LIVERPOOL SHIPOWNERS: 1820-1914

DAVID CLARKE

LIVERPOOL SHIPOWNERS: 1820-1914

by

©David Clarke

A thesis submitted to the

School of Graduate Studies

in partial fulfilment of the

requirements for the degree of

(Doctor of Philosophy)

Department of History
Memorial University of Newfoundland

December, 2005

St. John's Newfoundland

Your file Votre référence
ISBN: 978-0-494-19618-2
Our file Notre référence
ISBN: 978-0-494-19618-2

Abstract

For many years Britain was the most important maritime nation on Earth. Of its many significant ports Liverpool, with its world-wide connections, was among the most important. One significant element in Liverpool's maritime success were those persons who invested in tonnage at the port – the Liverpool shipowners.

Although such did not guarantee success in any endeavour, it seems that most of the more prosperous Liverpool shipowners had something of a "leg up," or a comparative advantage, that fostered their commercial success. Most Liverpool shipowners came from the local area, where they also registered their tonnage, and were likely to buy their vessels in the local (or at least a regional) market. Barring this, tonnage purchases were often made based on commercial linkages, like the timber trade between Liverpool and British North America. In terms of the investors themselves, most would have had some form of seaward connections through careers such as mariners, or merchants. William Wheelwright, for example, grew up in a thriving port, the son of merchant shipowners. From an early age Wheelwright went to sea, eventually founding South America's first Pacific steamship service – a venture intimately connected with Liverpool which had long-standing links to South America.

Of perhaps coequal importance to comparative advantage in shipowning was the ability to adapt to changing conditions. This was especially important in the nineteenth century, which witnessed the most profound commercial, social and technological shifts then seen. Certain firms like Wheelwright's Pacific Steam Navigation Company (PSNC)

were on the very cusp of change and could be considered innovators from the start. Other shipowners, like Thos. & Jno. Brocklebank, timed adaptations much more conservatively, but were nonetheless equally adept at sensing and responding to a need for change, based on the requirements of their chosen trades.

Neither the possession of comparative advantage, nor an ability to adapt with the times (even when such were allied to formidable business intellects), could guarantee a shipowners' success. However, the track record of Liverpool-based firms such as Brocklebanks and PSNC will demonstrate that they were at the very least powerful building blocks for the prosecution of seaward enterprise.

Acknowledgements

There are a number of individuals without whom this thesis might never have seen the light of day. First and foremost among these is my doctoral supervisor, Professor Lewis "Skip" Fischer. Skip has been an unfailing source of support and advice, not only during completion of my PhD, but during my Masters degree as well. Many of the best aspects of this thesis were guided by Skip's influence. As for the errors, I claim sole ownership of those. My heartfelt thanks, Skip, for everything. I would also like to acknowledge the support of a number of other persons connected with Memorial University of Newfoundland. From the History Department I would like to specifically thank Department Head Chris Youé, and staff Fran Warren and Beverly Evens-Hong. All three have been tremendously supportive during my years with the department. One of the best things about grad school at Memorial has been the friendships I've made. There are too many to list here, but I would like to particularly single out – from the history department – Alex, Bill, Kurt, Rob and Stefan. Dominic, a onetime graduate student with the linguistics department, and Herb, formerly with the Registrar's Office, have also been particularly good friends. I would also like to acknowledge those who served on my supervisory committee – Professors Youé, William Reeves and James Hiller – and those who acted as examiners for my thesis – Professor Emeritus Peter N. Davies, Dr. Mike O'Brien and Dr. Mark Hunter. A vote of thanks also goes out to former Dean of Graduate Studies, and Memorial University professor, Dr. Gregory Kealey, who was always helpful and understanding. The staff at the School of Graduate Studies, a number of whom I worked with for a time, have also been most helpful

in my dealings with them. I would also like to extend my thanks to Ms. Lorraine Cole at the University Cashier's Office who has been very understanding of my situation during the final semesters of my research. Much of my on-campus research was conducted at the Maritime History Archive and I must give my heartfelt thanks to the staff there, in particular Heather and Paula, for their co-operation, patience and good humour. I likewise send thanks to Vince Walsh who has been a friend, and a big help with my computer dilemmas, during my time at Memorial. Finally, last but by no means least, I would like to acknowledge the great deal of assistance and kindness shown to me by Ms. Maggie Henessey of the International Journal of Maritime History. Much appreciated Maggie!

There are a number of individuals in the United Kingdom who have also been most considerate and helpful to me. I thank the staff members at both the Merseyside Maritime Museum Archives and at the Liverpool Record Office. Their assistance made my search for documents all that much easier. At the University of Liverpool I would like to thank the campus librarians and all staff at the History Department office. Among the professors, I am especially grateful to Dr. Robert Lee and Dr. Sally Sheard. I also wish to thank Dr. Sari Maenpää for her help and friendship. My especial thanks go to Dr. Adrian and Mrs. Anthea Jarvis who acted as my gracious hosts for almost two months. I would also like to acknowledge the third member of the Jarvis household, Hazel, my best friend in Liverpool. In London, I would like to thank Dr. John Armstrong and his wife Pamela for their hospitality. It was much appreciated. Although I did not have the opportunity to meet him personally, I owe a vote of thanks to Dr. Graeme Milne for his willingness to share his own

Liverpool data with me.

There are many other persons who gave me support and encouragement during my Doctorate. Foremost among them, as always, are my parents John and Margaret Clarke; also my grandparents Leonard and Dulcie Clarke, and Barbara Burton. They have shared in all my successes and overlooked any shortcomings. I also wish to remember my grandfather, Stewart "Stewdie" Burton. He loved history and was very proud when I finished my Master's degree. "Pop" Burton is no longer with us but his memory continues to inspire me. My family as a whole has been very supportive and I thank them all, especially my great-aunt, Joyce Skanes, with whom I stayed during my early research in St. John's. I would also like to acknowledge each and every one of my friends, including Lloyd, Mark and Steve, who continue to believe in and support me. Finally, I would like to thank the staff of the Twillingate Public Library (in particular Mrs. Barbara Hamlyn) where I found a number of useful sources to round out my research. If I have forgotten anyone, my apologies, you remain in my heart. All the best to everyone!

Table of Contents

List of Tables

List of Figures

List of Graphs

List of Appendices

List of Documents

Chapter 1

Introduction

This thesis will profile the careers of Liverpool-based shipowners between 1820 and 1914. It is hoped that this study will add to our understanding of the business of shipowning as it was practised at Liverpool over the period 1820-1914 and in this way contribute to the larger field of maritime business history.[1] The intention is, first, to present a statistical overview of the "typical" types of owners, along with the primary type of capital in which they invested and second, to take a case study approach by examining the histories and business strategies of two specific companies. A major aim of the first element is to uncover the capital composition of the Liverpool-registered fleet, at least in terms of newly-registered vessels, over this period. Among the themes explored are the adoption of new technologies, such as steam propulsion, and the tendency to invest in larger vessels over time. Following this examination we will then look at who invested in this tonnage and how the investor profile shifted over time (especially concerning the professionalization of shipowning and the rise of investment by companies).

The story of each investor, and the choices that he or she made, were, at least in part, unique. Still, many of these individuals and firms did follow, if not always consciously, those strategies which they believed would make their enterprise successful. One element

---

1

A number of the best scholarly works on Liverpool's maritime business history, including Francis Hyde on Cunard, Peter N. Davies on Elder Dempster, plus Graeme Milne's examination of the mid-nineteenth century business of shipowning at Liverpool, are profiled in Chapter Two (along with a number of monographs on the port of Liverpool itself).

of these strategies was, according to Graeme Milne and Gordon Boyce, based on information and reputation.[2] That is, the Liverpool shipowner (even before s/he typically was identified by this title) did not operate in a vacuum – such people and companies moved within wider circles. From these contacts they gathered important information, made useful acquaintances and garnered reputations that sustained their businesses, while simultaneously creating an interdependence among the port's commercial elites. In this type of context both the information available to an entrepreneur and his reputation were of crucial importance. Although Milne and Boyce are essentially correct in this assessment, I would argue that there is a further, albeit related, element here – the ability of shipowners to find and maintain their own niche (or comparative advantage) in the industry while at the same time being flexible enough to adapt during times of change.[3] On the surface these two skills might appear mutually exclusive, and indeed it was a very fine line for shipowners to decide when it was best to stick with what they knew or when the time had come to adjust a business strategy in the face of changed conditions. As Milne notes, companies venturing outside an

---

2

See Gordon H. Boyce, *Information, Mediation and Institutional Development* (Manchester, 1995); Graeme J. Milne, *Trade and Traders in Mid-Victorian Liverpool: Mercantile Business and the Making of a World Port* (Liverpool, 2000); and Milne, "Information, Reputation and Collaboration in Mercantile Business: Evidence from Mid-Victorian Liverpool," *International Journal of Maritime History*, XIV (June 2002), 1-20.

3

I use comparative advantage to indicate those factors that gave investors an "edge" in the business of shipping. Among other things, their comparative advantages were often derived from a focus on the industry in general or from a concentration upon certain trades. As we will see, many Liverpool investors also came from a maritime background. For example, the founder of Pacific Steam Navigation Company, William Wheelwright, hailed from a seafaring family in a community that had maritime links to South America, and it was there that Wheelwright proposed to establish his shipping line. Likewise, the founder of the Houston Line, R.P. Houston, came from a marine engineering background, while the founders of Sandbach, Tinne & Co. based their business on previous experience in the West Indies.

"established specialty" risked being considered untrustworthy by local information brokers, like bank managers. No less than in contemporary business, it was a serious matter to have your creditworthiness downgraded. Moreover, "moving out of an established niche was likely to incur heavier costs than any slowdown or decline in existing business."[4]

Boyce and Milne's research suggests that such information networks were quite important to shipowners at Liverpool and other ports. There is also evidence that, for certain investors at least, making the best use of their comparative advantages and adapting to changing conditions were important elements of their success. Chapters Seven through Ten take a case study approach, profiling two Liverpool-based shipowning concerns, Brocklebanks and Pacific Steam Navigation Company (PSNC).[5] Both were long-established

---

4

Milne, "Information, Reputation and Collaboration," 4; and Milne, *Trade and Traders*, 113.

5

In using these two companies as examples I am adopting a "micro history" approach, which raises the hoary issue of typicality. It can be argued, for example, that no two firms can be considered to be representative of the entirety of Liverpool's investors; indeed, even a dozen would not reflect the diversity of investors. While I accept that such concerns are valid, they overlook the valuable insights to be gained through in-depth analyses of particular segments of the industry. Although they cannot tell us exactly how every company or investor behaved, a study of Brocklebanks and PSNC can provide us with a useful window into shipowning as it was practised at Liverpool. Furthermore, these firms display some broad commonalities in their business strategies, despite the fact that their structures (a family firm versus an incorporated company) and chosen trades were quite different. A good example of the insights to be gained using this approach is Simon P. Ville, *English Shipowning during the Industrial Revolution. Michael Henley and Son, London Shipowners, 1770-1830* (Manchester, 1987). Ville reminds us that although Henley and Son can only give us concrete information on a single firm, this nonetheless provides some important insights into shipowning in the Napoleonic era. Moreover, what makes Henley and Son so useful is the fact that a significant portion of their records survived while those of many other firms did not. Graeme Milne, *Trade and Traders*, 7, notes that through accident or neglect much valuable material relating to Liverpool shipowning has not survived. Yet in the case of Brocklebanks and PSNC the historian is fortunate in that a good selection of their records are held at the National Museum Liverpool, although even in these cases much appears to have been lost or scattered. While neither company can provide an absolute template for Liverpool shipowners, they formed an important part of Liverpool's investor community over a considerable length of time.

enterprises in the port, plying blue-ocean trade routes for many decades. Apart from this, however, the companies appear to have had little in common. Nonetheless, both found particular comparative advantages on the world's shipping lanes, and both were flexible enough to innovate when necessary. These factors helped Brocklebanks and PSNC establish themselves as shipowners and allowed each to compete well into the twentieth century. Their backgrounds and chosen trades differed, which helped to ensure that the pattern and timing by which they adopted new innovations were very different. Still, both did make the necessary transitions at the rate most suited to their particular circumstances. The example of these two companies does not prove conclusively that such was the case for all investors, even at Liverpool. On the other hand, the evidence provided by these two firms suggests the importance of comparative advantage and adaptability in understanding the development of the shipping industry.[6]

6

In discussing Liverpool vessel investors in general, Chapters Five and Six will also briefly introduce a number of other investors, including Duncan Gibb, Charles Cotesworth & Co. and Sandbach, Tinne & Co. Their stories will help flesh out the statistical profile of more "average investors" and provide evidence for the importance of comparative advantage and adaptability. Although the emphasis here will be more squarely on firms which by their longevity can be considered success stories, it must be emphasized that *no* business strategy is a guarantor of success at all times. Milne's work identifies a number of spectacular failures among Liverpool's shipowning community. Perhaps the most notable of these concerned Edward Oliver. With around 100 vessels in 1854, Oliver was Liverpool's largest owner of wooden tonnage. Unfortunately, he built up this fleet by contracting a huge debt, mainly from fellow shipowners in the timber trade. Owing eighty-four persons and companies about £680,000 in total, Oliver's business collapsed. Ironically, he was no outsider and was supported by Liverpool's leading traders right up until his firm's demise. Milne, *Trade and Traders*, 156-157. Robin Craig also reminds us not to overlook the shipping industry's failures. Craig is quite correct in stressing the fact that shipowning success stories were "deviants" to some degree. Certainly, business failures generally outweigh successes in statistical terms. In presenting such examples I do not try to make the case, which Craig warns of, that the successful company was some kind of norm. Nonetheless, Liverpool was largely a successful port in the period 1820-1914. Companies that failed may have played a positive role for a time, but stability must have been built primarily on those players, like Brocklebanks, PSNC, Harrisons and Sandbach, Tinne, who were contributors for extended periods of time. See Robin Craig, *British Tramp Shipping, 1750-1914* (St. John's, NL, 2003), 15-16.

Before examining the investors in general, or Brocklebanks and PSNC in particular, we will take an in-depth look at the capital in which these people invested – the ships themselves. This capital was a crucial element of shipowning because vessels were the primary capital investment for shipowners, and the possession of them defined membership in the profession. In many cases the type of vessel employed was based on the trade(s). It hardly made sense for a coasting firm to invest in large, ship-rigged vessels, for example, since few coasting trades required large volumes of tonnage, and speed was by no means a major prerequisite for success. Indeed, some vessels were built to a firm's particular specifications, as were PSNC's South American coastal passenger liners, which were used in trades that demanded specific characteristics.[7] An owner's fleet might be defined by the use to which it was put, but it could also be a major vehicle through which an investor displayed adaptability in reaction to changing conditions. Brocklebanks' own switch to metal construction for their vessels is an example. As the efficacy of iron was established, Brocklebanks made the switch, although this likely had spin-offs in its decision to close, rather than modernize, its Whitehaven shipyard.[8] By the mid-nineteenth century the firm had been operating tonnage for about eighty years. In effect, one niche (shipowning), had superseded another (shipbuilding), and the company adapted accordingly. The nineteenth

---

7

According to the historian Duncan Haws, *Merchant Fleets 8: Pacific Steam Navigation Company* (Burwash, East Sussex, 1984), 7, William Wheelwright, "to cater for local passenger needs...created that new breed of vessel: the coastal passenger liner. These beautiful and versatile ships served a mileage equivalent to a transatlantic crossing with clock-like punctuality."

8

Naturally, other factors would have come into play, including the actual cost of modernization itself.

century was marked by the greatest changes in technology and economy that the world had yet seen. It was thus of crucial importance for owners like Brocklebanks to strike the proper balance between their strengths with the flexibility to adapt as the need arose. The first portion of this equation – finding one's comparative advantage and sticking with it – has something of a negative connotation in the sense of being "hidebound."

The scholarly consensus is that Liverpool was slow to adopt new shipping technologies. While this is true statistically, at least for the port's registered tonnage as a whole, this generalization obscures the strategies employed by shipowners engaged in various trades. Flexibility was a two-way street; knowing when to apply the adage "if it isn't broke, don't fix it," was as important a skill as making timely adaptations. Sometimes it was in an owner's interest *not* to employ new methods. Depending upon the circumstances and nature of specific trades, the decision of whether or not to utilize new techniques was often eminently practical. Companies largely stuck with the methods that served them best, but they were constantly called upon to re-evaluate strategy and to modify, if necessary, their best course of action. Through such practical management Brocklebanks and PSNC contributed materially to Liverpool's seaward economy for generations – well beyond 1914 in fact. By certain narrow standards, Liverpool's investors could generally be deemed conservative, or even reactionary, but those profiled here, if judged by their longevity and diversity, certainly cannot be considered failures.[9]

9

A cursory examination of Brocklebanks might lead to the judgement that they fit the conservative stereotype. This evaluation was not altogether undeserved. Nevertheless, Brocklebanks were survivors and did have had

While I have striven to be straightforward in these opening paragraphs, some additional clarification is still needed. For example, the term "shipowner" is multifaceted and can encompass a number of meanings. In its simplest definition it means anyone who chooses to invest in vessels for commercial gain. This analysis can itself be dissected, for there were many types of shipowners. As we will see, the earliest modern shipowners, in Britain and elsewhere, did not even consider shipowning as their main source of income. Although most of these owners tended to be merchants who used their tonnage to convey their own goods, many were simply investors from many walks of life – although often with seaward connections – who choose to put a portion of their disposable income into vessel shares. Like the merchants, the typical investors of the first few decades of the nineteenth century, an era that in fact extended well past mid-century, often defined themselves by reference to occupations other than shipping. For example, it is much easier to find investors before 1850 listing themselves by the ubiquitous term "gentleman"than it is to locate a "shipowner."

By about mid-century this situation began to alter in Britain. For reasons that have been explored by Sarah Palmer, among others, it was at about this time that the business of shipowning began a move toward professionalization, with many owners increasingly deriving their livelihoods specifically from owning vessels rather than simply earning extra

---

a knack for capital and structural changes at opportune moments. PSNC was something of an anomaly among Liverpool shipowners as it was rarely conservative, even at its inception in 1840.

income from the possession of shares.[10] The ranks of the non-professional owners began to thin as those of the owner expanded; this was true not only of Liverpool but also of British ports in general over time. As a corollary of this development, the merchanting function was increasingly separated from ownership, as the latter became a profession in and of itself. Shopkeepers no longer owned their own tonnage to carry their goods, but simply arranged, often through agents or brokers, to have their products carried aboard the vessels of full-time owners.[11] This development did not necessarily occur at the same pace, or at all, elsewhere. In Atlantic Canada, for example, only in the port of Yarmouth did the professional shipowner emerge as a major force during the nineteenth century. For the most part the merchant/shipowner, so important at Liverpool prior to 1850, remained the main category of vessel owner in Atlantic Canada (especially Newfoundland) throughout the nineteenth century.[12]

10

See Sarah Palmer, "Investors in London Shipping, 1820-50," *Maritime History*, II (1972), 46-68.

11

For an examination of agents, see Michael B. Miller, "Ship Agents in the Twentieth Century," in Gordon Boyce and Richard Gorski (eds.), *Resources and Infrastructures in the Maritime Economy, 1500-2000* (St. John's, NL, 2002), 5-22; and Peter N. Davies, *Henry Tyrer: A Liverpool Shipping Agent and His Enterprise, 1879-1979* (London, 1979). A shipping agent's duties could be numerous and wide-ranging. Miller's study, for example, profiles Rotterdam-based Internationale Crediet-en Handels-Vereeniging (Internatio). Founded in 1863, it secured Rotterdamsche Lloyd's (RL) East Indies' account in 1878. Some of its duties as RL's agents included clearing and despatching RL vessels, handling intelligence for routing, traffic and shipping, acting as a negotiator on RL's behalf, and running their Mecca pilgrim business. In addition, Internatio trained a new generation of managers and sought out cargo and passengers while maintaining links to shippers in its client's interests. Miller, "Ship Agents," 5.

12

Atlantic Canada will provide a major source of comparison with Liverpool in Chapters Three through Six. Although the region represents colonial rather than British ports, these are the only group of ports (in any locale) in which the characteristics of shipowners, and the nature of their fleets, has been studied in detail over an extended time period. From 1976 to 1982 the Atlantic Canada Shipping Project (ACSP), based at Memorial

It is important in the present context to be cognizant of the fact that shipowning, like most enterprises, was hardly homogeneous: firms reflected vast differences in size, scale and capitalization. Liverpool, more than most British ports of the late nineteenth and early twentieth centuries, was reliant on large-scale liner trades. It was these trades which employed the famous, or infamous, vessels like the *Great Western*, *Britannia*, *Mauritania* and *Titanic* that have garnered so much popular attention. Starting from more humble beginnings in sail, these lines evolved into steam services – sometimes reliant on mail subsidies – that promised fast, regular service that linked ports such as Halifax, New York and Boston on a regular schedule with their old-world counterparts, including Liverpool. This was how Liverpool, in fact, became the eastern Atlantic hub for North Atlantic traffic, a role in which is was later joined by continental ports such as Hamburg.[13] By the early

---

University of Newfoundland, analysed both vessel registries and Crew Lists for major ports in Canada's Maritime Provinces, Newfoundland and Quebec. By computerizing the two data sets ACSP members were able to efficiently analyse information on vessels, owners, crews and voyages over their chosen study period from 1820 to 1914. Their research remains the most extensive computerization and analysis of port and vessel records attempted to date, making the Atlantic Canadian ports ideal candidates for comparative study ("Maritime Provinces" refers to Nova Scotia, New Brunswick and Prince Edward island. "Atlantic Canada/Provinces" refers to these three Provinces, plus Newfoundland). For a more detailed description of the project and its data sets see Rosemary E. Ommer, Lewis R. Fischer and Eric W. Sager, "The Data Base of the Atlantic Canada Shipping Project," in Lewis R. Fischer and Eric W. Sager (eds.), *Merchant Shipping and Economic Development in Atlantic Canada* (St. John's, NL, 1982), 1-6; Lewis R. Fischer and Eric Sager, "An Approach to the Quantitative Analysis of British Shipping Records," *Business History*, XXII, No. 2 (July 1980), 135-151; and Peter N. Davies, "Commentary: On the Methodology and Results of the Atlantic Canada Shipping Project," in Fischer and Sager (eds.), *Merchant Shipping and Economic Development*, 55-59.

13

Toward the end of our study period Hamburg increasingly emerged as a competitor to Liverpool in trades like immigrant traffic. Already a long-established port, Hamburg's development was aided by Germany's nineteenth-century industrialization; the port was enlarged and infrastructure improved. Despite a fire in 1842, Hamburg was eventually transformed into a modern port with artificial quays and discharge facilities, while the river Elbe was developed to better cope with the increasing size of steamships. C. Prange contends that the provision of good rail links, plus extensive wharfage with storage sheds and steam cranes, greatly contributed to Hamburg's later reputation for efficiency. By the late-nineteenth century a growing traffic in export goods from regions like

twentieth century most of the lines were increasingly reliant on the large numbers of low-fare steerage passengers who emigrated to America in enormous numbers in the years prior to World War I.[14] These lines might sometimes be little more than blanket organizations in which a collection of vessels owned outright, or only in part, and supplemented where necessary with chartered tonnage, provided a convenient "brand name" for a range of services and trades so that the public and shippers might associate them with one trusted symbol.

Many of these lines evolved in their day into very large organizations, and this sets them apart from their smaller brethren. The Thomas Ismays and Samuel Cunards have made good subjects for writers over the past century or more, but their tale is not the whole story

---

the Ruhr was centred on Hamburg, with steamers playing an increasing role in the port's trade. Hamburg became a member of the German Customs Union in 1888, and by the turn of the twentieth century was the German empire's premiere seaport. In the same era Hamburg's shipyards were aided by naval contracts promoted by Woermann Line founder, Adolph Woermann (1847-1910). A critic of the navalism espoused by Woermann, and by Kaiser Wilhelm, was shipowner Albert Ballin (1857-1918), Director General of the Hamburg-Amerika (HAPAG) Line (initials from the full German name for the line, *Hamburg-Amerikanische Packetfahrt-Actien-Gesellschaft*). In 1881 alone, 123,000 immigrants departed for America through Hamburg, and HAPAG was at the forefront of this traffic. As Director General, Ballin also encouraged high-end passenger traffic. In 1902 Hamburg-Amerika carried a total of 34,068 passengers. This was compared to 29,833 passengers for Liverpool's White Star, the leading British passenger line. Prange, "The Development of the Port of Hamburg in the 19th and 20th Centuries," in L.M. Akveld and J.R. Brujin (eds.), *Shipping Companies and Authorities in the 19th and 20th Centuries: Their Common Interest in the Development of Port Facilities* (Rotterdam, 1989), 9-15; and Melvin Maddocks *et al.*, *The Great Liners* (Alexandria, Virginia, 1982), 52-55 and 95. On Hamburg see Edwin Jones Clapp, *The Port of Hamburg* (New Haven , CT, 1911). On Albert Ballin and Hamburg-Amerika see Frank Broeze, "Albert Ballin, the Hamburg-Bremen Rivalry and the Dynamics of the Conference System", *International Journal of Maritime History*, Vol. III, No. 1 (June 1991), 1-32; Lamar Cecil, *Albert Ballin : Business and Politics in Imperial Germany, 1888-1918* (Princeton, N.J., 1967); and Hans Jürgen Witthöft, *HAPAG: Hamburg-Amerika Line* (Herford, 1973).

14

This rule should not be applied too rigidly. The most successful of the Liverpool lines over the long term – Cunard – managed to outperform its rivals in part by avoiding a large reliance on the immigrant trade, which was always beset by cyclical fluctuations. See Francis Hyde, *Cunard and the North Atlantic, 1840-1973: A History of Shipping and Financial Management* (London, 1975).

of any port, including that most congenial to their ilk – Liverpool.[15] The internal records of such large firms are often, although by no means always, voluminous. For the first serious scholars of the subject of shipping, they provided a natural focal point for research. Indeed, it is by no means uncommon for the non-specialist to feel that Liverpool, in particular, has "been done" insofar as the business of shipping is concerned. The "Liverpool school," of whom we will hear more in Chapter Two, is generally credited with bringing the most important facets of Liverpool's business shipping history to light.[16]

Liverpool's shipowning community was comprised of a myriad of firms, partnerships and individual owners. The vast majority of these were either smaller, or lesser-known, than the largest liner firms. Still, this should not discount their combined impact on the rhythm of business in the port and the contemporary role they played in shaping its character as a shipping *entrepôt*. Although they may not have the volume of surviving records as the more familiar large liner companies, their stories may be no less interesting or important. To date

---

15

There are a plethora of works on specific liner firms. See, for example, James E. Cowden and John O.C. Duffy, *The Elder Dempster Fleet History, 1852-1982* (Norwich, 1986); Malcolm Falkus, *The Blue Funnel Legend. A History of the Ocean Steam Ship Company, 1865-1973* (London, 1976); David Howarth and Stephen Howarth, *The Story of P & O, the Peninsular and Oriental Steam Navigation Company* (London, 1986); Wilton J. Oldham, *The Ismay Line. The White Star Line and the Ismay Family Story* (London, 1961); and James Taylor, *Ellerman's. A Wealth of Shipping* (London, 1976). These case studies are of British firms, but the liner firms of many maritime nations have attracted the interest of researchers. One example is William D. Wray, *Mitsubishi and the N.Y.K., 1870-1914* (Cambridge, MA, 1984). On the modern business of liner shipping, see Susanne Holste, *Liner Shipping in a Quality-Oriented World Economy* (Bremen, 1993); and J.O. Jansson and D. Shneerson, *Liner Shipping Economics* (London, 1987).

16

A good overview of the work of the Liverpool School can be found in Lewis Fischer, "Introduction," in Fischer (ed.), *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies* (St. John's, NL, 1992), ix-xiv.

not much scholarly work has been conducted on these enterprises, although that is changing through the efforts of historians such as Graeme Milne.[17]

Firms like Brocklebanks and PSNC were quite important in their day and by no means insignificant, either in terms of routes, tonnage owned, or longevity. Nonetheless, many such companies, familiar until well into the twentieth century, are now almost forgotten. Brocklebanks, while the subject of numerous articles – and a few books – from the nineteenth century on, have hardly been discussed in the twenty years since their livery was last seen on the world's oceans. The firm has, in fact, had two book-length histories. The first, by John Frederick Gibson, is now over half a century old. It is quite detailed but essentially presents a narrative account of the company rather than analysing it as an economic entity. In discussing the Brocklebank family's sale of their business in 1911, for example, Gibson gives a good general overview. In discussing the reasons for this, however, he goes no farther than saying that "...neither Harold nor Sir Aubrey Brocklebank were convinced that a family business could stand up against the large companies. Shipowning was becoming complicated and specialized. By the end of 1910, they both considered selling." In fact, much of Gibson's work, while extensive, consists of detailed descriptions of voyages made by Brocklebank vessels, interspersed with more general information on the

---

17

See Milne, "Information, Reputation and Collaboration;" and Milne, *Trade and Traders*. Graeme Milne, among the "new" Liverpool historians, wants to shift to a new paradigm for the study of Liverpool and the business of shipping that diverts attention away from the liner firms. Milne reminds us that the chance processes through which certain records survive, while others are lost, can produce anomalies in the material available for modern researchers. An example Milne presents is that of Daniel Williams, a minor merchant operating in Latin America, from whom numerous letters exist. By contrast, few internal records pertaining to Liverpool's important Inman Steamship Line have survived to the present day. Milne, *Trade and Traders*, 7.

company; this latter, however, is often useful in understanding the firm, even if it is not always detailed.[18] The second book-length history of Brocklebanks was by D. Hollett. Like Gibson's earlier work it took the form essentially of a narrative overview, although including a great deal of statistical information on the company. Hollett's work appeared about twenty years ago, just as the last two ships bearing the Brocklebank livery went out of service. In the two decades since Hollet's account this company – once an important cog in Liverpool's trade network – has sadly been consigned to the dustbin of history.[19] This study will attempt to build on work such as Graeme Milne's by providing an account of such overlooked participants in Liverpool's shipowning community and by covering a more extended time frame than has generally been employed. The goal here is to profile these players in a general context and also in light of my argument on comparative advantages and strategic flexibility.

18

See John Frederick Gibson, *Brocklebanks: 1770-1950* (2 vols., Liverpool, 1953), II, 11.

19

D. Hollett, *From Cumberland to Cape Horn: The Complete History of the Sailing Fleet of Thomas & Jonathan Brocklebank of Whitehaven and Liverpool – "The World's Oldest Shipping Company"* (Norwich, 1984). For an overview of the company's fleet, see Duncan Haws, *Merchant Fleets: Thos. & Jno. Brocklebank* (Uckfield, East Sussex, 1994). The lack of serious scholarly study has also plagued PSNC. The only book-length history of the firm is well over sixty years old. It is basically narrative in style and frequently makes use of lengthy quotations, often less than adequately referenced. Perhaps PSNC's disadvantage in this regard was that it operated largely in trades that attracted much less popular attention in Europe and North America than did the North Atlantic run. It may also have something to do with the nature of many of its routes which, although quite lengthy, were essentially coastal. Although very important in their own way, these trades are often forgotten amid the high adventure of *Titanic*'s sinking or the race for the Blue Riband. Although coasting literature continues to appear, its volume is fairly thin compared to that on deep-sea trades. This point has been made on a number of occasions by one of Britain's preeminent coastal trade historians. See especially John Armstrong (ed.), *Coastal and Short Sea Shipping* (Aldershot, 1996); and John Armstrong and Andreas Kunz (eds.), *Coastal Shipping and the European Economy, 1750-1980* (Mainz, 2002).

Apart from discussing certain of these "neglected" investors, an important shift in our frame of reference will be to focus more on trades outside the traditional North Atlantic sectors of Liverpool's seaward economy, particularly regarding immigrants and cotton.[20] It is perfectly true, as shown in Table 1.1, below, that the North Atlantic portion of the port's trade predominated, at least in terms of tonnage entering and clearing the port.[21] Like the largest liner firms, this portion of Liverpool's trade has received the bulk of attention from scholars. This is understandable in that the Atlantic sector employed the largest share of tonnage. On the other hand, trades like those to Asia and India, as well as those to South and Central America, were by no means insignificant; the history of Brocklebanks certainly illustrates the former and PSNC the latter. As Table 1.1 demonstrates, African (excluding North Africa) and Antipodean trades, while practically non-existent in Liverpool prior to the 1880s, grew increasingly important in the late Victorian period and expanded greatly after the turn of the century.[22] Likewise, trade to Europe and North Africa, although its growth

---

20

One of the more well-known of Liverpool's North Atlantic trades, that in Canadian timber, does receive some treatment in the context of vessels and merchant investors. As will be explained it is hard to understand the transfer of Canadian tonnage to Liverpool without some background in this area. This does not, however, involve a major discussion of the trade in general.

21

Tonnage figures do not give a complete indication of the value of any particular cargoes or fares paid by passengers. For example, it would likely have taken many paying steerage-class immigrant fares to equal the value in sterling of a single cargo of high-grade China tea or top quality opium. For descriptions of such trades, see Freda Harcourt, "Black Gold: P & O and the Opium Trade, 1847-1914," *International Journal of Maritime History*, VI (June 1994), 1-83; and Harcourt, "British Oceanic Mail Contracts in the Age of Steam, 1838-1914," *Journal of Transport History*, IX (March 1988), 1-18.

22

Table 1.1's figures for tonnage entering and clearing Liverpool from/to Africa in 1871 (or lack thereof), while reflecting contemporary government statistics, do not accurately represent the state of trade between Liverpool and Africa that year. As early as 1852, for example, the African Steam Ship Company was incorporated by Royal

was by no means spectacular or always positive, generally expanded during the years sampled in Table 1.1. Although such sectors never came to dominate Liverpool's contemporary trade, their contribution to its prosperity and their role in making Liverpool a genuine "world port" should not be overlooked. For this reason, I will focus not only on those more-or-less forgotten owners who contributed to Liverpool's trade but also on certain of the under-appreciated sectors in which Liverpool craft played a part.[23]

Although the basis for these profiles will be partially statistical, numbers do not tell the entire story. With increasingly efficient database technology it is fairly easy, if time consuming, for the researcher to computerize and process many years' worth of port data. I use these data to build a statistical profile of the "average" Liverpool shipowner over the period 1820-1889. This being said, statistics alone cannot provide an accurate, or especially interesting, picture of who these people were in individual and company terms. To round out

---

Charter to trade with West Africa, Liverpool becoming its primary British terminus four years later. Peter Davies contends that from 1863 to 1868 trade with the region was buoyant enough that African Steam's fleet was insufficient to handle all the cargo on offer. The British and African Steam Navigation Company, with Alexander Elder and John Dempster as its Liverpool agents, began trading to West Africa in 1869. Vessels of both companies – later merging to form Elder Dempster – were certainly calling at Liverpool from West Africa in 1871. Davies, *The Trade Makers: Elder Dempster in West Africa, 1852-1972*. (1973; rev. ed., St. John's, NL, 2000), 7-36. On Liverpool's early links with West Africa via the palm-oil trade, see Frederick Pedler, with a chapter by Alan Burns, *The Lion and the Unicorn in Africa. A History of the Origins of the United Africa Company 1787-1931* (London, 1974), 67-69.

23

For example, PSNC, while starting out on the west coast of South America, moved into Antipodean routes in the late 1870s. Even among the North American trades there are some that have received little attention from historians in relation to Liverpool. Brocklebanks' trade to Newfoundland is one (see Chapter Seven). The importance of such companies and trades should not be underestimated. There are a myriad of firms like PSNC, and trades like Brocklebanks' to Newfoundland, that have received little attention in recent years. Yet a perusal of the registries, plus government and business records makes it very clear that in aggregate such companies and trades were of great significance to the port of Liverpool and British trade generally.

the numerical data, elaborated on below, I will employ such items as company records, personal correspondence and narrative accounts, both primary and secondary.

Table 1.1
Tonnage Entering and Clearing Liverpool to/from Various Destinations

Region	*1871*	*1881*	*1891*	*1901*
Europe/ North Africa	1,906,453	1,890,531	2,331,225	2,372,699
Africa	0	547	4,489	389,803
Asia	814,590	876,535	767,117	554,355
Antipodes	0	92,277	86,257	236,951
North America	4,023,112	5,334,351	5,978,633	7,427,801
South America	357,433	1,188,092	1,540,095	1,429,810
Central America	526,258	339,278	380,092	405,917
Total	8,062,959	9,721,611	11,087,908	12,817,336

Notes: This table, unlike most others in this work, deals with shipping passing through the port of Liverpool rather than the shipping actually registered there. North America includes not only British North America, the US and Newfoundland but also the northern whale fisheries. Central America includes the West Indies. Tonnage figures above are net.

Source: *Great Britain. Annual Statements of Navigation and Shipping*, 1872, LVI, 299; 1882, LXVIII, 291; 1892, LXXVII, 427; 1902, C, 473.

The time frame has been selected for a number of reasons. The period of almost a century spans the years from just following the Napoleonic wars to the outbreak of World War I. During this epoch British commerce was protected both by the Royal Navy and a relative serenity in international relations, at least among the great powers of Europe. One of the backbones of this study, in terms of primary documents, is the Board of Trade 107 and

108 series, which I will discuss later. The starting date of the study coincides with the period from which large numbers of the shipping registries survive for Liverpool.[24] The end date is more obvious, marking the start of the Great War and the subsequent trade disruptions from which British maritime hegemony would never fully recover. In such a context the United Kingdom's second-largest port – its leader in trades like Atlantic Canadian timber and on long-distance routes – and the business community behind it was of immeasurable importance to seaborne commerce not only on a national but also on a global scale. The era of *pax Britannica* was, in some respects, a genuine "golden age" not only for Great Britain generally, but for Liverpool in particular. Therefore, the period 1820-1914 is especially germane in understanding Liverpool's heyday as a world port and centre of international commerce.[25]

We should also at this point distinguish what is being referred to in the present context when talking about the tonnage in which this community invested and what the community itself was. There are a number of ways to describe Liverpool *shipping*, not all of which conform exactly to a notion of Liverpool *shipowning*. For example, we might choose to study the shipping which actually used the port. This would include not only vessels actually registered in and considered part of the port's fleet but any vessels –

24

"Modern" ship registries for the British Empire date from 1787. But a fire in the Customs House destroyed most of the Liverpool records from the years before 1812. This is the reason that the date 1820 has been chosen.

25

On the British economy and the *pax Britannica*, see Albert H. Imlah, *Economic Elements in the Pax Britannica; studies in British Foreign Trade in the Nineteenth Century* (Cambridge, 1958).

national, colonial, or foreign – which entered or cleared.[26] This is of course much different than the vessels registered in the port of Liverpool itself. These craft might indeed call regularly at their home port, but many would spend much of their careers on the world's blue-water trade routes, returning only occasionally, or sometimes not at all, to Liverpool. The PSNC's vessels are illustrative of this. A contemporary commentator on the firm noted that:

> The most obviously striking point of difference which the Pacific Steam Navigation Company's Fleet presents to view, as compared with [a number of other Liverpool firms], is the somewhat remarkable one of being entirely occupied by the traffic growing up on the shores of a distant ocean...with this additional peculiarity that, having been built in this country, and despatched to their trading station on the Pacific Ocean, are never expected again to visit our shores.[27]

This form of deployment reminds us of the vast difference between tonnage that simply passes through a port like Liverpool and that which is registered and/or owned there. Graeme Milne makes this distinction in relation to the transfer from sail to steam in Liverpool. As he reminds us, a mid-nineteenth century visitor to Merseyside would have had

---

26

The importance of this distinction cannot be overemphasized. In a recent study of coastal trades in pre-industrial Bristol, David Hussey found that the port was a major regional (and supra-regional) *entrepôt* for a variety of coastwise trades in the late seventeenth and early eighteenth centuries. For this reason, it can justly be described as a major coasting port in the era. At the same time, the coastal tonnage actually registered in Bristol was quite limited, and it was thus *not* an important coastwise centre in registry terms. See David Hussey, *Coastal and River Trade in Pre-Industrial England: Bristol and its Region 1680-1730* (Exeter, 2000).

27

John Willox, *The Steam Fleet of Liverpool: A Series of Historic, Statistical, and Descriptive Sketches, Tracing their Origin, and Showing the Progress and Present Condition of the Leading Branches* (Liverpool, 1865), 62. This phenomenon may not have been as remarkable as Willox believed, however. It has been asserted that up to one-quarter of all British shipping in the second half of the nineteenth century seldom entered British ports. P.J. Cain and A.G. Hopkins, *British Imperialism: Innovation and Expansion 1688-1914*, (London, 1993), 179.

a far different picture of the port's shipping than a bureaucrat examining its registry figures. The former would have seen much more steam tonnage at the docks and quays than could have been accounted for by port registries. In other words, "Liverpool's users were more committed to steam than its own resident shipowners were."[28] To reiterate this important point, there was indeed a difference between tonnage registered at and tonnage using the port, a distinction that must always be borne in mind. It is the tonnage of Liverpool-registered craft that forms the basis of this study. Also, the tonnage most often referred to, especially in Chapters Three to Six, will normally take as its benchmark the volume of shipping that was newly-registered in the port each year.

Finally, it should be noted who in this context counted as a *Liverpool shipowner*. The term will refer specifically to persons who invested in tonnage registered at the port of Liverpool, which was established by the Merchant Shipping Act of 1787 as a port of registry. The distinction here is not where the investors were domiciled – the individuals on the Liverpool register came from all over the United Kingdom, the colonies and sometimes even from foreign lands – but that they appeared as owners of tonnage in the local registry books. Conversely, Liverpudlians who chose to invest outside the port will not figure in the picture except insofar as they may also have chosen to buy shares in vessels in the port's own fleet.

28

Milne, *Trade and Traders*, 31. In fact, Milne feels there is a case to be made that the registry data is more important from the perspective of historians than it actually was to contemporaries. Nonetheless, these data are still quite important, especially as the companies profiled in this study *did* normally register their tonnage in Liverpool, and this is especially relevant as this thesis (with the possible exception of the Chapter Two literature review) takes as its focus Liverpool owners more so than the actual port itself.

This study will therefore examine both the average Liverpool investor and a portion of the port's lesser-known shipowners: that is, those outside the pale of the more familiar large liner companies (like Cunard) who chose, whatever their residency, to invest portions of their income in Liverpool-registered shipping. It will likewise examine this newly-registered tonnage in terms of its physical characteristics, such as size, rig, and the like.

A primary goal here is to view the activities and strategies of these businessmen over an extended period of time, particularly in regard to the idea of them finding a particular niche and then being able to adapt to changing market conditions. This is important because the period included in this study was marked by enormous shifts in trade, business and technology. These were also the years in which engine-powered water craft were first used extensively and the era in which we can speak for the first time of an international economy (in the sense of an integrated "world" system proposed by Immanuel Wallerstein).[29] It was

---

29

It should be noted here that the ideas of "international" and "world" economies are not necessarily interchangeable. According to Wallerstein, the first of these concepts is limited. Essentially it involves a number of individual national economies which sometimes trade with one another. On the other hand, a world economy has existed since the sixteenth century – at least in certain regions – and is defined by its relationship to capitalism. Such an economy has no one ultimate authority; it is instead an inter-state system which legitimizes sovereign states, but at the same time constrains their actions. Such an economy, in Wallerstein's view, is dominated by entrepreneurs who operate via the principle of endless accumulation. The capitalist world economy functions by the appropriation of producers' surpluses by others. The appropriators then control the capital, and their "rights" in this regard are guaranteed. This is an unequal relationship in which those having the upper hand are referred to as "core" states, while those they control are considered "peripheral." Although no one state can control all aspects of the world economy, there do sometimes arise hegemonic states exerting the lion's share of influence over world markets, who attempt to build up the advantages of their own producers and seek legitimacy for this through the imposition of cultural values. Significantly, Wallerstein feels that the the hegemonic power from 1815-1873 was the United Kingdom. See Immanuel Wallerstein, *The Politics of the World Economy: The States, the Movements, and the Civilizations* (Cambridge, 1984), 13-17. For another take on the world economy see A.G. Kenwood and A.L. Lougheed, *The Growth of the International Economy 1820-2000: An Introductory Text* (London, 1999). The mechanisms of world economy are not necessarily a set of agreed upon principles. Cain and Hopkins also make use of the idea of core (in their terminology, metropole) and peripheral (hinterland) states. To Cain and Hopkins the crucial player in the growth of world trade after 1850

also characterized by an unprecedented revolution in communications. Since it was the goal of all capitalist enterprises to earn profits (or to maximize some other utility function) and thus to perpetuate themselves, the activities of lesser-known companies in Liverpool's seaward business community will be instructive in defining this era of transition and in helping to understand the way such enterprises coped.

As I have noted, the work will be based in part on data extracted from the BT 107 and 108 series. A frustration for historians studying earlier eras, especially those of more ancient vintage, is the lack of records and the need to draw conclusions based upon sources that are often quite tenuous. By the nineteenth century this was no longer the case for many subjects, as many governments by then had come to appreciate the utility of having detailed records.[30] While not all facets of Victorian life were detailed equally well, it is certainly the case that the maritime historian of Britain is especially fortunate. British governments, aware

---

was clearly Great Britain, and this was based not on industrial but on service capitalism. The bourgeoisie were the main creators of wealth after the late eighteenth century, but depended on the prestige of the landed and military classes to effect real change. Over time so-called "gentlemanly" capitalism developed, based largely on service industries, in which it was acceptable for elites to directly participate. From this time on a well developed network of international services developed along with world trade, with London as the hub. International trade grew enormously in the period 1850-1900, largely under the industrial – and more importantly – in Cain and Hopkins' opinion, the financial aegis of Britain. As late as the Great War Britain, although superceded in certain industrial and technological products, remained a prime mover of the world economy through London's control of international finance. See Cain and Hopkins, *British Imperialism*. In the present context I use both the terms international and world economy interchangeably. Here I simply mean the enormous expansion in commerce, largely centred on Europe, but taking in the entire globe, from about 1850 on. Whatever its ideological underpinnings, it certainly related to the industrial revolution and the later growth of imperialism, at least indirectly.

30

With the rise of world empires and increasing populations in the period, this is hardly surprising. In the nineteenth century the world witnessed the rise of bureaucracy and middle management as governments, increasingly burdened by new responsibilities, needed more and more personnel to handle the routine tasks of governing.

of the importance of international trade to their global empire and of the need to protect their far-flung interests, were keenly concerned to track the fortunes of the merchant fleet. The smooth running of the merchant navy was one of the planks upon which industrial Britain – the "first industrial nation" – was built.[31] In addition, there was still some feeling that the training merchant seamen gained during their peacetime engagements could be transferred easily to wartime service in the Royal Navy. Like its civilian counterpart, the Navy was a cornerstone of British policy (and power projection) throughout the nineteenth century.[32] British politicians clung stubbornly to the idea of the merchant fleet as a "nursery for seamen" through to the Great War.[33] The idea was likely outdated by the mid-Victorian era but continued to shape policy – particularly in terms of monitoring and controlling the progress of the mercantile navy. To this end successive British governments passed merchant shipping acts to regulate everything from the amount of food sailors were provided

---

31

See Peter Mathias, *The First Industrial Nation. An Economic History of Britain, 1700-1914* (London, 1969). On British naval seafarers see Michael Arthur Lewis, *The History of the British Navy* (London, 1959).

32

This is not to say the Royal Navy was never neglected in this period. Although few argued for any serious reduction in its strength, not everyone was in favour of the high maintenance costs it entailed. Prime Minister Gladstone, known also as a "cheeseparing," but effective, Chancellor of the Exchequer, attempted to control naval spending on a number of occasions. On the relationship between politicians, the Royal Navy and business people see John F. Beeler, *British Naval Policy in the Gladstone-Disraeli Era, 1866-1880* (Stanford, Calif, 1997).

33

Sarah Palmer, *Politics, Shipping and the Repeal of the Navigation Laws*, (Manchester, 1990), 63-65. The idea of merchant service as a nursery for seamen was an old one. 1711 Royal instructions to colonial governor Robert Hunter make it clear that the French cod fishery was seen as a threat due to its perceived role in training naval ratings. The instructions state that "...the cod fishery...is the great nursery of their [the French's] seaman [sic], and is so necessary and advantageous to them in all their commerce..." As quoted in Douglas Edward Leach, *Arms for Empire. A Military History of the British Colonies in North America, 1607-1763* (New York, 1973), 143-144; and Gerald S. Graham (ed.), *The Walker Expedition to Quebec, 1711* (Toronto, 1953), 269.

to rules ensuring safety at sea.[34] The other pillar in this policy involved keeping tabs on the industry. Numerous forms and papers had to be filled out by almost everyone connected with the shipping industry, from government officials, to masters, to the vessel owners themselves. The bulk of voyages in this period were tracked by way of Crew Agreements, which recorded personal information about the crew and their service records during the voyage, as well as information on where the vessel sailed. For our purposes, the most important records were the BT 107 and 108 series.[35]

These documents were produced by the British Board of Trade from 1787 onward. They ran until 1889, at which point they were replaced by a new series (BT 110) that was organized in a much less user-friendly manner in terms of individual port research. Although the BT 110s are divided by port, they were filed by the date of registry closure. This makes reconstruction of investment time series very difficult. For this reason I will stick to the earlier series and round out the picture with other records up to 1914. Just as the Crew

---

34

This latter subject especially, was the focus of much heated debate before it was finally passed. A number of influential persons, notably Joseph Chamberlain and MP Samuel Plimsoll, took an interest in the matter. See David Clarke "The 'Sailor's Friend:' A New Perspective on Samuel Plimsoll and Maritime Reform" (Honours Dissertation, Memorial University of Newfoundland, 1995).

35

Although not a major source herein, certain of the tables presented are based on data from the *Annual Statements of Navigation and Shipping*. These were first titled *Annual Statements of Trade and Navigation* and first appeared as separate volumes produced by the Registrar-General of Shipping and Seamen (RGSS) and the Customs Service in 1853. From 1876 on, the statements were compiled by the Board of Trade from material supplied by the RGSS. Shipping movement statistics for the first time distinguished between vessels arriving with cargoes and in ballast, as well as noting the proportion of sail to steam. The volumes grew in size and complexity over the years, but as David Starkey notes, "the changes had largely been in degree rather than in kind, the *Annual Statements* constitute a long run of statistical evidence pertaining to many of Britain's maritime interests." David J. Starkey, *et al.* (eds.), *Shipping Movements of the United Kingdom, 1871-1913: A Statistical Profile* (Exeter, 1999), xvii-xix.

Agreements (BT 99) detailed a vessel's voyages, these records kept the government informed on the craft's ownership. Each time a vessel was sold the investor or investors was required to fill out a form.[36] Although somewhat less complex than the Crew Agreements, the BT series nonetheless contain a wealth of information not only on the craft but also on the investors themselves. Most of a vessel's physical characteristics were noted, including length, tonnage and rig (if a sailing vessel; horsepower was included for steamers). The second measurement is especially challenging because the exact calculation of a "ton" changed over time (See Appendix One). Nonetheless, the BT series is an invaluable marker for the physical capital involved in the British shipping industry. The researcher can know not only what type of vessel is being considered but also who owned it at various points in its career. Even this latter point is recorded as the BT forms include information on where, when and sometimes by whom the craft was built, and in almost all cases the vessel's end is noted somewhere on the form. For the physical makeup of vessels the forms are especially useful on the subject of technological change. The BT 107/108s are also a fairly precise gauge of the introduction of such innovations as steam, paddle wheels and the screw propellor. We can also note the increased horsepower of the average engine over the latter nineteenth century. The BT series are some of the best contemporary records on the

---

36

Initially, new forms had to be filled out even when minor alterations were carried out on a craft. This created voluminous paperwork simply for the re-registering of vessels that had previously been on registry in a port; these are known as *de novo* registrations. For the most part we will not be dealing with these registries but only with craft newly registered in the port; in essence, this is a surrogate for gross investment The entire system began to change with the passage of the Merchant Shipping Act of 1854, which dramatically altered the requirements for *de novo* registrations.

emergence of steam and the final decline of sail in the British context. This was in fact one of the pivotal technological changes with which owners had to deal over the course of the century, and their decisions in this regard shaped the character of fleets owned by firms like Brocklebanks and PSNC.[37]

These owners, like the vessels themselves, were also highlighted by the series. Through an examination of the forms mandated by the Board of Trade it is possible to discover the residence, occupation and number of shares owned by individual investors. By custom, the ownership of vessels was divided into sixty-fourths and everyone, from the sole owner to a person holding only a single share, was noted. By tracing subsequent registry forms we can note how the makeup of investors changed as shares were sold or the vessel changed hands outright.[38] It is also possible to note those investors who owned shares in tandem, such as in business partnerships. On earlier forms the firm name itself was also recorded. The BT forms give an investor's occupation, a characteristic that is especially useful in establishing the frequency of such important owner types as merchants and their decline over time. The records are also one of the best sources for determining the professionalization of shipowning as a distinct occupation. Insofar as the specialist owner was more likely to identify his/her occupation as "shipowner;" the incidence of this

---

37

The same is equally applicable to the minor case study firms profiled in Chapter Six.

38

Again, we should note that the emphasis here will be on ownership at the time of initial Liverpool registry rather than on trying to trace this over time.

designation increased markedly in the last few decades of the nineteenth century. By noting residence using the 107s and 108s it is possible to establish the geographic distribution of owners. Although most British owners chose to invest in shipping in their own or nearby ports, or in contiguous regional centres, the data do allow us to trace the origins of owners with much more precision than would otherwise be feasible and makes the point that a resident of Liverpool and a "Liverpool" owner were not always interchangeable. It is also important in the sense that geographic proximity to a port, and the knowledge this entailed, formed part of an investor's comparative advantage – in other words, it made sense to invest in an area where your familiarity, reputation and contacts were greatest.[39]

For the purposes of this thesis I have sampled the registries from the years 1820 to 1889 and computerized them in a database (Paradox). This allows rapid computations of statistics over a period of sample years. It is possible, for example, to note the percentage of merchants who owned shipping in a given year as opposed to the number of total investors. This can be done not only in regards to the actual number of vessels that were

---

39

This is most poignantly brought out – as we will see in Chapters Five and Six – by the fact that the vast majority of Liverpool investors came from either the city itself, Lancashire, or neighbouring Cheshire. See BT 107/108 series, various years. For a discussion of the role of information and business reputations, refer again to Gordon Boyce's and Graeme Milne's works cited earlier. By combining the Board of Trade's information with business records, personal correspondence and sources such as *Lloyd's Registers of Shipping*, it is possible to follow the endeavours of a number of the less well-researched shipping firms and investors over the course of a century of maritime change. These documents are themselves of great interest. Records known as the London "A" Bills of Entry, for example, record the products landed at various UK ports, their points of origin, and the vessels on which they were carried. They have recently been employed by historians such as Milne to reconstruct the activities and trades engaged in by various small firms on Merseyside. While he has done good work in reacquainting us with these forgotten entrepreneurs from the perspective of the mid-nineteenth century, Milne's work still represents only the tip of the iceberg. By studying these patterns up to World War I we can further round out his portrait.

newly-registered each year but also by the total annual tonnage. By this means it is possible to note easily the importance of the merchant shipowner over time and in this case to see how and when this group declined in importance as shipowning became professionalized.

Due mainly to constraints of time and other equally scarce resources I decided to sample the Board of Trade registries each quinquennium, collecting data for years ending in zero and five only.[40] This technique has some drawbacks, especially insofar as it does not allow one to track the growth of individual fleets (or indeed the entire fleet of vessels registered in Liverpool) over time with precision.[41] If we take the years 1870 and 1875 and find the number of investments in each made by a single owner, we can say something about this fleet, but of course any data on tonnage registered during the intervening years is missing. As an example of this we can observe the number of zero-and-five-year registries that show up in the database for our two major case study firms. Sir Thomas and Ralph Brocklebank were found in the database as owners of four vessels during the 1880s – specifically craft registered in 1880, 1885 and 1889. Likewise, the Pacific Steam Navigation Company appeared as the owner of five vessels in 1860, three in 1865, six in the 1870s and, finally, five in the 1880s samples. These numbers do give some indication of these firms' role as Liverpool investors, but tell an incomplete story. To combat this tendency, complete

---

40

An exception is the year 1825, which was unavailable at the time of research. As a result, 1826 has been employed as a substitute. And 1889 was also computerized since it marked the final year of the BT 108 series.

41

To put this another way, a corollary of the need to sample is that it is impossible to produce continuous time series of either gross or net investment. Gross investment essentially comprises the new investments in physical capital over time, while net investment is most easily thought of as fleet size.

fleet lists for the major case study firms have been collected from other sources and appear in the appendices. Still, even using the BT 107/108 data alone, we are unlikely to miss the presence of important owners. It has also been demonstrated that important insights into port business can be garnered by viewing a limited number of years as representative of the port at some point in time.[42] Perhaps the greatest benefit of sampling the Board of Trade series is that, for a major port like Liverpool over an extended period of time, it makes the project feasible. It must be remembered that in cases like Liverpool – especially in earlier sample years – there were literally hundreds of registries each calendar year. In all, the number of separate investments in new tonnage (representing well over 2,000 vessels) in the sample years is over 5,600 – from a low of 122 in 1820 to a high of 775 in 1855. For each of these separate investments I computerized twenty-four separate variables; in total these amounted to more than 130,000 individual variables to be computerized. Given such numbers, even compiling a quinquenial sample as I have done entailed months of work to collect and computerize. Nonetheless, by taking fifteen samples over a seventy-year period it is reasonable to assume that definitive indicators of change and growth will emerge, allowing

---

42

For example, Valerie Burton has presented a picture of Liverpool's mid-century coasting trade by using Bills of Entry data for 1853. See Valerie Burton, "Liverpool's Mid-Nineteenth Century Coasting Trade," in Burton (ed.), *Liverpool, Shipping, Trade and Industry: Essays on the Maritime History of Merseyside 1780-1860*, (Liverpool: 1989), 26-67. I will detail Burton's article and the Bills themselves in the pages to follow. Sarah Palmer has used the registries to study investors and mortgagees in London using the years 1820 and 1850 to profile the period. Although the study is less detailed on explanations, it was groundbreaking in extensively using the Registries for quantitative analysis. See S.R. Palmer, "Investors in London Shipping, 1820-50," *Maritime History*, II (1972). My own study of the Cumbrian centre of Maryport owes much to Palmer's methodology. Like Palmer, my examination of shipowners made extensive use of the registries of shipping, as will this current study. See David Clarke, "Coastwise from Cumberland: The Maryport Coasting Trade, 1850-1889" (M.A. thesis, Memorial University of Newfoundland, 1998).

a good, if imperfect, record of the fate of the business of shipowning. Before proceeding with our examination of Liverpool shipowners and their fleets, however, we should first review the recent scholarly literature dealing with Liverpool and its investor community. In this way we can gain some insight into the way past researchers have conceived of the port and its shipowners.[43]

43

By "separate investments" I refer to each case where a person, partnership or firm bought shares in a newly-registered vessel. In 1845, for example, the 505-ton ship *Alexander Baring* was registered at Liverpool with a total of eight investors. In this case six individuals owned eight shares each, while the partnership of Brooke and Wilson owned sixteen shares in tandem. Since information was given for both partners, their investments were counted separately, but with their business status noted. Thus, the *Alexander Baring*'s registration represents eight separate investments. Vessel information remains the same for each investor in that craft, and can be fairly quickly duplicated using Paradox. The information on individual investors is unique, however, so that vessels with multiple owners greatly increased the amount of data, and the time required, to computerize. While the *Alexander Baring* had more investors than many craft, vessels with two or more investors were very common, particularly in the earlier sample years. The twenty-four variables collected were: the vessel name; its official number; tonnage – gross, register or unspecified; vessel build/rig/type; vessel length; framework (ie. wood, iron, steel or composite); whether or not the vessel was a steamer; if it was steam, how it was propelled (by paddle wheels or screw propeller); the engine horsepower, if applicable; the date registered at Liverpool; port registry number; the number, date and port of previous registry (to provide registration specifics for second-hand vessels not previously registered at Liverpool); where the vessel was built; the year it was built/launched; the builder; owner name; the owner place of residence, or headquarters, in the case of company groupings; a residence county code, which allowed easy tabulation of investors in English counties; the owner occupation; the number of shares owned; the percentage of tonnage owned (for example, thirty-two shares of a 1,000-ton vessel would mean ownership of 500 tons, or fifty percent of the vessel's total tonnage); a vessel's final fate or next registration; a note field was used to provide additional information, such as the names and make-up of partnerships.

Chapter 2

Liverpool and the Historians

This chapter is in essence a critical examination of the historiography about Liverpool shipowners and the business of the port. Although I do not conceive of this study as a "port history," a number of the works discussed in this chapter *do* fall under this heading. Since a main plank of my thesis deals with comparative advantage there is a certain logic in this. As noted in the introductory chapter, an important part of an investor's comparative advantage was his/her residence and the networks that such people could build on this basis. More often than not the investor in a Liverpool-registered vessel was a local resident who was taking advantage of local knowledge. Thus, the story of their home port is also *their* story, albeit in a more general sense. At the beginning of *A Christmas Carol* Charles Dickens emphasized the fact that Jacob Marley was dead and that nothing wonderful could come out of the tale unless the reader bore this in mind. Likewise, a student of Liverpool shipowning should bear in mind the preeminence of the port. In the context of British and world shipping in the nineteenth century, Liverpool certainly mattered, and it would not be amiss at this point to recall in concrete terms the size of Liverpool as a maritime economic entity compared not only to London but to the United Kingdom in general. Table 2.1 illustrates shipping movements in the foreign trades (with cargo) for London, Liverpool and the United Kingdom in the years 1875-1913. It clearly demonstrates the statistical importance of Liverpool as a port and its very close second-place standing next to London.

Table 2.1
Net Tonnage Entering and Clearing, London, Liverpool and England & Wales, 1875-1913

Year	London	Liverpool	England & Wales
1875	12,910,707	11,885,277	61,244,810
1880	15,104,826	13,290,972	74,125,272
1885	17,761,185	13,411,165	80,649,386
1890	19,684,221	14,556,306	89,614,396
1895	21,824,162	14,692,712	96,020,227
1900	25,326,088	15,676,338	105,851,944
1905	25,839,654	18,643,085	117,301,912
1910	26,657,648	17,900,531	125,776,055
1913	25,778,406	19,018,589	144,999,206

Note: Tonnage entering and clearing in both the foreign and coastal trades "with cargo only."

Source: Great Britain, Parliament, House of Commons, *Parliamentary Papers* (*BPP*), Annual Statements of Navigation and Shipping, 1876, LXXX; 1881, LXXXVII; 1886, LXIV; 1890-1, LXXXII; 1896, LXXXIII; 1901, LXXV; 1911, LXXIX; and 1914, LXXXII.

Liverpool, like the larger centre, was important throughout the period 1820-1914 as both a coasting port and a centre of international trade. In certain important trades Liverpool, not London, was preeminent. Included in this category were the famous passenger and emigrant trades and the timber trade with British North America. The emigrant trade was well organized by the 1860s, and through such lines as Inman, Cunard, and White Star the port handled about 4.75 million European emigrants to the U.S. of a total of 5.5 million departing from British ports in the period 1860-1900. In fact, Liverpool was the port of

embarkation for approximately a third of all immigrants entering the United States in this period from all sources.[1] The port's role in the British North American timber trade was no less impressive. It was in these trades, along with many that were even more far-flung, in which Liverpool made its name, and much of the impetus behind Liverpool's growth was made possible, at least in part, by its vigorous shipowning community. It is perhaps equally true that the converse was the case: by 1820, if not earlier, local insiders benefited from being part of this great *entrepôt* of world trade. Belonging to a port community was itself an important comparative advantage, but belonging to one with world status, like Liverpool, was a further important boon. What individuals like Thomas and Jonathan Brocklebank chose to make of this advantage was left to their own resourcefulness.[2] Certainly the physical port and its shipowning industry were two separate entities, but neither was entirely removed from the other. Many of the entrepreneurs we will encounter operated out of the city, and their endeavours arguably shaped the course of business on Merseyside as much as did their better-known counterparts in larger firms. It is for such reasons that I have

---

1

Francis Hyde, *Cunard and the North Atlantic, 1840-1973: A History of Shipping and Financial Management* (London, 1975), 59-61; J. Matthew Gallman, *Receiving Erin's Children: Philadelphia, Liverpool, and the Irish Famine Migration, 1845-1855* (Chapel Hill, NC, 2000); and Raymond L. Cohn, "Transatlantic U.S. Passenger Travel at the Dawn of the Steamship Era," *International Journal of Maritime History*, IV, No. 1 (June 1992), 42-64.

2

It is true that the Brocklebank family was not originally from Liverpool. Nonetheless, the family did hail from a registry port, Whitehaven, which was part of Liverpool's regional trading hinterland. As businessmen in the region advantages certainly accrued from their proximity to Liverpool – Thomas' relocation to the city as senior partner in 1820 is likely indicative of this. See John Frederick Gibson, "The House of Brocklebank (1)," *Sea Breezes*, New series, XVII (1954), 37 and W. Stewart Rees, "Brocklebanks," *Liverpool Nautical Research Society Transactions*, III (1946-1947), 30-31.

chosen to explore not only works dealing directly with Liverpool's business/shipowning community, such as the studies published by Graeme Milne and Peter Davies, but also those, like Adrian Jarvis,' dealing with the port in which their activities were based.

This is not to say that *all* of the plethora of works on Liverpool and its seaward investor community need be considered. This chapter will largely focus on scholarly works written in the last three decades, leaving aside older, often antiquarian tomes. Many of the actual port histories span long periods in order to illustrate development and change over time. Although there are some temporally-limited studies, many of the more important book-length works are dedicated to the long term. Francis Hyde's *Liverpool and the Mersey*, for example, spans nearly three hundred years. Even more chronologically-limited studies, such as Adrian Jarvis' *Liverpool Central Docks*, and its sequel, *In Troubled Times*, together encompass almost a century and a half.[3] In the context of the way in which maritime historians have tended to periodise the past, this is a fairly generous and ambitious time frame.

Traditionally, port histories have been based upon a somewhat limited number of sources, although what has been written about Liverpool does not fit this mould. In 1983

3

Francis E. Hyde, *Liverpool and the Mersey: The Development of a Port 1700-1970* (Newton Abbot, 1971); Adrian Jarvis, *Liverpool Central Docks, 1799-1905: An Illustrated History* (Stroud, 1991); and Jarvis, *In Troubled Times: The Port of Liverpool, 1905-1938* (St. John's, NL, 2003). For an examination of British ports and their development generally one can do no better than Gordon Jackson, *The History and Archaeology of Ports* (Tadworth, 1983). Although more than twenty years old and lacking the benefits of detailed port authority records, only recently available, and current computer database technology, Jackson's work, as Adrian Jarvis reminds us, retains its relevance. See Jarvis, "Port History: Some Thoughts on Where it Came from and Where it Might be Going," in Lewis R. Fischer and Adrian Jarvis (eds.), *Harbours and Havens: Essays in Port History in Honour of Gordon Jackson* (St. John's, NL, 1999), 13-34.

Gordon Jackson noted that "[d]espite the importance of trade to the British economy, relatively little has been written about the development of the ports through which it passes, either in general or in particular."[4] Nonetheless, good studies of some British ports, including Liverpool and its investor community, appeared earlier and continue to be released, thus indicating a continuing scholarly interest.[5]

This is not to imply, however, that this interest has generated many lively debates. There is little resembling established schools of thought in port history. A Marxist or liberal might bring their own assumptions about the role of ports in economic development into a book or article, but few port historians have actively set out to challenge the findings of colleagues. The debates, where they exist, are more implicit than explicit, more a question of style than ideological divergence. Precious little port history has been written thus far with the avowed purpose of actively challenging the approach of another scholar. At most, studies are undertaken to plug obvious holes in our knowledge rather than to examine contentious issues. Perhaps this is due to the nature of ports themselves. As crossroads for trade and commerce, workplaces, parts of larger municipal entities, and influences on nearby

---

4

Gordon Jackson, *History and Archaeology*, 10.

5

See, for example, Graeme J. Milne, "Port Politics: Interest, Faction and Port Management in Mid-Victorian Liverpool," in Lewis R. Fischer and Adrian Jarvis (eds.), *Harbours and Havens: Essays in Port History in Honour of Gordon Jackson* (St. John's, NL, 1999), 35-62; Frank Broeze (ed.), *Brides of the Sea. Port Cities of Asia from the 16th-20th Centuries* (Sydney, 1989); and Broeze (ed.), *Gateways of Asia: Port Cities of Asia in the 13th-20th Centuries* (New York, 1996). Two scholarly works which combine port and maritime business history are Gordon Jackson, *Grimsby and the Haven Company, 1796-1846* (Grimsby, 1971); and Peter N. Davies, "Aspinall, Cornes and Company and the Early Development of the Port of Yokohama," in Fischer and Jarvis (eds.), *Harbours and Havens*, 139-158.

communities, ports offer a myriad of possibilities for research without "stepping on anyone's toes." Indeed, despite their similarities, the development of any one port over time is essentially unique; so also, we might add, are the careers of a port's shipowning community. This uniqueness itself played a role in the comparative advantages offered to maritime investors, who brought certain talents, knowledge and connections to the industry. At the same time, the port of which he was part offered its own opportunities to traders.

Perhaps the most obvious demarcation in port history concerns the physical limits of what is being studied. Historians like Frank Broeze prefer the "port city" approach which examines shipping activity in a wider metropolitan context. Other scholars, such as Adrian Jarvis, prefer to concentrate on the actual functions of the port itself. In fact, Broeze has identified four factors which he believes contribute to the prosperity, or lack thereof, of port cities. These factors reflect his broad-based approach to port history. The first is the city's actual physical site, while the second, situation, entails the port's relationship to a regional system. By definition one must look beyond the narrow geographic confines of the port (and even the city) to study "situation" in this manner. The third of Broeze's factors, entrepreneurship, takes in the function of shipowning, with which this work is most concerned. In keeping with Broeze's sweeping approach it also goes beyond this to "embrace...strategic, economic and social policies aimed at, for example, maintaining the independence or at least autonomy of the port city, the construction of infrastructure, and the upholding of a suitable...climate to attract merchants from abroad." The final growth factor in Broeze's scheme is identity – basically the self-perception of a port's elites and

their visions of the future. This outlook then helps decide the direction of future port policies. The elites creating this identity also formed the information networks, mentioned earlier, which were one comparative advantage for insiders in a particular port city, or region. Even here the dichotomy between such authors should not be taken too far. Especially in his recent work, *In Troubled Times*, Jarvis does wander beyond the confines of Liverpool's dock estate, the work coming perhaps the closest in Jarvis' output to Broeze's viewpoint. Still, Jarvis' focus remains firmly on structures like the Mersey Docks and Harbours Board and its clientele.[6]

This chapter's historiographic study of Liverpool and its shipowners will include the most famous scholarly works on the subject, such as Hyde's *Liverpool and the Mersey*, which remains the classic Liverpool port study. Even more germane to the larger thesis are the works of business, company and shipowning history, all of which are important in understanding Liverpool shipping companies themselves and their development over time. The most obvious here are those histories produced by members of the "Liverpool School." These studies are considered benchmarks, even if only in a limited sense, for the port's maritime activity. We will also examine more closely Graeme Milne's recent book, the first in-depth scholarly study of the business of shipowning in Liverpool for more than thirty years.

That historians of maritime Britain should take a keen interest in the nation's ports

---

6

See Frank Broeze, "Dubai: From Creek to Global Port City," in Fischer and Jarvis (eds.), *Harbours and Havens*, 160-161 and Jarvis, *In Troubled Times*.

is hardly surprising. From the earliest recorded history the culture and economy of the island has been greatly affected by the seas that surround it. In Britain before the industrial age inland transport was difficult, especially for bulky commodities. Fortunately, most settlements were close to navigable water which enabled the expansion of trade. For much of recorded history, however, commercial ventures were concentrated in the summer since few of the harbours afforded shelter during inclement weather. For the most part traders used small vessels because many of the bays and inlets could not handle larger craft. Moreover, in some ports vessels had to be hauled up onto a beach for unloading or had to navigate significant distances up rivers. To ensure the safety of vessels some form of pier was often required, a feature which began to appear sporadically in the Middle Ages. Despite this, it was not until the development of new construction techniques in the eighteenth and nineteenth centuries that modern, engineered ports became commonplace. Not surprisingly, it was at about this same juncture that writers became interested in studying ports.[7]

One of these ports was Liverpool. This town on the north shore of the River Mersey had been an important place for trade, some of it seaborne, from the late Middle Ages. The onset of the industrial revolution, especially in places like Manchester, provided additional impetus for this trade. Indeed, Liverpool attracted the interest of a number of writers

---

7

Jackson, *History and Archaeology*, 12. The development of early-modern ports is dealt with by T.S. Willan as part of his studies of Tudor through Georgian era transportation. See Willan, *The English Coasting Trade 1600-1750* (Manchester, 1967); and *The Inland Trade. Studies in English Internal Trade in the Sixteenth and Seventeenth Centuries* (Manchester, 1976). an early example of a British port study is J. Lyon, *The History of the Town and Port of Dover*,2 vols (Dover, 1813-14).

concerned with the history of commercial activities (and the town in general) from the early nineteenth century onward.[8] Nonetheless, Liverpool's modern scholarly history arguably originated after the Second World War with the rise of the so-called "Liverpool School." As represented by the eminent economic historian, Francis Hyde, and his colleagues and proteges, including John Harris, Sheila Marriner, Peter Neville Davies and David M. Williams, the historians who comprised the Liverpool School were the first modern scholars to pen serious studies of maritime business at Liverpool.[9] Given the importance of liner shipping to the port of Liverpool discussed in Chapter One, and the fact that many of the companies that engaged in this type of shipping have left voluminous records, it is not surprising that one of the characteristics of the Liverpool School was a focus on some of the most important liner shipping companies operating out of Liverpool and the men who founded and guided them. Their research was modelled on the classic business histories developed in America before World War II. This type of history traced the evolution of companies largely using internally-generated sources, such as official company records, accounts and correspondence. As Graeme Milne has noted, "[t]hese books [by the Liverpool

---

8

There are a number of such works on Liverpool. See Anon., *A General and Descriptive History of Liverpool* (Liverpool, 1797); Anon., *The Stranger in Liverpool; or, an historical and descriptive view of the town of Liverpool and its environs* (Liverpool, 1823); H. Smithers, *Liverpool, its Commerce, Statistics, and Institutions, with a History of the Cotton Trade* (Liverpool, 1825); Thomas Baines, *History of the Commerce and Town of Liverpool* (Liverpool, 1853); R. Brooke, *Liverpool During the Last Quarter of the Eighteenth Century* (Liverpool, 1853); and Richard W. Williams, *The Liverpool Docks Problem* (Liverpool, 1912).

9

For examples of Harris' work, see T.C. Barker and J.R. Harris, *A Merseyside Town in the Industrial Revolution: St. Helens, 1750-1900* (London, 1959); and J.R. Harris (ed.), *Liverpool and Merseyside: Essays in the Economic and Social History of the Port and its Hinterland* (London, 1969). The contributions by the other authors mentioned here will be discussed extensively elsewhere in this and succeeding chapters.

School] remain at the heart of the extensive genre of shipping company history, and continue to inspire periodic re-evaluations of the histories of particular companies."[10]

There were drawbacks to this type of history, however. Most of the companies dealt with by the Liverpool School were large liner operators rather than smaller firms, and only one member of this School – Hyde – has ever attempted anything resembling a general survey of the Liverpool shipping community. But the key point here is that until the late nineteenth century, large liner operators were the exception rather than the rule, even in Liverpool. There are two corollaries to this observation that affect our evaluation of the Liverpool School. First, by focussing on large firms members of the School were examining the atypical rather than the typical. Second, and related to the first point, they were sketching a collective portrait of the maritime sector that distorted the reality of shipowning in the port. In fact, the activities of smaller operators, who often engaged in tramp rather than liner shipping, does not necessarily fit the mould of these larger concerns.[11] Whole categories of

---

10

Milne, *Trade and Traders*, 6.

11

Liner companies were those that operated vessels according to a set schedule. This was convenient for shippers and passengers who knew fairly precisely when to expect vessels, either for loading or discharge. For the shipowner such a service could have its drawbacks in that a vessel had to depart on time whether the holds and berths were filled or not. Tramps, on the other hand, did not adhere to a schedule. Instead, they operated either on charter parties or speculatively, going to wherever cargoes were likely to be found. Especially if operating speculatively, they could afford to wait until a full consignment of goods was on board before clearing a port. Even for tramps, however, time was money, and it was important to find cargos as efficiently as possible. The communications revolution of the latter nineteenth century was a boon to tramping companies. From this point on they could quickly get word of cargoes to be had in particular ports and despatch their tonnage accordingly. In modern scholarly parlance, tramps are often associated with sail tonnage, which – as the truism goes – was effectually exiled to tramping once steamers came along . Robin Craig reminds us, however, that the "tramp" and "liner" distinction did not emerge until the full flowering of steam; steamers themselves could be either tramps or liners. The distinction was never made in the sail era when such tonnage, at the mercy of winds and

occupations, like merchants, brokers and agents, rarely come to light in this type of history.[12] Another problem encountered in this genre of analysis concerns the expectations of the large firms. In many cases their archives were not available to all researchers, and those who obtained permission to use them were often under some pressure, even if it was only implicit, to present the company in a positive light. Moreover, many of these companies, as one might expect, wanted their records to be employed solely in a history of their firm and not in a broader project. Another problem is that the survival of an extensive archive does not guarantee that the firm was especially important to the business community as a whole. Conversely, many significant companies have been overlooked simply because many of their records have been destroyed. Another important limitation to the Liverpool School's work, as Milne has noted, is that reliance on the records of individual firms can produce excellent structural histories which are oddly removed from the larger world in which they operated. It was only when the nature of the business required an examination of its outside connections, as in Sheila Marriner's work on the Rathbones, that the larger network of business crept in. With these caveats in mind, we must remember that this School remains important because it opened the history of Liverpool's maritime business community, or a at least a portion of it, to serious scholarly scrutiny. Since the appearance of their work,

---

tides, could only keep to the most general of schedules. Robin Craig, *British Tramp Shipping, 1750-1914* (St. John's, NL, 2003), 15. See also the discussion in *Shipping World*, I, No. 1 (1883).

12

An exception to this generalization is Peter Davies' work on Liverpool-based shipping agent Henry Tyrer. See Peter N. Davies, *Henry Tyrer: A Liverpool Shipping Agent and His Enterprise, 1879-1979* (London, 1979).

Liverpool has never again been the preserve of antiquarians or popular writers. As an example it might be instructive to look more deeply at one of the first books produced by the Liverpool School, Francis Hyde's 1957 work on perhaps the most famous of all Liverpool firms, Cunard, plus his classic study of the port.[13] We will then turn our attention to Peter Davies' monograph on Elder Dempster, perhaps the most widely read and cited of this group.

Possibly the most distinctive feature of Hyde's *Cunard and the North Atlantic* is its emphasis on the individual entrepreneur. According to Hyde it was the skill and business acumen that entrepreneurs like Samuel Cunard possessed which enabled them to succeed

---

13

In 1956 Hyde produced his first major work on a Liverpool shipowning concern. This monograph highlights one of Liverpool's most important shipping lines, The Ocean Steamship Company, also known as Alfred Holt and Company or the Blue Funnel Line. Founded in 1865 by engineer Alfred Holt (1829-1911), aided by his brother Philip Henry (1831-1914), the Blue Funnel Line grew to be one of Liverpool's largest cargo lines. By 1914 Holts was sending more vessels through the Suez Canal than any other liner company and was Britain's premier carrier of cotton and woolen products to East Asia, their major market. The line was noted for a number of innovations, including their own vessel rating system, superior to Lloyds A1 classification ("Holts Class"). Indeed, Holts were generally known for their impeccable standards in both ships and personnel. The company was likewise marked by its long association with its Far Eastern agents Butterfield and Swire. In fact, the agency's guiding light, John Samuel Swire (1825-1898), exerted a considerable influence on Blue Funnel, supporting the company's involvement in conference arrangements. Like Brocklebanks and PSNC, Holts can certainly be considered a successful enterprise. Today their successor, Ocean Transport and Trading Ltd., is still a going concern, even if it is no longer especially maritime in character. See Francis Hyde, with J. R. Harris, *Blue Funnel. A History of Alfred Holt and Company of Liverpool from 1865 to 1914* (Liverpool, 1956). A more recent look at Holts deals primarily with the years 1914-1973, while also recounting the period dealt with by Hyde and Harris. In the 1970s the company, having dropped the Holt name in 1965, while acquiring William Cory & Son in 1972, became more landward-oriented, although shipping still dominated their activities until the 1980s. See Malcolm Falkus, *The Blue Funnel Legend. A History of the Ocean Steam-Ship Company 1865-1914* (Hampshire, 1990), 7-8 and 370-377. For an overview of the company's history and the details of its fleet see Duncan Haws, *Merchant Fleets: Blue Funnel Line* (Burwash, East Sussex, 1984). On John Swire see Shelia Marriner and F. E. Hyde, *The Senior: John Samuel Swire, 1825-98* (Liverpool, 1967).

by manipulating the external forces around them.[14] The individual is portrayed by Hyde as being of paramount importance, and his success or failure was personal, subject only to interference by government. In the case of the Cunard company, this meant that Hyde spent a good deal of time praising (and occasionally damning) Samuel Cunard, his collaborators and successors. The government was often seen as constructing barriers that the Cunard executives had to surmount. Even when discussing the quest by Sir Percy Bates – also of pivotal importance in the Brocklebanks story – to obtain aid to build the *Queen Elizabeth* and *Queen Mary*, Hyde portrayed the role of government as largely negative. In short, from Francis Hyde's perspective the story of Cunard was in large measure that of an uneasy relationship between a dynamic set of entrepreneurs and the stultifying and restrictive hand of government. Success, when it came, was clearly due to the drive of Cunard and his associates. Hyde writes of Cunard that "[he] had the foresight of genius coupled with the gift of choosing men of ability as his associates."[15]

The Cunard Company was managed at the outset by the founder, Samuel Cunard,

---

14

Hyde's "credo" to this effect may be found in his work on Blue Funnel. He states that "what was happening in Liverpool in the nineteenth century leads one to the conclusion that...the ability and managerial skill of the Liverpool business man found scope for maximum employment...Nothing is inevitable in business life and because of this, the principal reason for the rise and decline of firms must be sought in the personalities of the men who manage them." Hyde, with Harris, *Blue Funnel*, xvi.

15

Hyde, *Cunard*, 323. Hyde's other major maritime business history – referred to in Chapter Six – is on the Harrisons. His analysis of enterprise by individual entrepreneurs is not unlike the stories of William Wheelwright and Daniel Brocklebank, whom we will meet in Chapters Seven and Nine. It should be noted that Samuel Cunard was actually a Canadian, but his shipping interests were long tied to Liverpool. For a concise overview of his career and that of his company see John M. Bassett, *The Canadians: Samuel Cunard* (Don Mills, Ontario, 1976).

and his partners, David and Charles MacIver and George Burns. To Hyde the success of their venture was dependent upon their complimentary roles and personalities, which combined to maintain their system of management intact. From the 1840s to the 1880s the firm's operating capital increased from £270,000 to £1,369,034. Behind these simple numbers lay the organizational skill of shrewd businessmen, the competitive service provided by their line and their intuition as to which trades would be most profitable for expansion. It was these functions, Hyde believed, which held the key to Cunard's success during its initial years of operation. Yet this was still only one plank of the company's commercial success. Many of the largest and best capitalized companies on Merseyside and elsewhere were turning toward steam technology in the second half of the nineteenth century to open up new niches in world trade. As Hyde described it, Cunard did not rush to adopt steam, preferring to wait until both its commercial and technological feasibility had been thoroughly proven. There was a safety as well as a commercial concern in this approach: in an era when deaths at sea were a perennial theme of the press and government critics of the industry, Cunard wanted desperately to maintain his sterling reputation for safety. As a result, the company often passed on opportunities to be at the cutting edge of the technological revolution because of a fear of accident. Indeed, this policy led the company to continue to employ small, under-powered ships long after its competitors had switched to larger and more powerful vessels.[16]

16

Hyde, *Cunard*, 26. See also Gerald S. Graham, "The Ascendancy of the Sailing Ship 1850-85," *Economic History Review*. 2nd ser., IX (1956). Like Samuel Cunard, the Holt brothers were also reluctant to modernize

To illustrate the Cunard approach and its underlying soundness, Hyde discussed the competition that evolved with the so-called "Collins Line" founded by the American shipowner, Edward Knight Collins. Speed was of the essence in Collins' service, a fact which spurred Cunard to invest in some of his first iron-screw vessels. But in the end Cunard's adherence to an emphasis on steadiness and regularity prevailed over Collins' focus on speed. Hit by a series of disasters in which he lost a number of his vessels, not to mention some members of his family, Collins eventually folded while Cunard soldiered on.[17]

During the 1860s and 1870s the company relied increasingly on income from the North Atlantic immigrant trade, which replaced government mail subsidies as the deciding factor in the line's operations. While in Hyde's view this was a positive shift since it freed Cunard from an unhealthy reliance on government largesse, the immigrant trade was subject to large fluctuations, and Cunard was not immune. In the mid-1880s steerage passengers accounted for about a quarter of Cunard's gross receipts, but a decade later this had fallen to less than fifteen percent. Still, until the Great War and subsequent American exclusionary

---

their Blue Funnel vessels in the late 1870s. Holts were pioneers of steam links between Britain and East Asia in the 1860s. By the late-1870s, however, their vessels were becoming obsolete compared to those of the Castle, Glen and Shire Lines. Agent John Swire urged modernization, initially with little success. By the mid-1880s voyage losses were on the rise and in 1892 the decision was taken to invest in new, faster tonnage to better compete with their rivals. Falkus, *Blue Funnel Legend*, 6, 106-113 and 124-125 and Haws, *Blue Funnel Line*, 25. Hyde, *Blue Funnel*, 48-49, feels that Alfred and Philip Holt were unnecessarily conservative in this era, assuming that the design and power of their ships did not need updating. Still, they eventually recognized the seriousness of their position, with the 1892 building programme a partial result of this reassessment. Falkus (124-125) sees some justification for this conservatism, stating that "if their slower ships were less than competitive with the fastest Glens and Shires for the homeward carriage of tea to London, they could still make profitable round voyages..."

17

For a detailed account of the Collins Line disasters, see William Henry Flayhart III, *Perils of the Atlantic: Steamship Disasters, 1850 to the Present* (New York, 2003).

legislation constrained the trade, the carriage of immigrants remained lucrative for Cunard. This was well known long before Hyde's book appeared, but the contribution that Hyde made was to point out that from the 1880s Cunard relied less on the immigrant trade than did many of his competitors. This might be why, in Hyde's view, lines such as Inman and Guion went out of business: heavily dependent on the immigrant trade, they succumbed to French and German competition in the early twentieth century. Both the major German lines, Norddeutscher Lloyd and Hamburg-Amerika, used conferences to undermine the paramountcy of British companies in the trade. The Liverpool operators attempted to respond, but as larger ships came into operation the Mersey estuary and the complex dock system proved a handicap that syphoned off business to other ports. Cunard escaped the brunt of this situation, a fact that Hyde credited to its shrewd management practices.[18]

During its golden years the excellent reputation for safety, rather than for speed or the use of cutting-edge technology (at least prior to the introduction of *Lusitania* and *Mauritania*) became its credo. For Hyde, this strategy was the key to Cunard's success. Perhaps it was, but it is striking that Hyde tends to assert, rather than to prove, this point. For example, in Hyde's view the decision by Cunard's Directors not to "put all their eggs" into the immigrant "basket" was a triumph of the firm's management style and served the company well when the importance of the trade diminished. Yet given the exponential

---

18

Hyde, *Cunard*, 58-72. By this period Samuel Cunard was long absent from the company's helm, having died in 1865. Charles MacIver (who managed Liverpool operations) continued as an influence on the company for forty years until his death in 1885. George Burns only passed away in 1890. Samuel's son Edward was assisting in running the Halifax end of the business by the 1860s.

growth of the transatlantic immigrant trade between 1880 and 1914 – the very years during which Cunard was cutting back its reliance on this sector – it is worth considering the possibility that the company's success was due to something other than the prescience of its Directors.

The years from 1914 until the Second World War were not as kind to the Cunard firm.[19] After losing a number of vessels, most notably the liner *Lusitania*, during the war the firm was caught up in trade fluctuations, general stagnation and dislocations of its normal patterns of business activity. In the 1920s the company, now under the leadership of Sir Alfred Booth, finally embraced technological innovation, but in the next few years there were some seemingly intractable problems which by 1932 appeared to be leading Cunard into bankruptcy. While this would seem to disprove Hyde's thesis that management choices were the paramount factor in business success or failure, the firm did in fact survive. Hyde felt that the contemporary assessment of the company was actually quite superficial. As evidence of this he pointed to the fact that the firm survived. But why? Ever a model of consistency, Hyde returned to his central argument: the company made it because of "the strength and purpose of management and the generative power which that management was capable of sustaining."[20]

19

The history of Cunard during the interwar years in key respects mirrored the fate of the British merchant marine in general. While the general outline of what befell the British merchant navy is well known, less well understood is *why* this occurred. The standard work on the period, which badly requires revision, remains S.G. Sturmey, *British Shipping and World Competition* (London, 1962).

20

Hyde, *Cunard*, 189.

Hyde's thesis about the power of management in controlling its own destiny, for good or ill, is intriguing, but he seldom provides evidence and sometimes fails to apply it in the same way over time. His assessment of successful management seems to point to a proactive approach in which the entrepreneur must anticipate market conditions and forces in order to be successful, but the examples he adduces of the Cunard style sometimes point toward *reactive* strategies as being more successful. The case of the competition with the Collins Line is a good example. As a new competitor which was attempting to use arguments about speed to win over passengers and freights, the Collins Line was essentially a market factor over which Cunard had no direct control. Where the shrewdness and ingenuity came in was when the Cunard owners had the sense to stick with what they knew (their comparative advantage), safety and reliability, rather than in any foreknowledge that the Collins approach was going to fail. Had it not been for the loss of several vessels by Collins, an element over which Cunard had absolutely no control, the story might have ended with Collins the victor, although Cunard might have survived in any event. Likewise, fluctuations in the immigrant trade were outside the company's control. Again, it had the good sense, unlike many of its rivals, to spread its risks, thus demonstrating commercial adaptability rather than consistency. While Hyde was correct in stressing the importance of having a sound management strategy, such decisions often were reactions to impersonal market forces rather than the results of solid planning or dynamic personalities. Still, this in no way detracts from the managers' role in making their strategy workable, nor does it negate their ability to adapt when market conditions changed.

In some ways this approach fits in well with Graeme Milne's recent work on Liverpool investing and business, which we will examine shortly. Hyde was concerned with the choices businessmen make, regardless of whether they end in success or ruin. Milne also felt that choice was a central factor in approaching the business of shipping. In fact, both authors have written about the mid-nineteenth century, the time when innovations such as the transition to steam and iron construction came about, although Hyde's work always had more temporal breadth. Hyde's research is an early example of the role that decision making and human agency played in a business that has often been viewed solely from a macroeconomic perspective. Where Hyde and Milne differ is in the latter's quest to incorporate the operations and decisions of lesser-known, but nonetheless important, companies which were often overlooked by the adherents of the Liverpool School.

Still, not all of Hyde's work is characterized by this narrow perspective, for in the early 1970s he produced a work that went beyond the confines of institutional business history. Indeed, it can be claimed that Hyde's *Liverpool and the Mersey* was the first scholarly, book-length overview of Liverpool as a port. Unlike the Cunard study or his other earlier works, this was not a monograph of a large Liverpool firm.[21] Aside from breaking new ground for the author himself, the work remains relevant after more than thirty years.

21

For the contribution of the other member of the Liverpool school, see Sheila Marriner, *Rathbones of Liverpool, 1845-73* (Liverpool, 1961).

