Call, 1863-1890*

Port	N.^o Entrances	Rank	N.^o Tonnage	Rank	\bar{X} Tonnage
Havana	504	1	289923	1	575
Mantanzas	392	2	168289	2	429
St. Thomas	183	3	107199	3	586
Cardenas	127	4	45366	5	357
Cienfuegos	126	5	49571	4	393
Bridgetown	72	6	35735	6	496
Santiago	63	7	25413	8	389
Martinique	61	8	21673	9	355
Port of Spain	57	9	33414	7	571
Kingston	57	9	19330	10	339

Source: West Indies Data File.

Table 4*Principal Ports of Call by Island*

Island	% of Entrances
Cuba	57.2%
Barbados	12.3%
St. Thomas	11.2%
Jamaica	3.6%
Trinidad	3.5%
Puerto Rico	2.0%
Bahamas	1.9%
Martinique	1.6%
Bermuda	1.4%
Haiti	1.1%
Dominican Republic	0.9%
Antigua	0.7%
Guadeloupe	0.6%
Curacao	0.4%
St. Lucia	0.3%
Remainder	1.3%
	<hr/>
	100.0 (N = 2794)

Source: West Indies Data File.

Cuban ports and *changes* in entrances into ports in the entire region yields a value of + .87 up to 1879 and + .63 thereafter. This suggests that as much as seventy-six percent of the variance in regional entrances in the «golden age» may be explained by the attractions of Cuba¹⁴. Clearly, any attempt to understand the patterns of shipping in the Caribbean must begin with the island of Cuba.

(II)

The nineteenth century was a period of intense change for the Cuban economy. At the beginning of the century, tobacco, coffee and sugar were of almost equal importance to the export trades. But for a variety of complex reasons, the Napoleonic Wars left the tobacco industry prostrate¹⁵. Similarly, a prolonged period of price depression decimated the coffee industry by mid-century¹⁶. Henceforth, sugar was «king» on the island.

The rise of the sugar industry in nineteenth century Cuba was truly phenomenal. As late as 1815 total production stood at about 42,000 tons annually, about half the Jamaican output. But a period of intense growth ensued. By 1862 production reached 500,000 tons per year, and average annual output in the 1890s exceeded 950,000 tons per annum. At the end of the century Cuba had for all practical purposes become a one-crop economy¹⁷.

This shift in the economic structure was accompanied by profound changes in the pattern of trade. In 1840, Europe was by far the most important market for Cuban exports, but by 1860, as Cuba moved closer to a dependence upon only a single commodity, the United States absorbed sixty-two percent of Cuba's sugar exports¹⁸. In some years in the early 1890s, as European nations erected protective tariffs to protect their sugar-

14. A covariate analysis suggests, however, that the variance explained by entrances into Cuba is much less. An Attempt at calculating a multiple linear regression, using nine file variables, disclosed a serious problem of collinearity. Indeed, the highest η^2 value obtained for Cuban entrances in this exercise was + 0.37. This suggests that in all likelihood, Cuban entrances explain somewhere between thirty-seven and seventy-six percent of annual changes, which is a considerable margin for error.

15. See, for example, Parry and Sherlock, 222-225.

16. Suchlicki, 52-59.

17. Statistics on Cuban sugar production may be found in LeRiverend, Appendix I.

18. By 1860 Spain, which had once been the principal importer of Cuban sugar, absorbed only three percent of all exports.

beet industries, the United States took over eighty percent of Cuban sugar production¹⁹.

Coupled with economic changes were political upheavals. Although Cuba had been relatively stable in the first half of the century, political unrest swept the island after 1868. The Ten Years' War (1868-78) had a dramatic effect on the sugar industry, especially in the eastern half of the island. An uneasy peace followed, but the political uncertainty was never resolved, culminating in Jose Martí's revolution of 1895 and American intervention during the Spanish-American War²⁰.