Hyde intended the book to update previous histories of the city.[22] As was and is typical in port history, Hyde made no direct challenge to earlier commentators but sought to expand the reader's understanding of the port's dynamics.[23] Many of the earlier studies concentrated on specific aspects of the port, such as its spatial characteristics, financial administration and types of vessels attracted. Hyde's introduction indicated a desire to combine these loose strands into a broader tapestry of city development. This is especially important given the 300-year period during which Liverpool and the Mersey have been focal points for British trade, commerce and empire. He aimed to "broaden the scope of inquiry" into the port and to "link growth with the aims and aspirations of an acquisitive society."[24]

In this book Hyde covered a broad range of topics over a long period of time. Beginning before 1700, he brought the story of Liverpool up to the 1960s. In the process he covered subjects ranging from port administration to various foreign trades to the future prospects for the port. This type of overview tends toward "top-down" history, but in taking a macro view the study of elites is understandable. Therefore, Hyde's large store of primary

---

22

One example of these was Baines, *History of the Commerce and Town of Liverpool*. Using municipal records, Baines looked at commercial wealth and its impact on Liverpool, plus how such aided the expansion of the city's influence overseas. Hyde, *Liverpool*, xv, claims that he wanted to build on this.

23

The number of debates in port history are extremely small. In addition to the debate over the port city or functional approach discussed earlier, the best example might be over the cause of the nineteenth-century rise of the port of New York. For the debate, see Robert G. Albion, *The Rise of New York Port, 1815-1860* (New York, 1939); and Jean Heffer, *Le port de New York et le commerce extérieur américain, 1860-1900* (Paris, 1986).

24

Hyde, *Liverpool*, xv.

sources were largely employed to discuss the movers and shakers who led the port's commercial life, such as merchants, shipowners and engineers, rather than to understand the social dynamics of the "lower orders," such as the mariners and dock workers who contributed to Liverpool's growth as a trading centre (In its focus on shipowners this thesis naturally follows along these lines). Although it is an imperfect study, historians of the port of Liverpool owe Hyde a debt for his wide-ranging examination which certainly provided a better foundation than had existed previously.

Hyde's overall characterization of the port was one of spectacular growth over two and a half centuries, but with Liverpool's future as a port always in some doubt. Hyde traced the growth principally through figures on shipping using the port. These indicate a sustained rise between 1860 and 1914 of 2.1 percent per year, which then declined until the early 1950s before recovering until a further decline set in after 1966. Hyde also employed investment figures for dock works and harbour facilities to reinforce this picture of growth. These too show steady growth for the pre-1914 period but are not as reliable an indicator of prosperity because such improvements were often undertaken to bolster the success of a flagging development. Nonetheless, combined with shipping statistics they do reinforce Hyde's thesis of the sustained prosperity of Liverpool until the First World War and its role as an important engine for the national economy. This has often been taken as a truism by British port historians, but Hyde does a capable job of actually proving the point.[25]

25

Hyde, *Liverpool*, 204-207. The bulk of Hyde's study concentrates on the years after 1800, although there is some attention paid to earlier developments, especially in Chapters One and Two. Five years after Hyde's

As for the future Hyde was less certain, but he remained optimistic. Despite a considerable downturn in the fortunes of Liverpool in the years immediately preceding the appearance of Hyde's book, he believed in the capacity of Liverpudlians to recover from adversity. Indeed, he ends his work with the following commentary:

> The hope must be that the native intelligence of Merseyside's own citizens will be adequate for the promotion of her continuing prosperity, for the preservation of a dynamic self-interest and for the application of that self-interest in the wider perspective of Britain and the world as a whole.[26]

Like Hyde, Peter Davies was at least guardedly optimistic about the future of Liverpool's shipping industry in the early 1970s. Unlike his mentor, who did not foresee Liverpool's new era, Davies in 2000 had the opportunity to publish a new edition of his classic 1973 study of Elder Dempster (ED), *The Trade Makers*. In an updated chapter that took the firm (and its successors) through the end of the twentieth century, Davies was able to revisit predictions he had made previously about the company's future. Since this work is arguably the best- known example of the Liverpool School, and since it represents one of

---

monograph appeared Paul Clemens produced an article concentrating solely on the port of Liverpool in the years before 1750, with an emphasis on the seventeenth century. It was in the last quarter of the seventeenth century that Liverpool rose to prominence as a port. Clemens' study is an important reminder of the role of comparative advantage and adaptability to a maritime commercial centre. Building on Liverpool's strengths, including its location and growing hinterland population, the port's mercantile community was able to take advantage of changing market conditions that saw commodities like sugar become commonplace imports. In time the growth of other trades, especially that in slaves, also favoured Liverpool. Building on its "dynamic urban growth and geographical position," Liverpool overtook rival Bristol in the trade following the outbreak of war in 1739 which hindered Bristol's own position. From the mid-1700s, and lasting until the trade was abolished, Liverpool became the world's premier slaving port. (Although the years after 1750 do not figure into Clemens article, it is worth noting that Liverpool's mercantile community was also able to adapt to the loss of this trade). Paul G. E. Clemens, "The Rise of Liverpool, 1665-1750," *Economic History Review*, XXIX, no. 2 (May 1976), 211-213 and 219.

26

Hyde, *Liverpool*, 214.

the most recent commentaries on the seemingly- terminal decline of the British shipping industry, it is useful to examine it in some detail.[27]

The focus of Elder Dempster's activities in the late nineteenth and the first seven decades of the twentieth century was West Africa. It is not necessary to go into deeply into ED's early history here, but Davies does make a number of important observations about its involvement in the Africa trade and the effects of this concentration. Davies argues that the provision of a satisfactory shipping service by the African Steam Ship Company from 1852 and the British and African Steam Navigation Company after 1869 was an important factor in the development of West Africa. Indeed, a similar process occurred in Chile where, as we will see in Chapters Seven and Eight, the Pacific Steam Navigation Company provided a substantial amount of infrastructure, along with its transport services, to the west coast of South America. In the West African case, Davies argued, the crucial event occurred when the two steamer companies merged under the auspices of Elder Dempster and Company. As a result, there was a substantial investment in facilities that were essential for the expansion of trade. In the absence of a similar capital outlay by the colonial governments, these investments exerted a disproportionate influence on the late-Victorian "scramble for Africa." The case study chapters that follow detail a number of instances where external factors such

---

27

Peter Neville Davies, *The Trade Makers: Elder Dempster in West Africa, 1852-1972* (London, 1973; revised ed., St. John's, NL, 2000). All subsequent references refer to the new edition. A good overview of Britain's decline as a seafaring nation is Tony Lane, *Grey Dawn Breaking: British Merchant Seafarers in the Late Twentieth Century* (Manchester, 1986). The introduction in particular focuses on the erosion of the British flag fleet after the 1960s. Lane's monograph was published at just about the time Brocklebanks and the Pacific Steam Navigation Company ceased to exist and only three years before Elder Dempster was sold to foreigners.

as warfare directly impacted on the commercial fortunes of shipowning firms like Brocklebanks. Davies' example here was a clear indication that the process worked in both directions. The activities of shipowners could and often did impact on the wider political situation. The British Empire was founded as much on trade as on anything else; when we remember that ships – along with railroads – were responsible for the movement of practically all the world's long-distance trade goods, this influence is quite understandable.[28]

Although Elder Dempster was initially founded by Alexander Elder and John Dempster it eventually came under the control of Alfred Jones, who joined the firm in 1879 as a junior partner.[29] Jones was one of the most dynamic, influential and interesting figures to emerge from the Liverpool shipowning community. From the time he assumed full control of Elder Dempster in 1884, until his death, the company acted essentially as a holding company for Jones' commercial and shipping interests. From 1884 to 1909 he increased its

---

28

Davies, *Trade Makers*, xxxi-xxxii. On British imperialism generally see Bernard Porter, *The Lion's Share: A Short History of British Imperialism 1850-1983* (London, 1984); Niall Ferguson, *Empire. The Rise and Demise of the British World Order and the Lessons for Global Power* (London, 2002) and P. J. Cain and A. G. Hopkins, *British Imperialism: Innovation and Expansion 1688-1914* (London, 1993). An interesting popular account of the empire is Lawrence James, *The Rise and Fall of the British Empire* (New York, 1994).

29

Alfred Lewis Jones (1845-1909). Born to middle-class Welsh parents, his family moved to Liverpool when he was three. After a childhood he described as "uneventful," Jones went to sea as a cabin boy in 1859 – making his only voyage to West Africa. Upon his return to Merseyside Jones was made an office boy with his vessel's agents, W. And H. Laird. Jones appeared frustrated with the firm's (now named Fletcher and Parr) lack of innovation. In 1878 he formed his own firm, Alfred L. Jones and Company. The following year he began running vessels to West Africa. Alexander Elder and John Dempster, who had worked with Jones at his old employer, saw in the small business a potential rival and made him an offer of a junior partnership. Knowing the pair personally, Jones accepted and became part of Elder Dempster and Company – the enterprise he would eventually control – on 1 October 1879. Davies, *Trade Makers*, 37-43. For more detail on Jones, see Davies, *Sir Alfred Jones: Shipping Entrepreneur Par Excellence* (London, 1978).

value from about £50,000 to £1,910,000, making large sums on products such as silver, coal and cement. After the mid-1890s Elder Dempster, under Jones' auspices, had a near monopoly on West African seaborne trade. Again, however, the most important point that Davies made about Elder Dempster concerned its wider impact on West Africa. Without the company's large-scale investment, viable economic growth in West African trades could not have occurred. Investment was encouraged by a rising demand for the region's exports, notably products derived from the palm plant. Jones founded the Bank of British West Africa, organized coasting companies and built up a system of branch-line steamers. He also owned an interest in the South Nigerian Railway. In short, Jones' activities gave a strong impetus to trade. By "priming the pump," as Davies put it, Elder Dempster and its associated shipping companies increased the tempo of change in West Africa and expanded the growth of legitimate business. Without the services and investment provided by Elder Dempster, the region's economic development would have begun much later and would likely have been far slower in gathering momentum.[30]

30

Davies, *Trade Makers*, 42-55, 83-87 and 125-129. Davies adds qualifications to the role played by Jones and Elder Dempster, however. He reminds readers that it was more likely the company's potential role in West Africa, rather than what it actually achieved there, which persuaded British governments to become involved in the region. Also, regarding the "scramble for Africa," he feels there was no way the Home Government could have stood idly by watching the activities of foreign nations in developing West Africa without taking some action – even without the presence of Elder Dempster and its associates. Nonetheless, their role remained important in determining the pace of regional development and the British influence there. For additional insight into Jones and Elder Dempster, see: Adrian Jarvis, "Alfred Jones: Integration and Adversity in Liverpool," in Lewis R. Fischer (ed.), *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies* (St. John's, NL, 1992), 245-266. In the article Jarvis focuses on Jones' (and ED's) relationship with bodies like the Mersey Docks and Harbours Board on such issues as berthage, cartage and rail linkages. Jarvis makes the important point that many Dock Board members became so concerned with the problems of ship handling that they often forgot that docks were not really made for the vessels but for the goods they carried.

Following Jones' death in 1909 ED was acquired by Lord Kylsant's Royal Mail Group, which we will encounter again in the discussion of PSNC. Although Elder Dempster suffered great tonnage losses in World War One, it persevered. The Great Depression and the collapse of the Royal Mail Group in 1931 were also blows to the firm, but it survived as part of the West African Lines Company with Sir Richard Dunning Holt as Chairman of the Elder Dempster branch. The group ventured into aviation in the 1930s, endured the Second World War and thereafter entered a period of great prosperity. The company's fortunes declined during the 1960s, but by 1973 ED was still financially viable in its own right and quite competitive in the traditional West African trades. In addition, it was strengthened by an association with, and eventual takeover by, Ocean Transport and Trading Limited (formerly Holts). At this point Davies' original work ended, and he was clearly confident about Elder Dempster's chances of survival into the next century and beyond. This judgement, of course, did not and perhaps could not anticipate the tremendous changes about to occur in the context of British shipping generally.[31] Such developments could never have been anticipated by earlier generations, particularly in the mid-nineteenth century,

---

31

This is a *very* truncated overview of Davies' discussion, which should be read in full to appreciate the vicissitudes of the company's fortunes in the period, and in the years 1973 to 1989. In revisiting Elder Dempster for the latter period Davies found that although the enterprise performed relatively well into the early 1980s, ED soon ran into problems. Although the firm successfully made the switch to containers, this reorganization, along with the emergence of air transport, induced Elder Dempster to abandon its traditional passenger services. Likewise, falling conference profits and the inroads made by competitors impacted negatively on ED's West African operations. In the larger context, ED's parent company, the Ocean Group, was moving away from maritime enterprises. In 1989 – amid low freight rates, poor cargo levels, fierce competition and dismal economic forecasts – the French shipowners Delmas Vieljeux made an offer to Ocean for much of its Elder Dempster operations. Ocean accepted the offer, and Elder Dempster passed out of British control. Davies, *Trade Makers*, 131-352, 353-381 and 392-396.

which will be the focus of our next study.

Valerie Burton's "Liverpool's Mid-Nineteenth Century Coasting Trade" is at the opposite end of the spectrum from Davies or Hyde's work. Where some historians such as Simon Ville have been concerned that port historians demonstrate change over long periods, Burton's study takes a snapshot of Liverpool at a moment in time. The main source for her research are the Liverpool Bills of Entry, which were compilations of customs information published daily for Liverpool and other ports from 1819. To gain an insight into Liverpool shipping Burton has sampled the Bills for the months of March, July and October 1853. This form of survey does have its drawbacks, however. As Ville would no doubt point out, looking at a single year (or only three months in a year) cannot show any long-term evolution. Also, as Burton admits, the source and year of study also have their limitations. The Bills, although fairly comprehensive, do not always note the full range of traded commodities. Furthermore, Bills of Entry for Liverpool do not cover the entire customs port. In addition to problems with the source, Burton also notes that 1853 was an atypical year for the British economy: a boom in foreign exports, combined with poor domestic harvests, may have affected coastal traffic, although to what extent is uncertain.[32] At the same time, the fact that she is focussing on the coastal trade helps to make this essay so important.

The Bills record data on vessels and the cargoes they brought into major British ports, but they are particularly rich in data on the coasting trade. It is the coastal aspect of

---

32

Burton, "Liverpool's Mid-Nineteenth Century Coasting Trade," 27-28. It is also unfortunate for researchers that after 1853 the Bills become less comprehensive.

Liverpool's shipping on which Burton concentrates, noting rightly that much more attention has been paid to Liverpool's foreign-going commerce. This study can rightly claim to be ground-breaking. Although as of 1989, when Burton wrote, many studies had focussed on deep-sea shipping or, like Gordon Jackson's work on Hull, paid only limited attention to coasting, few, if any, had made the coasting trade their sole focus. As Burton noted, "[f]ew previous attempts have been made to describe, let alone quantify and analyse, the coasting trade of any [British] port in the nineteenth century."[33] Burton's findings that Liverpool coaster owners were leaders in adopting steam and that Liverpool enjoyed an extensive distribution network for products traded coastwise, were some of the first scholarly observations on this aspect of the port's trade.

Burton's article reflected another trend in the writing of port history: an increasing propensity to publish articles rather than full-length monographs. This is not to imply that this is evidence of stagnation; on the contrary, in the decade and a half since the appearance of Burton's essay there has been a plethora of scholarly articles and a few books on British ports and their shipping industries.[34] One that falls in the latter category is Tony Lane's 1987

33

Burton, "Liverpool's Mid-Nineteenth Century Coasting Trade," 27.

34

See Gordon Jackson, "Do Docks Make Trade? The Case of the Port of Great Grimsby," in Fischer (ed.), *From Wheel House to Counting House*, 17-41; P. L. Cottrell, "Liverpool Shipowners, the Mediterranean, and the Transition from Sail to Steam During the Mid-Nineteenth Century," *ibid.*, 153-202; Alan G. Jamieson, "'Not More Ports, but Better Ports:' The Development of British Ports Since 1945," *The Northern Mariner/Le Marin du nord*, VI (January 1996), 29-34; John Chartres, "Trade and Shipping in the Port of London: Wiggins Key in the Later Seventeenth Century," in John Armstrong (ed.), *Coastal and Short Sea Shipping* (Ipswich, 1996), 1-19; Anthony R. Henderson and Sarah Palmer, "The Early Nineteenth Century Port of London: Management and Labour in Three Dock Companies, 1800-1825," in Simon P. Ville and David M. Williams (eds.), *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and*

work, *Liverpool: Gateway of Empire*. Although Liverpool has been studied more than most British ports, Lane's approach is innovative. Previous researchers tended toward overviews of how the port developed, both in physical and economic terms, or on the development of associated infrastructure. Lane viewed Liverpool as a unique entity, fact that he attributes in no small part to its role as a port.[35]

Lane notes that in the nineteenth century the distinctiveness of most British cities tended to disappear under London's influence. People read the same newspapers and advertisements and bought the same goods. On the national level British urban life was becoming homogenized. But according to Lane this was not the whole story. The particular industries with which a town or city becomes associated determines its unique character, which is often long-lived. In Lane's view Liverpool was especially distinctive because of the work and employment patterns generated by the port. To illustrate this point Lane notes differences between Liverpool and Manchester. In 1901 Liverpool functioned as an *entrêpot* for the cotton spun and woven in Manchester. As one city was a port and one a cotton town,

---

Business History (St. John's, NL, 1994), 31-50; Adrian Jarvis, "Managing Change: The Organization of Port Authorities at the Turn of the Twentieth Century," *The Northern Mariner/Le Marin du nord*, VI (April 1996), 1-12; and Adrian Jarvis, *The Liverpool Dock Engineers* (Stroud, 1997).

35

Tony Lane, *Liverpool: Gateway of Empire* (London, 1987). Another study which views nineteenth-century cities – at least in part – from the perspective of their uniqueness is Asa Briggs, *Victorian Cities* (Harmondsworth, 1963). Briggs writes (33-34) that British cities in Victoria's reign "...not only had markedly different topography, different economic and social structures, and quite different degrees of interest in their surrounding regions, but they responded differently to the urban problems which they shared in common."

they evolved much differently.[36] Liverpool required a large, casually employed population who could man and repair ships as well as meet the demands of cargo handling. Employment was affected by the elements, the time of year and the tides. Work on the Liverpool docks was uncertain, quite unlike the steady employment offered by Manchester's cotton mills. For this reason, Lane argues, Liverpool maintained its own ethos and social character. According to Lane, "[i]t was being a port city on a scale unseen anywhere else in Britain that made Liverpool such a particular place."[37] Lane's study, more than many of its predecessors, incorporated the contributions of its more lowly citizens, especially to the municipal character. He notes that on Good Friday the children living on the docks' southern end would run through the streets carrying burning effigies of Judas Iscariot. Unknown in the rest of Liverpool and the United Kingdom, this folk ritual penetrated the neighbourhood by way of the Portuguese fruit trade.[38]

Although Lane's study was not lengthy, he did weave the experience of the working classes into Liverpool's history in a way that many earlier researchers did not.[39] This was a

---

36

Lane, *Liverpool*, 17-18. By 1901, of course, Manchester had the Manchester Ship Canal, and was itself a port as well as a manufacturing centre. We must bear in mind, however, that it by no means had the same long evolution as a major port city that marked Liverpool.

37

Lane, *Liverpool*, 17-18.

38

Ibid., 38.

39

An exception here is E.L. Taplin, who has studied the British labour movement in a maritime context. His studies examined the working-class in Liverpool and other British ports. See Taplin, "Dock Labour in Liverpool: Occupational Structure and Working Conditions in the late Nineteenth Century," *Transactions of the Historic Society of Lancashire and Cheshire*, CXXVII (1977), 133-54; *The Dockers' Union : A Study of the National*

trend which grew in popularity over the next decade. While Lane's study was not strictly a port history, it was testimony to the unique character of the city. The study has become, almost by necessity, port history. In this respect Lane's work runs along the same lines as Frank Broeze's research in that it supports the view that ports cannot be properly viewed in isolation from their hinterland. Lane reminds us that this process was symbiotic: just as early settlers may found ports and later entrepreneurs add new trades and infrastructure, the port itself can affect the character of the people whose lives are intertwined with it. This, I would also argue, makes up part of the comparative advantage enjoyed in the shipping industry by people who have grown up, or at least resided in, port cities, especially *world* port cities like Liverpool. In effect, Lane's book attempted to cover new ground by looking at Liverpool as a city defined by its function.[40] Certainly, the idea of Liverpool as a place defined by its

---

Union of Dock Labourers, 1889-1922 (Leicester, 1985); and *Near to Revolution: The Liverpool General Transport Strike of 1911* (Liverpool, 1994). On the latter subject see also, H.R. Hikins, "The Liverpool General Transport Strike, 1911," *Transactions of the Historic Society of Lancashire and Cheshire*, CXIII (1962), 169-195. Recent scholarship on Liverpool's dock workers, at least a specific group of them, has been carried out by Rachel Mulhearn. Although her work is more concerned with the provision of housing for individuals such as harbour, pier and dock masters, plus dock gatemen, Mulhearn's article does touch on their conditions of work. See Mulhearn, "Dockside Dwellings: The Provision of Housing by the Liverpool Dock Authorities during the 19th Century," in *The Northern Mariner/Le marin du nord*, XIII, No. 3 (July 2003), 21-32.

40

Another work on a major British port, in this case London, appeared In the same year as Lane's study. This was W. Paul Clegg, *Docks and Ports 2: London* (Shepperton, 1987). Clegg's book is mentioned, not so much by dint of its scholarly importance but for the timing of its appearance. Although many port histories of London appeared over the years, Clegg was the first to return to the subject after the closure of the Port of London Authority's upper docks system. Although his work is more of a coffee table book, Clegg has endeavoured to touch on ancillary activities including pleasure craft and port users, which he feels have seldom been discussed (6). Like Lane, Adrian Jarvis, *In Troubled Times*, 14-25, also touches on Liverpool's distinctive character. He contends that the interaction of dock and related activities helped to shape the city. Most people, as he shows, earned a living either directly or indirectly form port-related work. But Jarvis goes on to argue that manufacturing was more important in Liverpool than has generally been assumed. Naturally a port that imported great quantities of tobacco, as did Liverpool, had factories producing pipe tobacco and cigarettes. The same was true of flour-milling and tanning. Liverpudlians also viewed their city as a northern cultural centre.

function as a port is present in the work of Adrian Jarvis, although Jarvis tends to focus more on the actual port itself rather than the larger metropolitan entity.

Jarvis' *Liverpool Central Docks, 1799-1905*, has a number of traits in common with the earlier works by Hyde and Jackson already discussed. Jarvis' book covers a fairly long period, and the years examined encompass the transition from sail to steam, the emergence of railways, the preeminence of the coal trade and the development of modern port infrastructure. This century is one of the best suited to the application of the idea of change over the long term (not to mention the maritime business community's ability to adapt) and coincides with a period of great prosperity for Liverpool as a city and port. Jarvis' work is focussed on a particular group of elites within the port, engineer Jesse Hartley being one example, and on bodies like the Mersey Docks and Harbour Board (MD & HB). As this history is greatly concerned with the development of port facilities, their role is paramount. In tackling such topics, rather than the more traditional city business community, Jarvis reflects a desire by port historians to explore new avenues of research.[41]

Jarvis confines his study to Liverpool's central docks rather than covering the whole port. This is advantageous because the sheer complexity of Liverpool's shipping industry often precludes taking Jarvis' micro-level view. Moreover, his book contains one of the few truly evocative re-creations of daily life on the docks of Liverpool or any port. He actually subtitles the chapter "A Day in the Life of a Dock," as "factional," to reflect its creative

---

41

Jarvis, *Liverpool Central Docks.*

interpretation of available evidence. Purists might dismiss such an approach as not being "true history," but Jarvis does instill the feeling for what life *might* have entailed for those who depended on the docks for a livelihood. The result is perhaps the closest a modern scholar can get to Henry Mayhew's first-hand tour of the waterfront. True history or not, Jarvis' reconstruction marks an innovative approach to port history.[42]

Jarvis has recently built on this work, taking the story up to the outbreak of World War II. Although this monograph is more temporally limited than his previous works on Liverpool, it has a broader spatial scope, taking in practically all the Mersey Dock Estate, although with less emphasis on Birkenhead. Jarvis' title is *In Troubled Times*, and the work is mainly concerned with an era often viewed as the turbulent precursor to Britain's disappearance from oceanic commercial routes. Jarvis' quest is to place the Board's activities within this broader context, while fleshing out the decision making process of the

---

42

Ibid., 178. Henry Mayhew (1812-1887). Mayhew was the son of a well-to-do solicitor. Aged nineteen and already unsuccessful in legal and seafaring careers, young Mayhew decided on journalism. After publishing a number of magazines and other publications with varying success, between 1851 and 1862 he wrote his *magnum opus*, *London Labour and the London Poor* (4 vols., London, 1851-1862). Although Mayhew was largely forgotten in later life this work lived on as one of the great works of Victorian sociology. It revealed a world totally alien to most residents of London's fashionable West End neighbourhoods. Although it did not lead to immediate reforms, Mayhew's study was one of the first, and best, chronicles of the great mass of the British poor. From a maritime standpoint the most pertinent of Mayhew's chapters is titled "Docks, Dockers and Watermen." It not only profiles the physical character of the dock area itself but provides a first-hand account of daily life for people like lightermen and bargemen that is almost unequalled as a primary source. One especially evocative paragraph opens with the lines:

> As you enter the dock the sight of the forest of masts in the distance, and the tall chimneys vomiting clouds of black smoke, and the many coloured flags flying in the air, has a most peculiar effect; while the sheds with the monster wheels arching through the roofs look like the paddleboxes of large steamers. Along the quay you see, now men with their faces blue with indigo, and now gaugers, with their long brass-tipped rule dripping with spirit from the cask they have been probing...

MD & HB. Of particular interest in the context of this study is the way in which Jarvis incorporates the role of other interests in actions taken by the Board. The Liverpool shipowning community was especially prominent, both as a pressure group and as a source of board members. Oddly enough, a relationship that was in theory symbiotic, ended up in practice being more parasitic.[43]

From its inception in 1858 the MD & HB tried, not always successfully, to integrate more closely the port into Liverpool's wider business community. In Jarvis' view this was due in part to perceived relationships among the city's business elites. Although they had their differences, shipowners and merchants still felt themselves superior to those who engaged solely in manufacturing and the trades. On balance Jarvis believes that the Board's "achievement of the period 1905-1938 is that in absolute terms as distinct from market share the port arguably did better than between...1875 and 1905 and did it in circumstances of acute difficulty."[44]

Part of the problem (not to discount outside economic conditions) concerned the relationship of the Board to a major part of its clientele – and some of its most important members – the shipowners. Jarvis ended *Liverpool Central Docks* with an analysis of the state of the port of Liverpool in 1905. Although superficially the picture looked rosy, there

---

43

Jarvis, *In Troubled Times*. Jarvis engages similar themes in his works "The Port of Liverpool and the Shipowners in the Late Nineteenth Century," *Great Circle*, XVI, No. 1 (1994), 1-22; and "The Port of Liverpool and the Shipowners, c. 1910-38," *The Northern Mariner/Le Marin du nord*, XII (2002), 23-40.

44

Jarvis, *In Troubled Times*, 12-13 and 210.

were certain troubling portents for the future. These included a perceived need to build ever larger dock structures to keep the business of the new Atlantic Leviathans and certain inefficiencies in the Board's own structure. Here the port's shipowners crop up as critics of the Board, and this theme is further expanded on in *In Troubled Times*. A central problem for the early twentieth-century Board was debt accumulation, both to finance new construction and to modernize of older facilities. The debt that accrued eventually contributed to the MD & HB's collapse in 1972. The situation was exacerbated by the attitude of shipowners, who were seldom if ever ready to pay port dues commensurate with what the Board needed for its projects. Whenever the Board did find itself with extra cash reserves shipowners clamoured for rate cuts, rather than accepting that the MD & HB use this revenue for debt reduction. Perhaps such an outlook was understandable considering that such dues cut into shipowners' profits. The strangest aspect of this equation was that so many Board members and chairmen over the years were themselves shipowners. Given such service, it might be expected that Liverpool's shipowners (or at least those who had served on the Board) would have been quite sensitive to the Dock Board's needs, but such was not the case. In many cases MD&HD members who were also shipowners made "...repeated and sometimes unreasonable demands on the Board which, when acted upon, resulted in heavy expenditure on facilities which did not meet their own interest costs, much less allow for depreciation."[45]

45

Ibid, 39-41, 128 and 138-139; and Jarvis, *Liverpool Central Docks*, 200-221. Jarvis' example here is Sir Alfred Read (b. 1871) who in 1917 was chair of the Coast Lines, then Britain's largest coasting group. While in this

The refusal of certain of the Board's shipowners to balance its problems against their own short-term interests mattered since shipowners, along with persons in commerce, banking and insurance, comprised a high proportion of Dock Board membership over the years. Although Jarvis considers the Board's performance over these troubled three decades on balance to have been positive, the attitude of the port's shipowners (especially Board members who should have known better) was certainly a detriment. On the positive side, if such individuals with their intimate ties to Liverpool's commerce had been unwilling to serve altogether, perhaps even less would have been achieved.

Jarvis does not really weigh the relative importance of such factors to the success of the Docks Board from 1905 to 1938. Still, his discussion is important in reminding us of the interplay (not always positive) between the needs of a port and of those who invested in its tonnage or used its facilities. Neither could exist without the other. Although the trend toward shipowners taking an active role in public life was waning in the Edwardian period, at least some saw a continued need to serve on the Mersey Docks and Harbour Board. As part of the resident investor community, their role in Board operations was extensive, even if sometimes self-serving.

Ports like Liverpool, along with their residents and commercial elites, have greatly influenced history but in more subtle ways than many institutions. This may be why their

---

position Read also sat on the Mersey Docks & Harbour Board. Despite this overlap of interests he, like many of the board's other shipowners, seemed unable to balance its interests with their own. Jarvis, *In Troubled Times*, 80-83. Jarvis' biographical details are taken from NML, MMM, MAL, Mersey Docks and Harbour Board (MD & HB), Antecedents A 212.

importance as objects of historical inquiry is only recently being systematically exploited. Yet we must remember that such places have existed for hundreds of years. Prior to the information age they were the principal centres for exchanging information, ideas and customs on a global scale. On a national level the same may be said for British ports. Through her ports were exported not only Britannia's goods but her language, ideals and even people. Given this importance and the work remaining to be done, it is not surprising that maritime historians continue to fill in pieces of the puzzle, even if their work has not yet gelled into firm strands of theory or produced easily recognizable schools of thought.[46]

Although still waiting for this development to occur, the historian of maritime Liverpool will be gratified to see the appearance of Graeme Milne's recent monograph, *Trade and Traders in Mid-Victorian Liverpool.* As Milne notes, Hyde's work was the last comprehensive economic history of Liverpool, even though it appeared over three decades ago. Although Liverpool has been subjected to much scrutiny over the years, Milne correctly makes the point that little of this work has been genuinely scholarly, and in recent years authors have tended to take a narrow focus, whether this be from a temporal or topical

---

46

Perhaps one theme which *has* been given some credence in recent scholarship is the idea of the port as a community (although Jarvis' example reminds us that it was not always a community of *interests*). The idea that this community and its related linkages were vital elements of shipowning crops up in Milne and Boyce in terms of information networks and the value of interpersonal relationships. Herein it most concretely relates to the notion that being resident in a particular port formed part of investors' comparative advantages. By being "in the know," or part of an established commercial network, an investor working within the milieu of his own port was much better placed to succeed in the business of shipping, although it must be reiterated that there were no guarantees on this score. The idea of a port community forms one of the overarching themes of Fischer and Jarvis (eds.), *Harbours and Havens.* In his own contribution to the work Jarvis contends that "...the success of a port development...is partly determined by the...cost of transmitting mercantile information..." Jarvis, "Port History," 33.

standpoint.

Another concept with which Milne tries to grapple is human agency. In this he perhaps comes as close as anyone during the last few decades to establishing a new paradigm for Liverpool scholarship. Two main themes of the work are "change and choice." Like many previous historians, he focusses on the concept of change as it applied to the Victorian shipping industry and, by extension, to shipping investors in Liverpool. What distinguishes Milne from many others is his focus on the human side of the industry, in other words, the choices made by real human beings. A problem he sees in previous scholarship on Liverpool (and other ports) is the tendency, especially among economic historians, to concentrate on broad tends and statistics without looking at the man on the spot, as it were. The central feature of any economic community is the players themselves, as it is they, their contacts and activities that comprise the statistics. Milne also tries to present these people as "proactive" in the sense that they were not merely objects being flung to and fro by the forces that surrounded them. Merseyside's shipping community was a complex web of persons, all of whom actively took steps to improve their chances of success in what was, by definition, a risky proposition in an industry always in flux. It is not that such ideas are unique to Milne but that he consciously, and fairly consistently, brings out the idea of human agency as it applied to shipowning which makes his work a useful model. In applying the notion of agency he gives weight not only to those businesses and owners who were successful but also to those that ruined themselves by making the wrong choices. Again the word choice must be emphasized. Milne uses these examples to reinforce the point that

success or failure both depended not so much on the market but on how shipowners chose to handle the market – something Milne feels many economic historians lose sight of amidst their often sophisticated calculations.[47]

Another reason Milne feels new work is needed concerns the nature of previous research. Yet from reading his monograph it is difficult to conclude that previous scholarship was inadequate; instead, it seems to be that much of it tended to focus on very specific areas of trade or on aspects of the port of Liverpool, in the process leaving many vital questions unanswered. The following pages to some extent reflect my reading of Milne. It encompasses an even longer period than the one about which Milne wrote, although admittedly I place more emphasis on the "success stories," especially in Chapters Seven to Ten. But I do not downplay the enterprises that failed; indeed, many of the investors examined in the aggregate in Chapters Five and Six do not, by most criteria, qualify as "successes." Yet like their more successful counterparts they played the game of business, but lost. This does not mean they had *no* importance to Liverpool's commercial life, as Milne is quick to point out. For present purposes, however, long-standing firms like Brocklebanks and PSNC may provide the best illustrations of the ability to find and exploit a comparative advantage in the shipowning business while also displaying the flexibility to adapt in times of flux. This does not necessarily mean that shipowners who went out of business failed to employ such methods, but only that they were necessarily less successful

---

47

Milne, *Trade and Traders*, 12-17.

over the long term (certainly to 1914). Depending on the specific trades involved, vessel owners made a wide variety of choices to try and succeed. In retrospect some of these approaches may seem hidebound or overly conservative, but in the end they were wholly practical solutions to a complex set of challenges, as we will observe in the chapters to come.

But before studying the actual investors who owned and operated tonnage registered in the principal port on Merseyside, we will first look at the physical capital in which he (or sometimes she) invested – the vessels themselves. This is necessary because this form of capital is what separated the shipowner from other types of investors. Moreover, the deployment and composition of individual fleets were the vehicles through which owners could adapt to changing market conditions, another important theme in this thesis.[48] As we will see in Chapters Three and Four, Liverpool owners invested in a wide variety of different types of vessels, although there were also clearly patterns that separated them from owners elsewhere in Britain and around the world.

48

For example, an owner might chose (if possible) to downsize a fleet, shift it to other trades, or take advantage of economies of scale during times of low returns. Conversely, the shipowner could decide to invest in new technologies, such as metal construction or steam propulsion, when times improved.

Chapter 3

Capital – Liverpool's Sailing Fleet

The following chapter will detail the actual capital in which Liverpool shipowners invested, the vessels themselves. The purpose is to introduce readers to the gross investment patterns which these owners pursued in the era of sail, at least from 1820 on (steam tonnage will be detailed in the following chapter). A number of themes herein are pertinent to the overarching ideas of comparative advantage and adaptability. As the decades passed, for example, Liverpudlians' gross investment in sail tonnage tended toward larger vessels, frequently ship or barque-rigged, with mid-sized tonnage (250-499 tons) becoming progressively rarer from the 1830s on. This related to Liverpool's traditional connection to intermediate and, increasingly, long-distance trades, a tendency that became more pronounced over time.[1] Liverpool's shipowning community, or a large segment thereof, found their comparative advantage in such trades, a trait they generally retained from 1820 through 1914.

Before 1850 practically all trades, except on the shortest routes, were undertaken by sail-powered craft. Sail is an ancient technology, even if improved upon over the generations. Nonetheless, Liverpool investors were certainly able to incorporate new technological developments like labour-saving devices and copper sheathing for hulls. The most striking innovations, however, were metal construction materials – iron and steel – for

---

1

Intermediate (distance) trades may be considered those across the Atlantic, to the West Indies, the Mediterranean and to west Africa. Blue ocean trades might generally be regarded as those to the Antipodes, East Asia and the Indian subcontinent; the western coasts of the Americas would also fall into the latter category.

hulls and masts, allowing greater vessel dimensions, and thus utilization of economies of scale. In this way Liverpool shipowners, while retaining their comparative advantage in the blue-ocean sail trades, demonstrated a willingness to adapt their capital investments to better compete with the emerging steam trades.[2]

The growth and evolution of Liverpool's fleet from 1820 to 1889 (both sail and steam) came amidst a backdrop of broad shifts in international trade and British government policy toward shipping. Before dealing specifically with Liverpool's fleet these developments should be discussed. A good starting point is Lewis Fischer's and Helge Nordvik's work on the economics of late-nineteenth century trade, especially as this relates to the North Atlantic region. Fischer and Nordvik argue that at the beginning of the century most nations remained "tied to national, rather than international, economic perspectives."[3] By the end of the century many countries had been integrated into an international, or world, economy. Fischer and Nordvik acknowledge a lack of consensus among economic historians as to the causes behind this integration, but feel that a number of preconditions underlie the shift. Large capital resources; the development of efficient markets to transfer this capital

---

2

Naturally, I do not argue that Liverpool owners were unique in adopting such innovations. On the efficacy of retaining sail tonnage during the first decades of steam competition see Gerald S. Graham, "The Ascendancy of the Sailing Ship 1850-85," *Economic History Review*, 2nd ser., IX (1956), 74-88. Graham (83) argues that it was only with the perfection of the compound engine that steam could finally outperform, and thus doom, sail on the longest routes. The process was incomplete through to the 1880s, making sail an efficient alternative to steam in the 1860s and 1870s.

3

Lewis R. Fischer and Helge W. Nordvik, "Maritime Transport and the Integration of the North Atlantic Economy, 1850-1914," in Wolfran Fischer, *et al.* (eds.), *The Emergence of a World Economy 1500-1914. Papers of the IX International Congress of Economic History* (Bern, Switzerland, 1986), 519.

to meet regional demand; an expanding population; the procurement and exploitation of new sources of natural resources; plus a shift in the role of governments, especially relative to the development of economic liberalism, are all factors in promoting a modern international economy.[4]

An international economy emerged as world trade increased. From 1800 to 1914 per capita foreign trade increased worldwide by approximately twenty-five times with Europe, the globe's most economically developed continent, at the centre of this exchange. Manufactured goods flowed outward from Europe, while food and raw materials were the most common continental imports. With this increased trade, expanding most rapidly around mid-century, came an enlarged demand for oceanic transport. The increasing scale of world trade generated a vast expansion in the world's merchant marine while, in a symbiotic relationship, the increased availability of cargo vessels itself fed the trend toward greater trade.[5]

Although the extent of the increase is debated, maritime historians generally agree

---

4

Fischer and Nordvik, "Maritime Transport," 519. On the idea of a "world economy," see Immanuel Wallerstein, *The Politics of the World Economy: The States, the Movements, and the Civilizations* (Cambridge, 1984), 13-17. The model for this development is derived from W.W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (3rd ed., Cambridge, 1991), 17-35. For an easy introduction, see A.G. Kenwood and A.L. Lougheed, *The Growth of the International Economy, 1820-1990* (3rd ed., London, 1992). We will return to this issue in Chapter Five.

5

Fischer and Nordvik, "Maritime Transport," 521-523; Rostow, *The Stages of Economic Growth*, 31; and Forrest Capie, "Britain and Empire Trade in the Second Half of the Nineteenth Century, " in David Alexander and Rosemary Ommer, (eds.), *Volumes Not Values: Canadian Sailing Ships and World Trade* (St. John's, NL, 1979), 7. Using Norwegian statistics, Fischer and Nordvik (525) estimate that world shipping tonnage grew by 279 percent from 1850 to 1910.

that the size of the international merchant marine increased significantly after 1850. In the case of Britain, already the globe's leading maritime power, a carrying capacity of three million net tons in 1850 – a third of all world tonnage – expanded to over eleven million net tons on the eve of World War I (When accounting for the greater efficiency of steam against sail, Britain's fleet accounted for half of all North Atlantic tonnage in 1910). As was the case generally, this growth was spurred by, and encouraged, a greatly expanding trade. In the years from 1870 to 1914 alone, imports and exports to/from Great Britain more than doubled in value from less than £600 million to over £1 billion. In Britain's case, trade was allied to particular national advantages that propelled them past all maritime rivals. British dominance of shipping, Fischer and Nordvik contend, was based on their early lead in the industry and their pioneering role in the development of new technologies, especially steam. Of most relevance to our thesis is their idea that "British shipowners and agents had unparalleled contacts throughout the world, and this gave them a *decisive comparative advantage* [author's italics] in securing cargoes and charters."[6]

Along with increased trade, another factor that may have promoted the expansion of national merchant fleets over this period was government intervention. Fischer and Nordvik,

---

6

Fischer and Nordvik, "Maritime Transport," 526 and 532; and Capie, "Britain and Empire Trade," 5 (Capie's figures on the value of British overseas trade includes re-exports). See also Great Britain, House of Commons, *Parliamentary Papers* (BPP), LXLLL 1872; and XXXII 1916. Even taking inflation into account, the increased value of British trade over this period is notable. In terms of an expanded merchant marine no nation performed as well over this period as did Britain. Some merchant navies, like that of Germany, grew spectacularly in the decades prior to World War I. Norwegian tonnage capacity also expanded, via second-hand purchases and a robust shipbuilding programme. On the other hand, in the wake of their Civil War and new landward opportunities, the American deep-sea fleet displayed negative growth until the turn of the century when new government policies were enacted to expand the US presence on the North Atlantic.

in common with Gordon Boyce, dismiss the idea that providing subsidies invariably promoted an expanded merchant marine. Next to the UK Germany had the lowest rates of government subsidies but the most efficient merchant navy. The French employed this strategy but their fleet expanded at a slower rate than most of their North Atlantic rivals, with their government actually encouraging sail rather than steam operations. Of all the great maritime powers only Japan had any real success in using subsidies to encourage fleet expansion. As Boyce states, "...subsidies and naval subventions were not effective substitutes for comparative advantage in the provision of shipping services."[7] Fischer and Nordvik argue that specific policies did not matter as much as how a government's commitment to their merchant navy was viewed by investors. Over the course of the nineteenth century, they contend, the British (and German) authorities conveyed "...an on-going commitment to a large merchant fleet."[8]

In fact, government intervention, as much as steam or the telegraph, was increasingly part of the reality of nineteenth-century British shipping. Early in the century government intervention in mercantile affairs was looked on with suspicion, despite the presence of Acts to encourage and promote British shipping, like the Navigation Laws. As late as 1837 a bill aimed at establishing a marine board to regulate the merchant navy was defeated in Parliament as it supposedly constituted an intrusion on the rights of shipowners. Only

---

7

Gordon H. Boyce, *Information, Mediation and Institutional Development* (Manchester, 1995), 21.

8

Fischer and Nordvik, "Maritime Transport," 533.

thirteen years later Parliament passed The Mercantile Marine Act of 1850. The Act established the Marine Department of the Board of Trade and transferred Admiralty powers relative to merchant mariners to the new body. The Act established local marine boards, and initiated compulsory examinations for masters and mates (although previously certified officers could be "grandfathered" in). Prior to engagement, seamen in overseas trades were now required to sign agreements witnessed by a shipping master selected by a local marine board. This Act marked a major shift in government policy toward the shipping industry. J.H. Wilde contends that it "...may well be considered to mark the beginning of a new era in the regulation of British shipping, recognizing as it did that the state had some responsibility for securing the safety of life and property by sea as well as on land."[9]

The Act of 1850 was followed by a plethora of government regulation, including the Merchant Shipping Act of 1854 that extended the Board's powers and forced masters to specify in the Crew Agreements the food that would be provided to mariners during voyages. It may be this attitude, more than anything else, that persuaded investors of a government commitment to a strong national merchant marine, even while they frequently railed at "interference" in their business. After 1880 Germany emulated Britain's maritime success by also maintaining a consistent interest in, and commitment to, the shipping industry. On the other hand, nations like France who wavered in their support, despite generous subsidies, suffered from fluctuating investment patterns as far as the mercantile navy was concerned.

9

J.H. Wilde, "The Creation of the Marine Department of the Board of Trade," in David M. Williams (ed.) *The World of Shipping* (Aldershot, 1997), 193-194.

A similar situation developed in Canada where minimal government involvement in shipping, combined with the landward-oriented "National Policy," may have exacerbated declining investment. Such could not be said in the case of Britain's merchant marine.[10]

The discussion above should provide some context to the fairly consistent tonnage growth of Liverpool's fleet over the period 1820 to 1889. Without the stimulus of increased trade, and at least the perception of a national commitment to the merchant marine, it is unlikely that so many persons would have been considered investing in Liverpool shipping (or that of Britain generally). Thus the general state of British and world trade, plus increased government involvement in shipping, may have provided Liverpool shipowners with another kind of comparative advantage. With this in mind, we can now turn to examining the vessels themselves.

Shipping, as Eric Sager and Gerald Panting have noted, is a service industry, and vessels are essentially "waterborne containers that perform the service of transportation."[11] Demand for transport is widespread and may derive from a number of sources, while the vessels often carry everything from people and products to information. In economic terms,

---

10

Ronald Hope, *A New History of British Shipping* (London, 1990), 287-288; and Wilde, "The Creation of the Marine Department," 23-24 and 29-31. On an earlier set of government regulations regarding shipping, especially apprenticeship, see V.C. Burton, "Apprenticeship Regulation and Maritime Labour in the Nineteenth Century British Merchant Marine," *International Journal of Maritime History*, I, No. 1 (June 1989), 29-50. On the subject of how specific government maritime legislation (in this case on education) related to Liverpool, see Alston Kennerley, "Merchant Marine Education in Liverpool and the Nautical College of 1892," *International Journal of Maritime History*, V, No. 2 (December 1993), 103-134.

11

Eric W. Sager, with Gerald E. Panting, *Maritime Capital: The Shipping Industry in Atlantic Canada 1820-1914* (Montréal, 1990), 47.

as defined by both Marxists and neo-classicists, transport has a double function: on the one hand it is an independent offshoot of production while on the other it comprises a portion of the production process in other locales. Transportation can be used to link sources of raw materials with processing sites, manufacturing locales and markets. Transportation can likewise allow producers to assemble their raw materials and to take goods to intended markets.[12]

Regardless of the use to which the vessels were to be put, shipping investment at Liverpool (as we have noted) generally increased– although growth was not continual – in the years after 1820. This was despite an overall, though quite uneven, fall in freight rates in the decades after 1815. Much the same was true in the Atlantic Canadian Provinces, where the ports were studied extensively by members of the Atlantic Canada Shipping Project (ACSP).[13] Although growth in the investment in tonnage put onto the Liverpool register for the first time (gross investment) was not linear, the long-term trend was clearly positive through to mid-century; this was true both in terms of vessel numbers and carrying capacity (tonnage). Measured only by carrying capacity, the trend continued through to 1889 (see Table 3.1, below). In 1820 gross investments in numbers totalled sixty-one vessels, a figure that was about fifty percent higher in 1830 and which had more than doubled again by 1840. As of 1850, the number of new investments in Liverpool was four times higher than

---

12

Ibid, 47.

13

On the ACSP, see Chapter One.

in 1820. The growth in gross investment in tonnage was even more dramatic. From just under 11,000 tons in 1820, investment swelled to over 57,000 tons in 1840 and to more than 80,000 tons by mid-century. Atlantic Canadian gross investment rates over approximately the same period were somewhat slower than in Liverpool, although the size of the region's combined fleet also rose fairly steadily. Taking registry data from eight Atlantic Canadian ports (whose fleets made up about eighty percent of all registries in the region) Sager and Panting, themselves ACSP members, found that in the years 1820 to 1849 annual gross tonnage investment in the eight ports grew by about 5.5 percent per annum.[14]

Trends were somewhat different by the third quarter of the nineteenth century. In Liverpool, in 1860 the total number of vessels registered had actually declined somewhat from 1850 – to 216 – but gross tonnage investment increased significantly from a decade before, standing at 105,108 tons, a growth of almost ten-fold since 1820. In Atlantic Canada gross investment also declined with the largest class of newly-registered vessels (over 500 tons) falling from approximately 30,000 tons in 1850 to about 25,000 in 1860. By 1870 there was some retrenchment in gross investment at Liverpool, as both vessel numbers and tonnage were down from a decade before in terms of new registries. Still, by 1889 numbers were again on the rise with tonnage figures especially buoyant (See Table 3.1). In Atlantic

---

14

Great Britain, Board of Trade (BT) 107 and 108, Liverpool Vessel Registries, various years; Sager, with Panting, *Maritime Capital*, 246. For additional insight into Atlantic Canadian fleet growth rates in this period see, Keith Matthews, "The Shipping Industry of Atlantic Canada: Themes and Problems," in Keith Matthews and Gerald Panting (eds.), *Ships and Shipbuilding in the North Atlantic Region* (St. John's, NL, 1978), 1-18. Matthews' tables included data for all modern regions of Canada, not simply Atlantic Canada.

Canada new registrations peaked around the mid-1860s, before quickly falling off. By 1870 the registries of larger vessels was recovering, although new investment in smaller craft (those of 499 tons and less) was generally falling. Here gross investment peaked in the mid-1870s, with numbers generally declining thereafter. In overall terms Sager and Panting saw no acceleration in overall growth rates for gross investment in new tonnage after 1849. In fact, from then until the peak year of 1874 overall growth stood at only 0.9 percent per annum, far slower than the thirty years before mid-century.[15]

Table 3.1
Liverpool Gross Shipping Investment, 1820-1889: New Vessel Registries by Number and Tonnage (Selected Years Only)

	1820	1830	1840	1850	1860	1870	1880	1889
Vessels	61	92	141	243	216	161	137	157
Tons	10,976	17,642	57,005	80,822	105,108	100,362	111,258	173,600

Source: Great Britain, Board of Trade (BT) 107/108, Liverpool Shipping Registries, various years.

These new investments were largely made in a period of declining freight rates. The decline in freight rates was both consistent and noticeable, suggesting that investment in tonnage was outstripping demand. This, in turn, would almost certainly have led to lower rates of return, barring major improvements in vessel productivity. Neo-classical theory

---

15

BT 107/108, Liverpool Vessel Registries, various years; Sager, with Panting, *Maritime Capital*, 95-96. In Atlantic Canada net registration continued to increase – the overall size of the Atlantic Canadian fleet was larger in 1860 than in 1850, for example, although new registries were down. Given that new (gross) vessel registrations were fairly stagnant after 1850 Sager and Panting feel that the net increase in fleet size was mainly due to the acquisition of larger vessels of greater durability which were simply retained longer by their owners. See also Matthews, "The Shipping industry of Atlantic Canada," 9.

would suggest that investors would retrench in such a situation and would shift their capital into more lucrative industries. This was not the case: not only shipowning but also shipbuilding expanded during these years. The lower freight rates after 1820 did not simply indicate a greater supply of vessels but was also very much a product of declining production and distribution costs in international trade. Lower freight rates might be an indicator of productivity gains in transportation-serviced industries, with these gains providing the impetus for a growing investment in shipping.[16]

In the specific case of Liverpool, like Atlantic Canada in this period, many different types of owners played a role in the process of fleet expansion. Unlike the Canadian case, however, the Liverpool shipowning community did not include any significant number of fishers or timber producers. Like the Atlantic Provinces, on the other hand, there were certainly coastal mariners who transported their own agricultural (or resource-based) products to markets or major distribution centres. Of greater importance, especially before the 1870s, was the predominance of the merchant shipowner, again much as in the Canadian

---

16

Sager, with Panting, 47-48 and 121. See also Douglass C. North, "Ocean Freight Rates and Economic Development, 1750-1913," *Journal of Economic History*, XVIII (1958), 537-555; North, "Sources of Productivity Change in Ocean Shipping, 1600-1850," *Journal of Political Economy*, LXXVI (1968), 953-970; C. Knick Harley, "Ocean Freight Rates and Productivity, 1740-1913: The Primacy of Mechanical Invention Reaffirmed," *Journal of Economic History*, XLVIII (1988), 851-876; and Harley, "Aspects of the Economics of Shipping," 167-186. Freight rates can only be considered as one among many factors coming into play when shipowners decided to expand their fleets (or not to do so). However, there does appear to be at least a rough correlation between rates and new vessel purchases, at least in Liverpool and Atlantic Canada. The year 1874, which marked the peak of gross investment in Atlantic Canada, followed a period of rising freight rates Likewise, 1889, a generally good year for new registries in Liverpool, also came in the wake of increased freight rates. While 1860, a year of relatively low gross investment in both Liverpool and Atlantic Canada, came in the midst of a marked upturn in freight rates, this improvement was only of recent vintage, since rates fell significantly during most of the second half of the 1850s.

context. Sager and Panting described the situation for Atlantic Canada:

> The users of ships...included merchant capitalists who resided in Britain or in the colonies. The merchants used ships to import goods, to transport goods from the regional *entrepôts* to outports, and to export staple products. These primary producers and merchant capitalists all had a vested interest in low freight costs. Their use of ships in production and distribution came from a prior interest in trade goods and from the primary function of the merchant capitalist – to "buy cheap and sell dear." Lowering freight costs was one means toward profit in trade, and for this reason merchants sought unceasingly to guarantee their supply of shipping.[17]

If we accept Sager and Panting's proposition that ships were essentially self-propelled containers, the first question we might pose is which types of "containers" were most popular with owners in Liverpool and how, if at all, did these containers change over time. For most of the period a fair proportion of the vessels entering the Liverpool registry were propelled, as water craft had been for millennia, by wind power. In other words, they were sailing vessels. This designation, of course, fits all of the pre-steam tonnage registered in Liverpool, but it is also something of an oversimplification because owners invested in many different types of sailing vessels, depending upon their needs or on their perception of the demand in various markets. Figure 3.1, below, illustrates the various types of rigs most popular in the port.

Sail was a pre-industrial technology, with propulsion deriving from a combination of wind and human exertion. This was no simple technology, however, and focussing wind power into a canvas sail was an art. For this reason, the sailing ship ranked among the most

---

17

Sager, with Panting, *Merchant Capital*, 48. The merchants' "prior interest in trade goods" can be seen as a component of their initial comparative advantage, leading to an involvement in shipowning.

advanced machines to appear before the industrial revolution. There were two main forms of sails.[18] The first was the square sail, in which the canvas hung from yard-arms set at right angles to the ship's length. The other important sail form was the fore-and-aft sail, raised on gaffs and booms behind the masts. Fore-and-aft sails were of most value in coasting, where their manoeuverability and ease of handling made them essential to navigating along often dangerous coastlines. The square sail was the preferred sail type on long ocean voyages because it produced greater power with the wind astern. For this reason, vessels with square sails on the fore and main masts, such as brigs, barques and ships, were generally the predominant blue-ocean traders after the Napoleonic wars.[19]

Liverpool owners, as we have noted, invested in a number of vessel types. But before getting into specific distributions and the popularity of each it would make sense to detail their particular qualities. One vessel favoured by many Liverpool investors was the classic vessel type, the ship. In fact, it has become so associated with seafaring and ocean transport that it is common to refer to all vessels, even in modern, unrigged forms, as "ships."Craft rigged in this way were generally the largest found on any body of water in the pre-industrial

---

18

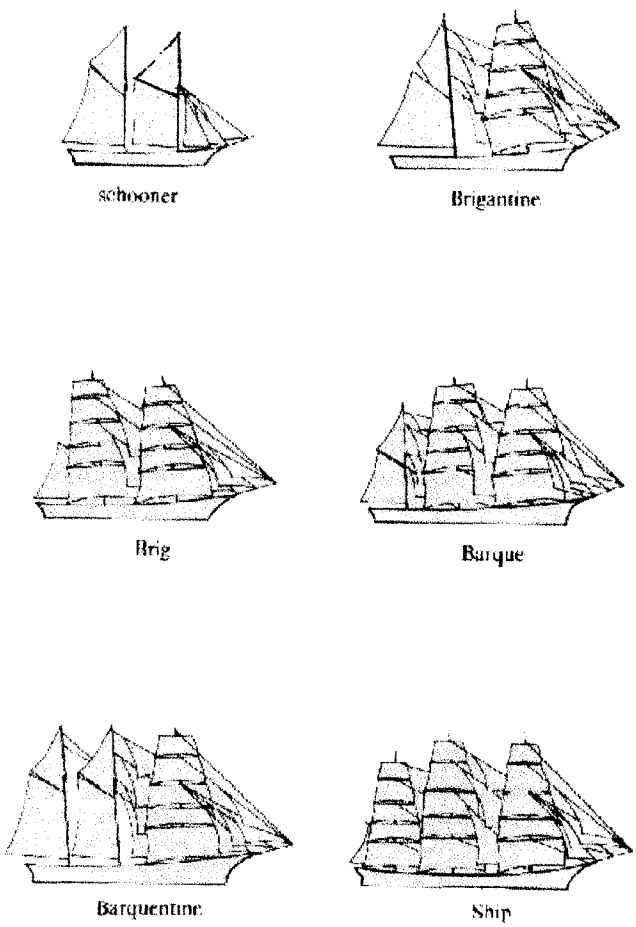
I exclude here the triangle-shaped lateen sail, which was used from classical times in the Mediterranean and can still can seen in parts of the Arab world. This sail form was unimportant in the nineteenth century European context.

19

Eric W. Sager and Lewis R. Fischer, *Shipping and Shipbuilding in Atlantic Canada, 1820-1914* (Ottawa, 1986), 9-10. For additional information on the development of sail vessels and rigs, see Philip Bosscher, *et al.*, *Conway's History of the Ship. The Heyday of Sail: The Merchant Sailing Ship 1650-1830* (London, 1995); Basil Greenhill, *The Ship: The Life and Death of the Merchant Sailing Ship 1815-1965* (London, 1980); Richard W. Unger, *et al.*, *Conway's History of the Ship. Cogs, Caravels and Galleons: The Sailing Ship 1000-1650* (London, 1994); and Leo Block, *To Harness the Wind: A Short History of the Development of Sails* (Annapolis, MD, 2003).

age and were even larger on average than early steam-powered tonnage. These were the great square riggers with their enormous spread of canvas on three (or more) masts to catch the aft or quarter winds which prevailed on long ocean trade routes.

Figure 3.1: Common Vessel Types on Liverpool Register, 1820-1889



Source: Eric W. Sager and Lewis R. Fischer, *Shipping and Shipbuilding in Atlantic Canada, 1820-1914* (Ottawa, 1986), 9. Used by permission of the authors.

Another ocean-going craft popular with Liverpool owners was the barque. Like the

ship, the barque often had three (or sometimes more) masts, although rather than carrying a full spread of square sails, the mizzen mast on a barque was given over to fore-and-aft sails. Vessels rigged as barques on average were somewhat smaller than ship-rigged craft but were still of a fairly impressive size. In the barque owners could combine a measure of the speed and size of the ship with a handling capability closer to that of smaller craft. Just as was the case for ship-rigged tonnage, barque owners were likely taking advantage of economies of scale – something even more practical in the case of barques, with their economy of manning compared to similar-sized ships. As can be seen in Table 3.2, below, the tonnage of new barques on the Liverpool register generally increased from 1820 to 1889, with the most marked increases in the 1870s, and especially, in the 1880s. This trend very much mirrored that for ship-rigged registries.[20]

Aside from ships and barques, a very common type of ocean-going vessel on the Liverpool registry was the brig. This vessel, like the ship, took advantage of the prevailing winds on the trade routes by using square sails. The main differences between the brig and the ship were that the former had two masts and generally was much smaller in size. Their popularity (on both sides of the Atlantic) can likely be explained by the lower initial costs required to invest in this type of craft and the smaller number of crew members required to man them compared to barques or ships. Brigs went out of favour by mid-century, however. Although comprising over seven percent of all new registries by tonnage over the entire

---

20

Sager, with Panting, *Maritime Capital*, 50-52; and BT 107 and 108, Liverpool Vessel Registries, various years.

study period, their contribution declined from about thirteen percent before mid-century to just over one percent after 1860. The combination of small size and the number of hands needed to work their square sails made the man-ton ratio of brigs less efficient than similar vessel types.[21]

Although never enjoying the popularity of the brig in pre-1860s Liverpool, a compromise design was the brigantine. Closely related to the brig, the brigantine was another two-masted craft which carried fore-and-aft sails on its mainmast. Through this vessel an owner could achieve something of a happy medium between the ocean-going and coastal craft plying the Liverpool trades. Like the brig it was just large enough to prove useful on longer routes but small enough and with the extra manoeuverability needed to operate in the coastal and short-sea trades.

Another important vessel in the port of Liverpool was the schooner. This type of craft was the result of a long period of development for coastal vessels both in Europe and North America. On the Atlantic's northwestern littoral the rig was adapted to the lengthy coastlines of North America and the dangerous waters which surrounded the coasts. The rig was ideal for sailing along "sharply indented coastlines, in highly variable winds, and in cold temperatures, where ropes and canvas were often frozen and difficult to handle."[22] Men standing on a vessel's deck could do most of the sailhandling, unlike on larger craft, where

---

21

BT 107 and 108, Liverpool Vessel Registries, various years.

22

Sager, with Panting, *Maritime Capital*, 53.

going aloft was the normal procedure for changing the spread of canvas. Similar considerations would also have motivated shipowners on the less malevolent but still relatively treacherous waters of the Irish sea. When adapted for longer coastal routes schooners might be rigged with one or more square topsails to better catch aft winds – producing a vessel appropriately named the "topsail schooner." There were a number of schooner types, including the topsail: some were used primarily for fishing, others in coastal trading, while some might be used to hunt seals. Schooners based on the western Atlantic seaboard might be used in trades as far away as the West Indies and South America.

One category of vessel that deserves special mention in the Liverpool context is the "flat," a type of craft that appears to have developed in response to the challenges of navigating the Mersey. These small vessels were often noted in the registries as being engaged in the "river trade and inland navigation."[23] This designation exempted the little craft from registration, and it would have only been when an owner wished to expand his range of use for a fleet of flats that the vessels would appear in the registry. In any event, the registry data do not do full justice to the importance of the flat-type craft on the Mersey. Although in numeric terms they comprised only ten percent of vessels officially registered in the port, and much less in tonnage terms, they were important cogs in the region's

---

23

BT 107 and 108, Liverpool Vessel Registries, various years.

seaward economy.[24]

All these rigs retained some importance on the Liverpool registry well into the era of steam. In addition, there were a number of other small craft, such as cutters and smacks, which seem to have lent themselves most readily to the fisheries, including near-shore fishing and deep-water trawling.[25] Graph 3.1 illustrates the relative share each vessel held of all sail registries in the various sample years from 1820-1889. The graph indicates that for the duration of the period, in both numbers and tonnage registered, Liverpool owners generally favoured the full-rigged ships, followed by barques and brigs. In purely numeric

---

24

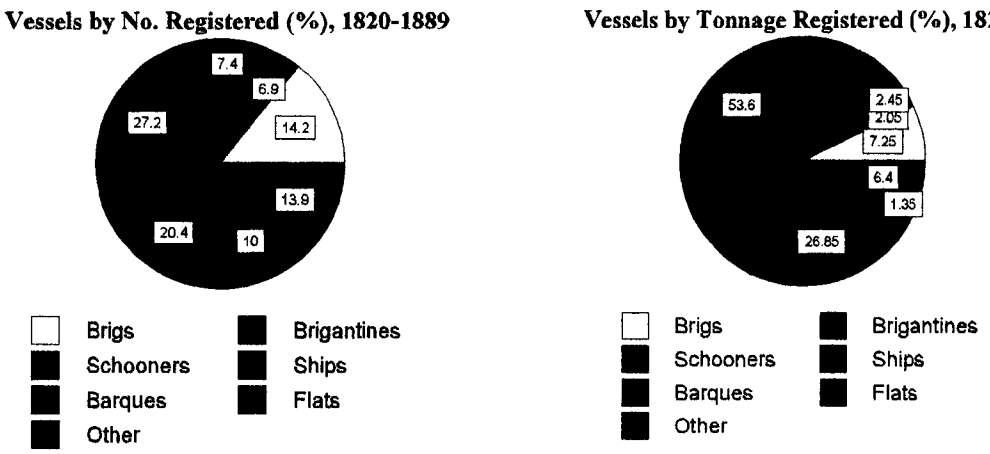
Ibid. Flats were a form of barge that was unique to the River Mersey. They were designed specifically to distribute cargo to and from Liverpool and for use as lighters (barges that aid in the loading and unloading of larger vessels). This is fairly straightforward, but the origins of these little craft are somewhat obscure. Evidence indicates that the flat existed as a separate vessel type at least by 1732 and most likely earlier. With their bluff-ended, box-like shape, flats resembled mediaeval ship types based on clinker-built, single-masted square-riggers such as "busses." The flat may have sprung from Irish Sea vessels of the Middle Ages. Flats could carry from thirty to 150 tons of goods and operated in a wide range of environments, including inland waters and coastal seas. Flats were of strong construction, combining ample cargo space with good handling. Their design allowed for the fitting of a number of rigs. The flats might also be fitted with steam engines, especially in the later nineteenth century, and could be constructed of wood, iron, steel or some form of composite. In fact, although they all shared a similar form, there was no standard form of flat. With their flat bottoms, however, all were useful for navigating in the strong tides and currents of the Mersey estuary. The flatmen formed a distinct community along the Mersey, and the trade was often passed from father to son. Despite a rapid decline in sailing flats in the late nineteenth century, the profession, and its vessels, survived until the 1960s. Michael K. Stammers, *Mersey Flats and Flatmen* (Lavenham, Suffolk, 1993), 4-5, 9-10 and 16. On a related subject, see Michael K. Stammers, "The Mersey Boatmen and Their Gigs," *Mariner's Mirror*, LXI (1975), 283-288.

25

For further information on English fisheries, see David J. Starkey, Chris Reid and Neil Ashcroft (eds.), *England's Sea Fisheries: The Commercial Sea Fisheries of England and Wales since 1300* (London, 2000); Robb Robinson, *Trawling: The Rise and Fall of the British Trawl Fishery* (Exeter, 1996); and Robinson, "The Development of the British North Sea Steam Trawling Fleet 1877-1900," in J. Edwards, *et al.* (eds.), *The North Sea* (Aberdeen, 1995). By 1900 the British fishing industry, like much of the nation's maritime activities, was the world's largest and most successful. By this time the old sailing trawlers, the smacks, had been replaced by steamers. Many of the English-built smacks were later purchased by Scandinavians for their line fisheries. Although they had been ousted from the British fisheries, these craft were still superior to many pre-existing vessels in their new home ports. For a discussion of the evolution of rigs, see Robb Robinson, *History of the Yorkshire Coast Fishing Industry 1780-1914* (Hull, 1987), especially Chapter One.

terms flats, schooners and brigantines were also important, although their smaller average size made them less significant when new registries are measured by tonnage. In the realm of pure sailing vessels then, Liverpool was something of a specialist in square-rigged, ocean-going tonnage.[26]

Graph 3.1
Sail Tonnage Newly-Registered in Liverpool by Rig, 1820-1889



Note: The percentage of vessel (and tonnage) registries for Liverpool include only newly-registered sail tonnage; this excludes not only steam (and auxiliary steamers) but also vessels registered *de novo*. These proportions, while a fairly accurate indication of the importance of each vessel type as part of the Liverpool sailing fleet in the period, are taken only for every fifth year (years ending in 0 or 5, with the exception of 1855 for tonnage, the substitution of 1826 for 1825 and the inclusion of 1889 for both numbers and tonnage).

Source BT 107/108, Liverpool Vessel Registries, various years.

26

BT 107/108, Liverpool Vessel Registries, various years. The second portion of Graph 3.1 deals with vessel tonnages. Due to a changeover in measurement standards partway through the year, 1855 has been omitted from Graph 3.1 entirely. Tonnage measurement has always been a problem for maritime historians. On the subject see Appendix One.

As we will see, of all the major Liverpool (sail) vessel types, it was the ship that experienced the most consistent rates of growth in average tonnage over the course of seven decades (Table 3.2, below). Along with the barque, it was the ship rig that was, of course, most associated with the world's longest trade routes. And it was here that many Liverpool owners – Brocklebanks being an example – along with some of their London rivals, found their comparative advantage in the years after mid-century. In the 1850s and 1860s commercial sail reached a peak, despite increasing investment in steam. The most visible symbol of this golden era was the clipper, perfected by the Nova Scotia-born builder, Donald Mackay, who built the White Diamond line of sailing packets for British owner Enoch Train and competed with the Cunard Line, which favoured steamers. In the late 1840s and 1850s tens of thousands of people set sail for the gold rushes in California and Australia but there was little in the way of return cargoes for the skippers that brought them there, so many crossed the Pacific to load tea. On one such voyage the American clipper *Oriental* loaded 1,600 tons at £6 per ton and arrived in London after a record-setting ninety-seven day passage. With prices often determined by who arrived earliest to market, the clippers' speed paid dividends.[27]

In 1852 the first Australian gold reached the English market, triggering a round of emigration to the then colony of New South Wales that rivalled the migration across the

---

27

Hope, *British Shipping*, 292-293; and Graham," The Ascendancy of the Sailing Ship," 75. See also Charles R. Schultz, *Forty-niners 'Round the Horn* (Columbia, SC, 1999); and Schultz, "Gold Rush Voyage of the Ship Sweden," *International Journal of Maritime History*, XV, No. 1 (June 2003), 91-127.

Atlantic. A return cargo was also "discovered" when the wool press increased the amounts of Australian wool that could be loaded onto vessels, making it feasible for this product to compete with exports from Spain and Germany. Notwithstanding the long voyage back to England, the Antipodean emigrant trade was accompanied by an annual race to be first in port with the season's wool.[28]

British shipowners were up to the task and in London three major owners in the East India trade sent a number of vessels into service in the new Australian trade and built others especially for it. In Liverpool a number of owners also went into the Australian trade. These included Pilkington and Wilson, the initiators of the White Star Line, James Beagley and James Baines, founder of the Black Ball Line.[29] Entrepreneurs such as these bought a fleet of American Atlantic packets and put them into service in the trade. New vessels were ordered as well, especially from builders in New Brunswick and Boston. Black Ball's Australian packets added four new vessels, *Lightning, Champion of the Seas, James Baines*

28

Hope, *British Shipping*, 293. On the wool trade, see Simon Ville, *The Rural Entrepreneurs: A History of the Stock and Station Agent Industry in Australia and New Zealand* (Oakleigh, VIC, 2000); and Kosmas Tsokhas, *Markets, Money, and Empire: The Political Economy of the Australian Wool Industry* (Carlton, VIC, 1990). On the immigrant trade, see Frank Broeze, "Private Enterprise and the Peopling of Australasia, 1831-1850," *Economic History Review*, 2nd series, XXXV (1982), 235-253; and John McDonald and Ralph Shlomowitz, "Mortality on Immigrant Voyages to Australia in the Nineteenth Century," *Explorations in Economic History*, XXVII (1990), 84-113. For first-hand accounts of the immigrant trade, see Claudia E. Skerry Cridland (ed.), *The Journey of Mary Ann Eliza Daley, Wife of Amos Switzer of Limerick, Ireland and Some of Her Descendants: Her Emigration from Liverpool, England to Australia in the Year 1868 on the Clipper Ship White Star.*(Salem, MA, 2003); and Andrew Hassam (ed.), *Sailing to Australia. Shipboard Diaries by Nineteenth Century British Emigrants* (Manchester, 1994).

29

On White Star, see Robin Gardiner, *The History of the White Star Line* (Hersham, 2001); and Duncan Haws, *White Star Line* (Hereford, 1990). On the Black Ball Line, see Michael K. Stammers, *The Passage Makers. The History of the Black Ball Line of Australian Packets 1852-1871* (Brighton, 1978).

and *Donald Mackay* in 1854. The latter was named for their builder, and *Lightning*'s sixty-three day run from Melbourne to England was never equalled under sail.[30] These Liverpool craft all topped the 2,000-ton mark and practically owned the Australian emigrant traffic. Relying on the trademark speed of his vessels, Baines contracted to deliver the mails to Australia in sixty-eight days, agreeing to a fine of £100 for each day over the mark. These developments revolutionized the sailing ship on long-haul runs in only a decade. In 1845 a vessel of less than 300 tons would have been considered a first-rate vessel in the Australian trade. As Ronald Hope noted, it was very much the "dash" of the Liverpool owners and their commitment to the long routes that made this revolution possible. In later years a Liverpool investor noted that "the new Australian trade moulded professional deep-sea shipowning for a hundred years."[31] Hope summed up the ties between this trade and the sailing vessels in these terms:

> In these years [the 1850s and 60s] the voyage to Australia and New Zealand was suited to the sailing ship. There were few suitable refuelling stations for the steamer and the Cape of Good Hope to Melbourne crossing was more than twice the distance across the Atlantic. Moreover, the winds of the extreme southern hemisphere are consistent and westerly. Five hundred miles west of Tristan da Cunha a sailing ship can turn almost at a right angle and 'run her easting down' with a favouring westerly wind for the whole 8,000

30

Adam W. Kirkaldy, *British Shipping. Its History, Organization and Importance* (London, 1914), 374; and Hope, *British Shipping*, 293. *Lightning*'s master, Anthony Enright, was notable himself. Hope called him a "born hotelier" as much as he was a shipmaster. Enright carried a full export cargo, along with saloon passengers, emigrants and crew. Also included on his manifest were bullocks, sheep, pigs and poultry to feed them; the vessel frequently had an accompanying band; deck games were organized; there was a library; and a daily newspaper was printed onboard.

31

Kirkaldy, *British Shipping*, 374; and Hope, *British Shipping*, 293.

miles to Melbourne.[32]

Liverpool's commitment to the blue ocean trades was not characteristic of all ports. Still, other ports did exhibit investment patterns that were similar to Liverpool, although the pattern was by no means the same in all cases. We can again compare the situation in Liverpool to the ACSP's findings for Atlantic Canada. For much of the nineteenth century the port of Saint John, New Brunswick, was the most important in Atlantic Canada, at least in terms of fleet size. Like Liverpool owners, those in Saint John specialized in the larger vessels, particularly large craft rigged as ships. Likewise, barques and brigs were a significant part of the Saint John fleet. Barques made up a very large proportion of Saint John's fleet and, as in Liverpool, brigs were most significant in the years before mid-century. Unlike Liverpool, however, schooners were more significant in tonnage terms. Still, the square-rigger was king in Saint John, just as it was in Liverpool (leaving aside steamers and auxiliary steamers). The large size of vessels trading from Saint John suggests further linkages with deep-sea trades. In fact, ACSP members found that less than three percent of sampled voyages made by Saint John-registered craft in the period from 1871 to 1891 were by vessels of under 250 tons and were thus likely to have been coasters. Sager and Panting believe that the emphasis on the large square riggers reflected the central importance of the timber trade to the port. As we will see, the timber trade gave Atlantic Canada a tangible

---

32

Hope, *British Shipping*, 294.

link to Liverpool, one of Britain's most important Canadian timber *entrepôts*.[33]

This similarity with Liverpool did not characterize all the Atlantic Canadian ports. Indeed, most were much less like Liverpool in terms of overall fleet composition. In Charlottetown, Prince Edward Island (P.E.I.), for example, new registries from 1820-1914 were dominated by brigantines, schooners and brigs. Although numerically significant, schooners were actually less important on the P.E.I. register over time than they were to many other Atlantic Canadian ports. In place of schooners Islanders invested heavily in brigantines, which performed similar tasks. Taken together seventy percent of all registries from 1840 to 1914 were made up by these two rigs. Islanders also retained the brig rig for much longer than most ports and after 1873 were significant users of barquentines, although that rig was uncommon in most ports of registry. Finally, unlike Liverpool or Saint John, Islanders largely rejected the full-rigged ship because many vessels built for their own use were intended for coastal trading, where the ship would have been uneconomical to operate. Also, they became known in the export markets for their inexpensive but well-built smaller craft, a natural comparative advantage since the large trees needed to build ships were depleted on the island as early as the 1850s.[34]

33

Sager, with Panting, *Maritime Capital*, 50-52; and Lewis R. Fischer, Eric W. Sager and Rosemary E. Ommer, "The Shipping Industry and Regional Economic Development in Atlantic Canada, 1871-1891: Saint John as a Case Study," in Lewis R. Fischer and Eric W. Sager (eds.), *Merchant Shipping and Economic Development in Atlantic Canada* (St. John's, NL, 1982), 40.

34

Lewis R. Fischer, "The Port of Prince Edward Island, 1840-1889: A Preliminary Analysis," in Matthews and Panting (eds.), *Ships and Shipbuilding*, 45-46; and Sager, with Panting, *Maritime Capital*, 51. Perhaps the greatest specialists in the Atlantic Canadian region were Newfoundlanders. Sager and Panting assert that from

Table 3.2
Average Gross Tonnage of New Sailing Vessels in Liverpool by Decade by Rig

	1820s	1830s	1840s	1860s	1870s	1880s
Brigs	212	199	187	227	226	254
Brigantines	174	165	116	158	187	261
Schooners	81	110	91	125	81	134
Ships	357	428	645	1,058	1,342	1,833
Barques	344	330	413	447	647	1,025
Flats	66	72	59	53	66	78
All Others	132	144	212	63	202	106

Note: Each decade's numbers are taken from the various sample years. These generally were years ending in 0 or 5, except for 1826 and 1889; see the text for an explanation. Given its status as a transitional decade the 1850s has been omitted. From the 1860s the numbers are registered tons. In the case of sailing vessels, gross and registered tonnage were often about the same.

Source: See table 3.1

Liverpool's general similarity to Saint John in terms of overall fleet proportions, and the marked differences between both ports and Prince Edward Island, serve as reminders that all ports had their own comparative advantages (and, conversely, limitations).

1820-1914 sixty percent of all tonnage registered at the Island's one registry port, St. John's, was schooner-rigged. (In an earlier study Sager found that about half of Newfoundland's newly-registered tonnage consisted of schooners in the period 1840-1889). Largely used in local trades, and with Newfoundland possessing only small timber along its coasts, schooners of under 300 tons were an ideal solution for the island's shipping needs. Newfoundland also had a relatively high proportion of steamers compared to most Atlantic Canadian ports, most of which were used for the annual seal hunt. Sager, with Panting, *Maritime Capital*, 51-53; and Eric W. Sager, "The Port of St. John's, Newfoundland, 1840-1889: A Preliminary Analysis," in Matthews and Panting (eds.), *Ships and Shipbuilding*, 21-22. Yarmouth, Nova Scotia was also marked by its investment in small schooners, although to a lesser degree than St. John's. See David Alexander, "The Port of Yarmouth, Nova Scotia, 1840-1889," in Matthews and Panting (eds.), *Ships and Shipbuilding*, 81.

Depending on how shipowners chose to exploit or surmount these, the development of a port's fleet over time was to some degree unique. With this in mind we will return to the Mersey once more. An important feature of note concerning Liverpool's sail fleet over the period from 1820-1889 was that it was by no means static. Indeed, the fleet underwent some significant changes over these seven decades. As Sager and Panting point out, the sailing vessel was more than a simple machine; it was "an evolving technology that reflected the changing demands of particular trades and the demands that owners made of builders."[35] During the nineteenth century virtually all export trades were marked by greater capital investment, and technological change in the shipping industry reflected this as well. Even though the method of propulsion remained pre-industrial, productivity gains were certainly possible, and these improvements were likely stimulated in the first instance by falling rates of return. In the context of shipping human labour would be replaced by technology, and the average size of vessels could be increased without the need for a commensurate increase in labour.[36]

One way owners could increase performance was by changing the rigs of sailing vessels, which were not governed by any rigid standard. During the nineteenth century it was common to see shipowners investing in vessels with increasing numbers of masts; this was exemplified by the shift from brigs to barques, barquentines or ships. In fact, there were

---

35

Sager, with Panting, *Maritime Capital*, 54.

36

Ibid.

many changes in the plan and operation of sail as the century progressed. This, however, was not the most important factor in determining a vessel's productivity. Again we should keep in mind that vessels, even today, are essentially containers. It therefore stands to reason that the volume of cargo carried played a crucial role in productivity since this enabled owners to take advantage of economies of scale. This was reinforced by the fact that larger hull sizes did not lead to equivalent increases in either the initial price of a vessel or in its operating expenses. A large ship, for example, generally coast less per ton to purchase than smaller craft such as brigantines. The size of the hull could also be increased to a point without the need for extra masts or sails, thus negating additional labour requirements that might be expected to accompany a larger vessel.[37] Table 3.2, above, gives the average tonnage of newly-registered vessels in Liverpool by decade.

Although the average tonnage of all vessel types did not always increase from one decade to the next (indeed, there was occasionally a decline), it is clear that Liverpool owners, like those on the other side of the Atlantic, were taking advantage of the benefits offered by operating larger tonnage, on average, as the decades passed. Apart from those craft, like cutters, snows, yawls and smacks, classified collectively as "others," all vessel types in Liverpool were larger in the 1880s than they had been in the 1820s and 1830s. The principle of economies of scale clearly appealed to the investor on Merseyside. What is

---

37

Ibid, 54-55. Regarding the relative costs of larger vessels, this generalization depends to a certain extent on the quality and complexity of the sails used. Ships in particular were sometimes sold "unrigged" just because owners were divided about this issue.

perhaps most notable concerning size increases among the various vessel forms was the consistency with which the largest type of craft – ships – grew in the span of seventy years. From the 1820s to the 1880s the average size of a newly-registered ship in Liverpool expanded by more than five times; unlike other vessel types the ships never experienced negative growth from decade to decade. This fits in well with Sager and Panting's thesis concerning the value of larger vessels to owners, especially in times of diminishing returns. Larger vessels could generally operate more efficiently in terms of operating cost per ton. It was only natural that owners might wish to take that type of craft which was already largest and increase its capacity still further.[38]

Indeed, Sager and Panting's analysis of new Atlantic Canadian vessels from the 1820s to 1914 revealed similar patterns. From the 1820s to the 1880s ship-rigged vessels increased dramatically in size, as they did in Liverpool, although the increase here was not quite as marked – more on the order of four times larger. David Alexander's work on Yarmouth, Nova Scotia noted similar trends. Yarmouth was marked by its reliance on schooner-rigged vessels over the period 1840-1889, but square or mixed-rig forms like ships, barques and brigs were also of some importance. From 1840 to the 1870s the average tonnage of such craft registered at Yarmouth increased by 40-50 percent in the case of brigs and barques; average ships' tonnages increased even more significantly. Schooners, likely to be smaller and used more for coasting, did not see any real increase in size until the

---

38

BT 107/108, Liverpool Vessel Registries, various years.

1880s.[39]

On the Liverpool register, the increase in size among the larger vessel classes was accompanied by a dramatic decline in numbers of what had been some of the most numerous, if smaller, vessel types – especially the brig. For the period as a whole brigs represented 14.2 percent of all new registries in Liverpool by number (see graph 3.1) and by the 1870s this had risen to about nineteen percent. By the 1880s, however, only four percent of new registries were accounted for by brigs. The dominance of the largest vessel types, especially ships, in terms of tonnage was consolidated from the 1860s onward. Given the nature of the vessel types it is only natural that ships should occupy the lion's share of tonnage on register. As Graph 3.1 demonstrates, ships constituted over half of all newly-registered tonnage at Liverpool from 1820 to 1889. The dominance of ships was even more marked in the years after 1860, however. In the period 1820-1850 ships comprised an average of thirty-nine percent of all new registries by tonnage, but this grew to over sixty-eight percent in the last three study decades. In retrospect this clearly displays one business

---

39

Sager, with Panting, *Maritime Capital*, 55; and Alexander, "The Port of Yarmouth," 83. Sager and Panting's analysis was based on the ports of Charlottetown, Halifax, Miramichi, Saint John, St. John's, Windsor and Yarmouth. One major difference between Atlantic Canada and Liverpool in terms of average vessel size was that all but the largest craft peaked in size in the 1860s and 1870s, with tonnages falling thereafter. In Liverpool the average size of the smaller brigs, brigantines, schooners and even flats all increased in the 1880s as compared to the 1860s and 1870s. BT 107/108, Liverpool Vessel Registries, various years; and see Table 3.2. As was the case in Yarmouth, average barque tonnages for Liverpool increased fairly significantly after 1870. If an owner could afford to sacrifice a certain amount of speed compared to the ship-rig, the barque was probably the best solution in terms of economy.

strategy taken by Liverpool investors in sailing tonnage as the century wore on.[40]

Closely related to the overall size of new vessels on the Liverpool registry is the issue of tonnage class. We have noted that the average size of newly-registered sailing vessels tended to increase over time. (As we will see, the same rule applied to steam tonnage). By breaking all new registries in our sample years into a number of size classifications we may gain some insight into how such vessels were used. It is fairly certain that throughout the period vessels of less than 250 tons were being used primarily in coastal trades, while those of greater than 500 tons were most likely to have been employed in deep-sea trades. Vessels falling between 250 and 500 tons are more problematic; they may have been suitable for either coasting, short-sea, or blue-ocean voyages. As a general rule of thumb we might include these as deep-sea vessels before about 1840. Thereafter craft of under 500 tons were more likely to have been used coastwise.[41]

Given the general tonnage increase from 1820 to 1889, what constituted a "large" vessel changed over time. Nevertheless, it is likely that vessels over 500 tons were mainly employed in longer distance trades, even in the 1880s. In the decades prior to 1850 a demarcation between vessels above and below 250 tons may be a more suitable measure of which were most likely to be employed as coasters. In the 1820s, for instance, only two

---

40

BT 107/108, Liverpool Vessel Registries, various years. Regarding the decline of brigs, keep in mind that a similar process was at work in Saint John, although it occurred much sooner. There brigs accounted for over half of all newly-registered tonnage in the 1820s, but much less in later decades. Sager, with Panting, 52.

41

To judge vessel usage exactly the voyage patterns of each craft must be observed over its career. In the British case even some of the largest vessels on registry made voyages between national ports under coasting articles.

vessels of above 500 tons were registered, and both were less than 600 tons. By the 1830s sixteen of 250 newly-registered vessels were over 500 tons. All of these were ship- and barque-rigged, and so almost certainly deep-sea vessels. Among "middling" vessels (those between 250 and 499 tons) eighty-six were registered in the 1830s sample years, with fifty-eight being either ship- or barque-rigged. Again, it is likely that most vessels in this tonnage class were primarily used in the blue-ocean trades. The pattern began to change in the 1840s. From this decade on the ship rig practically disappeared among vessels of under 500 tons, although the barque rig remained popular for mid-sized craft. Throughout the years 1820 to 1889 the smallest class of vessels – those under 250 tons – were dominated by the brig, brigantine and schooner rigs, along with small coasting steamers from mid-century on. Rigs like sloops, cutters, snows and flats were also relatively common. Mid-sized craft tended to be a mix of rigs but, again, with ships fairly rare in later decades. The largest vessel class was almost exclusively dominated by ships and barques, with steamers comprising a significant share of the larger vessels that were newly-registered from the third quarter of the nineteenth century on.[42]

In general terms, most gross investment at Liverpool in the 1820s and 1830s was in vessels of under 250 tons, although craft over this mark were making inroads by the 1830s. Even if we assume that in this era most vessels over 250 tons were likely to be employed on blue-ocean routes, then Liverpool owners of the 1820s and 1830s were still not making

---

42

BT 107/108, Liverpool Vessel Registries, various years.

more than a third of their gross investments in vessels primarily intended for deep-sea trading. By the 1840s the numbers of newly-registered craft above and below 250 tons was more nearly equal, with vessels of under 250 tons representing just over fifty percent of all new registries. Discounting the 1850s, in which tonnage measurement is problematic (refer to Appendix One), we see that by the 1860s Liverpool's gross investments broke down nearly evenly between vessels above and below 500 tons, with the smaller craft having a slight edge. By this decade new investment in vessels under 250 tons had fallen to one-third of all registries. By the 1870s the number of new investments in the smallest vessels stabilized, but investment in the "mid-sized" forms of tonnage had dropped by about half, with vessels of over 500 tons making up more than fifty percent of all new registries in the decade's sample years. In the 1880s the proportion of new registries remained about the same for the largest and smallest vessels with a slight gain and loss, respectively. Gross investment in vessels falling into the 250 to 499 ton-class dropped by just under half once again[43] (See Table 3.3).

What then do these figures tell us about gross investment at Liverpool? First, we can see that although the average tonnage of all new registries at Liverpool grew from 1820 to 1889, vessels of under 250 tons remained important. Notwithstanding that, as Table 3.3 demonstrates, their importance in terms of new registries diminished by just over half in these seven decades: these small vessels still comprised a third of all vessels added to

---

43

Ibid.

Liverpool's fleet in the 1880s samples. Given Liverpool's role as a regional *entrepôt* and the lack of large facilities that still characterized many smaller British ports, these craft retained a comparative advantage in their very lack of size. We should also bear in mind that the little Mersey flats, whether steam or sail-powered, remained important well into the twentieth century. Indeed, sixty-two flats, only one of which was over 200 tons, were newly-registered in the 1880s sample years.[44]

Table 3.3
Liverpool Vessels: Gross Investment by Tonnage-Class (% of Total New Registries)

Decade	Vessels Under 250 Tons	250-499 Tons	Greater than 500 Tons
1820s	68.4	30.4	1.1
1830s	59.2	34.4	6.4
1840s	53.9	23.8	23.8
1860s	33.4	20.9	45.4
1870s	33.5	11.4	55
1880s	32.9	6.7	59.8

Note: Percentages are taken from sample years only. As it was a transitional decade in tonnage terms, the 1850s sample years have been omitted. Vessel tonnages through the 1840s were calculated with the unspecified tonnage measure used in the Board of Trade 107 series up to 1855 and by register tonnage thereafter. Due to rounding rows may not equal 100%

Source: See Table 3.1

The mid-sized class of vessel never represented much more than a third of all of Liverpool's gross investment and by the 1880s made up less than seven percent of new

---

44
Ibid.

registries. In the minds of Liverpool shipowners it may have been that the days of such vessels were past. Too large to access the smallest British ports, they were no longer considered big enough for use in deep-sea trades. For the larger and better equipped British ports it is also likely that (despite our earlier demarcation) the smallest of the 500-plus ton vessels were sometimes pressed into coastal service by this date.[45]

Perhaps the most striking feature of tonnage-class alignments over time concerns the dominance of vessels of over 500 tons from 1870 on. This certainly bears some relation to the general increase in vessel size over the nineteenth century, and not just in Liverpool. Still, it is also likely that the pre-eminence of the largest vessel types from mid-century on points toward Liverpool's growing reliance on long-distance trading. It is also important to note that by the 1880s steamers (auxiliary and otherwise) comprised almost sixty percent of all new registries in the 500-plus tonnage class. This was up from about thirty-two percent of all large vessel registries in the 1870s samples. As Francis Hyde noted, from the 1830s on a growing amount of steam tonnage was seen along the Mersey. Prior to 1860, however, much of this was coastal, and sail tonnage still dominated the longest trade routes. The opening of the Suez Canal in 1869 combined with improved steam technology to give steamers an opening on these routes, even if this was not fully realized until after 1900. The proportional increase in gross investment in vessels over 500 tons testifies to the willingness of Liverpool shipowners to pursue opportunities in locales such as the Antipodes and the Far

---

45

Ibid.