This brief synopsis of the history of Cuba's political economy forms a necessary backdrop to the comprehension of the pattern of deployment of Canadian vessels in the Cuban trade (see Figure 2). Entrances by Canadian vessels into Cuban ports followed a pattern quite similar to the voyage patterns for the region as a whole. From a fairly insignificant base, entrances rose rapidly in the late 1860s, peaked in 1870, were highly variable through most of the 1870s, and then dwindled after the early 1880s.

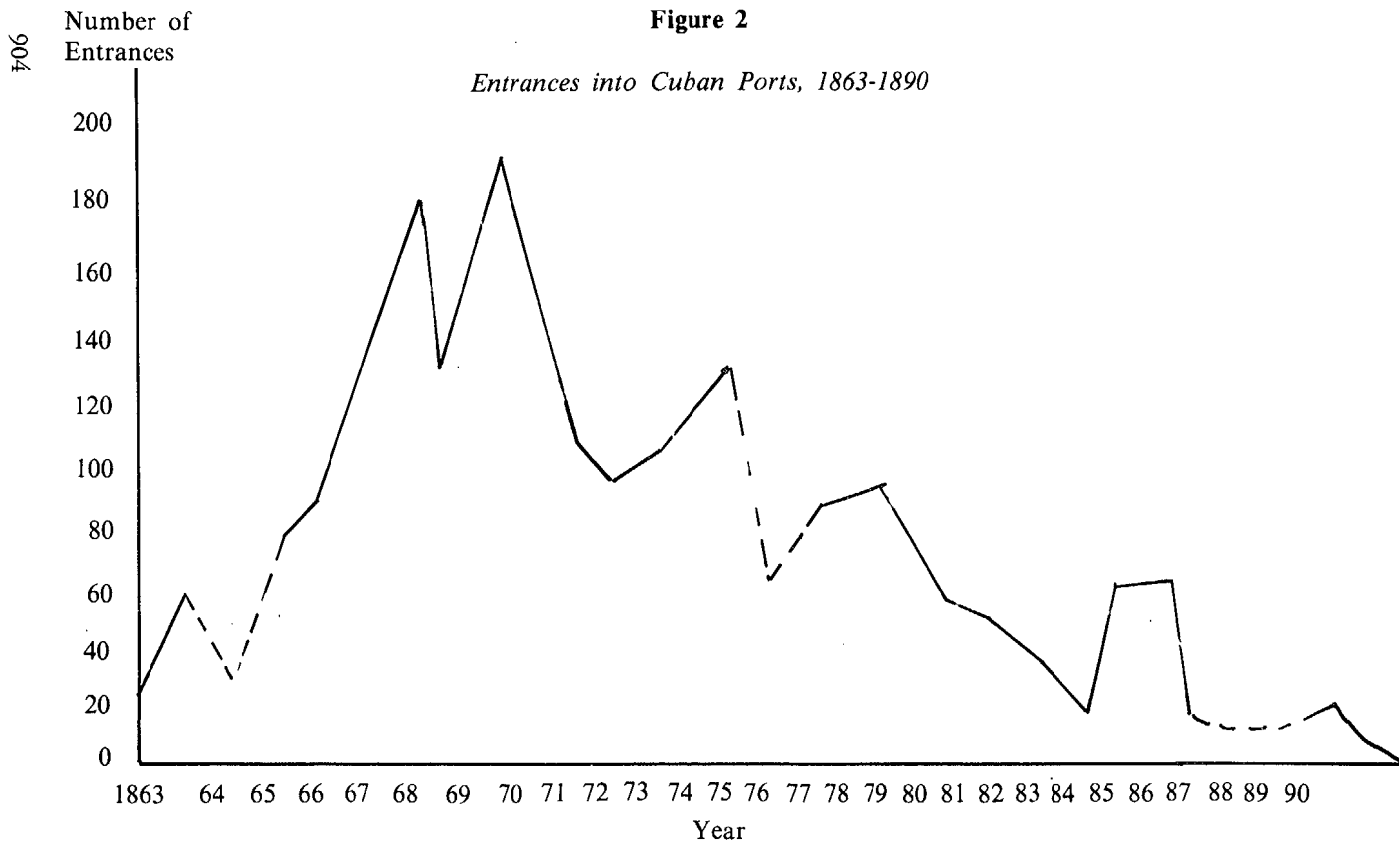
How can this pattern be explained? First of all, we must consider the rapid increase in the volume of exports after 1860 and the shift of markets from Europe to North America. As Table 5 indicates, an overwhelming percentage of Canadian voyages *from* Cuban ports were destined for North America, and in each period more than three-quarters of the terminal ports were in the United States. Havana, with its more diverse range of exports, was the only entrepot among the seven major Cuban ports to fall consistently below the mean in North American trade.