East. The marked increase in steamers within this grouping further testifies to such adaptability.[46]

Bigger vessels and an increasing concentration on the largest forms of tonnage were not the only changes Liverpool owners were likely to have made at this time. Owners employed wire to replace hemp in rigging; introduced pumps, winches, donkey engines, windlasses and other labour-saving equipment; and, perhaps more important, improved vessel construction. In the 1820s the average life of Nova Scotia and New Brunswick vessels (from which a large share of the Liverpool sail fleet originated) was only nine years. By the 1850s builders were paying more attention to the seasoning and preserving of ship's timbers; they constructed stronger hulls; used iron fastenings; and sheathed hulls in copper. By the 1880s the average lifespan of these Canadian-built vessels stood at fifteen years. Thus vessels were able to make more passages in cargo over their careers, making it more likely

---

46

Ibid. We will discuss steamers in greater depth in Chapter Four. Prior to the nineteenth century the main concentration of Liverpool's trading activities was in the North Atlantic, Carribean and the Mediterranean. It was largely based on such commodities as sugar, tobacco, salt and (if one can really call humans commodities), slaves. By the early nineteenth century, however, Liverpool shipowners were already looking for new opportunities, especially as the slave trade was being curtailed. Liverpool merchants were long-time advocates of rescinding the East India Company's monopoly on East Asian trade. In 1813 and 1833, respectively, trade to India and China was subjected to free competition. Liverpool shipowners like the Brocklebanks, Holts, Harrisons and Rathbones soon threw open the Far East and Antipodes to Liverpool capital. Francis Hyde, *Liverpool and the Mersey. An Economic History of a Port 1700-1970* (Newton Abbot, 1971), 26-27, 42 and 95. Tonnage class breakdown for Liverpool's largest vessels is even more striking if we note that of 428 craft over 500 tons newly-registered in the 1870s and 1880s sample years, a full 311 were actually over *1,000 tons*, at an average register tonnage of 1,630. In broad terms, gross investment in Atlantic Canada (at least after 1850) was similar to Liverpool, with vessels larger than 500 tons dominating, followed by vessels of less than 250 tons. Medium-sized craft tended to be the least important, as they were in Liverpool after the mid-nineteenth century. At some points, however, including the late-1860s and 1880s, Atlantic Canadian gross investment in the largest vessels actually fell below that in the smallest vessels. Here the predominance of the largest vessel types was most marked in the mid-1870s when new registrations of all vessel types peaked sharply. From that point on, however, gross investment in 500-plus ton craft fell, reaching a nadir in the mid-1890s. Sager, with Panting, *Maritime Capital*, 55.

that investors would see positive returns, at least barring a collapse in freight rates. As Sager and Fischer noted, "[s]ailing vessels were more productive and more durable as time passed, and this helped them to remain competitive even when iron steamers entered the North American [and other] trades.[47]

A number of the changes noted above were technological in nature, and perhaps the most obvious adaptation of this type, certainly the one scholars have commented on the most, was the switch from sail to steam as a mode of propulsion. This subject is also of great importance in understanding the nature of Liverpool's fleet in this period and we will return to it in Chapter Four; first we might examine another technological innovation. This product of industry is closely associated with steam itself, but it also formed an important part of technological innovation when wedded to the pre-industrial sail vessels. Here, the product we are concerned with is that most associated with Great Britain and the industrial revolution – iron and later steel.

All seagoing vessels prior to the nineteenth century were built of various types of wood, either softwoods like pine and spruce, the types most associated with Canadian-built tonnage, or hardwoods like oak. Once the new products of industry started coming into their own in the early nineteenth century, however, thought was being given to applying the new materials to a variety of uses. Many areas of infrastructure, such as bridges and buildings, were revolutionized by the use of iron. With hindsight it seems natural that this new material

---

47

Sager and Fischer, *Shipping and Shipbuilding*, 10.

would be used at sea as well, but at the time it was not generally believed that an iron vessel would float. In the particular context of Liverpool, where shipowners wished to deploy large vessels in deep-sea trades, iron presented another potential problem. Contemporaries feared that compass deviation caused by iron hulls could create potential disaster on long-haul routes where vessels were out of sight of land for long periods of time. Liverpool's trading community was sufficiently worried about this potential problem that they formed a committee to look into the matter and to lobby the Board of Trade.[48]

By the mid-nineteenth century, however, good timber was becoming more costly, and increasing amounts of iron were being used in vessel construction. As early as 1818 the *Vulcan*, constructed in Scotland, was built entirely of iron; a steamer, the *Aaron Manby*, which crossed the English Channel to Paris, followed in 1821. In some cases a continued commitment to wooden vessels had political underpinnings. Government-subsidized mail steamers could be requisitioned in wartime. Their construction was subject to Admiralty approval and until the Navy embraced iron construction mail steamers had to be built of wood. Those not possessed of mail contracts were more free to experiment. The first ocean-going iron vessel, the *Rainbow*, was launched in 1837 and built across the Mersey from Liverpool at Birkenhead by John Laird. Innovation thus won out, and by mid-century vessels constructed of iron were becoming common. In most cases the application of iron to seafaring craft has been linked with steamers, but it was likewise important in the

---

48

Graeme Milne, *Trade and Traders in Mid-Victorian Liverpool. Mercantile Business and the Making of a World Port* (Liverpool, 2000), 40-41.

construction of sail tonnage and certainly played a role in allowing the older technology to compete for the length of time it did. Still, iron did have some real drawbacks. Due to fouling of their hulls, iron vessels prior to the 1870s could rarely match copper-sheathed wooden vessels, or those of composite construction, in terms of speed. Later in the nineteenth century steel, like iron before it, was the focus of misgivings, mainly due to the large variability in the quality of early steel. By 1877, however, a better grade of steel was approved by the Committee of Lloyd's Register of Shipping. This "mild" steel was soon being marketed at a lower cost than wrought iron and quickly became the preferred metal building material for vessels.[49]

Metal construction techniques had a number of advantages over wood; one of the most important related to vessel size. Table 3.2 above illustrates how the average tonnage of newly-registered vessels at Liverpool changed from the 1820s to the 1880s. The most marked size increase (among sail tonnage) was in ship-rigged vessels. One of the factors that allowed these craft to reach the great size they attained in the "golden age of sail" was the use of metals as building materials for not only the hull but also for the masts. Past a certain size a wooden vessel becomes structurally unsound and is furthermore difficult to build. For this reason the use of wood puts definite limits on how much increased size can be used as

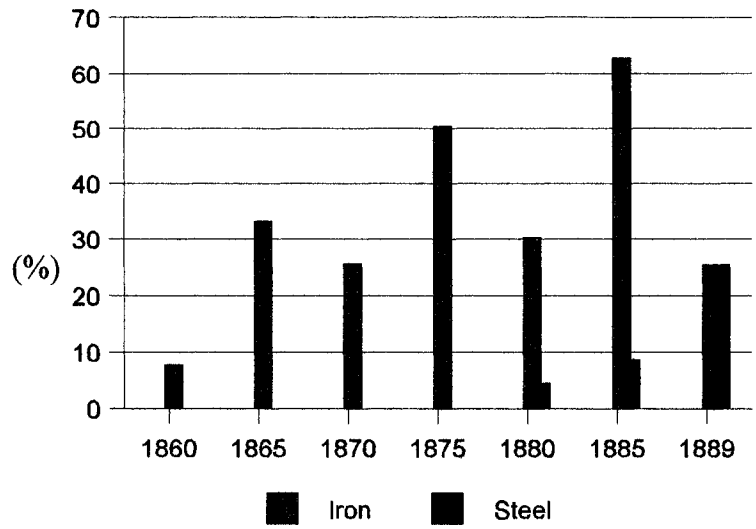
---

49

Hope, *British Shipping*, 266; Samuel J.P. Thearle, *The Modern Practice of Shipbuilding in Iron and Steel* (London, 1891), 7-9; Graham," The Ascendancy of the Sailing Ship," 76; Robert Gardiner and Basil Greenhill (eds.), *The Advent of Steam: The Merchant Steamship Before 1900* (London, 1993), 21;and J. Graeme Bruce, "The Contribution of Cross-Channel and Coastal Vessel to Developments in Marine Practice," *Journal of Transport History*, IV (1959), 67. See also, J.F. Clarke, *Occasional Papers in the History of Science and Technology No. 3. The Changeover from Wood to Iron Steamships* (Newcastle-Upon-Tyne, 1986).

a competitive strategy. Metal construction adds to the overall strength of a vessel while at the same time reducing its weight.[50]

Graph 3.2
Liverpool Sail Tonnage: Newly-Registered Iron and Steel Vessels as a percentage of Gross Registrations, 1860-1889 (Select Years)



Note: Sail tonnage only.

Source: BT 108, Liverpool Vessel Registries, 1860-1889, various years.

Thus, with the coming of iron, and later steel, shipowners in Liverpool and elsewhere could greatly expand the average size of their sailing tonnage, thereby potentially

---

50

Bruce, "Developments in Marine Practice," 66; and Thearle, *Shipbuilding*, 8 and 221. It is well known (if something of a truism) that shipowners and builders in our comparison region, Atlantic Canada, never fully made the switch to metal construction, or the ownership of such craft, prior to World War I. There are many works which discuss Atlantic Canada's failure to move into metal ship production and why this was so. See, for example, Eric W. Sager and Gerald E. Panting, "Staple Economies and the Rise and Decline of the Shipping Industry in Atlantic Canada, 1820-1914," in Fischer and Panting (eds.), *Change and Adaptation*, 22; Sager and Fischer, *Shipping and Shipbuilding*, 15-19; and Sager, with Panting, *Maritime Capital*, 12-15 and 166-169.

maximizing per-voyage profits. The first sample year in which iron sailing vessels showed up on the Liverpool registry was 1860, with the first steel craft making its appearance by 1880. Graph 3.2 illustrates the numbers of iron and steel sailing vessels newly-registered in Liverpool for sampled years from 1860 to 1889, expressed as a percentage of all new sailing registries. The graph shows that metal-hulled craft formed an important component of Liverpool's sail fleet, especially in the years from 1865 on, with a peak being reached in 1885. In the next sample year (1889) this figure dropped, but still remained at about fifty percent of all new sail registries. The graph below may actually under-represent the amount of sail *tonnage* accounted for as a proportion of the new sail fleet. The overwhelming majority of all metal sailing vessels registered in Liverpool were rigged as either ship or barques (10 of 14 in 1860; 62 of 71 in 1865; 18 of 21 in 1870; 62 of 66 in 1875; 20 of 23 in 1880; 46 of 50 1885; and 28 of 32 in 1889). As these on average were always the largest, the percentage dominance by tonnage, rather than number, were certainly much higher.[51]

In discussing the new technology of metal ship construction I have made a number of references to that innovation most linked to the use of iron and steel hulls – steam power. It is with this technology that we will take up our discussion of the Liverpool-registered fleet in Chapter Four.

51

BT 108, Liverpool Vessel Registries, various years.

Chapter 4

Capital II – Steamers and Vessel Origins

In terms of marine technology, that of steam propulsion has probably occupied the attention of maritime historians more than any other. This is perhaps understandable; after thousands of years in which sea-going craft could move only by human exertion or wind power, for the first time there was a true revolution in the way ships were propelled. Once established, steam went on to supplant its pre-industrial rival within a few decades and was itself later replaced by gasoline and diesel engines. In this change the industrial revolution had put to sea.

In keeping with this theme, the first portion of this chapter will detail Liverpool's steam fleet over the years 1820 to1889, at least in terms of gross investment.[1] Initially, steamers' inefficient engines confined their use to coastal and short-sea trades but by the late 1870s developments like the compound engine meant that steam became increasingly competitive in all but the very longest trades. Indeed, it was in this very era that Liverpool owners, with their extensive presence on the longer trade routes, began making the switch from sail.[2] In this way they proved amenable (if at their own pace) to new opportunities while remaining true to the trades that formed their comparative advantages. Likewise,

---

1

The second section deals with the build regions of vessels appearing on the Liverpool register (see below).

2

This is not to suggest that Liverpool owners made little or no investment in coasting, even if deep-sea trading was the port's mainstay. The numbers of smaller vessel types, under 250 tons, on the Liverpool register and the presence of vessels like flats (see Chapter Three) indicates an ongoing commitment to such trades. In an *entrepôt* like Liverpool the situation was unlikely to be otherwise. For a brief introduction to Liverpool's coasting trade, at least as it existed in the mid-1850s, see Valerie Burton, "Liverpool's Mid-Nineteenth Century Coasting Trade." In Valerie Burton (ed.), *Liverpool Shipping, Trade and Industry: Essays on the Maritime History of Merseyside 1780-1860* (Liverpool, 1989), 26-67. At this time Liverpool owners also made the switch to new technologies associated with steam, like paddle wheels and later the screw propellor.

Liverpool owners, as will be demonstrated, preferred to "hedge their bets" between the proven older technology and innovation. Through to 1889 gross steam investment in the port was largely in auxiliaries – fully-rigged steam vessels – rather than craft driven solely by machine power. The striking of a balance between comparative advantage and flexibility remained an important part of Liverpudlians' gross investment strategy throughout the study period, and especially as such pertained to the introduction of steam.

The emergence of the steam age was greatly aided by the innovative Scotsman James Watt under the aegis of Boulton, Watts & Co. On a more negative note, however, Watt was so thorough with his patents that he greatly restricted the freedom of other inventors in the field. The Scot William Symington, often called the "father" of marine engineering, was forced to infringe on Watt's patents. In 1788 Symington built his first practical steamboat. A few years later he produced the *Charlotte Dundas*, a stern-wheel towboat for use on the Forth and Clyde Canal. The experiment turned out to be a failure, and Symington died in poverty. The engines he used were manufactured by Boulton &Watt, as were those used in Robert Fulton's famous *Clermont*. This latter craft, which was in operation on the Hudson River by 1807, predated successful European steamers by five years. Yet even this vessel was not the first of its kind, for in 1804 Fulton's rival John Stevens had produced the steamer *Little Julianna*, although he was hobbled by the resources available to him and did not progress much further.[3]

3

J. Graeme Bruce, "The Contribution of Cross-Channel and Coastal Vessel to Developments in Marine Practice," *Journal of Transport History*, IV (1959), 66; P.W. Brock and Basil Greenhill, *Steam and Sail: In Britain and North America* (Princeton, 1973), 10-11; and George Blake, *British Ships and Shipbuilders* (London, 1946), 23-24. For a concise overview of James Watt's life and career, including the issue of patents, see Robert N.

The expiry of Watt's master patents in 1800 allowed these new innovators to turn their attention to the development of marine engineering, and new experiments were not long in coming. In the early years the level of technical sophistication limited the scope of these endeavours largely to coastal and river traffic. In 1812, for example, Henry Bell introduced the *Comet*, the first successful passenger-carrying steamer in Europe.[4] According to Graeme Bruce, this vessel

> heralded the dawn of steam navigation, setting the stage for the Clyde's pre-eminence in shipbuilding and marine engineering...The building of steam-propelled vessels for the Clyde, West Highland, and Irish Sea trade then began at an unprecedented rate. The confinement of steam to short-sea routes did not last long, however, and steamers soon began tentative forays into the oceanic trades.[5]

As early as 1819 an American wooden vessel named the *Savannah* crossed the Atlantic using an auxiliary engine to supplement her sails. The engine was little used on this trip, however, accounting for only eighty-five hours in twenty-nine days at sea. This experiment amounted to little, though, and the craft's engine was removed on her return to the United States. Following this passage the Americans dropped out of the race to produce ocean-going steamers until long after the British had firmly established a lead.[6]

Webb, *James Watt. Inventor of a Steam Engine* (New York, 1970). The only modern scholarly study of Fulton's work is Cynthia Owen Philip, *Robert Fulton: A Biography* (New York, 1985).

4

On the *Comet*, see James Williamson, *The Clyde Passenger Steamer. Its Rise and Progress during the Nineteenth Century, from the Comet of 1812 to the King Edward of 1901* (Stevenage, 1987).

5

Bruce, "Developments in Marine Practice," 66; and Blake, *British Ships*, 23-25.

6

Ronald Hope, *A New History of British Shipping* (London, 1990), 266; and Melvin Maddocks, *et al.*, *The Great Liners* (Alexandria, VA, 1982), 20. The *Savannah* was the brainchild of coastal steamer captain Moses Rogers,

While the *Savannah* made her historic voyage, steam use on shorter routes continued apace in the British Isles. In 1815 the paddle-wheeler *Thames* travelled from Glasgow to London. The following year the *Elise* became the first steam packet to cross the English Channel. By 1819 the Belfast firm Langtry placed the schooner-rigged, paddle-steamer *Waterloo* on a schedule of two round trips per week between Ireland and Liverpool. In 1821-2 the British-built Chilean steam warship *Rising Star* crossed the Atlantic westbound, albeit mainly under sail, and became the first steamer to enter the Pacific. By 1825 another British steamer reached India.[7]

These early successes still could not disguise the limitations of the technology at this point in time. In the 1820s and 1830s the engines of all steamers were grossly inefficient. Steam was then produced using salt sea-water, and safe boiler pressure was no more than five pounds per square inch, with coal consumption running at ten pounds per horsepower per hour.[8] The engines were also cumbersome, and a steamer would have much of its under deck space taken up by them and the tremendous quantities of coal needed on longer routes. Thus early paddle-wheelers could only compete with sail on short-sea and coastal routes. The first of the Atlantic "Leviathans," the *Great Eastern*, launched in 1858, carried 3,000

---

who envisioned a trans-Atlantic steamship line. The vessel was under construction as a sail packet at New York in 1818 when Rogers saw it and decided to purchase it for conversion to a steamer. The idea was ahead of its time, and following the experiment's failure, Rogers returned to commanding river steamers. He fell ill with fever and died just as the *Savannah* itself was grounded and breaking apart in the surf off Long Island.

7

Hope, *British Shipping*, 266; and Maddocks, *et al.*, *Great Liners*, 20.

8

Hope, *British Shipping*, 266.

tons of coal and still was relatively underpowered.[9]

Within the next two decades these problems were largely overcome and steam came into its own, although it was not until about 1900 that overall steam tonnage owned in Britain actually exceeded sail tonnage.[10] After the mid-1880s sail could only compete on the longer routes, such as the various Antipodean trades. It made sense therefore for owners to demand that sail tonnage now be able to handle ever larger loads and to be equipped for the longest ocean routes. By the turn of the twentieth century the process had been nearly completed, steam had triumphed, and sail was gone on almost all its traditional routes.

Notwithstanding the inefficiency of the early steam engines, the new passenger services they made possible were popular with the travelling public. Used as tugs, the new craft were able to increase the productivity of sailing vessels by helping them in and out of harbours. By 1825 forty-five steamship firms were established in London alone. In 1824 the City of Dublin Steam Packet Company, operating between Dublin and Liverpool, was founded and by 1850 was the sole authorized agent for the carriage of British mails across

---

9

Maddocks, *et al.*, *Great Liners*, 42; Robert Gardiner and Basil Greenhill (eds.), *The Advent of Steam: The Merchant Steamship Before 1900* (London, 1993), 95-97; Blake, *British Ships*, 32-33; Patrick Beaver, *The Big Ship. Brunel's Great Eastern, A Pictorial History* (London, 1969); and Edward Mueller, "Revisiting the *Great Eastern*," *Steamboat Bill*, LII (Fall 1995), 202-213. The huge vessel – the brainchild of Isambard Kingdom Brunel – had a career of more than thirty years but never did pay her own way. On one voyage in 1861 a storm caused damages of about £60,000. The vessel was similarly plagued throughout her career and never once filled her 4,000 berths. Historian George Blake called her "...the most ludicrous and ill-starred vessel ever produced by the British shipbuilding industry..." (32)

10

Bruce, "Developments in Marine Practice," 65. Calculations by Lewis Fischer and Helge W. Nordvik indicate that Britain's total steam tonnage may have comprised a majority of the nation's net tonnage as early as 1890. A decade earlier the figure for steam stood at less than a third of Britain's net tonnage. Fischer and Nordvik, "Maritime Transport and the Integration of the North Atlantic Economy, 1850-1914," in Wolfram Fischer, *et al.* (eds.). *The Emergence of a World Economy 1500-1914*, 2 vols. (Wiesbaden, 1986), II, 531.

the Irish Sea.[11] Free from the vagaries of the wind, steamers were able to offer something that no sailing vessel could – reliable service. In the passenger and mail trades this was a tremendous boon. Weighed against this was the high cost of construction and the aforementioned inefficiency of early steam engines. In the bulk carrying trades the first steamers were not economical, and it took half a century for steam to be truly competitive on an equal footing with sail. Still, the advantages of steam were obvious, and the British made sustained efforts to develop oceanic steamers. As the "first industrial nation" they had a huge advantage over any potential rivals.

In Liverpool, The Board of Trade registry series makes it clear that new steam investment did not become significant until about mid-century, with the numbers only increasing significantly from about the mid-1860s. As Graph 4.1, below, demonstrates, even after this date there were three points in the sample data – 1860, 1875 and 1885 – where the number of new steam acquisitions on the Liverpool registry dropped off significantly from the surrounding sample years. It should be noted that the tonnage figures in Graph 4.1 have to be treated with caution. Although the numbers do give a reasonable picture of the time frame in which steam tonnage investment began in earnest at the port, we must always keep in mind the changes in tonnage measurement – such as in 1854 – which affected the results (See Appendix One). 1855 is especially problematic because the BT 108 forms were changed in the middle of the year. Moreover, for the first part of the year it is not really clear whether the tonnage reported is gross or registered, although likely the former. Both would

---

11

Bruce, "Developments in Marine Practice," 66-67.

have been applied to steamers, but I have opted to use the registered measurement in this instance. 1855 was also exceptional in registry terms and, as a result, may give the impression that the next sample year, 1860, was less impressive than it actually was in terms of new steam tonnage registered. To better compare this year and those preceding, we can consider this: in 1850, still a large year for registries, only 2,558 steam tons were registered compared to 11,678 in 1860.[12]

The first sample year in which steamers appeared on the Liverpool registry was 1826, although they did not represent any significant amount of tonnage until about 1855. Still, new steam tonnage added to Liverpool's registry almost doubled from 1826 to 1850, rising from 1,344 to 2,558 tons. The gradual introduction of this type of vessel was logical given that steam was an emerging technology and still very much unproven until after mid-century. In the 1830s another factor came into play that may have set Liverpool's nascent steam sector back a number of years. The two major steamship owners based on Merseyside were actually Anglo-Irish firms, and it was at precisely this time that they transferred their vessel registries from Liverpool to either Cork or Dublin.[13]

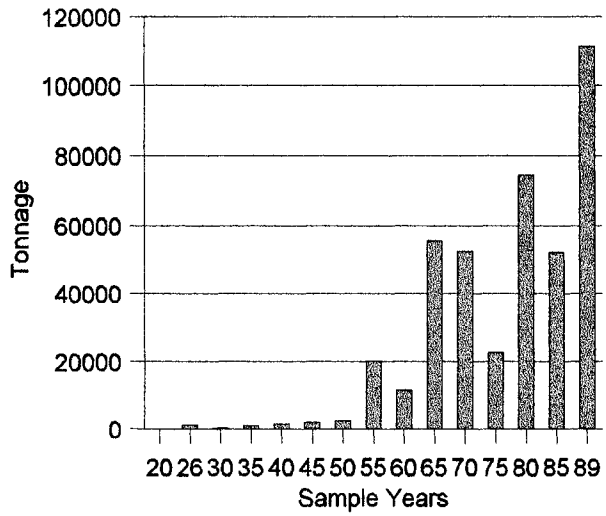
12

Great Britain, Board of Trade (BT) 107 and 108, Liverpool Vessel Registries, 1820-1889, various years. For my sample gross tonnage might seem the logical choice for such comparisons if the years prior to 1855 were measured in something akin to gross tonnage. However, for the 1860s sample years only register tons are given for all vessels, making it a better standard measure for the post-1855 years. In the case of sail tonnage the difference between gross and register tonnage was small, but should still be taken into account where possible.

13

P.L. Cottrell, "The Steamship on the Mersey, 1815-80. Investment and Ownership," in P.L. Cottrell and D.H. Aldcroft (eds.), *Shipping, Trade and Commerce: Essays in Memory of Ralph Davis* (Leicester, 1981), 140-141. Since Graph 4.1 is based on *new* vessel registries, any decline would not be a direct result of the withdrawal of older tonnage from the Liverpool registry by these companies. Nonetheless, by the 1840s they would also not be adding any registries to the Liverpool fleet – a presence to be missed in terms of new steam numbers.

Graph 4.1
Steam Tonnage, Newly-Registered in Liverpool, by Sample Years



Source: BT 107/108, Liverpool Vessel Registries, various years.

Concerning the fall in steam investments in 1875 and 1885, the trend was likely connected to the shipping market. The decision whether or not to invest in steam tonnage at any given time was a function of market forces, particularly rising and falling freight rates and the cost of steamers. In general, it might be assumed that investors would choose to add steam tonnage during periods of maximum return on their investment, when the rates were peaking and *vice versa* when rates were in decline. There was a general downward trend in freight rates for the entire second half of the nineteenth century, notwithstanding many short-term recoveries along the way. Freight rates declined sharply from 1874 until 1879, and this was reflected in the trough of new steam registries in 1875. By the next year in our series, 1880, investors were likely influenced in their buying behaviour by a slight upturn in the rate

cycle which had started at the end of the decade and, indeed, 1880 was a marked peak in the graph. Ironically, within a year or two rates hit their lowest point prior to the 1890s. Indeed, the fluctuations in freight rates were a constant factor in the economics of transport. Between 1882 and 1886 the value of shipping may have declined by as much as thirty percent, and once again the sample year which falls into this portion of the cycle (1885) represents a trough for new steam investment. Once the decline ended late in the decade investor confidence obviously rose. By 1889, investment in new steam tonnage at Liverpool reached an all-time high, although by then rates were already entering a downturn which would not be reversed until the turn of the century.[14]

These peaks and valleys all relate to the concrete realities of business. By the mid-1880s it was probably true, as one shipowner remarked, that steam tonnage outperformed sail by a factor of about three and a half times. These cost reductions were a long time coming, however, and even as late as the 1870s did not tip the balance decisively toward steam. It was the short-term forces such as freight rates that often governed entrpreneurial decisions. As Philip Cottrell has written, "freight rates are notoriously volatile over the course of the trade cycle."[15] Steam was at a disadvantage compared to sail in bulk trades

---

14

Cottrell, "Steamship on the Mersey," 144; BT 108, Liverpool Vessel Registries, various years; and C. Knick Harley, "Aspects of the Economics of Shipping, 1850-1913," in Lewis R. Fischer and Gerald E. Panting (eds.), *Change and Adaptation in Maritime History. The North Atlantic Fleets in the Nineteenth Century* (St. John's, NL, 1985), 170. It was at this very point in the freight cycle that sail came into its own. It was during the rate slump of 1874-1879 that many of the metal sail craft discussed earlier appeared. In addition, certain steamers, purchased during an early 1870s boom, were converted to sail craft.

15

Cottrell, "The Steamship on the Mersey," 144. See also Great Britain, Parliament, House of Commons, *Parliamentary Papers* (*BPP*) 1884-1885, XXXV, "First Report of the Royal Commission on Loss of Life at Sea," C-4577," evidence of F. Yeoman, steamship owner and broker, secretary of Hartlepool Shipowners'

during the downturns due to higher capital and operating costs. When the bottom fell out of the market, steamers often had to be laid up, and few British owners would have wished to add to a steam fleet during such times.[16]

This being said, there were certainly innovators to be found when conditions allowed, and a number of Liverpool owners were among the pioneers in the iron steamship. Examples include the investors in the *Alburkah* in 1832, the *Scamander* in the first half of the 1850s and Alfred Holt's *Cleator*, built in 1854 and equipped with compound engines in 1864. Yet as we have seen, it was not until the 1850s that Liverpool owners made any real commitment to steam. The Pacific Steam Navigation Company was founded in 1840 for the express purpose of operating a steam-propelled service, but its own great expansion did not begin until the 1850s (see Chapters Nine and Ten). This process continued for another three decades and was not really completed until the 1880s and early 1890s. Liverpool owners generally did not exhibit any real haste to abandon sail until almost the end of the nineteenth

---

Society, qq. 7450-7451.

16

Buying tonnage, particularly steam, at low points in the rate cycle was known as anti-cyclical purchasing. It allowed the buyer to take advantage of the "rock bottom" prices being offered as owners tried to sell off tonnage that was, for the moment, unuseable. This was not exploited in any real way by British owners of the day, although Liverpool provides at least one notable exception, Holts' Blue Funnel line. Holts traditionally purchased tonnage at low points in the trade cycle, as they did in 1892-1896, taking advantage of low interest rates and building costs. In the twentieth century both the Greeks and Norwegians employed the strategy. See Francis Hyde, *Blue Funnel* (Liverpool, 1956), 91; Malcolm Falkus, *The Blue Funnel Legend. A History of the Ocean Steam Ship Company, 1865-1973* (London, 1990), 112-113; Gelina Harlaftis, *A History of Greek-Owned Shipping: The Making of an International Tramp Fleet, 1830 to the Present* Day (London, 1996); Harlaftis, Greek *Shipowners and Greece 1945-1975: From Separate Development to Mutual Interdependence* (London, 1993); Helge Nordvik, "Entrepreneurship and Risk Taking in the Norwegian Shipping Industry in the Early Part of the Twentieth Century: The Case of Lauritz Kloster, Stavanger," in Fischer (ed.), *From Wheel House to Counting House*, 323-348; and Ole Gjølberg, "The Substitution of Steam For Sail in Norwegian Ocean Shipping, 1866-1914: A Study in The Economics of Diffusion," *Scandinavian Economic History Review*, XXVIII, No. 2 (1980), 133-146.

century. This may have had something to do with the port's extensive interests in long-distance trades outside the Atlantic.[17]

The conservatism of Liverpool shipowners regarding steam can be seen in the tendency to invest in auxiliary rather than full steamers right through to the end of the Board of Trade 108 registry series. Auxiliary steamers were those vessels having some type of steam engine which could be used for propulsion but which also carried a full spread of sails. In the mid-nineteenth century large sail vessels often had a small steam engine to manoeuver in port and to use when becalmed. There were some drawbacks to this hybrid technology. Operating expenses tended to be higher than for either pure steamers or pure sail tonnage. An engine powerful enough to do more than just aid in docking was costly, and skilled crews were needed to run and maintain them. Likewise the full spread of sails carried by such vessels also needed specialized crewmen to work them efficiently. Nonetheless, a switch from the exclusive use of sail to some employment of steam technology may have seemed a natural progression for some vessel owners. Sail auxiliary tonnage, as Graeme Milne described it, "combined the economy of a sailing ship with the ability of a steamer to make progress in calm weather."[18] Furthermore, in the age before the technology was

---

17

Cottrell, "Steamship on the Mersey," 141-142; Hyde, *Blue Funnel*, 17 and 19; Falkus, *Blue Funnel Legend.*, 94 and Duncan Haws, *Merchant Fleets: Blue Funnel Line* (Burwash, East Sussex, 1984), 39. In a number of early steam trades, especially where profits could be made without government subsidies, Liverpool owners were often innovators regarding the use of steam. The Mediterranean trades were a good example of this tendency. Cottrell, "Liverpool Shipowners, the Mediterranean, and the Transition from Sail to Steam During the Mid-Nineteenth Century," in Fischer (ed.), *From Wheel House to Counting House*, 154.

18

Graeme Milne, *Trade and Traders in Mid-Victorian Liverpool. Mercantile Business and the Making of a World Port* (Liverpool, 2000), 23 and 41; and BT 107/108, Liverpool Vessel Registries, various years.

perfected, merging steam power with sail was essential at sea. With only limited ship to shore communications, no nineteenth owner could ignore the value of backup propulsion on his capital-intensive investments. Gerald Peter Allington feels that without wind power as an alternative the development of long-distance steam trades would have been stifled.[19]

Perhaps such considerations were of greatest importance to some Liverpool shipowners. In fact, auxiliary steam tonnage does seem to have been preferred by many Liverpool investors, at least prior to the 1890s. Registry data indicates that in the sample years from 1826 to 1850 sixty-two steam-powered vessels were registered at Liverpool, comprising a total of 8,911 tons. In the sample years through 1845 *all* of Liverpool's gross steam investment consisted of auxiliary vessels, with the first unrigged steam craft not appearing until 1850. These comprised a mere two of fifteen new steamers with a combined total of only 186 of 2,558 steam tons registered that year. From the 1860s through to 1889 the numbers and tonnage of newly-registered unrigged steamers remained small compared to the auxiliary-type vessels. Generally, steam registries rose markedly in this era, as Graph 4.1 above illustrates. Nonetheless, of 454 steamers registered in the sample years from 1860 to 1889 only eighteen were unrigged, discounting eleven steam-powered flats and one "derrick mast steamer" registered in the 1880s samples. These unrigged steamers made up a minuscule 1,192 of 393,886 register steam tons put onto the Liverpool register from 1860

19

Gerald Peter Allington, "Sailing Rigs and Their Use on Ocean-going Merchant Steamships, 1820-1910," *International Journal of Maritime History*, XVI, No. 1 (June 2004), 152.

through 1889. (The gross tonnages were 2,831 and 614,220, respectively).[20]

Milne makes the point that large iron sailing vessels became something of a speciality among Liverpool owners around the 1860s, and these were mainly used for deep-sea bulk trades. Conversely, the domination of this market meant that Liverpool, unlike London, never made a real commitment to auxiliary vessels. The first part of Milne's contention is likely true when measured by the yardstick of shipping using Liverpool, whether registered there or not. Indeed, up to the late 1870s Liverpool – again in contrast to London – remained largely a sail port even when this is calculated in terms of gross investment. In terms of a commitment to the auxiliary steamer, on the other hand, new tonnage investment at Liverpool tells a different story. In the 1860s (one of Milne's primary decades of study) new steamer registries at Liverpool were almost exclusively of the auxiliary type. While the absolute numbers of unrigged craft rose slightly in the 1870s and 1880s they still made up a fairly insignificant proportion of gross steam investment in the port. Investors in new Liverpool-registered tonnage therefore cannot be regarded as having little commitment to the auxiliary steamer, even if such was the case for shipping frequenting the port in general.[21]

Another interesting feature of Liverpool's auxiliary steam fleet from 1820 to 1889 concerns the choice of rigs. In terms of gross sail investment, the ship rig clearly

---

20

BT 107/108, Liverpool Vessel Registries, various years.

21

BT 107/108, Liverpool Vessel Registries, various years; Milne, *Trade and Traders*, 41; and Cottrell, "Liverpool Shipowners, the Mediterranean," 154.

predominated throughout the period, even considered simply in terms of vessel numbers. The contrast with the rigs of auxiliary steamers is marked. Of the total 454 steamers newly registered at Liverpool in this era a full 328 were schooner-rigged. The fore-and-aft schooner rig was a practical choice; the windage of the yards needed to mount square sails created a great deal of drag on an auxiliary vessel running on steam power alone. By the second half of the century schooners were less dominant, but this change was also based in practical considerations. The schooner rig still dominated steam registries (211 of 326) in the 1870s and 1880s, but there were now many more types of rigs used for auxiliary craft, not to mention the few "thoroughbred" steamers. In the 1880s auxiliary vessels were rigged not only as schooners but also as barquentines, brigantines and sloops, plus the occasional appearance of other rigs. According to Allington, rigs that combined fore-and-aft with square sails were probably the best compromise for an auxiliary craft. While the former rig form promoted low windage, the latter was a better choice for propelling a vessel whose engines had completely failed.[22]

Aside from the tendency toward schooner rigs at Liverpool, in the earlier years these craft were also generally small. In the first sample year that steam appeared – 1826 – auxiliary schooners averaged only about 134 tons. As late as 1850, when the first unrigged steamers appeared, these vessels still averaged only around 155 tons. This was, of course, the era when most steamers were employed in coasting and short-sea trades, not to mention

---

22

BT 107/108, Liverpool Vessel Registries, various years; and Allington, "Sailing Rigs," 131. Fore-and-aft sails had other benefits such as smaller crew size and lowered building costs, always useful considerations when investing in capital-intensive steamers.

towing and pilotage, and Liverpool owners were certainly employing these vessels in this way. On average the tonnage of auxiliary steamers grew exponentially after 1850. The average auxiliary barque of the 1880s came in at 2,797 register tons, or 4,550 gross tons. Brig and schooner-rigged auxiliary vessels were on average just under and just over 2,000 gross tons, respectively.[23]

Clearly, such craft were no longer being used primarily for coasting, whatever their rig. By this stage steam engines were winning the technological race with sail. The Suez Canal had opened, and steamers had penetrated all but the longest routes. Still, Liverpool owners clearly saw no reason at this stage to completely abandon the use of sails. Perhaps their notorious conservatism was at play here, but an example presented by Graeme Milne (admittedly from the 1860s) may shed a different light on the matter. The proposed Australian & Eastern Line sought to inaugurate an immigrant service to Australia using auxiliary steam clippers. This represented the best compromise from the technical standpoint of the 1860s, and the company prospectus stressed that they would not be using full steamers. The changeover would thus not be too radical or experimental – such a measure presumably reassuring potential shareholders. Although steam was much improved over the next twenty years, the same considerations may have been relevant to those investing in new steam tonnage at Liverpool. The port had made its reputation in deep-sea sail trades. By this

---

23

BT 107/108, Liverpool Vessel Registries, various years. Through to 1889 Liverpool's unrigged steamers continued to be used mainly for "in-shore" tasks. Of five unrigged steamers newly-registered in the 1880s samples, one, the 161 ton *Angincourt*, was a steam tug, while two were owned by the Wallasey Local Board; a third was owned by the municipality of Birkenhead, and the final craft by the Leeds and Liverpool Canal Company.

stage steam was the ascendant technology, and some adaptability to it was clearly needed to compete. However, investors were certainly hesitant about moving completely away from what had long been their comparative advantage, hence the compromise auxiliary steamer. Even the issue of crew costs appears to have been dealt with in some measure by the use of fore-and-aft sail types like the schooner, which generally required less handling expertise and manpower than square sails. By the early 1900s the auxiliary steamers were largely gone from the port of Liverpool, but their significance in gross investment terms prior to 1890 should not be underestimated.[24]

The transitional form of the auxiliary steamer was part and parcel of the gradual transfer from sail to steam. According to C. Knick Harley, the available evidence suggests that this switch generally "was accomplished in a shipping market that adjusted well to equilibrium."[25] Sail was replaced by steam as transportation costs for the latter fell in

---

24

Milne, *Trade and Traders*, 163. Milne's argument here is similar to that made by Gerald Peter Allington and noted above. See Allington, "Sailing Rigs," 152. In the case of Atlantic Canada the port of Saint John was again the most similar to Liverpool in regard to auxiliary steam. Although small in comparison to new sailing vessel registries, gross investment in auxiliary (and paddle) steamers at Saint John from 1820 to 1914 was by no means insignificant. This was in contrast to most other Atlantic Canadian ports in which no forms of steam tonnage made up a significant proportion of new registries – Halifax, and St. John's steam sealing fleet excepted. Eric W. Sager, with Gerald E. Panting, *Maritime Capital: The Shipping Industry in Atlantic Canada 1820-1914* (Montréal, 1990), 51. If we assume that the large (2,000 plus ton) auxiliary schooners of the 1880s were not used for coasting, their rig is probably best explained in terms of costs rather than efficiency. Stanly Gerr contended that the fore and aft rig acted as a kind of "energy sponge," applying great stress to a vessel's hull. Over time, Gerr felt, this created a much higher rate of loss among large (wooden) deep-sea schooners. Although eminently useful in coastal trading, the fore and aft rig "was basically not a suitable type of vessel for long-distance deep-water voyaging." Stanley Gerr, "The Suitability of the Big Wooden Schooner for Long-Distance Deep-sea Trading," *The Mariner's Mirror*, LXI, No. 4 (November 1975), 399-400 and 403. The use of metal construction materials and the fitting of steam engines likely went some way toward negating this serious defect.

25

Charles K. Harley, "The Shift from Sailing Ships to Steamships, 1850-1890: A Study in Technological change and Its Diffusion," in D. N. McCloskey (ed.), *Essays on a Mature Economy: Britain After 1840* (London, 1979), 228.

relation to sail. This lends practical support to the propensity of Merseyside investors in the early years to pull back from a commitment to steam whenever freight rates fell to the point where steam tonnage might become unprofitable. Robin Craig has argued that sail tonnage looked more attractive to buyers not only at times of low freight rates but also when coal prices rose. He asserted that this "reflects how perilous was the cost advantage of the steamship even in the 1870s and 1880s."[26] It also means that sail likely remained a practical investment in certain trades, and for particular firms, for a long time – as our discussion of Brocklebanks in Chapters Seven and Eight illustrates. By the latter years of the century steam had developed to the point that sail was clearly on the way out, even in times of market downturns or higher fuel prices. As Harley remarked, a portion, although not the lion's share, of the credit for falling steam costs relative to sail must be credited to improvements in marine engine technology, the most important of these being the compound engine which greatly reduced fuel consumption, allowing steamers to compete with sail on longer routes. This points to a situation where investors were influenced by not only business and economic factors but also by scientific concerns.[27]

26

Robin Craig, "William Gray & Company: A West Hartlepool Shipbuilding Enterprise, 1864-1913," in Cottrell and Aldcroft (eds.), *Shipping, Trade and Commerce*, 171.

27

Harley, "Shift," 228. The compound engine was the first to employ a second cylinder. This made more efficient use of a given quantity of steam (by using it more than once). The compound engine reduced fuel consumption by nearly sixty percent over the old single cylinder engines. Compound engines were likewise made possible by other improvements such as the surface condenser which recirculated fresh water through the steam engine. This kept the main boilers clean while avoiding the loss of heat that accompanied the hourly blowing out of brine necessary when using sea water to produce steam (the effect of salt water on their casings also shortened the life of marine engines and made catastrophic failures a real possibility). The most important spin-off of the surface condenser was that its use made increased boiler pressures – and thus the compound engine – possible. The compound engine was later superceded by versions with three and four cylinders, the triple and quadruple-

Table 4.1
Annual Rates of Change in Freights & the Contribution of Various Factors to the Decline

	Sail: California 1875-1890	*Steam: Bombay 1873-1890*
Freight	-3.8	-5.7
Contribution of:		
Ship Prices	-1.1	-1.9
Ship Size	-0.9	-0.7
Coal Consumption	—	-1.1
Weight of Ship	-0.4	-0.4
Crew Size	-0.4	-0.4
Other Input Prices	-0.5	-0.7
"Residual"	-0.5	-0.5

Source: C. Knick Harley, " The Shift from Sailing Ships to Steamships, 1850-1890: A Study in Technological Change and its Diffusion," in D. N. McCloskey (ed.), *Essays on a Mature Economy: Britain after 1840* (London, 1979), 228.

In his discussion of this change Harley presented evidence from the California grain trade and the Bombay trade to assess the relative importance of various factors, including decreased coal consumption, on falling freight rates. Table 4.1 shows the impact of decreased coal consumption on the relative cost of operating steam tonnage. We can also plainly see that this change, although important, was not the dominant cause of declining

---

expansion engines. Gerald S. Graham contends that the compound engine sounded the death knell of the sailing ship, and that had it been developed twenty years earlier the great age of sail in the 1860s and 1870s would never have happened. Graham, "The Ascendency of the Sailing Ship 1850-85," *Economic History Review*, 2nd Ser., IX, (1956), 83; Bruce, "Developments in Marine Practice," 70-71; and Hope, *British Shipping*, 300-301.

freight rates. Lower ship costs due to declining iron prices and technological changes in shipbuilding, along with technological changes leading to lower ship weight and smaller crews for both sail and steam, were also important contributors. The Bombay trade was the longest on which steam dominated in the early 1870s; it was also the one in which lower coal consumption had the biggest impact. Table 4.1 therefore must be taken as the best case scenario in assessing the importance of lower coal costs to rate declines.[28]

On longer voyages, in which many Liverpool owners specialized, early savings in steam tonnage costs did not have a decisive impact on freight rates. It was only after steam became dominant in a trade that bulk rates actually fell. Thus, the process was gradual, and there was room for shipowners in Liverpool to invest successfully in these long-distance sail trades rather than making an immediate switch to steam. Liverpool owners thus had practical reasons for continued investment in sail and were certainly not hidebound conservatives.[29]

This should also not obscure the fact that investors on Merseyside made investments in steam tonnage as early as the 1850s, especially if their primary interests lay in short-sea trades. Although Cottrell gave the impression of Liverpool owners as being somewhat tardy in steam investment, it must be remembered that as late as 1870 the gross tonnage of the British merchant fleet comprised almost two-thirds sail tonnage, even when the figure has

---

28

Ibid, 229. The Bombay case is pertinent to the Brocklebank Company. Although Calcutta, not Bombay, was its principal port of call, the company took advantage of certain non-steam-driven innovations, including iron construction and economies of scale in tonnage and manning (see Chapter Seven). On the Bombay trade in general, see J. Forbes Munro, *Maritime Enterprise and Empire: Sir William Mackinnon and His Business Network, 1823-93* (Woodbridge, 2003).

29

Harley, "Shift," 229.

been converted into "steam equivalent" tons.[30] It was only by 1890 (at the termination of the Board of Trade 108 record series) that the steam fleet had significantly outpaced sail by all measures, except perhaps on the longest routes. With this in mind, we might not be so quick to think that Liverpool owners were much behind the times (see Table 4.2).

Table 4.2
Growth of Sail and Steam: The British Merchant Fleet, 1814-1890

Year	*Sail (Net Tons)*	*Steam (Gross tons)*	*Steam Equivalent (Gross Tons)*
1814	2,329,000	—	776,300
1835	2,750,000	—	833,000
1850	3,618,000	275,000	1,481,000
1870	4,876,000	1,819,000	3,444,000
1890	3,127,000	8,240,000	9,448,000

Source: Ronald Hope, *A New History of British Shipping* (London, 1990), 296. See also *Statistical Abstracts of the UK*, 1814, 1835, 1850, 1870 and 1890.

As an adjunct to the larger question of the growth of steam tonnage, there is another technological innovation which Liverpool owners, like those in Britain generally, were beginning to adopt at this time. When steam engines made artificial propulsion at sea possible, there naturally followed the question of mechanics. Over the years a number of variations have been attempted in the quest to propel seaborne craft, but the basic forms boiled down into only two – the paddle wheel and the screw propeller. Although the screw principle (though not the marine propellor) has been known since the ancient Greeks, it was the paddle wheel that powered the first steamships. Practically all the early steamers were

30
Steam tonnage by this measure equalled about three times sail tonnage.

paddle driven, with the *Clermont* and *Comet* having their wheels on the side. Originally the *Comet* was fitted with two sets of paddles, but this was found to give no mechanical advantage, and most subsequent side wheelers carried only one wheel. The other major variation was to have one large wheel fitted to a vessel's stern, as was often seen on the famous Mississippi river boats.[31]

Early marine engines could often use either paddle wheels or screw propellers. Paddle steamers had an advantage in shallow waters; increasing the width of the paddle blades allowed for increased power. Screw vessels tended to roll badly at sea if built to shallow draught, but on the other hand were less liable to damage if they struck solid objects. A second drawback of paddle wheelers was that the engines had to be located high up in the vessel about amidships; screw drives allowed this space to be freed up since the machinery could usually be placed lower in the hull near the stern. The rear-wheeled paddle vessels were actually developed to combat the problem of the engines occupying the best space on the craft. As well, this arrangement worked well for flat-bottomed, shallow-draught vessels, like the river steamers. Finally, on a stern-wheeled vessel the hull acted to protect

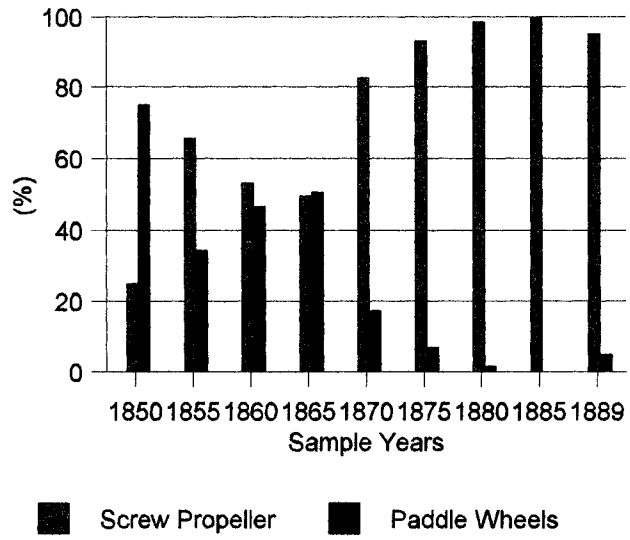
---

31

In fact, the screw propellor did not exist as a practical proposition until a few decades after the *Clermont* and *Comet* appeared. Allan D. Frazer, "The *Clermont* Revisited," *Steamboat Bill*, LIV (Spring 1997), 26-31; K.T. Rowland, *Steam at Sea. A History of Steam Navigation* (Newton Abbot, 1970), 48-50; Bruce, "Developments in Marine Practice," 67-68; and Gardiner and Greenhill *Advent of Steam*, 11 and 63-64. On the steamboats that plied the rivers in the interior of the United States, see Harry P. Owens, *Steamboats and the Cotton Economy: River Trade in the Yazoo-Mississippi Delta* (Jackson. MS, 1990); Mary Helen Dohan, *Mr. Roosevelt's Steamboat* (New York, 1981); James Hall, *The West: Its Commerce and Navigation* (New York, 1970); and James T. Flexner, *Steamboats Come True* (New York, 1944).

the paddle from flotsam damage.[32]

Graph 4.2
Liverpool Steamers by Propulsion Method



Source: BT 107/108, Liverpool Vessel Registries, various years.

For a number of years a debate ensued on the respective merits of the paddle wheel versus the screw propeller. The Admiralty was undecided on which to employ in future steam-driven warships and conducted a test in 1845. Two vessels, H.M.S. *Alecto*, a paddle wheeler, and the propeller-driven H.M.S. *Rattler*, were lashed together and engaged in a tug-of-war. The *Rattler*'s engines were stopped while *Alecto* went full-speed ahead. The *Rattler*'s engines were then engaged, and *Alecto* was soon being pulled along at two knots,

---

32

Edward A. Mueller, "The Recessed Steamboat *Osceola*," *Steamboat Bill*, XLVII (Fall 1990), 205-213; Edward O. Clark, "Pioneer Steamboat *John Stevens*," *Steamboat Bill*, XLV (Fall 1988), 173-185; and Bruce, "Developments in Marine Practice," 68;

her paddles churning the water, but she was unable to match her competitor. With these results the Admiralty decided to adopt screw propulsion for new naval vessels. In addition to the obvious superiority in terms of power, the engines could be placed lower in the vessel, allowing better protection from enemy fire. Thus, by mid-century the Royal Navy was already a supporter of the propeller. For merchant tonnage paddle wheels remained in use much longer. The changeover was often gradual. Pacific Steam Navigation, although one of the great technological innovators among Liverpool firms, continued purchasing a mix of paddle and screw vessels for a number of years after its first investment in the latter.[33]

Given the registry data and the specific example of the Pacific Steam Navigation Company, it seems that Liverpool shipowners were no exception in retaining paddle wheels for quite some time after steam first appeared in the port. As Graph 4.2 above illustrates, screw propeller use in the port only began in earnest in the years after 1850. As late as 1865 paddle wheelers remained the propulsion of choice among steamers, although from 1870 the numbers of paddle wheelers newly registered in the port dropped precipitously, never again amounting to more than ten percent of all new steam registries. As in most ports, the screw propeller finally and decisively replaced the paddle wheel, just as it had done in the world's navies several decades earlier. In this instance, perhaps more so than for steam tonnage

---

33

Bruce "Developments in Marine Practice", 68; Brock and Greenhill, *Steam and Sail*, 14; Rowland *Steam at Sea*, 96-100; and Andrew Lambert, *The Last Sailing Battlefleet: Maintaining Naval Mastery 1815-1850* (London, 1991). On the politics of the adoption of the screw propeller by the Royal Navy, see Basil Greenhill and Ann Giffard, *Steam, Politics and Patronage: The Transformation of the Royal Navy 1815-54* (London, 1994).

generally, Liverpool is as a good example of the conservatism noted by Graeme Bruce.[34]

.....

Having now explored the physical features of the Liverpool fleet, we will examine the sources of this capital; that is, from where did Liverpool investors acquire their vessels? Again, the notions of comparative advantage and flexibility should be kept in mind. A theme throughout the thesis is that one source of comparative advantage emanated from the investor's information networks, as Gordon Boyce demonstrates. When purchasing tonnage having an "insider's edge" could be very important. It made perfect sense for a shipowner to buy tonnage locally where he might be well placed to pick up the best deals and to have the greatest insight into the builders with whom he was dealing (an example of the kind of trust relationship Graeme Milne explores).[35] As shipbuilding declined on Merseyside over the course of the nineteenth century local buyers naturally turned to new sources of supply. Even here, however, they did not stray too far afield, most frequently purchasing from builders in the northeast of England. Others important sources of tonnage were also linked to the port, especially via trade ties. As technology and North Atlantic trade patterns altered over the period 1820 to 1889 so too did Liverpool investors' buying patterns. Again, they adopted a survival strategy based on flexibility. As will be demonstrated, from buying many Canadian wooden bottoms prior to mid-century, Liverpool shipowners graduated to the

---

34

BT 107/108, Liverpool Vessel Registries, various years. Regarding the conservatism of Liverpool investors, the same might be said for Liverpool shipowners' long retention of the auxiliary steamer.

35

This trait was common to many ports including London and the Atlantic Canadian ports studied by the ACSP (see below).

metal steamers so associated with yards on the Clyde, northern England and major Ulster builders like Harland & Wolff.

In fact, examination of the Board of Trade Registries indicates that Liverpool tonnage came from many locales, including the United States, Germany, Australia and India. In the 1820s, in particular, a number of vessels were listed as "prizes," usually tonnage originally captured during the recent Napoleonic Wars or from the Americans in the War of 1812.[36] These craft reached their peak in the 1820s when they comprised just over four percent of new registries in Liverpool, both in numeric and tonnage terms. The timing here was not surprising, as the capture of prizes was most important up to 1815 and declined once peace was restored. By the 1830s prizes represented only two percent of all new registries in the port measured by tonnage and even less in terms of the actual number of vessels registered. Prizes and foreign-built tonnage were not especially significant in terms of newly-

---

36

There are innumerable works on the naval aspects of the Napoleonic wars, especially events surrounding its most famous naval personality, Lord Nelson. See, for example, Lord Charles Beresford and W. H. Wilson, *Nelson and His Times* (London, 1897); Tom Pocock, *Horatio Nelson* (London, 1987); Andrew Lambert, *Nelson : Britannia's God of War* (London, 2004); David Davies, *Fighting Ships* (London, 1996); and Nathan Miller, *Broadsides. The Age of Fighting Sail, 1775-1815* (Edison, NJ, 2005). There are also numerous sources on the naval war of 1812. See Michael Blumenthal, *et al.*, *The Frigates* (Alexandria, VA, 1979); and Robert Malcomson, *Lords of the Lake: The Naval War on Lake Ontario, 1812-1814* (Toronto, 1998). The War of 1812 was the last in which privately outfitted vessels of war, like the Liverpool-sponsored *Black Joke*, played a major role. A good scholarly look at these craft and the capture of prizes is Faye Margaret Kert, *Prize and Prejudice: Privateering and Naval Prize in the War of 1812* (St. John's, NL, 1997); and Kert, "The Fortunes of War: Commercial Warfare and Maritime Risk in the War of 1812," *The Northern Mariner/Le Marin du Nord*, VIII, No. 4 (October 1998), 1-16. See also Harold Horwood and Ed Butts, *Bandits and Privateers: Canada in the Age of Gunpowder* (Halifax, NS, 1987). The naval portion of this war is often viewed as a complete victory for the American Navy. The Americans were, in fact, quite successful in ship-to-ship frigate actions and won a number of crucial lake battles during the war. The Royal Navy, while chastised to a degree by these engagements, was still able to practically strangle American seaborne commerce from 1812-1815, and Anglo-Canadian privateers captured about four times as many American vessels as were taken by their opponents. Horwood and Butts, *Bandits and Privateers*, 72. On privateering generally see David J. Starkey, E.S. van Eyck van Heslinga and J.A. de Moor (eds.), *Pirates and Privateers : New Perspectives on the War on Trade in the Eighteenth and Nineteenth Centuries* (Exeter, 1997).

registered vessels in Liverpool, however.[37]

The only slight exception to this generalization was the United States and this only in the years surrounding the American Civil War. In the early years of the nineteenth century America emerged as a powerful maritime rival to Britain, but by the third-quarter of the century its vessels were largely absent from deep-sea trades, although not from its own coastal and inland waterways. The Civil War impacted the US merchant marine severely, not only through the depredations of Confederate commerce raiders but also through a transfer of tonnage to the neutral British register. It is perhaps no coincidence that in the 1860s sample years American-built tonnage comprised almost six percent of all new registries at Liverpool and over seven percent in tonnage terms. Overall, American craft accounted for just two percent of all vessels newly-registered at Liverpool from 1820 to 1889, and only just over this mark when measured by tonnage.[38]

37

BT 107/108, Liverpool Vessel Registries, various years. All figures in this section exclude the 1850s sample years due to the problems of tonnage measurement in the transitional year 1855. See Appendix One. After the 1820s prizes, when they did appear, were just as likely to be court prizes, usually those seized while engaged in the slave trade – which was illegal from the early nineteenth century – with sanctions being vigorously enforced by the Royal Navy. An example here is the 335-ton brig *Formidable*, registered in Liverpool in 1835. The vessel was condemned by the British and Spanish Court of Mixed Commission at Sierra Leone "for breach of the laws for the prevention of the slave trade." BT 107, Liverpool Vessel Registries, 1835. See Christopher Lloyd, *The Navy and the Slave Trade: the Suppression of the African Slave Trade in the Nineteenth Century* (London, 1968); William E.F. Ward, *The Royal Navy and the Slavers: the Suppression of the Atlantic Slave Trade* (New York, 1970) and David Eltis, *Economic Growth and the Ending of the Transatlantic Slave Trade* (New York, 1987). My MA thesis looked at tonnage origins for Maryport (for coasters) and, in broad terms, the findings were similar that in Liverpool. See Clarke, "Coastwise from Cumberland: The Maryport Coasting Trade, 1850-1889" (M.A. thesis, Memorial University of Newfoundland, 1998).

38

BT 107/108, Liverpool Vessel Registries, various years. See also David G. Surdam, *Northern Naval Superiority and the Economics of the American Civil War* (Columbia, SC, 2001); and Neil Ashcroft, "British Trade with the Confederacy and the Effectiveness of Union Maritime Strategy during the Civil War," *International Journal of Maritime History*, X, No. 2 (December 1998), 155-176. Vessel transfers in the sample year 1860 were obviously not affected by the Civil War directly, although it is likely that certain American vessel owners were prescient enough to see that trouble was in the making. Since the years 1861-1864 were not included as part of

Given the paucity of foreign tonnage entering the Liverpool market, sources of origin must have been either domestic or colonial; this was, in fact, exactly the case. In all, over the span of thirteen sample years from 1820 through 1889 – excluding the 1850s samples – overall gross investment at Liverpool amounted to 2,032 vessels totalling 1,299,028 tons. Of these vessels a full 92.9 percent of registries originated either in the British Isles or in Canada.[39] (In tonnage terms these craft made up ninety-five percent of new-registrations). British-built vessels appearing on Liverpool registry for the first time might come from any part of the UK, but as one might expect, the majority came from areas closest to the port, including western Scotland and a number of locales in eastern Ireland (Ireland then being a political unit of the United Kingdom) that were within Liverpool's short-sea trading sphere. Appendix Two illustrates the relative importance of areas of origin as a percentage of newly-registered shipping in the port from the 1820s through to 1889, both in terms of numbers and tonnage. For our purposes Appendix Two breaks England up into four vessel origin regions, loosely mirroring those used by Simon Ville and his collaborators in their

---

my sample it is likely that the amount of American tonnage transferred to Liverpool in the 1860s is an under-representation. It was a policy of the post-war US Congress not to allow such "traitorous" vessels back in after 1865. See Andrew Gibson and Arthur Donovan, *The Abandoned Ocean : a History of United States Maritime Policy* (Columbia, SC, 2001) and David H. Bess and Martin T. Farris, *US Maritime Policy: History and Prospects* (New York, 1981).

39

For general surveys of the transfer of British North America-built vessels to Liverpool, see Lewis R. Fischer, "A Bridge Across the Water: Liverpool Shipbrokers and the Transfer of Eastern Canadian Sailing Vessels, 1855-1880," *The Northern Mariner/Le Marin du Nord,* III (1993), 49-59; Richard Rice, "Shipbuilding in British America, 1787-1890: An Introductory Study" (PhD thesis, University of Liverpool, 1977); and Rice, "Measuring British Dominance of Shipbuilding in the Maritimes, 1787-1890," in Keith Matthews and Gerald Panting (eds.), *Ships and Shipbuilding in the North Atlantic Region* (St. John's, NL, 1978), 109-155. All told 524 vessels were newly-registered at Liverpool in the 1850s. In 1850 this represented 80,822 tons as calculated under the old method of measurement. In 1855 70,339 tons were registered under this system, along with 85,372 register tons later in the year.

collection of essays on British shipbuilding.[40] The Northwest of England was represented by the old counties of Cumberland, Lancashire and Cheshire, along with the Isle of Man. Northeast England comprised Northumberland, Durham and Yorkshire. Vessels registered at Liverpool from Southwest England came from the counties of Cornwall, Devon, Dorset, Gloucester, Hampshire and Somerset. The Southeast largely represented registries originating in London and the home counties, along with counties such as Norfolk, Suffolk and Lincoln, plus the Channel Islands.[41]

Of these four regions, it was very much northern-built tonnage that dominated Liverpool's new registrations. From 1820 to 1889 about forty-eight percent of Liverpool's newly-registered vessels originated in northern England, with the numbers only slightly smaller as measured by tonnage. In terms of sample years, this represented almost 1,000 vessels of more than 600,000 tons. The regional dominance of the North reached its peak in the 1880s samples when over sixty percent of gross investment at Liverpool was comprised of northern English-built vessels. Tonnage figures were marginally less impressive but still stood at about fifty-four percent. Indeed, if one studies a map of northern Britain, the places of origin for most of Liverpool's British-built fleet radiate outward from Liverpool like the spokes of a wheel, forming a kind of hinterland for the production of shipping for the metropole. This analogy should not be carried too far, however, since

---

40

Simon Ville, (ed.), *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach* (St. John's, NL, 1993).

41

BT 107/108, Liverpool Vessel Registries, various years. Of all England's northern counties only Westmoreland, with the shortest coastline of the Northwest counties, provided no tonnage to the Liverpool register.

Liverpool was not the only market for tonnage from these places. Nevertheless, it is an apt generalization.[42]

Of the northern counties, Lancashire itself was generally the most important source of tonnage for the Liverpool registry. The county provided about thirty-two percent of all northern English craft newly-registered at Liverpool in the sampled years from 1820 to 1889. Measured by tonnage, this amounted to 31.8 percent of northern English builds – almost 200,000 tons all told. Durham, on the east coast, was also significant. Its vessel numbers and tonnages, as a percentage of northern output were 22.6 and 39.7, respectively. Although less important than Lancashire in terms of numeric output, Durham builders were obviously selling larger craft to Liverpool buyers, on average, than were shipyards in the port's own county. To the south of Liverpool (with Birkenhead essentially comprising part of its larger port system), Cheshire was also an important vessel emporium for Liverpool shipowners. In absolute terms Cheshire shipbuilders provided Liverpool with a greater percentage of new bottoms in the sampled years than did Durham. In the Cheshire case the disparity between numbers and tonnages was even greater than in Durham, although in the opposite direction.

42

BT 107/108, Liverpool Vessel Registries, various years. Throughout the study period southern England supplied Liverpool with about six percent of all newly-registered vessels. In tonnage terms its contribution stood at only 4.1 percent. A high point in terms of Liverpool registrations came in the 1830s and 1840s when around ten percent of new registries in the port came from southern England. For a good discussion of southern England's shipbuilding see David J. Starkey, "The Shipbuilding Industry of Southwest England, 1790-1913," in Ville (ed.), *Shipbuilding*, 75-110; and Sarah Palmer, "Shipbuilding in Southeast England, 1800-1913," in Ville (ed.), *Shipbuilding*, 45-74. Registration figures for Liverpool reflect Starkey's contention that Southwest shipbuilding seriously contracted later in the nineteenth century. They also fit well with Palmer's overall assessment of Southeast England as a shipbuilding region in decline – in the case of London from the late 1860s on. See also Starkey, "Devon's Shipbuilding Industry, 1786-1970," in Michael Duffy et al (eds.), *The New Maritime History of Devon* (2 vols., London, 1992); Philip Banbury, *Shipbuilders of the Thames and Medway* (Newton Abbot, 1971); Michael Bouquet, *Southeastern Sail from the Medway to the Solent 1840-1940* (Newton Abbot, 1972); and Adrian B. Rance, *Shipbuilding in Victorian Southampton* (Southampton, 1981).

Despite providing Liverpool with twenty-eight percent of its northern-built vessels, in tonnage terms this amounted to less than nine percent of gross investment. This seeming incongruity is explained by a specialization in small craft. In the 1880s sample years, for example, of seventy-seven vessels newly registered at Liverpool from Cheshire, fifty were flats. Based mainly at Northwich, Winsford, Birkenhead and Seacombe, Chester's builders produced vessels that were, on average, less than eighty tons each; this at a time when the average new vessel registered at Liverpool was larger than ever before.[43]

Although seldom supplying an absolute majority of the port's new tonnage, a significant proportion of Liverpool's gross investment originated in northern England. There is a logic in the geographical pattern. Simon Ville feels that buying locally had certain advantages to the perspective shipowner. Although Ville's argument is concerned more with a local market in a narrow sense, it might also be applied in part to Liverpool's regional market. When vessels were purchased or commissioned in an investor's own locale the owner was in a better position to oversee construction and to prevent the unreasonable extension of delivery schedules (again we return to the idea of a comparative advantage being conferred via one's place of residence). Before the onset of steam and metal, in particular, the industry was very much craft-based, which increased the need for supervision. As Ville remarks, "the owner who bought locally was also able to observe changes in technology and to take advantage of bargains. Personal relationships with local builders

---

43

BT 107/108, Liverpool Vessel Registries, various years. Other vessels types produced in Cheshire included cutters, schooners, ketchs and sloops, along with a number of small auxiliary steamers. Cumberland, Northumberland and Yorkshire were less important as sources of tonnage in Liverpool, but combined still added 144 vessels (112,882 tons) to Liverpool's registry over the sample years, excluding the 1850s.

through regular orders also led to discounted prices, extended credit and other benefits."[44]

Such considerations aside, northern England was a natural supply area for British shipowners generally, even if those farther afield lacked the advantages of local knowledge. The Northeast was the nation's most prolific shipbuilding region in the Victorian era. By the outbreak of World War I Northeast England accounted for more than half of all Britain's tonnage output. The main centres of this thriving industry were Newcastle and Sunderland, on the Tyne and Wear rivers, with locales like South Shields also of some importance. Thus, it is hardly surprising that Durham dominated new registries at Liverpool – at least those originating in the Northeast. Prior to mid-century most regional output was produced for a purely local market. By the second half of the nineteenth century, however, local demand lagged behind output and new markets had to be found. Liverpool became a major customer at the time. In fact, prior to mid-century the Northeast never supplied much more than ten percent of all new vessels/tonnage on the Liverpool register. In the 1860s through 1880s sample years, however, the region provided Liverpool with nearly twenty percent of all new vessels, accounting for 23.5 percent of gross tonnage investment. As a percentage share the northeastern contribution to the Liverpool register grew in each decade from the 1860s onward. Companies like Hawthorn-Leslie became associated with Liverpool's Holts and Rathbones, while Sunderland's William Doxford and Sons, and South Shield's John

---

44

Simon Ville, "Shipbuilding in the Northeast of England in the Nineteenth Century," in Simon Ville (ed.), *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach* (St. John's, NL, 1993), 15.

Readhead and Company, were also important suppliers of tonnage to Liverpool.[45]

Liverpool's home region, the Northwest, remained an important supplier of tonnage throughout the years 1820-1889, although its high-water mark in terms of new registries was in the 1830s when more than forty percent of all new vessels originated in the region. According to Frank Neal, a striking feature of northwestern shipbuilding was its decline over time, especially on Merseyside. Although having the comparative advantage of proximity to sources and production of iron, local shipbuilding does not seem to have been a long-term success. In the case of Liverpool – unlike what the ACSP found for Atlantic Canada – this was not based on a failure to adopt metal construction techniques. Instead, Liverpool shipyards were plagued by having little local influence compared to shipowners and traders when all were competing for scarce land resources. A good example of the impact this had on local shipbuilders is Thomas Bland Royden (b. 1831). By the 1840s the Royden yard, under Thomas Bland's father, was Liverpool's largest producer of tonnage, and in the 1870s sample years contributed 12,737 tons to the Liverpool registry. In the late nineteenth century Bland closed his yard when it appeared likely the Mersey Docks and Harbour Board would requisition its space for a dock extension. From that point Sir Thomas, by then a Baronet, concentrated on running his own tonnage, the "Indra" line of steamers. Royden's experience

---

45

BT 107/108, Liverpool Vessel Registries, various years; and Ville, "Shipbuilding in the Northeast of England," 2. See also David Dougan, *The History of Northeast Shipbuilding* (London, 1968); G.B. Hunter and E.W. DeRusett, "Sixty Years of Merchant Shipbuilding on the North-East Coast," *Transactions of the Institute of Engineers and Shipbuilders in Scotland*, LII (1909), 323-346; J.F. Clarke, *Building Ships on the North East Coast. A Labour of Love, Risk and Pain* (Whitley Bay, 1997). On Sunderland see Ville, "Shipping in the Port of Sunderland 1815-45: A Counter-cyclical Trend," *Business History*, XXXII, No. 1 (1990), 32-51. On Doxford's and John Readhead see Leonard Gray, *The Doxford Turret Ships* (Kendal, 1975); and *John Readhead & Sons Ltd., South Shields, 1865-1965* (South Shields, 1965).

was probably not atypical. Following the 1820s, Liverpool builders never accounted for more than twenty percent of new tonnage appearing on the port's register. In the 1860s and 1880s in particular, this proportion fell to less than ten percent. In the national context, northwestern shipbuilding was marked by its small scale. Despite this, the regional contribution to Liverpool's gross investment remained healthy through to 1889. In fact, northwestern shipyards provided more than thirty percent of Liverpool's newly-registered tonnage in the 1870s and 1880s samples (twenty-two percent in tonnage terms).[46]

Apart from England itself, the contribution of other parts of the UK to the Liverpool registry was less important, although Scottish tonnage made significant inroads as a source of new tonnage in Liverpool from the third quarter of the nineteenth century onward.[47] In the

---

46

BT 107/108, Liverpool Vessel Registries, various years; Frank Neal, "Shipbuilding in the Northwest of England in the Nineteenth Century," in Ville (ed.), *Shipbuilding*, 113-114, 117-121 and 133-136; and B. Guiness Orchard, *Liverpool's Legion of Honour* (Birkenhead, 1893), 602-603 . See also Ernest Royden, *Thomas Royden & Sons. Shipbuilders, Liverpool 1818-1893* (Liverpool, 1953). Royden's yard was not the only significant local shipyard. Across the Mersey at Birkenhead Cammell Laird emerged as an important builder late in the nineteenth century, and were most closely associated with warships, of which forty-six were produced in the 1890s. Anon., *Builders of Great Ships. Cammell Laird & Company* (Birkenhead, 1959), 34. On the land issue at Liverpool refer to Adrian Jarvis, "Land Policies in the Port of Liverpool, 1857-1930," *International Journal of Maritime History*, XIV, No. 1 (June 2002), 115-133.

47

Despite its close proximity to, and close connections with, Liverpool, Welsh tonnage did not make a significant contribution to the port's register books, never surpassing two percent of all new registries and/or tonnage. Irish shipyards were somewhat more important, especially in the later sample years. By the 1880s 6.7 percent of all new registries at Liverpool came from Ireland, or 12.7 percent in tonnage terms. Although cities like Dublin encouraged shipbuilding, most of the craft sold to Liverpool came from Belfast in Ulster. The main impetus for this tie was the Harland & Wolff yard which had close connections to John Bibby and Company through Bibby partner (and uncle of Gustav Wilhelm Wolff) Gustav Schwabe. Schwabe also had interests in the Oceanic Steam Navigation Company and the Asiatic Steam Navigation Company. From 1859 to 1899 these two companies, along with Bibby's, accounted for well over eighty percent of all Harland & Wolff's contracts. Of the rump that remained, a significant proportion of contracts after 1879 were placed by Thos. & Jno. Brocklebanks, the subject of Chapter Five. Michael S. Moss, "Shipbuilding in Ireland in the Nineteenth Century," in Ville (ed.), *Shipbuilding*, 180-185; and Moss and John R. Hume, *Shipbuilders to the World – 125 Years of Harland and Wolff, Belfast, 1861-1986* (Belfast, 1986), 506-565. The other major Belfast builder was Workman Clark and Company, founded 1880. Workman Clark concentrated on building general cargo vessels, rather than the

1820s and 1830s Scots-built vessels did not comprise a significant proportion of Liverpool shipowners' gross investment. All told their vessels made up less than five percent of new registrations at Liverpool in these sample years. Tonnage figures were even lower. By mid-century the numbers were up to just over nine percent of all gross investment, with the tonnage share standing at eleven percent in the 1860s samples. The real increase came from the 1870s on, when Scottish bottoms (numerically and by tonnage) contributed about one-sixth to one-quarter of Liverpool's new vessels.[48]

Early in the nineteenth century total Scottish tonnage output was less than on the Tyne, with much of this activity centred on the east coast. After 1830, however, this shifted to the Clyde, which became the world's most productive shipbuilding river by 1914. Cities like Greenock and Glasgow were for many years synonymous with shipbuilding. Clydeside was a hotbed of innovation in the nineteenth century, with iron replacing wood as a building material by the 1850s, and steel supplanting iron in the 1870s. Steam technology was also important to regional development and in fostering ties to Liverpool. In 1854 Liverpool's Pacific Steam Navigation Company became one of the first shipowning concerns to adopt Charles Randolph and John Elder's new marine compound expansion engine. Typical of

---

"upscale" tonnage of Harland & Wolff. Workman Clark was also much less reliant on family-linked contracts than their rivals. See *Workman and Clark (1928) Ltd., Shipbuilding at Belfast* (Belfast, 1934). A more recent examination of the firm is Andrew Armitage, "Shipbuilding at Belfast: Workman Clark and Company, 1880-1935," in Fischer (ed.), *From Wheel House to Counting House*, 97-124. Another modern account (though not focussing exclusively on shipbuilding) can be found in Liam Kennedy and P. Ollerenshaw, *An Economic History of Ulster 1820-1939* (Manchester, 1985). On shipbuilding at Dublin see John Smellie, *Shipbuilding and Repairing in Dublin. A Record of Work Carried out by the Dublin Dockyard Co. 1901-1923* (Glasgow, 1923).

48

BT 107/108, Liverpool Vessel Registries, various years.

many Clydeside shipyards, the Gourlay firm of Dundee was quick to seize upon the new steam technology, as well as the screw propeller. Metal sail tonnage also enjoyed a brief resurgence on the Clyde during the 1870s through the early 1890s, and Liverpool shipowners invested in both this type of vessel and Clyde-built steamers.[49]

To a large extent Scotland and northern England were, if not precisely local, at least a *regional* source of tonnage for Liverpool. The only really important place of origin for craft built outside Britain was British North America (after 1867, the Dominion of Canada). From the 1820s through the 1870s tonnage from the Atlantic colonies and Québec comprised from just under twenty to about thirty-five percent of all new registries in Liverpool. In tonnage terms, Canadian builds were almost as important overall, and represented over half of Liverpool's gross investment in the 1840s sample years. Much of the trade in Canadian vessels was, in fact, connected with the timber trade from Atlantic Canada and Quebec.[50] Although Europeans had been visiting North America for more than two hundred years to

---

49

Anthony Slaven, "Shipbuilding in Nineteenth-Century Scotland," in Ville (ed.), *Shipbuilding*, 153-161 and 164-165; and S.G.E. Lythe, *Gourlays of Dundee. The Rise and Fall of a Scottish Shipbuilding Firm* (Dundee, 1964), 7-8 and 10. See also J. Forbes Munro and Tony Slaven, "Networks and Markets in Clyde Shipping: The Donaldsons and the Hogarths, 1870-1939," *Business History*, XLIII, No. 2 (2001), 19-50; Anon., *Two Centuries of Shipbuilding by the Scots at Greenock* (London, 1906); Brian D. Osbourne, Iain Quinn and Donald Robertson, *Glasgow's River* (Glasgow, 1996); Anon., *The Development of Shipbuilding on the Upper Reaches of the Clyde: Messrs Barklay Curle & Co. Ltd.* (?, 1911); and Ian Johnston, *Beardmore Built: The Rise and Fall of a Clydeside Shipyard* (Clydebank, 1993). Technological innovation was not typical of Scotland generally. Areas like Aberdeen and the northeast continued to produce almost half their tonnage in wood and about as much in sail. For a discussion of eastern Scottish shipbuilding see Gordon Jackson, *The Trade and Shipping of Dundee, 1750-1850* (Dundee, 1991).

50

BT 107/108, Liverpool Vessel Registries, various years. The trade continued into the twentieth century. On the history of the timber trade, see, for example, Robert G. Albion, *Forests and Sea Power: The Timber Problems of the Royal Navy, 1652-1862* (Cambridge, MA, 1926); Arthur R.M. Lower, *Great Britain's Woodyard: British America and the Timber Trade, 1763-1867* (Montréal, 1973); and Graeme Wynn, *Timber Colony: A Historical Geography of Early Nineteenth Century New Brunswick* (Toronto, 1981).

fish and trade, most trans-Atlantic tonnage was still European-built as late as the early eighteenth century.[51] Atlantic Canadian shipbuilding remained a small-scale activity, and the number of vessels owned in the Maritimes was only about 300 by the late eighteenth century. The first wave of building activity in the region was spurred by the immigration of American Loyalists and others, along with increased coasting and the staple trade in fish. Colonial builders were also aided by a 1786 law that limited the ability to place vessels on British registry to those constructed in Britain or in the empire. In the early nineteenth century, however, shipbuilding experienced its first major growth period accompanying the expansion of the region's timber trade. The British authorities encouraged the trade by the use of bounties, subsidies and reduced duties after Napoleon's Continental System threatened to cut off the nation's traditional wood supplies from the Baltic.[52] With the breakdown of the Continental System, Britain soon resumed its Baltic timber trade but resolved never again to become dependant on outside sources of timber. Tariffs on colonial wood were shelved, while those on Baltic products were increased. As the Maritime and

---

51

Most shipbuilding in North America prior to the American Revolution took place in the colonies that later became part of the United States. See John J. McCusker, "The Rise of the Shipping Industry in Colonial America," in Kilmarx (ed.), *America 's Maritime Legacy*, 1-23; Joseph A. Goldenberg, *Shipbuilding in Colonial America* (Charlottesville, VA, 1976); and James F. Shepherd and Gary M. Walton, *Shipping, Maritime Trade, and the Economic Development of Colonial North America* (Cambridge, 1972).

52

Eric W. Sager and Lewis R. Fischer, *Shipping and Shipbuilding in Atlantic Canada, 1820-1914* (Ottawa, 1986), 5. The Continental System was an attempt by Napoleon to use economic warfare against the British. In effect from 1806 to 1813, the idea was to destroy Britain's all- important trade networks by denying the country access to its European trading partners. Although the system did indirectly help touch off the War of 1812 with America, it was eventually brought down by British naval supremacy. See J.P. Kenyon (ed.), *The Wordsworth Dictionary of British History* (Ware, Hertfordshire, 1996), 91; Geoffrey Ellis, *The Napoleonic Empire* (2nd ed., New York, 2003); and Frank Edgar Melvin, *Napoleon 's Navigation System: A Study of Trade Control during the Continental Blockade* (New York, 1970).

Québec timber trades expanded, so did regional shipbuilding. Being a bulky commodity, timber needed fairly large vessels for transport, and during the Napoleonic wars British output did not keep up with the timber industry's demand.[53]

Shipyards in British North America were frequently established by men with connections to the timber trade – in the early years these were normally persons with business ties in Britain. A good example of a Liverpool firm in this context was Rankin, Gilmour and Company, which originated as Pollock, Gilmour and Company in Glasgow. Founded in 1804 by two brothers, John and Arthur Pollock and their boyhood friend, Allan Gilmour Sr., the firm began its connection to the timber trade in the Baltic, later moving into the New Brunswick timber trade.[54] Many of the products of shipyards in the Maritimes and

---

53

Sager and Fischer, *Shipping and Shipbuilding*, 5; Frederick William Wallace, *Wooden Ships and Iron Men: The Story of the Square-rigged Merchant Marine of British North America, the Ships, their Builders and Owners, and the Men Who Sailed Them* (Boston, 1937); Eileen Reid Marcil, *The Charley-Man: A History of Wooden Shipbuilding at Quebec 1763-1893* (Montréal, 1995), 39-42; Bradley T. Shoebottom, "The Shipbuilding Career of Gaius S. Turner of Harvey Bank, NB, 1874-1892," *The Northern Mariner/Le Marin du nord*, X, No. 3 (July 2000), 15-48; A. Gregg Finley, "The Morans of St. Martins, NB, 1850-1880: Toward an Understanding of Family Participation in Maritime Enterprise," in Lewis R. Fischer and Eric W. Sager (eds.), *The Enterprising Canadians: Entrepreneurs and Economic Development in Eastern Canada, 1820-1914* (St. John's, 1979), 35-54; Esther Clark Wright, *Saint John Ships and Their Builders* (Wolfville, NS, 1976); Louise Manny, *Ships of Miramichi: A History of Shipbuilding on the Miramichi River, New Brunswick, Canada, 1773-1919* (Saint John, NB, 1960); Basil Greenhill and Ann Giffard, *Westcountrymen in Prince Edward's Isle: A Fragment of the Great Migration* (Toronto, 1967); Nicolas J. de Jong and Marven E. Moore, *Shipbuilding on Prince Edward Island: Enterprise in a Maritime Setting, 1787-1920* (Hull, QC, 1994); Wayne M. O'Leary, The Tancook Schooners: An Island and Its Boats (Montréal, 1994); Stanley T. Spicer, *Sails of Fundy: The Schooners and Square-riggers of the Parrsboro Shore* (Hantsport, NS, 1984); Spicer, *Masters of Sail: The Era of Square-rigged Vessels in the Maritime Provinces* (2nd ed., Halifax, 1981); John P. Parker, *Ships and Men: The Golden Age of Wooden Ships in Cape Breton Island* (Wreck Cove, NS, 2003); and Parker, *Cape Breton Ships and Men* (Aylesbury, 1967).

54

Sager, with Panting, *Maritime Capital*, 5-6; and John Rankin, *A History of Our Firm: Being Some Account of the Firm of Pollock, Gilmour and Co. And its Offshoots and Connections* (Liverpool, 1908), 10 and 19-27. As early as 1824 Pollock, Gilmour's own fleet consisted of seventy-eight vessels, the largest being about 700 tons. By the 1830s the company shipped as many as 500 cargoes per season. Its first iron vessel, the *Saint Mungo*, was built in 1865, and the company eventually owned ten iron sailing craft. By 1880, however, it made the

Québec, such as those operated by Rankin, Gilmour, ended up on the Liverpool registry. This was not surprising given the port's close connection to the colonial timber trade. Timber, along with corn, comprised a large portion of Liverpool's trade as early as the sixteenth century, when much of the product was coastal. Liverpool began to import foreign timber in the eighteenth century and was soon Britain's most important west coast timber port, due largely to its supplies of salt for outward cargoes. In the early nineteenth century North American timber remained fairly unimportant as an import, comprising less than one percent of total imports in the first decade of the century; east coast ports, like Hull, closer to the Continental sources of supply, were better locales. With the great expansion in colonial timber exports during and after the Napoleonic wars, Liverpool was well placed to supplant the eastern ports as the centre of Britain's timber imports. Indeed, in the thirty years after 1820 imports of North American timber into Liverpool almost tripled, rising from 73,781 to 203,683 tons. For much of the nineteenth century Liverpool was one of Britain's main timber import centres, with volumes consistently higher than those of London. In fact, in 1850 Liverpool's timber imports comprised more than ten percent of the national total, an astonishing figure considering that ports all along the United Kingdom's west coast imported Canadian wood for local use and that the city imported almost no wood from anywhere else. For most years up to mid-century timber was second only to American cotton among Liverpool's merchandise imports. (For the quantities of timber – Canadian and other

---

switch to steam. Basil Lubbock, *The Last of the Windjammers* (Glasgow, 1975), 78-79.

– imported into Britain generally, see Appendix Three).[55]

The bulk of this chapter has been concerned with vessels, specifically the nature of Liverpool's steam fleet and the origins of all new tonnage appearing on the register, rather than with trades. Nonetheless, in the case of Canadian vessels the ties between the industry and the market for tonnage was sufficiently strong to warrant the discussion above. As we have observed, it was the rise in the timber export trade from both the Maritimes and Québec that provided the impetus for an increase in local shipbuilding. The industry also provided the mechanism by which much Canadian tonnage appeared on the Liverpool registry, especially around mid-century. Following the end of the Napoleonic wars, the British market for tonnage revived and the North American colonies, with their large stands of timber and a protected imperial market, were well placed to benefit. Up to 1850 about half of all shipping tonnage produced in the Maritimes ended up on the British register. Richard Rice feels this dominance may have been even more marked. In the years 1809-1864, he contends, a minimum of three out of five to a maximum of four out of five tons of shipping produced in the Maritimes went to the British market. Many timber merchants trading to Britain became short-term shipowners, and in fact timber, as a bulk commodity, was one of the most suitable trades in which to combine the roles of exporter and merchant.

55

David M. Williams, "Merchanting in the First Half of the Nineteenth Century: The Liverpool Timber Trade," *Business History*, VIII (1966), 104-105; and Williams, "Bulk Trades and the Development of the Port of Liverpool in the First Half of the Nineteenth Century," in Burton (ed.), *Liverpool Shipping, Trade and Industry. Essays on the Maritime History of Merseyside 1780-1860* (Liverpool, 1989), 12-13. See also *BPP*, 1835, XIX, Report from the Select Committee on Timber Duties, q. 11. For a concise contemporary account of the timber trade in the mid-Victorian period, see J. R. McCulloch, *A Dictionary, Practical, Theoretical and Historical of Commerce and Commercial Navigation* (London, 1853), 1304-1311.

The sellers were most interested in marketing their product and found that owning tonnage helped to reduce costs. In periods when vessel prices were high these merchants found they could add to their earnings on a voyage by simply selling the container (the vessel) along with its cargo when the craft docked at Liverpool. The accepted contemporary wisdom was that much of Liverpool's timber tonnage was old and unfit for any other trade. Some old vessels were certainly used, but the Canadian bottoms, so important in the context of timber imports, were often quite new. The tonnage sold at Liverpool after the cargo was discharged frequently had been newly-built in Québec or the Maritimes. In certain years, more than seventy-two percent of newly-registered tonnage imported from British North America had been launched either in the year it was registered at the port or the previous one.[56]

56

Sager and Fischer, *Shipping and Shipbuilding*, 6; Williams, "Merchanting," 112-114; Rice, "Measuring British Dominance of Shipbuilding in the 'Maritimes,'" 142-143; and BT 107/108, Liverpool Vessel Registries, various years. British buyers appear to have been interested in all types of Canadian craft from East Indiamen down to small timber droghers. Rice, "Measuring British Dominance,"145. See also Rice, "Shipbuilding in British America." Naturally not all Canadian tonnage appearing on the Liverpool register would have been a direct product of the timber trade. Still, it was undoubtably the most important mechanism in encouraging sales of such tonnage. See Fischer, "Bridge Across the Water," 49-59. As Appendix Two shows, Canadian-built tonnage declined precipitously as a proportion of new registries at Liverpool in the 1870s and 1880s sample years. By this period Liverpool owners were investing more heavily in steamers (especially auxiliaries) and metal sailing vessels – a change Atlantic Canadian yards in general never made successfully. Given the importance of the timber trade to Liverpool, we will return to it in our discussion of investors. The decline of Atlantic Canada's shipping industry has long been a source of conjecture for maritime historians. Sager and Fischer, *Shipping and Shipbuilding*, 17, speculate that Canadian merchant shipowners increasingly withdrew their capital from maritime to landward investments (in which they already had a stake) as the nineteenth century progressed. Sager returns to this theme in his work with Panting. Sager, with Panting, *Merchant Capital*, 150-160. They argue (157) that a similar process was at work in the eastern US where shipowners also turned toward landward opportunities despite the potential profits from shipowning. Given the arguments expounded herein, it is interesting that Sager and Panting point toward local information networks, even if flawed, as engendering a sense that Canadian shipping might be doomed with the advent of iron and steam. In other words, "control of information [a vital comparative advantage] was critical." (157). For a discussion of the many investment choices offered to entrepreneurs, in this case British, see Lance E. Davis and Robert A. Huttenback, *Mammon and the Pursuit of Empire. The Political Economy of British Imperialism, 1860-1912* (Cambridge, 1986). Aside from shipping, Davis and Huttenback discuss canals, banking, real estate, railroads and many other investment opportunities. These are examined not only from the domestic perspective but also in terms of imperial and foreign shareholding.

Naturally, *all* of Atlantic Canada's tonnage, whether old or new, was not sold or transferred onto British registry, despite the close ties between the region and ports like Liverpool via the timber trade. From 1820 to 1889 just over thirty-eight percent of all Canadian tonnage produced in the ports of Saint John, Yarmouth, Halifax, Windsor, Miramichi and Pictou were, in fact, transferred to Great Britain and Ireland. Nonetheless, a great deal of tonnage was retained for the local market. Most BNA shipowners, like those in Liverpool, bought tonnage near their homes and usual registry ports. Local investment in Atlantic Canada was, if anything, even more marked than at Liverpool. From 1820-1914 almost fifty-four percent of gross investment at Saint John originated in Saint John County. This tendency was even more pronounced in Yarmouth where over the same period seventy-seven percent of newly-registered tonnage originated in Yarmouth or Digby counties. Fifty percent of Windsor's new tonnage had been built in Hants County. Halifax was something of a different case, not being located within a major shipbuilding area. Still, many Halifax merchants had ties to Fundy Shore builders from whom they bought most of their large tonnage.[57]

57

Sager, with Panting, *Maritime Capital*, 71-77; and Eric W. Sager and Gerald E. Panting, "Staple Economies and the Rise and Decline of the Shipping Industry in Atlantic Canada, 1820-1914," in Fischer and Panting (eds.), *Change and Adaptation*, 7. It is noteworthy that Saint John, the Atlantic Canadian port which most resembled Liverpool in terms of vessel types, and which was one of the Canadian ports most connected to the timber trade, registered a fairly large number of British-built vessels from 1820-1914. There was also some British-built tonnage on the Halifax registry. Given the nature of Anglo-Canadian trade, especially as connected to timber – in which tonnage sales mainly ran from west to east – it is not surprising that such registrations made up a much smaller share of Canadian investment than was the reverse at Liverpool. In the Atlantic Canadian case shipbuilders tended to be a significant grouping among vessel owners in the years 1850-1899, which may also have contributed to local ownership patterns in the region. In a number of the region's major ports shipbuilders habitually registered more new tonnage than those who gave their occupations as mariners, traders, fishermen and farmers, though the gap narrowed over time. (Still, the gross tonnage investment by shipowners, and more especially merchants, was much more significant). Lewis Fischer found a similar situation in the specific case of

Liverpool's situation was roughly akin to Atlantic Canada, at least insofar as shipowners tended to buy their tonnage close to home. From 1820 to 1889, however, the proportion of new Liverpool vessels actually originating in the Northwest of England stood at 33.6 percent in numeric terms – 22.6 percent of new tonnage. In terms of purely local investment this was significant, but lower than in ports like Saint John and Yarmouth. Given that regional shipbuilding was in decline over much of the period, it is not surprising that Liverpudlians, much like their Haligonian counterparts, did the next best thing by buying tonnage in adjacent regions. In Halifax it was the Bay of Fundy; at Liverpool Northeast England (especially the Tyne and Wear) and Clydeside in Scotland, rounded out the port's major suppliers of tonnage – excepting Canada, of course.[58]

Essentially, then, Liverpool's fleet was of local/regional build, or originated in its colonial trading partner, Canada. A tradition of regional construction was a fairly stable feature of Liverpool's fleet from 1820 to 1889. Still, there were some variations as the only important source of tonnage outside Britain, Canada, declined and was replaced to a limited extent by new regional supply areas like Clydeside and parts of Ireland (see Appendix Two). Indeed, as this and the previous chapter demonstrate, change was a hallmark of Liverpool's

---

Prince Edward Island. Again, merchants owned far and away the greatest amount of tonnage, but here followed by farmers. Shipbuilders came in a respectable third, representing 11.5 percent of owners on the island from 1840 to 1889. In the case of shipbuilders, however, gross investment should be used very cautiously as a yardstick. It is quite likely that many builders registered tonnage in the short-term (perhaps employing it themselves, as did Brocklebanks) until a buyer could be found. Fischer noted that almost ninety percent of P.E.I.'s newly-registered tonnage was built and registered on the island, but quickly sold or transferred to other ports. Lewis R. Fischer, "The Port of Prince Edward Island, 1840-1889: A Preliminary Analysis," in Matthews and Panting (eds.), *Ships and Shipbuilding*, 51; and Sager, with Panting, *Maritime Capital*, 148-149.

58

BT 107/108, Liverpool Vessel Registries, various years.

maritime capital from 1820 through 1889, though the pace of such was tempered by business realities. Over these seven decades Liverpool-registered vessels grew larger in aggregate, while those vessel types most associated with blue ocean trades – ships and barques – became increasingly prominent among the port's newly-registered craft. This is not to say that the smaller vessel types most associated with coasting disappeared, but the investment trend was certainly toward larger tonnage intended for long-distance trading, as seen in Table 3.3. As Liverpool's sail craft grew larger the use of metal for hulls and masts became increasingly important. By the 1880s half or more of Liverpool's new sail registrations were constructed of metal (see Graph 3.2). Another important adaptation was the advent of steam power. As Graph 4.1 shows, Liverpool investors did not make any real commitment to steam until the 1850s, and from then through 1889 this was mainly in the form of auxiliaries. Investment in these vessels, normally screw-propelled after 1870, generally increased from the 1860s on, though growth was uneven, reflecting freight rate cycles.

Liverpudlian owners were willing to adopt new technology, but only at their own pace. Perhaps being heavily involved in long-distance trades, where metal-hulled ships outperformed steamers for many years had much to do with this. Liverpool's investors were certainly capable of adapting to changing times but their capital requirements made some conservatism the sensible option. Here the theme of flexibility, or adaptability, must be reiterated. As the BT 107/108 data illustrates, in an era of change Liverpool's investor community showed a definite willingness to "roll with the times," so to speak. By 1889 the port's registered fleet (at least as measured in gross investment terms) was increasingly

comprised of screw-propelled steam tonnage, although, again, most of these vessels were auxiliaries. Still, as long as sail remained competitive on long-distance routes investors continued to invest in large metal sailing ships and barques. Conservative they may have been, but the average Liverpool investor also appeared quite cognisant of the winds of change and the proper time to adapt to such. Having now discussed their fleets in detail we will turn our full attention to these Liverpool shipowners.

Chapter 5

Investors – Ownership and Origins

This chapter and that following will examine Liverpool's investors, bearing in mind the themes of comparative advantage and adaptability. This chapter will explore some of the various ways in which Liverpudlians chose to invest in tonnage and how such changed from 1820 through 1889. In the days before limited liability was common it made sense for a number of persons from many walks of life to invest in vessels, ships being one of the few investments in which one was not liable to their last "shilling and acre." Buying tonnage shares with a number of other investors further spread risks. By the 1870s the pattern changed and companies increasingly became the preferred vehicle for investment. This showed flexibility in terms of investment strategy. Thus, another mechanism for risk spreading created a new comparative advantage – risk still being a major factor in shipowning, despite marine insurance and limited liability – while allowing for more efficient fund-raising in the capital intensive world of steam shipping. As a spin-off of this greater efficiency and the need for more capital resources, Liverpool's ownership pattern tended toward a noticeable concentration of ownership over time. In other words, fewer investors owned a greater share of new tonnage.[1]

A further investment trend, more stable from 1820 to 1889, related to geography. Just as vessels tended to come from (essentially) local sources, so too did most investors in new tonnage at Liverpool make their home in the port or its hinterland. As noted, buying vessels

---

1

As we will see, this statement is not as straightforward as it sounds. A vessel might have a "single" corporate owner, while the company itself likely had a plethora of investors.

from regional suppliers made good use of one's comparative advantage in terms of information. Likewise, being part of a local community with its attendant web of contacts was crucial to Liverpool investors. From 1820 through 1889 the vast majority of tonnage registered in the port was owned by "local" investors, at least in the broad geographical context of North Wales to northwestern England. This residency pattern was often aligned with an occupational connection to the port and maritime trades in general (investors' occupational characteristics forming a major component of Chapter Six). Certain of these trends, especially in regards to residency patterns, were a common investor strategy both in the ports of Atlantic Canada (as studied by the ACSP) and in Liverpool's sister port, London. It is with Sarah Palmer's pioneering study of London shipowners that our discussion will begin.

In 1972 Palmer published a groundbreaking profile of investors in London shipping, one of the first attempts to study a port's shipowning community.[2] While there were previous studies on various aspects of the major British ports, the problem was that they tended to focus largely on the physical development of ports but were less successful in discussing commercial activities.[3] Palmer believed, however, that we needed to know about the people

---

2

Sarah R. Palmer, "Investors in London Shipping, 1820-50," *Maritime History*, II (1972), 46-68.

3

See, for example, *Liverpool and Slavery: An Historical Account of the Liverpool-African Slave trade. Was it the Cause of the Prosperity of the Town?* (Liverpool, 1884); James Touzeau, *The Rise and Progress of Liverpool from 1551 to 1835* (2 vols., Liverpool, 1910); Richard Weatherside, *The Ancient Port of Whitby and its Shipping* (Whitby, 1908); and Charles Wells, *A Short History of the Port of Bristol* (Bristol, 1909). By the time Palmer's article appeared the number of works on British ports was growing considerably, including such scholarly works as H.E.S. Fisher, *Ports and Shipping in the South-West* (Exeter, 1971); Francis Hyde, *Liverpool*

who actually purchased shares in the shipping registered at the port of London. Because of the complexity of both the collection and analysis of the data (not to mention contemporary limitations on computer technology), she was only able to examine shipowning in three years, 1824, 1836 and 1848.[4] In the years since Palmer's article appeared a great deal of work has been done on most of the important and not so important British ports covering almost every period. One study which remains unwritten, however, is the one that Palmer herself envisioned: an in-depth look at the shipping investors at a major British port over an extended period of time.[5]

The importance of viewing Liverpool over a period of several decades is directly related to the vicissitudes of the shipping industry. Like most occupations, shipowning evolved continually as times changed and the needs of the larger society shifted. The British

---

and the Mersey: The Development of a Port 1700-1970 (Newton Abbot, 1971); and Gordon Jackson, *Hull in the Eighteenth Century* (London, 1972).

4

Palmer conducted her study in the days before personal computers which made the manipulation of data extremely difficult. For a fascinating description of the difficulties of manipulating maritime data in the pre-computer days, see Bernard Bailyn and Lotte Bailyn, *Massachusetts Shipping, 1697-1714: A Statistical Study* (Cambridge, MA, 1959). For a discussion of the difference that computers made, 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.

5

There is still a shortage of studies of shipping investors, especially in the UK. Indeed, the only analysis which looks at the investors in a single port over an extended period of time remains Stephanie K. Jones, "A Maritime History of the Port of Whitby, 1700-1914" (PhD thesis, University of London, 1982). Outside Britain there is the work of members of the Atlantic Canada Shipping Project at Memorial University of Newfoundland. As noted, the scope of the ACSP's research makes Atlantic Canada the best candidate for comparison with Liverpool in the context of shipowning. Much of the work of these scholars is cited throughout this thesis, but the results are summarized in Eric W. Sager, with Gerald E. Panting, *Maritime Capital: The Shipping Industry in Atlantic Canada 1820-1914* (Montréal, 1990). There is also a single Norwegian study which looks at investors for the decade of the 1870s in a single port; see Harald Hamre, *Skipsfarten i Stavanger i 1870-åra: en nœæringsøkonomisk undersøkelse* (Stavanger, 1985).

people, occupying some relatively small islands, have long been regarded as a "natural" maritime race; indeed, there has been some form of "proto-English Navy" off and on since at least the time of Alfred the Great. Nonetheless, the modern seafaring people of "Rule Britannia" fame have existed only since the Tudor period, when the first English explorers set out to find and exploit their share of the New World, and Elizabeth's ships defeated the Armada. Even at this point Britain's supremacy at sea was uncertain in the face of foreign rivals like the Dutch and neglect at home, especially under the Stuart monarch, James I. Nonetheless, British merchantmen from this point on were familiar sights on the world's oceans; the modern activity of shipowning had its genesis in this setting. Strangely enough, however, shipowning as a modern profession was almost as late to appear as the engineer.[6]

As Ralph Davis has noted, London was a great seaport as early as the eighteenth century. Contemporary records list an impressive array of maritime-related trades, including shipwrights, ship-brokers and anchorsmiths, which carried out their business by the Thames. Strangely, the shipowner was nowhere to be found. It was not until early in the nineteenth century that anyone considered shipowning, or investing in shipping tonnage, as a trade in its own right. In the London and Liverpool business directories, for example, the term

---

6

See N.A.M. Rodger, *The Safeguard of the Sea: A Naval History of Britain. Vol. I: 660-1649* (London, 1997); and David Howarth, *British Sea Power: How Britain Became Sovereign of the Seas* (London, 2003). Until sometime in the nineteenth century shipowning was viewed by most as an adjunct to merchanting, and most non-mariners who invested in vessels were in fact merchants interested in carrying their own goods.

"shipowner" as an occupation did not even appear until 1815.[7] Those who invested in shipping did so only as an adjunct, often minor, to their primary interests and investments. Most shipowners tended to be merchants, but shipowning itself represented only a limited portion of any man's capital and was treated accordingly. In the seventeenth and eighteenth centuries this was not at all peculiar, and commerce was probably not yet ready for much specialization.[8]

Two forms of business organization were predominant in seventeenth- and eighteenth-century shipowning. One was the individual trader and the other the partnership; in the latter case the partners were generally few enough in number that all could play active roles in the business. In the days before the idea of limited liability caught hold, there were at least more legal protections for investors than in most sectors of the economy. In part this was because the shipping industry operated under Admiralty Law, which centred on the ship rather than the investors. This meant, among other things, that shares could be easily transferred by a bill of sale. The Registration Act of 1786 granted further protection by recording the names, addresses and occupations of investors and giving identifying

---

7

An exception to this rule might be Hull, where at least a few men were calling themselves shipowners in the 1760s; see Jackson, *Hull in the Eighteenth Century*, 140-144.

8

Ralph Davis, *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries* (London, 1962), 81-82; and Simon Ville, *English Shipowning during the Industrial Revolution: Michael Henley and Son, London Shipowners, 1770-1830* (Manchester, 1987), 3.

particulars of the vessel.[9] A typical shipowning concern of the late eighteenth and early nineteenth century might be fairly large, however, often with ten to a dozen members, and its affairs were frequently managed by one or two of their number, or sometimes by a ship's master who might not himself be a partner. In many cases control remained with the person who had initiated the purchase of the vessel and who thereafter offered shares to others.[10] This separation of ownership and management was unusual in the commercial milieu of the day and formed an "important exception to commercial practice in England."[11]

Each vessel was a venture unto itself and investors often liked to "hedge their bets" by purchasing a small number of shares in a large number of vessels, thereby reducing their risk should any one craft meet with disaster. Even in the seventeenth century, when insuring

---

9

Even before the Registration Act, however, there was a Statutory Register that listed many of the same things. See R.C. Jarvis, "Liverpool Statutory Register of British Merchant Ships," *Transactions of the Historic Society of Lancashire and Cheshire*, CV (1963), 107-122. The history of registration can be traced conveniently in a series of articles by Rupert Jarvis; see Jarvis, "British Ship Registry: The Quantification of Source Material," in H.E.S. Fisher (ed.), *Ports and Shipping in the South West* (Exeter, 1971), 149-171; Jarvis, "Ship Registry – to 1707," *Maritime History*, I (1971), 29-45; Jarvis, "Ship Registry – 1707-86," *Maritime History*, II (1972), 151-167; and Jarvis, "Ship Registry – 1786," *Maritime History*, IV (1974), 12-30.

10

Davis, *Rise*, 81-82; and Ville, *English Shipowning*, 2. Another restriction for the potential eighteenth- and early nineteenth-century investor was the "Bubble Act" of 1720 which curtailed industrial investment. The act restricted the formation of joint-stock companies in the wake of the South Sea Company's notorious failure. The joint-stock company had begun in 1711, mainly as a slave trading venture to Spanish South America. Nine years later the company offered to take over the national debt. Acceptance of the offer by Parliament grossly inflated its share values. When the stock slumped, the south sea "bubble" burst, and many investors were driven to ruin, while members of the government were implicated on charges of corruption. See John Carswell, *The South Sea Bubble* (London, 1960; reprint, Stroud, 1993); Randall McGowen, "Credit and Culture in Early Modern England," *Journal of British Studies*, XLI, No. 1 (2002), 120-131; Ann M. Carlos, Nathalie Moyen and Jonathan Hill, "Royal African Company Share Prices during the South Sea Bubble," *Explorations in Economic History*, XXXIX, No. 1 (2002), 61-87; and Larry Neal, "The Money Pitt: Lord Londonderry and the South Sea Bubble; Or, How to Manage Risk in an Emerging Market," *Enterprise and Society*, I, No. 4 (2000), 659-674.

11

Davis, *Rise*, 82.

goods transported by sea was becoming more common, the vessels that did the transporting were most often uninsured. Until about 1720 marine insurance was simply not sufficiently developed to obviate the need for a division of ownership to facilitate risk-spreading.[12] Apart from cases of a single investor, or partnership, vessels usually had a unique set of owners who might have nothing more in common than their joint interest in the craft. As Ralph Davis found, this process was often started by active or retired ship masters. If secure in his ability, there was no more sound investment for a master than his own craft. Active seafarers had a strong inducement to invest because it was the surest way toward their own command,

---

12

Ibid., 87-88. The risk associated with owning tonnage, not to mention sailing on it, remained high well into the nineteenth century when the introduction of such safety measures as the compulsory load-line lessened the percentages of vessels which met with misfortune. See Great Britain, House of Commons, Parliamentary Papers, *Royal Commission on Unseaworthy Ships: Digest of Evidence* (London, 1873); Samuel Plimsoll, *Our Seamen: An Appeal* (London, 1873); David M. Williams, "State Regulation of Merchant Shipping 1839-1914: The Bulk Carrying Trades," in Sarah Palmer and Glyndwr Williams (eds.), *Charted and Uncharted Waters* (London, 1981), 55-80; Geoffrey Alderman, "Samuel Plimsoll and the Shipping Interest," *Maritime History*, I (1971), 73-95; Alderman, "Joseph Chamberlain's Attempted Reform of the British Merchant Marine," *Journal of Transport History*, III (1972), 169-184; and David Clarke, "'The "Sailor's Friend:' A New Perspective on Samuel Plimsoll and Maritime Reform (Honours Diss. Memorial University of Newfoundland, 1995). The idea of risk spreading, the forerunner of modern insurance, actually originated in the late Tudor era. Britain's most famous marine insurer began its operations about a century later. By 1688 businessmen willing to insure seagoing vessels met at Edward Lloyd's London coffee house. Shipowners would arrive with the name of their vessel, its captain and destination, plus the value of ship and cargo, written on a slip of paper. Coffee house patrons could then underwrite the voyage by initialling the paper and indicating the percentage of the risk they would assume. The shipowner would make the establishment's rounds until enough signatures had been collected to cover the costs of the venture. The setup for Lloyd's insurance remained much the same into modern times. It was not the company itself, but its individual underwriters, or combinations thereof, who assumed the risks for any particular voyage. In certain cases persons were ruined by underwriting too much of a venture that failed, but for the most part the system worked remarkably well and has never let its clients down. Lloyd's most famous offshoots are its "Lloyd's List" of shipping intelligence, and from 1760 the separate society, Lloyd's Register, which still surveys and classifies vessels to ensure standards of seaworthiness. See Godfrey Hodgson, *Lloyd's of London: A Reputation at Risk* (Harmondsworth, 1986); Alan Cameron and Roy Farndon. *Scenes from Sea and City: Lloyd's List, 1734-1984* (Colchester, 1984); and Howarth, *British Seapower*, 364-365. The problem of insurance in the eighteenth century was not merely a British concern; for a study that examines in detail what happened when a Dutch vessel was lost off the coast of Finland, see Oscar Gelderblom, "Coping with the Perils of the Sea: The Last Voyage of the *Vrouw Maria* in 1771," *International Journal of Maritime History*, XV, No. 2 (December 2003), 95-115.

which would bring an attendant increase in salary and social status. Retired mariners, by dint of their nautical experience, often had a comparative advantage if they chose to put their skills into organizing and running shipping partnerships. Such shipping managers often took partners in order to raise the requisite capital for their ventures. This consideration likely influenced all types of owners, but appears to have been especially important in the case of master-owners.[13]

There were few substantial shifts in the structure of ownership through the eighteenth century. In the seventeenth century the trend had been toward an increasing number of owners who on average owned fewer shares each. Davis believed that this might have been simply a corollary of the growing size of vessels. Yet the trend reversed after 1700, when the average number of owners per vessel began to decline at the same time that average size continued to increase. Larger vessels were, more frequently than before, being owned by single investors or groups of two or three persons who had formed long-term trade partnerships. These tendencies were spurred on by the emergence of marine insurance, which made it less of a necessity to spread risk (or, its corollary, having to split profits with silent partners). These changes were markers toward the future but at this stage were no more than small indicators of things to come; even Davis warned against over-estimating their importance at this early stage. Things were clearly beginning to change, however, and

---

13

Davis, *Rise*, 84-86; and Ville, *English Shipowning*, 5. On the professional aspirations of masters, see Valerie Burton,"The Making of a Nineteenth-century Profession: Shipmasters and the British Shipping Industry," *Journal of the Canadian Historical Association* (1990), 97-118.

in Liverpool half the tonnage was owned by one or two investors as early as 1787.[14]

The most wide-ranging changes in shipowning began just prior to the turn of the nineteenth century. Simon Ville has argued that the impetus for these can be found in the wars against Revolutionary France and, later, the Napoleonic Empire. The emergence of reliable marine insurance, which Davis noted, was at least partially responsible for the decline in the average number of investors per vessel. Still, Ville believed that investors continued to keep a broad base of shipping investments because they recognized that profits could vary widely from voyage to voyage. Even with insurance shipowning was still a high-risk occupation, and this encouraged the type of investor who was willing to risk capital for potentially greater returns. During the wars risks to shipping were heightened, which led to increased freight rates and higher profit margins for successful voyages. Those most likely to succeed in the face of high shipping costs and manpower shortages were generally those with a background, and thus a comparative advantage, in maritime commerce – precisely the type of person whom Davis stressed in his study.[15]

One of the major stimuli to the early emergence of shipowning as a profession was the need for wartime transport. In 1794 the British Government formed the Transport Board, which gave an impetus for insightful entrepreneurs to act only as shipowners rather than

---

14

Davis, *Rise*, 88-89. As we will see, however, the single-owner vessel did not come to dominate Liverpool registries until late in the nineteenth century.

15

Ville, *English Shipowning*, 3-4. On the behaviour of British shipowners, see Simon Ville, *Transport and the Development of the European Economy, 1750-1918* (London, 1990).

merchants. These transports were often in service for a number of years so that their owners became more specialized in the business of shipping than in the sale of commodities. Because owning transports required little time, the investors were often free to pursue other economic opportunities at the same time, another driving force behind the "new" industry. According to Ville, the expansion of the Atlantic trades in this period provides a perfect example of the way this worked. In addition to the opportunities presented by transport services, the shipowner might also take advantage of prizes captured from the enemy to provide a cheap source of tonnage. As Chapter Four illustrates, such wartime prizes appeared on the Liverpool registry into the 1820s. The nature of the wooden sailing vessel at the time meant that practically any type of craft, even a small warship, might be turned into useful service in the merchant navy. During the American Revolution many new shipowners became involved in whaling using tonnage such as old privateers and inexpensive transports.[16]

Simon Ville's research indicates that many of the new shipowners came from the merchant and associated classes. These people likely had some prior knowledge of the business of shipping, often having owned a few craft as part of their larger business strategy. With fluctuations in markets the small merchant was usually able to shift from one type of venture to another without too much trouble. In Liverpool the important Rathbone

---

16

Ibid., 4; and Great Britain, Board of Trade (BT) 107, Liverpool Vessel Registries, 1820 and 1826. On the relationship between privateering and British shipowning, see David J. Starkey, *British Privateering Enterprise in the Eighteenth Century* (Exeter, 1990).

shipowning family had started out as merchants. This process was a good example of how to make use of comparative advantages, and the shift from one related trade to another displayed commercial adaptability. Still, the numbers of professional shipowners stayed small throughout the eighteenth century and remained so early in the nineteenth. But the importance of this group should not be discounted. According to Ville, many of these pioneers were the sole owners of large fleets, making for a far greater influence than mere numbers might suggest. It was at just this time that the business of shipping began to change, spurred on by an expanding world economy and technological advances. The industry was becoming more capital intensive and increasingly required a specialist's touch. The professional shipowner came into his own most quickly in the larger centres, where a mercantile class already existed that was ready to take advantage of new opportunities. In addition, it was these centres which were home to the marine insurance firms and large commercial coffee houses.[17] Ville sums up the process in these terms:

> What appeared to be happening in the half century after 1780 was the entrance of a new type of person into the shipping industry, prepared and able to take advantage of the vastly increasing trade of this period. The old fashioned merchant organization of shipowning was unable to cope with the huge increase in the shipping industry required by the trade expansion and the wartime boom of the period. Shipowning as an independent occupation thus appears as a necessary organizational advance in order to increase the

---

17

Ibid., 4-5; and John J. McCusker, "The Early History of 'Lloyd's List,'" *Historical Research*, LXIV (1991), 427-431; and McCusker, *European Bills of Entry and Marine Lists: Early Commercial Publications and the Origins of the Business Press* (Cambridge, MA, 1985).

provision of shipping space.[18]

Ville's argument about the relationship between wartime transport and the professionalization of shipowning is compelling. The emergence of the shipowner as a separate profession has often been linked to the development of a world economy, and Ville's work does not contradict it. Both factors likely played some role in the process. By the early nineteenth century physical capital and labour crossed national frontiers, as they had done for centuries. Despite this, economic integration was undeveloped in the global context, and markets had changed little for centuries. Britain had made efforts to change this situation under the guiding philosophy of mercantilism. Even in this case, however, the level of economic integration within the empire remained modest at best. Much of the globe's economic outlook remained rooted in local and national rather than international perspectives.[19]

It is thus reasonable to characterize the world economy in 1800 as unintegrated; it would be a few decades yet before many countries would be drawn into a more integrated world economic order. There has been much debate over the weight to be attached to individual factors which explain this process, although economic historians like W.W.

18

Ville, *English Shipowning*, 5.

19

Lewis R. Fischer and Helge W. Nordvik, "Maritime Transport and the Integration of the North Atlantic Economy, 1850-1914," in Wolfram Fischer, *et al.* (eds.), *The Emergence of a World Economy 1500-1914* (2 vols., Wiesbaden, 1986), II, 519; and Jan Lucassen, *Migrant Labour in Europe, 1600-1900: The Drift to the North Sea* (London, 1987). This labour migration is illustrated in the essays in Paul C. van Royen, Jaap R. Bruijn and Jan Lucassen (eds.), *"Those Emblems of Hell"? European Sailors and the Maritime Labour Market, 1570-1870* (St. John's, NL, 1997).

Rostow have attempted to define the preconditions necessary for it to occur. According to Rostow, there must be a great increase in the rate of technological change; a massing of large capital reservoirs; the emergence of fairly efficient markets to allow the transfer of innovations to regions of high demand; a growing and shifting global population; new discoveries of natural resources and finally a trend towards some degree of economic liberalism. All these characteristics were available at some point in the second half of the nineteenth century.[20]

As a function of the increasingly integrated world economy, the decades after 1800 were marked by an unprecedented growth in world trade. By 1914 the volume of foreign trade per capita had grown by about twenty-five times, although output had expanded by only about 220 percent. Lewis Fischer and Helge Nordvik have described this explosion in international exchange as "the outstanding characteristic of the burgeoning international economy in the second half of the nineteenth century."[21] At the centre of the robust international commerce was, not surprisingly, the world's most economically advanced continent, Europe.[22] Trade that touched upon the continent accounted for a full eighty percent of all international transactions. At the same time European nations, spurred in

---

20

Refer to Chapter Three. See also Fischer and Nordvik, "Maritime Transport," 519; and W.W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto*, 3rd ed. (Cambridge, 1991), 17-35.

21

Fischer and Nordvik, "Maritime Transport," 520.

22

Strictly speaking Europe is not itself a continent, Eurasia is.

particular by rapid industrial expansion, increasingly widened their horizons to include overseas markets. In order to supply their industrial complexes and feed growing populations these same nations were simultaneously importing greater quantities of raw materials. This trade in the export of industrial products from Europe and the import of raw materials and food was one of the most notable traits of the emerging system of world trade in the era. Still, by any measure Europe continued as the focal point of all world trade; as late as 1913 the continent still accounted for three-fifths of exports and two-thirds of imports by value. North America in particular had increased its share in the world economy, but European dominance was not erased. With the level of technology available in the nineteenth century, the growth of inter-continental trade made the major trading nations greatly dependent on oceanic transport. Most of Europe's raw materials came from Asia, the Americas, Africa and Oceania, while her manufactured goods found markets in these same areas; to reach these markets in either direction required maritime transport.[23]

Sarah Palmer's study of Britain's largest port, London, focussed on the very period when such developments were ongoing. Its examination began around 1820, during the early years of a period characterized by far-reaching changes not only in patterns of investment but in the very nature of the shipping industry. Much of this chapter and the next will pose similar questions to those which Palmer asked in her study at London, but I will focus instead on England's second most important port, Liverpool, and those who invested in

---

23

Fischer and Nordvik, "Maritime Transport," 520. See also P. Lamartine Yates, *Forty Years of Foreign Trade* (London, 1959), 32-33.

shipping there. Spanning the period from 1820 to 1889 investment patterns at Liverpool were not static, any more than were the forms and sizes of vessels. Amid the processes of change a number of trends stand out, including the decline of the merchant shipowner (hitherto the most important occupational group of Liverpool investors) after the mid-nineteenth century, and their supersession by the professional shipowner, a process in marked contrast to developments in Atlantic Canada.[24] Likewise, at least as early as 1870, the individual investor – the most common grouping on the Liverpool registry – increasingly gave way to company forms of ownership, especially of the limited liability type, as illustrated in Table 5.1.[25]

Table 5.1
Characteristics of Shipowning in the Port of Liverpool, 1830-1889 (Select Years)

Year	Individuals	Trading Partnerships	Companies (Ltd. & Others)
1830	127	29	0
1850	339	61	2
1870	142	14	13
1889	76	5	41

Notes: The numbers for 1850 are as high as they are because it was a particularly busy year for registrations.

Source: BT 107/108, Liverpool Vessel Registries, 1830; 1850; 1870 and 1889.

To appreciate these changes a number of the basics must be reiterated. As noted,

---

24

These trends will be taken up in Chapter Six's discussion of investors by occupational groups.

25

BT 107/108, Liverpool Vessel Registries, various years. See Appendix Four and Graph A1, (following the Appendices).

there were a number of ways in which shares in vessels might be held. In most cases, as was the pattern at Liverpool, shares were held by individuals on their own account; a share, or shares might be held jointly by persons who had formed a trading partnership, or they could be held by a joint-stock enterprise, or later in the nineteenth century perhaps in the form of a limited company. Vessels were most often divided into sixty-fourths, although this practice did not become law until 1854. Part owners of vessels were considered "tenants-in-common" under the law; each had a separate interest, and the owner of shares could sell or mortgage his part of a vessel without consulting the other owners. Likewise, no investor was free to dispose of another's share. The relative importance of each form of ownership at Liverpool, in select years, is presented in Table 5.1. The table illustrates the overall predominance of the individual investor relative to other forms of ownership, as measured by the number of separate investors appearing in the registries. In 1830, for example, individuals represented more than eighty percent of all investors in new tonnage (127 of 156 separate investors), with the balance accounted for by trading partnerships. In 1850 the dominance of the individual investor rose slightly to around eighty-four percent (339 of 402), a number that remained about static in 1870, and which fell against company investment thereafter.[26]

26

BT 107/108, Liverpool Vessel Registries, various years. The data in Table 5.1 represents the separate individuals, trading partnerships and companies that invested in new Liverpool tonnage for any given year. It does not represent the proportion of tonnage held by each. In 1850, for example, merchant John Starr de Wolf, owned all sixty-four shares in three newly-registered craft, along with forty-eight and thirty-two shares in another pair of vessels. In total this represented 1,588.5 tons of shipping owned by de Wolf. Master mariner Henry Harvey owned eight shares in one vessel of 102 tons for a total of 12.75 tons controlled by him. For the purposes of the table, however, the two men are counted only once each for the year as an individual investor.

From 1820 until well after mid-century the most common form of vessel ownership in Liverpool was that in which individual investors (or sometimes partnerships) held shares in a vessel along with a number of other investors. As Palmer noted, the main advantages of multiple investors were cost sharing and risk minimization. In fact, the typical newly-registered vessel at Liverpool tended to have more than one owner – an average of 2.6 investors per vessel in 1826, the first sample year that share breakdowns were given. In that year nearly 300 separate individuals, some involved in partnerships, along with a small number of companies, invested in 123 new vessels at Liverpool. The "typical" investor held just over thirty-eight percent of a vessel's shares and tonnage. For the most part these investors did not purchase shares in more than one newly-registered craft per year. In fact, only two individuals and one partnership had interests in more than one newly-registered vessel, all of which were over 500 tons. Still, none of these investments topped 1,000 tons. Excluding partnerships, six companies appeared on the Liverpool registry in 1826. None was incorporated or was a "major investor." Significantly, all six invested in steamers.[27]

By 1850 – a much larger year for new registrations than 1826 – over 400 investors (including those involved in partnerships, along with companies) bought shares in 243 craft newly-registered at Liverpool, with the typical investment now amounting to about half of

---

When a person owned shares as part of a partnership the partnership itself, not the individual investors, is counted.

27

BT 107, Liverpool Vessel Registries, 1826.; and Palmer, "Investors in London Shipping," 52. By 1830 the average investment in a new vessel amounted to about forty-four percent.

the average vessel's shares and tonnage. The average number of investors per vessel was also two.[28]

By 1870 gross investment patterns at Liverpool were changing. It was at about this time that investments by companies first became significant (See Table 5.1, Appendix Four and Graph A1). By 1870 almost eight percent of all investors in new tonnage were companies. This was still a relatively small share of the total number of investors but was significantly greater than in the 1820s and 1830s. In terms of tonnage, company investment was much more important in 1870, accounting for nearly a third of the tonnage newly-registered that year. As Appendix Four shows, company ownership had come a long way since the late Georgian era. In the 1820s samples, companies (excluding partnerships) comprised only 1.2 percent of all investors. By the 1830s this figure actually declined to less than one percent, with *no* companies investing in 1830. In 1850 companies still comprised less than one half of one percent of all investors in new vessels at Liverpool. Twenty years later this figure had increased significantly to 7.7 percent. In terms in Liverpool shipowning, the company form of shareholding really came into its own in the 1880s, accounting for more than a quarter of all separate investors. In the final sample year (1889) almost a third of all Liverpool investors were companies rather than partnerships or persons investing on their own account, and their share of gross registrations amounted to almost fifty percent

---

28

BT 107, Liverpool Vessel Registries, 1850.

(See Table 5.1 and Appendix Four).[29]

The emergence of the company as a vehicle for investment was connected to the gradual adoption of steam technology insofar as, at Liverpool, companies tended to be some of the most important investors in steam. Conversely, most of the companies appearing as registered owners of new tonnage at Liverpool were connected to steam ventures. As early as 1826, of six companies appearing on the Liverpool registry as owners of new tonnage, five, including the Saint George Steam Packet Company and the Carlisle and Liverpool Steam Navigation Company, were certainly steam shipping ventures. Palmer noted that 334 steamers appeared on the London registry in 1852, and of these a full 217 were owned by joint-stock companies. By the same token, Sager and Panting found that incorporated and joint-stock companies were dominant in the Canadian Maritimes only as the owners of steamers; over the period 1820-1914 they accounted for fifty-four percent of gross steam investment (including auxiliaries). At Liverpool, as the proportion of steam vessels increased among new registries after 1850, the percentage of companies owning such vessels generally rose. Here companies did not come to dominate, even in steam tonnage, until after the 1850s, although as we have seen many of the port's early joint-stock companies were formed specifically to operate steamers. Company investment in new steam tonnage began in earnest with the 1865 sample when ninety-five steamers were newly-registered. Of these

---

29

BT 108, Liverpool Vessel Registries, various years. In the discussion above any joint-stock or incorporated company is counted as a single "investor" for each year that firm purchased tonnage. Depending on the number of owners or shareholders, a company grouping might thus represent any number of individuals acting in concert. I have chosen to handle companies in this way since the registries are silent on their precise composition.

about twenty-two percent were owned by companies rather than individuals or trading partnerships. A quarter-century later company ownership of steamers stood at over half of the 120,350 register steam tons added to the Liverpool registry. Companies never dominated the ownership of steam vessels at Liverpool before the 1880s as they did at London as early as 1852. Nevertheless, their investment share in steamers (and all new tonnage) from 1870 on was quite significant.[30]

The switch from sail to steam entailed higher capital and operating expenses, and this could certainly have provided an impetus for joint-stock (and later limited-liability) investment. In her London study Palmer admitted that the cost differential between sail and steam may have given some impetus to company formation, but she believes that other factors were more important. Before mid-century steamers often involved a great deal of uninsurable risk, which added to their variable costs. In London a number of the early steamer firms specialized in tourist traffic on the Thames, which at that time was still very much a novelty. Since these trades were speculative, they were not well regarded by insurers. For this reason it was natural to raise capital using joint-stock companies in order to spread the risks. This finding might also shed some light on why this type of ownership never became predominant in the early Liverpool steam trades. If we accept that the risks associated with steam as a speculative enterprise were a motivating factor in the use of joint-stock mechanisms through the 1850s, it does not appear to have been a deterrent thereafter

---

30

BT 107/108, Liverpool Vessel Registries, various years; Palmer, "Investors in London Shipping," 52; and Sager, with Panting, *Maritime Capital*, 149-150.

as companies emerged as a significant form of ownership in Liverpool. By the later nineteenth century the speed and reliability of steam, even on fairly long routes, was well established. The steam engine itself was no longer an uncertain novelty, especially with the perfection of the compound engine in the 1860s, and it could be counted on increasingly as the primary source of motive power rather than as an adjunct to sail (although as shown in the previous chapter, Liverpool owners liked to hedge their bets on this score). It is likely, therefore, that non-insurable risks associated with steam ownership were not themselves sufficient to induce investment by companies by the time steamers became common in Liverpool. Nevertheless, shipowning remained risky even with the advent of suitable marine insurance. Moreover, the additional funds available to companies from the sale of stocks and debentures provided much-needed revenue in the capital-intensive world of steam shipping.[31]

Comprised of groups of shareholders, presumably with greater capital resources, Liverpool shipowning companies generally purchased their tonnage outright (i.e., they bought all sixty-four shares in a particular vessel). In 1870, for example, companies registered more than 30,000 tons of shipping at Liverpool, of which only two vessels, amounting to 4,802 tons, were not owned outright. Even in the case of these craft the owner, the Liverpool and Great Western Steam Company Ltd., held three-quarters of the shares.

31

Palmer, "investors in London Shipping," 52-53; and P.L. Cottrell, "Liverpool Shipowners, the Mediterranean and the Transition from Sail to Steam during the Mid-Nineteenth Century," in Lewis R. Fischer (ed.), *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies* (St. John's, NL, 1992), 154 and 196.

Similarly, in 1889 companies registered almost 85,000 tons of shipping of which only a single vessel, at about 200 tons, was not owned outright.[32]

The older pattern of multiple owners, which was prevalent in the pre-steam era, likely derived from a desire to share costs and to minimize risks. After the 1820s, however, the price per ton of sailing vessels fell and outright ownership of new tonnage may have become less costly to individual investors. At the same time mortgages became more widely available, and certain companies were willing to lend only on entire vessels, which may have influenced ownership patterns. The continued expansion of the marine insurance market during these years no doubt affected the coverage of accidental loss.[33]

After mid-century a new investment trend emerged at Liverpool. Ownership became more concentrated, and fewer investors accounted for a greater share of the total gross investment.[34] As late as 1850 only five individuals invested in three or more newly-registered vessels, with their purchases amounting to over 1,000 tons in each case. The most important was the merchant Edward Oliver, who was the sole owner of four vessels with a combined

---

32

BT 108, Liverpool Vessel Registries, 1870 and 1889.

33

Palmer, "Investors in London Shipping," 52; BT 108, Liverpool Vessel Registries, 1889. See also Great Britain, Parliament, House of Commons, *Parliamentary Papers* (*BPP*), Select Committee on Manufactures, Commerce and Shipping (1833), VI, q. 5677; and Select Committee on Employment of British Shipping (1844), VIII, qq. 741, 1378.

34

Again, it must remembered that we are considering companies as a unit, rather than measuring the numbers of their individual owners or stockholders. Company registrations thus represent the concentration of tonnage into the hands of a single corporate entity.

tonnage of 3,303. Second to Oliver was a merchant with ties to the Canadian timber trade, Duncan Gibb, with 2,374 tons of newly-registered shipping spread over three vessels. In their purchases Oliver and Gibb typified trends that would become increasingly important later in the century. Both registered multiple craft in 1850, accounted for a fairly large volume of tonnage, and were the sole owners of all their vessels. Between them Oliver, Gibb and the other three "major investors" registered 10,166 tons of shipping, an impressive figure but hardly the lion's share in a year in which over 80,000 tons of shipping was added to the Liverpool register.[35]

Twenty years later eleven Liverpool shipowners, including three companies, invested in two or more craft, representing over 2,000 tons of shipping in each case. All told, these eleven investors owned a total of 36,583 of the 100,362 tons of shipping newly-registered at Liverpool in 1870 – over a third of all gross tonnage investment that year. The majority owned their tonnage outright. Of eight individual investors the greatest amount of tonnage – 6,125 tons spread over five vessels – was owned by Thomas Harrison. Second to Harrison among individual investors was Edward Bates, who owned six vessels outright with a combined register tonnage of 3,124. Of the three major companies that registered craft in 1870, by far the most significant, and the focus of Chapters Nine and Ten, was the Pacific

---

35

BT 107/108, Liverpool Vessel Registries, various years. What constituted a "major investor" was not always straightforward. In 1850, for instance, the partnership of James, William and William Hill Brancker registered their fleet of twenty-seven flats at Liverpool. However, the little fleet amounted to only 797 tons – short of the 1,000 ton standard I have used to demarcate major investors in 1850. In the later sample years investors holding an interest in more than one newly-registered vessel per sample year were relatively common. On the other hand, the more typical investor still held a share or shares in only a single vessel registered in a sample year.

Steam Navigation Company Ltd. (PSNC), which placed six vessels totalling 6,435 tons on the Liverpool register.[36]

By 1889 fifteen individuals and companies could be considered major investors if we use the standard of registering two or more vessels in a single year totalling over 2,000 tons. Combined, these investors registered about 72,061 tons of shipping in 1889 out of a total of 173,600 tons that were newly-registered in that year, or more than forty percent of all new tonnage. Once again PSNC, one of six companies that were major investors in new tonnage, added the most tonnage to its fleet – 8,945 tons, spread over four vessels (As we will see, PSNC was noted for its large tonnage acquisitions). PSNC was followed closely by Oceanic Steam Navigation Company Ltd., which registered only two craft but with a combined register tonnage of 7,290. Other important owners included Robert Patterson Houston, Charente Steamship Company (Harrisons), and Alfred Lewis Jones. These investors were distinguished by being professional shipowners, and in the case of all but one registration (thirty-two shares) by Joseph Henry Iredale, they owned their tonnage outright.[37]

Whatever their nature – individual, partnership or company, major or minor investor

---

36

BT 108, Liverpool Vessel Registries, 1870.

37

BT 108, Liverpool Vessel Registries, 1889. My study of Maryport found that in some cases (at least in a small port) a single individual or company might come to dominate shipowning. From the late-1870s through to the 1880s Wilfred Hine owned on average about fourteen ships at any one time. His Holme Line was by far the largest shipping concern in the port and dominated Maryport's gross registrations from 1877 onward. See David Clarke, "Coastwise from Cumberland: The Maryport Coasting Trade, 1850-1889" (MA thesis, Memorial University of Newfoundland, 1998), 81-82.

– the geographic and occupational distributions of Liverpool's shipowners were fairly straightforward. The BT 107/108 registries provide the names, occupations, and place of residence (or headquarters, in the case of companies) of each shipping investor. Using this information it is possible to trace both distributions for the port of Liverpool.[38] In Sarah Palmer's study individuals and trading partnerships were treated separately. However, since it is possible to learn about the individuals who comprised a partnership, each partner involved in joint shareholding will be considered as a separate investor in this instance. Ralph and Thomas Brocklebank, for example, invested in new tonnage in the 1880s samples, owning their shares in partnership. Both will be treated separately in this case and the Brocklebanks will thus count as two investors based at Liverpool in any sample year they registered new tonnage in partnership. Joint-stock and limited companies are also taken into account, based on where they were headquartered. Unlike the investors in simple partnerships, individual companies will be counted as a single entity. Thus, Pacific Steam Navigation Company, which appears in the samples from the 1840s onward, would be counted as one investor from Liverpool in each sample year the company registered new tonnage. For each sample year each individual investor will be counted only once, even if the person invested in more than one vessel. This will avoid, as Palmer stated, "making one occupation or area of residence prominent only by virtue of one unit's exceptional

---

38

The discussion of investors by occupational groupings will be taken up in Chapter Six.

participation." (See Appendix Five).[39]

As was the case in London, investors in Liverpool-registered shipping came mainly from the immediate area; if not actually from Liverpool itself they were most likely to hail from Lancashire or Cheshire.[40] We may count this latter area essentially as local, given that most of Cheshire's investors were drawn from the area around Birkenhead, which was functionally part of the port of Liverpool. Appendix Five shows that in the 1820s investors from Liverpool, plus the counties of Lancashire and Cheshire, comprised about eighty percent of all individual investors registering new tonnage at Liverpool. By the 1850s this region accounted for 81.9 percent; in the 1880s samples, Liverpool, Lancashire and Cheshire remained by far the dominant geographic region, and local investment was at an all-time high. When including the county of Cumberland, north of Lancashire, in this grouping the percentage of total investors drawn from this region, apart from the 1870s, always stood at over eighty percent. This closely parallels what Palmer found for London, where the city and the Home Counties (Middlesex, Kent, Surrey, Essex) also accounted for over eighty percent

---

39

Palmer, "Investors in London Shipping," 54. In particular, professional shipowners, as one might expect, were over-represented in tonnage terms, especially in the second half of the nineteenth century.

40

This is a common theme of British shipowning investment and is, indeed, a logical choice. As I have stated earlier, this spatial distribution and its attendant information networks formed part of the local investor's comparative advantage. It simply made good business sense to invest in the area one knew best, and where an investor would have the greatest number of beneficial personal relationships. To the north of Liverpool in the port of Maryport, for example, local investment in town-registered shipping ranged from a low of sixty six percent to a full one hundred percent in the period 1870-1889. BT 108, Maryport Vessel Registries, 1870-1889; and Clarke, "Coastwise from Cumberland," 74.

of investors in each year she studied.[41]

There may be a number of reasons for this, not least the simple fact that persons from a certain locale might naturally gravitate toward investing in local business and commercial enterprises. What better way, in that era, to keep tabs on one's investment than by owning shares in local tonnage of which it was relatively easy to keep track? There may be a more fundamental reason for this spatial investment pattern, however. Palmer noted that, just as the proportion of investors in London and the Home Counties was high, so too were the numbers of investors with occupational links to the local shipping industry. What Palmer suggests for London may in fact hold true for Liverpool; persons such as merchants and mariners who had previously established links with the port's shipping industry were often those who owned the most tonnage in the port. For investors with seaward ties, gravitation toward shipowning may have formed a natural comparative advantage, especially combined with their local commercial knowledge.[42]

Apart from Liverpool and Lancashire, investors might be drawn from any region in England, and in fact practically all the English counties appear in the registries as the home of at least a few Liverpool investors. The most well-represented region, unsurprisingly, was always the northwest. This is predictable in part because Liverpool was the major

---

41

Palmer, "Investors in London Shipping," 54-55; and BT 107/108, Liverpool Vessel Registries, various years.

42

Palmer, "Investors in London Shipping," 54-55.

transhipment centre for coastwise trade along that part of the coast. It would therefore have been reasonable for people from these areas to have had connections with the port's maritime industries and to choose to invest in shipping there. Geographic proximity to their vessels' port of registry, in other words, was part of their comparative advantage as shipowners. The first two generations of the Brocklebank family (after they started in shipbuilding) came from the Northwest (specifically Cumberland) and maintained business ties there for many years.[43]

Apart from northwestern England there were few places especially prominent by their participation in Liverpool shipowning. Surprisingly, the northeast of England accounted for less than four percent of all Liverpool's investors in the years 1820 to 1889. Southern England, including London, often accounted for more investors collectively than did the Northeast, but even here the proportion only topped five percent in the 1850s samples. A number of investors came from Scotland, Wales and eastern Ireland (especially Belfast and Dublin), perhaps because these locales were active participants in the Irish Sea trades that used Liverpool as a hub. In individual cases investors had definite maritime connections with Liverpool that can be seen from the registries. In 1880, for example, four shipbuilders at Harland & Wolff retained a quarter share of their 1,697 ton ship *Dawpool*, whose main investors were Thomas Henry Ismay and William Imrie of Liverpool. Thus, these four

---

43

BT 107/108, Liverpool Vessel Registries, various years.

Belfast shipbuilders appeared as Liverpool investors in the 1880s samples.[44]

The only really large spike in non-northwestern investment came from Wales in the 1870s samples. As Appendix Five illustrates, over fourteen percent of investors were Welsh residents in the 1870s samples, the growth being largely at the expense of Liverpool itself. Interestingly, Welsh investors of the 1870s samples seem a very diverse occupational group, many of whom appear to have had few ties with maritime industries. Among their number were a hatter, a chemist, farmers, gentlemen, a banker and a widow. In a sense these investors were still very much in the orbit of Liverpool because they largely hailed from the northern Welsh counties of Anglesea, Carnarvon (especially well represented in the 1870s), Denbigh and Flint, just southwest of Cheshire. By the 1880s samples the percentage of Welsh investors had dropped again, although it remained at over six percent, with Liverpool and the Northwest again accounting for well over eighty percent of investors.[45]

The Liverpool-North Wales link is unsurprising in light of information uncovered by Aled Eames. Eames' research suggests that the presence of Welsh investors at Liverpool was almost certainly a by-product of the two locales' extensive maritime linkages. In the years from 1780 to 1800, for example, Liverpool slate merchants Samuel Worthington and Samuel Holland, and merchant shipowner Michael Humble were all important in the development

---

44

Ibid.

45

Ibid. For information on where, and in what, British investors invested generally see Lance E. Davis and Robert A. Huttenback, *Mammon and the Pursuit of Empire. The Political Economy of British Imperialism, 1860-1912* (Cambridge, 1986).

of Port Penrhyn's shipping industry. After 1793 fear of French warships and privateers, and the attendant rise in insurance rates, led to a shift in Port Penrhyn slate cargoes away from London and into Liverpool (along with Runcorn). Slate traffic to Liverpool continued into the 1820s, while in 1831 Samuel Holland successfully led a movement to repeal duties on coastwise slate cargoes. The slate traffic was, in fact, part of a larger coastwise trade pattern that Eames calls the "Holyhead-Liverpool-Menai Straits triangle."[46]

The slate trade was not the only direct link between Liverpool and Wales. Work on the coasters often provided a training ground for Welsh lads who frequently went on to man deep-sea vessels sailing from the Mersey. After 1850 many of these same men would lodge at Liverpool and there study for master's and mate's certification. Some of the Welsh captains, like their Liverpool counterparts, went on to become shipowners (see Chapter Six). Experience gained at sea, plus familiarity with the Mersey's trades provided a comparative advantage that sometimes led to prosperous careers as "Liverpool" shipowners. A good example here is Caernarfon's Thomas Williams, a commander for the Black Ball Line, who went on to invest in well-known vessels like the *Donald McKay*, itself part of Black Ball's fleet.[47]

Welsh connections with Liverpool were quite common in the nineteenth century.

46

Aled Eames, "Liverpool and North Wales: Seafarers and Shipping Entrepreneurs," in Valerie Burton (ed.), *Liverpool Shipping, Trade and Industry* (Liverpool: 1989), 69-71. See also Eames, *Ventures in Sail: Aspects of the Maritime History of Gwynedd 1840-1914 and the Liverpool Connection* (Gwynedd, 1987), 148-149; and M. Elis-Williams, *Bangor Port of Beaumaris* (Caernarfon, 1988), 22-36.

47

Eames, "Liverpool and North Wales," 72 and 75.

Travelling to the Mersey was routine for North Wales residents, and early steamer excursions there were a popular entertainment. Liverpudlians and the Welsh also had frequent maritime business contacts. In 1824, for example, merchants from both Liverpool and Anglesea were listed as investors in the vessel *St. David.* In fact, many maritime tradesmen travelled from Wales to the great port in search of work, often journeying there in family-owned vessels even after completion of a rail link to Holyhead. Some marine tradesmen who remained in Wales nonetheless cultivated links with Liverpool. Relatively cheap Welsh tonnage was bought by certain Liverpool owners like the Melhuish family, who were involved in the Calcutta trade. Although Wales-built tonnage was not especially prominent on the Liverpool register (see Appendix Two), some Welsh builders like Henry Jones at Porthmadog were successful in attracting customers on the Mersey. Such links fostered a real maritime connection between North Wales and Liverpool. Welsh investors would have had almost as much of a comparative advantage in buying tonnage on Merseyside as did many Liverpudlians. As Eames puts it, "when the great expansion of the shipping of Liverpool...took place in the second half of the [nineteenth] century, Welsh seamen and owners saw Liverpool as the natural centre for their activity..."[48]

One Welshman with ties to Liverpool was Nicholas Treweek, agent there for the copper mines of Anglesey. Treweek sold some twenty new vessels over the period 1840 to

---

48

Eames, "Liverpool and North Wales," 74-76; Eames, *Ventures in Sail*, 25-30; and BT 107/108, *Liverpool Vessel Registries*, various years.

1860.[49] Most of these craft were purchased from Atlantic Canada, which, apart from Britain itself, was the only place of any importance as a source of investors at Liverpool. Although Canadians did not comprise an especially large share of Liverpool investors – less than three percent of the total in any given decade – they were more prominent than any place else beyond the British Isles and were even more important numerically than many British counties. When one remembers the importance of the timber trade in both Liverpool and British North America, this ought not to strike the reader as too unusual. Indeed, many Canadian entrepreneurs had commercial links with Liverpool.[50]

A comparison of the data in Appendix Five and Appendix Two shows that although regions with a tradition of supplying Liverpool with tonnage generally had some presence as investors at the port, the relationship between the two facets of shipowning was not great. Some shipbuilders did retain an interest in tonnage sold to Liverpool, as the Harland & Wolff example illustrates. Likewise, shipbuilder John McFee of Saint John, New Brunswick, retained shares in two ship-rigged vessels registered at Liverpool in 1875. Still, a take-off

---

49

The careers of Treweek and certain other northern Welsh investors illustrates some of the linkages between Liverpool, the outports, and wider North Atlantic commerce. Like their Liverpool counterparts, many investors from North Wales turned to Canadian-built tonnage (even cheaper than Welsh) from the 1840s on. The Davies family of Menai Bridge, the Owens of Caernarfon and William Jones of Pwllheli were all examples of owners who built up fleets of Canadian-built vessels through to the 1860s. Many of these vessels were purchased through Liverpool brokers and agents, and sometimes held in partnership with Liverpool investors. Nicholas Treweek provides yet another, if less fortuitous, link with Liverpool's business community, having had dealings with Edward Oliver before Oliver's shipowning business collapsed. According to Eames the evidence is clear that, although still based in Wales, these maritime entrepreneurs had "considerable contacts" at Liverpool. Eames, "Liverpool and North Wales," 74-75. See also Eames, *Ships and Seamen of Anglesey* (London, 1981).

50

BT 107/108, Liverpool Vessel Registries, various years.

in the amount of tonnage contributed to the Liverpool registry did not mean that an area also became especially important as a source of investors at the port. By the 1880s, for example, more than a third of Liverpool's newly-registered tonnage was built in the Northeast, especially Durham (Appendix Two). In the same period, however, Durham investors made up less than one percent of those with an interest in the Liverpool-registered fleet. Canada's case was similar, providing more than half of Liverpool's newly-registered tonnage in the 1840s but contributing only about one percent of the port's shipping investors.[51]

Clearly, it made sense to invest in one's own local area where a person's knowledge base and those webs of interpersonal connections, alluded to by Graeme Milne and Gordon Boyce, were greatest. Even when investors did come from outside a purely local area, they still tended to live relatively close to the registry port in areas with extensive commercial links to Liverpool, as was the case with the many northern Welsh investors in the 1870s. In some instances close commercial ties (without geographic proximity), such as those Canada and Liverpool shared through the timber trade, might provide the impetus for investment. In the 1820s samples, for instance, a period when Liverpool retained strong trade connections to the West Indies, more residents of Barbados appeared as investors than hailed from Scotland, Ireland or any of the northeastern English counties. Although the registries do not tell us, it is quite possible that many such people were actually expatriate Liverpudlians engaged in trade with their old home. There are many examples of the scions

---

51

Ibid.

of Liverpool's trading houses being sent overseas to work in branch offices and later becoming shipowners in their own right. Two Liverpool firms with close connections to the island of Newfoundland were Bowrings and Jobs. In 1830 Robert and Thomas Bulley Job, residents of St. John's, registered the 183-ton, snow-rigged *Horatio*, owned outright along with Samuel and Robert Job Jr., and Thomas Bulley (all residents of Liverpool) under the name Job, Bulley and Company. Likewise, in 1835 Job, Bulley and Company registered the 198-ton barque *Waterville*, which they also owned outright. That same year the firm of Benjamin Bowring and Sons registered a sixty-four share interest in the 145-ton brig *Velocity*. In this case the partners were Benjamin and Charles Tricks Bowring, resident in Liverpool and St. John's, Newfoundland, respectively. Robert and Thomas Bulley Job and Charles Tricks Bowring would thus have comprised part of the 1.6 percent of Atlantic Canadian investors in Liverpool's 1830s samples (see Appendix Five). In a very real sense – through familial connections, and probably by birth and upbringing as well – this trio were all Liverpudlians, despite their place of residence at the time of registration. Such connections underscore the concrete ties that the vast majority of Liverpool's shipowning community had with the port.[52]

52

Ibid. There are many examples similar to that of the Bowrings and Jobs. Around the same period as these companies registered *Horatio*, *Waterville* and *Velocity*, the Brocklebanks firm sent John Brocklebank out to Newfoundland to oversee their own interests there. As was typical of persons with John Brocklebank's connections to the shipowning and merchanting communities, he became the owner of a number of fishing vessels registered at St. John's on his own behalf. Again, the idea of the maritime entrepreneur exploiting his comparative advantages resurfaces. It is also interesting to note in this context that the Liverpool merchant houses seem to have maintained their traditional commercial ties *vis á vis* their Newfoundland operations; Brocklebanks' Newfoundland branch had an account with St. John's-based Benjamin Bowring and Son (see Chapter Five). John Frederick Gibson, *Brocklebanks: 1770-1950* (2 vols., Liverpool, 1953), I, 106. In the

The most striking aspect of Liverpool's investor community from a geographic perspective, then, was that it was comprised mainly of locals – a feature shared with many other ports worldwide. Over eighty percent of London's investor community in Palmer's study years, for instance, came from London or the Home Counties. The same was true for David Alexander's study of Yarmouth, Nova Scotia, in which he found that around the same proportion of investors in the years 1840 to 1889 were drawn from Yarmouth County. At Liverpool somewhere around eighty percent of investors in most sample years from 1820 to 1889 were similarly drawn from what was basically the city's local hinterland. As Chapter Six will demonstrate, their occupational make up was much less homogeneous.[53]

---

specific context of the Canada-Liverpool timber trade, a good example of this type of linkage was Rankin, Gilmour and Company, mentioned in Chapter Three. Starting in Glasgow, and expanding into Liverpool in 1838, the firm produced numerous offshoots. The first of these was founded at Miramichi, New Brunswick in 1814 after founder Allan Gilmour Sr. travelled there and realized the potential of the regional timber industry. These junior firms were all capitalized by the parent firm, but constituted as a separate partnerships to limit liability. Known as the "Foreign Houses," they all exported to the head company while also trading on their own account. By 1853 Rankin, Gilmour and Company's branches were as follows: Allan Gilmour & Co., Québec (1828-1878); Gilmour & Co., Montréal and Ottawa; Gilmour, Rankin & Co., Miramichi (1812-1870); Robert Rankin & Co, St. John, N.B. (1822-1876); Ferguson, Rankin & Co., Bathurst, N.B.; Houghton, Rankin & Co., New Orleans; and Pollock, Houghton & Co., Mobile. The Atlantic Canadian branches all appear to have been tied into the timber trade to some extent. It was a normal practice for members of the Rankin and Gilmour families to put in time working at their subsidiaries' ship- and lumber-yards. Basil Lubbock estimated that the firm and its offshoots owned hundreds of vessels during its existence; as many as seventy-eight craft were in service as early as 1824, the largest then being 700 tons. By the 1830s the company shipped as many as 500 cargoes per season. Its first iron vessel, the *Saint Mungo*, was built in 1865, and the company eventually owned ten iron sailing craft. By 1880, however, it made the switch to steam. Although obviously a major investor, in these respects Rankin, Gilmour was fairly typical of the "average" Liverpool shipowner. John Rankin, *A History of Our Firm: Being Some Account of the Firm of Pollock, Gilmour and Co. And its Offshoots and Connections* (Liverpool, 1908), 10 and 19-27; and Basil Lubbock, *The Last of the Windjammers* (Glasgow, 1975), 77-79.

53

BT 107/108, Liverpool Vessel Registries, various years; Palmer, "Investors in London Shipping," 53; and Alexander, "The Port of Yarmouth," 87. When counting Shelburne and Digby Counties along with Yarmouth the proportion of local investment stood at over ninety-five percent. The city of Yarmouth alone accounted for some thirty-five percent of all investors, somewhat less than at Liverpool where the percentage of investors resident in Liverpool never fell below sixty percent in the 1820 through 1889 samples. Likewise, Lewis Fischer found that on Prince Edward Island (which counted as a single registry port) only about three percent of new

registrations by tonnage were accounted for by non-residents of the island. Lewis R. Fischer, "The Port of Prince Edward Island, 1840-1889: A Preliminary Analysis," in Keith Matthews and Gerald Panting (eds.), *Ships and Shipbuilding in the North Atlantic Region* (St. John's, NL, 1978), 52. Residence patterns for Liverpool's investor community were similar in Maryport as well, where local investment in the town's shipping from 1870 to 1889 averaged about eighty-five percent. Clarke, "Coastwise from Cumberland," 74.

Chapter 6

Investors II – Occupations and Professionalization[1]

This chapter profiles Liverpool's shipowners over the period 1820 through1889, with an emphasis on the professionalization of shipowning, particularly the decline of merchant investment *vis á vis* those whose primary occupation was vessel ownership (i.e. professional shipowners). Simon Ville has linked the growth of professional shipowning to the need for transports in the Napoleonic wars, but it has also been associated with the growth of a world economy (see below), as discussed by Lewis Fischer and Helge Nordvik, among others. In this way Liverpool investors once more displayed flexibility in changing along with prevailing economic conditions. At the same time professional owners often emerged out of that merchanting background from which, as Eric Sager and Gerald Panting demonstrate so aptly for Atlantic Canada, shipowning was a natural progression. In this way the transition from merchant to shipowner was not such a great leap, allowing the retention of one's comparative advantages. Indeed, many Liverpool investors came from those occupations like mariners, shipbrokers and marine tradesmen which entailed intimate connections and familiarity with the port and its business. Among investors they were the most likely to possess the kind of insider knowledge that formed such an important part of one's comparative advantage (in the case of steam shipping, engineers like Alfred Holt and R. P. Houston possessed their own particular advantages). At the same time such investors were

---

1

In the context of shipowning, I do not use the term "professionalization" to refer to the creation of a profession, such as medicine or law, with its own training standards and codes of conduct. Instead, professionalization should here be taken as synonymous with "specialization," in terms of making one's primary living as a vessel owner.

opportunely placed, by dint of their careers, to have a good grounding in general maritime affairs. In other words, their occupations often placed Liverpool's investors at the very heart of the port community, the networks thereby engendered also forming part of their comparative advantage.[2]

As we saw in Chapter Five, the spatial concentration of Liverpool's investor community was similar to London (not to mention Yarmouth). Liverpool's investors shared yet another characteristic with those in its sister port, which on the surface might appear incongruous with the traits described above: occupational diffusion.[3] The owners listed in the registries encompassed a wide range of the occupational spectrum of nineteenth-century Britain. As an example, in 1855 (admittedly the largest sample year) there were more than forty separate occupations listed for Liverpool's shipping investors. Many of these, as might be expected, had definite maritime linkages: of the forty occupations, fourteen were drawn from industries with seaward ties. These included persons who made their living on the sea, such as fishermen and mariners, and a number of trades that provided services to the maritime industry, such as shipbuilders, brokers, chandlers, shipwrights, sailmakers and

---

2

The final progression in the chain was the movement of shipowners away from investing on their own, or in partnerships, toward company-based investment, more suitable for capital-intensive steamers. Once again an example of owners adopting a survival strategy based, even if not consciously, on adaptability.

3

As we will see, professional shipowners (later companies) and merchants, along with marine tradesmen, accounted for the lion's share of Liverpool's new registries in all decades, despite the presence of many occupational groups buying the occasional vessel shares.

boarding house keepers (the latter may also have engaged in the business of crimping).[4] Apart from these trades, investors might come from practically any walk of life and included clergymen, gentlemen and farmers. In these cases, investment in shipping may have been for much the same reasons as Simon Ville found for Newcastle – that these people were "taking advantage of the opportunities offered to the small, passive, non-specialist investor."[5] In other words, they were acting like *rentiers.*

In her study of London from 1820 to 1850, Palmer concluded that the presence of these other occupations indicates that shipowning, as a specialist occupation, was not yet fully established. This may also have been the case in Liverpool before 1850, but by the latter decades of the century shipowning became one of, if not the most, important occupation among investors. In 1820 no Liverpool investors listed their occupation as shipowner. If we assume that what an individual listed as his or her occupation in the registry was that person's main employment and source of income, then for these persons shipowning was only an ancillary occupation. By 1889, however, almost half of all investors

---

4

Great Britain, Board of Trade (BT) 107, Liverpool Vessel Registries, 1855. See also Appendix Four. On crimping, see Stan Hugill, *Sailortown* (London, 1967); Judith Fingard, *Jack in Port: Sailortowns of Eastern Canada* (Toronto, 1982); Fingard, *The Dark Side of Life in Victorian Halifax* (Porter's Lake, NS, 1989); and Fingard, "'Those Crimps of Hell and Goblins Damned:' The Image and Reality of Quebec's Sailortown Bosses," in Rosemary Ommer and Gerald Panting (eds.), *Working Men Who Got Wet* (St. John's, NL, 1980), 321-333.

5

Simon P. Ville, "Patterns of Shipping Investment in the Port of Newcastle on Tyne, 1750-1850," *Northern History*, XXV (1989), 212-213; and BT 108, Liverpool Vessel Registries, 1855. Sager and Panting found much the same profusion of occupational groupings in Atlantic Canada prior to 1850, with maritime-related occupations like mariners and fishermen especially prominent as vessel owners. Eric W. Sager, with Gerald E. Panting, *Maritime Capital: The Shipping Industry in Atlantic Canada 1820-1914* (Montréal, 1990), 79-80.

considered shipowning to be their primary business. In terms of tonnage share shipowners were still quite important but their dominance in this sense was less pervasive than it had been in 1870, likely due to the presence of corporate investors who held a majority of tonnage. In 1889 shipowners held 35.8 percent of newly-registered tonnage, amounting to 62,135 register tons. These numbers give a clear picture of the emergence of the professional shipowner. Equally, however, the proportion – admittedly small by then – of non-specialists who continued owning tonnage as late as 1889 makes it clear that the process was still ongoing late in the Victorian period. (See Appendix Four. For a visual representation of tonnage owned by each occupational group from 1850-1889 see Graph A1, following the Appendices).[6]

These statistics, while clearly demonstrating the professionalization of ownership in Liverpool, still underestimate the professional owner's pervasive influence by the late Victorian period. All figures for "shipowners" are, naturally, taken from those who listed themselves as such on the registries. In a strict sense, this would not apply to company groupings (mentioned earlier) like the increasingly common limited-liability firms, a number of which were clearly shipowning concerns, while others may have owned tonnage in addition to having other employment. Included in the former category were companies such as Pacific Steam Navigation and the Booth Steamship Company. Companies like the

---

6

Sarah R. Palmer, "Investors in London Shipping, 1820-50," *Maritime History*, II (1972), 55-56; BT 107/108, Liverpool Vessel Registries, 1820 and 1889. In terms of gross tonnage, shipowners held 38,777 of 128,852 tons newly-registered at Liverpool in 1870. As of 1889 shipowners' share of the port's gross tonnage was 77,964 of 249,881.

Liverpool Steam Fishing Company Ltd. and Liverpool Grain Storage and Transit Company Ltd. were obviously engaged in trades requiring tonnage, although it is unlikely that the owners considered themselves primarily as shipowners.

Despite the numbers of (and tonnage owned by) individual shipowners and companies in the latter part of the period, shipowning up to 1850 was very much the same in Liverpool as in London – a non-specialist occupation. Thereafter there was a definite trend toward specialization, with over 60,000 tons of newly-registered shipping placed on the registry by professionals in 1889, not to mention the 85,131 register tons of company-owned tonnage that was added in that year. In the case of Liverpool, it is clear that it was in the decades after 1850 that the real emergence of professional shipowning occurred, although even then this group by no means had a monopoly on investment in new tonnage. Nonetheless, for most of the period few other occupations had such a dominant place on the Liverpool registries; the only rival the specialist owner had was from the merchants.[7]

Many of these merchant firms were "fly by night" operations with little long-term impact on Liverpool, while others were well-established and continue to garner commentary to this day. In some cases, however, merchant houses that were influential on Merseyside for generations are all but forgotten today except by a few specialists. One such firm was

---

7

BT 108, Liverpool Vessel Registries, 1889. Combined, professional shipowners and company groupings registered 147,266 of 173,600 register tons added to the Liverpool fleet in 1889 – representing a full 84.8 percent of gross investment for the year (In terms of gross tonnage companies owned 129,764 of 249,881 tons newly-registered). Of the company investors appearing on the register in 1889, only one of forty-one was not of the limited-liability type. These companies owned sixty-eight vessels and of these forty-seven were steamers, with only one (thirty-four shares) not owned outright.

Sandbach, Tinne and Company, which began trading to the West Indies in the late 1700s. It was founded in 1782 by a Mr. (James?) McInroy, who took on G. Robertson, Charles Parker and Samuel Sandbach, the last a former trader in Grenada, as partners in 1790. The firm, then known as McInroy, Sandbach and Co., opened a Liverpool office in 1813. That same year Demerara became a British colony, and P.F. Tinne, who had been a government official there under the Dutch, became Sandbach's English partner. The Demerara branch of their operations was Sandbach, Parker and Co., while the head office had by then had assumed its more familiar name. The company managed West Indian sugar plantations and also acted as produce brokers and general merchants well into the twentieth century. The monetary value of the plantations to the company can be seen in the details of a sale in which Sandbach, Tinne sold the Plantation "Industry" to Quinton Hogg in 1875 for the sum of £16,500. The company dealt not only in sugar but also in practically all the products of the West Indies. The ship *James McInroy*, due to sail for the Clyde in September 1833, carried what was likely a typical cargo: 317 hogsheads of sugar, 424 bags of coffee and forty-seven casks of molasses. In addition to these goods already loaded, another 240 hogsheads of sugar, 100 bags of coffee and thirty-eight casks of molasses were expected. By 1901, however, Sandbach, Tinne sold off its fleet and retired from shipowning. At this time, in fact, the company's fleet was quite old, its last vessels having been built in 1882. Sandbach, Tinne switched largely to iron construction for its vessels by the early 1860s but never did make the transition to steam. It also opened a Canadian branch in 1909 and one

in Trinidad in 1923.[8]

For much of the latter nineteenth century Sandbach, Tinne was closely connected to the coolie trade, which brought Indian and Chinese workers from East and South Asia, along with Africans, to the West Indies. They were needed as workers on the region's sugar plantations to replace slaves who had done the work until the abolition of the "peculiar institution" in the 1830s. British and colonial governments normally financed the transport of these workers, although government vessels were not used, except in the case of a small number of voyages with African workers.[9] The government would negotiate long-term contracts (for about three to five years) with shipowners or might tender for the transport of such passengers. In the latter case separate bids would be made for each voyage, and the charter price would include the cost of food. There were around a half dozen bids on most tenders, with successful bidders chosen both on the basis of price and factors such as vessel quality. Proposals often varied considerably, suggesting that there was little in the way of

---

8

E.W. Argyle, "The 'Sandbach' of Liverpool," *Sea Breezes*, New series, IX (January-June 1950), 141-143; "Sandbach, Tinne and Co.," *Sea Breezes*, XXXIII (1939), 395; William Speed, "A Note on Sandbach, Tinne and Co.," *Mersey: The Magazine of the Mersey Dock Board Staff Guild*, I (December 1921), 100; E.A. Woods, "Sandbach, Tinne & Co's Fleet," *Sea Breezes*, XII (August 1929), 243-244; E.A. Woods, "Liverpool Fleet Lists" (2 vols., unpublished Mss., Liverpool Record Office, 1939), II, 273-276; National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), D/B/176/A-C, McInroy, Sandbach & Company, Demerara, to Sandbach, Tinne & Company, Liverpool, 31 August 1833; and "Memorandum of Agreement Between Sandbach, Tinne & Co. and Quinton Hogg, 25 February 1876. Samuel Sandbach, like many investors, did not confine his interests solely to business and became Mayor of Liverpool in 1831. The year in which the firm sold off all its vessels has also been given as 1902. It appears these last craft were sold off over the period 1901-1902. At the time the firm owned *Brenda, Godiva, Shiela, Stronsa,*(1901), *Orealla* and *Genista* (1902). Woods, "Sandbach, Tinne," 244.

9

On the transport of Africans, see Ralph Shlomowitz, "Mortality and Voyages of Liberated Africans to the West Indies, 1841-1867," *Slavery and Abolition*, XI, No. 1 (1990), 30-41.

collusion among bidders.[10]

John McDonald and Ralph Shlomowitz found that the transport of such labourers from India to the West Indies often formed part of a multi-component trade. Certain craft left the West Indies and sailed directly to India with homeward-bound workers. In most cases, however, the actual coolie trade was but one part of a triangular or even quadrilateral trade. Vessels might depart Britain for India with cargoes of goods. Labourers would then be brought from India, along with Indian goods – especially rice – to the West Indies. Island products such as sugar and rum might then be exported back to England. In some cases an extra cargo might be sought in American ports before the vessel returned home. In their study of 285 voyages from 1858 to 1873 McDonald and Schlomowitz found that, on average, charter companies earned just over £12 per adult for transport from India to the West Indies, carrying an average of 363 persons per voyage. Unlike the homeward freight rate for Australian and North American voyages, charter prices – both nominal and real – to the West Indies do not appear to have fallen during the latter half of the nineteenth century.[11]

10

My discussion of the coolie trade is taken from Edward Jenkins, *The Coolie, His Rights and Wrongs. Notes of a Journey to British Guiana, with a Review of the System and of the Recent Commission of Inquiry* (London, 1871); Basil Lubbock, Coolie Ships and Oil Sailers (Glasgow, 1935); Persia Crawford Campbell, *Chinese Coolie Emigration to Countries within the British Empire* (New York, 1969); Robert L. Irick, *Ch'ing Policy toward the Coolie Trade 1847-1878* (Taipei, 1982); G.S. Arora, *Indian Emigration* (New Delhi, 1991); Evelyn Hu-Dehart, "Chinese Coolie Labour in Cuba in the Nineteenth Century: Free Labour or Neo-slavery?" *Slavery and Abolition*, XIV, No. 1 (1993), 67-86; and Lisa Yun and Ricardo René Laremont, "Chinese Coolies and African Slaves in Cuba, 1847-74," *Journal of Asian American Studies*, IV, No. 2 (2001), 99-122.

11

John McDonald and Ralph Schlomowitz, "Fares Charged for Transporting Indian Indentured Labour to Mauritius and the West Indies, 1850-1873," *International Journal of Maritime History*, III (June 1991), 82 and

The use of coolies remains controversial, but the company does appear to have provided reasonable accommodations and food for these immigrants, plus an on-board hospital and doctor. Despite the continued buoyancy of transport rates for indentured workers, all was not smooth sailing in the latter nineteenth century. Some of Sandbach, Tinne's surviving correspondence reveals the difficulties encountered in such trades. For much of 1876 the company kept up a correspondence with Attorney General W.F.H. Smith over fixing a rate for coolie transport that was high enough for the company to make a profit yet low enough for Smith's superior, Lord Carnarvon, to accept. The last two sailing vessels built by the company for the trade were the *Sheila* and *Brenda*, but by then it was clear that steam would soon replace fast sailers in the carriage of human cargoes. In fact, the presence of steamers by the late-1860s left the Demerara office feeling "uneasy about the future of our business."[12] In the end, the company survived long past the initial transfer to steam and, despite the *fin de siècle* sell-off of its fleet, can be deemed a success story in the annals of Liverpool merchanting and shipowning. The firm exploited opportunities in its specialty West Indies trades, based on the prior experience of men like Sandbach and Tinne, both of

---

84-89; McDonald and Shlomowitz, "Mortality on Chinese And Indian Voyages to The West Indies and South America, 1847-1874," *Social and Economic Studies*, XLI, No. 2 (1992), 203-240; and Lance Brennan, McDonald and Shlomowitz, "The Geographic and Social Origins of Indian Indentured Labourers in Mauritius, Natal, Fiji, Guyana and Jamaica," *South Asia*, XI (1998), 39-71. An in-depth study of a British colony in the region (although farther north than those of the proper West Indies) is H.C. Wilkinson, *Bermuda from Sail to Steam: A History of the Island from 1784 to 1901* (2 vols., London, 1973).

12

Argyle, "Sandbach," 143; and NGL, MMM, MAL, D/B/176/A-C, Sandbach, Parker and Co., Demerara, to Sandbach, Tinne and Co., Liverpool, 2 and 4 December 1869; 21 February, 25 August, 4 September, and 5 October 1876; Captain T.B. Harrison, London, to Sandbach, Tinne and Co., 19 April 1870; and Sandbach, Parker and Co., Demerara, to Hon. W.F.H. Smith, Attorney General, 16 and 23 August 1876.

whom were familiar with the region and its commodities. Over time Sandbach, Tinne's development led it away from shipowning, but it nonetheless continued for some time as a merchant house.[13]

In fact, merchant shipowning has long been known to have accounted for a significant portion of capital investment in seaborne transportation, especially before the middle of the nineteenth century. This is a phenomenon that most, if not all, maritime historians acknowledge, and it would be impossible to discuss shipowning without at least a brief discussion of the role of the merchant. Still, there have been only a limited number of book-length studies which deal primarily with the role of merchant capital in shipowning. For this reason it is probably not surprising that firms like Sandbach, Tinne have faded almost completely into obscurity. Simon Ville's *English Shipowning During the Industrial Revolution* is valuable for its in-depth examination of one such man, Michael Henley. The work provides a significant insight into the business rationale behind shipowning by his merchant house. On the other hand, what Ville's study can tell us about the wider world of merchant shipowning is more limited. As a case study, the findings presented may apply only to the particular case of Henley and Son, although Ville does offer some broader speculations.[14]

13

Argyle, "Sandbach," 143.

14

This is particularly so in the case of Britain's declining role as innovator in the international business world from the late 1800s. Using Henley's as an example, Simon Ville found that by the third generation the Henley heir, in this case Joseph Warner, had become more preoccupied with politics than commerce. Indeed, this seems a common theme among the British mercantile class. Despite sometimes enormous wealth, the man of business

Perhaps the most in-depth scholarly treatment of merchant capital in shipowning, although centring on the Atlantic provinces of Canadian rather than on Britain, is Eric Sager and Gerald Panting's study, *Maritime Capital*, which chronicles Atlantic Canada's shipping industry from 1820 until 1914, long after Canada's prominence as a shipping nation had ended. Although the observations the authors make cannot be applied in their entirety to Liverpool, the authors do make a number of pertinent comments on the general business of merchant shipowning which may apply, especially on the issue of why merchants chose to invest in the first place. According to Sager and Panting a merchant conducting business in the international (or even local) arena did not necessarily need to be a shipowner, since merchants could always charter vessels from outside owners. Observation of the late Georgian merchant class, however, demonstrates why such ownership was necessary. As the authors state:

> Profits from staple trading depended on many things: specialized knowledge of many commodities and their prices in distant markets, a network of trusted agents in the markets, speedy communication with those agents, and successful management of subordinates, including the "supercargo" who went with the goods being shipped and acted as the merchant's agent in the

---

could only go so far socially, at least until late in the century. In order to climb the social ladder subsequent generations were often educated in public schools and able to pursue more "gentlemanly" matters such as politics to the detriment of British commerce and industry. In the Liverpool context we have the prominent merchant family the Gladstones, who went on to produce William Ewart, Britain's greatest Victorian statesman. As Ville stated, "...Principal among [industrial] weaknesses has been the social aspirations of the industrial middle classes. Indeed, the legacy of men like Joseph Warner Henley continues to haunt the British economy..." Simon Ville, *English Shipowning during the Industrial Revolution: Michael Henley and Son, London Shipowners, 1770-1830* (Manchester, 1987), 159-161. This theme also appears in Asa Briggs' work, although he ties the decline in British commerce to the failure of the educational system, among other factors; Asa Briggs, *A Social History of England* (London, 1983), 196-198. Still, not all family-run companies succumbed to the temptation toward politics and other non-commercial affairs, even if these were often part of an individual's interests. Nonetheless, in many cases the general rule did hold true.

> market. Profits required, above all, successful timing of purchase and sale, to maximize the difference between buying and selling prices. To achieve this last condition the merchant was prepared to own and manage ships and to hire wage labour to run them.[15]

Operating their own tonnage allowed owners and supercargoes a flexibility that chartering might not have permitted. Minimizing costs in the operation of vessels was crucial to earning a profit, and employees, from vessel masters on down, were ultimately responsible for this. Prior to the emergence of shipowning as a separate profession, it was in the interests of merchants to own their own tonnage (Appendix Four). This may be especially relevant to Liverpool given the port's close connection with the timber trade, noted in Chapter Four. According to David Williams, until at least 1850 the import of timber was closely linked to shipowning. While in the thirty years after 1820 importing and shipowning increasingly became distinct professions, many Liverpool merchants who functioned as timber importers also owned tonnage. The timber business was one of the few trades where the interests of the merchant as both owner and importer converged. In the 1700s these links tended to be greatest in bulk commodity trades, and the large London merchant houses of the day often had extensive shipowning interests. Liverpool timber merchants, having great quantities of wood products moving over a single route, had a natural interest in shipping. Table 6.1 is based on Williams' work and illustrates Liverpool's twenty leading timber importers in select years between 1820 and 1850, dividing them into shipowners and non-shipowners. The table shows that the number of timber merchants

---

15

Sager, with Panting, *Maritime Capital*, 85.

having shipping interests increased during this period. The most important factor in this trend was the growth in imports by individual merchants, thereby increasing the benefits garnered by owning the means of transport.[16]

Table 6.1
Top Twenty Importers of Timber in Liverpool Divided into Shipowners and Non-Shipowners, 1820-1850 (Selected Years)

	Shipowners	*Non-Shipowners*
1820	11	9
1830	16	4
1839	13	7
1850	19	1

Source: David M. Williams, "Merchanting in the First Half of the Nineteenth Century: The Liverpool Timber Trade," *Business History*, VIII (1966), 112.

Contemporary sources tell us that one reason so many importers had interests in the timber trade was that investors got into the business simply to find employment for their tonnage. The London timber merchant Henry Warburton in the 1830s expressed the view that it was common for shipowners to become timber importers in order to find cargoes for their bottoms at times of low freight rates. In Williams' opinion this "over-capacity" argument might have held water for smaller British ports but could not be extended to Liverpool's timber merchants. In practically all cases Liverpool's merchants were importing timber prior to becoming investors in shipping. In the 1830s and 1840s many of these same

16

David M. Williams, "Merchanting in the First Half of the Nineteenth Century: The Liverpool Timber Trade." *Business History*, VIII (1966)," 111-112; and Sager, with Panting, *Merchant Capital*, 85-86.

individuals extended their shipping interests, proving that they were not shipowners looking to use idle tonnage but instead were importers who became shipowners as the general trade and their own investments increased.[17] It is worth remembering the connection between merchanting, the timber trade and Liverpool as a trading centre.

A good example of the type of investor associated with the timber trade was Duncan Gibb, associated with the firm of Pollock, Gilmour, briefly profiled in Chapter Four. Duncan Gibb was born in the late 1780s and from about 1820 until the founding of the firm's Liverpool branch in 1839 acted as its agent there. Despite his loss of the agency, he remained close to the business and was a friend of Robert Rankin II until his death. As a young man he was shipwrecked in Newfoundland while travelling on business for the company. Although many of the initial survivors of the wreck succumbed to cold and starvation, Gibb was rescued by local Amerindians to whom he thereafter sent annual presents. One story concerning him has it that Samuel Cunard was able to escape creditors through Gibb's intervention. Although almost totally forgotten today – much like Sandbach, Tinne – Gibb was one of the largest shipowners of his era and an active Tory politician. A friend of Gladstone, Canning and William Huskisson in his younger days, Gibb was present when the latter was killed at the opening of the Liverpool and Manchester Railway. Unusually for a merchant of the period, he was twice offered a knighthood but declined. In later years Gibb's fortunes took a downturn, and he spent his remaining years on a small

---

17

Williams, "Merchanting," 112-113.

property on the Isle of Man.[18]

Gibb was atypical of timber merchants in the scale of his operations. His main focus was on the trade to Canada. The year 1830 was a high water mark for him, since he imported just over 13,000 tons of Canadian timber, accounting for eleven percent of all timber imported into Liverpool in that year. He was then the largest timber importer in the port. In addition to timber Gibb's vessels also imported 1,539 barrels of American cotton, 1,845 barrels of flour from New York and Montréal, plus wheat and ashes from the latter port. In addition, Gibb's tonnage also transported small quantities of mahogany, pork, rum, sugar, teak, ebony, groceries and salt. By 1839 Gibb's timber imports had fallen in both absolute and relative terms, with a total of 8,741 tons of Canadian wood, accounting for 4.78 percent of Liverpool's timber imports. By 1850 Gibb's fortunes had fallen yet again, and his 5,104

18

John Rankin, *A History of Our Firm: Being Some Account of the Firm of Pollock, Gilmour and Co. And its Offshoots and Connections* (Liverpool, 1908), 187-191. This work by a member of the Rankin family, now out of print, is one of the few detailed accounts of Duncan Gibb's life. Even here much of it is based on family reminiscences and the author's own memories of almost forty years earlier. Gibb's current obscurity is a sad, but not uncommon, fate for a onetime member of Liverpool's shipowning elite. William Huskisson (1770-1830) was a prominent late-Georgian politician. Apart from his tragic death, he is best remembered as a President of the Board of Trade, Treasurer of the Navy and Colonial Secretary. Huskisson's political career had a close association with commerce and shipping. He was known for his avid support of free trade. He espoused the relaxation of import duties and was a proponent of repealing the Navigation Acts. On Huskisson see Alexander Brady, *William Huskisson and Liberal Reform; an Essay on the Changes in Economic Policy in the Twenties of the Nineteenth Century* (New York, 1967) and Charles R. Fay, *Huskisson and His Age* (London, 1951). For Huskisson's own opinions on the Navigation Laws see, Huskisson, *Navigation Laws. Speech of the Right Hon. W. Huskisson in the House of Commons, Friday, the 12th of May, 1826, on the Present State of the Shipping Interest. With an Appendix, Containing the Several Accounts Referred to* (Baltimore, 1826). In this speech to the House Huskisson (5) asserted that:

> ...when I state that the first object of our Navigation System was to create and uphold a great commercial marine, I think I may add...that this object could not have been effected solely by regulations, restrictions, or prohibitions, however judiciously devised. The only true and durable foundation of a large commercial marine is to be laid in the means of affording to it beneficial employment. Without...extensive commerce, and great capital, to sustain and invigorate that commerce – no laws, merely protective, will avail.

tons of timber comprised only about two percent of the port's total timber imports. Despite the downward trend, there can be no doubt of Duncan Gibb's importance as a timber importer, and his record as an investor was no less impressive.[19]

The relationship between timber importing and vessel ownership has been discussed both in Chapter Four and above (see Table 6.1). Gibb certainly reflected the tendency of timber merchants to own tonnage. Over the period 1826-1850 he was one of the more important individual investors in shipping registered in the port of Liverpool. In the sample years alone, Gibb appeared as the owner or part-owner of nine vessels. Of these craft Gibb held all sixty-four shares in six, full ownership being common among timber merchants. The registries give no indication as to precisely how each vessel was employed, but the Bills of Entry certainly confirm that much of Gibb's business was indeed geared toward Canadian timber imports. It is thus no surprise that six of these craft were built in Canada, although this number does not coincide with the six vessels Gibb owned outright. Gibb owned thirty-two of the shares in the ship *Minerva*, built in Montréal. Likewise, he owned the ship *Napoleon the Third*, also from the colony of Québec, but in this case the entire vessel was held in partnership with Donald Kennedy under Donald Kennedy and Company. In terms of their actual place of origin, Gibb's fleet, at least as represented in the sample, was heavily geared toward the colony of Lower Canada, or Québec. Five vessels originated there, one

---

19

Williams, "Merchanting," 119-121. In 1830 Gibb's closest rival as a timber importer (from both Baltic and Canadian sources), W. Fairclough & Co., imported only 6,006 tons of timber into Liverpool, less than half Gibb's total. Nine years later Gibb ranked number seven among Liverpool's top twenty timber importers as measured by his timber imports into the port. By 1850 Gibb came in at only eleventh.

was built at River John, Nova Scotia, and the remainder came from Caithness County, Greenock and Liverpool itself. Gibb, in fact, ordered much of his new tonnage directly from Canadian builders. The nine sample vessels reflect this trend, with the Greenock-built barque *Trinidad* the only vessel that was more than one year old at the time of its registry by Gibb in Liverpool. Gibb also appears to have held on to much of his tonnage for more than a single voyage; of these nine craft only two were registered *de novo* in the same year as his own purchase. Gibb retained such tonnage for about five and a half years, on average. Only two of the nine sample vessels remained as part of Gibb's fleet for a decade or more, with another under his ownership for nine years. Of these craft the 608-ton ship-rigged *Tory* had the greatest staying power. Gibb bought the *Tory* new in 1835, only selling it in 1852, near the end of his shipowning career. In aggregate the sample vessels represented 6,039 tons of shipping at an average tonnage of 671. Still, this was only the tip of the iceberg in terms of Duncan Gibb's entire fleet. In the thirty years after 1820 he invested in approximately fifty-five vessels and was the sole owner of forty-five.[20]

The timber trade of which Gibb was a part, along with the corn and cotton trades, provided Liverpool with its most important imports prior to 1850. In addition to his work

---

20

BT 107, Liverpool Vessel Registries, various years; and Williams, "Merchanting," 113. The story of how Gibb and Kennedy began their business association is interesting, if possibly apocryphal. Apparently Gibb, who resided at the corner of Parliament and Windsor Streets, was known for his hospitality. In the years prior to 1850 the best leg up a young Scot could have to enter Liverpool's shipping trade was a letter of introduction to Duncan Gibb. He would often invite these young men, for whom he was trying to find work, to Sunday dinner. One trait Gibb seems to have especially admired was honesty. At one such dinner young Kennedy freely admitted to the staunch Presbyterian Gibb that he had just attended Catholic Mass. Impressed by Kennedy's candour, Gibb hired the youth himself, and the two eventually became business partners and lifelong friends. Rankin, *History of Our Firm*, 189.

specifically on timber merchants, Williams has made a number of seminal observations on the importing community and its general development. Import merchants, like many others engaged in business on Merseyside, made use of the principle of comparative advantage. Being specialists in the main, perhaps eighty percent of them concentrated on a single commodity from one particular source. Still, individual merchants were usually flexible and did not slavishly follow any one model of trading. The merchant importer was always willing to vary the scope and size of his activities to adapt to fluctuating market conditions.[21]

As the trades became more complex, smaller concerns began to decline and the occasional trader disappeared altogether. Williams referred to a small group of the largest traders as Liverpool's "merchant elite;" it was this group, he argued, which came to dominate a contracted merchant community by mid-century. Essentially, importing became concentrated in the hands of a small group of large operators. Although Williams was more tentative in his conclusions generally, he did feel that the specialists were coming to dominate all sectors of Liverpool trade, not simply importing.[22] Williams' study ends in 1850, before the real decline of the merchant shipowner had taken hold in Liverpool. Nonetheless, his observations on the growing specialization in the port's commerce shed some light on the conditions that allowed the professional shipowner to come into his own.

21

David M. Williams, "The Function of the Merchant in Specific Liverpool Import Trades, 1820-50" (MA Thesis, University of Liverpool, 1963), 86-88.

22

Ibid., 89.

As to the specific role of merchants as shipowners, Williams' study drew few firm conclusions. This is understandable since this was not the main focus of his work. Still, he did note that the owners in his sample, again mainly importers, were normally engaged in blue-water trades and that few had interests in coastal or Irish Sea commerce. The same applied to the Mediterranean and Baltic. Although there was no set rule for ownership, Williams' suggested that owning vessels outright, rather than as a minority owner with just a few shares, was the norm for nineteenth-century merchants.[23]

To an extent the Liverpool registry data bear out Williams' assessment. On the surface individual merchants did not normally appear to own tonnage outright. In fact, in 1826 – the first sample year in which shareholdings were broken down in the registries – Liverpool merchants invested in 152 vessels, with total tonnage amounting to 36,219. Of these vessels only 27, totalling 5,389 tons, were owned outright by merchants. The figures were similar in the 1830s samples when merchants had some shareholdings in 94,385 tons of shipping, or 371 vessels. Of these a mere sixty, at 12,464 tons, were owned outright by individual merchants. Similarly, in the 1840s samples merchants were noted as investors in 527 vessels with a combined tonnage of 175,673. Again, individual merchant owners only held all sixty-four shares in sixty-one of these craft totalling 21,338 tons. Little had changed by 1850 when Liverpool's merchant community invested in 364 vessels at 140,365 tons. In this year fifty-eight vessels were owned outright by individual merchants, accounting for

---

23

Ibid.