Thus, it is clear that Canadian vessel owners were able to tap the burgeoning carrying trade in sugar to North America. But since the vast majority of this trade was with the United States, how were Canadians able to increase dramatically their participation in this commerce? The answer is fairly simple: Canadian owners grasped the main chance. The U.S. Civil War weakened the American merchant marine; nationalist restrictions on the shipping industry completed the crippling process²¹. Canadians were able

19. This movement is discussed in A.G. Kenwood and A.L. Loughedd, *The Growth of the International Economy, 1820-1960* (London 1971), 67 ff.

20. Our understanding of Cuban political history in this period is derived largely from Foner, 125 ff.

21. An excellent overview of the decline of the American merchant marine is Jeffrey J. Safford, «The Decline of the American Merchant Marine: A Historiography», in Fischer and Matthews (ed.), *Change and Adaptation in Maritime History* (forthcoming).



Source: West Indies Data File.

Table 5

Destinations of Voyages from Cuba, 1863-1890
(% Destinations in North America)

Port	1863-69	1870-79	1880-89
Cuba	79.3%	86.2%	79.1%
Havana	74.8%	81.0%	68.8%
Matanzas	81.9%	97.5%	92.9%
Cardenas	80.6%	94.0%	100.0%
Cienfuegos	87.0%	100.0%	100.0%
Santiago	84.5%	100.0%	84.2%
Sagua la Grande	87.5%	89.3%	90.0%
Caibarien	100.0	100.0	n/a

Note: Passages from one Cuban port to another excluded.
Source: West Indies Data File.

to step into the trade simply because they possessed inexpensive and available vessels during a period of burgeoning demand²².

The increase in Canadian participation occurred not only because the opportunity coincided with the rise of Canadian shipowning but also presumably because Canadians were able to profit from it. It will be recalled that by the 1860s Canadian owners were engaged heavily in the crosstrades, and their renewed interest in Cuba was part of this larger phenomenon. We have argued elsewhere that potential profits were not by themselves the sole determinant of the choice of vessel deployment²³. But in the Cuban trade, it would appear that an understanding of the patterns of freight rates, which are clearly related to potential profits, is crucial to a comprehension of Canadian involvement.

A brief digression is perhaps in order. Very early in the life of the Atlantic Canada Shipping Project we became aware of the deficiencies in the standard freight rate indices for the late nineteenth and early twentieth centuries. We were not the first group of historians to make this discovery, to be sure, but we established a long-term plan to attempt to remedy the problem. As a result we have been compiling information on freight rates, principally from shipping newspapers and mercantile records²⁴. For this paper the preliminary data set consists principally of quotations derived from the *New York Maritime Register*, *Mitchell's Maritime Register*, *London Shipping and Mercantile Gazette*, *London Shipping and Mercantile Gazette and Lloyd's List*, *London Shipping World and Herald of Commerce* and *Fairplay*.

22. As a control on the findings of our Canadian study, we are also completing a One-Percent Sample of all voyages made by non-Canadian British Empire vessels. While the file is not yet complete, preliminary analysis suggests that British owners did *not* seize the same opportunities. Perhaps this reflects a greater British commitment to other, more-established trades. If so, this suggests the possibility that Canadians were able to enter the Cuban trade precisely because it was marginal. This possibility will be further tested below, and it is also hoped that a more solid explanation will emerge once the One-Percent Sample and ancillary materials are more fully analyzed.

23. See, for example, Lewis R. Fischer, Eric W. Sager and Rosemary Ommer, «The Shipping Industry and Regional Economic Development in Atlantic Canada, 1871-1891: Saint John as a Case Study», in Fischer and Sager (eds.), *Merchant Shipping and Economic Development*, 33-53.

24. Some of this data has been presented in Keith Matthews, «The Canadian Deep Sea Merchant Marine and the American Export Trade, 1850-1890», in Alexander and Ommer (eds.), *Volumes Not Values*, 195-243.

Table 6

Isserlis Freight Rate Index
(1869 = 100)

Year	Index	Year	Index
1869	100	1880	87
1870	103	1881	87
1871	102	1882	81
1872	103	1883	75
1873	117	1884	64
1874	108	1885	63
1875	99	1886	59
1876	98	1887	65
1877	99	1888	76
1878	91	1889	75
1879	85	1890	64

Source: L. Isserlis, «Tramp Shipping Cargoes and Freights», in B. R. Mitchell and Phyllis Deane, *Abstract of British Historical Statistics* (Cambridge 1962), 224.

Table 7

Indexed Freight Rate: Havana-New York (sugar)
(1869 = 100)

Year	Index	Year	Index
1863	212	1877	90
1864	204	1878	86
1865	163	1879	74
1866	129	1880	62
1867	92	1881	50
1868	99	1882	58
1869	100	1883	58
1870	119	1884	53
1871	116	1885	44
1872	124	1886	38
1873	122	1887	29
1874	113	1888	26
1875	104	1889	24
1876	95	1890	21

Note: Where possible, this reflects sailing vessels only.
Source: See text.

Table 8

Indexed Freight Rate: Matanzas-New York (sugar)
(1869 = 100)

Year	Index	Year	Index
1863	226	1877	100
1864	184	1878	90
1865	150	1879	80
1866	90	1880	67
1867	75	1881	64
1868	114	1882	60
1869	100	1883	60
1870	114	1884	55
1871	120	1885	50
1872	130	1886	40
1873	114	1887	33
1874	100	1888	30
1875	100	1889	25
1876	95	1890	25

Note: Where possible, this reflects sailing vessels only; 1884, 1886 and 1887 are interpolations based upon underlying Havan trends.
Source: See text.

Table 9

Indexed Freight Rate: Cienfuegos-New York (sugar)
(1869 = 100)

Year	Index	Year	Index
1863	n/a	1877	112
1864	n/a	1878	83
1865	122	1879	n/a
1866	60	1880	67
1867	115	1881	67
1868	122	1882	n/a
1869	100	1883	n/a
1870	108	1884	50
1871	100	1885	n/a
1872	112	1886	n/a
1873	100	1887	n/a
1874	100	1888	n/a
1875	115	1889	n/a
1876	112	1890	n/a

Note: Where possible, this reflects sailing vessels only.
Source: See text.

Tables 6 through 9 present time series of freight rates for the ports of Havana, Matanzas and Cienfuegos; as well the standard Isserlis index has been included for comparison. These series, while still preliminary and subject to further revision, nevertheless show some important points. First of all, while all of the Cuban series follow the general trends of the Isserlis index, none correlate particularly well with it²⁵. Thus, if despite all its deficiencies we accept Isserlis as reflecting general trends in the world freight markets (which is reasonable), it is clear that the Cuban trades reflect a very different reality. Further, the Cuban series suggest the existence of at least two different freight markets. While the Havana and Matanzas rates show a moderately strong correlation (+ .68), the Cienfuegos series correlates poorly with either (+ .14 with Matanzas, -.30 with Havana).