28,842 tons. When viewing merchants as part of trading partnerships, however, the situation changed somewhat. In 1850, for instance, merchant partnerships owned a further thirty-one vessels outright (or at least a majority share in them), amounting to 14,506 tons. Still, taken together with vessels owned outright by individual merchants, this represented less than a third of the tonnage invested in by merchants and newly-registered that year; the proportions were similar in earlier sample years. In the period from 1820 to 1850 merchants were one of the most important occupational groups in Liverpool in terms of gross tonnage registrations. Even taking partnerships into account, however, Liverpool merchants do not appear to have held most of their new tonnage outright (or as majority shareholders) as Williams speculated they might. Nonetheless, a significant number of their gross registrations *were* accounted for in this way.[24]

In other cases as well the role of merchants as owners of Liverpool-registered tonnage may have been different than what Williams conceptualized. He argued that "during the thirty year period 1820-50, there was no decline either in the extent of merchants who possessed shipping interests, or in the extent of their shipping interests...Figures for 1850 were on both counts slightly higher than in pervious years."[25] Admittedly, his frame of reference may be somewhat different than what I have used here, and his main concern was

---

24

BT 107, Liverpool Vessel Registries, various years. Again, the case may have been somewhat different for merchants engaged mainly in deep-sea importing trades. There were also quite a few cases in which merchants or merchant partnerships held a half-share in newly-registered tonnage.

25

Williams, "The Function of the Merchant in Specific Liverpool Import Trades," 86-88.

with importers rather than Liverpool's merchant community in general. It was also the case that a Liverpool merchant's "shipping interests" did not necessarily equate with newly-registered tonnage in the port. Merchant investors may have been more inclined to register vessels in other ports, even in Atlantic Canada in the case of timber merchants. By the same token, merchant owners could well have held onto tonnage longer than the average investor, eliminating the need to register new craft. These caveats notwithstanding, there was still some decline in the proportion of merchants registering new tonnage in 1850 as compared to 1820 (the figures were 48.1 and 55.3 percent, respectively; see Appendix Four). This finding is not far off from what Williams reported, as the decline in the merchant shipowner (even by these indices) was slight over the period, with the real decline taking place after 1850, as illustrated by Appendix Four.[26]

Over the period 1820-1889 – and especially in the last forty years – the percentage of Liverpool owners who considered their primary occupation as merchants was in fairly steady decline, and this seems a direct offshoot of the parallel growth of specialization.[27] Earlier I suggested that the growth of specialist shipowning came about as the result of an overall increase in world trade and the need for increased carrying capacity. Quite simply, there was now enough work available in simply owning tonnage for others' use to make this

---

26

Ibid., 89; and BT 107/108, Liverpool Vessel Registries, various years.

27

There are numerous firms and individuals who might be used to illustrate the merchant as shipowner. One such, Thos. & Jno. Brocklebanks, will form a major case study in later chapters. Interestingly, this business was just as firmly connected, if not more so, with another maritime trade – shipbuilding. This aspect of the business will also be explored in some detail.

the central focus of one's business activity. Conversely, it became unnecessary to buy vessels as part of a larger mercantile concern; the merchant (or increasingly, an agent) could normally find a specialist shipowning company to transport his goods.

The real value of British trade may have increased more than seven-fold in the seventy years prior to 1850, according to Ralph Davis.[28] At the same time the average length of haul likely increased, and a larger share of British shipping was employed on long-distance voyages in the decades after 1820. The expansion of British trade triggered a prolonged period of growth in shipping. Previous periods of expansion had produced no organizational changes in shipping; indeed, more groups of small investors and vertically-integrated businesses had entered the trade. After 1750 new trends changed the nature of shipping in the British context. These included the rate of long-term expansion, increasing localization, and a larger range of trade products and routes. An era of sustained growth in shipping demand prompted permanent organizational changes in the industry. As Ville states, "a process of vertical disintegration, particularly of trading companies and merchant firms, and horizontal integration of individually operated vessels led to these structures being superceded by specialist shipowning firms."[29]

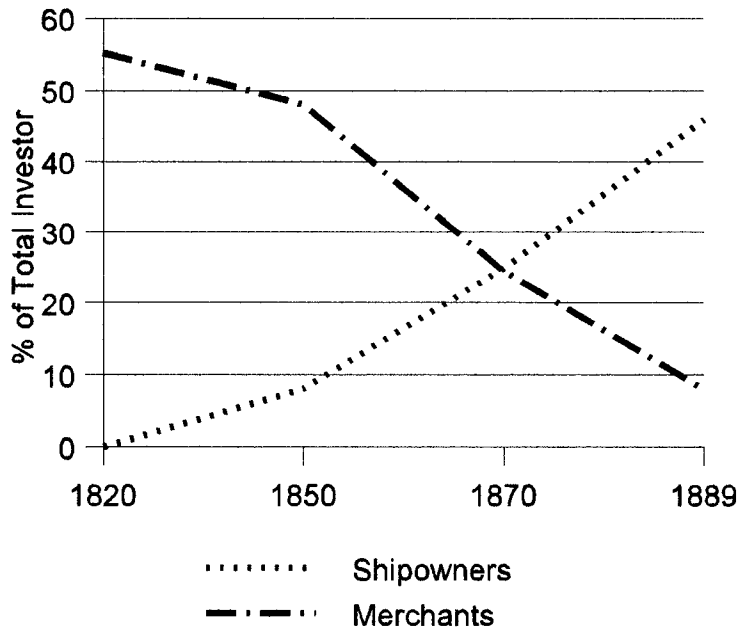
28

Ralph Davis, *The Industrial Revolution and British Overseas Trade* (Leicester, 1979), 86. Visible exports and re-exports grew from £17.2 million in 1784-1786 to £123.5 million in 1854-1856, while merchandise imports rose from £22.8 million to £151.6 million over the same period. See also Simon Ville, "The Growth of Specialization in English Shipowning, 1750-1850," *Economic History Review*, 2nd series, XLVI (1993), 710.

29

Ville, "Growth of Specialization," 713-714 and 719.

Graph 6.1
Specialists (Shipowners) and Merchants as a Proportion of Total Shipping investors in Liverpool, 1820-1889 (Selected Years)



Note: Findings are based on the total number of individuals (including those acting within a partnership) investing in newly-registered tonnage at the port for each sample year.

Source: BT 107/108, Liverpool Vessel Registries, various years.

A need was created for those who made the industry their primary occupation. In Liverpool, as was likely the case in many other British ports, a major incentive developed for certain merchants to put maritime connections into use as specialist owners and for others to leave the business of shipping to the "professionals." In effect, the old merchant shipowner faced a "fork in the road" at this point. He possessed a comparative advantage both in terms of merchanting and vessel ownership. With the two functions splitting more

and more into distinct industries, individuals could chose to go in either direction, depending in which business they felt more at home. Perhaps making this assessment itself, and doing so in a timely manner, was an early component of the adaptability that would be increasingly needed over the course of the nineteenth century. In a few cases, like Brocklebanks, both functions were successfully retained for many years after most merchant shipowners were gone. The period after 1820 has been looked at from the point of view of specialization, but it is equally the era in which other types of ownership, especially that once most closely associated with vessel ownership – merchanting – gave way to the new type of organization.

The change in organization can also be seen by the appearance in the registries of a figure of a clearly transitional nature – the owner who called himself a "merchant and shipowner." Although never a large group among Liverpool investors, their presence indicated a transfer of allegiance from merchanting to shipowning. For these investors the break from one pursuit to the other had not been fully completed and might never be. Yet it is significant that this designation did not appear until after the 1850s, precisely the time at which merchant ownership began a serious decline and shipowning was coming into its own as an occupation. This process was not inevitable, however, and in the nineteenth century may have been confined largely to British ports. Indeed, the rise of the professional shipowner and the concurrent decline of merchant capital in shipowning is one of (if not *the*) major differences in the Liverpool pattern of shipowning and that which the ACSP found

for Atlantic Canada.[30]

From 1820 to 1850 shipowning patterns in Atlantic Canada based on occupational distribution were generally similar to those in Liverpool. There were a variety of occupational groups investing in tonnage in these years, including mariners, traders, farmers and fishermen. Those individuals classed as mariners by Sager and Panting in their study of seven major Canadian ports represented around thirty-five percent of all vessel shareholdings in the period. Mariners were also very much in evidence as shareholders at Liverpool, though their proportions never appear to have been as significant as in Atlantic Canada. Sager and Panting found that in the seven main ports of the Maritimes almost a quarter of all new tonnage from 1820 to about 1850 was owned by mariners, fishermen, traders, or farmers. At Liverpool as late as 1850 mariners and other smallholders including fishmongers, gentlemen, insurance brokers and even widows accounted for a similar proportion of gross registrations.[31]

In Atlantic Canada, as in Liverpool, however, it was the merchant-owner who dominated the business of shipowning from 1820 to 1850. Shareholdings by Atlantic Canadian merchants in this period stood at around one-third of the total, but a full two-thirds of all gross tonnage investment in the region's major ports was made by merchants. Again,

---

30

BT 108, Liverpool Vessel Registries, various years.

31

Ibid, 1850; and Sager, with Panting, *Maritime Capital*, 79-80. Sager and Panting's study ports here are Charlottetown, Halifax, Saint John, Miramichi, Yarmouth, Pictou and Windsor.

a similar proportion of gross investment by merchants appears to have been the norm at Liverpool, although in the years 1820 and 1850, for instance, merchants made up a larger share of the individuals investing than in Atlantic Canada (see Appendix Four). The proportions were not exactly the same in all eastern Canadian ports. In Halifax, for instance, the small investor was more prominent than at Saint John, but merchants still accounted for about half of all newly-registered tonnage. As Sager and Panting summarize the role of the Atlantic Canadian merchant in the early nineteenth century, "the great shipowners of Atlantic Canada were merchants first and shipowners second."[32] Up to 1850 much the same might be said of Liverpool.

It was in the second half of the century that the occupational makeup of shipping investors at Liverpool and Atlantic Canada really diverged. I have noted above how in Liverpool the merchant shipowner came to be replaced, first by the professional shipowner and ultimately by company groupings. Although the use of select years makes the process appear smoother than it was in reality, Graph 6.1 above nonetheless vividly illustrates the diminishing importance of the merchant-investor and the concurrent rise of the shipowning professional at Liverpool after 1850. In most of Atlantic Canada this transition never took place, at least prior to the twentieth century when the eastern Canadian fleet was much diminished. As in Liverpool, Atlantic Canada's fleets became concentrated in fewer hands and smallholders were increasingly displaced. Liverpool merchants were not the major

---

32

Sager, with Panting, *Maritime Capital*, 79-81; and BT 107, Liverpool Vessel Registries, 1820 and 1850. At Newfoundland merchants were, if anything, even more prominent as vessel owners than elsewhere in the region.

player in this process that their counterparts were in Atlantic Canada. Sager and Panting noted a rise in the number of investors calling themselves shipbuilders and "shipowners." Still, even in the 1880s and 1890s merchants continued to account for about thirty percent of newly-registered tonnage in Atlantic Canada's major ports. Contrast this to Liverpool where, as Appendix Four illustrates, merchants accounted for less than four percent of new registrations in 1889. In the Canadian case, Sager and Panting feel that merchant domination of shipowning remained even more pronounced than the actual registrations indicate. They contend that even near the end of the nineteenth century many of those listing themselves as shipowners continued to function essentially as merchants rather than as professional owners. That was, in fact, how the region's major "shipowners" actually perceived themselves. Indeed, only in the port of Yarmouth did a real specialization in the ownership of ocean-going tonnage emerge, and even here such persons were largely members of mercantile families trading on their own account. Even in cases where steam and iron appeared on the Atlantic Canadian registries, merchant owners retained a significant share.[33]

Perhaps the difference with Liverpool (and British ports generally) relates to the

---

33

Sager, with Panting, *Maritime Capital*, 147-150; and BT 107/108, Liverpool Vessel Registries, various years. Sager and Panting's contention that many supposed shipowners in Atlantic Canada were really merchants has an echo in Liverpool, although in a different way. By the 1880s samples only a handful of vessel shareholders still referred to themselves as merchants – especially in 1889. Of their investments, five vessels totalling 10,826 register tons were owned by members of the Brocklebank family. Although continuing to list themselves as merchants the Brocklebanks could certainly be considered professional shipowners by this stage. (Refer to Chapter Eight). On one registry, in fact, Ralph and Thomas Brocklebank listed their occupations using the transitional phrase "merchants and shipowners." On Yarmouth refer again to Alexander,"The Port of Yarmouth." Although Alexander does not specifically engage with the question as to why professional shipowning became so important in the port, his analysis of Yarmouth as a leading shipping port and its involvement in deep-sea trades does give valuable insight into its character.

process of industrialization. Sager and Panting contend that had eastern Canada become industrialized to the degree that locales in Britain had, most shipping would have been owned by a small clique of incorporated companies by 1914. In the Maritimes and Newfoundland ownership by merchant families remained the norm until after the turn of the twentieth century. Incorporated companies did not account for a majority of capital formation in Atlantic Canada's shipping industry until 1907, by which time the Canadian fleet was in serious decline. The professional revolution that marked shipowning in late-nineteenth century Liverpool came late to Atlantic Canada and even then in an incomplete form. The ships of eastern Canada remained essentially "merchant capital."[34]

Although Liverpool's own merchants were eventually superceded by professional shipowners (or actually became shipowners themselves), these two occupations taken together were the most important investors in Liverpool throughout the entire period from 1820 to 1889 (companies excepted), often comprising more than half of all shares in newly-registered vessels. That being said, however, a plethora of other occupations owned the remainder of Liverpool's tonnage.[35] I have alluded to a number of these above, and although most were not statistically dominant, they do figure into some of the literature on Liverpool and shipowning in general. For this reason it is useful to look in more depth at some of them.

Perhaps the most important class of investor in Liverpool's shipping, apart from the

---

34

Sager, with Panting, *Maritime Capital*, 147.

35

See Appendix Four.

professional owners and merchants, at least until mid-century, were mariners – most often masters (again, much as in Atlantic Canada). Their presence as investors is not surprising given the intimate ties mariners would have had with Liverpool's seaward industries and their knowledge of maritime affairs. It is important to detail this group of investors, as mariners were precisely the type of persons whose comparative advantage as part of Liverpool's marine community made tonnage investment a natural choice.

In 1820 twenty-five mariners, of whom thirteen were masters, invested in Liverpool shipping, amounting to about one-sixth of all owners for the year. By 1850 fifty-six mariners, all but four of whom were masters, were listed as investors and owned 5,821 tons of shipping. The percentages in these cases were 11.4 and 7.2, respectively. In 1870 thirteen mariners, all masters, owned 1,802 register tons (2,179 gross) of new shipping, or 6.5 and 1.8 percent of total investors and tonnage. By the final sample year, 1889, the number of mariners stood at only two masters, 1.5 percent, investing in a paltry fifty-four register tons (sixty-five gross), or less than half of one percent of that year's newly-registered tonnage.[36]

Upon reviewing the registry data it is clear that the percentage of tonnage owned by mariners tended to be smaller in proportion to their strength as investors than was the case for shipowners and merchants. This was likely due to the fact that mariners generally owned fewer shares in any particular vessel on average than did either merchants or professional shipowners. When one looks at the numbers of mariners owning tonnage outright compared

---

36

BT 107/108, Liverpool Vessel Registries, 1820, 1850, 1870 and 1889.

to the latter groups, the contrast is quite marked. In 1850, for example, just over a fifth of all shipowners held all sixty-four shares in a vessel; the same held true for about sixteen percent of merchants; but only about nine percent of mariners. In 1870 the proportions were even more deviant: just over and just under half of shipowners and merchants, respectively, controlled all sixty-four shares of their vessels. Such was the case, however, for less than a third of mariners. By 1889 the number of mariners fell too low to make such comparisons worthwhile.[37]

There were a number of factors which might persuade career mariners to become investors, especially the comparative advantage that grew out of their seaward experience. In this way, moving into ownership might provide a profitable income once a seaman retired from active service. Also, becoming an investor was socially in keeping with a master's status as something of a gentleman in his community. Aside from these considerations, there were at least two reasons why mariners would figure prominently as owners. First, a number of mariners might earn their living by fishing and own their own craft, thus appearing as owners – often the sole owner – although the tonnage was not usually great. A number of these persons appeared as investors in the port of Liverpool via their interest in a fishing venture. Overall, however, such owners were not common. Palmer found that this category for London was comprised mainly of Barking fishers, who in 1833 owned about 120 vessels

---

37

Ibid. The data above are more in line with the tendency David Williams discussed regarding the propensity of merchants to own tonnage outright in the years up to 1850, but in a year when they were much less important as a proportion of total investors.

of about forty to sixty tons and often listed themselves as "master mariners." Vessel ownership by fishers was also significant in Atlantic Canada, especially in the case of schooners. As Palmer mentioned, however, this situation was not applicable to every port, and it likely was not in Liverpool. In 1850, for instance, only three persons with definite ties to the fishing industry appeared as investors on the Liverpool register (less than one percent of the year's individual investors). Of these, only one listed himself as a "fisherman," while the other three were "fishmongers." These individuals invested in four vessels of ninety-six tons in total, all owned outright and which averaged twenty-four tons – somewhat smaller than the fishing craft Palmer noted at Barking. In many sample years no fishers or fishmongers appeared as Liverpool investors at all.[38]

A factor which does appear important in the context of Merseyside concerns the common practice of owners giving their masters a number of shares in their commands as a portion of their salary. In going through the Liverpool registries it is quite common to find that a master mariner listed as one of its investors was also the vessel's captain at the time of registration, although this was by no means always the case. At sea and in foreign ports a master had a great deal of leeway concerning freights and cargoes. By granting him a stake in the success of the voyage owners gave the master "an inducement...to get the maximum

---

38

BT 107/108, Liverpool Vessel Registries, various years; Palmer, "Investors in London Shipping," 58; and Sager, with Panting, *Maritime Capital*, 78, and 148-149. Naturally, the importance of fishers on the Liverpool register may be under-represented if, like those at Barking, many described themselves as "master mariners."

profit for the enterprise."[39] In most instances, the number of shares granted to a master via this process was quite small, usually no more than two or three. This likely was part of the reason that mariners tended to have smaller holdings in newly-registered tonnage than did professional owners or merchants.[40]

In some cases the seagoing enterprises of Liverpool masters (or former masters) could be quite extensive. An example was Charles Cotesworth. As in the case of master-owners generally, it is well to bear in mind that the prior connections men like Cotesworth had with maritime trading and their position as members of the port's seaward-looking community were important comparative advantages in shipowning. Born in 1792, Cotesworth commanded a number of vessels out of Liverpool before going into business as an owner on his own account.[41] He began his new career in 1827 in partnership with James Smith. Their first vessel was the 250-ton wooden ship *Brazilian*, three years old and built by Clarke & Nickson's yard in Liverpool. This craft remained in service for more than a quarter century until it was lost off Lisbon on 20 November 1853. Up to 1839 the company

---

39

Palmer, "Investors in London Shipping," 58. See also *BPP*, Select Committee on Employment of British Shipping (1844), VIII, qq. 321-322.

40

BT 107/108, Liverpool Vessel Registries, various years. Another important factor in this trend was certainly the cost. It is highly unlikely that most mariners, even master mariners, would have had the resources at hand to purchase all sixty-four shares in a particular vessel, unlike many professional owners and merchants. Nonetheless, some master mariners, including Charles Cotesworth (detailed above), did become substantial owners in their own right.

41

Surviving material on Cotesworth does not make it explicit as to why he made the switch from commanding to owning vessels. It may simply be the case of an ambitious man applying his prior familiarity with the shipping business (comparative advantage) to a related occupation that, in his mind, promised greater rewards.

owned or held shares in eleven vessels, mainly brigs, but including two each of barques, schooners and ships. In 1839 the firm name was changed to Cotesworth and Company. Smith had retired and died in 1840. That same year Robert Wynne was made a partner; Joseph Lynne, who joined later, became a partner in 1851. From this point the firm was renamed Cotesworth, Wynne and Lynne. Wynne died in 1851 at the early age of forty-six, although the business soldiered on, now referred to as Cotesworth, Lynne & Co. In 1857 Cotesworth passed away at the age of sixty-five. The company did not dissolve immediately upon its founder's death, however, continuing on until 1895 when the last of its vessels was sold and the firm passed out of existence. Its last purchase had been a new 1,031-ton iron barque named the *Charles Cotesworth* in honour of the late founder. This vessel was acquired from the Royden yard in Liverpool in 1876, almost twenty years prior to the firm's dissolution. During its existence the Cotesworth partnerships had owned, at various times, forty-five sailing vessels. Starting in 1839, and continuing for many years thereafter, the Cotesworth companies were involved in the Calcutta trade in competition with Brocklebanks. Beginning as loading brokers for others firms, Cotesworths went on to run a large fleet of its own in the trade.[42]

42

Woods, "Liverpool Fleet Lists," I, 93-97; and NML, MMM, MAL, B/BROC, Historical Notes, Liverpool-Calcutta Trade, 3. The Calcutta trade will be discussed in Chapter Seven as part of the examination of Brocklebanks. Another person who successfully turned his comparative advantages as a master mariner into a shipowning career was Peter Iredale, founder of P. Iredale & Co. Born in Great Broughton, Cumberland in 1823, he turned from skippering vessels to ownership in 1864. By 1881 the company owned eleven vessels and his son, J.H., was a partner. From then until 1890 the firm was officially known as P. Iredale & Son. In that year the younger Iredale struck out on his own, and the partnership was dissolved. John Porter of Carrickfergus, himself son of a master mariner, became Iredale Sr.'s new partner, the business' name being changed to P. Iredale & Porter. Peter Idedale died in 1899 at the age of seventy-six, and J.H. had by then rejoined the firm.

In the nineteenth century traditional mariners were joined at sea by another type of professional whose existence both presaged and followed in the wake of technological change – the marine engineer. Inventors and engineers created the steam revolution, profiled in Chapter Four, that eventually displaced sail. The use of steam expanded in earnest in the years after 1850 as the new technology became increasingly efficient on ever-longer voyages. At the same time, the growth in steam use naturally created a need for even more engineers. All these new vessels needed a different kind of person to run and maintain their engines, just as they had always needed a bridge crew and ratings to guide them safely from port to port. There was at first some friction between these new men and their established colleagues. This was certainly the case in the Royal Navy, for example, which began investing in steam as early as 1819. In the beginning the engineers had no officer corps of their own, although some training was provided as early as 1828. Engineering staff were normally supplied by whomever built a vessel's engines, and they had no formal status; in many cases they were simply engine drivers rather than proper engineers. Two Orders in Council in 1837 and 1847 gave the navy's engineers warrant and then commissioned rank. Even then, they messed apart from the rest of the crew, and some friction continued into the twentieth century. Some of this animosity may have come from wage rates. By the 1840s, when steam was making its first real inroads into merchant shipping, engineers were

---

Porter retired in 1904 and passed away in 1934. J.H. himself retired in 1917 after the loss of the vessel *Arethusa*, and the company was wound down. Thirty-four craft were owned by the company over its life, plus eleven purchased by J.H. on his own from 1890to 1892. For reference to earlier company history see B. Guiness Orchard, *Liverpool's Legion of Honour* (Birkenhead,1893).

considered skilled professionals whose services were much in demand – a chief engineer was normally paid more than a first officer. Whatever the difficulties, the age of the maritime engineer was at hand after mid-century, and it is not surprising that this group should be found among investors just as were more traditional mariners.[43]

Given the relative paucity of steam tonnage prior to the 1850s, it is not surprising that the engineer did not figure in any real way as a Liverpool investor prior to this time. In all sample years before 1850 only one investor, James Logan, described himself as an engineer, and it is not clear that his expertise was in any way maritime. In 1826 Logan owned thirty-two shares in a 36-ton sloop. The next year engineers appeared in the registries was in 1850, when four owned a total of about 394 tons of shipping – all steamers. The period from 1850 to 1870 was the heyday of the engineer as investor. In 1855, 1860 and 1865 six or seven engineers appeared as the owners of new tonnage each year. Their overall share of new registries in Liverpool was never large, reaching a peak of seven vessels and 1,014 register tons in 1860. In both 1870 and 1889 only one engineer invested in new tonnage at Liverpool.

43

Ronald Hope, *A New History of British Shipping* (London, 1990), 274; John Winton, *An Illustrated History of the Royal Navy* (London, 2000), 103; and H.C. McMurray, "Technology and Social Change at Sea: The Status and Position on Board of the Ship's Engineer, *circa* 1830-60," in Ommer and Panting (eds.), *Working Men Who Got Wet* (St. John's, NL, 1980), 35-50. For evidence of the diverging wage histories of engineers as compared to traditional ship's officers, see Lewis R. Fischer, "Seamen in a Space Economy: International Regional Patterns of Maritime Wages on Sailing Vessels, 1863-1900," in Stephen Fisher (ed.), *Lisbon as a Port Town, the British Seaman and Other Maritime Themes* (Exeter, 1988), 57-92; and Fischer, "International Maritime Labour, 1863-1900: World Wages and Trends," *The Great Circle*, X, No. 1 (Spring 1988), 1-21 This was not simply a British problem; see Fischer and Helge W. Nordvik, "From Namsos to Halden: Myths and Realities in the History of Norwegian Seamen's Wages, 1850-1914," *Scandinavian Economic History Review*, XXXV, No. 1 (1987), 41-65; and Fischer and Nordvik, "Salaries of the Sea: Maritime Wages in Stavanger, 1892-1914," *Stavanger Historisk Årbok 1987* (Stavanger, 1988), 103-132. In addition to the engineers, there were a numbers of new jobs created by the advent of steam, such as firemen, stokers and trimmers.

This was to be expected, since by this time full-time shipowners and formally organized companies dominated. The demise of the engineer-investor was in keeping with the decline in the non-professional investor in general and largely coincided with the figures for mariners, although the latter group was somewhat more important as owners. This being said, certain investors with close ties to marine engineering did have some real impact as owners.[44]

One of the investors who listed himself as a shipowner in the 1880s was R.P. Houston, who registered four screw steamers in the sample years 1885 and 1889 (Houston owned more than thirty vessels over his career).[45] On the surface, Houston appears to have been (and was) a professional shipowner. But he got his start in the marine sector through the family profession of engineering. Robert Paterson Houston (often referred to as R.P.H.) was the son of a Renfrewshire marine engineer, Robert Houston Sr. The younger Houston was born at Bootle, Liverpool, on 31 May 1853. He initially followed his father's profession and was apprenticed as a marine engineer and shipbuilder. While Houston was still fairly young his father died and his mother married Alexander Maclennan, a superintending engineer with the National Line. At the age of twenty-one Houston replaced his stepfather

---

44

BT 107/108, Liverpool Vessel Registries, various years. Not all the engineer-investors were marine engineers. Two listed themselves as "civil engineers," and one entered his occupation as "consulting engineer." Blue Funnel Line founder Alfred Holt, although most noted (as an engineer) for his marine innovations, started out in railway engineering.

45

Ibid., 1880, 1885 and 1889. The steamers were *Heliades, Hellopes, Hippomenes* and *Hydarnes*. The vessels totaled 7,246 register tons (11,207 gross tons), of which Houston was outright owner of all but the 1,922 register ton *Heliades*, which he co-owned with Frederic Smitton.

with the National. Despite this success the young man's interest lay more in shipowning, and he soon determined to build his own fleet. Houston never forgot his grounding in marine engineering, however, and almost all the steamers built for his company up to the turn of the twentieth century were designed by him personally.[46]

The theme of comparative advantage has been repeated throughout this study, and such is especially pertinent to this chapter in terms of advantages accrued through one's place of residence and occupational background. R.P. Houston certainly possessed such advantages, being a marine engineer, as well the son and stepson of others; he was also a native of Liverpool. Houston may well be a good example of another type of comparative advantage, although one which cannot be easily quantified – personality. His feisty temperament and natural determination seem to have been key elements in his success as a shipowner. This designation fits many of Liverpool's vessel owners, who might today be classed as "type A personalities."

Under the auspices of its "feisty" founder, the Houston line got its start in 1877 when R.P.H. bought a part share in a small iron screw steamer. Houston went into business on his

---

46

Robert Greenhill, "Sir Robert Paterson Houston," in David J. Jeremy (ed.), *Dictionary of Business Biography* (6 vols., London, 1984-1986), III, 369-370; John McRoberts, "The Houston Story (1)," *Sea Breezes*, New series), XLIV (May 1970), 297; John Kennedy, *The History of Steam Navigation* (Liverpool, 1903), 241; and Guy R. Sloman, "Some Lesser-Known Liverpool Shipping Companies," *Liverpool Nautical Research Society Transactions*, VII (1952-1953), 22. Houston entered Parliament in 1892, representing West Toxteth for the next thirty-two years until he retired due to ill-health. Indeed, Houston replaced Thomas B. Royden after he resigned the seat. Houston was a vocal critic of what he perceived to be wrong and, unusually for a shipowner of the day, saw himself as a friend of labour. On the down side, he was very much a Protestant partisan and could be quite bitter toward political opponents. Houston represented the Liverpool Shipowners Association on the Mersey Dock Board and was made a baronet in 1922. He married two years later, late in life, and died in 1926 leaving no heirs.

own in 1880 as R.P. Houston and Company, placing an order for an 1,100-ton iron screw steamer with Whitehaven Shipbuilding Company. Launched as *Hercules* in 1881, this vessel started the tradition of naming the fleet after Greco-Roman deities, all starting with the letter "H." This first H-class vessel traded to the Far East as a tramp, and Houston also received contracts from the Panama Canal and West African Companies, although he was primarily interested in the South American trades. By this stage, however, many of the established companies trading to the region had formed conferences to keep out interlopers. Houston was undeterred and launched a determined fight against the cartel. He soon carved out a prosperous niche in the River Plate trade, inaugurating weekly sailings that lasted until 1926. With his engineering background Houston became a pioneer in the refrigerated meat trade from Argentina. In 1884 four of his vessels were fitted with refrigerating machinery, and Houston began his meat and livestock service to the UK. By 1898 R.P.H.'s South American trade had grown to the point where he was investing in ever-larger vessels, and the fleet was brought under the aegis of his new British and South American Steam Navigation Company Limited, with R.P. Houston and Company as managers. Prior to this time R.P. Houston & Co. had been a partnership in which R.P.H. himself was senior, and the firm simply managed a number of single-ship companies.[47]

In 1899 Houston turned his energy in a new direction and inaugurated a New York-River Plate service using the new steamer *Hermes II*, the first of eight vessels ordered in that

---

47

McRoberts, "Houston Story (1)," 297-301; Kennedy, *History of Steam Navigation*, 237-239; Greenhill, "Sir Robert Paterson Houston," 371; and Sloman, "Some Lesser-Known Liverpool Shipping Companies," 22-23.

year. At the same time Houston became one of the first British shipowners to offer his vessels for government service at the outbreak of the Boer War. The Houston steamers were employed carrying men, horses and mules to South Africa, and the Admiralty was quite pleased with their performance and safety records. Although Houston was an ardent imperialist, his fortune stemmed largely from these wartime contracts. Indeed, his detractors often claimed that profit was the only reason he offered his tonnage. Be that as it may, few of the contractors in those days made a secret of their drive for financial gain, and R.P.H. did the work well. Because of the fleet's war service Houstons was short of tonnage for trading on its own account and purchased a number of other vessels by the end of 1901.[48]

Houston's experience with South Africa's wartime transport convinced him of the value of placing the trade on a regular footing after the return of peace in 1902. As in South America, however, the decision pitted Houston against an established conference – a fight he was once again determined to win. The conference members introduced "penalty freights" against R.P.H.'s vessels so that any shippers employing Houston tonnage would subsequently be charged a double rate if they used conference vessels. When the conflict turned bitter Houston engaged the services of the lawyer F.E. Smith, who took the conference operators to court. Houston eventually wore down his competitors and was

---

48

McRoberts, "Houston Story (1)," 304-305; and Kennedy, *History of Steam Navigation*, 240-241. On the link between shipowners and naval contracts see Lance E. Davis, Robert A. Huttenback and Jon Sumida, "British Naval Operational Logistics, 1914-1918," *Journal of Military History* LVII, No. 3 (July 1993), 447-480; and A. J. Arnold, "Riches Beyond the Dreams of Avarice? Commercial Returns on British Warship Construction, 1889-1914," *Economic History Review* LIV, No. 2 (2001), 267-289.

grudgingly admitted to conference membership. By 1914 the Houston Line consisted of about twenty vessels totalling some 80,000 gross tons. The line sometimes chartered shipping, but Houston preferred to run new rather than second-hand tonnage, although the latter route was sometimes necessary during the early days in South Africa. Houston did not tie himself to any particular builder, preferring instead to shop around for the best deals that were capable of thirteen or fourteen knots. Until ordering his last new tonnage after the turn of the century, R.P.H. always tried to reinvest profits into modernizing his fleet while disposing of outdated bottoms (this practical strategy was also employed by PSNC). Aside from Houston's original Liverpool-River Plate service, the line ran vessels between a number of major UK and American ports to South America by the outbreak of the Great War, also calling at ports in South and East Africa and Continental Europe. During the war the line lost about 28,000 tons of shipping that had ben requisitioned by the Admiralty. By 1918 the fleet was old and in need of replacement, and Houston himself was tired. Thus, when former South African trade rivals Cayzer Irving, operators of the Clan Line, offered a reported £2,000,000, Houston sold out, ending its career of almost forty years.[49]

49

McRoberts, "Houston Story (1)," 306-307; Kennedy, *History of Steam Navigation*, 241-242; Greenhill, "Sir Robert Paterson Houston," 370-371; John McRoberts, "The Houston Story (2)," *Sea Breezes*, New series, XLIV (June 1970), 364-365; and Sloman, "Some Lesser-Known Liverpool Shipping Companies," 23-24. Houston's opponents in the South African Conference, apart from Clan Line, were the Union-Castle Line, Bucknall Line, Harrison-Ellerman, J.T. Rennie & Co., and Bullard King & Co. Although respected by his rivals, Houston, with his tough and litigious style, was never well-liked, and he was accused during his career of running unsafe vessels. In truth, the opposite was likely the case, and his self-designed tonnage was noted for its efficiency. Houston maintained all-British crews, paid union rates and maintained an outstanding safety record. On the Union-Castle Line, see Andrew Porter, *Victorian Shipping and Imperial Policy. Donald Currie, the Castle Line and Southern Africa* (Woodbridge, 1986); Peter Abbott, *Union Castle: The Forgotten Navy* (Harbour Bebington, 2001); Norman Hodson, *The Race to the Cape. A Story of the Union-Castle Line, 1857-*

Engineers like Robert Houston were closely associated with the design and building of vessels and their engines in the steam era. Aside from engineers, however, there were many other occupations – largely craft-based and frequently associated with sail – concerned with the construction and outfitting of vessels. In Liverpool these included sailmakers, ship chandlers, shipbuilders, shipwrights, coopers and anchorsmiths. As Palmer found in London, the number of such investors in Liverpool was relatively small, both in terms of numbers and tonnage. Still, their presence was by no means negligible. Indeed "marine tradesmen" often accounted for more than five percent of the individual investors in newly-registered shipping at Liverpool, and in the sample year 1870 this number stood at more than ten percent. Generally speaking, their share of total tonnage registered was smaller, especially by the last sample year (See Appendix Four). In some cases a craftsman might be paid for his work in vessel shares rather than cash, thus automatically making him a shipowner. Other tradesmen might have wished to have an interest in a vessel to insure the awarding of repair and outfitting contracts, although there is no evidence that such motives were still a factor by the 1830s. In most cases it is likely that such persons simply got into investing by way of "personal contacts within the port."[50] In other words, the nature of the marine tradesman's business, including the network of personal relationships it generated, formed a natural

---

1977 (Ringwood, 1995); and C.J. Harris and Brian D. Ingpen. *Mailships of the Union-Castle Line* (Sparkford, 1994). On Ellerman, see John Clarkson, *Ellerman Lines* (Preston, 1993); and especially Francis Hyde, *Shipping Enterprise and Management 1830-1939: Harrisons of Liverpool* (Liverpool, 1967). For a compendium of vessels lost during the Great War, see the British government-produced *Navy Losses and Merchant Shipping Losses* (London, 1919).

50

Palmer, "Investors in London Shipping," 58; and BT 107/108, Liverpool Vessel Registries, various years.

comparative advantage facilitating entry into shipowning.

A further occupation with close contacts with the shipping industry was shipbroking. Like the building and outfitting trades, brokers never owned a significant share of tonnage, but as this occupation became increasingly important in the second half of the century, the number of brokers increased dramatically. For this reason it would not be out of place to discuss their role in Liverpool shipowning.[51]

Shipbroking had existed for centuries in one form or another. In the years before 1000 CE Norse society included a profession known as *brokunar-madr*, or "go-betweens," who acted as intermediaries between shipowners, builders and merchants. The activities of shipbrokers were important enough for governments to regulate the business as early as the 1600s. Still, as late as the early 1800s family and community relationships were often enough to facilitate the buying and selling of tonnage. By 1850 this pattern had begun to change with the emergence of the modern international economy and new trends in shipping. The growth of free trade in Britain, and later in many other trading nations, encouraged maritime commerce, with the attendant heightened demand for vessels. In the short-term this created a tonnage deficit, which in turn attracted large numbers of new investors. Many of

---

51

Lewis R. Fischer, "A Bridge Across the Water: Liverpool Shipbrokers and the Transfer of Eastern Canadian Sailing Vessels, 1855-1880," *The Northern Mariner/Le Marin du Nord*, III (1993), 51. Fischer's thesis revolves around the sale of Canadian tonnage. On the history of shipbroking, see Fischer and Helge W. Nordvik, "Economic Theory, Information and Management in Shipbroking: Fearnley and Eger as a Case Study, 1869-1972," in Simon P. Ville and David M. Williams (eds.), *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and Business History* (St. John's, NL, 1994), especially 3-6. See also Lars Gorton, Rolf Ihre and Arne Sanderson, *Shipbroking and Chartering Practice* (London, 1990).

these neophytes lacked the expertise to purchase vessels on their own, and for such persons shipbrokers were indispensable. With the coming of iron and steel sailing craft and the growth of steam, owners had more potential design options to chose from in purchasing tonnage than previously. Once more, brokers were helpful in advising shipowners concerning tonnage purchases. With generally fluid markets many builders constructed new craft on speculation, with no sure buyer. In these cases brokers were the best source of locating potential clients. In short, these changes created a demand for middlemen able to match buyers and sellers. The growth of brokerage after 1850 was thus no coincidence.[52]

The term shipbroker has been widely used by scholars and in contemporary writings, but Lewis Fischer has specified four tasks that define their activities. First is the chartering of vessels, in other words matching shipowners with tonnage to offer with men or firms that have cargoes to be transported. The second is to act as a customs' broker, facilitating entrances and clearances of vessels and their cargoes. The third is to arrange the sale and/or purchase of tonnage. Finally, shipbrokers often provide ancillary services, such as financing and sometimes insurance cover. While chartering generally occupied the greatest share of a broker's time, it was the sale-and-purchase function that was the most lucrative. Individual charter-parties rarely earned a broker more than a few hundred pounds, even when freight rates were high, since in the late nineteenth and early twentieth centuries commissions seldom exceeded two percent, even on longer routes. But fees for buying or selling tonnage

---

52

Fischer, "Bridge Across the Water," 49-50.

were often in the range of five or six percent, and the contracts normally involved much larger sums. Moreover, it was not unheard of for a broker in a single transaction to represent both the buyer and the seller – and to earn commissions from both participants in the deal. Although brokers made their living from dealing with physical capital, it was in the realm of the intangible that they really operated.[53] According to Fischer and Anders Fon, "[s]hipbrokers in the nineteenth century, as well as the present, have made their fortunes by controlling information flows. Brokers have no visible commodities to sell; in essence, their task is to bring together buyers and sellers."[54]

Despite their growing centrality to the industry, Liverpool shipbrokers were never major investors in shipping, at least on an individual basis. Even after 1850, when trade expanded exponentially, the percentage of investors who called themselves brokers remained well under ten percent, and by 1889 there was not a single shipbroker who invested in new tonnage at Liverpool (Appendix Four). Because shipbrokers often derived

---

53

Ibid., 51.

54

Lewis R. Fischer and Anders M. Fon, "The Making of a Maritime Firm: The Rise of Fearnley and Eger, 1869-1917," in Fischer (ed.), *From Wheel House to Counting House*, 307. Since these firms and individuals dealt in information, writing it down could destroy an individual's competitive advantages by making key material available to rivals. For this reason brokers often conducted business orally or destroyed records when they were no longer needed. For this reason shipbroking is more difficult to study in depth than is shipowning. See also Lewis R. Fischer and Helge W. Nordvik, "The Growth of Norwegian Shipbroking: The Practices of Fearnley and Eger as a Case Study, 1869-1914," in Lewis R. Fischer and Walter Minchinton (eds.), *People of the Northern Seas* (St. John's, 1992), 135-155; and Fischer, "Profits and Stagnation: Fearnley and Eger and the Interwar Crises, 1919-1939," *Northern Seas Yearbook 1994* (Esbjerg, 1994), 45-66. For a study of brokerage on Merseyside, see Peter N. Davies, *Henry Tyrer: A Liverpool Shipping Agent and His Enterprises, 1879-1979* (London, 1979).

a portion of their livelihood from shipowning, their appearance in the Liverpool registries, if in fairly small numbers, is not surprising. Brokerage in itself was attractive to businesspeople because the capital required for entry was negligible and certainly much less than shipowning. Still, the latter trade, with its potentially high profit margins, often proved a powerful lure for the broker. Moreover, since in the international context brokerage and shipowning almost always went hand in hand, the distinction between brokers and shipowners could be very amorphous indeed.[55]

The linkage between shipbroking and shipowning characterized the careers of two well known Liverpool owners, Thomas and James Harrison. Although there is ample material available on their activities for a major case study, it has already been the subject of an in-depth scholarly treatment by Francis Hyde.[56] Although more than thirty years old, this book remains one of the classics of scholarship on Liverpool trade and provides a glimpse into the sometimes complex interchanges between two important, and hardly mutually exclusive, groups of investors.

Thomas, born in 1815, and James, born in 1821, were the sons of a prosperous Lancashire farmer for whom James was named. They were apprenticed to the ship and general brokerage firm of Samuel Brown & Company, which had ties to the Williamson

---

55

BT 107/108, Liverpool Vessel Registries, various years; and Fischer and Fon, "Making of a Maritime Firm," 306-307. In this regard Fearnley and Eger was almost unique in keeping its focus on brokering rather than ownership.

56

See Hyde, *Shipping Enterprise and Management.*

family, small-scale shipowners and masters from Scarborough. Brown's main business involved the importation of brandy from Charente and the export of coal, mainly for the use of the distillers. By 1820 the firm was trading partly out of Liverpool, with the Brown Company acting as its brokers. By mid-decade the Browns owned shares in the Williamson craft in their own right. Richard Williamson, Jr. settled at Tonay-Charente, and by 1836 the Harrisons began investing in tonnage in partnership with him. In 1842 the brothers owned shares in four small craft[57]

Thomas became a partner in Browns in 1846, when the company took the name Brown Harrison. The firm soon deployed its tonnage on routes to Europe, Brazil, the Crimea (for war charters) and China. When George Brown died in 1853, the Harrisons assumed full control of the brokerage firm, then known as T. & J. Harrison. Following the ratification of the Cobden-Chevalier treaty in 1860, the Harrisons decided to switch to steam for the brandy trade using the aptly-named *Cognac*, along with *Gladiator* and *Dragon*.[58] Always looking for new opportunities, the Harrisons began putting steamers into the New Orleans cotton

---

57

J.R. Harris, "Thomas Harrison and James Harrison," in Jeremy (ed.), Dictionary of Business Biography, III. See also "Harrison Line's 100 Years," *Sea Breezes*, XVII (1954), 276-286; George Chandler, *Liverpool Shipping: A Short History* (London, 1960), 152-156; and Duncan Haws, *Merchant Fleets: Thos. & Jas. Harrison* (Newport, Gwent, 1988).

58

The terms of this treaty were favourable to the brandy trade and allowed the importation of cheap British coal into France. Also called the Anglo-French Commercial Treaty, Cobden-Chevalier removed remaining tariff duties on many of the most important trade goods carried between Britain and France. Besides spirits and coal, the treaty also removed duties on fine French silk products and British industrial goods. Not particularly successful at increasing bilateral trade, the treaty did at least ease political tensions between the rival nations, while also inaugurating a new era of freer trade. John Belchem and Richard Price (eds.), *The Penguin Dictionary of Nineteenth-Century History*London, 1996), 28-29.

trade just after the Civil War and even set up a branch office in that southern Louisiana city.[59]

In 1871 the brothers formed a separate shipowning company under the name Charente Steamship Co., with a capital investment of £512,000.[60] In 1884 when Thomas' health began to fail, the company was turned into a limited-liability entity. Officially Thos. & Jas. Harrison acted as managers for the shipping company, with the Harrison brothers being the principle shareholders in the latter concern. They were joined as shareholders (albeit minor ones) by their brothers, E.H. and John. John died that same year, and his shares were bought by John William Hughes, a former clerk and now a major investor in the company. In this period Harrisons entered the Indian trade and were noted for a relatively humane coolie trade. The firm also expanded to New York in search of import cargoes for Liverpool. It likewise became involved in trade with Central America, the Carribean and the Pacific, and their vessels departed Liverpool for Barbados, Trinidad, Port-au-Prince, Kingston Vera Cruz and New Orleans. Harrisons managed their own Calcutta steamers, but from the 1880s this function was left to R. Bulman and Co. for the West Indian trades and

---

59

Harris, "Harrison;" and A.G. Collingwood, "From Brigs to Containers," *Sea Breezes*, New series, LI (1977), 297.

60

It is probable that many brokers were owners – like the Harrisons – either through setting up or becoming part of established company groupings. This would explain their low numbers as individual investors on Merseyside. Company groupings would appear an ideal vehicle for persons whose forte was bringing together disparate elements of the shipping industry.

to W. Killey and Co. for their Pernambuco steamers.[61]

Thomas Harrison died in 1888, followed by James in 1891. The company continued on, however, with the brothers' sons in charge, assisted by Hughes. From the late 1880s the tonnage and power of Harrison's vessels increased, from an average of around 2,000 tons to about 4,000, growing steadily in the early twentieth century. In 1889 the company purchased the Star Line from Rathbone Brothers and Company, adding to this in 1911 with the Aberdeen Direct Line. As we will see in the next chapter, this kind of acquisitive behaviour was typical of shipowners in the late-Victorian to Edwardian period. The line remained successful at the outbreak of the Great War. Thereafter, the business continued to prosper, despite losses in both the World Wars. As late as the 1970s, Harrisons supplemented a conventional fleet with container ships, and their livery continued to be seen on the world's trade routes until late in the century.[62]

Aside from their ties with Liverpool and shipowning, the Harrisons shared another trait in common with all of the owners profiled thus far – they were men. Although not especially well represented as investors, there were some female vessel shareholders at Liverpool as well. Their categorization by "occupation" is somewhat problematic, and they were mainly listed as "widows" and "spinsters." These designations represent virtually all

---

61

Harris, "Harrison;" Collingwood, "From Brigs to Containers," 297, and Edward Coward, *The Steamship Lines of the Mersey and Export Trade Register* (Liverpool, 1880), 38-39.

62

Collingwood, "From Brigs to Containers," 298-311.

tonnage owned by women in Liverpool in an era when they were designated by their relationships to a male partner (or lack thereof) rather than on their own merits.[63] Although like shipbrokers, women did not comprise an especially large proportion of investors in new tonnage, they did appear with some regularity in the registries. In each sample year from 1820 to 1889 there was at least one female investor, although their numbers never topped twenty. The highest number of female investors was in 1835, when they comprised eighteen out of 212, or about 8.5 percent of all individuals (or companies) investing in new tonnage that year. In 1865 there were almost as many women listed among investors, but here, with a larger number of investors overall, they comprised only 3.2 percent of individual investors. In most other years there were less than ten individual women found in the registries, apart

---

63

There is a growing body of important literature on women in the shipping industry. For an excellent place to start, see the splendid essays in Margaret S. Creighton and Lisa Norling (eds.), *Iron Men, Wooden Women: Gender and Seafaring in the Atlantic World, 1700-1920* (Baltimore, 1996). See also Creighton, *Rites and Passages: The Experience of American Whaling, 1830-1870* (Cambridge, 1995); Creighton, "'Women' and Men in American Whaling, 1830-1870," *International Journal of Maritime History*, IV, No. 1 (June 1992), 195-218; Norling, *Captain Ahab had a Wife: New England Women and the Whale Fishery, 1720-1870* (Chapel Hill, NC, 2000); Dian H. Murray, *Pirates of the South China Coast, 1790-1810* (Stanford, 1987); Dianne Dugaw, "'Rambling Female Sailors:' The Rise and Fall of the Seafaring Heroine," *International Journal of Maritime History*, IV, No. 1 (June 1992), 179-194; Sari Maenpää, "Galley News: Catering Personnel on British Passenger Liners, 1860-1938," *International Journal of Maritime History*, XII, No. 1 (June 2000), 243-260; Maenpää, "From Pea Soup to Hors D'Oeuvres: The Status of the Cook on British Merchant Ships," *The Northern Mariner/Le Marin du nord*, XI, No. 2 (April 2001), 39-55; and Jo Stanley, "The Company of Women," *The Northern Mariner/Le Marin du nord*, IX, No. 2 (April 1999), pp. 69-86. At present, however, most focus either on women as spouses of officers, generally captains, or on transvestites. To date their has been little systematic study of them as crew or as owners in their own right. A "typical" example of a woman investor was Liverpool resident Annabella Davis, given in the registry as a widow. In 1826 Davis was listed as the owner of twenty one shares in each of two vessels. The *Abbey* and *Cranrod* were fifty-three and seventy-two tons, respectively. Interestingly enough, both craft were early examples of steamers on the Liverpool registry. Although the document does not indicate for certain, it is likely that Davis was left the shares by her late husband, obviously one of the port's early believers in steam. BT 107, Liverpool Vessel Registries, 1826.

from in 1850, which was one of the largest years for shipping investment.[64]

There is little direct evidence in the registers as to why these women became investors in shipping, but in a previous study of shipping in Maryport I did indicate a number of possibilities. As part of a dowry a new bride might receive vessel shares which, following the practice of the day, would likely be listed as belonging to the husband until his death; at which time the shares would revert to the widow. Moreover, it is almost certain that many widows inherited their vessel tonnage, along with other goods and chattels, as part of their husband's estates. In some cases there is direct evidence in the registries of the role widows played in estate management after a husband's death. For example, in 1850 Maria Louise Swire of Liverpool was listed as being executrix of the estate of her husband, the late John Swire. There was also a great need for this form of provision for surviving female spouses in the nineteenth century. In an era when working women were rare, as indeed were social welfare programmes, widows may often have depended upon such estate income for support following a spouse's death. Similarly, unmarried women, or "spinsters" in contemporary language, may have relied on returns from shipping for a living. Since the expectation was that most Victorian women would rely on a spouse's income, at least past a certain age, the failure to marry might have had serious consequences for those women listed as spinsters in the registries. It would be a sensible precaution for such persons to have invested in

---

64

BT 107/108, Liverpool Vessel Registries, various years.

shipping in the hope of a continuing return on the initial investment.[65]

It is likely that these women, for the most part, had familial connections to maritime industry – thus, like their male counterparts, they had a comparative advantage in this type of investment. Although not recorded in the registries, these connections were probably put to use either by another family member on their behalf or by the women themselves, drawing on resources of their own to try to ensure an ongoing source of revenue and support. Supplementary data backs such a contention. The Swire family, for example, were well established as part of Liverpool's maritime business community. The best-known member of the clan was John Samuel, "The Senior," whose longtime connection with Ocean Steam Ship through his agency, Butterfield and Swire, was referred to in Chapter Two. Swire's father, also called John, was the son of merchant Samuel Swire of Halifax. John came to Liverpool in 1812 to work for a cousin who was established there as a merchant. In 1832 John started the firm of John Swire & Sons, and had been trading on his own from 1816. John Swire & Sons imported goods from New York and Leghorn, as well as acting as loading broker for ships bound for the West Indies. His wife Maria Louisa's family also had impeccable maritime credentials. Maria's father, Jonathan Roose, was a general merchant who owned tonnage and acted as a ship's agent. Maria appeared in the 1850 register as owner of four shares in the 1,063 ton barque, *Theodore*, built the previous year in Quebec, Canada. Mrs. Swire was one of thirteen investors in the craft. Her sons John Samuel and his

---

65

BT 107/108, Liverpool Vessel Registries, various years; and Clarke, "Coastwise from Cumberland."

younger brother William Hudson Swire owned four shares in the vessel in partnership with one Thomas Rogers Junior. It is very likely then that Maria Louisa Swire bought, or was given, these shares to ensure an independent income following John's death in 1847. With her strong family connections to shipowning, this method of earning a living would have been very familiar to Maria Louisa Swire.[66]

This would have been no less the case for the female members of the Brocklebank family. Their business forming one of our major case studies, the Brocklebanks also provide direct evidence of how certain women in shipowning families were provided for by the ownership of vessel shares. In 1820, about the time Thomas Brocklebank moved his firm's headquarters to Liverpool, his widowed mother and two unmarried sisters were earning small incomes via shares in Irish Sea schooners and brigs. One example of these vessels was the schooner *Evergreen*, in which the Brocklebank sisters held shares.[67]

What seems clear from the registry data, as well as accounts of the shipping business in general, is that women (even members of such important maritime families as the Brocklebanks and Swires) did not play an especially influential role as part of the investor community, except perhaps through their roles as wives and mothers. Again, this is not surprising given the Victorian attitude toward the "proper" place of women in society.

66

Sheila Marriner and F. E. Hyde. *The Senior: John Samuel Swire, 1825-98* (Liverpool, 1967), 10-12; Malcolm Falkus, *The Blue Funnel Legend. A History of the Ocean Steam Ship Company, 1865-1973* (London, 1990), 60-61; and BT 107/108, Liverpool Vessel Registries, 1850.

67

Gibson, *Brocklebanks*, 65-66 and 76. Incidently, *Evergreen* was not part of Thos. & Jno. Brocklebanks' fleet.

Nonetheless, it is interesting to speculate how great a role some of these women might have played in the industry had they been given the chance.[68]

.....

Whether female or male, Liverpool's investors were generally drawn from the port or its regional hinterland, as illustrated in Chapter Five. This situation was similar to what Palmer found for London and what the ACSP demonstrated in regard to Atlantic Canada. Throughout our study period three quarters or more of Liverpool investors always came from Lancashire (including Liverpool), Cheshire and Cumberland, with significant numbers from northern Wales in the 1870s. It may be that regional familiarity served as its own form of comparative advantage when choosing to invest. Such local knowledge might act as an important information network when, for example, deciding on the best tonnage in which to invest. Being part of the local maritime community also forged valuable interpersonal and business connections of the type discussed by Gordon Boyce. This comparative advantage could mean the difference between success and failure as a shipowner. In addition, the resident owner had the further advantage of being physically near his home port's seaward activity.

Despite this residential homogeneity, Liverpool's investor community was much more disparate in occupational terms. Still, particularly in the fifty years after 1820, those buying new vessel shares were often connected to seafaring and other maritime trades. Often

---

68

Clarke, "Coastwise from Cumberland," 77.

locals themselves, these mariners, ship chandlers, sailmakers, stevedores and others possessed the insider knowledge that came from being part of Liverpool's maritime community. As Simon Ville suggests, they may even have gravitated toward ownership to gain additional employment or have been paid in the form of shares.[69] As investors Liverpool's merchant class were even more important than maritime tradesmen and mariners. For merchants, transporting many of their goods by sea, tonnage ownership was a natural corollary of their businesses. One of the great shifts in Liverpool's investor community occurred as merchant ownership gave way to specialization. The individual professional shipowner remained an important figure at Liverpool right through to 1889. Increasingly, however, these persons acting on their own account were superceded by the company form of ownership. Acting as company shareholders investors could pool resources as the more capital intensive steamers became the norm on British registries.

To reiterate, in the years from 1820 to 1889 Liverpool's investor community underwent a number of important changes. At the start of this period a vessel, usually wooden sail, was typically owned by a number of individuals and partnerships from many walks of life, though often those with seaward connections. By 1889 more and more of Liverpool's new registrations, now frequently auxiliary steamers, were owned outright by professionals or companies. As the global economy and the business of shipping changed so did Liverpool's shipowning community, displaying the all important trait of adaptability

---

69

Ville, "Growth of Specialization," 706.

to shifting trends, even if such was not consciously planned.

Having now examined these owners in terms of their choice of how to invest, geographic distribution and occupational groupings, our attention will turn to a specific pair of investors on the Liverpool registry – Brocklebanks and Pacific Steam Navigation Company – using these firms as case studies. They will illustrate some of the varied strategies employed to succeed in the business of shipowning. Both companies found a comparative advantage (or advantages) as seaward commercial enterprises and displayed a marked talent for adaptability over the course of many decades. Depending on the cargoes being carried, the distances sailed and the influence of factors such as local conditions, what gave such companies an "edge" could vary widely. In the end, however, Brocklebanks and PSNC were successful shipowners, adapting in various ways to the specific challenges generated by their chosen trades.

Chapter 7

Brocklebanks – Under Sail

The subject of this chapter and that which follows was one of the most successful Liverpool shipping firms. The history of Brocklebanks can illustrate a good deal not only about shipowning and trade but also about a number of ancillary maritime sectors, such as shipbuilding. In addition, Brocklebanks are a good illustration of the tendency to find a comparative advantage in shipping and (hopefully) to exploit it to a firm's best advantage. As seen in our profiles of Liverpool investors, having an established connection to some maritime industry was an obvious comparative advantage, allowing an entry route into shipowning while providing a background knowledge (and information) base likely to increase one's chances of success as an owner. In fact, Brocklebank family patriarch Daniel was involved with vessel ownership as part of his building enterprise from the very beginning, although like most owners of his day, he never considered himself specifically a shipowner. By the second generation the Brocklebank family maintained a headquarters in Liverpool. Like their initial entry into shipowning, this move must have been a natural one given Liverpool's standing as western Britain's premier overseas port. A theme of this thesis has been the value, or comparative advantage, of being part of a port community. Certainly the integration of the family into Liverpool's commercial and social milieu could have only enhanced Brocklebanks' viability.[1]

1

Much of the material on Brocklebanks is not especially detailed on their activities as part of the wider Liverpool community, but certainly these ties were there. Ralph Brocklebank (1803-1892) was especially well connected

Once established in Liverpool Brocklebanks soon displayed the adaptability that so often characterized the successful shipowning concern.[2] Once their traditional West Indian trades no longer appeared profitable the company shifted their emphasis toward Indian trading. Focussing on Calcutta, the firm established a new comparative advantage as a safe and reliable shipper of low-end goods like rice and jute. For many years Brocklebanks remained true to established traditions, long retaining sail tonnage and the merchanting side of their business.

Eventually the opening of Suez and improvements in steam technology overtook the older methods, and Brocklebanks again displayed considerable flexibility. In time the firm adopted many of the new technologies and business techniques that developed in nineteenth-century shipping, but only at their own pace and only when such adaptation seemed most advantageous. Over a span of more than two hundred years the company's familiar blue-and-white livery could be seen from the Mersey to ports in India, China and throughout the western hemisphere. Making the most of their comparative advantages and proving

---

in terms of his community and the port of Liverpool itself. A member of the Dock Committee from 1851, he was an early member of the new Docks and Harbour Board, founded in 1858. Brocklebank Chaired the Board from 1863 to 1869 and had one of the city's north docks named in his honour. He retired from the Board in 1883, having served a quarter of a century. While on the Board Brocklebank also sat on the works, marine and warehouse committees. Ralph Brocklebank was active in the Mercantile Marine Service Association and patronized the Liverpool Seaman's Orphanage and the Sailor's Home. Michael Stammers, "Brocklebank, Ralph (1803-1892) Shipowner," in David J. Jeremy (ed.). *Dictionary of Business Biography* (6 vols., London, 1984-1986), I, 460. Of Ralph and his cousin Thomas (Fisher) Brocklebank John Frederick Gibson writes "Both men were very active in the life of Liverpool and in all its connections with maritime trade." Gibson, *Brocklebanks: 1770-1950* (2 vols., Liverpool, 1953), I, 146.

2

It should be reiterated here (and it perhaps cannot be stressed enough) that neither of these factors could guarantee that a business succeeded.

adaptable when necessary, the firm arguably was the greatest success story in the long history of Liverpool shipowning. But strangely enough they have never been the focus of a full-length, scholarly study.[3]

In addition to the enterprise's longevity, the family itself was directly involved, if not always as outright owners, for six generations. It is a truism (with some foundation) in business circles that family-run firms do not survive beyond the third generation. The founder is likely to be followed by a vigorous successor, but then the business will degenerate or at least be taken in vastly different directions by the third person in the line.[4] While it is easy enough to find examples to sustain this generalization, especially in the British context, Brocklebanks clearly avoided falling victim to this trend. Indeed, the company is also an excellent example of business innovation. Starting off with interests in

---

3

The two standard works on the firm – neither of which is scholarly – are Gibson, *Brocklebanks*; and D. Hollett, *From Cumberland to Cape Horn: The Complete History of the Sailing Fleet of Thomas & John Brocklebank of Whitehaven and Liverpool – 'The World's Oldest Shipping Company* (Norwich, 1984). During the company's existence a plethora of shorter works that discuss various aspects of the form's history have appeared. These include Denis H. Bates, "Liverpool Shipping Company's 167 Years of Progress," *The Liverpolitan* (September 1937), 29-30. This article, while brief, is of interest because it is written by the man who would guide the company for many years after 1911; see "Fully Armed," *Post and Mercury*, 22 February 1934. This small piece noted that Brocklebanks was perhaps the only shipping firm of the day to possess their own heavy ordnance, a pair of Vickers naval guns purchased before 1916, which stood outside the company's Liverpool office. "Oldest British Shipping Firm," *Journal of Commerce*, 16 May 1935); Dudley Reeves, "From Sail to Steam: Brocklebank's Part in Maritime History," *Town and Country News*, 15 August 1930); "The House of Brocklebank (1770-1927): A Century-and-a-Half's Unbroken Record," *Liverpool Daily Post*, (1927), supplement; Clement Jones, "Origin and Development of the House of Brocklebank: The Oldest Shipping Firm in the Kingdom," *Journal of Commerce*, 25 November 1938; "Britain's Oldest Shipping Company Sailors, Shipbuilders and Shipowners," *Sea Breezes*, XI (1928), 73-74; and "The Story of the Brocklebank Line," *Sea Breezes*, XX (1935), 13-16.

4

On the theory of entrepreneurial transition, see Ronan Macdonald, "Schumpeter and Max Weber: Central Visions and Social Theories," *Quarterly Journal of Economics*, LXXIX, No. 3 (1965), 373-396.

building and operating vessels, they gravitated increasingly toward shipowning as the years progressed. Happily, perhaps because of their start outside Liverpool, the firm was not a direct participant in the slave trade, although they were founded during the trade's heyday on the Mersey. Brocklebanks took their own path to success and are one of the best cases for those who defend the decision to invest in steam tonnage cautiously and judiciously. Sticking to one of their early comparative advantages, Brocklebanks were also quite late to abandon their merchanting function in favour of pure shipownership. For much of their history the firm was noted for in the main operating tonnage to carry its own goods. The company also provides evidence of the growth in specialization noted by David Williams. In addition to their interests outside ownership in the earlier period, Brocklebanks was at first, and for many decades, involved in a variety of global trades: their craft ranged from the Mediterranean to the Baltic, to Newfoundland and the west coast of South America. From the 1850s, however, their attention was increasingly focussed on trade with China and India. The latter was more important, and particularly the port of Calcutta. In time, and as trade patterns evolved, the company would broaden their horizons again and then return once more to a concentration on the India trade (see figure 7.1 for a depiction of all routes inaugurated prior to 1914). The company survived war losses in the twentieth century, and their colours could still be seen sailing the world's oceans until the early 1980s.[5]

5

Stammers, "Brocklebank, Ralph (1803-1892); and David M. Williams, "The Function of the Merchant in Specific Liverpool Import Trades. 1820-50" (MA Thesis, University of Liverpool, 1963), 88.

Figure 7.1
Brocklebank Shipping Routes Inaugurated, 1800-1914

Sail:1800-1901

1) Whitehaven/Liverpool-West Indies

2) Whitehaven/Liverpool-South America

3) Whitehaven/Liverpool-Maritime Canada, Newfoundland

4) Whitehaven/Liverpool-Calcutta and Dutch East Indies

Steam: 1900-

1) 1901: Steam replaced sail on Brocklebanks' main routes to Calcutta.

2) Antwerp-Suez Canal-Singapore-Shanghai-Japan. 1905-1914.

3) London-Malaya-Singapore--Hong Kong-China ports-Japan. 1906-1911.

4) Glasgow-Liverpool-India (Anchor-Brocklebank). 1911-1939.

Note: The firm was also engaged in general coasting and trade to the Baltic in summer. India gradually came to predominate, while the others shrank in importance. Later outward sailings from Britain normally went direct to Calcutta. Other routes included Liverpool/Birkenhead-South Africa-Calcutta, Continental Europe-London-Dundee-Liverpool; and Liverpool/ Birkenhead-Colombo-Bombay-Karachi.

Source: Duncan Haws, *Merchant Fleets: Thos. & Jno. Brocklebank* (London, 1994), 16.

The origins of the Brocklebank firm go back to the middle of the eighteenth century or perhaps even to the Reign of Queen Anne. The Reverend Daniel Brocklebank was born in 1705 and spent the years 1735-1757 as curate of a small parish church in the village of Torpenhow. For twenty- two years Rev. Brocklebank performed the parish duties in place of absentee vicars before finally being rewarded in 1757 with the Vicarage of Morland in Westmorland. During his tenure at Torpenhow his wife Sarah gave birth to two daughters

and two sons. The older of the boys, Ralph, played no direct role in what became the family business, following instead in his father's footsteps and assisting in his ministry from 1762 to 1764. His grandson and namesake, however, went on to play an integral role in the Brocklebank shipping interests. The actual foundation of the business was left to the younger brother, Daniel Jr.[6]

Daniel was born in 1741. Little concrete detail survives of his early life, but we know that he became an apprentice shipbuilder in Whitehaven and that after he completed his indentures he became a builder in his own right. The younger Daniel was married in 1769, and it seems his attention was soon focussed on greener pastures. The next year he sailed to the American colonies in the hope of establishing himself as a shipbuilder in a locale where he believed the competition would be less and the opportunities greater. There is some disagreement as to where this yard was located, with one author giving it as New York and another saying it was near Sheepscott, in the part of Massachusetts that after 1820 would become Maine. Be that as it may, it seems that wherever the first Brocklebank yard was established, it produced five vessels in total. Yet by the time Brocklebank completed his fifth craft, a brig named *Castor*, the winds of revolutionary change threatened to ruin the young couple's hopes for a quiet life in their new home.[7]

6

Clement Wakefield Jones, *Pioneer Shipowners* (2 vols., Liverpool, 1935-1938), II, 13-14.

7

Ibid., II, 16-17; and W. Stewart Rees, "Brocklebanks," *Liverpool Nautical Research Society Transactions*, III (1946-1947), 30-31. It is Rees who gave the location of Daniel's first yard as Maine. Given that he was a longtime member of Brocklebanks' office staff, and spent years arranging and docketing their archival materials, it is likely that Rees (affectionately known as "Willie") is correct. The *Castor* is described by Jones as the "best"

This is not the place to recount the events of the American Revolution. Suffice it to say that in April 1775 armed revolt erupted in some of Britain's colonies on the American seaboard following Parliament's reassertion of its right to tax the colonists without elected representation. To modern Americans the choice must seem simple – between loyalty to one's country or casting one's lot with a foreign power. In reality, however, the choice was more complex, especially since not all colonists defined their allegiance unambiguously. Indeed, the Revolution was much like a civil war and, although there are wide variations in the estimates, it may be that as many colonists in the end defined their allegiance with reference to the King in Britain (Loyalists) as pledged allegiance to the new nation (Patriots).[8] While we do not know Brocklebank's precise thoughts on the issue, it is clear which side he chose – the King and England. This was quite understandable for a man who had only left his native soil five years earlier. Taking command of the *Castor,* Brocklebank gathered a crew of like-minded colonists and prepared to return to the homeland.[9] A

---

of the vessels built in America by Brocklebank. It was 220 tons and mounted twenty guns.

8

John Adams, the revolutionary leader who became the second president of the United States claimed in old age that one-third of the colonists became patriots, one-third Loyalists, and the other third "did not give a damn." For a more complete discussion, see John E. Hill, *Revolutionary Values for a New Millennium: John Adams, Adam Smith, and Social Virtue* (Lanham, MD, 2000).

9

Jones, *Pioneer Shipowners*, II, 15; and Rees, "Brocklebanks," 30. On the subject of loyalists, see Bernard Bailyn, *The Ideological Origins of the American Revolution* (Cambridge, Massachusetts, 1992); and G.N.D. Evans (ed.), *Allegiance in America: The Case of the Loyalists* (Reading, MA, 1969). Sources on the American Revolution are legion. A concise popular overview is Daniel Marston, *The American Revolution 1774-1783* (New York, 2003). An interesting take on the revolution is Kevin Phillips, *The Cousins Wars: Religion, Politics & The Triumph of Anglo-America* (New York, 1999). Phillips sees the revolution as part of a continuum of Anglo-political dissent and conflict stretching back into the English Civil War through the War of Independence that culminated in America's own North-South conflict in 1861-1865. Through such internecine struggles grew

contemporary account indicates that there was some haste involved in their departure; indeed, Daniel and his crew had managed to load on the *Castor*:

> ...only one barrel of beef and some bread. Provisions could not be purchased there [America], he therefore gave his seamen the choice of running for Nova Scotia or the Banks of Newfoundland, to try whether they could secure a sufficiency of fish to support them on their passage to Europe...They chose the latter and in a few hours caught an amazing great quantity [of fish]. They had some salt but not enough to preserve the fish they had taken, this deficiency they however soon supplied, by scraping up the salt which had been laid between the timbers (a custom used for preserving ships) wherever they could get it, and by these means...cured a quantity which served them plentifully on the passage...After twenty days sail, they were in St. George's Channel, and on the 11th from that, came safe into Whitehaven...[10]

The Whitehaven to which Daniel Brocklebank returned was thriving due to the success of the Lowther family's collieries in the area. In the Tudor period Whitehaven had been little more than an insignificant village, but by the 1770s it had been completely transformed. Indeed, as early as mid-century the town had already grown to some eleven thousand inhabitants. From being home to only a few fishers in earlier centuries, contemporary Whitehaven could boast 260 registered vessels of about 30,000 tons burthen. Thirty of these bottoms were employed in the foreign trades, with the rest used for the carriage of coal.[11] The demand for shipping to carry the area's coal to market made

---

modern Anglo-American culture that came to dominate the world from the British Empire to the United States' current predominance.

10

Cumberland Pacquet, 15 June 1775, as quoted in Rees, "Brocklebanks," 30.

11

Jones, *Pioneer Shipowners*, II, 16. For information on the Lowther family, Cumberland and the coal industry in general, see J.V. Beckett, *Coal and Tobacco: The Lowthers and the Economic Development of West Cumberland, 1660-1760* (Cambridge, 1981); J.D. Marshall and John K. Walton, *The Lake Counties from 1830*

Whitehaven a logical place of residence for a man who had been trained as a shipbuilder. Not many years into his chosen trade, Daniel had already learned the lesson of comparative advantage well.

But first there was a war to be fought, and Brocklebank's adopted home did not escape its effects. In 1777 the expatriate mariner John Paul Jones crossed the Atlantic in the twenty-six-gun *Ranger* in the service of the American rebels. After refitting at Brest, Jones landed at Whitehaven on 23 April 1778, intending to destroy the port, its shipping and its shipyards. The raid was not apparently motivated by any malice against the town, but simply by Jones' familiarity with the port. It was from Whitehaven that he had sailed to Virginia at age thirteen. Jones landed with two boat crews, one of which promptly sought out a local pub and got drunk. The raid may have been quite serious had not Jones been betrayed by an Irish crewman who warned the locals. *Ranger*'s crew accomplished no more than burning three vessels, including the collier *Thompson*, and spiking the guns in a dilapidated fort before they were driven off. Damage estimates ran from between £250-£1,250.[12] Daniel Brocklebank was not one to remain inured to such provocations and the next year was

---

to the Mid-Twentieth Century (Manchester, 1981); and B.R. Mitchell, *Economic Development of the British Coal Industry 1800-1914* (Cambridge, 1984).

12

Samuel Eliot Morison, *John Paul Jones: A Sailor's Biography* (Boston, 1959; reprint, Annapolis, MD, 1989), 139-142; James C. Bradford, "John Paul Jones and *Guerre de Razzia*," *The Northern Mariner/Le Marin du nord*, XIII, No. 4 (October 2003), 6; and David Howarth, *British Sea Power. How Britain became Sovereign of the Seas* (London: 2003), 308-310. The main effect of Jones' raid was psychological – English soil had not been directly attacked since the Dutch burned Sherness in 1667 and people feared the Royal Navy could not keep them safe.

granted a Letter of Marque by King George III for the *Castor*.[13] Brocklebank commanded this newly-minted privateer, which was armed with twenty-six guns and carried a crew of forty-five. Captain Brocklebank sank an enemy vessel on 9 March 1779 and recaptured a London privateer only recently taken by the Americans.[14]

These activities, while of interest, were not Brocklebank's main occupation and involved him for only a few years before he again was able to devote all his energies to ensuring the success of his shipyard. Still, during the period of hostilities the mariner had two vessels built on his behalf. The first was the 300-ton *Pollux*, built in 1780 and subsequently renamed *Precedent*. In 1782 the 342-ton *Castor II* was constructed at Whitehaven to replace the original *Castor*, which had been wrecked in the West Indies the previous year. In 1784 this became the first Brocklebank vessel to be advertized as available for charter. It was not long before Brocklebanks' shipping business returned to the old haunts where Daniel had some experience. A week after being advertized, *Castor II*

13

National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), B/BROC, Operational, Letter of Marque to Daniel Brocklebank for Privateering against Spain in Ship *Castor*, 1779.

14

Jones, *Pioneer Shipowners*, II, 17; and Rees, "Brocklebanks," 31. Privateering was a common way for governments to supplement their naval forces up to the end of the Napoleonic wars. Letters of Marque gave warships that were privately fitted-out the right to attack and capture, or sink, enemy vessels. The loot taken and the vessel were granted to the privateer's crew (and owners) as their reward, with a portion also going to the Crown. Tradition has it that privateering led Brocklebanks to fly their houseflags from the foremasts, as the main was originally needed for the letters-of-marque flags. John Clarkson and Roy Fenton, *Ships in Focus: Anchor and Brocklebank Lines* (Longton, Preston, 1994), 35. It does not appear that Daniel Brocklebank made any significant gains as a result of his privateering ventures, but in some cases money earned by privateering could aid in establishing other businesses. See Lindley S. Butler, *Pirates, Privateers, and Rebel Raiders of the Carolina Coast* (London, 2000).

commenced a voyage to North America, while the *Precedent* was on a run to Florida. The company acquired interests in a number of other vessels during this period, making runs to the Carolinas for tobacco and to other American ports for timber. From the end of the Revolutionary War to the outbreak of hostilities with Republican France, the small fleet traded not only to British North America but also to the Baltic, Ireland and the Carribean.[15]

Brocklebank continued to operate his vessels as cargo carriers for a number of years following the return of peace, but he was soon back ashore and building vessels in earnest. In 1788 a new Brocklebank yard was established in Whitehaven which produced the first of twenty-five craft under his supervision – the 155-ton brig *Perseverance*. The business soon became an important industry in Whitehaven, with its vessels growing both in size and quantity. A third and fourth *Castor* were produced at the yard. Brocklebank's oldest son, Daniel Jr., became master of the *Castor IV* when he was only nineteen years-old. To supplement this business Brocklebank purchased the Bransty Ropery in 1794 so the firm could make rope for their own vessels.[16]

15

Brocklebank's original *Castor* was a wartime loss. The privateer was being pursued by another private ship of war off Jamaica when a fault in the wood caused her foremast to break. The *Castor* was then driven onto the rocks and completely wrecked. John Frederick Gibson, "The House of Brocklebank (1)," *Sea Breezes*, XVII (1954), 31.

16

Jones, *Pioneer Shipowners*, II, 17-18; Rees, "Brocklebanks," 31-32; and Gibson, "House of Brocklebank (1)," 31-32. This period also encompassed the start of the French Revolutionary and Napoleonic wars. Ships generally sailed in convoy, but a number of Brocklebank bottoms were captured. The 233-ton *Nestor* was captured by a French frigate off Cape St. Vincent – much better known as the scene of British naval success. The small brig *Ceres* was taken by a privateer while coasting between Whitehaven and Hull. This trend continued in the early years of the second-generation owners. The 204-ton brig *Ariel* was taken in the English Channel by a French privateer in 1807.

Even in these early years, when the firm's focus was more on the shipbuilding yard, their trade connections and fleet were already growing. Given his experience in the former colonies, the re-opening of the American trades after the ratification of Jay's Treaty in 1794 was certainly to his advantage.[17] Because shipping in that period was depended entirely on the vagaries of wind and tide, few vessels operated on a single route or depended exclusively on only one cargo. Brocklebank's vessels generally carried coal and iron outward, returning to Whitehaven in the main with West Indian products and timber for the yard.[18] The fleet then consisted of the *Castor, Scipio, Jupiter, Hero, Irton, Cyrus, Zebulon* and *Nestor* (see Appendix 6A). Brocklebank's tonnage was also engaged by Scotland's Carron Company to transport canon to Catherine the Great's forces in St. Petersburg, returning with tar and hemp.[19]

17

Jay's treaty was signed in the context of increasing hostility between Britain and the newly-independent United States. The treaty temporarily resolved a number of disputes, guaranteeing that the British would give up control of certain western posts retained in contravention of the Treaty of Paris (1783). It also allowed American claims for damages resulting from British vessel seizures and permitted a limited American trade with the West Indies. On the other hand, Britain did not concede the right of neutral nations to trade freely with the belligerents in their war with France. The treaty, concluded between American statesman and Chief Justice John Jay (1745-1829), and Lord Grenville (1759-1834), was generally favourable to the US. Still, opponents perceived it as a betrayal of former ally France, and the document angered the revolutionary French authorities, leading indirectly to the Franco-American "Quasi-War" of 1798 to 1800. Magnus Magnusson (ed.), *Chambers Biographical Dictionary* (Edinburgh, 1990), 627 and 776; and Nathan Miller, *Broadsides. The Age of Fighting Sail, 1775-1815* (Edison, NJ, 2005), 185-187. On the role of Jay's Treaty set in the context of Anglo-American commercial relations after the Revolution see Charles R. Ritcheseon, *Aftermath of Revolution: British Policy toward the United States, 1783-1795* (Dallas, 1969).

18

The main imports from the West Indies in Brocklebanks' ships in this period were Jamaican sugar and rum, cottons, port and sherry.

19

Gibson, "House of Brocklebank (1)," 34.

Considering the company's later success, it is ironic that Daniel never intended to become an important shipowner. Most of the craft built at the Whitehaven yard were put up for sale or charter even before they were launched. Local merchants and mariners also placed a number of orders. If we take the years 1775, 1785 and 1795 as examples, the average age of vessels in Daniel's fleet was only three years. Still, by 1795 the business owned, at least in part, twelve vessels. The following year all but three were sold, and the founder continued disposing of most of his tonnage until he retired in 1800, although he continued to hold a few shares in some of the vessels.[20]

Daniel passed away at Whitehaven in March 1801 at the age of sixty, but not before he was predeceased by his eldest son. Twenty-five-year-old Daniel Jr. had been commanding the 314-ton ship *Alfred* as part of a convoy to Jamaica in 1798 when he contracted yellow fever and died, leaving no descendants. As a result, when Daniel Sr. died the business, until then known as Daniel Brocklebank, was left to two of his younger sons, Thomas, aged twenty-seven and Jonathan, who was twenty-one. The business then became known as Thos. & Jno. Brocklebank, a name that endured in shipping for over 180 years (Appendix 6B gives particulars of all vessels owned by Thos. & Jno. Brocklebank from 1801 until 1914, the latter year marking the end of this study).[21]

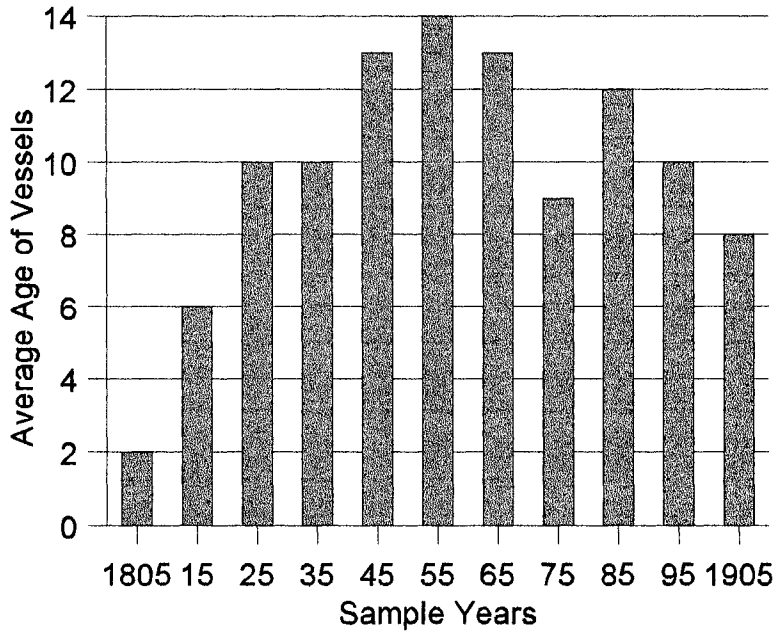
20

Ibid; and NML, MMM, MAL, B/BROC, Historical Notes, Brocklebank Fleet.

21

Jones, *Pioneer Shipowners*, II, 18; Rees, "Brocklebanks," 32; and Gibson, "House of Brocklebank (1)," 34.

Graph 7.1
Average Age of Vessels in Brocklebank Fleet, 1805-1905



Source: National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), B/BROC, Historical Notes, Brocklebank Fleet.

Thomas and Jonathan took charge of the shipbuilding yard while their cousin, John, the son of their uncle, Rev. Ralph Brocklebank, assumed responsibility for the ropery. The siblings divided their responsibilities, with Thomas remaining in Whitehaven for the most part and shaping general policy while John visited other British ports to supervise the loading and unloading of their vessels. According to at least one author, the transfer of power was in more than name only: whereas Daniel Sr. had run his concern more from the standpoint of a mariner, both brothers were pure businessmen. This new approach would be

reflected through the remainder of the firm's existence.[22]

When it was profitable to do so, Thomas decided that tonnage should be sold while still on the stocks. In 1805, only four years after the brothers had assumed control of the firm, the average age of vessels in the fleet was only two years, the lowest in the company's existence (see Graph 7.1). When tonnage could not be sold profitably in this way, Brocklebanks vessels were employed as traders to pay for themselves until a buyer could be found.[23] At the time Thomas and Jonathan took control of the yard, their tonnage was quoted at just over £10 per ton, but by 1803 the 264-ton *King George* was sold at Liverpool for £4,000, or about £16 per ton. Under the brothers' guidance the firm quickly expanded, and many craft were produced. In fact, from 1807 until the yard closed in 1865, 116 vessels were produced, amounting to some 34,388 tons of shipping (see Appendix Seven). In some cases, such as the first vessel built after the brothers assumed control of the yard, the *General Hunter*, the firm sold most of the shares but retained a few, in this case 8/64ths. Because of the company's dual role as shipowners and merchants (a role that was maintained for most of the nineteenth century), many vessels only partially owned by the firm were used to carry Brocklebanks cargoes. These were integrated into the Brocklebanks fleet and operated

---

22

Rees, "Brocklebanks," 32-33; and David E. Stillwell, "Brocklebanks: The Final Century," *Sea Breezes*, LVIII (1984), 115.

23

In this way the Brocklebanks were very much like builders in British North America in the first half of the nineteenth century. The region that specialized most obviously in building vessels on speculation, but operating the craft if no buyer could be found, was Prince Edward Island. See Lewis R. Fischer, "The Port of Prince Edward Island, 1840-1889: A Preliminary Analysis," in Keith Matthews and Gerald Panting (eds.), *Ships and Shipbuilding in the North Atlantic Region* (St. John's, NL, 1977), 19-40.

according to an agreed cost formula that normally took the form of expenses, insurance and depreciation, along with a percentage for the vessel owner. Voyage profits would then be apportioned according to the number of shares held by each party. As merchants, the Brocklebanks fixed cargoes on these terms and arranged homeward freights, the latter function being most important for a vessel's substantive owner. Without such arrangements captains might have to wait for prolonged periods in foreign ports before finding paying cargoes for their return voyage.[24]

Whitehaven had become prosperous in the sugar and rum trades, and Brocklebank's own 264- ton ship *King George* was put on the run to Demerara for sugar after a period trading in the Baltic. By 1805 the nucleus of the company's fleet was already in place. Although amounting to just 682 tons in aggregate, the *Experiment*, *Beaver*, *Queen Charlotte* and *Hercules* were the forerunners of a large array of successors. By the cessation of hostilities with France in 1815 the number of vessels owned, at least in part, by the company stood at thirteen, amounting to more than 3,000 tons. In 1820 the firm owned ten vessels outright, valued at a total of £38,000. Brocklebanks were also part owners of another six

---

24

NML, MMM, MAL, B/BROC, Brocklebank Fleet; Vessels Built by T. & J. Brocklebank, 1807 to 1865; and Duncan Haws, *Merchant Fleets: Thos. & Jno. Brocklebank* (London, 1994), 18-19 and 32. During the French Revolutionary Wars some Brocklebank vessels were armed with cannon, leading to the introduction of a broad white stripe around the hull. Even when cannon were not mounted, it was hoped the stripe would lead enemy vessels to confuse Brocklebanks craft with Royal Navy warships, or those of the equally well armed East India Company. In addition to craft part-owned by Brocklebanks, others which they did not own at all are generally counted as part of their fleet, as they were used mainly for Brocklebank trading. The *Superior* is a good example. Built at the Whitehaven yard in 1825, the 240 gross ton brig was sold to the Bouch family. Despite the sale, she was frequently employed by Brocklebanks and traded to India and Singapore on their behalf from 1829. It was this vessel which made the first Brocklebanks voyage to the Far East. Haws, *Brocklebank*, 29.

vessels, and together this fleet of sixteen craft comprised nearly 4,000 tons of shipping, at an average size of 257 tons.[25]

The Brocklebank yard provided the family with an entry into shipowning and their grounding in maritime affairs. In this sense it certainly formed part of their comparative advantage (not to mention the fact that they built their own vessels for many years). On the other hand, it must be acknowledged that the shipyard was not alway a source of blessings. Brocklebanks was a fair employer but, like their competitors, such as Kelsik Wood and Sons in Maryport, the yard suffered from labour unrest in the 1820s. According to a contemporary account:

> [F]or some time past the workmen in the employ of Messrs. Brocklebank, builders, as well as others and even the boys, have exhibited strong symptoms of a refractory spirit....It appears that on Tuesday the 18th, [of October, 1825] the apprentices seized two men who did not belong to the "Union," and mounting them upon poles successively paraded them through the streets....[T]hey were met at the foot of Duke Street, by Mr. [John] Brocklebank who endeavoured to prevail upon them to liberate the men, but in vain. A scuffle ensued. Mr. Brocklebank pressed in among them and was either knocked or thrown down by one of his own apprentices, and he did not arise again without soiled apparel and a bloody face. Justly incensed, Mr. Brocklebank proceeded to his yard and dismissed every man and boy employed in it and shut it up. Several of the apprentices were taken into custody but were afterwards liberated on bail. They have since had an interview with Mr. Brocklebank and on Monday morning last the Yard was

---

25

Great Britain, Board of Trade (BT) 107, Liverpool Vessel Registries, 1820; Gibson, "House of Brocklebank (1)," 34-36 and 50-54; and Stillwell, "Brocklebanks," 129-133. The company also did some coastal trading in this period. The *Experiment*, an eighty-nine-ton topsail schooner, made coasting runs between Chepstow and Ireland from about 1804 until 1807. The brig *Beaver* was captained by a cousin, Ralph Brocklebank. To remain close to his family Captain Ralph traded mainly in home waters, especially on runs from Liverpool to Drogheda and Waterford. Haws, *Brocklebank*, 19-20.

again opened and several, both men and boys, were admitted to work.[26]

John Brocklebank died in 1831 after being thrown from his horse at the relatively young age of fifty-one. Management of the yard passed to a cousin, Daniel Bird, and then to another relative, Joseph Henry Robinson, following Bird's death in 1845. Despite these setbacks, the Brocklebank connection with shipbuilding and Whitehaven was to last more than another three decades. In the interim Thomas had moved to Liverpool in 1819, and in 1820 opened an office there under the name Thos. & Jno. Brocklebank, beginning the close connection between Brocklebanks and the Mersey. Nonetheless, the Whitehaven business continued to prosper. Ships were still built in Cumberland, registered in Liverpool and sailed from the Mersey. The yard produced its first paddle steamer, the *Countess of Lonsdale*, in 1827 for the Whitehaven Steam Navigation Company. Ironically, Brocklebanks' shipping arm did not itself employ steamers until the 1890s. Nevertheless, this provides proof that Brocklebanks' late switch to steam was motivated not by hidebound conservatism but rather by what the firm judged to be a realistic assessment of what was needed to service the required trade routes. Both brothers were, in fact, shareholders in Whitehaven Steam Navigation and supported the use of steam in the coasting trade. Another milestone was reached on 15 October 1852 when Brocklebank's yard launched the 852-ton *Martaban* in front of a crowd of 5,000 onlookers. In terms of both tonnage and length-to-beam ratio, the

---

26

Gore's Liverpool Advertiser, 20 October 1825.

vessel was the largest produced to that time by any Whitehaven builder.[27]

A portion of the correspondence between the Liverpool office and the Whitehaven yard has survived, especially concerning the latter years of the latter's operations. The letters tell us about a number of important factors relating to the business. It is clear throughout that although the shipyard was the more senior of the Brocklebank interests, by mid-nineteenth century operations were clearly directed from Liverpool. Indeed, this was likely true much earlier, perhaps from the time that Thomas, the elder brother, first relocated to the city.[28] Certainly the Liverpool operation would have predominated after John's death in 1831. It seems even to have outlived Thomas' own death in 1845. From this point on Liverpool was clearly the hub of the Brocklebank enterprise, a position it held for decades. Most of the letters outward to Whitehaven were in fact in the form of directives. While there is certainly

---

27

NML, MMM, MAL, B/BROC, Vessels Built by T. & J. Brocklebank; Rees, "Brocklebanks," 34-37; Stillwell, "Brocklebanks: The Final Century," 115; and Gibson, "House of Brocklebank," 38.

28

The move to Liverpool was referred to in the chapter introduction. Neither of the Brocklebank siblings published memoirs, and later writers have been rather vague on why Thomas left Whitehaven for Liverpool. The advantages of this seem obvious, however. Already involved in West Indies trading, relocating to one of Britain's major overseas trading centres was entirely logical for the Brocklebanks. That Liverpool had its own extensive links to the West Indies was a plus in itself. Certainly the family was much better positioned to exploit the Calcutta trade as residents of this world commercial *entrepôt*, with the many connections this entailed, then they were at Whitehaven (the move may likewise have related to the firm's entry into the Newfoundland trade. See below). A good statement of the comparative advantage derived from residence in Liverpool is given by Sheila Marriner and Francis Hyde. They state that:

> By the first decades of the nineteenth century [Liverpool], with its complexity of merchanting, banking, insurance and ship-broking services, had become a magnet for the aspirations of many a young man seeking his fortune in the rapidly expanding commercial and shipping enterprises on the Mersey...[T]he Brocklebanks came from Whitehaven, the Ismays from Maryport, the Inmans from Silverdale, the Harrison brothers from Garstang and the Holts from Rochdale. The list is a formidable one in the history of Britain's mercantile marine... Marriner and Hyde, *The Senior: John Samuel Swire, 1825-98*. (Liverpool, 1967), 10-11.

a collegial air about the letters, no one reading them could doubt who ran the show.

This is not the only important point, however. A number of the letters indicate Brocklebanks' own requirements for tonnage. For all of their long existence, Brocklebanks were engaged primarily in middle- or long-distance trades, as opposed to coasting or short-sea trading. For the trades in which the company was involved, the obvious rig of choice would have been ship or barque – in other words, fairly large vessels. On 20 August 1861 the Liverpool office informed Whitehaven that "a ship of 650 tons is too small for us for any purpose and it would be well if you could sell the same you have on hand with out loss."[29] The company might also be included in a list of Liverpool's "conservative" firms for their supposed failure to adopt new technology. In the case of at least one piece of innovation, Brocklebanks clarify the practical reasons why not all technological developments were suitable for specific trades or specific owners.

In 1863 the Liverpool office wrote that the Whitehaven yard could "in the 600 ton ship have patent-reefing topsails but not in the two large ships. In the China trade we may be afraid of the cost; in the Calcutta trade with steam aid down channel and up the Hoogly topsails are rarely reefed."[30] Later that year the office reiterated its objections to reefing gear. "The yards [of the vessel *Everest*] are disfigured by the reefing apparatus. We will have no more of this for experience leads three out of five masters to condemn it...[I]t has been found

---

29

NML, MMM, MAL, B/BROC, Administration, Business Letters, 20 August 1861.

30

Ibid., 3 March 1863.

a nuisance."[31]

Some of the business relationships engendered by the trades were also reflected in the correspondence. In 1863, for example, Brocklebanks contracted for a cargo of wood to be shipped in the vessel *Bernice*. The material was supplied by the firms of William Jones & Son and Duncan Ewing & Company. Two types of wood were contracted – green heart and mora – at a cost to Brocklebanks of £8 and £7 /5/0 per load (Queen's caliper measure), respectively. Interestingly, the risks incurred during the voyage were assumed by the suppliers rather than by Brocklebanks. The clause was inserted that the "contract [was] void if cargo lost on the homeward voyage."[32]

Of course, Brocklebanks were only one of many builders dependent on a steady and reliable supply of wood for their operations, and it appears that a "tit-for-tat" relationship existed in which firms helped competitors overcome short-term difficulties in return for their good will. On 14 August 1863 the Liverpool office informed Whitehaven that "one from

---

31

Ibid., 13 November 1863. The *Everest* was ship-rigged, of wooden construction and 571 gross tons. She was a speedy craft and clipper hulled. Employed by Brocklebanks in the Hong Kong and Shanghai trades, *Everest* competed with another nineteen vessels in the 1868 "Tea Race," of which she was the only vessel bound for Liverpool, all the others having a terminus in London. The ship arrived in Liverpool on 17 October and was seventh of the twenty. The vessel sailed for a decade before being stranded and eventually lost on the North Danger Reef in the China Sea. Haws, *Brocklebanks*, 47. The business correspondence indicates that the Liverpool office approved of the vessel's appearance, even when it was compromised by practical concerns. They wrote that "...the *Everest* entered the [Mersey] river last night about 9 o'clock and the Princes Dock this morning. In the Dock we have been able to see her partially. We admire her bow and think it the better of having a diminished flange. The after end could only be partially seen. The waterlines are faultless, but could the vessel have been narrower across the transome...there might have been a more sightly view to the eye at the expense probably of comfort in the cabins and on the quarter deck."

32

NML, MMM, MAL, B/BROC, Legal, "Contract per *Bernice*," 23 October 1863.

Harland & Wolff applied here today for teak but as we had not heard from you could only tell him he might have the logs he marked provided you could spare them. Supposing to part with the logs be not injurious to you, we wish Harland to have them..."[33]

The type of relationship alluded to in this letter fits well with the forms of information networks and the value of established reputations for integrity discussed by Gordon Boyce and Graeme Milne. They further illustrate the importance of such linkages in helping to create the comparative advantage possessed by a port's resident marine entrepreneurs. Reserving some of its wood stocks for Harland and Wolff's use was a good way to ensure the goodwill and co-operation of a competitor.[34]

It was wood, or the shift away from it, that in the end spelled the end of Brocklebanks' ninety-year connection with shipbuilding. In the 1860s sail still dominated the British registry, especially in the long-distance trades. More and more, however, iron was replacing wood as the material of choice for new construction. There would have been no comparative disadvantage to the Whitehaven yard – located in Britain – in making the

---

33

NGL, MMM, MAL, B/BROC, Administration, Business Letters, 14 August 1863. The relationship with Harland & Wolff was of long duration. From 1863, when they first employed iron tonnage, to the outbreak of the Great War, Brocklebanks bought almost all their vessels from Harland & Wolff. In the years 1820-1865 all but three of Brocklebanks' vessels were produced at their Whitehaven yard. One of these, the 482-ton ship *Mindanao*, was built by Richard Williamson & Son of Harrington in 1854. The other two were the first pair of iron vessels ordered from Harland & Wolff. NML, MMM, MAL, B/BROC, Brocklebank Fleet, 1775-1945; Vessels Built by T. & J. Brocklebank; BT 107/108, Liverpool Vessel Registries, various years; Jones, *Pioneer Shipowners*, II, 23; Gibson, "House of Brocklebank (1)," 50-54; Duncan Haws, *Merchant Fleets: Thos. & Jno. Brocklebank* (Uckfield, East Sussex, 1994); and Stillwell, "Brocklebanks," 129-133.

34

In this case, with the two businesses based in Liverpool and Belfast, these links also suggest – if they do not prove – the efficacy of building networks across a broader geographic area than a single port.

switch from wood to iron. This was in contrast to Atlantic Canadian builders of the period, whose competitive edge came partly from plentiful regional sources of softwood timber. There is some question as to why these producers did not make the switch, but it is clear that for Canadian builders transferring to iron would have made little economic sense. The same problem does not appear to have been the case for Brocklebanks in Whitehaven. At this same time, however, problems arose with the renewal of their lease, and the firm decided to make the best of the situation and transfer their attention even more fully to owning and operating tonnage. It is in this capacity that we are most interested in the company and their activities.[35]

By 1820, when Brocklebanks established themselves in Liverpool, they were engaged in seven distinct trades, taking their vessels to all regions of the globe (see figure 7.2). In the years between Daniel Sr.'s death in 1801 and 1820, the name Brocklebanks was already becoming well established as a shipping firm. A central feature of the company at this time, which would continue for decades, was a fusion of the functions of builder, merchant and shipowner. In fact, Thos. & Jno. Brocklebank was noted for many years for operating vessels to carry mainly, though not exclusively, their own goods. Their early shipping business was based around a number of American and West Indian commodities, especially tobacco and to a lesser extent sugar. Most of the early ships built and retained by the firm ran between the West Indies, the US and Whitehaven. Being based in Whitehaven at the time, it was a

---

35

Rees, "Brocklebanks," 37.

natural decision for the brothers to engage in the tobacco trade since the town, along with Bristol and London, was one of only three British ports where the commodity could be legally landed.[36] At the same time Brocklebank craft were also trading to Russia, British North America, Newfoundland and South America. In fact, the connections with most of these locales would be maintained for many years. However, patterns of trade were changing and Brocklebanks, with their usual acumen, changed along with them.[37]

Figure 7.2
Brocklebank Trades and Vessels Employed, 1820

For India	*For West Indies*
Princess Charlotte	*William*
Perseverance	*Aimwell*
London	*Dryad*
	Balfour
For Cape Horn and Chile	*For Newfoundland*
Ariel III	*Mary*
Crown	*Hercules*
For Brazil and Argentina	*Trading in West Indies*
Cossack	*West Indian*
Prince Leopold	
Caroline	
Westmorland	*Coastal*
Duke of Wellington	*Mary II*

Source: John Frederick Gibson, *Brocklebanks 1770-1950* (2 vols., Liverpool, 1953), I, 66-67.

36

Nancy Eaglesham, *Whitehaven and the Tobacco Trade* (Whitehaven, 1979).

37

Jones, *Pioneer Shipowners*, II, 19.

By the latter years of the Napoleonic wars costs had begun to rise in the Atlantic trades. Mates and carpenters were then paid about £4 and seamen fifty shillings per month, which translated into a wage bill for a standard size crew of about £500 for a six-month voyage, which was approximately the length of time needed for voyages to the West Indies and the United States. Profits from a single such voyage had ranged from £400 to £700 in 1813. A trip to the Baltic would earn about £250. Three years later, however, a voyage to Bahia was likely to earn only £145. For Brocklebanks the margins in these trades were always fairly small. Prior to 1813 they seldom earned enough to re-invest in larger vessels or to diversify their trades. This changed in 1816 when the firm dispatched the ship-rigged *Princes Charlotte* – specially built for the purpose – to India. Given the importance of this trade to the company it must be discussed in some detail. First, however, it would be useful to examine at least one of Brocklebanks' other contemporary trades in some detail.[38]

A long-standing Brocklebanks trade was to Newfoundland, the world's tenth largest island, and traditionally considered "Britain's oldest colony."[39] First reached by Europeans in 1497, the seemingly barren island held a rich resource offshore – bountiful fishing grounds teeming with Atlantic cod (*Gadus morhua*). While initial English attempts at

---

38

Gibson, *Brocklebanks*, I, 56-57 and 60.

39

The classic work on Newfoundland's history remains D.W. Prowse, *A History of Newfoundland* (London, 1895). A recent overview of the early period of European settlement in Newfoundland is Patrick O'Flaherty, *Old Newfoundland: A History to 1843* (St. John's, NL, 1999). See also O'Flaherty, *Lost Country : the Rise and Fall of Newfoundland, 1843-1933* (St. John's, NL, 2005); and Kevin Major, *As Near to Heaven by Sea: A History of Newfoundland and Labrador* (Toronto, 2001).

commercial settlements failed, a permanent resident population began slowly to take shape; by the end of the American Revolution there were several thousand "Newfoundlanders." By this time, British interest in the cod fishery was well established.[40]

This interest in the Newfoundland fishery may have been one of the factors that led to the general expansion of English shipping. Merchants from ports in Devon, Cornwall and Dorset from the early 1600s until the English Civil War fitted out an increasing number of fishing vessels for the Newfoundland Banks. According to Ralph Davis, "[t]he experience of ocean voyaging to Newfoundland, in which so many seamen were trained, must have been invaluable to [Sir Richard] Hawkins and others in Devon who developed larger ideas of trade and privateering on the African coast and in the Caribbean.[41] Vessels large and small transported the precious cargo hauled from the sea to Spain, Portugal and the Mediterranean. The importance of the Newfoundland fishery to England was such that contemporary Sir William Monson was inspired to write that "[t]rue it is that there is no commodity in the world of so great bulk and small value, or that can set so many ships of burden to work. As for example: a mean merchant may freight his ship of 250 tons with fish that will not cost above £1,600, that forty merchants cannot do of richer and better

---

40

On the discovery of Newfoundland by John Cabot, see Peter E. Pope, *The Many Landfalls of John Cabot* (Toronto, 1997). A concise overview of the early European cod fisheries is found in Mark Kurlansky, *Cod. A Biography of the Fish that Changed the World* (Toronto, 1997).

41

Ralph Davis, *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries.* (London, 1962), 4.

commodities."[42]

Although seldom mentioned in the context of the early Newfoundland trades – at least by most Newfoundland historians – the port of Liverpool also had long-standing connections to the island. The basis for the early linkage was the salt trade. Salt manufacturing was recorded in Liverpool as early as the seventeenth century when Thomas Johnson and John Blackburne produced rock salt. Indeed, Liverpool's second wet dock, Salthouse, was associated with Blackburne's refinery which opened in 1753. Salt boilers in Cheshire were also active in this period, with their product being exported via the River Mersey. By 1770 about 48,000 tons of salt were shipped from the Mersey alone. According to a seventeenth-century writer, salt was the most important contributor to the early development of Liverpool as a port. In addition to its usefulness as ship ballast, salt was an essential element in the Newfoundland cod fisheries. In those days before refrigeration cod had to be cured with salt for preservation. The salt fish was then sold or bartered for sugar, coffee, wine or fruit in the West Indies or the Mediterranean. By the early nineteenth century, when companies like Brocklebanks began to take an interest in trade with the island, there was already a firm connection with Britain that had persisted for 200 years. As Britain's oldest colony, Newfoundland must have seemed a natural place for merchants and

---

42

Ibid., as quoted from M. Oppenheim (ed.), *The Naval Works of Sir William Monson* (2 vols., London, 1913), II, 235.

shippers to establish trading relations, and Brocklebanks did not see things differently.[43]

As will be recalled, Daniel Brocklebank had fished off Newfoundland after he fled revolutionary America, but it was his sons who developed a firm commercial connection to the island. The brothers began sending their vessels to Newfoundland about the time of the company's move to Liverpool in 1818-1819. We must view this connection in terms of the comparative advantages Thomas garnered by moving his headquarters to Liverpool. We have noted Liverpool's links to Newfoundland through the export of salt for Newfoundland's fisheries. To a merchant/shipowner establishing himself in Liverpool during the 1820s the Newfoundland trade, based on a readily available local export, must have appeared as a golden opportunity. Conversely, it is reasonable to think that Thomas held prior ambitions of trading to Newfoundland. The comparative advantages offered by local salt production may itself have provided the initial impetus for the move to Liverpool. Thomas might certainly have considered salt as a potential export cargo, although surviving evidence indicates that salt was ultimately *not* the bedrock upon which Brocklebanks built up its Newfoundland export trade.[44]

In the traditional Newfoundland context salt was, as noted, intimately tied to

---

43

Francis Hyde, *Liverpool and the Mersey: The Development of a Port 1700-1970* (Newton Abbot, 1971), 27-28. The best scholarly work on the Newfoundland saltfish trade is Shannon Ryan, *Fish Out of Water: The Newfoundland Saltfish Trade, 1814-1914* (St. John's, NL, 1986).

44

A connection to Newfoundland was also useful as its primary export, cod, fitted in well with the broader patterns of the trades in which Brocklebanks were then engaged. Likewise, Liverpool was England's major West Coast *entrepôt* for many of the goods, like Manchester wares, that Brocklebanks vessels shipped to Newfoundland (on these linkages, see below).

commercial fishing. One of Brocklebanks' first Newfoundland voyages was not connected with the fishery at all, however, nor was the island the initial choice of destination. One of their older craft, the three-masted, 302-ton ship *Hercules* had been refitted at Deptford with a lower deck and became the first Brocklebank vessel designed to carry passengers. The company intended to send *Hercules* to Londonderry with 200 wagons of coal. Most would be sold there, with the remainder left aboard for ballast. In Londonderry the ship was expected to pick up immigrant passengers at a rate of £10 per head to New York. Unfortunately for Brocklebanks, an Act of 1816 forbad vessels from carrying more than one passenger for every five tons. Taking into account deductions, *Hercules* was only rated for the carriage of forty-five people, a number that was insufficient to earn a profit. Using the acumen and adaptability that characterised the company during most of their existence, Thomas tried a new strategy. He discovered that Newfoundland was excluded from the provisions of the act and decided to send his vessel to Newfoundland in place of New York. This may have seemed a logical move since the colony at the time had just benefited from an influx of Irish settlers. Most had come as servants in the fishery. When the decision to go to Newfoundland proved unpopular with the passengers, *Hercules* sailed for New York in August as originally intended.[45]

45

Gibson, *Brocklebanks*, I, 60. See also NML, MMM, MAL, B/BROC, Thomas Brocklebank's Notebook. On the evolution of the British Passenger Ship Act, see Helen I. Cowan, *British Emigration to British North America: The First Hundred Years* (Toronto, 1961). The impact of these Acts on Newfoundland is discussed in a number of essays in John J. Mannion (ed.), *The Peopling of Newfoundland: Essays in Historical Geography* (St. John's, NL, 1977). The exemption from the stricter regulations embodied in the various Passenger Ship Acts meant that shipowners were free to cram as many emigrants into the holds of vessels as they wished. The corollary of this practice, of course, was that Newfoundland became the temporary home to many of Europe's poorest migrants.

This minor setback did not end the Brocklebanks' interest in Newfoundland. For one thing, there were profits to be made in buying and selling Newfoundland fish. Another market was the trade in manufactured goods, grocery wares and fishery implements – often transshipped through Liverpool – for Newfoundland's settler population, which was growing fairly rapidly in the first half of the nineteenth century. In that period virtually everything Newfoundlanders consumed, save fish, had to be imported, a process that required marine transport. The British authorities had long encouraged the fishery but had never encouraged settlement.[46] Nonetheless, colonists did come, making their living at sea just as men had done earlier in the migratory fishery. The nature of Newfoundland, along with the attitude on the part of the Crown, encouraged a dependence on outside trade goods. Newfoundland settlers earned a precarious livelihood from the sale of their single commodity – cod fish. This was supplemented by a spring seal fishery and some forestry, but for the most part, Newfoundland was built on the humble cod.[47] The island's climate and lack of arable land did not support large-scale agriculture, and the authorities made no real attempts to develop

---

For a discussion of the impact of this on Newfoundland and an analysis of those who eventually saved enough to complete their journeys to other parts of North America, see Edward Vincent Chafe, "A New Life on 'Uncle Sam's Farm:' Newfoundlanders in Massachusetts, 1846-1859" (MA thesis, Memorial University of Newfoundland, 1982).

46

Indeed, settlement was actively discouraged by the so-called "Western Charters." See W. Gordon Handcock, "English Migration to Newfoundland," in Mannion (ed.), *Peopling of Newfoundland*, 15-48.

47

On the role of sealing in Newfoundland, see Shannon Ryan, *The Ice Hunters: A History of Newfoundland Sealing to 1914* (St. John's, NL, 1994). Ryan argues that sealing was an important adjunct to the cod fishery, not primarily for the animals' pelts or meat but for the oil produced from their blubber, which was important to Europeans as a lighting fuel. See also Ryan, "The Industrial Revolution and the Newfoundland Seal Fishery," *International Journal of Maritime History*, IV, No. 2 (1992), 1-43.

local industry. For this reason Newfoundland was dependent on overseas imports for most of its needs, paying for all with the profits from the fishery. This opportunity for importers (and the advantages of Liverpool as a base) was not lost on the Brocklebank brothers. Although complete inventories no longer exist, notes taken by Thomas in 1827 record the great range of goods imported into Newfoundland in the early days of their trade to the island. The name of the vessel was not recorded, but it departed in February 1827 carrying a wide array of products (Table 7.1).[48]

Table 7.1
Brocklebanks Imports into Newfoundland, February 1827

Butter, Hamburg	Bacon	Ale	Tea kettles
Soap	Lard	Porter	Sad irons
Coffee-foreign cheap	Pork	Nails	Scales & weights
Tea	Pitch tar	Iron bolts	Fish hooks
Sage	Paints & oil	Copper	Hooks & thimbles
Pepper, ginger & spice	Cordage	Lead shot etc.	Iron pots
Sugar, Bengal or Brazil	Twine & line	Furniture	Cheese
Brandy	Earthenware	Glassware	Rice-India
Geneva	Wine	Bunting	Dry mutton & beef
Whiskey	Sherry	Dog & guns	Hams
Oatmeal	Duck canvas	Pump leather	Flour

Source: National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), B/BROC, Thomas Brocklebank's Note Book, 1827.

48

NML, MMM, MAL, B/BROC, Thomas Brocklebank's Notebook, 1827.

Of course, simply importing products into an area without return cargoes was never good business, and shippers avoided making trips "in ballast" whenever possible.[49] This was also true in the Newfoundland trade, and Brocklebanks developed complex "triangular" routes that integrated Newfoundland as a "port" of call.[50] In the early days of the company, when the West Indies and South American trades predominated, it was customary for Brocklebanks craft to depart Liverpool for Bahia and return to the home port. In the Newfoundland trade vessels would sail with mixed cargoes of goods, such as that above, and sell these in Newfoundland in return for cargoes of fish.[51] The craft would then depart for Brazil with its load of cod. Brazil, a largely Catholic nation, depended on fish for those days when eating meat was forbidden. Also, it was a good and inexpensive source of nutrition in the Portuguese colony. In fact, Brazil remained a major importer of Newfoundland fish for many years after the heyday of Brocklebanks' connection. Brocklebanks' vessels would then return from Brazil loaded with local goods and products which would then be re-exported.

49

The problem of a disjuncture in demand depending on voyage direction was endemic in North Atlantic trades. The best discussion of the problem is C. Knick Harley, "Issues on the Demand for Shipping Services, 1870-1913: Derived Demand and Problems of Joint Production," in Lewis R. Fischer and Eric W. Sager (eds.), *Merchant Shipping and Economic Development in Atlantic Canada* (St. John's, NL, 1982), 65-86.

50

The description of a "triangular trade" is a simplification of the complexity of many trade routes in the North Atlantic during the eighteenth and early nineteenth century. See Ronald Findlay, *The "Triangular Trade" and the Atlantic Economy of the Eighteenth Century: A Simple General-Equilibrium Model* (Princeton, 1990).

51

In fact, the main outward cargo carried in Brocklebanks bottoms from Liverpool was Manchester goods, especially cotton wares, shipped by the company on their own behalf. Jones, *Pioneer Shipowners*, II, 22. On the development of Liverpool as a cotton port, see Nigel Hall, "The Cotton Brokers and the Development of the Liverpool Cotton Market, c. 1800 to 1914" (DPhil thesis, Oxford University, 1999); and Hall, "The Emergence of the Liverpool Raw Cotton Market, 1800-1850," *Northern History*, XXXVIII, No. 1 (2001), 65-81.

In fact, the items above included sugar that may have come from Brazil, if not Bengal, and which was likely paid for originally with Newfoundland fish. Landward products were also traded out of Newfoundland, although in this period these never eclipsed the fishery. Also in 1827, the brig *Westmorland II*, returning from South America, put in at Newfoundland for masting timber used by Brocklebanks in the Whitehaven Yard. This was also a common practice for the fleet at the time.[52]

The activities of Brocklebanks in Newfoundland were not confined simply to export and import trades. Indeed, the firm maintained a presence on the island for upwards of four decades, Like certain other Liverpool merchants, the company operated their own establishment (founded 1830) in Newfoundland's capital, St. John's, with the same name as the larger company, Thos. & Jno. Brocklebank. After 1830 cargoes similar to the one in Table 7.1 would have been imported directly to Brocklebanks' own shop in St. John's and either sold directly from there or wholesaled to merchants in smaller communities. This store was noted for selling "tea, hardware, Manchester goods etc:"[53] precisely the kinds of products noted in the inventory above. The shop operated from at least 1830 until about 1846. The premises would also have acted as a distribution point for fish going to Brazil or for lumber on the return voyage to Liverpool. In 1832 the company dispatched the

---

52

Gibson, *Brocklebanks*, I, 88; Haws, *Brocklebanks*, 24; and NML, MMM, MAL, B/BROC, Thomas Brocklebank's Notebook, 1827.

53

NML, MMM, MAL, B/BROC, Historical Notes.

Westmorland, Ariel and *Manchester* to St. John's. All three craft offloaded their cargoes in the port and proceeded on to Bahia with sealskins, fish, oil, and blubber before returning to Liverpool. Using this system, Brocklebanks vessels carried paying cargoes on each leg of their journey.[54]

The Newfoundland trade cannot have been the easiest to pursue given the treachery of the weather off the island's coasts. At times passages could be uneventful, as with the 1833 voyage of the *Bouyant* under Captain Ponsonby which departed from Liverpool for St. John's and then sailed on to Brazil before returning to Britain, the entire venture taking just over seven months. In 1837, however, during a particularly unsettled winter Brocklebank's brig *Manchester* sailed for Newfoundland, departing on 27 January. During a storm on 12 February the vessel was struck amidships by a large sea which carried away portions of the superstructure. *Manchester* returned to Liverpool, needing a month for repairs before making for St. John's once more. Another vessel, the *Swallow*, a 141-ton brig, was not as fortunate. She sailed two days following the *Manchester*. Apparently the vessel was crushed by ice flows off Newfoundland, and her crew was forced to take to her lifeboat. After attempting unsuccessfully to make the shore, their frozen bodies were later found in the ship's boat.[55]

Despite such setbacks, the company's relationship with Newfoundland continued for some time and took a number of forms. For example, Brocklebanks were active in

---

54

Gibson, *Brocklebanks*, I, 82, 106.

55

Ibid., I, 106-108.

promoting community ventures, and in 1835 subscribed toward the building of St. Paul's Church in Harbour Grace, then the second-largest settlement in the colony. At the same time the company maintained business links with other St. John's merchants and had an account with Benjamin Bowring and Son. John Brocklebank (not Daniel's son but another member of the family) went out to Newfoundland to oversee their interests and became the owner of a number of fishing boats on his own account.[56]

The company's trade with Newfoundland suffered a serious blow in 1846 when one of its periodic "great fires" swept through the closely packed wooden buildings of St. John's. Brocklebanks' premises were destroyed, but unlike many other merchants in the city they did not rebuild. Perhaps by this time their interests lay elsewhere, since over the next three years only one voyage to Newfoundland was recorded by a Brocklebanks vessel. Nonetheless, the firm continued to maintain some links with the island, and in 1852

56

Ibid., I, 106; and NML, MMM, MAL, B/BROC, Historical Notes, Notes from Arthur C. Wardle of C.T. Bowring & Co. Ltd. It was this John Brocklebank who set up the firm's Newfoundland office in 1830. It is perhaps not surprising that Brocklebanks maintained connections in Newfoundland with Bowrings. Although thought of in Newfoundland as essentially a "home-grown" concern, the business, like Brocklebanks, was mainly associated with Liverpool. Liverpool itself is not thought of in terms of Newfoundland connections as much as is the West Country, but in addition to Brocklebanks' shorter connection, both Bowrings and Job Brothers (also of Liverpool) were active on the island. An in-depth, if now somewhat dated, account of the former firm is David Keir, *The Bowring Story* (London, 1962); Wardle produced his own account of the family and its business, "...primarily intended for members of the Bowring family and their employees..." Wardle, *Benjamin Bowring and His Descendants. A Record of Mercantile Achievement* (London, 1938), 7. This work gives an incidental piece of information about Brocklebanks' Newfoundland trade and the links between the Liverpool firms active in the colony. It states that on 15 January 1845 Henry Price Bowring arrived at London on a buying trip that also took in the Continent. Bowring had taken passage from Newfoundland in Brocklebanks' new 135 ton brig *Courier II*, paying a fare of £10 for his passage. *Courier* was launched from the Whitehaven yard in March 1844, replacing the original *Courier*, sold the following year to William Robinson of Drogheda. Wardle, *Benjamin Bowring*, 74-75; NML, MMM, MAL, B/BROC, Vessels Built by T. & J. Brocklebank, 1807 to 1865; Brocklebank Fleet, 1775-1945; Gibson, "House of Brocklebank (1)," 50-54; and Stillwell, "Brocklebanks, 129-133. See also Appendices 6B and Seven.

Brocklebanks outfitted three vessels, averaging 115 tons: the *Prosperity, Hecla* and *Creole* for the seal fishery under the partnership of Brocklebanks & Anthony. In 1855 the partners again sent out three sealers, including the *Prosperity,* joined this time by the *Active* and *Harmony.* The latter two craft had been operated in the 1852 hunt by the firm of R. Alsop & Company. There was also a connection with the Brien family of mariners. *Prosperity* was commanded for Brocklebank & Anthony in both years by a member of this clan. *Active* and *Harmony* were also skippered by Briens, while in the employ of both firms. Still, this venture does not appear to have played any major role in Brocklebanks overall business strategy; certainly by the 1860s, trade to Newfoundland ended for good. By the 1861 seal hunt Brocklebank & Anthony no longer employed any tonnage, although the Liverpool firms of Bowring and Job continued to play an active role in sealing, as they would into the twentieth century.[57]

In fact, this period was one of tremendous change, not only for the Brocklebanks firm but also for shipping in general. One of these developments was the company's increasing emphasis on the Pacific, a feature discussed below. Internally, the business was in the midst of a transition. John, as we know, died in 1831, followed by Thomas in 1845. Although both brothers had been successful in business, they had not prospered as well in family terms.

57

Gibson, "House of Brocklebank," 45; and Prowse, *History of Newfoundland,* 705-707. A good first-hand account of the 1846 fire is included in Wardle's family/business history of the Bowrings. The blaze apparently started in the Shuttleworth Street workshop of a cabinet maker named Hamlin and spread rapidly. Aside from the Brocklebanks premises, the businesses of J. Rogerson & Son, C.F. Bennett & Co. and the Victoria Hotel, not to mention the Bowring Brothers' own establishment, were all burned. The contemporary account estimated that upwards of 7,000 persons were left homeless by the inferno. Wardle, *Benjamin Bowring,* 81-83.

Both died bachelors and left no direct heirs. With Thomas' death control of the company went to his nephew, Thomas Fisher, who took the name Brocklebank under the conditions of his uncle's will. Thomas II was thirty-one years old when he took charge of the family business, and was the only direct male heir of Captain Daniel. He was joined in the business by Ralph Brocklebank, Reverend Ralph's grandson, who became a junior partner.[58]

Although still merchants, the Brocklebanks were also bonafide tramp shipowners. Shipowning expanded rapidly, and the number of vessels owned steadily increased from 1815 to 1845. In the last fifteen years of the period alone the Brocklebanks fleet doubled from twenty-one to forty-two, while average tonnage rose from 200 to 250 tons. The majority of these vessels were intended for the trades to Brazil, Chile, Peru, Newfoundland and the Gulf of Mexico. A small number, usually barque- or ship-rigged and larger than those in the former trades, were destined for India and China.[59] Table 7.2 shows the impact

---

58

NML, MMM, MAL, B/BROC, Brocklebank Family, Licence for Thomas Fisher to Take the Name "Brocklebank," 1845; Epitome of the Will of Thomas Brocklebank, 1843; and Gibson, *Brocklebanks*, I, 82. Thomas Brocklebank was born in 1814, the only son of Anne, Captain Daniel Brocklebank's daughter, and Wilson Fisher of Whitehaven. Fisher Sr. was, like the Brocklebanks, a West India merchant. Young Thomas had a long connection with the family firm, starting out there in 1831, aged only seventeen. Thomas married Anne Robinson in 1844, and the couple had four sons and four daughters. Settling in Liverpool after taking charge of Brocklebanks, Thomas Jr. devoted his considerable energy not only to the company but also to politics (he was for many years a close supporter of Gladstone), the Church and philanthropy. Ralph Brocklebank was the son of "Corbridge John" Brocklebank, himself a son of Rev. Ralph and nephew of Captain Daniel. He was born in 1803, two years after his mother, Mary Macdonald, married his father. Ralph started working for Brocklebanks in 1826 at Liverpool and in 1836 married Eliza Moon, daughter of the Chairman of the London and North Western Railway. Ralph remained with the company for six decades and was also active with the Dock Board, the Sailors' Home and the mercantile Marine Service Association. The latter organization also ran a Seaman's Orphanage and a Mariners' Home. Ralph Brocklebank continued to work with such charitable institutions even after he retired from active service with the firm in 1886. Jones, *Pioneer Shipowners*, II, 24-28.

59

Gibson, *Brocklebanks*, I, 65, 67 and 87-88; BT 107, Liverpool Vessel Registries, various years; Gibson, "House of Brocklebank (1)," 50-54; Haws, *Brocklebank*, and Stillwell, "Brocklebanks," 129-133. The total tonnage of

of this extra tonnage on Brocklebanks' trades. As can be seen in these six distinct trading areas, sailings increased in all except East Asia and Brazil. Total sailings more than doubled from fifteen to thirty-two.

Table 7.2
Brocklebank Sailings, 1830 and 1840

Destination	*1830 Sailings*	*1840 Sailings*
Calcutta	4	9
Lima and West Coast S.A..	2	7
Brazil	6	6
St. John's	2	5
East Asia	1	1
Bombay	0	4
Total	**15**	**32**

Source: John Frederick Gibson, *Brocklebanks 1770-1950* (2 vols., Liverpool, 1953), I, 88.

During Thomas' tenure, the company his father founded had been transformed. Over his lifetime Thomas had ordered 105 vessels and had become a director of the Bank of Liverpool and the Liverpool Fire and Life Insurance Company. When Thomas and Jonathan first assumed control, only a single Brocklebanks vessel was in active service. On the day of Thomas' death in 1845 a partial fleet deployment ran as follows: At Liverpool were the *Patriot Queen*, *Westmorland*, *Crown*, *Callao*, *Tigris*, *Maypo* and *Rimac Dryad*; in the North Atlantic were the *Princess Royal*, *Lanercost*, *Manchester*, *Earl Grey*, *Esk*, *Jumna* and

---

the fleet in 1845 stood at 11,730, amounting to forty-five vessels. This was slightly down from the previous year, when Gibson says that "Brocklebanks owned 50 ships, the greatest number ever to be under their flag." Gibson, "House of Brocklebank (1)," 45.

Jamaica; the *Bonanza* and *Camana* were in the South Atlantic; *Robert Pulsford*, *Herculean*, *Lord Althorp* and *Sir Henry Pottinger* were in the Indian Ocean; *Courier* and *Valparaiso* were in the Pacific; *London*, *Aden* and *Patria* were in the China Seas; *Mazeppa* was in the Baltic; the *Globe* was at Iquique; the *Kestrel* at Valparaiso; and the *Hindoo* at Calcutta.[60]

During Thomas Senior's final years the old traditions established in Whitehaven had almost gone. The shipyard was now building much larger barques and full-rigged ships. The last Brocklebank brigs built for the South American trade were launched in 1842. It seems that the trades to Newfoundland and Brazil continued as long as the older and smaller craft remained in the fleet but died off as the vessels were sold or retired. Having been at the helm for so long, Thomas doubtless disliked the break with tradition, but even greater changes were in the wind. On 2 March 1843 Brocklebanks placed an ad for a line of packets to Valparaiso, with sailings every three weeks. The service was unable to keep up this pace in the pre-steam era and the route did not last. Still, it was Brocklebanks' first attempt at the regular sailings that later became a hallmark of the company.[61] The first twenty years under Thomas and Ralph Brocklebank's leadership were marked by change. The one that was most

---

60

Gibson, "House of Brocklebank (1)," 45.

61

NML, MMM, MAL, B/BROC, Vessels Built by T. & J. Brocklebank; and Gibson, *Brocklebanks*, I, 110-111. Unlike PSNC, Brocklebanks was never a South American specialist firm. Still, as Table 5.2 shows, they did maintain interests there for some time. As late as 1898 the firm dispatched their longtime trader *Majestic* to Chile, where it was sold to the government. The vessel departed Barry on 22 July 1898, navigated the Straits of Magellan and arrived at Punta Arenas on 10 October. Once there the *Majestic* was "handed over by the captain," and the crew was discharged. Great Britain, BT 100, British Empire Agreements and Accounts of Crew, *Majestic*, July-October 1898.

startling and which provided the focus for most of the company's later existence was the gravitation toward trade to one particular port – Calcutta.

Prior to the nineteenth century it was all but impossible for new British firms to break into the trade to India. The East India Company had existed since 1600 and held a monopoly on British trade for over two hundred years. But when in 1813 this monopoly was partly rescinded, new competitors began to cast their gaze toward the jewel in Britain's crown[62]. As was typical, Brocklebanks was not slow to recognize a new business opportunity, and in the autumn of 1815 the Whitehaven yard began to build the *Princess Charlotte* specifically for this trade. Constructed of oak, the vessel was ship-rigged, 514 tons net and armed with twenty guns. The carriage of arms tells us something significant about the conditions under which subcontinent trade was conducted in those days. The so-called "golden age of piracy" may have been a century in the past, but no one had told this to the brigands who continued to operate in the Indian Ocean.[63] In fact, it had been normal practice for East Indiamen to be heavily manned and gunned and to operate in convoys. The *Princess Charlotte*, however, was designed to make the run on its own. The ship departed Whitehaven

---

62

K. Charlton, "Liverpool and The East India Trade," *Northern History*, VII (1972), 54-72. For an overview of recent scholarship on the English East India Company, see the essays in H.V. Bowen, Margarette Lincoln and Nigel Rigby (eds.), *The Worlds of the East India Company* (Suffolk, 2002).

63

On Indian Ocean piracy during the "golden age," see Graham Harris, *Treasure and Intrigue: The Legacy of Captain Kidd* (Toronto, 2002); and Charles Grey, *Pirates of the Eastern Seas (1618-1723). A Lurid Page of History* (London, 1933: reprint, Port Washington, NY, 1971). The most recent scholarly study of piracy in general during this period is Marcus Rediker, *Villains of all Nations: Atlantic Pirates in the Golden Age* (Boston, 2004)

under the command of Captain J. McKean on 18 February 1816 and was accompanied as far as Madeira by another pair of vessels registered in the town.[64]

The destination was Calcutta. This city was chosen as a terminus by British shippers almost as soon as the East India Company monopoly ended. Prior to the *Princess Charlotte*'s journey in 1816 three ships had already cleared for Calcutta, and in the same year twelve vessels left the Mersey for this port. The first vessel to make the run, at least from the Mersey, was the 512-net-ton *Kingsmill* under Captain A. Cassels. The voyage, sponsored by John Gladstone & Grant, began on 22 May 1814, and the *Kingsmill* returned to Liverpool on 6 September 1815.[65]

The principal city of the Indian state of Bengal, Calcutta was a natural terminus point for British trade. It was known as Fort William by its early shipping community, named after fortifications built on the east bank of the Hooghly River. The brown Hooghly was long an important artery for Indian trade. Located 120 miles from the sea, Calcutta is linked to oceanic trade by the River Ganges; with the Hooghly being the largest branch of its delta.

64

NML, MMM, MAL, B/BROC, Historical Notes, Liverpool-Calcutta Trade, 1; and Gibson, *Brocklebanks*, I, 54-56. If we recall that some of Brocklebanks' early cargoes of sugar may have originated in Bengal, it is a reasonable assumption that the decision to engage in Calcutta trading stemmed from this link.

65

NML, MMM, MAL, B/BROC, Historical Notes, Liverpool-Calcutta Trade, 1. Other Liverpool firms engaged in the trade included the Croppers, Bensons, Caleb Fletcher & Co., Tobins, Taylor Potter & Co. and Charles Horsfall & Co. It must be remembered that Brocklebanks at the time was based at Whitehaven, not Liverpool. In later years, after the change of headquarters, it became traditional for Brocklebanks and other firms in the Calcutta trade to load and discharge at Prince's Dock. This same structure was also used by Liverpool's South American traders, such as PSNC. A contemporary account states that Brocklebank's rival – Harrisons – loaded their Calcutta tonnage across the river at Birkenhead's Morpeth Dock by the 1880s. Basil Lubbock, *The Last of the Windjammers* (Glasgow, 1975), 78; and Edward Coward, *Steam-Ship Lines of the Mersey and Export Trade Register* (Liverpool, 1880), 39.

Calcutta is a natural *entrepôt*. Using the Ganges and its tributaries, small vessels can sail for more than 1,000 miles from Calcutta through northwestern India to locales such as Patna, Varanasi, Allahabad, Kanpur, Agra and Delhi. Travelling in the opposite direction one arrived at the Bay of Bengal where monsoon trade winds formerly provided sail craft with a convenient mode of propulsion to the markets of Europe. As Niall Ferguson has noted, "...when Europeans came to trade in India, the Hugli was one of their preferred destinations. It was the economic gateway to the continent."[66] Based in the town of Chinsura north of Calcutta, the Dutch were established by the early seventeenth century and only later superceded by the English. The site did have some drawbacks. On 5 October 1864, the port was hit by an intense cyclone that caused severe damage to shipping. More than one craft was driven inland by a subsequent tidal wave, a number of Liverpool vessels among them.[67]

Thomas Brocklebank planned thoroughly for his vessel's first voyage to the port. It would stop at Mauritius and take an outward cargo including coal, lead, nails, glass, iron and tin plates, of a total value of approximately £3,000. Under McKean's command the vessel made its way across the Indian Ocean in the summer of 1816, then headed north to the Sunda Straits via Sumatra and Java. By the beginning of August the vessel reached Batavia, the main port of Java, then controlled by Britain. With the East India Company still firmly in control, McKean decided to ingratiate himself (and Brocklebanks) by offering the ship

---

66

Niall Ferguson, *Empire. How Britain Made the Modern World* (London, 2003), 18-19.

67

NML, MMM, MAL, B/BROC, Historical Notes, Liverpool-Calcutta Trade, 1 and 7.

on a limited basis as a transport. This offer was accepted and the *Princess Charlotte* was soon off to Calcutta ferrying company troops. The vessel returned to Batavia in February 1817. Released from the company's service in September, McKean sailed for Liverpool on 2 October with Brocklebank's first cargo of India goods. These items included cotton, sugar, saltpetre, ginger and rice. When sold the cargo brought in more than £10,000 profit. This was at the same time, it must be remembered, that West Indies voyages brought in £700 or less on average. The new trade started beyond the firm's best expectations, and the vessel was soon being readied for another voyage to the subcontinent.[68]

With its first voyage to Calcutta an unqualified success, Thomas received the backing of other merchants for the second voyage – all were anxious to send their own cargoes on the run. At the same time the Whitehaven yard had begun construction of another vessel, the *Perseverance*, specifically for the Calcutta trade. The pattern for Brocklebank vessels over the next decades was that new ship-rigged construction would be assigned specifically to the Calcutta route; new brigs would be used for voyages to Brazil and Argentina; and older tonnage was deployed on the less profitable trades to the West Indies and Newfoundland. The decision to use the ship rig on long-distance routes and the brig for middle-distance (or sometimes coasting) trades was a natural one. As we have seen in

---

68

Gibson, *Brocklebanks*, I, 54-59. Prior to the vessel's departure Brocklebanks placed the following promotional ad: "For Calcutta, The very fine Ship *Princess Charlotte* John M'Kean, Commander. Burthen 514 tons per Register First Class, sails remarkably fast, carries a Surgeon, and her accommodations for passengers are spacious and fitted with every convenience. For Freight or Passage apply to the Captain on board in the Queen's Dock, or Thos. and Jon. Brocklebank, 15, Exchange Buildings." *Gore's General Advertiser*, 2 November 1820.

Chapter Three, the shift appears typical of Liverpool owners who moved increasingly toward the larger ship and barque rigs, and eventually away from the brig, as the port shifted steadily toward deep-sea commerce. In 1820, the year of Brocklebanks' relocation to Liverpool, three vessels were assigned to the Calcutta run. Besides the original *Princess Charlotte* and *Perseverance*, there was now also the *London*. As with all the company's routes at the time, flexibility was the key to success, and the *Crown*, originally assigned to trading around Cape Horn for Chile, was put on the India run, as was the *Balfour*, first used in the West Indies. In 1820 Brocklebanks' tonnage made ten trips from Liverpool to Calcutta, by which time a total of fifty vessels in all had been despatched to Calcutta by various owners. At the end of that first decade Brocklebanks' connection to India, and in particular to Calcutta, was well established.[69] There was little indication that it would come to dominate all other trades, but even in the 1830s the trend was becoming established (see Appendices 8A and 8B). Ties to the subcontinent were secure and, as John Gibson wrote, "Whitehaven to the West Indies was Replaced by Liverpool to Calcutta."[70]

The range of goods carried from Calcutta was broad from the trade's inception. A surviving notebook of Thomas Brocklebank, kept ten years after the *Princess Charlotte*'s maiden voyage, records a portion of British exports. Items included on one passage to Calcutta were iron-bar and sheet, lead, speltre [saltpeter?], copper, quicksilver, earthenware,

---

69

Gibson, *Brocklebanks*, 59-60, 66, 82; and BT 107/108, Liverpool Vessel Registries, various years.

70

Gibson, *Brocklebanks*, I, 82.

glass-table, soda water bottles, kettles, Spanish brown, coke, bottles, brimstone, cochineal, cutlery, hosiery, and mahogany.[71]

Imports from the subcontinent to Britain were also varied. From the 1840s Calcutta was the most important port of call for Brocklebanks vessels, at least in terms of the number of voyages (See Appendices 8A and 8B). By the 1880s Brocklebanks' Calcutta trade, although somewhat reduced from its peak in the 1860s, was still an important focus of the firm's activities. Extracts from the London A Bills of Entry in this decade give some idea of the items being imported in the company's tonnage. The ship-rigged *Majestic* arrived at Liverpool on 10 May 1880 under the command of Captain Ellery. While on the Hooghly Ellery took on board 100 barrels of jute, 2,491 bags of saltpetre, 1,620 casks of oil and 11,634 bags wheat for "sundry consignees." Products loaded to order were 1,180 bales of jute, 2,000 casks of oil, 2,184 bags of wheat, 1,000 packets and 8,152 bags of linseed. Four years later another ship, the *Khyber*, under Captain Robinson, arrived at the Mersey from Calcutta with 4,175 bags of linseed, 1,073 barrels of sugar and 2,200 bales of jute for consignees. Products imported to order included 1,450 casks of oil, 16,644 bags of linseed, 662 bags of saltpetre, 8,696 bags of wheat, 700 bags of bone dust, 100 bales of gunny bags and 111 packages of tea.[72]

71

NML, MMM, MAL, B/BROC, Thomas Brocklebank's Notebook, 1827.

72

Great Britain, Customs, Bills of Entry, 1880 and 1884. These imports appear typical of Brocklebanks vessels, with items such as linseed and jute appearing on many manifests. In fact, the latter cargo was important enough that the *Herculean*, constructed by Brocklebanks in 1828 for the Calcutta trade, had special uncluttered holds for jute to supply London (later Dundee) sack makers. See Haws, *Brocklebank*, 31. Other items brought in by

Given the nature of business, Brocklebanks was not alone in their pursuit of this lucrative trade. We have noted that other firms had begun to send tonnage from the Mersey to Calcutta almost as soon as the East India Company monopoly was breached. Along with these early traders, many others entered the race after 1830. In 1835 John Bibby & Company, in partnership with other firms, sent two vessels to Calcutta. Bibby never concentrated on the trade, but sent occasional tonnage to the port for a number of years or acted as loading brokers for other establishments. One company, called by Basil Lubbock "the great rivals" of Brocklebanks in the Indian trade, were the Smiths of Glasgow. Their first Calcutta sailing came in 1840 with the 344-ton New Brunswick-built ship *Constellation.* Although this voyage was unsuccessful in terms of profits, Smiths stayed in the India trades for decades. Sandbach, Tinne & Co., along with Rankin Gilmour & Co., entered the trade in 1841. In fact, quite a few Liverpool owners had entered the trade before 1850, some sailing regularly while others sent tonnage occasionally. Still, although many ships made the voyage each year their tonnage, and thus cargo capacity, remained fairly

---

the fleet included peas, castor seeds, tincal, oleaginous seeds, and even bundles of fishing rods. In the early years of the steam fleet Brocklebanks' vessels seem to have carried similar goods, although their range was wider on some occasions. On 4 February 1890, not long after her commissioning, the S.S. *Ameer* arrived at Liverpool with a cargo that included indigo, jute, twine, gunnies, tumeric, linseed, tea, peas, cotton, wool, charcoal dust and hemp. See Bills of Entry, 1887, 1890 and 1893. Certain Calcutta voyages brought home an especially large range of goods. The *Historian*, operated by Brocklebanks' Calcutta rival Harrisons, docked at Liverpool on 4 April 1898 under the command of Captain Valiant. Among its import cargo was saltpetre, rice, gunnies, castor oil, linseed, jute, hemp, waste silk, cotton, wool, oil, yarn, tea, cigars, lead, indigo, wax, skins, hides, hessian cloth, shellac and burlap. The craft also stopped at Colombo, where it picked up tea, cocoanuts and bristle fibre. In addition, *Historian* put in at Port Said, taking on one cask of wine. Bills of Entry, 1898. From the 1890s on, Brocklebanks' vessels increasingly used ports other than Liverpool as a terminus. As many of these destinations were ports not detailed in the A Bills, knowing the full range of Brocklebanks' imports in this period is more difficult.

limited at this time.[73]

As Appendices 8A and 8B show, Brocklebanks sailings to and from Calcutta increased in every decade from the 1820s. In absolute terms, sailings declined somewhat after 1869, when Appendix Eight ends. In the 1870s and 1880s departures to Calcutta dropped to 128 and 111 per decade, respectively. Still, the trade grew for forty years. By 1840 Brocklebanks craft made eleven departures from the Mersey to Calcutta. Their largest vessel then engaged in the trade was the 547-ton *Patriot Queen*, although the average size of vessels in the Brocklebanks' fleet generally was considerably lower (about 240 tons). In total, Brocklebanks deployed nine vessels to Calcutta in that year (Table 7.3), with another four trading to Bombay. For Brocklebanks' advertised sailings to Bombay and Calcutta see Appendices Nine and Ten, respectively. The former port was not a long-term success for the company. Trade to Bombay peaked in the 1840s, and in 1856 the last regular Brocklebank trader to the port, *Jumna*, was sold.[74]

73

NML, MMM, MAL, B/BROC, Historical Notes, Liverpool-Calcutta Trade, 4-5; and Lubbock, *Last of the Windjammers*, 71. George Smith, born in 1777, founded the City Line. The Smiths were early in switching over to steam for the Indian trades. Most of their tonnage was constructed by Barclay Curle and Connell and Stephen.

74

NML, MMM, MAL, B/BROC, Liverpool-Calcutta Trade, 3; Historical Notes, "Brocklebank Line: Numbers of Sailings and Arrivals at Liverpool During Various Decades, & C."; Hollett, *Cumberland to Cape Horn*, 44; Gibson, *Brocklebanks*, I, 124; BT 107, Liverpool Vessel Registries, 1840; Gibson, "House of Brocklebank (1)," 50-54; Haws, *Brocklebank*; and Stillwell, "Brocklebanks," 129-133. Appendices Nine and Ten not only reveal the patterns of the trade but also indicate the caution that must be taken in equating advertised with actual sailing dates. The latter seem overly optimistic, at least in the case of Brocklebanks' sailings. Often several weeks, or even a month, might pass between advertised and actual sailings. Appendix Eleven gives the dates when Brocklebanks vessels first entered the Calcutta trade.

Table 7.3
Brocklebank Tonnage in the Calcutta Trade, 1840

Vessel	Tonnage	Rig	Master
London	351	Ship	Benn
Hindoo	266	Barque	Mawson
Patriot King	338	Barque	Roddock
Lord Althrop	233	Brig	Jackson
Jumna	364	Ship	McGill
Earl Grey	242	Brig	Bell
Tigris	422	Ship	Robinson
Patriot Queen	547	Ship	Hoodless
Santon II	345	Barque	Huxtable

Source: D. Hollett, *From Cumberland to Cape Horn: The Complete History of the Sailing Fleet of Thomas & John Brocklebank of Whitehaven and Liverpool – The World's Oldest Shipping Company* (Norwich, 1984), 44.

In the 1850s a number of new competitors entered the Calcutta trade. These included Edward Bates in 1854, the Rathbone Brothers in 1856 and Thos. Royden & Sons that same year. The Harrison Line also entered the trade in the 1850s. In 1857 the company loaded Jas. Browne & Co.'s *West Derby* in partnership with Greenshields & Co. In 1858 Harrisons and Greenshields again loaded a Browne vessel for Calcutta, and later that year Harrisons sent out their own 1,058-ton iron ship *Philospher* for the trade. In 1859 Harrisons despatched *Philosopher*, along with the 854-ton *Geologist*. The next year *Philosopher* was trading to Calcutta again, now joined by the 713-ton *Peveril of the Peak*. Harrisons continued to load tonnage for other firms, but by this point their own interest in the trade was rising. By 1860

the Calcutta run, although receiving traffic from many shippers, was dominated by seven firms. Aside from Brocklebanks, Harrisons and Cotesworth, there were also Imries, Cowies, Tyrers and Hughes. The "big seven" were joined in 1863 by Sir Donald Currie's "Castle Packets," the first of which was the 1,160-ton iron ship *Stirling Castle.*[75]

Brocklebanks were themselves quite active in the period, and in 1854 ten sailings to Calcutta were recorded. In absolute, but not relative, terms this was down from fourteen years earlier. By this time the average tonnage of Brocklebanks' Calcutta fleet had doubled to almost 700 tons, a rise that parallelled what was happening with their fleet as a whole and British shipping in general (Graph 7.2 illustrates the dramatic rise in the average tonnage of Brocklebanks vessels, especially from about 1855). The largest Brocklebanks vessel engaged in the trade in 1854 was the 1,362-ton ship-rigged *Florence Nightingale.* By 1865 Brocklebank sailings to the Hooghly reached eighteen. For almost fifty years the company had run wooden ships in the trade, all but one built in their own yard. These vessels were all first-rate vessels that were popular with shippers; Brocklebanks' craft had a reputation for carrying their cargoes in first-class condition.[76]

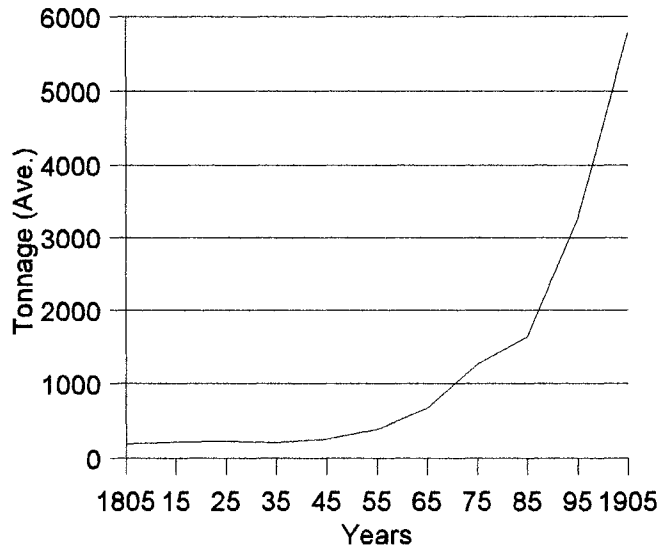
75

NML, MMM, MAL, B/BROC, Liverpool-Calcutta Trade, 6-7. For an overview of Sir Donald Currie's activities, particularly in Africa, see Andrew Porter, *Victorian Shipping and Imperial Policy. Donald Currie, the Castle Line and Southern Africa* (Woodbridge, 1986). For some useful observations on the perils of the Calcutta trade, see A.C. Staples, "Memoirs of William Prinsep: Calcutta Years, 1817-1842," *Indian Economic and Social History Review*, XXVI, No. 1 (1989), 61-79.

76

NML, MMM, MAL, B/BROC, Liverpool-Calcutta Trade, 8; and BT 107/108, Liverpool Vessel Registries, various years.

Graph 7.2
Brocklebank Fleet: Average Vessel Tonnage, 1805-1905



Source: NML, MMM, MAL, B/BROC, "Brocklebank Fleet;" and Great Britain Board of Trade (BT) 107/108, Liverpool Vessel Registries, various years.

It was on the Calcutta route that Brocklebanks first employed much of the new technology that revolutionized shipping in the second half of the nineteenth century. Here, as was generally the case, the company was not among the first users, but there were sound business reasons behind the lag. We have seen previously that the firm chose not to use roller reefing sails for their Calcutta vessels since the device was unnecessary given the use of steam tugs on the Hooghly. In 1863 Brocklebanks deployed their first iron-built vessel in the Calcutta service. The 1,352-ton *Alexandra* was, like most Brocklebank iron sailing craft, built by Harland & Wolff. Prior to this year there appeared to be sound arguments against the use of iron for vessel construction. As a primary outward cargo from Liverpool was

Manchester goods – namely cotton wares – it was important to keep such items dry during their passage to India, a distance of over 11,500 miles. In the early days of iron many shippers believed that such vessels would "sweat" and cause moisture damage to the cargo. Although this idea was subsequently found to be erroneous, Brocklebanks' decision to wait until the technology was proven was certainly understandable. There were some real problems to contend with in deploying such technology. In tropical climates – such as the route to Calcutta – fouling was a serious problem for iron hulls. Iron vessels running to the Far East frequently made good time on the outward passage, but their return progress was often much slower. Also, compass deviation was a concern when using iron. This was not serious over short routes but could be fatal on long routes where the vessel was out of sight of land for extended periods. Of course, it was on precisely these long-distance trades that large iron vessels would be of the most value. In fact, Lloyd's of London itself had originally refused to classify iron vessels for insurance purposes.[77]

If Brocklebanks' decision to convert their fleet to iron was made cautiously, it was adopted wholeheartedly as policy following the acquisition of *Alexandra*. From 1863 to

---

77

NML, MMM, MAL, B/BROC, Liverpool-Calcutta Trade, 7; Administration, Business Letters, 3 March 1863; Ronald Hope, *A New History of British Shipping* (London, 1990), 273; and Graeme J. Milne, *Trade and Traders in Mid-Victorian Liverpool. Mercantile Business and the Making of a World Port* (Liverpool, 2000), 40-41. By the late 1850s shipowners found it most cost-efficient to run vessels which were entirely steam or entirely sail powered as opposed to auxiliary-steamers, although as demonstrated in Chapter Four, the auxiliary steamer long remained popular with Liverpool investors. Owners concentrating more on sail naturally turned to iron hulls, which allowed for maximum size on the longest distance bulk trades. Liverpool came to dominate the market in such vessels. We should note that, although Brocklebanks was not exactly an innovator in switching to iron, their 1863 purchase of *Alexandra* closely matched the take-off in iron vessel investment at Liverpool generally (see Graph 3.2).

1885 the company's gross investment stood at thirteen vessels. Of these only the *Bowfell* and *Mahanda*, launched at the Whitehaven yard in July of 1864 and April 1865, respectively, were of wood construction. They were also the last pair of vessels the company built themselves, marking the end of an era in more ways than one. In 1885 Brocklebanks turned yet another corner, with their first steel vessel *Zemindar*, 2,053 tons. Like wood before it, iron became a thing of the past as far as Brocklebanks' fleet was concerned (at least in terms of newly-registered tonnage). Within a few years Brocklebanks would make another, more radical, change that they had resisted for years by replacing their traditional sail fleet with steamers.[78]

78

NML, MMM, MAL, B/BROC, Vessels Built by T. & J. Brocklebank; BT 107/108, Liverpool Vessel Registries, various years; Gibson, "House of Brocklebank (1)," 50-54; Haws, *Brocklebank*; and Stillwell, "Brocklebanks," 129-133.

Chapter 8

Brocklebanks II – Sail to Steam

The end of the 1860s was marked by a major development in the Indian trades, and indeed in all trades using the route around the Cape of Good Hope. As was the case with iron vessels, Brocklebanks did not immediately respond to opportunities by adopting a new technology; indeed, they did not to do so for two decades. In 1869 the Suez Canal opened, reducing the distance from Britain to India by about a third, from 11,500 to approximately 6,000-8,000 miles[1]. Prior to this, the lengthy journey to the subcontinent ensured that steamers, with their still inefficient engines, could not compete with sail. In the years just prior to 1869, however, the use of high pressure marine engines meant an increase in fuel economy of up to forty percent.[2] At just this time steamers first came into their own over middle-distance routes. Officials at Sandbach, Tinne's Demerara office noted something to this effect the year Suez opened concerning their own trades. They stated that

> by recent improvements in engines & boilers, especially by what is known as the high & low pressure system the consumption of coal has been reduced by more than one half since the last attempt at steam to Demerara was made & we affix particulars of a steamer recently built which is capable of going

---

1

For a case study of the impact of the opening of the Suez Canal on one long-distance trade route, see Frank Broeze, "Distance Tamed: Steam Navigation to Australia and New Zealand from Its Beginnings to the Outbreak of The Great War," *Journal of Transport History*, New series, X, No. 1 (1989), 1-21. For a discussion of the economics of the shift from sail to steam see Chapter Four. Also see C. Knick Harley, "Aspects of the Economics of Shipping," In Lewis R. Fischer and Gerald E. Panting (eds.). *Change and Adaptation in Maritime History: The North Atlantic Fleets in the Nineteenth Century* (St. John's, NL, 1985), 167-188; and Gerald S. Graham, "The Ascendancy of the Sailing Ship 1850-85," *Economic History Review*. 2nd ser., IX (1956), 74-88.

2

J. Forbes Munro, "Suez and the Shipowner: The Response of the MacKinnon Shipping Group to the Opening of the Canal, 1869-84," in Lewis R. Fischer and Helge W. Nordvik (eds.), *Shipping and Trade, 1750-1950: Essays in International Maritime Economic History, 1750-1950* (Pontefract, 1990), 102-103; and Denis Griffiths, *Steam at Sea: Two Centuries of Steam-Powered Ships* (London, 1997).

> to Demerara in 20 days on 220 tons of coals & of carrying (in addition to her home voyage coal) between 2000 & 3000 tons of freight...[3]

The opening of Suez, along with improvements such as those noted above, created new opportunities and conundrums for shipowners. Although he believes there was more at issue than simply technology, J. Forbes Munro admits that an important business decision after 1869 was how soon, if at all, to abandon the use of sailing vessels around the Cape for the shorter route via Suez using steam. Not all owners were reticent about the development. Almost immediately, the 475-ton steamer *Cleator*, owned by Alfred Holt, was despatched to India by MacDiarmid Greenshields & Co. It was advertised to sail on 15 December and was followed only five days later by Stoddart Brothers' 644-ton steamer *Waverly*. Smith's City Line – participants in the Indian trade since 1840 – almost immediately switched to steam with the opening of Suez and thereafter built only two more sailing craft. In January 1870 Brocklebanks' rival Harrisons advertised the new steamer *Statesman* – large for the time at 1,800 tons – for the Indian trade via Suez. Two more Harrisons' steamers left the following month, although the *Statesman* did not actually get underway until March. In addition, Harrisons also used the steamers *Warrior*, *Chrysolite*, and two chartered bottoms on the route. Within a year of the Canal's opening the Harrison steam line to India was making regular trips. If this was practical, it raises the question of why Brocklebanks did not

---

3

National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), "Correspondence, Sandbach, Tinne & Co.," 2 December 1869.

take a similar step.[4]

The decision was based in part on the way Brocklebanks conducted their business – and primarily their continued involvement in the merchanting function. We have seen in Chapter Six that many Liverpool shipowners became specialists after mid-century, and the number of owners who listed themselves as merchants plummeted dramatically (refer to Graph 6.1). Again, Brocklebanks went at their own pace and continued to operate mainly as carriers of goods on their own account. It is interesting to note that in 1889, the last year

---

4

NML, MMM, MAL, B/BROC, Liverpool-Calcutta Trade, 9-10; and Munro, "Suez and the Shipowner," 98. The tonnages for *Warrior* and *Chrysolite* were 1,231 and 702, respectively. The Canal was proposed by the Frenchman Ferdinand de Lesseps in 1852 and digging began six years later. Although not officially opened until 1869, the first vessel actually passed through it in 1865. By 1885 about seventy-six percent of all Far Eastern trade went via the Canal, with the remainder taking the Cape route. In that same period approximately a seventh of all British foreign trade made use of Suez. The Canal also strengthened the position of steam versus sail in certain Indian trades since the Canal Company's towage requirements, and the associated fees, made sail vessels impractical users (some sail vessels did, in fact, use Suez. In 1870, for example, twenty-seven of the 486 transits were made by sailing craft). Despite the Canal's problems regarding sail tonnage, by the 1880s steam had not developed to the point where it superceded sail in all trades. Still, the Suez Canal greatly reduced voyage lengths (and times) to India for steamers while sail tonnage was, for all practical purposes, forced to travel by the circuitous Cape route. Decreased voyage times also encouraged a revival of the old idea that India might become a viable alternative to the United States as a source of raw cotton. This goal was never fully realized because the Indian product was perceived by many buyers as of poorer quality than American cotton and was more expensive to ship. Nevertheless, Calcutta, and more especially Bombay, were opened to Liverpool steam tonnage, and the Indian cotton trade itself gained momentum as prices rose across the board; the A Bills indicate that cotton comprised a portion of many Brocklebanks import cargoes. Until at least 1876 Liverpool exported more Indian cotton to the Continent than European nations themselves imported directly from India. Thus, the Canal became associated with the development of Liverpool steam. See D.A. Farnie, *East and West of Suez. The Suez Canal in History, 1854-1956* (Oxford, 1969), 102and 197; *The "Shipping World" Yearbook: A Desk Manual in Trade, Commerce and Navigation* (London, 1887), 51-52; Francis Hyde, *Liverpool and the Mersey: The Development of a Port 1700-1970* (Newton Abbot, 1971), 96; Graeme J. Milne, *Trade and Traders in Mid-Victorian Liverpool. Mercantile Business and the Making of a World Port* (Liverpool, 2000), 54; C. Knick Harley, "The Shift from Sailing Ships to Steamships, 1850-1890: A Study in Technological change and Its Diffusion," in D.N. McCloskey (ed.), *Essays on a Mature Economy: Britain After 1840* (London, 1979), 223-224; and J.A. Fairlie, "The Economic Effects of Ship Canals," *Annals of the American Academy of Political and Social Science*, XI (1898). In the first few months of its operation the Harrison vessel *Cordova* carried the largest load of manufactured cargo to date through the Suez Canal, although this was at first credited to a Hull firm. *The Times*, 17 February 1870, 5, as quoted in Milne, *Trade and Traders*, 5.

of the BT 108 registry series, three of the Brocklebanks invested in their first steamer, the *Cardiganshire*, soon renamed *Ameer*. In entering their occupations on this registry all listed themselves as "merchants." They comprised almost half of only seven Liverpool investors to register new tonnage as merchants in that year. Steamers like *Ameer* were, of course, expensive (for a cost breakdown of Brocklebanks' later steam fleet, see Appendix Twelve). Any company making the transition from sail needed a good source of capital to invest, along with the surety of full holds, to make such costly tonnage a paying proposition. Of course, steamers could make many more round trips to a particular destination than could sail over any given period of time. Still, this is not of much use if cargoes are not sufficient to make a good return on one's investment. Retaining their merchanting role in the first years after Suez, finding cargoes would have been less of a problem for Brocklebanks, who were shipping their own wholesale goods. On one hand, this could be an incentive to invest in steam, as a company never had to worry about full holds. The flip side of this is that, in Brocklebanks' position, there was no immediate need to move to more expensive tonnage when cargoes were assured. This was certainly one reason the company was able to remain with a sail fleet longer and more profitably than most of their rivals. As Basil Lubbock put it, "Brocklebank[s] could afford to ignore the Suez Canal [and steam] for they were long established merchants in the East and their ships were never in the freight market. They carried Brocklebank cargoes only."[5]

5

Basil Lubbock, *The Last of the Windjammers* (Glasgow, 1975), 121; and Great Britain, Board of Trade (BT) 108, Liverpool Vessel Registries, 1889. The best study of the historical economics of the industry is Yrjö

The actual composition of these cargoes was also part of the equation. As we have seen, they were normally comprised of rather prosaic items – generally not high-value goods needing rapid transit or that could justify the additional costs associated with steam. As a further example, Brocklebanks' ship-rigged *Bactria* under Captain Bolderston arrived on the Mersey from Calcutta in November 1887. It carried the firm's usual array of Indian imports, dominated by 6,963 bags of wheat and 15,527 bags of linseed. Apart from these commodities the *Bactria* also carried bones, bone meal, peas and jute cuttings. Shippers of such low-end cargoes were not the ones that most needed to worry about increasing steam competition. The firms which may have suffered most were established steam lines relying primarily on lucrative government contracts for mail, passengers and freight. Facing new competitors that were using more advanced steam vessels, such firms could only remain in business by upgrading or replacing their own fleets and/or finding a new comparative advantage.[6]

Kaukiainen, *Sailing into Twilight: Finnish Shipping in an Age of Transport Revolution, 1860-1914* (Helsinki, 1991).

6

Great Britain, Customs, Bills of Entry, 1887; and Munro, "Suez and the Shipowner," 99. Munro's case study is of the Mackinnon shipping group, one of the main beneficiaries of Suez. The Group was already established as an adaptable and innovative concern, having switched to steam starting as early as the 1850s. Munro argued that their main strength lay in their extensive contacts among the expatriate colonial communities and their related involvement in coastal and country trades, which were not so vulnerable to competition because of Suez. The Group could easily find local managers and had better access to authorities on the spot than many of their rivals. In effect (although Munro does not use my terminology specifically) the Mackinnon group made good use of a comparative advantage not open to most competitors. In keeping with Gordon Boyce's and Graeme Milne's work, a goodly portion of this advantage was based on information networks and interpersonal relationships. Munro, "Suez and the Shipowner," 116-117; Gordon Boyce, *Information, Mediation and Institutional Development. The Rise of Large-Scale Enterprise in British Shipping, 1870-1919* (Manchester, 1995); and Milne, *Trade and Traders.*

Brocklebanks' decision to employ sail longer than many of their competitors was also rooted in their main port of call, Calcutta. Appendix Eight shows the increasing importance of Calcutta to the company through the 1860s. Although the company's concentration on the Hooghly was less marked after the 1870s, Calcutta did remain their primary Indian port. Bombay, a principal beneficiary of steam's new competitiveness, was only a minor port of call for Brocklebanks after the 1850s. Using the Cape of Good Hope route the sea distance from both Bombay and Calcutta to Britain was about 11,500 miles. Via Suez the distance to Bombay was reduced to 6,200 miles. The distance reduction to Calcutta was less significant – 8,200 miles using the Suez Canal. Since the Canal was unsuited to sailing craft, steamers gained a greater advantage over their rivals on the shorter route to Bombay. Before Suez officially opened in 1869 little or no steam tonnage entered British ports from Bombay. As early as 1870 just over a third of this tonnage was steam. On the UK-Bombay route the cost of a round trip voyage was about equal for steamers and sailing vessels (travelling by Suez and the Cape, respectively), by 1872. In 1873 a full sixty-five percent of Bombay's trade to Britain was carried on by steamers. By the early 1890s none of the port's seaborne trade was retained by sail. Calcutta was another case altogether. Steam tonnage to that port became slightly more cost-effective than sail only in the 1880s, the same decade in which Brocklebanks purchased their first steamer. In the early 1870s only premium-value goods were the preserve of steamers at Calcutta. As late as the 1890s

a quarter of Calcutta vessel entrances in some trades were still made by sailing vessels.[7]

Evidence reported by Lewis Fischer and Gerald Panting indicates that the nature of certain Indian ports may have played a role in the retention of sail tonnage in other ways as well. Again, this was not the result of hidebound conservatism on the part of owners like Brocklebanks but a realistic and sensible business choice given the contemporary dynamics of the shipping industry. By the last decades of the nineteenth century the Indian trades were largely the preserve of steam. Nonetheless, a good deal of sail tonnage continued to call at subcontinental ports. Fischer and Panting's analysis suggests that from 1870 to 1900 sailing vessels trading to Asia and the Antipodes, especially if they called in Ceylon, might frequently stop at Indian ports to "top up" their holds prior to returning to Britain. At the beginning of the period such vessels were more likely to fill up with a single commodity, usually cotton. Over time grain became the dominant outward cargo, although by 1900 it was most common for a sailing tramp to load with a variety of goods including textiles, jute, dyes and tea. This is a simplification of Fischer and Panting's data, but it does make the point that India remained a viable niche for sail tonnage up to the turn of the twentieth century. Indeed, sail was by no means static or moribund for most of this period; in fact, the continued development of sail technology offered more promise to many shipowners than

---

7

Harley, "Sailing Ships to Steamships," 223-224 and 226-227. In actuality, the gap between sail and steam costs in the 1880s may have been even less than Harley found. Taking the year 1881 as an example, and assuming the costs per 1,000 tons of cargo capacity, his results were £2,470 for sail (Cape) and £2,389 for steam (Suez) from the UK to Calcutta. This calculation was based on the assumption that the steamer coaled at Port Said, but that no port charges were levied. Therefore the steam figure – as Harley noted – contains a "downward bias." In fact, in 1873 the steam cost to Calcutta by Suez was still greater than the Cape route by sail, leaving aside the port charges; and this was in a year that Suez Canal dues increased by thirty percent.

did steam. One such advance was in iron construction – a development which, as we have seen, Brocklebanks had adopted well before 1889. In certain trades, such as the carriage of South American nitrates, large steel sailing vessels continued to be used into the twentieth century.[8] Support for the retention of metal sailing vessels comes both from modern writers, such as Graeme Milne, and contemporaries. As Milne noted:

> For many sailing-ship owners...a sudden shift to steam made no rational sense, and far from writing these people off as conservative and backward-looking, we should give them credit for a sound awareness of their business. There is ample evidence that technologies and practices can persist over considerable periods of time because keeping them remains, overall, less expensive than replacing them...For a port like Liverpool, which was expanding its activities in trade with the Far East and Latin America, a continued commitment to sail...is a sign of sensible business practice, not backwardness. The historian needs to measure the dynamism of a trading community by its use of the most appropriate technology, not the most

---

8

Milne, *Trade and Traders*, 23; Lewis R. Fischer and Gerald E. Panting, "Indian Ports and British Intercontinental Sailing Ships: The Subcontinent as an Alternative Source of Cargo, 1870-1900," in K.S. Mathew (ed.), *Mariners, Merchants and Oceans: Studies in Maritime History* (New Delhi, 1995), 373 and 376-380. Fischer and Panting bring out a number of important themes in this article. One is the growing complexity of the trade. It was not simply that cargoes were becoming more varied but that the average sailing tramp stopping in India at the turn of the century would put in at more ports on average than its counterpart thirty years earlier. Also, the growing importance of grain as a sail cargo questions the traditional wisdom that the opening of Suez basically created the market for Indian grains. Since sail, which was excluded from the Canal, filled ever-increasing portions of their holds with subcontinent grain, the story may be more complex than previously thought. On the guano trade, see Jimmy M. Skaggs, *The Great Guano Rush: Entrepreneurs and American Overseas Expansion* (New York, 1994); C. Alexander G. DeSecada, "Arms, Guano, and Shipping: The W. R. Grace Interests in Peru, 1865-1885," *Business History Review*, LIX, No. 4 (1985), 597-621; W.M. Mathew, "Peru And The British Guano Market, 1840-1870," *Economic History Review*, XXIII, No. 1 (1970), 112-128; Lewis R. Fischer, "The Great Mudhole Fleet: The Voyages and Productivity of the Sailing Vessels of Saint John, 1863-1912;" in David Alexander and Rosemary Ommr (eds.), *Volumes Not Values: Canadian Sailing Ships and World Trades* (St. John's, NL, 1979), 117-156; Michael Monteóón, " John T. North, the Nitrate King, and Chile's Lost Future," *Latin American Perspectives*, XXX, No. 6 (2003), 69-90; and Robert G. Greenhill and Rory Miller, "The Peruvian Government and the Nitrate Trade," *Journal of Latin American Studies*, V, No. 1 (1973), 107-131.

"advanced."[9]

From a contemporary perspective, the issue was phrased slightly differently although in the same tenor:

> ...[I]nvestors may reasonably consider new iron sailing vessels the best permanent investment they can find, as when business is good they make very large profits, and when freights are low they possess the best staying power, being capable of management on most economical principles, and requiring almost no outlay for repairs during the first 12 years of their existence, so that handsome average dividends are obtained over a course of years without deduction for repairs, and only a very trifling rate of depreciation.[10]

This notwithstanding, shipping agents quickly came to prefer steam to sail for its regularity. Although sailing fleets like Brocklebanks could make several voyages per year, arrivals and departures were notoriously irregular. The agents preferred to link up cargoes with a steam-based shipper who could give their clients fairly exact dates. Cold storage facilities and the submarine cable to Bombay also helped increase the advantages of steam, as did steam vessels' more and more efficient engines.[11]

In the interim, however, Brocklebanks did make the best use of their resources. As Graph 7.2 in the previous chapter clearly illustrates, the company was achieving economies

---

9

Milne, *Trade and Traders*, 24 and 28.

10

Shipping Gazette and Lloyd's List Weekly Summary, 4 January 1884, 7, as quoted in Harley, "Sailing Ships to Steamships," 226-227.

11

On the Indian Ocean cable, see Kenneth McPherson, *The Indian Ocean: A History of People and the Sea* (Delhi, 1993); and Jorma Ahvenainen, "The Role of the Telegraph in the 19th Century Revolution of Communications," in Michael North (ed.), *Kommunikationsrevolutionen. Die neuen Medien des 16. Und 19. Jahrhunderts* (Köln, 1995), 73-80.

of scale by operating larger tonnage, and the average tonnage of Brocklebanks' fleet rose significantly even before their switch to steam. In the 1820s the fleet's average tonnage per annum stood at only 5,315, while by the 1880s this had grown to 20,925 tons. The theory and practice behind economies of scale in shipping is that a bigger vessel does not require a proportionally larger number of men to operate. Therefore, crew costs will hardly rise while the amount of cargo carried on any single voyage can be considerably larger. As an example, the 1,302- gross-ton *Rajmahal*, launched by the Whitehaven yard on 16 April, 1858, had a crew of thirty-three officers and hands. The 3,007-gross-ton *Sindia* was constructed for Brocklebanks by Harland & Wolff in 1887. Although it was almost three times the tonnage of the *Rajmahal*, the vessel carried only three extra crew members. Brocklebanks were helped in making this adaptation by the switch to iron vessels, and by 1872 five full-rigged iron ships from Harland & Wolff had joined the fleet – *Alexandra*, *Baroda, Candahar, Tenasserim II* and *Chinsura*. On average these new craft were 400 tons larger than the old wooden vessels. In 1874 the ships made fourteen sailings from Liverpool to Calcutta, plus one to Australia and a few to China. The firm maintained a reputation for quality-built ships which served them well when they did look to attract outside cargoes. As late as 1885 Brocklebanks despatched eleven sail vessels to Calcutta, three of the newer craft averaging 2,000 tons each. Two years on, the four-masted barque *Sindia* was launched for Brocklebanks, along with the similarly rigged *Holkar* the following year. At 3,000 net tons

each, they were among the world's largest sailing vessels.[12]

Referring back to Graph 7.1, however, there is little evidence that Brocklebanks were further reducing costs by holding on to older tonnage. In 1885, for example, the average age of the fleet's vessels was twelve years. This was up somewhat from the decade before, when the average age stood at only nine years. The 1885 average was actually lower than 1845, 1855 and 1865. By 1895, when steamers comprised much of the fleet's tonnage, the average vessel age stood at ten years – lower than 1885 but higher than 1875. In terms of gross investment, tonnage added to Brocklebanks' fleet in the 1840s, for example, lasted on average about 18.3 years. By the 1880s newly-registered tonnage could expect to remain with the fleet for a somewhat shorter span, 15.5 years.[13]

In 1900 the company *did* take another step toward reducing voyage costs by replacing

---

12

NML, MMM, MAL, B/BROC, Liverpool-Calcutta Trade, 12; Vessels Built by T. & J. Brocklebank; Brocklebank Fleet, 1775-1945; BT 107/108, Liverpool Vessel Registries, various years; John Frederick Gibson, "The House of Brocklebank (1)," *Sea Breezes*, XVII (1954), 50-54; Gibson, *Brocklebanks: 1770-1950* (2 vols., Liverpool, 1953), I, 147-157; Duncan Haws, *Merchant Fleets: Thos. & Jno. Brocklebank* (Uckfield, East Sussex, 1994), 44 and 54; and David E. Stillwell, "Brocklebanks: The Final Century," *Sea Breezes*, LVIII (1984), 129-133. Because of its strength, iron was suitable for the construction of much larger craft than was possible using wood. According to data in the Crew Agreements, Brocklebanks sail craft continued on the old Calcutta run for some time after the first steamers joined the fleet. For example, the ship-rigged *Majestic*, built in 1875, was a regular trader to Calcutta in the early 1890s. Under J. Nicholson the vessel made the voyage from Liverpool at least three times from 1890to 1893. Great Britain, BT 100, British Empire Agreements and Accounts of Crew, *Majestic*, 1891 and 1893.

13

NML, MMM, MAL, B/BROC, Historical Notes, Brocklebank Fleet; Brocklebank Fleet, 1775-1945; BT 107/108, Liverpool Vessel Registries, various years; Gibson, " House of Brocklebank (1)," 50-54; Haws, *Brocklebank*, 56; and Stillwell, "Brocklebanks: The Final Century," 129-133. In terms of how Brocklebanks' vessels (acquired from 1820-1914) met their end or were disposed of, 67.2 percent were sold or transferred, 27.9 percent were lost through some form of disaster at sea, 1.6 percent were broken up, and 3.3 percent were lost to enemy action. Of the tonnage acquired by Brocklebanks to 1914, most of the losses to enemy action occurred in the First World War, but one vessel – the 7,196-ton steamer *Mahanda*, purchased 1914 – was bombed and sunk by the Luftwaffe in 1941.

all European deck and engine room seamen with cheaper Indian Lascars. Europeans were retained as officers and quartermasters, however. Evidence from the Crew Agreements indicates that Brocklebanks were moving in this direction even earlier, employing Lascars after the first voyages of the steamers *Ameer* and *Gaekwar*. On Boxing Day 1896, for example, *Gaekwar* arrived at Dundee. The vessel had departed Liverpool just over three months previously, making calls at Calcutta and Colombo. The agreement notes that sailors on this particular voyage were Lascars (likely Indian). Such a manning strategy would have been eminently practical for Brocklebanks. British vessels had used foreign and colonial seamen at least since the 1600s, but the practice took on new importance after 1850. The repeal of the Navigation Acts reduced barriers to foreign and colonial hiring. In addition, the introduction of steam made Jack Tar's traditional skills largely redundant. On steamers these qualifications were replaced with industrial skills more akin to shore-based industry. Now shipowners could readily hire seamen in any port without worrying about specialized qualifications. Thus, steam brought with it an influx of non-British mariners. Conventional wisdom held that Lascars were better able to cope with stokehold work during tropical voyages. In addition, it was practically impossible to replace European seamen and engine room personnel at Asian ports. By 1891 over twenty-two percent of seamen on British craft were foreigners. From the perspective of cost cutting, Indian seamen were especially desirable, being the lowest paid mariners in the shipping industry. Their wages were up to a third less than comparable British sailors, and their victualing costs were even lower than Arabs or Chinese. Brocklebanks' use of Calcutta as their principal Indian port also made

Lascar seamen an attractive choice. As was the case with Bombay, the port had long-standing ties to coastal shipping and thus a large supply of experienced seamen. Although there were reports of corruption in the recruitment process, British firms in the Indian trades were by and large pleased with "a system which virtually ran itself at very little cost."[14]

The employment of Lascar seamen and the conversion of the fleet to larger iron vessels were only two of a number of changes underway at Brocklebanks from the 1870s. By the late-1880s Thomas and Ralph Brocklebank had already changed with the times and were basically pure shipowners – despite the tendency still to refer to themselves as merchants. This is similar to what Sager and Panting found in Atlantic Canada where many shipowners also considered, and referred to, themselves as merchants. The difference in the Brocklebanks case is that by the late-nineteenth century they were probably functioning less as actual merchants than their colonial counterparts; for Brocklebanks, shipowning itself had become the main focus of their enterprise.[15] From this point on outside cargoes had to be found, and the Brocklebank cousins realised the switch to steam was essential. As Francis Hyde remarked, "...the Brocklebanks had already gained experience of the Indian primary

---

14

G. Balachandran, "Recruitment and Control of Indian Seamen: Calcutta, 1880-1935," *International Journal of Maritime History*, IX (June 1997), 1-9; and John Frederick Gibson, "House of Brocklebank (2)," *Sea Breezes*, New series, XVII (1954), 111. See also Conrad Dixon, "Lascars: The Forgotten Seamen," in Rosemary Ommer and Gerald Panting (eds.), *Working Men Who Got Wet* (St. John's, NL, 1980), 263-282. Prior to 1906 "Lascar" did not simply refer to Indian seamen but could mean any number of non-Europeans, such as Chinese, Africans, Arabs, and Malays. Balachandran, "Recruitment," 2. I use it here in the narrower sense.

15

Eric W. Sager, with Gerald E. Panting, *Maritime Capital: The Shipping Industry in Atlantic Canada 1820-1914* (Montréal, 1990), 149.

commodity trades through the provision of well-ordered services, but it was the steamship which was henceforth to foster the commercial potentialities of the trade."[16] Following the 1889 delivery of *Ameer*, Brocklebanks soon purchased the steamer *Gaekwar*. Like Brocklebanks' sail tonnage, contemporaries considered these steamers to be some of the best of their type in service. With their advent, a new era began for the company. From the purchase of *Gaekwar* though to the Great War Brocklebanks acquired some nineteen vessels, amounting to 112,506 tons, all of which were steamers (see Appendix 6B).[17]

Although no longer purchasing sailing vessels, Brocklebanks continued to run old wind-driven tonnage for well over a decade after the beginning of their steam fleet. The later careers of these vessels harkened back to an earlier era when tramping was more common than liner shipping. Once again, the old sail craft became wanderers, searching for cargoes wherever they might be had. Brocklebanks' sailing vessels could be found in any number of European, American and Pacific ports in the *fin de siècle* era. These new niche trades might include carrying bulk cargoes such as coal or salt from British and European ports (or case oil from New York) to India. Return voyages would frequently carry jute from Calcutta, which was often returned not to Liverpool but Dundee.[18] As tramps, these vessels' ports of

---

16

Hyde, *Liverpool*, 106.

17

Gibson, *Brocklebanks*, I, 147-157; and NML, MMM, MAL, B/BROC, Liverpool-Calcutta Trade, 12-13.

18

An excellent study of Dundee shipping, which also places the town's commerce into perspective, is Gordon Jackson, with Kate Kinnear, *The Trade and Shipping of Dundee, 1780-1850* (Dundee, 1991).

call were truly global. The 1,967-ton ship *Khyber*, for example, was mainly employed on the old Liverpool-Calcutta run through the 1880s, but this pattern changed thereafter. The vessel sailed to Colombo and Cochin in 1892. In 1894 *Khyber* departed London, making stops in ports such as Middlesbrough, Calcutta, New York, Dundee and Madagascar, before arriving back at its home port in 1898. Under master H.H. Steele she departed Liverpool again before the year was out, loading at the Australian ports of Sydney and Newcastle from June through October 1899. During its return voyage *Khyber* also put in at the South American ports of Valparaiso and Iquique, finally ending the voyage at Hamburg. From 1901-1902, commanded by Henry Rushery, the ship traversed half the globe, starting at the Irish port of Dublin. From there it sailed, as per its crew agreement "...to New York," then on to Hong Kong. *Khyber* next doubled back, loading at both Astoria and Portland, Oregon, ending its voyage at Cardiff in March 1903. Brocklebanks' rigging preference for most of these last sailing vessels was the ship (like the *Khyber*) and the four-masted barque. These were craft built especially for their carrying capacity, not for their speed, and they were described as "ugly" when in port. The last sailing vessel to be purchased by the Brocklebanks was the *Holkar*. Added to the roster in 1888, it remained part of the Brocklebanks fleet until 1901 when it was sold to German owners who promptly renamed her *Odessa* and continued to operate her until she was captured by the Royal Navy in 1915. *Holkar* had made her first run to Calcutta in 1888 and toward the end of her tenure was one of the few sailing craft still operated by the firm. Ironically, the commander of the boarding party that took her immediately recognized the vessel, having worked for Brocklebanks as an apprentice many

years previously.[19]

Despite the continuity provided by the remaining sailing vessels, this period was generally transitional for the company. Some of the firms in the Calcutta trade by the late-nineteenth century have already been mentioned, but in addition there were quite a few others. Many leading shippers in the trade felt that competition was becoming too severe and that this was exacerbated by rising costs. With the advent of the steamer on Indian routes after the opening of the Suez Canal, these trends only increased, and ports in the subcontinent were clogged with steam tonnage. The Rathbone family who, like the Brocklebanks, were long established in the Indian trades, were unable to stave off the worst effects of competition and sold their steamers to Harrisons. Action had to be taken. In August 1875 the Calcutta Conference was founded by seven of the port's regular lines. Based on the port rather than India as a whole, the Calcutta arrangement became the first of many deep-sea conferences arranged by British shipping companies. Under the conference system freight rates in a particular trade would be fixed at levels that could be supported by the commodities involved. In effect, established shippers closed ranks and attempted to squeeze out newcomers while ensuring that no harmful "rate wars" broke out among the members (the latter ideal was less than effective, as we will see). With some stability in long-term freight rates, merchants could plan for the future with a measure of confidence since they could estimate costs and revenues with some precision. Moreover, because

---

19

Gibson, Brocklebanks, I, 159-160 and 165; Stillwell, "Brocklebanks: The Final Century," 117; and BT 100, *Khyber*, various years.

conference members could regulate the supply of tonnage on offer, the likelihood of crippling rate wars was reduced. To ensure loyalty, the Calcutta Conference pioneered deferred rebates in 1877. To earn a rebate shippers were required to use conference tonnage for all their goods for a set period of time; only when these conditions had been met did the client receive the rebate.[20]

Although the system sounds almost foolproof, in fact it was by no means perfect. From time to time there was fierce in-fighting among members of the Calcutta Conference, a situation exacerbated by the presence of competitors, Brocklebanks prominent among them. Hendersons' Anchor Line (a member from the early 1880s) became disenchanted

---

20

Gibson, *Brocklebanks*, II, 5; Stillwell, "Brocklebanks: The Final Century," 116; Hyde, *Liverpool*, 101 and 106; John Armstrong, "Conferences in British Nineteenth-Century Coastal Shipping," *Mariner's Mirror* (February 1991), 55; and B.M. Deakin, with T. Seward, *Shipping Conferences. A Study of Their Origins, Development and Economic Practices* (Cambridge, 1973), 23-24. By 1890 the main participants in the conference were Harrisons, Peninsular and Oriental (P & O), British India Company, Clan Line, Anchor Line and City Line. There is evidence the Calcutta Conference had a predecessor some twenty years earlier. Although the two firms are best noted for their great rivalry, Cunard and the Collins Line were in fact founders of their own shipping conference, or cartel, in the early 1850s. The major players in the agreement were Cunard's managing director, Charles MacIver, along with William Brown and his brother, James. The Browns illustrate the complex integration of various components in the shipping industry, not to mention the many hats connected persons might wear. William was senior partner of a Liverpool banking house while his brother filled the same role in a New York-based bank. Together they acted as Liverpool agents for Edward Collins' sail packets and later his steamers. James was the largest investor in the Collins' steam line and was company president. William, an MP and philanthropist, in addition to being a banker, was a major Cunard investor. Due to the secrecy of the agreement, Edward Sloan believes it has been largely overlooked by historians, giving credit to the Calcutta Conference as the first successful entity of its kind. Likewise, John Armstrong contends that conferences were widespread in Britain's coastal trade long before the Calcutta concord, and may have provided the model for such agreements. Edward W. Sloan, "The First (and Very Secret) International Steamship Cartel, 1850-1856," in David J. Starkey and Gelina Harlaftis (eds.), *Global Markets: The Internationalization of the Sea Transport Industries Since 1850* (St. John's, NL, 1998), 29-31; J.R. Killick, "Liverpool Merchants and American Shipping: William Brown and the Cope Line of Philadelphia-Liverpool Packets, 1822-1880," *Northern History*, XXXVII (2000), 179-192; Killick, "An Early Nineteenth-Century Shipping Line: The Cope Line of Philadelphia and Liverpool Packets, 1822-1872," *International Journal of Maritime History*, XII, No. 1 (June 2000), 61-87; and Armstrong, "Conferences," 56.

with the conference system. They quit the Calcutta Conference to compete in the freight market after rejection of their demands for more sailings and increased outward cargoes. In the same era Brocklebanks provided the Conference with its main competition, particularly in the carriage of bulk commodities. The Conference lines had hoped to bring Brocklebanks within the fold, but the idea was shelved following Anchor's defection. The result was a financially damaging rate war, as both Anchor and Brocklebanks stepped up competition with Conference vessels. Brocklebanks began loading tea cargoes at rates well below that charged by the Conference, which responded by reducing its own rates for tea carriage. Francis Hyde contends that in 1891 Harrisons' earnings dropped from £143,00 to £72,000, partly due to increased competition from Brocklebanks. The situation was not stabilized until 1892 when Brocklebanks joined (and Anchor rejoined) the Calcutta Conference.[21]

Over the years a number of other issues divided conference members. In the 1890s, for instance, Brocklebanks and Harrisons opposed the adoption of a freer market in tea, championed by conference member George Smith of City Line, who did not want to offend tea shippers. Adoption of this system might by necessity have extended to goods like salt, linseed, jute and gunny cloth – important cargoes for both Brocklebanks and Harrisons – replacing deferred rebates. The issue remained a source of friction until 1895 when a tentative arrangement to retain the deferred rebate was reached. In time a new basis for agreement was reached whereby the Indian market was shared among all the Conference

---

21

Francis Hyde, *Shipping Enterprise and Management 1830-1939. Harrisons of Liverpool* (Liverpool, 1967), 75-76 and 96; and Deakin, with Seward, *Shipping Conferences*, 26.

members. Still, the Calcutta Conference remained, as Hyde termed it, "a loosely-knit structure." Between 1875 and 1900 practically all members of the Conference considered breaking away when they felt their particular needs were not being met. Despite such problems, the working arrangements reached among Conference members provided some measure of stability to Brocklebanks, Harrisons and their main Indian trade rivals, Clan, Anchor and City Lines – a workable relationship that lasted until 1914.[22]

For obvious reasons, conferences tended to work best when their sole members were liner operators. Tramp shipowners were unlikely to seek conference membership because their goal was to engross whatever cargo happened to be available. This often entailed negotiations about rates, something that of course was antithetical to conference members. In addition, tramps were often chartered by merchants to carry their own goods, and these charterers were not generally interested in collaborating with competitors. Although frowned upon today, these practices were common in late nineteenth-century shipping. In theory, abuse was prevented because unreasonably high rates would encourage outside competitors, such as the tramps. In fact, a Royal Commission of the early twentieth century reported favourably on the Calcutta Conference. In their day conferences were considered perfectly

---

22

Hyde, *Shipping Enterprise*, 76-81. Brocklebanks have occasionally been credited as founder-members of the Calcutta Conference (By David E. Stillwell, for example). In his work on Harrisons, Francis Hyde gives 1892 as the date Brocklebanks joined the Conference, but appears to support an earlier date in his later monograph on the port of Liverpool. Hyde talks of Brocklebanks leaving the Conference along with Anchor Line in late-1880s and of their both being readmitted in 1892. Hyde, *Liverpool*, 106-107; Hyde, *Shipping Enterprise*, 77; and Stillwell, "Brocklebanks: The Final Century," 117. Perhaps some confusion is understandable. B.M. Deakin and T. Seward found less data for the early years of the Calcutta arrangement then for many other conferences as most of the pertinent records were destroyed in World War II. Deakin, with Seward, *Shipping Conferences*, 23.

legal and were not thought to have exploited shippers.[23]

Whether or not Brocklebanks was doing anything underhanded, there were at least some contemporaries who thought so. Prior to their entry into the Calcutta Conference, Brocklebanks, as an ancillary of their shipping business, acted as agents for the East India railway. In this period it was common for the older shipping concerns to act as agents and brokers. At least one rival felt he was being squeezed out of the Indian shipping business by what he perceived to be unfair business practices by Brocklebanks acting in their brokerage and agent roles.[24] This rival, David Brown, wrote that:

> ...an owner is compelled to charter his vessel for these freights through certain brokers [the reference here to Brocklebanks], who, in addition to the ordinary brokerage, also bind the ship to special houses in India under a consignment commission for homeward freight & c & c...In the case of...guaranteed Indian Railways, it is the fact that the broker receives from the railway company 1/ per ton for engaging their tonnage...Ship-owners have been sailing their vessels for the past few years in too many cases with loss, whilst the ship brokers have been making enormous gains, standing as charterers and not as brokers between the merchant and ship-owner...In the Indian and Australian Berth lines a kind of trades-Union exists, not for the benefit of the shipowners, however, as they are bargained with to the last shilling, but for the benefit of the brokers, who agree together the amount of freight they will give for the vessels they charter...[I]t does not pay them to load a ship for 5 per cent commission...As near as I can gather, the profits are

---

23

Armstrong, "Conferences," 55-56. For further information on the conference system generally and the Commission's findings, see Great Britain, Parliament, House of Commons, *Parliamentary Papers* (*BPP*) 1909, XLVII-XLVIII, "Royal Commission on Shipping Rings." If contemporaries viewed shipping conferences with equanimity, they showered far less praise on railroads, especially in North America. For examples of restraints of trade by US railroads in the late nineteenth century, and the complaints that these engendered among users, see Robert J. McFall, *Railway Monopoly and Rate Regulation* (New York, 1968).