Second, the Cienfuegos rates do not show the extreme fluctuations that might be expected of a port in Las Villas province affected by the Ten Years' War. If the prospect of high returns drew Canadians into the trade, there is little evidence that they collected exceptionally high rewards because of the exigences of war. Further research into the freight rates of Santiago or Caribarien, which suffered greater disruptions, might alter this picture, but at present it would appear that the war played at best a small role in attracting Canadian vessels.

But perhaps more important than either of the first two observations is one characteristic which was shared by all three Cuban ports: by and large their freight rates were higher than the Isserlis index through the mid-1870s; thereafter, their declines were far more precipitous than the world norm. In Havana, for instance, sugar rates were little better than a fifth their 1869 level by 1890; in Matanzas, they were only a quarter as high.

This suggests a tentative hypothesis. Canadians, it would seem, were well-placed to capitalize upon the opportunities presented in the 1860s. Not only did they have vessels available but they also enjoyed a geographic proximity to both supply and market. The higher than average freight rates of the 1860s were the clincher. On the other hand, faced with rapidly falling freights in the 1880s, Canadians shifted their assets out of the Cuban carrying trade. This hypothesis possesses all the beauty—and all the dang-

25. The correlation coefficients are:
Isserlis - Havana: + .28
Isserlis - Matanzas: - .34
Isserlis - Cienfuegos: + .09 (to 1881).

ers— of self-evident simplicity. Yet there is some further supporting evidence to suggest that it is worth pursuing.

For example, we know that the Cuban trade must have been very expensive. This is demonstrated by at least three facts. First of all, owners and masters throughout the period had apparent difficulties securing cargoes. In the 1860s, seventy-nine percent of all voyages required more than one port or call for loading; this figure rose to eighty-eight percent in the 1870s and remained close to that level (85%) in the 1880s. As well, the duration of an average New York-Cuba-New York voyage compared to the much longer New York-Barbados-New York trip required 31% more time in the 1860s, 37% longer in the 1870s, and 42% more in the 1880s. Freight rates may have been high, but delay was expensive and could decimate potential profits.

Costs must have been further escalated by the poor port facilities. Cuba was not unique in this regard; indeed, inadequate facilities were the norm rather than the exception in the Caribbean. Still, outside of Havana costs must have been boosted by the primitive conditions. Matanzas was described as a port with «only eight feet of water alongside the wharf and no light at the harbour entrance». As well, masters were warned that since «sailing vessels had difficulties beating their way out», delays were endemic²⁶. Sagua la Grande was cited for the lack of steam tugs²⁷; vessels entering Cienfuegos were cautioned that heavy silting and shoals provided special dangers²⁸. Similar warnings were issued for most of the principal ports. As well, even if a vessel surmounted these difficulties, there was the constant danger of shipwreck on the dangerous shoals and reefs. Indeed, although the West Indies accounted for less than eleven percent of all voyages, the region claimed forty-six percent of all marine disasters. And the Cuban coast accounted for over sixty percent of vessels lost in the Caribbean²⁹.

Finally, expenses were increased by the necessity to carry crews which were larger than average. This was dictated not only by the treacherous conditions which required extra hands to serve as lookouts and to man the sails but also by the fact that in almost every port crews were required to work

26. Urquhart, 543.

27. *Ibid.*, 541.

28. *Ibid.*, 530.

29. See, for example, David Alexander, «Output and Productivity in the Yarmouth Ocean Fleet, 1863-1901», in Alexander and Ommer (eds.), *Volumes Not Values*, 63-91; see also notes 9 and 10.

the cargo³⁰. This extra expense must have been particularly onerous for Canadian owners, who managed to stay in the industry after the late 1870s largely because of an ability to raise productivity while slashing crew³¹. But, as Table 10 indicates, West Indian voyages, and Cuban voyages in particular, required far more men per hundred tons than any other trade route³².

In short, these conditions lend a good deal of support to our tentative hypothesis. Further research may uncover additional causes to explain the patterns, but at this point we have reason to believe that we are on the right path.

(III)

But if an examination of Cuba is essential to understand patterns of Canadian sailing vessels in the 1860s and 1870s, we must look a bit further to comprehend the 1880s. Cuban ports were less important in this latter decade; instead, other regional ports become more crucial to Canadian vessels.

Chief among these were Barbados, St. Thomas and Trinidad. Together, these three ports accounted for almost half of all regional entrances after 1880. Despite the fact that they all produced staple exports, the evidence is reasonably clear that it was a very different function which explained their new significance: these three ports became the most important «ports for orders» in the region. While sailing vessels had long depended upon such ports, the squeeze on profits caused by declining freight rates and the challenge of steam gave added prominence to these harbours. If sailing vessels were to be effectively deployed, the ability to dispatch them on short notice to ports which offered cargoes or markets was essential.

30. Urquhart, 519-520.

31. See note 29.

32. Of course, one would expect West Indian and Cuban voyages to have higher man-ton ratios given the fact that fairly small vessels were employed in the trade. But two facts suggest that it was still relatively expensive. First of all, the rate of change in man-ton ratios was less on West Indian voyages than on any other trade route; if this is taken as a rough surrogate for productivity growth, it is clear that the West Indian trade routes were not growing in efficiency as rapidly as the others. Second, a series of analyses were performed on some of the data holding tonnage constant. The results indicated that West Indian voyages required a significantly greater amount of labour per ton than did vessels on any other trade route.

Table 10*Man-Ton Ratios on Selected Trade Routes, 1863-90*

Route	1863-77	1878-90	% Change
All Routes	2.25	1.58	—29.8%
West Indies	3.03	2.56	—15.5%
Cuba	3.15	2.83	—10.2%
North Atlantic	2.15	1.59	—26.0%
India/Asia	1.98	1.32	—33.3%
U. S. Gulf	1.99	1.55	—22.1%
Australia	3.03	2.19	—27.7%
South America	1.93	1.55	—19.7%

Note: Man-ton ratio defined as men per one hundred tons.

Source: West Indies Date File.

All three ports were admirably located for this task. The respective harbours were large, well-sheltered and well-provisioned. As well, with the growing importance of the South American trades, the three ports were centrally-located to serve conveniently as ports for orders.

St Thomas, in the Danish West Indies, had long been an important port for orders. Indeed, through the 1870s it was by far the most important such harbour in the Caribbean. The reasons for this are not difficult to fathom. A free port after 1775, by the middle of the nineteenth century St. Thomas «had become an international centre of commerce, (where) merchant vessels from Europe vied for anchorage»³³. Ship repair and brokerage facilities were constructed, and the port openly advertised itself as a port for orders³⁴. Given its location, it was a natural port in which to call on voyages from Europe to the New World; by the 1880s it was also a logical way-station on the trade routes connecting North and South America.

Trinidad, and particularly the principal port of Port of Spain, developed a similar reputation. As the closest island to the coast of South America, Trinidad was a natural port of call for vessels which had spent two months beating along the coast from Buenos Aires. Orders for masters could be telegraphed by distant owners to agents in the port, directing them to make for a wide range of destinations. Again, local businessmen grasped the opportunity, and Trinidad's improved port facilities attracted a wide-range of Canadian sailing vessels³⁵.

But perhaps the most impressive success story was Bridgetown, Barbados. As the most easterly of the Caribbean islands, Barbados was the first landfall for vessels sailing to the area from Europe. Canadian sailing vessels had transported cargoes from the island in the 1860s and 1870s, but by the 1880s the principal reason for entering the port was for orders. Indeed, by 1888 the editor of one respected shipping manual could proclaim that Bridgetown had become «the principal chartering centre of the West Indies». Telegraphic communications, as in St. Thomas and Trinidad, provided information about markets³⁶.

The increased interest in these ports is undeniable, but since the crew lists provide no information on cargoes, is it possible to ascertain with any

33. Urquhart, 279-280.

34. Holbrook, 37-39.

35. Urquhart, 1229-1233.

36. *Ibid.*, 1221-1222.