24

NML, MMM, MAL, B/BROC, David Brown, "Private Correspondence," 12 May 1879. By this period it was common for shipping lines such as Brocklebanks to act as agents for their clients.

> generally from 20 to 40 per cent, and I have before me a list of some half - a - dozen vessels recently loaded on the Indian Berth to Australia, on each of which I understand the brokers made from £500 to £1000 and certainly the rates paid by the shippers at the time fully bear out these figures - these profits, I am quite given to understand, the various brokers place into one common fund, and divide up pro-rata at stated periods.[25]

This brokerage arrangement in itself appears much like an informal conference. Whether it was fair or not depended on which side of the fence one sat. An employee of Brocklebanks, R. Todd, later commented on this letter to the company's then head, Col. Denis Bates. Todd remarked on certain other points made by Brown, saying that Brown had apparently tried to load his vessel in Calcutta but that Brocklebanks had sent out their own vessel and offered rebates to their regular shippers to have them desert Brown's craft. Other charges Brown apparently made against Brocklebanks were that in their role as sole agents for the East India Railway they were able to make profits of £300 to £400 on a single vessel and still were able to load other cargo to supplement their "ill gotten gains." Bates noted that the charge against them was "so colossal it makes one think of Tammany." Todd noted that whether it was through the ordinary course of business or directly a result of Brown's protests, Brocklebanks lost the railway's sole agency not long after 1879, although they still carried much of its cargo as late as 1925. After 1892, the Calcutta Conference perhaps acted

---

25

Ibid. Although Brown was talking more about brokers, the pooling of receipts was not unknown in the conferences, where members would enter into confidential agreements, normally comprising "joint purses," in which members divided all receipts on a pre-arranged basis. Under such an arrangement, close monitoring of members' accounts were necessary, and the more profitable firms might have to subsidize the operations of the less successful. Armstrong, "Conferences," 55.

as a more formal substitute for such arrangements.[26]

Although change, technological or otherwise, was the principal theme for Brocklebanks from the late 1880s on, the actual structure of the company had altered little in decades. Thomas, by then *Sir* Thomas – made a Baronet by his friend Gladstone in 1885 – along with his cousin Ralph, had been in firm control of the company for forty years. Although the business had switched from wood to iron, was making the transition from sail to steam, and would soon join the Calcutta Conference, they remained a family concern. In 1886 Ralph Brocklebank and his son, Ralph Jr., who had also joined the business, retired. The elder Brocklebank died on 2 February1892, leaving the considerable sum of £799,644 in his will. Sir Thomas continued as head of the firm for a number of years after cousin Ralph's retirement, but he finally left in 1895. Upon his departure his two sons, Thomas and Harold, assumed control under the terms of a detailed "Memorandum Agreement," which transferred all shares and assets from father to sons. It is interesting to note that even at this late date family members were still referred to as "Merchants and Shipowners," though their business was now firmly based on the second function. The two young brothers had been active with the firm for a number of years and already controlled one-fifth of Brocklebanks'

26

NML, MMM, MAL, B/BROC, R. Todd, "Correspondence," 24 March 1925. Bates' reference was to Tammany Hall, a Democratic political organization in New York City. By 1870, under the leadership of "Boss" William Tweed, it controlled New York State politics and was noted for its excessive graft and corruption. See John Belchem and Richard Price (eds.), *The Penguin Dictionary of Nineteenth-Century History* (London, 1994), 601; Alexander B. Callow, Jr., *The Tweed Ring* (New York, 1966); and especially William L. Riordon (ed.), *Plunkitt of Tammany Hall: A Series of Very Plain Talks on Very Practical Politics, Delivered by ex-Senator George Washington Plunkitt, the Tammany Philosopher, from His Rostrum – The New York County Court House Bootblack Stand* (New York, 1963).

assets, estimated at £225,000. Although the first Sir Thomas died in 1906, aged ninety two, the traditional family structure of the business continued until 1912, the year after the younger Sir Thomas passed away. In 1911 Harold assumed the Chairmanship, while Sir Thomas' son Aubrey took over day-to-day management, a job with which he already had some familiarity.[27] Indeed, Aubrey was appointed to his first position on the Board of Directors at their meeting in July 1898 where it was "resolved unanimously that Mr. James D. Maxwell and Mr. Aubrey Brocklebank be, and they are hereby appointed managing Directors of [Brocklebanks]."[28] In fact, adherence to the family-firm model during this period was not the result of any particular reticence on the part of Brocklebanks. Many British shipping companies made the change from this organizational structure much later. As Gordon Boyce reminds us,

> It was not until salient changes brought a new contracting culture into being after World War II that Harrisons...and many other firms admitted significant numbers of professionally trained specialists and restructured their business. Before that time, owners continued to secure the talent they needed using traditional contracts, and although compelled to share rents with salaried men, families determined the basis of division.[29]

During this important period the company underwent structural changes apart from

---

27

NML, MMM, MAL, B/BROC, Memorandum Agreement, 1 October 1895.; Clement Jones, "Shipowners Who Have Made History. Origin and Development of the House of Brocklebank, the Oldest Shipping Firm in the Kingdom," *Journal of Commerce* (25 November 1933); Dudley Reeves, "From Sail to Steam: Brocklebank's Part in Maritime History," *Town and Country News* (15 August 1930), 6; "House of Brocklebank," 3; and Gibson, *Brocklebanks*, II, 167.

28

NML, MMM, MAL, B/BROC, Administration, Minutes of Director's Meetings, 22 July 1898.

29

Boyce, *Information, Mediation and Institutional Development*, 287-288.

those caused by changes in the people at the helm. With the advent of a steam fleet Brocklebanks brought in a superintendent engineer, bought new coal bunkers and stores, and generally increased the pace of the firm. Closer contact permitted by the telegraph meant that decisions once left by necessity to the discretion of a master or supercargo now became the purview of management. In the Calcutta trade, conferences failed to weed out all competition, especially from foreigners who were usually outside the British conference structures. As with all businesses, the goal of Calcutta shippers was to protect their niche to ensure survival and profitability.[30]

Partially in response to the growing changes in the industry, many firms at this time became limited liability companies. Normally this meant bringing in a number of outsiders as shareholders with the advantage of their new ideas and outlooks but with the drawback of losing some control over the enterprise. On 28 September 1898 Brocklebanks took this step but tailored the change to suit their own interests. Although the firm was parcelled out into shareholdings, practically all of these went to family members who were already involved with the business; a few residual shares were allotted to company employees. The share distribution was as follows: Thomas and Harold Brocklebank 1,247 shares each; and Aubrey Brocklebank, J.D. Maxwell (shipowner), J.M. Stamper (secretary), R.R. Woodcock (cashier), James Sandilands (freight clerk) and A.B. Hughes (freight clerk), 1 share apiece. Shares were valued at £100 each, and the share distribution was renewed, with the same

---

30

Gibson, *Brocklebanks*, II, 9.

investors and holdings, on 20 March 1900.[31]

The new limited-liability company continued to increase its investment in steam tonnage, and the steam-powered fleet increased steadily from 1890 through 1905. By 1902 Brocklebanks owned six steamers. In 1905 four new vessels built by Harland & Wolff were added to the fleet which then consisted of the *Ameer, Gaekwar, Pindari, Mahratta, Marwarri, Bengali, Mahronda, Malakand, Manipur* and *Matheran.* In total, Brocklebanks' fleet that year amounted to nine vessels, at 48,372 gross tons, and averaging 5,375 tons per vessel. By this date all but the venerable *Khyber* were steamers. All the steamers by this stage had names that reflected the company's long relationship with India in general and Calcutta in particular. After the twin-screw *Pindari* experienced trouble with its starboard propellor on an 1894 voyage it was decided to operate the vessel on its port screw alone. The steamer made the passage from Calcutta to Britain on the single screw in forty-eight days. It was decided from this point on that all new Brocklebank steamers would be of single-screw construction, as were the four that were added in 1905. The new fleet represented the cutting edge of technology. The 1905 additions were equipped with powerful steam winches and the latest cargo- working gear. The vessels had cellular double bottoms to enable them to carry water as ballast, and a few first-class passengers were provided with staterooms

---

31

"NML, MMM, MAL, B/BROC, "Register of Shareholders & c. Thos. & Jno. Brocklebank Limited," 1898 and 20 March 1900; Administration, Minutes of Directors' Meeting, 28 September 1898; and Stillwell, "Brocklebanks: The Final Century," 116. About forty years later Denis H. Bates stated that "for purely family reasons, the business was turned into a private limited company...under the title Thos. & Jno. Brocklebank, Limited," although Bates gave no further insight into this decision. Bates, "Liverpool Shipping Company's 167 Years of Progress," *The Liverpolitan* (September 1937), 29.

fitted with electric lighting.[32]

The general tendency in this period, one which developed more sharply over time, was toward the concentration on a particular trade. Companies often worked out arrangements to this end which amounted to "mini-conferences." For example, if two companies had been accustomed to trading to Calcutta and Shanghai, it might be arranged for one to concentrate on Calcutta, while the other shifted their business more to Shanghai. Brocklebanks had, of course, been quasi-specialists in the Calcutta trade since at least the 1860s, although they never completely gave up trading to other ports. Ironically, the remaining sail fleet in the 1890s, as we have seen, caused Brocklebanks tonnage to range more widely in search of cargoes, and the 1905 steam acquisitions had a similar effect.[33] Because the four craft delivered by Harland & Wolff created a surplus of tonnage in the Calcutta trade, the firm decided to redeploy some of their vessels on East Asian routes.[34]

Although Calcutta had long been the primary destination for Brocklebanks shipping,

---

32

Gibson, *Brocklebanks*, II, 9; Stillwell, "Brocklebanks: The Final Century," 116-117 and 129-133; NML, MMM, MAL, B/BROC, Brocklebank Fleet, 1775-1945; Gibson, "House of Brocklebank (1)," 50-54; and Haws, *Brocklebank*. Brocklebanks' late start in the use of steam led them to avoid the transitional auxiliary steamers so prevalent on the Liverpool registries for much of the late-nineteenth century, at least for the most part. Most of Brocklebanks' post-1889 tonnage consisted of pure steamers, although the company's first steam vessel, the 4,127 gross ton *Ameer*, while up-to-date and employing a triple expansion engine, still carried a full spread of sails on its foremast. NML, MMM, MAL, B/BROC, Brocklebank Fleet, 1775-1945; BT 107/108, Liverpool Vessel Registries, 1889; and John Clarkson and Roy Fenton, *Ships in Focus: Anchor and Brocklebank Lines* (Longton, Preston, 1994), 37.

33

For a discussion of the choice between operating steamers as tramps or liners, see robin Craig, *The Ship: Steam Tramps and Cargo Liners, 1850-1950* (London, 1980).

34

Gibson, *Brocklebanks*, II, 9.

their interest in East Asia, and especially in Chinese ports, had never ceased, as illustrated in Appendix Thirteen. The firm started their East Asian service with the sailing of the *Superior* to Batavia and Singapore on 16 August 1829. By the 1830s about three percent of all Brocklebanks' shipping movements were to the Far East. The percentages rose to approximately seven and nine, respectively, in the 1850s and 1860s. From 1829 there were voyages to at least one Asian port, excluding India, in almost every year. Through the 1840s Singapore remained an important destination, along with Brocklebanks' first Chinese port of call, Canton. After the 1840s Brocklebanks all but discontinued sailings to Batavia, with the last voyage being made by the *Tigris* in December 1863. From the 1840s, Chinese ports became the focus of the company's Asian trade outside India, with the ports of Hong Kong and Shanghai the primary destinations.[35]

35

Gore's Liverpool Advertiser, various years. The story of Brocklebanks trade to China, like that to India, parallels the rising fortunes of Britain and other imperial powers during the nineteenth century. It was noted above that Brocklebanks' Chinese sailings at first focused on Canton, but by the late 1840s these shifted decisively toward Shanghai and Hong Kong. At the beginning of the nineteenth century the Manchus had closed virtually the entire country to European trade. At the time Brocklebanks became involved in Chinese trading foreigners could do business only through Canton – hence the company's focus on this port. In 1839, however, the British fought China in the First Opium War (1839-1841) to protect their trade in the drug, notwithstanding that the carriage of opium was illegal in China. Following a British victory, China was forced to sign the Treaty of Nanking in 1842. Under the treaty five ports, including Shanghai, were opened to British trade. The treaty also ceded Hong Kong to Britain, and these two ports quickly became the focus of trading activity by Brocklebanks, among other firms. It is significant that the first company sailing to Hong Kong was in 1844, only two years after the treaty signing; trade to Shanghai also started before the decade was out. See Christina Jane Baird, "The Liverpool China Trade 1834-1880" (PhD thesis, 2 vols., London, 1997); Belchem and Price (eds.), *Dictionary of Nineteenth-Century History*, 27-28, 122 and 625; J.P. Kenyon (ed.), *The Wordsworth Dictionary of British History* (Ware, Hertfordshire, 1996), 176; and Arthur Cotterell, *China: A History* (London, 1995), 230-233. For a view of the opium trade from India to China and the connection of such to the world economy see Man-Houng Lin, "World Recession, Indian Opium, and China's Opium War," in Mathew (ed.), *Mariners, Merchants and Oceans*, 385-417. The author links a contemporary world recession and China's problems regarding the outflow of sliver to pay for opium imports. During an upturn in the trade cycle the impact may have been less severe because China could have made good its losses in bullion by exporting more tea and silk. Moreover, the recession encouraged the traffic in opium. The convergence of factors meant that China's money supply fell

With the addition of their new tonnage in 1905 Brocklebanks started a service from Antwerp to Singapore, Shanghai, Kobe and Yokohama. With the addition of these latter ports Brocklebanks moved to conquer a new trade – that to Japan. One of the steamers placed on this service was the *Gaekwar*. During the 1890s the 4,220-ton vessel was employed on the traditional Calcutta run while also stopping at Colombo, Bombay and Port Said. Starting in 1906 *Gaekwar* was redirected to East Asia. Starting from Dundee in March with Peter Rice in command, she was at Antwerp from the 5th to the 14th of that month. The steamer returned to London around the twentieth, and a month later was in Cochine, China. At the beginning of May *Gaekwar* called at Singapore, before arriving at Shanghai, where it remained for five days. On 19 May the vessel departed for Japan. Rice and his crew spent from 23 May to 13 June in the country, calling at the ports of Shimonoseki, Kobe and Yokohama. A little over two weeks later *Gaekwar* docked at the colony of Hong Kong, and by mid-July it put in at the familiar port of Calcutta. After a voyage of almost seven months Captain Rice brought his vessel back to Britain – this time to Hull – on 25 September.[36]

---

behind demand, giving an economic impetus to the Opium War. For a useful discussion of early European and Asian trade linkages, not to mention Asia's own regional trade networks, see G.B. Souza, "Convergence before Divergence: Global Maritime Economic History and Material Culture," *International Journal of Maritime History*, XVII, No. 2 (December 2005), forthcoming. Using alum and sappanwood as his study commodities Souza demonstrates, among other findings, that trade – both regional and global – went far beyond the usual "luxury" goods and precious metals normally studied in relation to Asian commodity exchange. The Liverpool company most synonymous with East Asian trading was Holts' Blue Funnel Line (Ocean Steam Ship Company), which inaugurated a steam service to Shanghai and other Asian ports in 1865. See Duncan Haws, *Merchant Fleets: Blue Funnel Line* (Burwash, East Sussex, 1984); Francis Hyde with J. R. Harris, *Blue Funnel. A History of Alfred Holt and Company of Liverpool from 1865 to 1914* (Liverpool, 1956); and Malcolm Falkus, *The Blue Funnel Legend. A History of the Ocean Steam Ship Company, 1865-1973* (London, 1990).

36

BT 100, *Gaekwar*, various years. The 1906 voyage was typical of *Gaekwar*'s passages at this time. From 1908-1909, for instance, the vessel sailed from Middlesborough, calling at Singapore, Hong Kong, Shanghai, Kobe

One of Brocklebanks' rivals in the Chinese and Japanese trades was London's Shire Line, owned by Jenkins & Co. With the inauguration of their Japanese service Brocklebanks immediately bought half the shares in the Shire Line, a deal that included a payment for the company's good will. The Royal Mail Steam Packet Company, owned by Owen Philips, became a partner in this venture in 1907, with shares being divided up one-third each. When Jenkins later left the shipping business, Brocklebanks and Royal Mail became equal partners in the trade. In the period 1905-1911 (the year *Gaekwar* was sold) Brocklebanks steamers made regular voyages to Japan – in addition to their traditional trading area in India – via the Suez Canal.[37]

Despite the changes Brocklebanks underwent during this period there was very little substantive change in the way the company did business. Apart from the Board of Directors, the firm, then operating ten vessels, still employed only thirteen office staff, of whom four were apprentices. Captain W. Ray was Marine Superintendent, with Walter Grieve as Superintendent Engineer; J. Stamper handled the duties of Manager and Secretary, while

---

and Colombo. See BT 100, *Gaekwar*, 1908-1909.

37

Gore's Liverpool Advertiser, various years; and Gibson, *Brocklebanks*, II, 9-10. On Royal Mail's involvement, see Martin J. Daunton, *Royal Mail: The Post Office since 1840* (London, 1985); Edwin Green and Michael Moss, *A Business of National Importance. The Royal Mail Shipping Group 1902-1937* (London, 1982); Richard Storey, "The Royal Mail Steam Packet Company Crisis: A Footnote," *Journal of Transport History*, VII, No. 2 (1986), 93-96; Peter N. Davies, "Business Success and the Role of Chance: The Extraordinary Philipps Brothers," *Business History*, XXIII, No. 2 (1981), 208-232; Davies and A.M. Bourn, "Lord Kylsant and the Royal Mail," *Business History*, XIV, No. 2 (1972), 103-123; Robert G. Greenhill, "The Royal Mail Steam Packet Company and the Development of Steamship Links with Latin America, 1875-1900," *Maritime History*, III, No. 1 (1973), 67-91; and Greenhill, "The State under Pressure: The West Indian Mail Contract 1905," *Business History*, XI, No. 2 (1969), 120-127.

A.B. Hughes was Outward Freight Manager. Frederick Gibson's account of Brocklebanks history describes an office life that was becoming outmoded at the turn of the twentieth century – and one which seems especially quaint today.[38]

> There was an unhurried simplicity about the office life in those days [circa 1905]. Aubrey and Harold Brocklebank would drive in from the country by car; or, perhaps, arrive by coach from another part of Liverpool. Their small offices were on the ground floor. Upstairs, the gas-lit rooms were heated by a coal fire in which the apprentices would roast chestnuts when no one was looking. It was the end of the Victorian belief that progress was bound to continue.[39]

On the surface, the timing of Brocklebanks' strategic changes often makes them appear dilatory. At this point, however, the company was about to embark on the most striking restructuring in their long history. None of the entrepreneurial transitions since Daniel Brocklebank handed control to Thomas and Jonathan involved more than one generation of the family passing the torch to the next. Not even the second-generation name change or the 1898 transfer to a limited company had altered the actual structure of the firm. By 1911 Brocklebanks' position was different, and both Harold and Sir Aubrey (now the third Baronet) were considering selling. This transfer is mentioned in practically all company histories, but there is little explanation. It appears both Brocklebanks felt that the firm could no longer remain competitive against increasingly large conglomerates. As

---

38

Gibson, *Brocklebanks*, II, 11.

39

Ibid.

Gibson vaguely worded it, "shipowning was becoming complicated and specialized."[40]

Gordon Boyce's work on British shipping may help put the Brocklebank situation into a wider context. According to Boyce, the decade from 1901 to 1910 was a period of transition in British shipping. One of the main elements of this transformation, alluded to by most commentators on Brocklebanks, was the tendency toward increasing size. Businesses now began to look beyond traditional family structures to build new business networks. These expansions generally took the form of consolidations, the absorption of smaller rivals and the building of inter-company linkages. Prior to 1900 the older patterns appeared to function quite satisfactorily, but circumstances soon altered. The main impetus for change came not from Britain, which still clung to the family business model, nor even from a shipping industry insider. The greatest challenge to British control of the shipping industry, and the springboard for change in its business model, came from J.P. Morgan.[41]

Morgan is remembered in popular lore as one of the greatest American financiers and railroad tycoons. It was perhaps natural that a man of his ambition would try to extend his influence over transportation beyond America's shores. In 1900 Morgan's influence in financial circles was at its peak. His banking concerns were valued at more than $160,000,000; his railroad interests controlled almost 30,000 miles of track in the

---

40

Ibid.; Gibson, "House of Brocklebank (2)," 113; and Clarkson and Fenton, *Anchor and Brocklebank*, 35.

41

Boyce, *Information, Mediation and Institutional Development*, 121; and Adam W. Kirkaldy, *British Shipping. Its History, Organization and Importance* (London, 1914), 172.

continental United States; and his influence was felt throughout most branches of American industry. His ideas regarding shipping were comparatively simple, though they would have been impossible for most people. Morgan proposed to absorb all the world's major shipping companies and combine them to provide an integrated service with his railways. In other words, he proposed to stretch his "railroad terminals across the Atlantic."[42]

After acquiring the two largest American shipping companies, Morgan switched his attention to Britain. He acquired the Leyland Line's forty vessels in April 1901 for $12,000,000. This was an important gain because Leyland was then the world's largest transatlantic freighter company. Later that same year White Star Line and their eight liners, at the time more profitable than Cunard's passenger business, became part of the Morgan group for $40,000,000 in cash and stocks. This purchase was followed soon by the acquisition of the Dominion Line for a "mere" $4,500,000. In just over a year the Morgan group gained control of one hundred vessels, amounting to a fifth of all tonnage in the trans-Atlantic cargo trades, and a third of the lucrative Atlantic passenger service.[43]

The European press opinion railed against the "Morganization" of the Atlantic, but

---

42

Melvin Maddocks, *et al. The Great Liners* (Alexandria, VA, 1982), 98. John Pierpont Morgan was born in Hartford Connecticut in 1837, the son of British banker Junius Morgan. His career in business started when he became his father's agent in the United States. Maintaining ties with both London and Paris, his financial house Drexel & Morgan stood at the top of the profession by the 1870s. Following the failure of his rival Jay Cooke in 1873, Morgan had little American competition. As an investment banker he promoted vertical integration in American business to make companies more cost-efficient. Morgan was a noted yachtsman and a benefactor of New York's Metropolitan Museum of Art. He died in Rome in 1913. Belchem and Price (eds.), *Dictionary of Nineteenth-Century History*, 390-391.

43

Maddocks, *et al*, *Great Liners*, 98; and Kirkaldy, *British Shipping*, 172.

in business circles profit margins often spoke louder than patriotism. At the beginning of 1902 the two largest German lines, Hamburg-Amerika (HAPAG) and Norddeutscher (North German) Lloyd, although refusing to sell, did agree to a ten-year affiliation with Morgan's group to avoid undue competition. With this agreement in hand, Morgan formed a holding company for the fleet, naming it the International Mercantile Marine Company (IMM), capitalized at $170,000,000. This figure, however, was arrived at by estimating future stock values, which at best was a rather risky move. At the time events seemed to be moving so much in Morgan's favour that the gamble seemed likely to pay off.[44]

It was at this point that IMM suffered their first reversal. Cunard, one of the British Empire's premier liner companies, and certainly the safest, was the next target of Morgan's aspirations. He proposed to the company's directors that he buy their shares at more than eighty percent above market value. The deal was certainly attractive, but this time patriotism outweighed profit. Since the two major German lines had not been swallowed up, many in Britain feared that the German government would be able to coopt a fleet of nine fast liners that might be converted into auxiliary cruisers in time of war. Erstwhile British tonnage currently owned by Cunard – seventeen craft in all – would be unavailable for such conversion if Morgan's plan came to fruition. National ideals were also at stake. Britain

---

44

Maddocks, *et al.*, *Great Liners*, 98-99; Diana Preston, *Lusitania: An Epic Tragedy* (New York, 2002), 59-60; Vivian Vale, *The American Peril: Challenge to Britain on the North Atlantic 1901-04* (Dover, NH, 1985); John J. Clark and Margaret T. Clark, "The International Mercantile Marine Company: A Financial Analysis," *American Neptune*, LVII, No. 2 (1997), 137-154; William Saphire, "The Ineffective Cartel: The Growth and Decline of the International Mercantile Maritime Company," *Steamboat Bill*, XLVII, No. 1 (1990), 13-20; and Thomas R. Navin and Marian V. Sears, "A Study in Merger: Formation of the International Mercantile Marine Company," *Business History Review*, XXVIII, No. 4 (1954), 291-328.

might eventually be left behind both the Germans and Americans in terms of their mercantile fleets – an unacceptable notion for a country (and the centre of an Empire) that proudly "ruled the waves." Cunard's Chairman played on these fears and pressured Parliament into granting £2,600,000 to build two new super-liners, an annual subsidy of £150,000 to maintain the leviathans and another £68,000 in mail subsidies. This was an extraordinary payout given that Parliament had always been notoriously parsimonious in granting subsidies beyond mail contracts to national shipping companies. In the past firms either made it or not on their own account. That the government was willing to take this step is an indication of how serious the challenge from IMM (and Germany) was taken. It also gives some indication as to what smaller owners like Brocklebanks must have been thinking at the time. If a company like Cunard could only survive with massive government aid, what chance did a smaller family firm have under such market conditions?[45]

45

Preston, *Lusitania*, 60; and Maddocks, *et al.*, *Great Liners*, 99. The two liners built by Cunard using the subsidy were the famous *Mauritania* and *Lusitania*. As it turned out, Morgan's attempt to monopolize Atlantic trade was abortive. Following Cunard's stand, the much larger French Compagnie Générale Transatlantique, with seventy-five vessels, also rejected IMM's overtures. Things went from bad to worse for the group, and with the cessation of South African hostilities in 1902 many merchant vessels were freed up and freight rates dropped precipitously. As Morgan lost interest in the venture, the company began to suffer from mismanagement – a situation not helped by the loss of White Star's *Titanic* in 1912. The company made it through the Depression and finally reconstituted themselves as the United States Lines Company, one of the largest American shippers. As for the Royal Mail contracts, it should be pointed out that these were by no means negligible. They could amount to a full twenty percent of a company's operating costs. From 1840 to 1895 mail contracts actually accounted for forty percent of the Peninsular & Oriental's (P&O) costs. Mail steamers also received priority in port, and there was a definite prestige attached to being a Royal Mail steamer. Ronald Hope, *A New History of British Shipping* (London, 1990), 272.

Table 8.1
Profit and Loss Summary, Thos. & Jon. Brocklebank, 1898-1910

Period (6 mos. To Dec.)	Profits (£)	Loss (£)
1898	29,392/15/11	
1899	51,032/11/08	
1900	91,963/16/05	
1901	31,927/16/01	
1902	147/10/11	
1903		1,956/01/08
1904		2,378/00/01
1905	3,877/08/02	
1906		30,676/06/00
1907		30,415/12/02
1908		2,822/04/02
1909		3,697/09/01
1910	28,516/08/09	
Profit/Loss, as above	£236,858/07/11	£71,945/13/02

Note: "Profit" and "Loss" are before providing for depreciation and interest.

Source: NML, MMM, MAL, B/BROC, "Thos. & Jno. Brocklebank Limited. Summary showing receipts and disbursements of the company from its formation down to the 31st December 1910" (Liverpool, n.d.).

These circumstances certainly provide some explanation of Harold's and Sir Aubrey's willingness to sell, although it sheds no light on internal factors that may have mattered. Brocklebanks fleet historian Duncan Haws contends that the family wished to maintain their concentration on India. To that end Brocklebanks sold its interest in the Shire Line to the other major investors, Royal Mail. Although the four Brocklebanks vessels

involved were not part of the deal, two were immediately sold, while Royal Mail chartered the other pair until replacements could be found. According to Haws, this move left "...Harold and Aubrey Brocklebank in the minor league of Liverpool shipowners and inclined to quit the business rather than rebuild their fleet."[46] This explanation seems quite plausible given the expansionist climate in the industry just prior to World War I, but there must surely have been more to the story. Haws' interpretation of this deal does not correspond with John Frederick Gibson's time frame (detailed below). According to Gibson, whose research entailed direct contact with some of the principals involved, the sale of Brocklebanks' Shire Line shares did not occur until after the Brocklebanks had sold their business. The Shire deal thus could not have played any role in Harold and Sir Aubrey's decision to sell.[47]

In any case, most business people would think twice about selling a going concern to the first buyer to come along unless they were simply tired of running the show. As Haws indicates, the Brocklebanks may indeed have wished to quit shipping entirely, but in the end both Sir Aubrey and Harold maintained close connections with the firm. The real reasons behind considering the sale may lie elsewhere, in the freight rate and profitability cycles of the day. There is some primary evidence of this among the Brocklebank papers, and some

---

46

Haws, *Brocklebank*, 10.

47

Gibson, *Brocklebanks*, II, 12-13.

relevant figures are given in Table 8.1.[48]

The first year represented in Table 8.1 is 1898, the last of peace prior to the outbreak of hostilities in South Africa.[49] There was a healthy profit of £29,392/15/11 in that year, although this does not take into account interest or depreciation on the fleet. During the first two years of the Boer War profits rose markedly, peaking in 1900. There was a fall in 1901, but profits remained above the 1898 level. In 1902, with the conclusion of the war, Brocklebanks receipts plummeted dramatically to only £147/10/11. The company's main area of operations was not in Africa, so the decline was at best only an indirect result of the end of the Boer War, although we do know that freight rates plummeted at the end of the conflict, largely because of an oversupply of tonnage. In the first two full years of peace (1903-1904) the company suffered losses, which led the Board of Directors in 1904 to recommend that no dividends be paid (although at least one employee received a salary increase). There was a small recovery in 1905, but profits rebounded only to just over ten percent of what they had been in 1901. By 1907, following another year of losses, Brocklebanks issued 3,500 debentures at £100 each to ease the company's financial plight. Whether or not this pattern of losses was determined principally by the Boer War is debatable; but what is clear is that the period from 1902 to 1909 was a troubled one for the

---

48

For a contemporary assessment of the trend toward fleet consolidation see Kirkaldy, *British Shipping*, 171-173.

49

It should be noted, however, that the campaign against Mahdist forces in the Sudan was ongoing for most of 1898, so it cannot properly be called a peacetime year – perhaps few could during the Empire period.

firm. This is not surprising since, as Derek Aldcroft notes, Britain's shipping industry was generally in a depressed state from 1901 to 1911, although the worst was over by 1909. Coupled with the machinations of the IMM, this state of affairs certainly could have given the Brocklebank family pause to think about the future of their company.[50]

In 1910 profits finally returned to the 1898 level when the company grossed £28,516/8/9. After 1911 the shipping cycle rebounded, and the almost offhand way in which Brocklebanks changed hands may have been more calculated than most authors acknowledge. With the company showing a profit once more and things looking up in the industry (relatively speaking), shipping was again at a premium. As they had always done, the Brocklebank family made the most of their situation, even when this involved handing over effective control of their business to others.[51]

Tradition has it that the ownership change was effected after a chance remark by members of the Bates family. The Bates shipping business was founded in 1839 by Edward

---

50

NML, MMM, MAL, B/BROC,"Thos. & Jno. Brocklebank Limited. Summary Showing Receipts and Disbursements of the Company From its Formation Down to the 31st December 1910," Liverpool, nd. Despite the title, only the years included above were found as part of this document, which appears to have been produced for the company. NML, MMM, MAL, B/BROC, Administration, Minutes of Directors' Meeting, 22 March 1904 and 31 May 1907; and Derek H. Aldcroft, "The Depression in British Shipping, 1901-11," in David M. Williams (ed.), *The World of Shipping* (Aldershot, 1997), 105. Aldcroft reminds readers (105-106) to be careful in applying freight rate data, especially as some of the major indices like Isserlis do not include liner companies. Still, he is quite equivocal that, despite such caveats, these years were not especially profitable ones for shipowners. The Boer War did have *some* direct impact on Brocklebanks. Their steamers *Pindari* and *Mahratta* both acted as troopships during the conflict, under the respective names of HM Transport No. 93 and HM Transport No. 94. Haws, *Brocklebanks*, 57. Using debentures, existing investors could contribute extra capital to the firm on which interest was paid until the debentures could be redeemed from revenue.

51

NML, MMM, MAL, B/BROC,"Receipts and Disbursements, to 1910;" Boyce, *Information, Mediation and Institutional Development*, 122; and Aldcroft, "The Depression in British Shipping," 105-107.

Bates (later Sir Edward). Seven years previously he went to India in the employ of his brother Joseph, a merchant working under licence to the East India Company. Edward Bates & Co. was at first run out of Bombay, but in 1848 Sir Edward returned to Liverpool where he opened an office as merchant and shipowner in 1854. During the American Civil War Bates made a sizeable profit by shipping Indian cotton, amassing a personal worth of about £200,000.[52] During the 1860s Bates bought large numbers of second-hand sailing vessels. Obtained "on the cheap," Bates' fleet spread potential risks across many low-cost vessels rather than a few expensive bottoms. Sir Edward even purchased old steamers, discarded their engines and put the hulls to work as iron sailing vessels. Much of his capital investment was paid for by revenue from government contracts during the Abyssinian campaign of 1868. Over the next two years Sir Edward bought no fewer than twenty-three used vessels. Coincidently, the company's first ship-rigged vessel had been the 351-ton *London*. It was built in 1812 at the Brocklebanks yard and served in their fleet for thirty-five years. A Bates'

52

The American Civil War (1861-1865) was a watershed in US history. Fought largely over the issues of slavery and states' rights, it ended with the abolition of the old system of bondage under which Southern plantation agriculture had flourished for almost 200 years. The conflict had a direct impact on Liverpool trade. Although the port was long out of the business of shipping slaves, it was still heavily reliant on its role as an *entrepôt* for American cotton. At the outset of the war Northern forces blockaded the Southern coast and rivers to dry up its trade – especially that in cotton. Indeed, many British businessmen were sympathetic to the Confederates for this very reason. Southerners vainly hoped the disruption in trade would bring the mighty British Empire into the conflict on their side. Ports like Liverpool did a brisk business, not only in alternative sources of cotton (as did Bates) but also in constructing and outfitting fast blockade runners to evade Northern naval patrols. An international incident was created by the depredations of Confederate Captain Raphael Semmes and his commerce raider *Alabama* – launched August 24, 1862 and built by Laird's in Birkenhead. For a concise, popular overview of the naval aspects of the Civil War, see Gerald Simons, *et al.*, *The Blockade: Runners and Raiders* (Morristown, NJ, 1983). See also Neil Ashcroft, "British Trade with the Confederacy and the Effectiveness of Union Maritime Strategy during the Civil War," *International Journal of Maritime History*, X, No. 2 (December 1998), 155-176; and Thomas Boaz, *Guns for Cotton: England Arms the Confederacy* (Shippensburg, PA, 1996).

service to Calcutta was inaugurated with the barque *Simoon*. For all this, Bates was only grudgingly respected by the Liverpool shipowning community and certainly was not liked. He played the game his way with little of the give and take that could endear a businessman to his fellow owners. When, for example, cotton merchants Nicol, Duckworth & Company ran into trouble with creditors, most accepted a repayment deal. Bates had other ideas. Although he was owed far less than the other major creditors – about £6,000 – Sir Edward was willing to bankrupt the company unless he was paid in full. Given such proclivities, Bates would have been unlikely to receive help from his peers had his own business run into trouble. As it transpired he never needed such assistance. In later years Sir Edward retired from commerce to concentrate on a political career based on a Hampshire country seat. By 1911 another generation had taken the reins of power and the founder's three grandsons, Sir Percy, Frederick, and Denis Bates, ran the family firm.[53]

About this time many larger shippers, perhaps taking their cue from Morgan, were systematically buying up as many smaller companies as could be had. The Bates family also hoped to expand but was finding it difficult to acquire any of the small lines, as larger groups always beat them to the punch. The brothers said as much to Sir Aubrey Brocklebank; when he offered to sell his tonnage, the deal was made. Again, this transaction was almost certainly not as offhanded as most authors make it appear. For Brocklebanks (though probably not for all shipowners), 1911 would have been a prime year, both in terms of the

---

53

Milne, *Trade and Traders*, 134 and 160; Gibson, *Brocklebanks*, II, 12; and Haws, *Brocklebank*, 22.

market cycle and the previous year's profits. Had the family sold out only two years previously the company would certainly have looked less appealing to a potential buyer, at least in terms of its short-term profitability. At a Board of Directors' meeting on 28 June 1911 most of the shares in Brocklebanks were transferred to the Bates brothers. Harold Brocklebank still held 349 shares, but Sir Aubrey and Thomas Geoffrey Brocklebank retained only a single share each. Sir Percy Bates became the largest Brocklebank shareholder with 700 shares; Frederick Bates gained 160 shares, Denis the same amount, while another family member, Sydney Eggers Bates was granted 230 shares. From this meeting the Bates family became the company's controlling influence, although Brocklebanks would retain their separate corporate identity for more than seventy years.[54]

Later that same month the Board of Directors held an extraordinary general meeting to decide on the formal structure of the Board given the changes in shareholdings. Harold and Aubrey Brocklebank returned to the Board, joined by Sir Aubrey's brother, John Jasper Brocklebank, D.S.O. The Brocklebank directorate was rounded out by Sir Percy, Denis and J.A. Bates. At the next Directors' meeting Sir Aubrey formally relinquished his role as Managing Director with the move forming part of the deal with the Bates family. Harold Brocklebank, on a motion from Sir Percy and seconded by Sir Aubrey, became that year's

---

54

Stillwell, "Brocklebanks: The Final Century," 118; Clarkson and Fenton, *Anchor and Brocklebank*, 35; NML, MMM, MAL, B/BROC, Administration, Minutes of Directors' Meeting, 28 June 1911; Kirkaldy, *British Shipping*, 172-173; and Aldcroft, "The Depression in British Shipping," 105. Aldcroft (105 and 107) contends that on ongoing depression in British shipping continued until 1912 but that a slow recovery had begun in 1909. See also *Fairplay*, 28 July 1910, 109.

Chairman of the "new" Brocklebanks. The firm's new management, perhaps more in tune with contemporary realities in the shipping world, began making changes to operations almost immediately.[55] There has been some suggestion that Harold Brocklebank, despite the Bates' influence, played a major role in effecting change in this era. It appears that Gibson was under this impression when planning his monograph, but Denis Bates strongly disputed this. In a letter to Gibson forty years after the event, Sir Denis (as he then was) stated that:

> it is incorrect to say that Harold Brocklebank carried into effect developments he had in mind. He was quite a figurehead. As a matter of fact the Brocklebank family wished to get out [of the business] entirely but it was we 3 brothers who persuaded Aubrey Brocklebank to stay on and to take on to the board Geoffrey Brocklebank, son of Harold Brocklebank.[56]

This was many years after the event and, people being people, it is not implausible that Sir Denis may have overstated his family's role. In fairness to Sir Denis, it is quite correct that the changes to come did not happen until the Bates family took control of the Board, so there was likely something to his claim. Whoever actually carried out the conversion, routes were immediately reorganized and rejuvenated. Bates' 8,121-ton steamer *Irak* was put into service on the Calcutta run on an experimental basis under the name *Mandasor*. This was an important move, mainly due to the size of the vessel. She became the largest craft trading to Calcutta and at 501 feet, her length was such that the Hooghly

---

55

NML, MMM, MAL, B/BROC, Administration, Minutes of Directors' Meeting, 28 June and 4 July 1911.

56

NML, MMM, MAL, B/BROC, "Correspondence," Sir Denis Bates to John Frederick Gibson, 24 March 1950. Geoffrey Brocklebank was later killed serving as a gunner in the First World War.

dock system had to be enlarged to accommodate such vessels.[57]

The next question on the minds of the new Board was Brocklebanks' East Asian service. The Brocklebank family was usually astute in timing operational or capital changes, but this is an instance where they were certainly too far behind the times. The Shire Line vessels were all showing their age. As a direct result of this deficiency shippers began to abandon Brocklebanks in favour of more up-to- date rivals. Their partners, the Royal Mail Group, were asked to either sell out entirely to Brocklebanks or to buy the service for itself. Royal Mail decided on the latter, effectively ending Brocklebanks' participation in Far East trading. Had it not been for this, it is likely that the trade would have been developed alongside the Calcutta route. The *Ameer, Gaekwar* and *Pindari* were sold, and the *Marwarri* and *Bengali* were both withdrawn from East Asia after being given back their original names. Counting the *Maiden*, newly launched in 1912, Brocklebanks' fleet stood at twelve vessels at a combined gross tonnage of 80,178, averaging 6,681 tons per vessel; four of these vessels had been transferred that same year from the Anchor Line.[58]

Brocklebanks had acquired these four craft as part of a deal in which they purchased Anchor Line's Calcutta Conference rights. For the vessels and their good will Anchor received £134,000 and also agreed to buy about £100,000 in Brocklebank nominal shares.

57

Gibson, *Brocklebanks*, II, 12.

58

Ibid., 12-13; NML, MMM, MAL, B/BROC, Brocklebank Fleet, 1775-1945; Gibson, "House of Brocklebank (1)," 50-54; Haws, *Brocklebank*, 10; and Stillwell, "Brocklebanks: The Final Century," 129-133. The *Mahratta* had been lost in 1909.

Anchor Line had been founded by the Henderson brothers and entered the Calcutta trade with sailings from both Liverpool and Glasgow in May, 1882. Their first vessel in the trade was the 5,080- gross-ton *Belgravia*, followed by the 3,387-ton *Roumania*, the 2,715-ton *Elysia* and the 3,147-ton *California*. These were also joined by a number of other craft. The deal sounds fairly straightforward but was in fact complicated, as surviving primary evidence indicates.[59]

All the ordinary shares in the Anchor Line at this point were held by Cunard, and it was this arrangement, along with the presence of the Bates brothers, that eventually led to Brocklebanks coming under the umbrella of Cunard. Sir Percy Bates was not only an owner and Director of Brocklebanks but also was on the Cunard Board. When Harold Brocklebank retired in 1913, Sir Aubrey became chairman and A.C.F. Henderson, Anchor Line's Managing Director, joined the Brocklebanks Board. Sir Alfred Booth and Lord Royden, joint Directors of Cunard and Anchor, likewise became Brocklebanks Board members. At this point, however, there were still no formal ties between Brocklebanks and Cunard which shared an interest in the trade to Calcutta.[60]

59

Stillwell, "Brocklebanks: The Final Century," 119; NML, MMM, MAL, B/BROC, Historical Notes, Liverpool-Calcutta Trade, 12; Legal, Heads of Agreement Between T. & J. Brocklebank and Anchor Line, 1912; and Administration, Percy S. Bates, Notebook, "Copy of Letter to Sir Aubrey Brocklebank," 25; Sir Percy afterwards was apprehensive about the £134,000 to be paid out. He feared that they might have trouble with their bank over the expenditure or that at the very least they might need the money for other purposes. He felt that "consequently...[it would be] better for Thos. & Jno. Brocklebank to arrange to have this [money] or some of it retained." Bates, Notebook, 26.

60

Clarkson and Fenton, *Anchor and Brocklebank*, 35; Gibson, *Brocklebanks*, II, 13; Duncan Haws, *Merchant Fleets: Anchor Line* (Haversfordwest, 1986); and Stillwell, "Brocklebanks: The Final Century," 120-121.

While complex in itself, such details of the merger do not give a sense of the manoeuvring behind the scenes to complete the deal. Fortunately, Sir Percy Bates' notebook from the period survives, along with some correspondence pertaining to the Anchor-Brocklebank fusion. These details have been ignored by most authors, but they serve as a window into the Edwardian shipping business that should not be ignored. By this stage the emphasis had shifted somewhat, with a number of long-term players in the Calcutta trades coming together for mutual benefit. This was perhaps a natural outgrowth of the process started by the Calcutta Conference and continued through the influence of J.P. Morgan. As part of the merger the parties agreed that a proportion of Brocklebanks' stock would be transferred to the Anchor Line Directors. There was initial disagreement on what the proportions of such would be. Booth, not yet a Brocklebank Board member, first wanted Anchor to acquire half the shares in Brocklebanks, an idea Sir Percy was not inclined to consider. The amount set for the share purchases was intended, at least in Sir Percy's mind, to represent a minority holding in the company, so applying the price to an equal or majority holding in Brocklebanks was "absurd."[61] This situation might lead to Anchor's gaining absolute control over Brocklebanks, an outcome that Bates felt would only be acceptable if his family and the Brocklebanks were ready to retire from the shipping business – which they were not. As Bates pointed out to Booth, the idea of Anchor holding half the Brocklebanks' shares had not been part of the original deal, a point on which Booth

---

61

NML, MMM, MAL, B/BROC, Bates, Notebook, 31-32.

apparently agreed. He did not insist on an equal split, instead suggesting that the share split ultimately be three-fifths for Brocklebanks and two-fifths for Anchor. In justifying why Brocklebanks deserved the lion's share of the new Calcutta business, Sir Percy paid tribute to the way the company had managed the trade in the past.[62]

> If it came to an abstract discussion as to whether A[nchor] or B[rocklebanks] had the better title to control the Calcutta business, I should say there were little doubt of the answer. B with smaller opportunities has made the most of them and proved what can be done even working on a confined scale. A has shown how not to do it and neglected the proper treatment of larger opportunities. A no doubt has a right to do what it likes with its own but it cannot expect B to be very anxious to allow A to do the same with B's property...A does not realize the risk of immediate loss incurred by B to be compensated by development of A's potentialities.[63]

Once the deal was completed the four former Anchor Line vessels, *Anchoria*, *Meida*, *Assyria* and *Bavaria* (5,429; 5,437; 6,370 and 4,711 tons, respectively), became part of the Brocklebanks fleet. With increased sailings the new Anchor-Brocklebank Line to Calcutta proved a great success with shippers. The company soon became the Hooghly's most important source of tonnage. In the years after 1912 the companies maintained a joint office in Liverpool's Royal Liver Building – something envisioned by Sir Percy Bates during negotiations. Nonetheless, Thos. & Jno. Brocklebanks' constitution remained unchanged. By the end of the year the new Board of Directors, including Booth and Lord Royden, was

---

62

Ibid., 13-14 and 31-32. See also NML, MMM, MAL, B/BROC, Heads of Agreement Between T. & J. Brocklebank and Anchor Line.

63

Ibid., 33-34.

in place. The company had by this time engaged the services of a number of agents to represent them in various UK ports. The Anchor Line acted as Manchester and Glasgow agents, while W.O. Taylor performed these duties at Dundee. Brocklebanks' London agents were also Anchor Line, along with Alexander Howden. For the Calcutta trade Brocklebanks' agents were Graham & Co., which had acted in this role for some time, along with Turner Morrison & Co. The latter was an especially useful ally since they had previously been the main charterer for homeward tramp tonnage in competition with the Calcutta Conference. By making the firm an agent, their role as competitor was negated. Additionally, Brocklebanks arranged to enter the charter market and cover Calcutta freights with Messrs. F. Gardiner of Glasgow, mainly noted as tramp owners. Once again, a former rival was coopted. By August 1914 Brocklebanks faced the future with confidence. Given that the firm had almost seventy years left in business (despite the upheavals of the twentieth century), such confidence was not altogether misplaced.[64]

Although a myriad of political and economic forces were at work during their long existence, a good deal of the credit for Brocklebanks' success must be given to those who

---

64

Gibson, *Brocklebanks*, II, 13-14; Stillwell, "Brocklebanks: The Final Century," 119; and NML, MMM, MAL, B/BROC, Bates, Notebook. Although suffering losses in the Great War, the firm added new tonnage in this era. In 1919 Cunard acquired a controlling interest in Brocklebanks, formalizing ties between the two companies. Despite a depressed state of trade in the interwar years, Brocklebanks soldiered on as a Cunard subsidiary, investing in technology like steam turbines. Cunard-Brocklebank was formed in 1968 amid new shipping trends such as containerization. The last vessel specifically built for Brocklebanks was acquired about the same time. Likewise, the name Thos. & Jno. Brocklebank was dropped and ships were registered under either Cunard Steamship Company or Cunard-Brocklebank Ltd. Despite these changes, Brocklebanks colours and the traditional "MA" nomenclature persisted for another fifteen years; in 1983 the last vessel to carry these was sold and Brocklebanks effectively ceased to exist.

directed their affairs, from the Brocklebanks, through the Bates family and finally Cunard. From their inception its seems that Brocklebanks was built on the twin pillars of comparative advantage and the ability to adapt to change. Starting out in Whitehaven shipbuilding, Daniel Brocklebank was willing to gamble on making his fortune in a new land. When events outside his control threatened to crush this dream Captain Daniel returned to the place he knew best and started anew. The professional approach taken by his sons, especially the eldest Thomas, led the company toward shipowning at a time when vessel ownership as a profession was scarcely spoken of. Perhaps sensing the limited opportunities available in Cumberland, in 1820 Brocklebanks relocated south to Liverpool. This move was natural, given that Liverpool was one of the main foci of British shipping activity in the nineteenth century – not to mention the fact that Cumberland essentially formed part of the port's regional hinterland.

Through the family's next generation Brocklebanks grew into a substantial shipowning concern whose development in some ways parallelled that of the "typical" Liverpool shipowner, although with some unique features. As merchant owners the Brocklebanks had started out with close connections to the West Indian trades, but as the century wore on they gravitated increasingly toward longer-distance trades, in particular that to Calcutta. In broad terms, this mirrored developments on Merseyside generally, as Liverpool became known as a deep-sea port (though still with substantial coastal trade).

The firm underwent a number of significant changes over the course of the nineteenth and early twentieth centuries. The new focus on longer-distance trades, like

Calcutta and the Far East, meant an increase in the average size of Brocklebanks' vessels, along with a shift away from brig and schooner rigs towards ships and barques. This development likewise parallelled what was occurring on Merseyside generally, as well as in some of the ports of Atlantic Canada. As in Merseyside, and in about the same period, Brocklebanks' gross investment switched over completely to metal construction (although this innovation was not embraced in any significant way in Atlantic Canada). Along with the change to metal construction Brocklebanks abandoned its own shipbuilding enterprise, which until 1865 had supplied nearly all the firm's tonnage requirements.[65]

Although Brocklebanks were willing to innovate when the time was right, such changes were always carried out at their own pace. Despite making the switch to iron (and then steel) construction techniques basically on a par with Liverpool generally, the company was somewhat slower than the average investor when converting to steam. When they did finally begin investing in steamers, however, the innovation was embraced with enthusiasm, and no new sail tonnage was purchased after 1888. Brocklebanks' long use of sail may be traced back to their retention of the merchanting function, eliminating the need to find cargoes for their vessels. Indeed, the Brocklebanks were among the last Liverpool shipowners to refer to themselves as merchants on the Board of Trade registries. Retaining this element of their business allowed Brocklebanks to capitalize on a traditional

---

65

NML, MMM, MAL, B/BROC, Brocklebank Fleet, 1775-1945; Vessels Built by T. & J. Brocklebank; BT 107/108, Liverpool Vessel Registries, various years; Gibson, "House of Brocklebank (1)," 50-54; Haws, *Brocklebank*; and Stillwell, "Brocklebanks: The Final Century," 129-133.

comparative advantage, while their eventual conversion to steam reflects a commercial flexibility that appears to have served them well.[66]

Much the same can be said about the company's organization. For many years Brocklebanks resisted the trend toward limited liability. Even when they did make the change a family structure was retained by parcelling out nearly all of the firm's shares among members of the Brocklebank family. By the early twentieth century, however, Brocklebanks appeared unprepared, or unwilling, to resist the tide of amalgamations sweeping the industry. That the firm remained viable is suggested by the retention of their separate corporate identity, first under the Bates family and then Cunard, long after 1914. The continued involvement of the Brocklebank family in company affairs further indicates a faith in their old family firm that also lasted beyond the crisis of the Great War. Although their livery eventually disappeared from the deep-sea trade routes in the 1980s, their history of over two centuries is a testament to the long-term viability of Brocklebanks' business strategies. Willing to innovate when conditions seemed appropriate (as in the switch to iron), the firm was equally capable of taking a conservative path to retain traditional comparative advantages (including the purchasing of their own yard's wooden tonnage through to 1865, and the long maintenance of a sail fleet and merchanting). Able to adapt when the need arose, Brocklebanks also mirrored, to a degree, some of the conservatism – based on realistic assessments of their industry – that has been noted about Liverpool shipowners generally.

66

Ibid.

By managing this balancing act, Brocklebanks remained an industry success story for generations. Equally successful as a Liverpool shipowning concern, although quite a contrast to Brocklebanks (and also to the "typical" nineteenth century Liverpool investor) was the Pacific Steam Navigation Company or PSNC, the subject of the next two chapters.

Chapter 9

Pacific Steam Navigation Company – The Wheelwright Years

One of Liverpool's most technologically innovative companies in the nineteenth century was Pacific Steam Navigation or PSNC. Founded on the South American trading experiences and maritime background of an American entrepreneur, PSNC was one of the earliest Liverpool companies to make extensive use of steam technology. Its innovative nature is highlighted by the fact that, despite its founders' confidence, the company struggled for more than a decade after its inception. Although providing essentially a coastal service, the long distances covered by PSNC vessels – 2,168 nautical miles between the ports of Talcahuano, Chile and Guayaquil in modern Ecuador, for example – were nothing if not daring in an age when steam was still something of a novelty. PSNC was likewise one of the first Liverpool shipowning firms to adopt the corporate structure, with a board of directors, that would become a familiar business model later in the nineteenth century. In time PSNC would go on to pioneer its own forms of coastal steamers, while investing in infrastructure in their primary sphere of operations, South America. Pacific Steam was willing to work with railway companies and other shipping firms, such as Royal Mail, to maintain efficient services. Finally, they were able to move beyond their familiar routes to locales such as Australia and the western seaboard of the United States. Thus, for much of its history to 1914 PSNC was noted for its innovative nature (or adaptability). In many respects this very trait also served as PSNC's main comparative advantage.[1]

1

For full details of PSNC's fleet see Appendix Fourteen.

This was not so in the case of many firms. Brocklebanks' example might give the appearance that their cautious approach was the key to success for a Liverpool-based (or indeed British) shipowner. The move away from the family business model toward a corporate structure, along with technological and route changes, were eventually necessary in adapting to the times, but it was obviously best to wait until such developments were well proven before committing to change. Until that point the best motto was that "if it is not broken, do not fix it." Brocklebanks seem to prove this adage in the Liverpool context. While this may be true to a point, there is more to the story. We have noted, for example, that it was largely their unusual retention of the merchant role that allowed Brocklebanks to prosper while seemingly ignoring technological advances for many years. For those other investors who chose early on to specialize as owners, and also possibly to act as agents, such a solution was impractical. Harrisons, themselves as much agents as owners, took the steam route earlier than Brocklebanks and that they were successful in the same Calcutta trades that Brocklebanks handled with sailing vessels until the 1890s.

Brocklebanks was a long-term success by most measures, but their model was not the recipe for all firms, even within the same trade. Once we move into other geographic areas and entirely new trades, the situation was even less analogous. The term shipowner may indicate the commonality of owning tonnage, but beyond that their activities could be very different. Certain shipowners like PSNC took another path, building their comparative advantage through the adoption of cutting-edge technology and by embracing new ways of doing business. This model was about as different a route to the top of the same industry

from that taken by Brocklebanks as can be found. Such was the case regarding their chosen trades, but even more so when referring to their particular business strategies.

Having alluded to the differences between PSNC and Brocklebanks, it must be confessed that the germination of both companies was in one respect very similar – both sprang largely from the energy and ambition of a single man. In the Brocklebanks example this was Captain Daniel Brocklebank. The inspiration for Pacific Steam Navigation was William Wheelwright. Wheelwright, like J.P. Morgan, was an American of British ancestry, his forebears hailing from Lincolnshire. He was born at Newburyport, Massachusetts, on 16 March 1798, just three years before Thomas and Jonathan Brocklebank assumed control of their father's shipbuilding yard and fleet. William was the eldest son of master mariner Ebenezer Wheelwright and Ann Coombs. In 1794 Ebenezer and a brother founded the merchanting firm of A. & E. Wheelwright and like the Brocklebanks was involved in West Indian trading. Wheelwright biographer Roland Duncan describes the family as "sizeable shipowners." Ebenezer seems to have been a natural entrepreneur; apart from the trading house, he also founded the Newburyport Woolen Manufactory. In some respects the father may have set the pattern for the son's later career in South America and Liverpool. Young William's maternal grandfather was certainly a further influence, as he was a successful shipmaster and importer. William's surroundings may also have given him a comparative advantage (or at least the inclination) to pursue his later career as a shipowner. Newburyport was in those days a prosperous port whose merchant houses conducted trade with Mexico, the West Indies and South America. Despite such strong maritime commercial ties (or

perhaps because of them), however, young William was not immediately marked for a life at sea, and his first recorded job was that of a printer in his home town. Despite this, and despite the good liberal education that he received, at least until age sixteen, Wheelwright was not content with spending his days setting type. He soon left the printing business and went to sea as cabin boy in a family-owned vessel. The youthful mariner was apprenticed in New Orleans' sailing brigs, experiencing shipwreck and fever before achieving his first command after only three years at sea, and aged only nineteen. Family connections certainly played a role in this early promotion as the vessel was his father's 111-ton schooner, *Ames*, on a voyage to Rio de Janeiro. Still, Ebenezer must have had a good degree of confidence in his young son's abilities to entrust such a voyage to him. The journey was not without incident, however. Returning home, Wheelwright was attacked in his sleep by a crewman. The reasons behind the attack are lost, but fortunately for the later history of the PSNC, and William himself, it failed.[2]

In 1823, at the age of twenty-five, Wheelwright was given command of the barque

---

2

Roland E. Duncan, "The New England Heritage of William Wheelwright of Newburyport, Massachusetts," *Essex Institute Historical Collections*, CIII, No. 3 (July 1974), 240-247; Arthur C. Wardle, *Steam Conquers the Pacific. A Record of Maritime Achievement 1840-1940* (London, 1940), 13; Wardle, "The West Coast Route (1)," *Sea Breezes*, New series, XXII (July-December 1956)," 106; "The Origin of the Pacific Steam Navigation Co.," *Mersey: The Magazine of the Mersey Dock Board's Staff Guild*, III (July 1923), 15; and Duncan Haws, *Merchant Fleets: The Pacific Steam Navigation Company* (Burwash, East Sussex, 1984), 13. See also Frederick M. Noa, William Wheelwright, the Yankee Pioneer of Modern Industry in South America," *The Arena*, XXXVI, No. 205 (December 1906), 592. During his career Ebenezer Wheelwright owned twenty-five vessels, and his brother Abraham, twelve. Ebenezer's father-in-law, William Coombs, owned eleven craft. Coombs' son Philip was one of Newburyport's largest vessel owners with thirty-seven bottoms over a fifty-year career. For additional information on PSNC in general, see John Lingwood, *Steam Conquistadores: A History of the Pacific Steam Navigation Company* (Widnes, 1977); and Lingwood, "William Wheelwright: The Man," *Bulletin of the Liverpool Nautical Research Society*, XLIV, No. 1 (June 2000), 10-16. On its mail services, see A.R. Doublet, *Pacific Steam Navigation Company: Its Maritime Postal History, 1840-1853* (London, 1983).

Rising Empire of Newburyport, owned by William Bartlett, later William's grandfather-in-law, and then Newburyport's second-largest shipowner. On 22 June the vessel loaded a cargo of tobacco, sugar and rum at Havana, touching at Montevideo en route to Buenos Aires. This voyage was not a success, however, as the vessel was stranded and wrecked on the Ortiz Banks in the River Plate trying to enter Ensenada. One man died in the mishap and the crew took to the lifeboats, rowing a full twenty-four hours to reach land where they were forced to walk to Buenos Aires. Wheelwright was without money and to return home signed on as supercargo on a brig heading to Valparaiso, Chile. From this point on, Wheelwright's attention was never fully diverted from South America's west coast. Applying to the American government for the posting, he was appointed US Consul at Guayaquil, Ecuador. His merchanting venture a success, Wheelwright returned to America in 1828 and the following year married Bartlett's granddaughter Anna. The couple's honeymoon was spent in sailing back to Guayaquil, first travelling by sea to Panama, then overland on pack mules and finally by sea again. The newlyweds were met with bad news on their arrival because Wheelwright's business had collapsed, leaving him with debts of $100,000.[3]

Undaunted, Wheelwright moved to Valparaiso and for several years used the sixty-

---

3

Duncan, "The New England Heritage of William Wheelwright, 247-248; Wardle, *Steam Conquers the Pacific*, 13-14; "Origin of the Pacific Steam Navigation Co.," 15; and Wardle, "The West Coast Route (1)," 106. While in South America Wheelwright also invested in a variety of transport ventures. These are discussed in J. Valerie Fifer, *William Wheelwright (1798-1873), Steamship and Railroad Pioneer: Early Yankee Enterprise in the Development of South America* (Newburyport, MA, 1998); and Juan Bautista Alberdi, *Life and Industrial Labors of William Wheelwright in South America* (Boston, 1877). For an idea of the indigenous Latin American shipping companies in the nineteenth and twentieth centuries, see René de la Pedraja, *Oil and Coffee: Latin American Merchant Shipping from the Imperial Era to the 1950s* (Westport, CT, 1998); and de la Pedraja, *Latin American Merchant Shipping in the Age of Global Competition* (Westport, CT, 1999).

ton schooner *Forth of July* to trade along the west coast; this service eventually grew into a small fleet of sailing packets. During his tenure in Valparaiso Wheelwright engaged in a variety of enterprises, building a lighthouse, gas and waterworks, and a brickworks. He went prospecting, not for gold, but for coal, saltpetre, lime and borax. At the same time Wheelwright began to realize the potential value of a steam service to western South America.[4] Before discussing the role of steam here, we will first take a look at Britain's (and Liverpool's) historic trade connections with South America and Chile, as it was the particular needs of Chile (and western South America in the wider sense) from which William Wheelwright's plans sprang.

Although Wheelwright did not realize it at the time, the eventual success of his venture would be founded just as much on the linkages between Britain and South America as on his own energy and foresight. England had long traded with South America, either officially through Spain and Portugal or by smuggling. Despite, or perhaps because of this traditional link, South America provides one of the few examples of a continent outside Europe where nineteenth-century Britain did not establish any real measure of direct control. Following the collapse of the Spanish-American empire between 1810-1824, established traders and Iberian goods were often displaced by those of Britain, the world's first industrial nation. P.J. Cain and A.G. Hopkins feel that profitable commercial relations were freely sought, both by the British and by new republics like Chile, Brazil and Argentina. After an

---

4

Wardle, *Steam Conquers the Pacific*, 14-15; Wardle, "West Coast (1)," 106-107; and "Origin of the Pacific Steam Navigation Co.," 15.

abortive and unauthorised attempt to annex the River Plate estuary by Sir Home Popham, official British policy was henceforth to avoid military and political intervention in favour of economic relations that would promote prosperity and the emergence of friendly, liberal nations.[5]

In terms of promulgating liberal ideals, the British were less than successful. British trade also developed slowly. Although Britain became the continent's largest trading partner by mid-century, the volume of trade with South America was still rather small. It was only after 1850 that rising European demand created substantial markets for Latin American raw materials and agricultural produce. Sales of European goods to South America were encouraged by Britain's espousal of free trade in the 1840s which, Cain and Hopkins contend, encouraged investment in low-cost transport and credit provision. Likewise, falling prices for manufactured goods made British products better able to compete with South American handicrafts. Finally (here being the juncture where men like Wheelwright proved crucial), regular steam services and falling freight rates encouraged the establishment of specialized merchant houses in South America. According to D.C.M. Platt, foreign investment, accompanied by large-scale immigration, firmly ensconced the continent within

---

5

P.J. Cain and A.G. Hopkins, *British Imperialism: Innovation and Expansion 1688-1914* (London, 1993), 276-280; William W. Kaufman, *British Policy and the Independence of Latin America, 1804-1828* (New Haven, CT, 1951), 23-33; and D.C.M. Platt, *Latin America and British Trade 1806-1914* (London, 1972), 306. Initially much of the onus for maintaining trade relationships was left to the entrepreneurs themselves, a situation common to most British overseas commercial enterprise of the period. In short, HM's Government gave little assistance to its foreign traders in normal circumstances, other than their good will. Lance E. Davis and Robert A. Huttenback, *Mammon and the Pursuit of Empire. The Political Economy of British Imperialism, 1860-1912* (Cambridge, 1986), 263-265; and Platt, *Latin America*, 163.

the transatlantic economy. Nations like Chile, Brazil and Argentina developed export economies based on products such as minerals, cereals, beef and coffee, manufactured goods like textiles becoming their main imports.[6]

From 1865 to the eve of World War I British trade to Latin America tripled. Indeed, the region's share of British trade from 1850 to 1914 was greater than that of any locale within the empire (except India), and it was a primary recipient of British overseas investment capital. In the 1860s and 1870s Britain, being the world leader in industries like iron, steel and railways, was the best placed nation to benefit from rising South American demands for such commodities. By this era the policy of peaceful commerce with South America was paying dividends. This is not say that the British had things all their own way, however. From the 1880s on competition from nations such as the US, Germany and France increased. British governments reacted by increased diplomatic support for national firms, while these companies increased their investment in South American utilities, exporting and manufacturing, while extending their range of banking services. Although by 1914 Britain's share of imports into the three largest South American economies – Brazil, Argentina and Chile – had fallen from mid-nineteenth century highs, she still dominated these nation's

---

6

Cain and Hopkins, *British Imperialism*, 280-284; B.R. Mitchell, with Phyllis Deane, *Abstract of British Historical Statistics* (Cambridge, 1962), 321-323; and Platt, *Latin America*, 306. On the British merchant houses see Robert Greenhill, "Merchants and the Latin American Trades: An Introduction," in D.C.M. Platt (ed.), *Business Imperialism 1840-1930. An Inquiry Based on British Experience in Latin America* (Oxford, 1977),159-197. Greenhill (196) says that "...the [South American] republics were initially very reliant on British [merchant] houses, which could offer solid advantages such as credit facilities, contacts abroad, knowledge, and expertise...The latent power of British merchants in Latin America was enormous." Still, market forces like the presence of competitors and the possibility of government intervention, Greenhill contends, may have limited the scope for the British merchant to abuse his comparative advantages.

export trades. Also, as Cain and Hopkins note, Britain maintained a premier role in finance and the provision of capital. Likewise, British shipping remained the primary carrier of South American goods.[7]

Liverpool played its own long-established role in Britain's trade with Latin America. The port's commerce with South America grew out of the metropole's eighteenth-century trade with the West Indies. The South Atlantic was the fourth oldest of Liverpool's trade routes, with the earliest reference to connections dating from 1641. The first detailed account of a Liverpool voyage to the West Indies concerns the *Antelope* in 1666. The traditional cargo brought back from the West Indies was sugar, a trade largely developed by the Moore and Norris families. Sugar was not the only regional commodity. A triangular trade developed soon after 1700 in which cotton and manufactured goods were shipped from Liverpool to Africa. Slaves would then be taken to the West Indies and South America to work on the plantations in return for cargoes of sugar, cotton and rum.[8] By the nineteenth century many voyages in sailing vessels were made to ports like Parahiba, usually returning with Brazilian cotton. With the discovery of the South Shetland Islands, whaling and sealing

---

7

Platt, *Latin America*, 306-308; Cain and Hopkins, *British Imperialism*, 282-287; and Davis and Huttenback, *Mammon and the Pursuit of Empire*, 47-50. On British banking services, public utilities and railroads in Latin America see Platt (ed.), *Business Imperialism*, 17-52; 77-118 and 395-428. William Wheelwright was involved in the creation of public utilities, like the Valparaiso waterworks, on both the west coast and in Argentina.

8

See Stephen D. Behrendt, "Markets, Transaction Cycles, and Profits: Merchant Decision Making in the British Slave Trade," *William and Mary Quarterly*, 3rd series, LVIII, No. 1 (2001), 171-204.; Behrendt, "The Annual Volume and Regional Distribution of the British Slave Trade, 1780-1807," *Journal of African History*, XXXVIII, No. 2 (1997), 187-211; and Herbert S. Klein, "The English Slave Trade to Jamaica, 1782-1808," *Economic History Review*, XXXI, No. 1 (1978), 25-45.

formed another link between Liverpool and South America. Early in the 1700s a profitable trade to South America had been in contraband Lancashire cottons. To guard legitimate merchant interests in the area a West India Association was formed in 1807.[9]

For the entire eighteenth and early nineteenth centuries Liverpool's trade to the West Indies and South America was conducted using small vessels, normally owned by one investor or by a small group acting as joint owners. An example of such craft was the *Mary Bibby*, a Liverpool-built vessel of 299 register tons, which was said to be a fast vessel with "spacious and elegant" passenger accommodations. As with all sail tonnage these small vessels were limited by the tides and weather, and they could not sail regularly or on a fixed schedule. This notwithstanding, Liverpool's commerce with South America and the West Indies expanded so rapidly in the wake of the Napoleonic Wars that shippers demanded a more regular service. This would come about, especially due to William Wheelwright's early experiences in South America. As George Chandler has written, "[i]t is one of Liverpool's [and Wheelwright's] greatest achievements at sea that the first regular steamship service on the west coast of South America was inaugurated by the Pacific Steam Navigation Company."[10] One of the primary beneficiaries of this service was the nation of Chile, and

---

9

Francis Hyde, *Liverpool and the Mersey: The Development of a Port 1700-1970* (Newton Abbot, 1971), 108-109; George Chandler, *Liverpool Shipping: A Short History* (London, 1960), 137-139; and Paul G.E. Clemens, "The Rise of Liverpool, 1665-1750," *Economic History Review*, XXIX, No. 2 (1976), 211-224.

10

Chandler, *Liverpool Shipping*, 140; and B.K. Drake, "Continuity and Flexibility in Liverpool's Trade with Africa and the Caribbean," *Business History*, XVIII, No. 1 (1976), 85-97. Strangely, the pioneering efforts of Wheelwright and PSNC on the west coast were not immediately followed up in the east, despite the closer proximity of that coast to Europe. This region, particularly Brazil, was not linked to Liverpool by a regular

early links between it and Liverpool were provided by the commission houses that extended capital and credit to British enterprises there.[11]

Their base of operations is one of the longest and narrowest nations on earth. Chile runs for more than 2,650 miles (4,265 kilometres) north to south but averages only 110 miles (177 kilometres) east to west. Still, the country is about the size of France in terms of square miles. Separated from its northern neighbour, Peru, by the Atacama desert, Chile is likewise cut off from Argentina and Bolivia to the east by the Andes Mountains. The region suffers from an extreme range of weather caused by wind, storms and ocean currents. Since the sixteenth century more than 100 earthquakes have been recorded, often accompanied by tidal waves. In August 1906, for instance, PSNC's steamer *Orissa* was berthed at Valparaiso during one such quake and used to accommodate refugees. Rapidly melting snow in the Andes often triggers flash floods, and fishers must always be alert for treacherous storm systems and currents. Strong winds blow year-round, and locales such as Chiloé Island are almost always shrouded in mist. Valparaiso – Wheelwright's early base of operations – has

---

steamer service until the founding of the Booth Line in 1865. A full quarter century behind Wheelwright's venture, there were actually many parallels between the two. The Booth vessels were not initially successful, either in terms of profit or performance, and the line ran at a loss. With help from the Royal Bank of Liverpool, along with the Holt and Rathbone families, Booth's steamers kept running. By 1881, with the advent of new marine technology, the company, now limited under the name Booth Steamship Co. Ltd., gradually became profitable. By 1886 their main trades were in the homeward carriage of rubber and outward transport of emigrants from Lisbon. Like PSNC, Booth was forced to adapt to new trade patterns in the 1890s and the focus shifted to cargoes of heavy engineering equipment along with other capital goods. Hyde, *Liverpool*, 109-110. On the Booth Line, see Duncan Haws, *Merchant Fleets: Lamport & Holt and Booth* (Uckfield, 1998); and P.M. Heaton, *Booth Line* (Pontypool, 1987).

11

John Mayo, "The Development of British Interests in Chile's Norte Chico in the Early Nineteenth Century," *The Americas. A Quarterly Review of Inter-American Cultural History*, LVII, No. 3 (2001), 393. London was also important as a source of these houses.

more than once been devastated by natural disasters like earthquakes.[12]

Despite such hazards Chile has long attracted the attention of foreign capital. Like much of South America, colonial Chile had a tradition of trade – sometimes contraband – with foreign nations. Gaining final independence from Spain in 1818, the new Chilean Republic had already decreed a free trade policy, although it reserved the right to tax commerce to raise revenue and protect vital national industries. In fact, the oligarchy which emerged with Chilean independence depended on the revenues of international trade. With a Chilean elite predisposed toward foreign commerce, Britain, as the world's foremost industrial power, possessed the comparative advantages needed to become Chile's most important trading partner. By the 1850s Britain was the largest exporter and importer of goods out of and into Chile, its shipping carried most Chilean goods, and British banks provided a significant source of finance. Chile offered Britons ample supplies of minerals like copper, the mining and refining of which had a long tradition in Britain (especially

---

12

Jane Kohen Winter, *Chile* (New York, 1991), 7 and 15; Haws, *PSNC*, 60; James H. Shirley, "Temporal Patterns in Historic Major Earthquakes in Chile," *West Georgia College Studies in the Social Sciences*, XXV (1986), 31-62; and S. Samuel Trifilo, "Early Nineteenth-century British Travellers in Chile: Impressions of Santiago and Valparaiso," *Journal of Inter-American Studies*, XI, No. 3 (1969), 391-424. Chilean names (translated into English) such as "Hill of Anguish," "Ice Water Valley" and "Last Hope Sound" are instructive. South American natural disasters took their toll on PSNC's fleet over the years. In an early incident the company's second steamer *Chile* towed three sail craft to safety when a powerful northerly gale struck Valparaiso. In 1877 the *Eten* was wrecked off Ventura Point with the loss of 120 lives. The disaster was attributed to a change in currents brought on by an earthquake. The *Arequipa II* was overtaken by a gale while loading cargo at Valparaiso buoys on 2 June 1903. Despite the heroic efforts of her crew and shore personnel, the vessel capsized during a series of especially violent gusts, taking eighty of 100 people on board with her. Given William Wheelwright's experience with the region, the fleet was by no means unprepared for such possibilities. Two of their early coastal passenger liners, *Quito II* and *Payta*, berthed stern-first at many ports. This was due in part to their bowsprits, but mainly so they could make a hasty departure when fierce southwesterly gales set in. Haws, *PSNC*, 36, 41 and 57; and Roland E. Duncan, "*Chile* and *Peru*: The First Successful Steamers in the Pacific," *The American Neptune*, XXXV, No. 4 (October 1975), 259.

Cornwall). From 1826 on British entrepreneurs were firmly established in Chile's mining region, the *Norte Chico* or Lesser North. In keeping with the theme of comparative advantages, especially those conferred by knowledge and contacts, John Mayo says of these entrepreneurs that, "building on the knowledge and relationships clandestinely acquired from the era of contraband trade, Britons were well placed to enter business with and in the new republic."[13]

Still, few Britons resided in Chile – less than 2,000 around 1850 – but of their number 708 lived in the city of Valparaiso. With the growth in foreign commerce Valparaiso became an important West coast *entrepôt* for the trade of Bolivia, Peru, Ecuador and Chile itself. Aside from a transient population of seamen, the most common British occupational group at Valparaiso were merchants, 230 in all. So pervasive was the influence of this tiny community, and their homeland, that in 1885 an American visitor declared the city little more than an English colony. Apart from those living at Valparaiso, the most common place of residence for Britons in Chile was in the northern mining districts where Coquimbo emerged as a small but important mineral port. Mayo concludes that the presence of British nationals in Chile was based firmly on trade and the provision of services. In the case of the northern mining districts he feels that British merchant capital and its agents were useful in getting Chilean production onto the world market, and that their knowledge and skills helped

---

13

Mayo, "Development of British Interests," 366-367, 390-391 and 393; Cain and Hopkins, "British Imperialism," 306-307. On the Chilean copper industry see also Luis Valenzuela, "The Chilean Copper Smelting Industry in the Mid-nineteenth Century: Phases of Expansion and Stagnation, 1834-58," *Journal of Latin American Studies*, XXIV, No. 3 (1992), 507-550.

to integrate Chile into the international economy. Mutual ties of respect allied to potentially profitable trade would mark Anglo-Chilean relations until the end of the nineteenth century.[14]

Trade and profits are always important to entrepreneurs, but it was geography, climate and resources that first set William Wheelwright to thinking about steam on the Chilean coast. Having operated sailing vessels there, Wheelwright was well aware of the difficulties in using this form of propulsion in the waters off western South America. Yet there was a great need for some form of transport, either on land or by sea. The former was impractical for long distances due to the terrain – the Andean barrier combined with a paucity of potential north-south corridors. Most important, however, was the north-south connection, and this demand could be met by sea. Sailing vessels were simply too inefficient to provide any sort of regularity. The Pacific Ocean often lived up to its name, with many periods of deadly calm or light southerly breezes, both of which made voyages propelled by sail highly uncertain, even more so as mariners also had to contend with the Humbolt current. Or to put it another way, although smooth seas are ideal for steamers, they are anathema to sail. Storm systems, when they did occur, also increased the danger of running

---

14

Mayo, "Development of British Interests," 368 and 391-393; and Cain and Hopkins, *British Imperialism*, 307. The relationship did not always run smoothly. A world financial crisis in 1873 saddled Chile with falling export prices and a rising debt load, which in turn generated opposition to the ruling oligarchy. Although the Chilean government reassured Britain, London felt they would soon default on their debt. Cain and Hopkins (308) believe that such problems at home provide at least some explanation for the War of the Pacific, which erupted in 1879.

wind-driven vessels along the coast.[15] The advantages of steam were summed up most clearly by the company's own Prospectus of 1838:

> No part of the world is better calculated for Steam Navigation than the shores of the Pacific...[Sail] voyages, which usually occupy a period of 20 or 25 days, may be accomplished by steam in 40 or 50 hours ... The distance from Valparaiso to Panama is about 2,500 miles [4,023 kilometres]; and the countries bordering on that line of coast contain a population of upwards of four million of inhabitants. The communication by land, which is everywhere extremely difficult and expensive, in some places is nearly impracticable; and the existing intercourse between the large cities and towns of these extensive countries is greatly impeded by these circumstances, on the one hand, and by the uncertainty of voyages by sailing vessels on the other. Notwithstanding these obstacles, the intercourse has of late years considerably increased; the number of persons travelling along the coast amounting to no less than 8,850 annually...The facilities that steam will afford must necessarily increase this communication and give a new impulse to the commerce of the whole of the Pacific States; developing more rapidly than their natural resources, and giving them a commercial stability and importance far beyond that which they now enjoy.[16]

William Wheelwright was certainly a forward thinker, but it still seems improbable that a merchant shipowner in this period would consider inaugurating a regular steam service for what would be a fairly long-distance trade. As noted in Chapter Four, steam was just coming into its own, and Wheelwright's countrymen had largely dropped out of the steam race following the voyage of the *Savannah.* When he began floating his proposals for a

---

15

National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), B/PSNC, Administration, "Pacific Steam Navigation Company Incorporated by Royal Charter, with Limited Responsibility," 5 November 1838, 2; Wardle, *Steam Conquers the Pacific,* 14-15; Wardle, "West Coast Route (1)," 107; and "Origin of the Pacific Steam Navigation Co.," 15. See also Alberdi, *The Life and Industrial Labors of William Wheelwright,* 134.

16

NML, MMM, MAL, B/PSNC, Administration, "Pacific Steam Navigation Company," 1838, 2-3. Also reported in *The Times,* 5 November 1838, 2.

steam service in 1833, Brunel's *Great Western* had not been built, and Samuel Cunard had yet to establish his transatlantic steamer service, a venture mocked by professor Dionysius Lardner for being as likely as going to the moon. Still, there were solid foundations to Wheelwright's vision. By this period steam was already established on short-sea routes and, despite the distances involved, his service as first conceived was essentially coastal. As a boy Wheelwright had seen Robert Fulton's experiments with steam propulsion on the Hudson River, and perhaps this remained an inspiration for him.[17]

In the Chilean context, Wheelwright undoubtably *did* have predecessors to whom he could look for inspiration, although not in terms of final results. There had already been several ventures in steam navigation on the west coast of South America, all of which were failures (one rather spectacular). In 1820 the American Daniel Greenhill was given permission to operate a steamer along the coast for a period of fifteen years, but nothing came of the proposal. In May 1822 the *Rising Star*, an auxiliary steamer ordered by Lord Thomas Cochrane, arrived at Valparaiso from London, becoming the first steamer to enter the Pacific. The steamer's early voyages appear to have suffered some mechanical problems and it finally returned to England when the Chilean government could not afford to complete the purchase. Two other steamers were shipped to Chile in parts the next year but were never

---

17

Ibid; and David Howarth, *British Sea Power. How Britain Became Sovereign of the Seas* (London, 2003), 367; Frederick Aeschbacher, "The North River Steamboat of Clermont: An Investigation into the History of Robert Fulton's First Steamboat And Her Development," *Nautical Research Journal*, XXXIII, No. 2 (1988), 26-35; John H. White, Jr., "Robert Fulton's Dream," *American Heritage of Invention & Technology*, XVIII, No. 1 (2002), 38-46; and Ronald Hope, *A New History of British Shipping* (London, 1990), 272-273.

assembled. In 1825 the Pacific's second steamer came into service. The small *Telica* was owned by a Spaniard of Russian heritage named Mitrovitch. This entrepreneur encountered a problem that would dog the PSNC in their early years: a lack of fuel for his engines. Owing to this difficulty, the venture was proved abortive. Standing on the deck of his little steamer in Guayaquil Harbour Mitrovitch, taken either by a fit of anger or despair, fired a pistol at a gunpowder barrel. The resulting explosion blew the *Telica*, Mitrovitch and all but one of his crew to atoms.[18]

Mitrovitch's idea may have inspired Wheelwright, but its outcome certainly did not deter him. He spent a number of years investigating possible fuel sources on the Pacific coast and making arrangements with the governments of Chile, Peru and Bolivia.[19] In June of 1835 Wheelwright met with the Chilean statesman Diego Portales at the residence of Joseph Waddington, an English merchant in Valparaiso.[20] Portales was impressed with the

---

18

John Kennedy, *The History of Steam Navigation* (Liverpool, 1903), 58; Duncan, "*Chile* and *Peru*," 248-250; Will Lawson, *Pacific Steamers* (Glasgow, 1927), 1-2; Wardle, *Steam Conquers the Pacific*, 15-16; and Wardle, "West Coast (1)," 107. For a first-hand account of the early voyages of the *Rising Star*, see Maria (Dundas) Graham, *Journal of a Residence in Chile during the Year 1822* (London, 1824), 172-177.

19

Wheelwright reported his findings a few years later in a small volume published in London; see William Wheelwright, *Mr. Wheelwright's Report on Steam Navigation in the Pacific, with an Account of the Coal Mines of Chile and Panama, together with Some Remarks Addressed to the Directors of the Pacific Steam Navigation Company* (London, 1843), 17-18. Peru, at 496,222 square miles (798,570 square kilometres), lies just to the north of Chile. It suffers from similar geographic and climatic difficulties as its southern neighbour. Kieran Falconer, *Peru* (New York, 1995), 7. Bolivia, to the east of Chile, is landlocked today, but until the late 1800s its territory included a length of coastline – later annexed by Chile. At the time of PSNC's formation marine coastal transport was thus as much an issue for its government as those of its two neighbours. Robert Pateman, *Bolivia* (New York, 1995), 27.

20

The role of Britain's merchant communities in Valparaiso and other South American locales has been alluded to earlier. Although the role of merchants can be overstated, there is certainly a case to be made for their

idea for a steam service, as was President José Joaquín Prieto Vial. On 25 August 1835 the Chilean Republic granted Wheelwright a ten-year monopoly over foreign navigation at Chilean ports and on the nation's rivers. Exceptions could be granted to Chilean-registered tonnage, and the government retained the right to determine where along the coast bases of operation could be set up. All this was conditional on Wheelwright's putting into service two 300-ton steamers within two years – fortunately for him, this clause was eventually waived. The monopoly concession, Prieto Vial allowed, was "simply a privilege that has always been conceded to inventors or to introducers of machinery which increases the speed of operations whilst diminishing the costs."[21] A year later, the Peruvian government granted Wheelwright a similar licence, and Bolivia followed shortly thereafter[22] (For the full text of

---

importance. Robert Greenhill says of British merchants in Latin America that:

> "...it was undeniable that [they] provided basic and valuable services which were of assistance to Latin America's long-term development. They were not redundant middlemen who contributed nothing. They moved primary goods from producers to manufacturers and consumers...Their links with overseas markets, their efficiency and expertise, were crucial when a large portion of output was exported...The reputation of British merchants was such...that small firms and buyers could not get credit unless a well-known British house undertook the business or endorsed their bills. Greenhill, "Merchants and the Latin American Trades," 193. See also Platt, *Latin America*, 145-149.

21

British Library, Additional Manuscripts, "Copy of a Decree of the Chilian [sic] Government in Favor of the 'Pacific Steam-Navigation-Company,' projected by Mr. William Wheelwright," 25 August 1835; NML, MMM, MAL, B/PSNC, Administration, "Pacific Steam Navigation Company," 1838, 2; Wardle, *Steam Conquers the Pacific*, 17-18; Wardle, "West Coast (1)," 107-108; Kennedy, *History of Steam Navigation*, 58; and Chandler, *Liverpool Shipping*, 141. José Joaquín Prieto Vial (1786-1854) was a former general. He served two terms as Chilean President, 1831 to 1840 and 1840 to 1841.

22

British Library, Additional Manuscripts, "Copy of the Licence of the Government of the North and South Peruvian States to Mr. W. Wheelwright ... to Navigate the Coasts and Ports Thereof, etc.," 12 September 1836; and William Wheelwright, *Statement and Documents Relative to the Establishment of Steam Navigation in the Pacific, with Copies of the Decrees ... Granting Exclusive Privileges to the Undertaking* (London, 1838).

the Chilean, Peruvian and Bolivian decrees, see Document 1, following the Appendices).