Table 11

Port Times in Selected Caribbean Ports, 1863-90
(Mean Days)

Port	1863-69	1870-79	1880-90
Ports for Orders			
St. Thomas	3.2	2.9	2.2
Port of Spain	11.4	7.3	2.8
Bridgetown	19.3	11.0	2.7
Other Regional Ports			
Havana	26.3	24.8	24.1
Kingston	29.1	28.4	27.6
Matanzas	31.7	30.0	29.4
Martinique	27.1	23.6	22.8

Note: Man-ton ratio defined as men per one hundred tons.
Source: For West Indies, West Indies Data File. For others, Fischer, «The Grac Mudhole Fleet», Table 18.

confidence that Canadian vessels used these ports for orders rather than cargoes? The answer to this query is yes. Table 11 presents information on the amount of time spent in each port over time. From the table it can be clearly seen that by the 1880s the time spent in each port was simply too short to permit the loading of cargo, particularly when their port times are compared with those for other regional ports.

Another piece of evidence supporting the conclusion that these three ports were performing a communications function is presented in Table 12. It will be recalled from Table 5 that vessels departing Cuban ports were highly-concentrated in the export trades to the United States. Similar «streaming patterns» may be observed for other staple-exporting ports in the region. But Bridgetown, St. Thomas and Port of Spain were different. All showed a far wider range of destinations than did the Cuban ports, especially the growing importance of links with South America and ports in the Gulf of Mexico. This dispersion provides further support for the view that these ports were functionally different than those elsewhere. And since the evidence is strong that these ports were the «growth poles» for Canadian shipping in the West Indies during the 1880s, it is hard to avoid the conclusion that for Canadian vessels at least, by the 1880s the West Indian trade had been reduced to using the islands merely as stopping points on longer voyages.

Table 12

*Destinations for Vessels Departing Ports for Orders, 1863-90
(Percentages)*

Port for Orders	Destinations					
	USA-East	USA Gulf	South America	Europe	West Indies	Other
St. Thomas						
1863-69	34.0%	6.3%	7.9%	31.2%	12.0%	8.6%
1870-79	32.7%	7.1%	11.4%	33.0%	9.3%	6.5%
1880-89	24.3%	15.8%	20.4%	23.4%	10.4%	5.7%
Port of Spain						
1863-69	21.6%	7.9%	18.4%	33.3%	13.1%	5.6%
1870-79	25.0%	8.5%	25.0%	25.0%	10.0%	6.5%
1880-89	16.7%	23.3%	45.0%	10.0%	5.0%	0.1%
Bridgetown						
1863-69	20.0%	20.0%	15.0%	20.0%	5.0%	10.0%
1870-79	22.4%	15.6%	25.8%	17.4%	18.8%	8.5%
1880-89	16.7%	25.0%	39.4%	2.2%	10.1%	7.0%

Source: West Indies Data File.

(IV)

This paper has been both a preliminary and necessarily speculative attempt to describe and to explain the patterns of Canadian involvement in West Indian shipping. Doubtless it has raised at least as many questions as it has provided answers. While this may appear frustrating, in our view it is a necessary stage in the long-term process of understanding historical phenomena.

The question of the provision of transport services in the nineteenth century Caribbean has been but little explored. Given the importance placed by export-based economies upon transportation, this lacunae in our historical knowledge seems unacceptable. While we believe that we have shed light on some of the important historical problems in this area, we would consider this paper a success if it motivated even one scholar to enquire further into the issues. We would hope that someone will soon accept this challenge.

FOOTNOTES

* This paper is an extension of work carried out by members of the Atlantic Canada Shipping Project at Memorial University of Newfoundland. The authors would like to thank their colleagues in this project, especially Eric Sager, Keith Matthews and the late David Alexander for their contributions to this collaborative research effort. The work of the Atlantic Canada Shipping Project has been funded by the Social Sciences and Humanities Research Council of Canada and Memorial University; we gratefully acknowledge this support.