Although Wheelwright could not have hoped for more official co-operation, raising capital was another matter. On 18 June 1836 the British Consul General convened a meeting of Peruvian merchants. These men were interested in Wheelwright's steam concept and formed a committee to review his ideas. In November the Consul General chaired a second meeting at Santiago, Chile, which urged the formation of a company to raise the needed funds to purchase steamers. Unfortunately, there were few investors with the requisite capital in the region, so Wheelwright decided to look elsewhere for financial backing. He first travelled to the United States, where he tried to attract investors in New York. With little American interest in steam at the time, it is not surprising that Wheelwright came away empty-handed. Again, the entrepreneur was undeterred and headed off to Britain to test the waters. There his most influential support came from the Hon. Peter Campbell Scarlett, whom Wheelwright had met during his years in South America. Scarlett was the second son of Lord Abinger, who had served as secretary to the British Legation at Rio de Janeiro in 1834. Like Wheelwright, the younger Scarlett was enthused about the prospects of steam in western South America, having written a treatise in favour of a Panamanian isthmus railway to connect Atlantic and Pacific feeder ports.[23] Scarlett took the idea to his father who, unusually for the period, was both a peer and an early capitalist. With their backing and that

---

23

Peter Campbell Scarlett, *South America and the Pacific, Comprising a Journey across the Pampas and the Andes, from Buenos Ayres to Valparaiso, Lima, and Panama, with Remarks upon the Isthmus, to Which are Annexed Plans and Statements for Establishing Steam Navigation on the Pacific* (2 vols., London, 1838).

of the elder Scarlett brother, an MP, the company issued a prospectus in November 1838 following a preliminary meeting at 5 St. Mildred's Court, London, in September. A share capital of £250,000 was agreed upon, to be allotted in 5,000 shares of £50 each; 1,000 shares were reserved for South American investors. An office was opened at 5 Barge Yard, Bucklesbury, and Peter Cambell Scarlett was named as one of the Directors. The new company's first Chairman was George Brown, who was also a founder-director of the Royal Mail Steam Packet Company, a fact that gave the two concerns an immediate connection. William Wheelwright was appointed PSNC's resident director at Valparaiso.[24]

Although there was some doubt about the government's willingness to grant a Royal Charter, to keep the process moving ahead agents were hired to sell shares in Paris and Hamburg, while Wheelwright lobbied potential shareholders in Liverpool. Unfortunately, however, many potential investors were unwilling to commit themselves without a Charter. Initially only £5,000 was raised, and this came exclusively from the Directors. Nonetheless, a number of shareholders signed up over the next two years. While the original Directors were mainly Londoners, most of the new shareholders were from Liverpool. Ironically, considering these troubles, regrets were later expressed in the press that more shares had not been set aside for merchants and other interested parties in South America. Such potential

---

24

NML, MMM, MAL, B/PSNC, Administration, "Pacific Steam Navigation Company," 1838, 1; "The Humble Petition of the Pacific Steam Navigation Company," n.d., 1; Wardle, *Steam Conquers the Pacific*, 19-24; Wardle, "West Coast (1)," 108; "Origin of the Pacific Steam Navigation Co.," 15; Lawson, *Pacific Steamers*, 2; and Haws, *PSNC*, 13-14. One of Wheelwright's early supporters in London was Lord Cochrane whom he had met earlier in South America. Cochrane was a guest on board the company steamer *Peru* when it made its trial run down the Thames in 1840. The London Directors were mainly respected men of commerce, such as Jeremiah Todd Naylor, partner in a Liverpool business that operated branches in South America.

investors, drawing on their local experience, were thought to be well placed to appreciate the benefits of steam linkages in the region. In any event, the process of gaining the Charter took a full eighteen months. However, thanks to the efforts of the elder Scarlett brother in Parliament, the application was eventually successful, and the Pacific Steam Navigation Company was officially inaugurated. Initially, the company flag was supposed to have included the white star of Chile, but this was replaced with a crown once the Royal Charter was granted in January 1840.[25]

The awarding of the charter was by no means a foregone conclusion. Legislation passed in 1825, 1834 and 1837 made it easier to obtain a Royal Charter and become a limited- liability company, but not all applications were successful. Between 1837 and 1854 the Board of Trade received 164 applications for Royal Charters, ninety-three of which were approved. Many of the successful applications were from non-profit organizations, with

---

25

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1840, 3; *The Times*, 3 July 1840, 8; Haws, *PSNC*, 14; and Wardle, *Steam Conquers the Pacific*, 24-25. The granting of Royal Charters was not a common form of commercial organization prior to the 1855 and 1856 Limited Liability Acts. It was the norm in this era to disparage enterprises in which the founders appeared unwilling to stake their entire capital. Nonetheless, investors seemed less sanguine about risking their own fortunes in unlimited companies. In PSNC's case uncertainty about the charter certainly hurt initial share sales. On the other hand, Peter Davies notes that having a charter in hand had the opposite effect on investment in the African Steam Ship Company (1852). Davies, *The Trade Makers: Elder Dempster in West Africa, 1852-1972* (1973; rev. ed., St. John's, NL, 2000), 7. Arthur C. Wardle, *Steam Conquers the Pacific*, 160, felt that two early prints of the steamers *Chile* and *Peru* gave rise to the notion that the star of Chile was actually used on the PSNC flag until the company received their first mail contract, or even later. In fact, Wardle thought that the significance of the royal crown was never lost on PSNC's founders, who were unlikely to have neglected it in their final flag design. PSNC was one of only a few companies (along with Royal Mail, the Orient Line and Elder, Dempster) granted the honour of using the imperial crown. At the time the charter was granted Wheelwright was made Chief Superintendent of PSNC with a £1,400 annual salary. (An early balance sheet shows that Wheelwright was paid a total of £3,150 from November 1839 to the end of 1842, the amount likely including expenses). NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1840, 13.

mines and shipping companies comprising the bulk of approvals in the corporate sector. Registering an limited-liability company was fairly inexpensive, but obtaining a Royal Charter was not. The application originally cost about £402, a large sum for the day. Also, rivals could exert pressure to have a charter denied. This was exactly what happened to the London, Liverpool & North American Screw Steamship Company, which was registered as a limited-liability concern in 1852. Their charter application was opposed by Cunard, which had just inaugurated a trans-Atlantic steam cargo service. South Liverpool's MP, W. Brown, who had an interest in the Collins line, protested granting the charter in the Commons. Although ostensibly a rival of Cunard's, Collins was actually in collusion with the firm, so Brown's stance was understandable. Despite such potential hurdles, Pacific Steam Navigation became one of the first shipowning companies with Liverpool ties to obtain a Royal Charter.[26]

The manner of the company's formation itself marked a great difference from most contemporary Merseyside shipping companies, including Brocklebanks. Table 5.1 has already shown us that, except for the partnership model, there were no other forms of company organizations owning new Liverpool tonnage in 1820. Indeed, it was only after 1870 that other company forms, especially the limited-liability type, began to appear with

---

26

P.L. Cottrell, "The Steamship on the Mersey, 1815-80. Investment and Ownership," in P.L. Cottrell and D.H. Aldcroft (eds.), *Shipping, Trade and Commerce: Essays in Memory of Ralph Davis* (Leicester, 1981), 146-148; and , Edward W. Sloan, "The First (and Very Secret) International Steamship Cartel, 1850-1856," In David J. Starkey and Gelina Harlaftis (eds.), *Global Markets: The Internationalization of the Sea Transport Industries Since 1850* (St. John's, NL: 1998), 29.

any frequency as owners on the Liverpool register. In fact, by 1889 their share of new registries was about thirty percent in numeric terms, still far from a majority, although they did hold almost half of all tonnage newly-registered that year (see Appendix Four). In fact, the individual investor remained the primary buyer of shares throughout the period. In the case of Brocklebanks, the company waited until the late 1890s to make even a tentative foray toward going public. This makes the PSNC all the more remarkable as a limited-liability company officially organized by 1840.[27]

The company prospectus provides quite a bit of information about the aims of the enterprise and is instructive on a number of issues, including some misconceptions that would later plague the venture. The document gave credit to Wheelwright as the inspiration behind PSNC, although it did not go so far as to call him the founder. The monopoly granted by the South American governments was mentioned, along with a reference to certain other "necessary immunities and privileges." Financially, there appears to have been little direct input from either the Chilean, Peruvian or Bolivian governments, but the document specifically mentioned an exemption from port dues for the duration of the PSNC monopoly – a significant concession. The time limit to place two steamers in service had already passed, but the respective governments maintained their confidence in Wheelwright and granted an extension, which was also mentioned in the prospectus. In fact, the directors' first report in 1843 went so far as to mention "...their sense of obligation...not only for the

---

27

Great Britain, Board of Trade (BT) 107/108, Liverpool Vessel Registries, various years.

renewal thus granted, but for the uniform good faith [the governments of Chile and Peru] have shown in the observance of these privileges."[28]

Perhaps the most significant feature of the prospectus was the implied linkage of worldwide British trade by steam. As the government was already planning to establish a line of steam packets between England and the West Indies, it was noted that the network could be taken even further were this service linked in turn to the PSNC routes along the west coast of South America. By 1840, in fact, the British government offered a small subsidy for transporting the mails monthly between Valparaiso and Panama. This service then linked to Europe through the Royal Mail Steam Packet Company, which ran from Southampton to the Isthmus and from there overland to the Pacific. At least one nineteenth-century source credited this mail subsidy with the actual foundation of the PSNC, and George Brown's presence as Chairman was advantageous as well.[29] The Directors' ambitions went beyond even this service, however, since the prospectus noted that the

---

28

NML, MMM, MAL, B/PSNC, Administration, "Pacific Steam Navigation Company," 1838, 2; Directors' Report, 18 August 1843, 3-4; and *The Times*, 5 November 1838, 2.

29

"Trade of South America. How Developed and Conducted by the Pacific Steam Navigation Company," *American-European News Letter*, II (May-June, 1895), 68. Early mail carriers like PSNC and Royal Mail enjoyed privileges such as reduced harbour dues that helped reduce costs. In fact, PSNC's Directors considered such perks of paramount importance to the company. In 1851 Wheelwright was successful in having these extended, and six years later Peru waived dues charges, saving PSNC £2,400. In addition, when PSNC formed the Callao Dock Company in 1863 local exemptions were provided on the condition that government vessels get preferential treatment. The overall impact of such subsidies are debatable. Robert Greenhill notes that measures like mail contracts may have been vital in maintaining services to undeveloped areas, but these privileges were often eroded over time. Ultimately, he says, "the ability of subsidies to create permanent advantages is questionable." Greenhill, "Shipping 1850-1914," in D.C.M. Platt (ed.), *Business Imperialism 1840-1930. An Inquiry Based on British Experience in Latin America* (Oxford, 1977), 121-124.

journey to Lima, Peru, which then took about four months, could be reduced to less than one month via the Isthmus route. In an observation which turned out to be prophetic in the long run, the Board also noted "that a communication between England and Australia, by this [Isthmus] route, might be accomplished in about sixtyfive [sic] or seventy days; in place of four months, which it now occupies."[30]

Though they were unforseen at the time, two later problem areas were alluded to immediately following this discussion of routes. The report mentioned the abundance of good quality coal in Chile, especially in the area known as Talcahuano. This, it was asserted, could be obtained at very reasonable rates. Likewise, other coal deposits had been found at San Lorenzo in Callao Bay and in the Gulf of Guayaquil.[31] If this proved insufficient, extra coal could always be imported from England or Australia at moderate cost. Although steam engines were still known for their voracious consumption of coal, the Directors gave the impression that this limitation could be overcome easily. The next few years would prove just how wrong that assessment was.[32]

30

NML, MMM, MAL, B/PSNC, Administration, "Pacific Steam Navigation Company," 1838, 3.

31

Roland E. Duncan, "Chilean Coal and British Steamers: The Origin of a South American Industry," *Mariner's Mirror*, LXI, No. 3 (1975), 271-272; and Wheelwright, *Mr. Wheelwright's Report*, 17-18. Scarlett, *South America and the Pacific*, II, 55-56, dissented, however, claiming that "a sort of coal is used in the Bay of Talcahuano, the quality and usefulness of which is much disputed." Scarlett's assessment was echoed by naturalist Charles Darwin, then on the *Beagle* expedition, who nonetheless allowed that richer layers of coal might be found deeper underground.

32

NML, MMM, MAL, B/PSNC, Administration, "Pacific Steam Navigation Company," 1838, 3-4. Another potential problem area for South American shipping companies was a tendency to import large varieties of manufactured goods that lay financially out of reach for most people in the region. A mid-century trader, Stephen

The second miscalculation made by the Board, and perhaps by Wheelwright himself, was the amount of capital required. As we have seen, PSNC's share allocations divided the company into 5,000 shares at £50 each, for a total working capital of £250,000.[33] The prospectus reported that "less than one-half this amount will be sufficient to carry into full effect the operations of the company."[34] This assertion provides evidence that PSNC, despite the mention of potential routes to Australia, was not seriously considering moving into such trades in the foreseeable future. Although the southern continent figured in the company's later operations, it seems likely that it was only mentioned at this point as a way of attracting the notice – and perhaps a mail subsidy – of the government. Writing in 1903, John Kennedy expressed the opinion that "it was not the intention of the company to trade elsewhere than along the Pacific Coast, and for this purpose a capital of a quarter of a million pounds was thought to be sufficient."[35] As with the Chilean coal situation, events would prove the Board's assessment optimistic at best, especially given the failure to meet even this capital

---

Williamson, complained that his Liverpool partners were sending too many products, thinking they could be sold just as cotton or flour were in their home port. PSNC, with their initial concentration on passengers, mails and specie, largely avoided this trap. This is not to say, of course, that the company did not also carry general cargoes. See Graeme J. Milne, *Trade and Traders in Mid-Victorian Liverpool: Mercantile Business and the Making of a World Port* (Liverpool, 2000), 59; and Robert G. Greenhill, "Latin America's Export Trades and British Shipping, 1850-1914," in David Alexander and Rosemary Ommer (eds.), *Volumes not Values: Canadian Sailing Ships and World Trades* (St. John's, NL, 1979), 249.

33

For the full text concerning initial PSNC share allocations, see Document 2 following the Appendices.

34

NML, MMM, MAL, Administration, "Pacific Steam Navigation Company," 1838, 4.

35

Kennedy, *History of Steam Navigation*, 59.

requirement.

In the interim, Wheelwright and the Directors had not been idle. As early as 1838 plans were underway for the construction of a pair of steamers to inaugurate the service. Since PSNC was constrained in terms of buying power, and since two engines had already been ordered from Miller, Ravenhill and Company of London at a cost of £17,400, the Directors agreed to assume liability for costs in the event the company failed. The Liverpool shareholders had agreed with a suggestion from Wheelwright that two 700-ton vessels would be ordered from Thomas Wilson in Liverpool. Aside from the novelty of steam, the vessels were to be constructed of iron – another example of Wheelwright's foresight. Intended for launch six months after the signing of the contract, the craft were to cost £9,000 apiece. The first rift between Wheelwright and the London Directors arose over this contract. Because of the delay over obtaining the Royal Charter, the Board cancelled the order while Wheelwright was away. Although further negotiations were undertaken, Wilson refused to have anything more to do with the company. Wheelwright had been convinced that iron construction would be cheaper in the long run because the vessels would not require as much maintenance. The Board disagreed and contracted with Curling, Young and Company of Poplar, London, to build the steamers out of wood. The vessels cost £17/5/0 per ton, which made them more expensive than Wilson's proposed craft. The 700-ton steamers were due to launch within a year of the contract signing. In 1843, when the Board reflected on the issue, it judged only that "both the vessels and engines have proved, in every respect, efficient, and calculated for the service in which they are engaged;" an opinion supposedly

shared by "many naval men of high rank." The Directors made no mention of the steamers Wheelwright had tried to purchase or the dispute over them.[36]

Whether or not the decision regarding the steamers was correct, the Board soon made what was certainly a misstep. In early 1840, contrary to the advice of Lloyd's surveyor, the Directors bought the wooden sailing vessel *Elizabeth*, intending it to carry coal out to the Pacific coast to supply the company's own steamer operations. Just prior to sailing the crew refused to embark, alleging that the *Elizabeth* was unseaworthy and were backed in their assertions by Lloyd's surveyor George Bailey. Wheelwright, accompanied by Captain George Peacock, RN, the company's first steamship commander, inspected the vessel personally and agreed that it was unfit for service. Both vessel and cargo were sold, the former hopefully for scrap. Another wooden craft, the barque *Portsea*, was then bought as a replacement and loaded with 500 tons of Welsh coal. Misfortune continued to plague the venture, and *Portsea* caught fire off Cape Horn, only being saved by its quick-thinking captain who dumped the burning coals overboard and doused water on the remainder. Even upon arrival problems ensued as Peacock realized the coal was of poor quality. This incident, following on the heels of the steamer dispute, led the Directors to become dissatisfied with Wheelwright, who for his part had also lost confidence in them. For the

---

36

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 3; Wardle, *Steam Conquers the Pacific*, 25-26; Wardle, "West Coast (1)," 108; Chandler, *Liverpool Shipping*, 141; "Trade of South America," 68; Lawson, *Pacific Steamers*, 2; "Origin of the Pacific Steam Navigation Co.," 15; and *The Times*, 3 July 1840, 8.

time being, however, the company's affairs proceeded apace.[37]

On 18 April of that same year the first PSNC steamer, *Peru*, was launched, with the *Chile* following three days later (the latter being christened by Mrs. Peter Campbell Scarlett). The vessels were both equipped with side-lever engines of approximately ninety horsepower each. Captain Peacock was personally charged by Peter Campbell Scarlett with taking the craft to South America's Pacific coast to begin operations. Peacock had taken an avid interest in the vessels' construction from the beginning. With cabin room for 150 passengers and able to carry 300 tons of freight, the vessels were among the most efficient steamers of their day, perhaps vindicating the Board's decision. *Chile* departed from Falmouth under a Captain Glover, who had been appointed by Peacock, on 10 June. *Peru*,

---

37

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 6; Wardle, *Steam Conquers the Pacific*, 31-32; Duncan, "Chilean Coal and British Steamers," 273-276; and Duncan, "*Chile* and *Peru*," 259. On the *Portsea* mishap, refer also to George Peacock, *A Treatise on Ships' Cables with the History of Chains, Their Use and Abuse, from the Earliest Period Down to the Present Day* (London, 1873), 57-58. By refusing to sail the *Elizabeth*'s crew provide an example of an early, successful job action by mariners. When their safety was at issue crews, working as a unit, might override the provisions of their Crew Agreement, at least in some cases. George Peacock was born into a seafaring family at Exmouth, Devonshire in 1805. His youth was marked by experiences similar to Wheelwright's, including the command of a family-owned vessel. As a young Naval officer Peacock was appointed part of a survey on the Panamanian side of the Central American Isthmus. Enlisting the help of locals, he went ashore and completed the survey without help from his colleagues. Although considered brilliant, both as a practical seaman and an engineer, Peacock was impatient with the slow pace of promotion in the Royal Navy and eventually resigned his commission. Hearing of this, Wheelwright, on the advice of Peacock's former commander (and PSNC Director) Captain Horatio T. Austin, offered Peacock the job of senior commander and second-superintendent of the PSNC. The former officer accepted and can be almost equally credited, along with Wheelwright and the Scarlett family, with the early development of PSNC. After a distinguished service with PSNC Peacock retired from the company in 1846, ending his career as harbour master and Superintendent of Southampton's docks. His contribution to nautical science was significant enough that he was made a fellow of the Royal Geographical Society. The old mariner died on 6 June 1883. Roland E. Duncan, "Captain George Peacock: The Pioneer Commander of Pacific Steamers," *The Mariner's Mirror*, LXVI, No. 1 (February 1980), 17-18, 20 and 28-29; Wardle, *Steam Conquers the Pacific*, 76; and "Origin of the Pacific Steam Navigation Company," 16-17. See also, George Peacock, *Official Correspondence, Certificates of Service, and Testimonials* (Exeter: 1859). In his retirement, Peacock also wrote a significant tract on the evolution of ships' cables; see Peacock, *A Treatise on Ships' Cables*.

with Peacock himself in charge, left on 10 July 1840 and called at Plymouth to board some late passengers and to collect the mails. Both sailings were several months behind schedule. Indeed, *The Times* ran their sailing announcement as early as 21 May (a final embarkation notice followed on 18 June). The two vessels linked up at Point Famine in the Straits of Magellan and travelled into Valparaiso Bay in tandem on 16 October. Although their departure was not the media event that the launching of Cunard's *Britannia* had been, it nonetheless marked a milestone in shipping, for when they arrived in Chile steam transportation was permanently established on the Pacific coast of South America. Aside from being a leader in technology and corporate organization, in their first year as a chartered company PSNC broke new ground in terms of the routes they served – it was a whole new field for British commercial enterprise.[38]

As with most trend-setting endeavours, the PSNC encountered a great many hurdles before any positive returns appeared. As Arthur Wardle so succinctly described it, "troubles in great variety befell the Pacific Steam Navigation Company in those early years..."[39] One of the most informative documents surviving from the company's formative period is the Board of Directors' first report. Published in 1843, it summarizes events during the PSNC's first three years in operation and previous efforts to launch the company. The document

---

38

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 3; *The Times*, 21 May 1840, 1; 18 June 1840, 1; 3 July 1840, 8; 9 July 1840, 6; Wardle, *Steam Conquers the Pacific*, 33-37; Wardle, "West Coast (1)," 109; Duncan, "*Chile* and *Peru*," 251-255; "Origin of the Pacific Steam Navigation Company," 16; and Haws, *PSNC*, 14 and 29.

39

Wardle, "West Coast (1)," 109.

reads much like an apologia, with the Directors at great pains to reassure investors while at the same time absolving themselves from responsibility for the many setbacks plaguing their efforts. In fact, the opening paragraph of the report explicitly stated that part of the Board's objective in the report was to chronicle the various problems which had led them to delay presenting their initial statement.[40]

The steamers having been dispatched to South America, the Directors acknowledged that their arrival was delayed due to problems at Rio de Janeiro and elsewhere, beyond the date originally set under the agreements with Chile, Peru and Bolivia. The Directors admitted, however, that the patience of these governments gave PSNC some room to manoeuver. Although the steamers left in the summer of 1840, they did not begin operations until November. The service ran until January, but the runs were soon curtailed by Mitrovitch's old nemesis – lack of fuel. The ramifications of this problem were serious enough that we will return to a discussion of it shortly. Although probably their most serious problem, the scarcity of coal was not the only difficulty besetting PSNC. The steamers were out of commission for three months, only returning to service in April 1841. Even then there was less than two months of uninterrupted service. On 31 May the *Chile* struck a reef while entering Valparaiso harbour. The vessel was heavily damaged and was out of service for six months while repairs were effected (Had it not been for Captain Peacock's skills in engineering and salvage, the accident would likely have sunk the fledgling company).

40

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 1.

Although insurance covered the cost of the repairs, the loss of the vessel's services so soon into their operations was a serious setback for the company. In the interim PSNC employees in the region purchased a schooner to keep the runs between Callao and Panama in service. Given the disadvantages of sail on this coast, the solution was nothing more than a stop-gap measure. The report allowed that due to the accident "the Company suffered a large loss." Translated into financial terms, out of a subscribed capital of £94,000, £72,000 was already spent.[41]

Even faced with such difficulties the company was determined to forge ahead. Wherever the need existed PSNC tried to expand their services. After appeals from the governments of Peru and Ecuador, it was decided to include Guayaquil, Ecuador's main port, as a port of call. In return the Ecuadorian government gave Pacific Steam Navigation a monopoly similar to what Peru and Chile had already granted. In keeping with the company's run of bad luck, this service was also unprofitable with only two vessels in service, and it was decided to confine operations to the region south of Callao for the interim. Later in the report the Directors proposed the addition of a third steamer to the fleet. On one hand, this vessel would act as insurance against the kind of accident that befell the *Chile*. With the third steamer available there would presumably be at least two fit for service

---

41

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 5; Duncan, "*Chile* and *Peru*," 253-259 and 262-264; Duncan, "Captain George Peacock," 25-27; Kennedy, *History of Steam Navigation*, 58; British Library, Additional Manuscripts, "Decree of the Chilian [sic] Government in Favor of the 'Pacific Steam-Navigation-Company"; "Licence of the Government of the North and South Peruvian States to Mr. W. Wheelwright;" Wardle, *Steam Conquers the Pacific*, 187; and Haws, *PSNC*, 14 and 29. In fact, the schooner service lost money and the vessel was soon sold.

at all times. When all three were available a monthly service to Guayaquil could also be operated, along with occasional freight and passenger voyages going to Panama. The proposed vessel was estimated to cost £20,000, which would necessitate an additional issue of shares. Still, the Directors felt that the third craft would be no real expense, since there was, in their view, sufficient demand to warrant expansion.[42]

In terms of actual profitability, the company was still on very shaky ground in 1843. The Board's balance sheet and profit-and-loss account for the period ending 31 June 1842 presented a fairly bleak picture.[43] By then it was clear that the sum raised thus far was insufficient to cover the expenses PSNC had incurred in setting up the line. The Directors were forced to secure a loan of £20,000 to cover the shortfall. In addition, of the alleged capital that had initially been raised from the sale of shares, more than £6,000 was still owed by investors in Britain and South America. The Board of Directors regretfully informed shareholders that to date Pacific Steam faced a loss of £13,695/8/10. This situation notwithstanding, the Directors still believed that the company's financial future was promising. There were some hopeful signs. A good deal of the loss to 1843 was due to initial start-up costs which would not recur and accidents, such as that to the *Chile*. In fact, the losses under these headings amounted to a full £15,000; had they not occurred the company would have shown a small profit. To reassure investors the Board presented the annual

---

42

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 5-6 and 11.

43

For full particulars of the profit-and-loss account, see Document 3.

expenses that it believed would appear in future.[44] These totalled £29,852, a figure that it somehow managed to claim was "not an estimate." Yet since the report presented contingency figures for the cost of several different kinds of coal, it is clear that this is precisely what it was.

The Board also attempted to convey an air of cautious optimism and fiscal prudence, but it is hard to accept that it would have convinced many investors. It was "confident" that operating expenses could be reduced, especially concerning the cost of coal. At the time of the report the company was paying 27/6d. per ton for coal, but the Directors were convinced that the price could be reduced to 20/-d. once local sources of coal came into general use. Unfortunately, they provided no hard evidence that this was likely to be the case. Steamer receipts were also the cause for guarded optimism. On the route from Callao to Talcahuano the two steamers had earned an average of £43,125. Taking this into account, the net profit for PSNC and their shareholders would stand at about £13,273 – a return of 14.5 percent on paid-up capital. The vessels were already noted for their punctuality, a factor many shippers would come to appreciate in steam services. The good will of the various South American governments involved was also encouraging. The Directors ended their first report on a cautiously optimistic note.[45] Wheelwright was likewise moved to claim in 1843 that "I have

---

44

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 8-9.

45

Ibid., 9-10.

established steam navigation in the Pacific in a secure and effective manner."[46] Unbeknownst to either Wheelwright or the company Directors, problems still lay ahead.

Shortly after the first Directors' report appeared, William Wheelwright returned from an extended stay in South America. He had travelled there by sailing vessel and, as on his honeymoon, worked his way southward by mule to prepare the way for the newly arrived steamers. Wheelwright's work on PSNC's behalf was ill rewarded, however. He returned to the United Kingdom, having worked out many difficulties faced by the company on the spot, only to discover that the Directors had fired him for "bad management." Most commentators have not dealt at length with the reasons behind this decision, but the motivation of the Directors can surely be traced to Wheelwright's independent line regarding the purchase of the *Elizabeth* and his wish to invest in iron rather than wooden steamers. In short, he was not sufficiently tractable for the London-dominated Board.[47]

Wheelwright promptly trumped the Board, however, turning the Directors' own tactics against them. Appealing to shareholders in Liverpool, and reminding them of the Board's own failings in these matters, he succeeded in having the Directors themselves –

46

Wheelwright, *Mr. Wheelwright's Report*, 16. As quoted in Duncan, "*Chile* and *Peru*," 269.

47

Wardle, *Steam Conquers the Pacific*, 63. Although he was the first to compile a full-length history of PSNC, Arthur Wardle was unable to learn the exact reasons behind Wheelwright's dismissal due to the "...loss of contemporary records..." (63). A later PSNC chronicler, Roland Duncan, did find some correspondence relating to Wheelwright's discharge. Duncan, "*Chile* and *Peru*," 269, states that [d]isagreements with the directors over management decisions on the Pacific coast, complicated by the dire financial straits of the struggling company, culminated in Wheelwright's dismissal as West Coast Superintendent of the steamers." See also Wheelwright, *Mr. Wheelwright's Report*, Appendices, 24-28.

minus George Brown – removed from the company. A new Board was instituted, this time composed mainly of prominent merchants and businessmen from Liverpool itself. It is from this period that PSNC can be considered a full-fledged Liverpool company, as its headquarters was subsequently also moved to the city. Unlike the previous Board, the new Directors showed great confidence in Wheelwright's abilities. His powers were extended to cover not only Chile but also Peru, Ecuador, Colombia and Panama.[48]

Armed now with the full support of his new Directors, Wheelwright was granted a contract by the British government to provide regular mails between Valparaiso and Panama. With this in hand the new Directors acted on a suggestion by their predecessors and invested in additional tonnage. The iron paddle-wheeler *Ecuador* was built by Tod and McGregor of Glasgow to serve the ports of Callao, Guayaquil and Panama. The 323-ton vessel was launched in October of 1845. Two months later the Board made Wheelwright Joint Managing Director for the company, and Alexander Hutchinson was named Pacific Coast Manager. Following the PSNC's year-end Board meeting, Wheelwright returned to South America to try to fix a number of the issues that were dogging the firm – the fuel issue

---

48

Wardle, "West Coast (1)," 109; "Origin of the Pacific Steam Navigation Company," 16; and Haws, *PSNC*, 14-15. According to Graeme Milne, *Trade and Traders*, 164, the choice of Directors for a publicly-traded company had two main functions. First, from the internal perspective of the firm it "ensured that all elements in the proposed trading network – often already operating informally – were tied into the business structure from the outset." Second, the reputations of the individuals involved was often important in creating trust among potential buyers of stock. As Milne wrote, "[d]irectors were chosen to give the firm an air of solidity and competence. Not only would leading shipowners be present, but usually a local banker or two, and sometimes agents with experience of operating at the other end of the proposed route." Many individual PSNC Directors over the years were closely tied to other major shipping enterprises or were members of Liverpool's leading shipowning families (see Chapter Ten).

foremost among them. In Wheelwright's absence William Just, of the Aberdeen & London Steam Ship Company, had already been appointed Second Joint Managing Director of PSNC[49]

Generally speaking, Wheelwright's object was "to reform the management of the company's affairs in the Pacific." Unlike the previous Board, the new Directors assured Wheelwright that they were "satisfied of [his] fitness for the task" and gave him "full discretionary power" to carry any proposed changes into effect.[50] Their main concerns came under a number of headings, and Wheelwright was charged with setting them right or at least proposing longer-term solutions.

Although not listed first, the coal supply was among the most important difficulties facing PSNC. In fact, the company's 1836 agreements with the governments of Peru and Bolivia, though not that with Chile, specifically mentioned coaling issues, providing an exemption from tonnage dues for any PSNC vessel importing coal exclusively. An early estimate of the company's progress (or lack thereof) in this era set total losses at about four-fifths of all paid up capital. These losses were largely attributed to the lack of fuel on the coast. It will be remembered that the London Directors were quite sanguine about the

---

49

Duncan, "*Chile* and *Peru*," 270-271; Wardle, "West Coast (1)," 109; NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 11; December 1845; and Haws, *PSNC*, 15. William Just served as Managing Director from 1843 until 1875 and was responsible for reorganizing the company's services on South America's west coast in 1856, having visited the area to prepare for the changes. He died in 1895, aged eighty-three, still serving on the Board of Directors. Kennedy, *History of Steam Navigation*, 60.

50

NML, MMM, MAL, B/PSNC, Administration, Business Letters, 14 January 1846.

fuelling prospect in their first report. Indeed, they seem to have had a genuine faith that any problems in this regard could be quickly overcome. Even twenty years on, however, a contemporary commentator noted that much of the coal needed by the PSNC in South America was still exported from the United Kingdom.[51] Principally shipped out of Cardiff, the coal was supplied principally by the Crown Company's patent fuel and Nixon's steam navigation coal. Although it was true that coal could be had in Chile, there were a number of problems associated with this supply. One coastal deposit at Lota, although plentiful and of a reasonable quality, was unsuited for use on its own except in specially-designed engines. On a more positive note, this coal did serve fairly well when mixed with Welsh coals. For the Directors the main hurdles were suitable storage depots and an economical supply. They proposed to Wheelwright that each of their Chilean coaling stations should have accommodation for at least 3,000-4,000 tons of coal and that quays and stages should be built to ensure efficient discharging and loading of the fuel. The company had previously been dependent on older vessels converted into coal hulks, a solution that was not only expensive but also provided limited storage.[52]

Upon his return to Liverpool in 1847 Wheelwright prepared a report for the Directors

---

51

John Willox, *The Steam Fleet of Liverpool: A Series of Historic, Statistical, and Descriptive Sketches, Tracing their Origin, and Showing the Progress and Present Condition of the Leading Branches* (Liverpool, 1865), 64. See also British Library, Additional Manuscripts, "Copy of the Licence of the Government of the North and South Peruvian States to Mr. W. Wheelwright"; and Wardle, *Steam Conquers the Pacific*, 186-187.

52

NML, MMM, MAL, B/PSNC, Administration, Business Letters, 1845," 2-3; "Origin of the Pacific Steam Navigation Company," 3-4; and "Trade of South America," 68.

in which he pointed out a number of problems that he encountered concerning coaling on the South American coast. The main difficulty, as he saw it, was not the necessity to procure coal from Britain or a lack of accommodation. Rather, it was the problems associated with the region's own geography and climate. Except in the case of its coaling depots at Payta and Coquimbo, the PSNC's supplies of local coal had to be procured at "open ports, exposed to the rolling sea."[53] This prevented the vessels from laying alongside piers or hulks, except in very calm weather. In Wheelwright's opinion this in itself accounted for the great expenses to which the company had been subjected. Also, on arriving at Valparaiso Wheelwright found that the company's three deposit sites in the area were all vulnerable to fire and looters. In response, a new facility was built which could accommodate about 3,000 tons of coal, while the older deposits, by then almost played out, were abandoned. Coaling at Valparaiso was expensive in any event, about two American dollars per ton by Wheelwright's calculations. This could possibly be reduced if PSNC was to use their own launches to transship coal, and if the firm made extra efforts to load when the weather was most conducive to discharge from colliers into steamers.[54]

Wheelwright had more suggestions and proposed solutions about other specific coaling sites. At Callao the PSNC maintained three hulks, the *Portsea* (mentioned earlier),

---

53

NML, MMM, MAL, B/PSNC, Administration, Business Letters, 9 August 1847.

54

Ibid.

Cecilia and *Jasper*, which collectively could hold about 2,000 tons of coal.[55] Wheelwright ordered that all should be overhauled and a new barge built. With this increased capacity PSNC would be better equipped to handle occasions when both steamers had to be refuelled at once. Wheelwright viewed the company's Payta deposit as vital to operations unless new deposits were found at Panama. Yet this potential coal source was also problematic. Wheelwright believed that at both Callao and Payta the cost of landing and embarking coal was less than at Panama. On the other hand, more freight appears to have been loaded at Panama, or at least there was a longer delay in waiting for full complements to be placed on board. For this reason, Wheelwright believed, coaling there might still be feasible. With the longer stop over, it made sense for the company to use the down time to coal their vessels. In the final analysis Wheelwright concluded that the company's arrangements, along with the improvements he effected on the spot, were about the best that could be expected. He stated that "with...our improved arrangements in Payta, 4 hours is quite sufficient to coal, and that time will always be regular so that on reviewing the whole system, I do not see in what way I can suggest an improvement."[56]

55

Portsea (name also given as *Porta*) and *Cecilia* were originally barque-rigged sailing vessels. *Portsea* was built in 1808 for the London-Calcutta trade. *Cecilia* was used on the Clyde-Australia run by Alexander & Company from 1815; she was lost in 1847, the same year as Wheelwright's report to the Directors, and was replaced with the *Queen of the Ocean*. PSNC fleet historian Duncan Haws was unable to find any substantive information on the *Jasper*. Wardle, "West Coast (1)," 109; and Haws, *PSNC*, 95.

56

NML, MMM, MAL, B/PSNC, Administration, Business letters, 9 August 1847. Eventually regional coal supplies, especially from Talcahuano, Chile, did aid PSNC. Both Wheelwright and Peacock surveyed the coast, finding Talcahuano to be the most suitable area for the company's coaling needs. Wheelwright contracted for the resource, starting a new Chilean industry when a mine was opened with its own pier and railway in early 1841. By the end of the year the mine had produced 4,000 tons of coal, keeping steam operations going until

As with many steamship ventures in this period, coal consumption was a drag on the efficiency of the vessels. Indeed, the question of technology – an undercurrent of this entire work – was central to company planning at this stage and remained so for most of PSNC's subsequent history.[57] Pacific Steam was certainly onto a good idea, but they would have to wait on the engineers and further improvements in the marine steam engine for the service to reach its full potential. Looking at the matter from the perspective of the 1840s, it was a close thing as to whether this would be possible before the company's finances dragged

---

suitable stocks of British bituminous coal were collected. As of mid-1843 PSNC had spent £2,194/3/8 in developing the mine. By 1844 British shippers discovered a lucrative return cargo in the form of guano (bird manure used as fertilizer), and were arriving in western South America with coal cargoes that doubled as ballast. Thereafter Chilean coal production declined. NML, MMM, MAL, B/PSNC, Administration, Directors" Reports, 18 August 1843, 12; Duncan, "Chilean Coal and British Steamers," 276-279; Duncan, "Captain George Peacock," 22; and Duncan, "*Chile* and *Peru*," 256. Refer also to Wheelwright, *Mr. Wheelwright's Report*, 18-21.

57

The development of marine steam technology and the economics of such is covered in some detail in Chapter Four. This question was pervasive in seaward industry for much of the nineteenth and early twentieth centuries. Some companies, like Brocklebanks, were able to sidestep the issue for many years simply by the nature of their trades and company structure. Pioneers like PSNC and Isambard Kingdom Brunel took great risks when choosing the route of innovation. In Brunel's case the ideas were simply too advanced, and his steam leviathan *Great Eastern* was a commercial failure, unlike his previous ventures, *Great Britain* and *Great Western*. In many instances developments had to wait for, and feed off, one another. Steamers were dependant on advances in engines, which in turn relied on progress in metal hull technology and propellers. Overall, the steam shipping industry was constrained, like a convoy, to the pace of its slowest element. Milne, *Trade and Traders*, 23. On Brunel, see Alan Buck, *The Little Giant. A Life of I.K. Brunel* (Newton Abbot, 1986); and Howarth, *British Sea Power*, 368-370, 373-378, 381, 396. The issue was not confined to commercial ventures. With the complete conversion of the major navies to steam in the mid-nineteenth century the whole concept of maritime warfare changed. Prior to this point the Royal Navy and others could range over the globe propelled by wind alone. Britain and its empire had to be on guard at all places and in all times. With the advent of steam and the limitations imposed by coal consumption, the entire strategic outlook changed. As Marc Milner commented, "[g]iven the limited range of steam-fired ships, the general lack of foreign bases, and the preponderance of the British fleet, no coal-fired raider – let alone a battle fleet – could expect to survive long outside its home waters." Marc Milner, *Canada's Navy: The First Century* (Toronto, 1999), 10. See also Andrew Lambert, *Battleships in Transition : the Creation of the Steam Battlefleet, 1815-1860* (London, 1985).

them under – an opinion expressed by others previously.[58] If the company failed, Pacific South America would be left to await another man of vision like Wheelwright before another permanent service of this type came into being. For the moment Wheelwright understood that the company was at the mercy of British coal prices; the quantity and quality of the fuel found locally; and the uncertainties of South America's weather patterns.

The Directors also asked Wheelwright to look into other areas of the trade that related to technology. These included the mail service, services to minor ports and the condition of the steamers themselves. On the first issue, the Board was most concerned that mails were delivered punctually and regularly on all occasions. The minor ports at which PSNC steamers called were also an issue, as the Directors thought it better to discontinue service to such harbours unless local merchants were more forthcoming in providing profitable amounts of goods for carriage.[59]

Regarding the mails, Wheelwright replied that the service had been running with as much "order and regularity" as possible under the circumstances. Customers in general appeared pleased with Pacific Steam's service, and all ports had been receiving their mail.

58

The author of a 1923 article in the Mersey Dock Board Staff Guild's periodical commented: "Had I been alive at the time [circa 1845], and a diviner of horoscopes, I might, or might not, have foretold the measure of good fortune which the gods had in store for [the PSNC]." "Origin of the Pacific Steam Navigation Company," 16.

59

NML, MMM, MAL, B/PSNC, Administration, Business Letters, 14 January 1846, 2. Another matter that recurs in this correspondence is that of issuing precise instructions to masters. The object of these regulations was to ensure maintenance of the company's primary attractions for shippers and passengers – speed and regularity. PSNC issued such orders for many years in the form of handbooks, not just to masters, but also to engineers and other personnel. A number are preserved in the Maritime Archives and Library at the Merseyside Maritime Museum. See NML, MMM, MAL, B/PSNC, "PSNC, Instructions for Masters," various years.

There was some delay in Panama, but this was beyond company control since it was caused by waiting for the connecting service from Britain. It was in addressing these concerns about the mails that Wheelwright was led into technical matters. Southerly winds, blowing up from the Antarctic, still caused service delays, which were a cause for complaint among certain Chilean patrons. The scheduled arrival date at Valparaiso was the twenty-eighth of each month, but occasionally this was off by as much as eight days, creating problems for the city mails. In Wheelwright's opinion, new developments would soon remedy this difficulty. Both the *Peru* and *Chile* were to undergo refits, which were to include the installation of new tubular boilers. The increased power would allow PSNC greater punctuality and would satisfy both the governments and the public.[60]

The question of the minor ports was also bound up in technological concerns. Wheelwright did not see the need to eliminate these ports from the company's schedule, but he did feel that visits to such places must be limited strictly to no more than two hours. Collectively, PSNC earned US $1,800 per call from these ports, and he pointed out that on the northward passage little time was lost by putting in to them. On the southbound leg, owing to the strong southerly winds Callao could be made late each evening, but this would mean putting on full steam, thus sacrificing profits to increased coal consumption. The

---

60

NML, MMM, MAL, B/PSNC, Administration Business Letters, 9 August 1847. The mails were a natural source of concern for PSNC. Robert Greenhill, "Latin America's Export Trades and British Shipping," 248, asserts that privately arranged government mail contracts gave PSNC (and Royal Mail) a virtual monopoly of steamshipping in their sphere of operations. This discouraged competition, constrained the amount of tonnage available to shippers and kept rates up.

steamer could not be berthed at night in any case, and more time would be lost the following morning. Again, the introduction of the new engines could surmount the problem. Wheelwright noted that "with powerful steamers we should save at least three days on the round voyage, as compared to the time occupied at present."[61]

Despite such continued problems Wheelwright, ever the optimist, predicted good things for the future, including an annual gross revenue from a bi-monthly service of $341,152. This optimism is perhaps understandable given his own self-interest concerning the PSNC's fate. With the advantage of hindsight, it is easier to share Wheelwright's faith in his creation and in the continued value of steam to South American transport. He prefaced his 1847 report to the Board of Directors in the following terms:

> ...the interest of the company, its security and prosperity, will be...promoted [by a bi-monthly steam service], the welfare and convenience of the public...with increased facilities will contribute to our revenue, which will be fully sustained when all the arrangements have been carried into effect ... [L]ast year's traffic shows an excess per voyage as compared to the previous year – the result in part of greater regularity, the reduction in the number of voyages – but mainly from the extension to Panama and the consequent transfer of Atlantic passenger traffic from Cape Horn by our steamers, to the Isthmus – added to the natural increase of receipts from a line of coast 1,500 miles in extent, and intimately connected by commercial interchange with Peru and Chile.[62]

Whether PSNC would "make it" in the long run was still debatable, but the confident

---

61

NML, MMM, MAL, B/PSNC, Administration Business Letters, 9 August 1847, 7. See also Greenhill, "Shipping 1850-1914," 123.

62

NML, MMM, MAL, B/PSNC, Administration Business Letters, 9 August 1847, 2.

Liverpool Directors, as well as William Just and Wheelwright himself, took a proactive approach to the service, ensuring that they remained a cutting-edge enterprise. At this point PSNC's trio of vessels could hardly be called a proper fleet, and they were far from being a major player among Liverpool shipowners. But this would change rapidly. The year 1847 was something of a turning point for the fledgling company, for this was the year in which investors earned their first dividend, even if it were only two and a half percent. By the time Wheelwright reported back to the Board, another steamer, the iron-paddle wheeler *New Granada*, had already been completed by Smith and Rodgers of Govan.[63] The 773-ton *Bolivia* was added in 1849, steaming out to Valparaiso in October. The *Ecuador* meanwhile had not met expectations and was sold. It was at this point that the Directors decided to embark on what became a hallmark of PSNC in the nineteenth century – investment in a large increment in tonnage. When the government mail contract was extended in 1850, the Board invested £140,000 to acquire four new steamers, *Lima, Santiago, Quito* and *Bogota*. As with many of PSNC's vessels, all these were built on the Clyde and powered by 400-horsepower engines. To date PSNC had escaped any serious misfortune to their vessels, apart from the episode in which *Chile* struck a reef. In 1852, however, the venerable *Peru* was stranded and became a loss, and in May the *Chile* was sold. Another intended addition to the fleet was the small steamer *La Perlita*. But this ill-fated craft was destined to never

---

63

Kennedy, *History of Steam Navigation*, 60; and Wardle, *Steam Conquers the Pacific*, 74. Many of PSNC's vessels were named after the nations they served. *New Grenada* reflected this trend. Built in 1846, it was given the contemporary name for the Republic of Columbia. Haws, *PSNC*, 30.

see South America. It departed the Mersey under the command of Captain Maughan, but vanished without a trace while en route. The little steamer *Osprey*, intended for a Callao, Pisco and Huacho service, suffered the same fate in 1853.[64]

In the main, however, these were good years for the company. For most of the two decades after 1847 profits climbed steadily. By September 1850 the Directors were able to announce a dividend of ten percent, four times the level achieved just three years earlier. Besides the standards of service which Wheelwright and the company Directors imposed, a good deal of the credit for the turnaround must lie with PSNC's continued innovation and adaptability. In late 1853 the company invested in their first screw steamer, the 573-ton *Valdivia*, constructed by Caird and Company – it was the only PSNC screw vessel ever built of wood. Despite the acquisition of *Valdivia*, PSNC continued purchasing paddle-wheelers for some time thereafter. In 1860 PSNC made their first foray into steel construction with the small, 132-ton passenger tender *Morro*. Yet the most important technological adoption in this period was neither the screw propellor nor the introduction of steel vessels. We have noted in detail the problems associated with fuel consumption in this early period, and the

---

64

Duncan, "*Chile* and *Peru*," 273; Wardle, "West Coast (1)," 109-110. See also *Gore's Liverpool Advertiser*, 25 October, 1849. The South American service was never easy on vessels and crews. In 1853 the newly acquired *Hope* was lost with a cargo of coal. The *Quito* wrecked that same year bound from Panama to Valparaiso. Three years later the screw steamer *Panama* departed Liverpool for South America but struck on a rock near Point Tamar. In December 1857 the *Valdivia* was lost after stranding off Valparaiso. From 1840 to 1877 more than twenty company vessels were lost, with a number wrecked, capsized and burned. See NML, MMM, MAL, B/PSNC, Administration, Directors' Reports, various years; *Pacific Steam Navigation Company Handbook*, various years; "Pacific Steam Navigation Cos. Steamers on West Coast," n.d.; BT 107/108, Liverpool Vessel Registries, various years; Wardle, "The West Coast Route (2)," 206; Haws, *PSNC*; and *Lloyd's Register of British and Foreign Shipping* (London, various years).

most important transition was the introduction of the compound reciprocating engine.[65]

The point has been made more than once in this study that steam only became practical on longer routes as engine efficiency increased and fuel costs dropped. Once this process was complete steamers could not only outperform sail in terms of regularity of service but could also operate economically on the longest routes. Innovations in marine steam technology were almost continuous throughout the later nineteenth century, although most developments were in themselves marginal. The exception to this, in terms of its immediate impact, was the perfection of the reciprocating engine. John Elder (1824-1869), in partnership with Charles Randolph, took out the first patent for a compound marine engine in 1853. The engine operated by having the pistons of the high- and low- pressure cylinders move in opposite directions, with diametrically opposed cranks. The first vessel to employ this technology was the screw steamer *Brandon* in 1854. The importance of this development to shipping in general and to PSNC in particular was that it dramatically reduced the rate of coal consumption on vessels using the engines. With the introduction of the compound engine, long-distance operations by steamers were for the first time a practical alternative to sail.[66]

65

Wardle, *Steam Conquers the Pacific*, 87; Wardle, "West Coast (1)," 110; Kennedy, *History of Steam Navigation*, 60; and Haws, *PSNC*, 15 and 32.

66

J. Graeme Bruce, "The Contribution of Cross-Channel and Coastal Vessel to Developments in Marine Practice," *Journal of Transport History*, IV (1959) , 74; C. Knick Harley, "The Shift from Sailing Ships to Steamships, 1850-1890: A Study in Technological change and Its Diffusion," in D.N. McCloskey (ed.), *Essays on a Mature Economy: Britain After 1840* (London, 1979), 216; and Gerald S. Graham, "The ascendancy of the Sailing Ship 1850-85," *Economic History Review*, 2nd Ser., IX, (1956), 83. One of the first major users of the compound

For the fuel-hungry craft of Pacific Steam's fleet, this innovation could not have come too soon. In 1856, only three years after Elder was awarded his patent, PSNC ordered the *Inca* and *Valparaiso*, 290 and 1,060 tons, respectively. Ordered directly from John Elder and Company, the pair of iron paddle steamers marked one of the first times that the new engines were employed by an oceanic steamer company. This was more than fourteen years before other owners (excepting Alfred Holt) began regularly employing the technology. PSNC was once again on the leading edge of technology. This decision paid dividends, and it is was no coincidence that this was the same period in which PSNC achieved their first great upturn in commercial viability.[67]

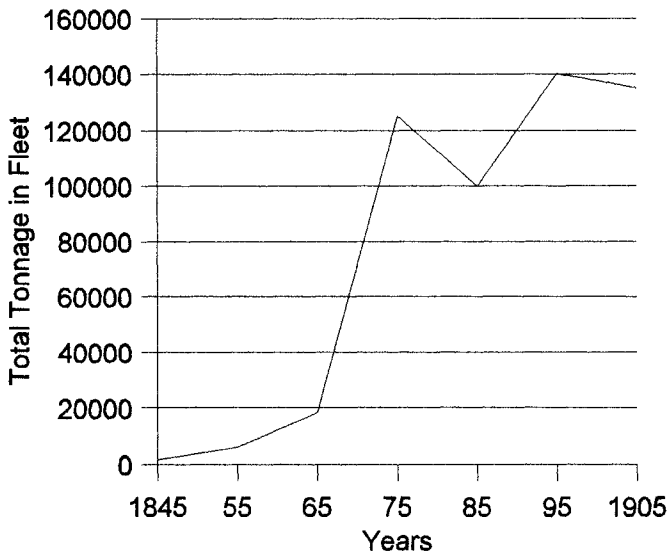
---

engine was Liverpool's Alfred Holt. In 1862 Holt produced his own version of the Randolph Elder engine, and three years later fitted these to the 2,300 ton vessels *Agamemnon* and *Ajax*. With their pioneering voyages to Shanghai, Holt inaugurated his Ocean Steam Ship Company (Blue Funnel Line) and regular steam navigation between Europe and East Asia. The vessels were built by Scott & Company of Greenock at a cost of £156,000. Their Holt-designed engines consumed an average of twenty tons of coal per day on the maiden voyage, running at about ten knots. The vessels' designed steam pressure stood at sixty-nine lbs, in contrast to the mere ten lbs common in most steamers of the day. A sister ship, *Achilles*, followed in 1866. Duncan Haws, *Merchant Fleets: Blue Funnel Line* (Burwash, East Sussex, 1984), 15-16 and 41-42; Francis Hyde with J. R. Harris. *Blue Funnel. A History of Alfred Holt and Company of Liverpool from 1865 to 1914* (Liverpool, 1956), 19; Malcolm Falkus, *The Blue Funnel Legend. A History of the Ocean Steam Ship Company, 1865-1973* (London, 1990), 1; and Hope, *British Shipping*, 300-301.

67

Wardle, "West Coast (1)," 110; Kennedy, *History of Steam Navigation*, 60; Chandler, *Liverpool Shipping*, 142; and Haws, *PSNC*, 32. The company's application of new technology was not without risks. On 16 October 1876 the after hold of the *Puno* exploded, tearing a large hole in its saloon and killing three persons. As an experiment the hold had been modified to carry bananas in carbon dioxide at low temperatures. Haws, *PSNC*, 45.

Graph 9.1
PSNC Tonnage 1845-1905, Select Years.



Source: BT 107/108, Liverpool Vessel Registries, various years; Arthur C. Wardle, "The West Coast Route (2)," *Sea Breezes*, XXIII (September 1956), 200-206; Wardle, *Steam Conquers the Pacific. A Record of Maritime Achievement*,(London: 1940), 189-194; NML, MMM, MAL, B/PSNC, Administration, *Pacific Steam Navigation Company Handbook*, various years.

Perhaps the most astonishing statistic relating to PSNC during their first three decades of operation was their growth. Starting with only the original two craft in 1840, by 1877 the company had acquired eighty-seven vessels in total. Some of the company's vessel orders rank among the most ambitious in the history of Liverpool shipowning. In 1870, for example, PSNC ordered five new steamers at a total tonnage of 25,019, costing £630,044. At the time this was the largest building order placed by a single company in one year. More was to follow. The next year thirteen new vessels of a combined 39,780 tons, joined PSNC's

fleet, costing the firm £1,174,401. Graph 9.1, above, graphically illustrates the effect these early 1870s purchases had on the company's size. In 1865, after twenty five years in operation the PSNC still ran just under 18,000 aggregate tons, although this was about three times the level of a decade earlier. By 1875 the company had again expanded almost six-fold, with well over 100,000 gross tons of shipping, making them among the largest steamship companies on Earth. This astonishing growth was made possible by the increased efficiency of the service from the 1850s on, not to mention a widening of the firm's interests in South America.[68]

By the 1860s PSNC was actively working toward the expansion of their routes, and this factor necessitated an enlarged fleet. Whether the massive addition of tonnage would be too much for the needs of the region remained to be seen. The four steamers acquired in 1852 for the mail contract were employed on a bi-monthly run from Valparaiso to Panama. In 1865 the company sought, and was granted (on 15 June), an extension of their operating charter. Under the supplementary charter PSNC could now operate not only on the west coast but also to the River Plate, including the Falklands.[69] Even more importantly, the company was authorized to operate tonnage to "such other ports or places in North and

---

68

Chandler, *Liverpool Shipping*, 143-144; NML, MMM, MAL, B/PSNC, Administration, *Pacific Steam Navigation Company Handbook*, various years; "Pacific Steam Navigation Cos. Steamers on West Coast"; BT 107/108, Liverpool Vessel Registries, various years; Wardle, "West Coast Route (2)," 206; Haws, *PSNC*; and *Lloyd's Register of British and Foreign Shipping* (London, various years).

69

NML, MMM, MAL, B/PSNC, Pacific Steam Navigation Company, Supplemental Charter No. 1, 1865, 1; "Humble Petition of the Pacific Steam Navigation Company," 2; "Trade of South America," 68; and Kennedy, *History of Steam Navigation*, 60.

South America and other foreign ports" as the company thought necessary.[70] This clause was important because it greatly expanded the area in which the PSNC was authorized to trade. Two years later a supplementary charter enlarged Pacific Steam's potential sphere of operations even further. According to the supplement, company vessels were now free to pursue lawful trade "along the shores of North and South America, in the Pacific Ocean; and likewise from or between those shores and the coasts of China and New Holland [Australia]...and also from or between the ports of...Central America, and Mexico, in the Atlantic Ocean..."[71] (For the full text of this charter see Document Four).

Up to the mid-1860s PSNC had run an exclusively South American service, with their vessels acting essentially as coasters on the continent's long western shoreline.[72] Passengers arriving from Europe did so first on other lines' vessels and then crossed over the Isthmus via the Panama Railway. After clashing with the railway over its refusal to give PSNC the same reduced through rates granted to cargoes heading to American ports, the company determined to inaugurate a direct steamer service from Europe to the Pacific coast of South America. This idea was also on the minds of the Chilean authorities, who wished to see the whole service overseen by a single company. A PSNC shareholder meeting in

---

70

NML, MMM, MAL, B/PSNC, Pacific Steam Navigation Company, Supplemental Charter No. 1, 1865, 1; and "Humble Petition of the Pacific Steam Navigation Company," 2.

71

NML, MMM, MAL, B/PSNC, Pacific Steam Navigation Company, Supplementary Charter No. 2, 1868, 1; and "Humble Petition of the Pacific Steam Navigation Company," 2.

72

This was exclusive of colliers making runs back and forth to Britain and Europe.

December 1867 proposed a Liverpool-Valparaiso service via the Straits of Magellan and an increase in company capital to £2,000,000 in order to keep pace. The new Royal Charter was granted on 3 December 1867 to accommodate this expanded itinerary and increased capitalization. The service commenced on 13 May 1868 when the paddler *Pacific* departed Valparaiso for St. Nazaire and Liverpool. The passage took forty-three days with the vessel carrying a full cargo and £65,000 in specie. By July she departed the Mersey on the return leg of the voyage. In March of the following year the 2,800-ton *Magellan* steamed out of Liverpool to inaugurate a regular monthly service to Valparaiso. This vessel and its sisters, *Patagonia*, *Araucania* and *Cordillera*, were all equipped for the carriage of 145 first, 75 second and 300 third-class passengers, along with 2,500 tons of cargo. With the addition of these four vessels and a reduction in freight rates, PSNC's passenger and cargo traffic grew beyond anything Wheelwright and the early investors had envisioned. Sailings from Liverpool soon stood at three per month, and the company had to charter tonnage to keep up with demand. In January 1873 a weekly mail service was inaugurated between Liverpool and Callao, and in one year the company's steamers covered over 1,000,000 miles (a total of forty-five round trips). Likewise, services to continental – especially French – ports produced such quantities of cargo that the number of company steamers was often inadequate. So as not to incur the displeasure of shippers or provide competitors with an opening, PSNC purchased a fair amount of second-hand tonnage just to keep pace. This was

in addition to the huge orders for new tonnage.[73]

In retrospect we may wonder at the wisdom of such capital expansion. A business owner is always taking a risk in expanding operations, and this may apply especially to the volatile business of shipping. Fleets could be expanded rapidly, but contraction was a much greater problem. Freight rates tended to fall over time, but it was not easy to dispose of surplus tonnage in times of economic downturn. To argue that PSNC maintained their long-term viability through sensible management cannot be dismissed lightly. On the other hand, was the growth in Pacific Steam's fleet reckless from a contemporary standpoint? On the surface, the answer might appear to be "yes." Freights, for instance, declined by almost two-thirds in the last third of the nineteenth century. This trend can only be seen clearly with hindsight, so PSNC's Directors cannot have been expected to take it into account at the time. At the same time it must be acknowledged that freight rates may decline due to increased efficiency, entailing lowered costs, and not simply as a result of an economic downturn. In such cases the company's Board was certainly not behaving irresponsibly when adding new tonnage to its fleet.

Even without the efficiency argument, there still appear to be sound reasons for periodic expansion – the company's Board was actually, and logically, following the pattern

---

73

Wardle, "West Coast (1)," 111-112; NML, MMM, MAL, "Humble Petition of the Pacific Steam Navigation Company," 2; Pacific Steam Navigation Company, Supplemental Charter No. 2, 2; Kennedy, *History of Steam Navigation*, 60; and "Trade of South America," 68. The weekly Liverpool-Callao service called at Bordeaux, Lisbon, Rio de Janeiro, Montevideo and Sandy Point in the straits of Magellan (See Appendix Fifteen). The first run was made by the 4,038-ton *Sorata*.

of economic events as they unfolded. If we refer back to Graph 9.1, it can be seen that the greatest expansion in the PSNC fleet occurred in the period from about 1865-1875, and in this same period (15 July 1873) another Royal Charter authorized the company to increase their capital to £4,000,000. C. Knick Harley's work on freight rates – based on the classic calculations of Isserlis and North – indicates that for the first five years of the period at least, freights, in sharp decline in the early 1860s, were on the rise. There was then another general rate decline, but by 1870-1871, when PSNC undertook their greatest expansion, freights were on the rise again. From about the mid-1870s to the mid-1880s freight rates again entered into a prolonged, sometimes precipitous decline, and Pacific Steam Navigation's tonnage also contracted, although it still remained well above 1865 levels. The next tonnage expansion occurred over the period 1885-1895. For the first half of this period freight rates were again rising, even if they never equalled their pre-1875 highs. In retrospect, it must be concluded that the growth patterns depicted in Graph 9.1 were not simply based on foolish speculation or ignorance but were firmly rooted in then-current economic conditions in shipping. Pacific Steam's Directors, if not gifted with prescience, were certainly practical realists in terms of their fleet.[74]

74

C. Knick Harley, "Aspects of the Economics of Shipping," in Lewis R. Fischer and Gerald E. Panting (eds.), *Change and Adaptation in Maritime History: The North Atlantic Fleets in the Nineteenth Century* (St. John's, NL, 1985), 169-170 and 181; and NML, MMM, MAL, "Humble Petition of the Pacific Steam Navigation Company," 2. See also L. Isserlis, "Tramp Shipping Cargoes and Freights," *Journal of the Royal Statistical Society* (1938); Douglass C. North, "Ocean Freight Rates and Economic Development, 1750-1913," *Journal of Economic History*, XVIII (1958), 549-551; Saif I. Shah Mohammed and Jeffrey G. Williamson, *Freight Rates and Productivity Gains in British Tramp Shipping, 1869-1950* (Cambridge, MA, 2003); and Lewis R. Fischer and Helge W. Nordvik, "Maritime Transport and the Integration of the North Atlantic Economy, 1850-1914," in Wolfram Fischer, *et al.* (eds.), *The Emergence of a World Economy 1500-1914* (2 vols., Wiesbaden, 1986),

The growth of PSNC's fleet and trade also meant that larger accommodations were needed at head office. The office was moved to Castle Street around 1870 and then, only a year later, to James Street. In time the decision was made, in accordance with an arrangement with the Mersey Docks and Harbour Board, to relocate PSNC's loading and discharging berths across the Mersey to Birkenhead, where new offices and workshops were also added. From this point cargo from Liverpool would be received at Duke's Dock and forwarded to Birkenhead, while inward cargoes would be landed at Morpeth Dock on the Wirral side of the Mersey. Consignees could then arrange to have them transferred to Duke's Dock if they so wished. Along with their ever-expanding fleet, this relocation garnered PSNC the nickname "The Birkenhead Navy." The move to Birkenhead marked but one change in circumstances. The 1870s and beyond saw Pacific Steam dealing with many vicissitudes, not all of them positive. How well the company weathered these storms

---

II, 519-544. Another good, and concise, discussion of freights is found in Cottrell, "Steamship on the Mersey," 144. There are few in-depth examinations of freight rates for particular trades. Harley has produced one for Britain's coal export trade in the nineteenth century. He found that coal freights, although having a pattern somewhat their own, loosely followed the trends he found for overall rates in the period. There was a peak around 1860, with a general decline until about the turn of the twentieth century. As with freights generally, this was followed by a trough lasting about a decade and peaking again just after 1910. C. Knick Harley, "Coal Exports and British Shipping, 1850-1913," *Explorations in Economic History*, XXVI (1989), 311-338. According to Harley, freight rates are determined in the short term by more by demand than by supply. Over the long term, of course, rates are set by the conjuncture of supply and demand. The overall decline in rates in the nineteenth century can be attributed to a number of factors such as the decline in ship prices, especially for steamers; improved coal consumption; reduced crew sizes; and the weight of vessels as determined by construction materials (steel weighed less per unit than did iron). There were also variations in rates depending on the particular trade. In total, however, the trend was clearly toward falling rates. Perhaps the one simple rule about freights was that they were seldom determined by any one factor acting in isolation. See Harley, "Economics," 172 and 181-182.

remained to be seen..[75]

75

The Times, 18 November 1870, 2; and Wardle, *Steam Conquers the Pacific*, 116. The title Birkenhead Navy was still used in the mid-twentieth century, although by then PSNC again operated berths at Liverpool

Chapter 10

Pacific Steam Navigation Company II – New Horizons

By the early 1870s PSNC was arguably the world's largest shipping company, and it appeared that the problems of their early years were well behind them.[1] The years 1873-1874 were something of a watershed for the line, though, and in very few positive ways. Nonetheless, PSNC continued to demonstrate the adaptability that also served as one of its great comparative advantages. Its Orient Line service built upon their partners' own experience in the Australian trades, while closer ties with the Royal Mail Steam Packet Company provided a great capital boost to the firm in the immediate pre-war years. In addition, the company continued to employ cutting-edge technologies on its vessels until the eve of the Great War (and indeed well beyond).

In its early years William Wheelwright dominated PSNC operations. Although it was a publicly traded company with a Board and shareholders, Wheelwright's relations with both groups were such that he was able to influence the direction of PSNC's affairs to a great extent. Wheelwright retired from active management in 1852 and gave up his post as consulting resident director in South America three years later, but he still travelled extensively to promote the company's interests. In 1873 Wheelwright arrived in London, where he intended to settle, from the west coast of South America, but he died in the British capital on 26 September. Leaving behind a wife and daughter, he made one final ocean

---

1

Duncan Haws, *PSNC*, 17, makes the claim that when their coastal fleet was included PSNC was indeed the world's largest steamship firm.

voyage for burial in his native community of Newburyport.[2]

Wheelwright had been much admired in South America, not only for opening up the coast but also for other commercial and philanthropic ventures as well. He and the PSNC were known for their support of local school construction and for maintenance of clergy in the region. Wheelwright personally introduced gas and brick making; discovered the first coal deposits; and started the first railway; these activities and more earned him the title "benefactor of Chile." Pacific Steam Navigation also contributed to local infrastructure. Owning the islet of Morro in Panama Bay from 1859, the company built a gridiron there to haul up vessels for cleaning and repairs of hulls and engines; the facility became known as the "North Station." By 1865 PSNC was also promoting construction of an iron floating dock in the region. As an adjunct to such activity large workshops were put in place and a local workforce hired. Local hiring also applied to the company's steamer personnel. Crew Agreements for vessels such as the *Quito IV* indicate that the majority of crew members on PSNC's South American coastal service were native-born. On one voyage to Valparaiso and other ports late in the century, for example, sixty of seventy-three crew were South American nationals. On another run at the turn of the twentieth century the crew comprised ninety-one South Americans and twenty-nine others. This was not pure altruism on the company's part, however, as it made sense to recruit locally, and non-Europeans worked for

---

2

The Times, 27 September 1873, 1; Arthur C. Wardle, *Steam Conquers the Pacific. A Record of Maritime Achievement 1840-1940* (London, 1940), 120-122; Wardle, "The West Coast Route (1)," *Sea Breezes*, New series, XXII (July-December 1956)," 112-113; and Roland E. Duncan, "*Chile* and *Peru*: The First Successful Steamers in the Pacific," *The American Neptune*, XXXV, No. 4 (October 1975), 272-273..

lower pay. Contemporary social standards also applied. Europeans filled deck officer positions, as well as being engineers, head cooks, baggage masters, head barkeepers, and the like. Locals were normally found in more menial jobs, such as assistant cooks, ABs, ordinary seamen, servants, saloon workers, firemen and trimmers. Even with such distinctions, residents of this sometimes impoverished region fondly remembered the contribution of Wheelwright and his company. In February 1877 a statue of him was raised in Valparaiso at a ceremony attended by 5,000 people. A special "Hymn to Wheelwright" had been written for the occasion by a Professor Yanfranco. It was struck up by a band following the firing of a salute to PSNC's innovative founder. By this time, however, his brainchild had run into new difficulties. Wheelwright's death seemed to herald turbulent times ahead for the company.[3]

Before detailing these problems, however, something should be said concerning the

---

3

Wardle, "West Coast (1)," 112-113; John Willox, *The Steam Fleet of Liverpool: A Series of Historic, Statistical, and Descriptive Sketches, Tracing their Origin, and Showing the Progress and Present Condition of the Leading Branches* (Liverpool, 1865), 65-66; "The Origin of the Pacific Steam Navigation Co.," *Mersey: The Magazine of the Mersey Dock Board's Staff Guild*, III (July 1923), 16; Duncan Haws, *Merchant Fleets: The Pacific Steam Navigation Company* (Burwash, East Sussex, 1984), 16-17; and Great Britain, BT 100, British Empire Agreements and Accounts of Crew, *Quito*, various years. The gridiron was a clever, if low tech, solution to some of the traditional problems associated with ship repair. Previous to its invention, vessels needing work were heeled onto their sides at a beach, and repairs were effected at low tide. This process was inefficient for several reasons. First, cargoes had to be offloaded to relieve stress on the hull. Secondly, the hull had to be made watertight before every high tide. Finally, the craftsmen had to wait until the next low tide to resume work, which could in any event only be carried out on one side at a time. The gridiron, or tidal grid, alleviated the situation somewhat. It consisted of a series of bed logs, crisscrossed by other heavy timber. Vessels could be floated onto it at high tide and shored up for repairs. Although the gridiron still did not permit work at low tide, it did allow for simultaneous work on both sides of the vessel, along with minor repairs and inspections. Eileen Reid Marcil, *The Charley-Man: A History of Wooden Shipbuilding at Quebec, 1763-1893* (Montréal, 1995), 162. PSNC's importance as a liaison and good-will ambassador was not forgotten in Britain, either. Pacific Steam's chairman was traditionally appointed as Liverpool's Honorary Chilean Consul regardless of whether the Liberals or Tories were in power.

make up of PSNC's Board of Directors. As we have seen Wheelwright withdrew from active involvement in the company more than two decades before he died. Even before this date much of the company's decision-making was in the Directors' hands, and this must have been even more so after 1852. In fact, the personalities making up the board would have exerted a great influence on PSNC's operations and indeed, these men provide further evidence of the comparative advantage theme running throughout the thesis. We have noted that an important element of comparative advantage consisted of a person's information networks, along with the esteem in which they were held as a member of the port's business community (in effect, their trustworthiness). Some of the names associated with Pacific Steam's Directorate read like a who's who of Liverpool shipowning, and there can be no doubt that the extensive experience, interests and contacts these individuals brought to the table played a major role in PSNC's success through to the Great War.

George Brown, the company's first Chair from 1840-1844, was a founding Director of the Royal Mail Group. Brown's positive influence on the company was not simply engendered by the vital connection he brought with Royal Mail; at the very outset of their services it was Chairman Brown who presided over an elegant dinner at the West India Dock Tavern which included potential investors whom *The Times* described as "...many of the merchants...connected with the steam navigation of the empire."[4] It says something of Brown's importance to the company that he was the sole retention from the original BOD

4

The Times, 9 July 1840.

after Wheelwright successfully persuaded the shareholders to inaugurate a new Board. This was despite the fact that Brown was one of the signatories to a letter of 7 October 1843, dismissing (or attempting to dismiss) Wheelwright.[5]

Brown was but the first of many influential shipowners to serve on PSNC's Board. Another was Edward Percy Bates (Chair 1898-1899), whose family's connection with Brocklebanks, Anchor Line and Cunard was detailed in Chapter Eight. The Rankin family, whose firm Rankin Gilmour & Company and its branch houses had longstanding ties to the Canadian timber trade, were also represented on the PSNC Board for many years. Robert Rankin (Chair 1890-1897), was succeeded on the board in 1898 by younger brother John, who served until 1910. As a PSNC Director, John Rankin is especially useful in illustrating the many connections which such persons brought to the Board. Rankin served on the Mersey Docks and Harbour Board from 1900-1912; was a director and chair of the Royal Insurance Company; served as a member of the Liverpool and London Steamship Protection Association; was a member of Lloyd's Register of Shipping (Liverpool), along with his many philanthropic interests. Elder Dempster co-founder Alexander Elder also served on the PSNC Board, while his sibling John had a long association with Pacific Steam through his engineering firm, founded with partner Charles Randolph. A Director himself, John Elder was honoured when a PSNC vessel was christened the *John Elder* following the engineer's death in 1869. In the pages to follow we will frequently refer to decisions made by the BOD

5

Wardle, *Steam Conquers the Pacific*, 21-22, 35 and 61.

and we should always bear in mind the contribution men such as the Elders, Rankins, George Brown and Percy Bates made to the company over the years. By the 1870s, following Wheelwright's death, the Directors faced many new challenges. That these were eventually overcome is a testament not only to the experience they brought to the table but (like many other successful shipowners) their ability to adapt in changing times.[6]

In fact, it was not the loss of the founder alone that created setbacks for PSNC, but rather a combination of a number of factors, some of which they could not control. PSNC's £4,000,000 capital increase in 1873 had been intended to cover the new tonnage being added to the fleet, but the full amount was never subscribed. In the first half of the year PSNC's receipts continued in the black but fell off considerably thereafter. The weekly Liverpool-Callao service was at the core of their troubles. The charters arranged to maintain the service had been made at unfavourable rates simply to keep up scheduled sailings or to stay ahead of competition. This was combined with a trade downturn on both the east and west coasts of South America. In terms of gross revenue PSNC seemed to be doing well, with their Straits Line showing a working profit of £195,097/10/2. Similarly, the West Coast Lines

---

6

Ibid, 112; Peter N. Davies, *The Trade Makers: Elder Dempster in West Africa, 1852-1972* (1973; rev. ed., St. John's, NL, 2000), 20; and Jeremy, David J. (ed.). *Dictionary of Business Biography: A Dictionary of Business Leaders Active in Britain in the Period 1860-1980*. 6 vols., London, 1984-1986, IV. The Rankin family's connection to PSNC's board provides a link to another major shipowning firm. An important employee of Rankin Gilmour and Company was Thomas F. Harrison. Born in 1852, Harrison was related to the owners of the Harrison Line and had worked with the Inman Line for two decades. In 1917, when Thomas H. Harrison was co-managing Rankin Gilmour, T & J Harrison bought twelve of their vessels and the line ceased to exist. Aside from those detailed above, other prominent Liverpool shipowners to sit on the BOD included Arthur W. Bibby (Chair 1900-1908) and Thomas Rome (Chair 1908-1920). On the choice of directors for a publically-traded company refer to Chapter Nine and Graeme J. Milne, *Trade and Traders in Mid-Victorian Liverpool: Mercantile Business and the Making of a World Port* (Liverpool, 2000), 164.

returned £110,542/4/5. However, once fleet and property depreciation, plus the expenses of laid-up steamers were taken into account, profits were pared down to only £17,327/7/0. In addition, the exchange rate on Peruvian currency was depressed, forcing PSNC to make a good portion of their remittances in produce rather than currency. As a final blow the company had lost £37,908/6/1 on the sale of the vessels *Puno* and *Corcovado*. In the end net losses for the calendar year 1874 stood at £53,066/0/10. Combined with losses from the second half of 1873 the total stood at about £70,000.[7]

The depressed state of trade mentioned in the Directors' report for 1875 was severe enough that PSNC cut their weekly sailings in half with the approval of the Post Office. With this new schedule eleven of the company's steamers were now surplus and had to be laid-up at a cost of about £6,000 annually per vessel. *Inca* and *San Carlos* were sold in 1874, while the paddlers *Talca* and *Peruano* were converted into coastal coal hulks. Two newer steamers, the *Puno* and *Corcovado*, were also sold to the Royal Mail Steam Packet Company, which renamed them the *Para* and *Don*. At this point the large tonnage acquisitions of recent years must have seemed an unmitigated failure and a gross over-extension of the firm's resources. South American and indeed world trade hit a nadir about 1877 and another crisis apparently was looming for PSNC.[8]

7

National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), B/PSNC, Administration, Directors' Report, 1876; "Humble Petition of the Pacific Steam Navigation Company," 2; and Wardle, "West Coast (1)," 113.

8

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 1876; Wardle, "West Coast (1)," 113.; George Chandler, *Liverpool Shipping: A Short History* (London, 1960), 144; and "Trade of South America.

One of the primary concerns facing the company was fierce and increasing competition from a number of new rivals. In fact PSNC's tonnage expansion was, as noted, partly spurred by the fear of giving competitors an opening. This returns to the idea that once a shipowner had found a successful comparative advantage it had to be protected from incursions. Many firms, both British and European, had been casting glances toward the South American trades that PSNC had inaugurated. In the early 1870s White Star Line began a competing service when their vessel *Republic* sailed for Valparaiso and Callao on 5 October 1872. This turned out to be a double blow for PSNC as their own newly-built *Tacora* was lost off Cape Santa Maria, near Montevideo, on its maiden voyage trying to outpace the *Republic*. Along with White Star, both the Ryde Line and France's Compagnie Général Transatlantique were operating to South America. Ryde Line's service ran between Antwerp, Montevideo, Buenos Aires and Valparaiso, employing four vessels which operated under a Belgian Government contract; nonetheless, the service folded after only a few runs. Another French competitor was the Compagnie Maritime du Pacific (CMP) which started rate wars with PSNC in 1881. Further competition came from Harrisons, Brocklebanks' Calcutta trades rival. This firm's South American trade need not have competed with PSNC at all since it was primarily centred on the Brazilian port of Pernambuco. However, Harrisons were also involved in Carribean trades, with their vessels travelling to Barbados and north to Mexico for hides, ores and grain, returning with railway equipment and

---

How Developed and Conducted by the Pacific Steam Navigation Company," *American-European News Letter*, II (May-June, 1895), 68-69.

machinery. Their routes also took them south where cargoes could be sent to Pacific coast ports across the Panamanian Isthmus. This branch of the trade placed Harrisons in direct competition with PSNC. By the early twentieth century two more British firms, the Gulf Line, owned by the Greenock Shipping Company, and Lamport & Holt, were also active on the coasts as rivals to Pacific Steam Navigation.[9]

In the east coast trades a commercial rivalry also developed between the British firms and some new German interlopers. Although only recent entrants to the South American trades, the Germans nonetheless subjected east coast lines like Harrisons to severe competition. Although the east coast was not the principal arena of PSNC's activities, they were still one of the main participants when the British lines came to an understanding with their rivals. The step was seen as necessary, since competition was becoming especially harmful in years of low demand. With the amount of tonnage on the coast outpacing trade, freight rates (and profits) fell, making some form of working agreement a necessity. The answer arrived at was the same as in the case of Brocklebanks and Harrisons in Calcutta – a conference system. In 1896 the four main British firms, Lamport & Holt, Royal Mail, PSNC and Harrisons, reached agreement on freight rates and shipping capacity with their German competitors, Hamburg-Amerika, Norddeutscher Lloyd and Hamburg-Süd-Amerika.

9

Haws, *PSNC*, 16-17; John Kennedy, *The History of Steam Navigation* (Liverpool, 1903), 64; Wardle, *Steam Conquers the Pacific*, 115; Wardle, "West Coast (1)," 113; Francis Hyde, *Liverpool and the Mersey: The Development of a Port 1700-1970* (Newton Abbot, 1971), 110-111; Robert Greenhill, "Shipping 1850-1914," in D.C.M. Platt (ed.), *Business Imperialism 1840-1930. An Inquiry Based on British Experience in Latin America* (Oxford, 1977), 128; and P.M. Heaton, *Lamport & Holt* (Newport, 1986).

This marked the beginning of the Central Brazilian Conference under which a secret list of freight rates was agreed, combined with a deferred rebate of ten percent; the arrangements were administered by a paid secretariat. By 1913, in fact, most of the important shipping lines operating in the region were either conference members or at least adhered to their rules. This system was beneficial for the shipowners involved but likely hindered local traders, kept freight rates inflated, and may even have damaged local economies.[10] As Francis Hyde describes the process, "this trade, like so many others at this time, emerged from a stage of unregulated growth and had now become subjected (at least in the relationship of shipping space to cargo) to systematic control."[11]

Nonetheless, this area never replaced the west coast in importance for PSNC. Indeed, on the west coast from the 1870s the company's greatest rival was an amalgam of two Chilean coasting firms, the Compania Sud Americana de Vapores (CSAV), founded 1872. In CSAV's early years its presence encouraged rate-cutting, a situation that greatly eroded PSNC's revenues. In this era CSAV and Lloyd-Brasileiro were the only domestic lines of

---

10

Hyde, *Liverpool*, 111; Robert G. Greenhill, "Latin America's Export Trades and British Shipping, 1850-1914," in David Alexander and Rosemary Ommer (eds.), *Volumes not Values: Canadian Sailing Ships and World Trades* (St. John's, NL, 1979), 260-261; and Greenhill, "Bureaucrats, Businessmen and Bananas: The Colonial Office and Shipping Services in the West Indies, 1895-1925," in Lewis R. Fischer (ed.), *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies* (St. John's, NL, 1992), 77. See also, Great Britain, House of Commons, Parliamentary Papers (BPP), *Report of the Royal Commission on Shipping Rings*, (1909), XLVIII, Q 19092; and Adam W. Kirkaldy, *British Shipping. Its History, Organization and Importance*, (London: 1914), 174-202. This impact statement on the effects of conferences seems to contradict findings of the pre-war Commission. Then again, the Commission's focus would appear to have been on the impact to *British* shippers, not local traders and economies. Another of PSNC's German competitors was the Kosmos Company, which began seeking berths in 1874.

11

Hyde, *Liverpool*, 111.

any importance running tonnage to Europe and North America. In fact, CSAV still operates in South America today, using their original livery of red funnels with black tops.[12] Wheelwright himself had predicted such competition a quarter century earlier. The company's initial entry into the trades had been based on monopoly agreements with the governments of Chile, Peru and Bolivia. All were of limited duration, however, and the countries were always free to promote indigenous shipping. By 1847 the monopoly agreements were only three years away from expiry, and Wheelwright was concerned as to how PSNC would maintain their position. He was certainly correct to believe that "every Government wishes to see their local commerce conducted under their own flag. Peru and Chile will hold out every inducement to speculators..."[13] In fact, the Chilean government did grant CSAV generous subsidies and favoured them with government contracts. In Wheelwright's opinion it was only by keeping up a full and efficient schedule of sailings that PSNC could keep ahead of rivals while freeing themselves from dependance on government monopolies. Fears of government favouritism of national carriers were fully realized during the interwar years in the twentieth century. In 1922 Chile passed a cabotage law under which preference was given to local shippers at the expense of foreign operators like PSNC. It was

---

12

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 1876, 1; Wardle, *Steam Conquers the Pacific*, 142; Wardle, "West Coast (1)," 119; Chandler, *Liverpool Shipping*, 145; Greenhill, "Latin America's Export Trades and British Shipping," 3; and Haws, *PSNC*, 17.

13

NML, MMM, MAL, B/PSNC, Administration, Business Letters, 14 January 1846, 5.

a process Wheelwright would have well understood.[14]

Thirty years after Wheelwright wrote these opinions the tide of fortune appeared to be running against PSNC, but their affairs shifted in a new direction with an offer from London-based Anderson, Anderson and Company, along with F. Green & Co. These firms were looking to start a steam service to Australia to carry both mails and passengers. Both companies enjoyed a tremendous comparative advantage since in their role as brokers they were already intimately acquainted with Australian trade, possessing first-rate local knowledge and connections. They approached PSNC in hopes of chartering at least one, if not more, of their vessels for this run. After negotiations Pacific Steam agreed to the venture, which involved the loading of four steamers to Australia from London, an earnings agreement, and an option to purchase should the enterprise be profitable. It was intended from the start that, unlike rival P&O, the new venture would not limit itself to high-end trading but would handle a broad spectrum of traffic. On 28 June 1877 the first-PSNC chartered steamer, *Lusitania*, departed Britain, arriving in Melbourne after a forty- day passage – ten days better than the previous record time. Three other PSNC vessels, *Chimborazo, Cuzco* and *Garonne*, soon followed, inaugurating a monthly service that grew

---

14

NML, MMM, MAL, B/PSNC, Administration, Business Letters, 14 January 1846, 5; Haws, *PSNC*, 17; and Greenhill, "Shipping 1850-1914," 142. Despite their initial rivalry, PSNC and CSAV did form an acceptable working relationship. Pacific Steam's Directors at first considered purchasing the new line but settled on an agreed sailing ratio of 2:1 in PSNC's favour. The five-year agreement worked out also permitted CSAV to load south of Valparaiso but not north of Callao. In later years the firms worked even more closely together, pooling revenue and running joint services north of Panama. By then CSAV had achieved parity with PSNC and, Greenhill notes, "prevented a British monopoly of West Coast services." Greenhill, "Shipping 1850-1914," 142-143.

into the Orient Line. The service quickly became a success and Anderson, Anderson & Company exercised their option to buy the four steamers, which retained their original names.[15]

Australia has been mentioned as a destination of trade in Chapter Three, but it would be worthwhile briefly to recount the contemporary maritime situation of a continent that played a major part in PSNC operations for over two decades. The island continent lay about 12,428 miles (2 0,000 kilometres) away from Britain, and well into the nineteenth century it was cut off from most of the world except by sea. By the 1870s the isolation was slightly less complete as the submarine cable had reached Darwin in 1869. Except for information, however, everything, including people, needed to be imported, and the products of Australia's growing economy all came and went by sea until the 1930s. Shipping tonnage arriving in the colonies stood at 1,000,000 tons in 1850, a figure which rose to 14,200,000 by 1890. P&O inaugurated the first regular overseas service to Australia in 1852. Steamers soon followed, spurred on by the more efficient engines of the period and the opening of Suez. Still, the Australian trade was one of the more unusual in the Liverpool context. The port had a large outward trade with the colony by mid-century – more geared toward emigrants than goods. On the other hand, there was little direct inward traffic as most

---

15

Frank Broeze, "Distance Tamed: Steam Navigation to Australia and New Zeland from its Beginnings to the Outbreak of the Great War," *The Journal of Transport History*, X, No. 1 (March 1989), 8-9; Wardle, *Steam Conquers the Pacific*, 134-135; Wardle, "West Coast (1)," 113-114;Chandler, *Liverpool Shipping*, 144-145; Haws, *PSNC*, 17; Kennedy, *History of Steam Navigation*, 64; NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 6 May 1881; and Malcolm Gordon, *From Chusan to Sea Princess: The Australian Services of the P&O and Orient Lines* (North Sydney, NSW, 1985).

vessels returned by way of places such as India, where return cargoes were easier to find. Another destination of choice for return shipping was South America. Thus, extension of PSNC trade to the Antipodes was a natural progression, with the company once again building on their comparative advantages.[16]

The inauguration of the Orient Line's service, along with that of P&O, spurred the city of Melbourne to a striking period of growth in the 1880s.[17] In a larger sense the Orient Line and a number of their rivals, including the Aberdeen Line, placed Australia and New Zealand at the forefront of a growing trade in meat and dairy products to Great Britain. This development – like the company's own existence – was made possible by new technology and largely ended the paucity of outward cargoes from Australia. Although the Orient Line continued to operate primarily for passenger traffic PSNC, with their usual adaptability to new trends, inaugurated a service direct from Liverpool to the River Plate in 1880. Its steamers on this route, *Magellan, Araucania, Cordillera* and *Patagonia*, were all soon fitted with meat freezers.[18]

16

Frank Broeze, *Island Nation: A History of Australians and the Sea* (St. Leonards, NSW, 1998), 79-92; Milne, *Trade and Traders*, 58; Morton Rothstein, "Centralizing Firms and Spreading Markets: The World of International Grain Traders, 1846-1914," *Business and Economic History*, XVII (1988), 103-113; and F.E. Hyde, "The Expansion of Liverpool's Carrying Trade with the Far East and Australia 1860-1914," *Transactions of the Royal Historical Society*, VI (1956), 139-160.

17

For a readable history of this expansion, see Miles Lewis, *Melbourne: The City's History and Development* (2nd ed., Melbourne, 1995).

18

Broeze, *Island Nation*, 93; Chandler, *Liverpool Shipping*, 145; and Broeze, "Distance Tamed," 10. Refrigeration was not the only technical innovation of the period. In 1879 *Mendoza* joined the PSNC fleet. She was the first liner fitted with electric lights. The River Plate refrigerated meat trade is an interesting story in itself. The Royal

The Pacific Steam Navigation Co.
Incorporated by Royal Charter 1840....

MAIL and PASSENGER SERVICES

LONDON and AUSTRALIA (in Orient-Pacific Line), calling at Plymouth, Gibralter, Marseilles, Naples, Port Said, Suez, Colombo, Fremantle, Adelaide, Melbourne and Sydney.

LIVERPOOL and BRAZIL, RIVER PLATE and VALPARAISO, calling at La Pallice (Rochele), Corunna, Carril, Vigo, Leixoes (Oporto), Lisbon, St. Vincent (Cape de Verdes), Pernambuco, Bahia, Rio de Janeiro, Monte Video (for Buenos Ayres), Stanley (Falkland Islands), Punta Arenas (Straits of Magellan), Coronel and Talcahuano.

VALPARAISO and SAN FRANCISCO (California), calling at all the principal ports of **Chile, Peru, Ecuador, Colombia, Central America** and **Mexico;** also from **Valparaiso** to **Port Montt,** calling at intermediate ports.

CARGO SERVICE

From GLASGOW and LIVERPOOL. — Fast cargo steamers are regularly despatched from Glasgow and Liverpool, delivering cargo direct at Rio de Janeiro. Punta Arenas (Straits of Magellan), Corral, Talcahuano, Valparaiso, and at all the principal ports of **Chile** and **Peru.**

Source: NML, MMM, MAL, B/PSNC, Pacific Steam Navigation Company, advertisement, c. 1900.

Despite the positive aspects of their role, British companies such as the Orient Line were often resented for their power in Australia. By 1895 practically all of the Australian import trade was controlled by a few shipping conferences, often with similar memberships. In 1912 Orient, along with P&O, was able to delay an Australian Navigation Act for nine

---

Mail Group built twelve steamers specifically for the trade in the years 1903-1914. Two of their "A" class vessels alone, *Avon* and *Asturias*, cost the company £500,000. In 1914 the company established Royal Mail Steam Packet Meat Transports with a capital of £1,000,000. In the 1890s Australia and New Zealand exported almost twice the amount of lamb and mutton as the River Plate region. Up to the turn of the century the area concentrated more on livestock shipping, and its meat was considered inferior to the Antipodean product. Robert Greenhill, "Shipping and the Refrigerated Meat Trade from the River Plate, 1900-1930," *International Journal of Maritime History*, IV (June 1992), 69 and 73.

years that would have reserved the country's coastal trade to national carriers. In the interim, companies such as the Orient Line and their partners PSNC continued to reap the fruits from a new trade frontier. In these early years, in fact, this branch of trade was the most promising portion of Pacific Steam's business.[19]

For the first three years of PSNC's connection with Australia they remained simply a chartering company for Anderson, Anderson and Company. In 1880 the arrangement was changed and the Europe-Australia service became a joint venture for Pacific Steam and the Orient Line, with the sailings being conducted under the name of the latter. In addition, the frequency of sailings was doubled from monthly to bi-weekly. The first voyage under this arrangement was made by PSNC's *John Elder*; built by Elder's company and named to honour PSNC's association with the late builder and engineer. The original four Australian service steamers were also assigned to the bi-weekly run, along with the newly-built 5,386-ton *Orient*. By this stage PSNC's reach went far beyond the west coast of South America, and their livery could be seen over three-quarters of the globe (the ad above gives contemporary details on the full scope of PSNC's services in the period; for a complete listing of routes from the company's inception on, see Appendix Fifteen).[20] In 1881 the company Directors summed up the new Australian service in their report on the pervious

---

19

Broeze, *Island Nation*, 93-97; Broeze, "Distance Tamed," 15; and NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 3 May 1886.

20

"Trade of South America," 69; and Wardle, "West Coast (1)," 114.

year's business, noting that they had "decided to continue running five of the company's steamers in the Orient Line to Australia, thus maintaining, in conjunction with the Orient Company, a fortnightly service as heretofore."[21] The arrangement remained much the same until the 1890s when Australia was hit by an economic depression, followed by severe drought. Indeed, Australian shipping did not begin to recover until the second half of the decade. The Orient Line's revenues suffered, resulting in greater co-operation with PSNC. The line's name was changed to Orient Pacific, and PSNC placed their most luxurious passenger steamers on the route.[22] This was reflected in the way PSNC promoted their Australian vessels. A sailing of the 600-hp, 4,014-ton *Sorata* from London in 1880 noted that "[t]his magnificent vessel has all the latest improvements for the comfort of passengers and is well known as one of the finest and fastest vessels in the Pacific Steam Navigation Company's fleet.[23]

PSNC was simply continuing a tradition of offering a superior travelling experience to their clients. As in the case of *Sorata,* the vessels were noted for their good sea qualities and for being quite fast. The 6,077-ton *Orizaba,* built in 1886, for example, was equipped with 1,200-hp engines. The Australian liners could carry around 200 cabin plus 500 third-

---

21

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 6 May 1881.

22

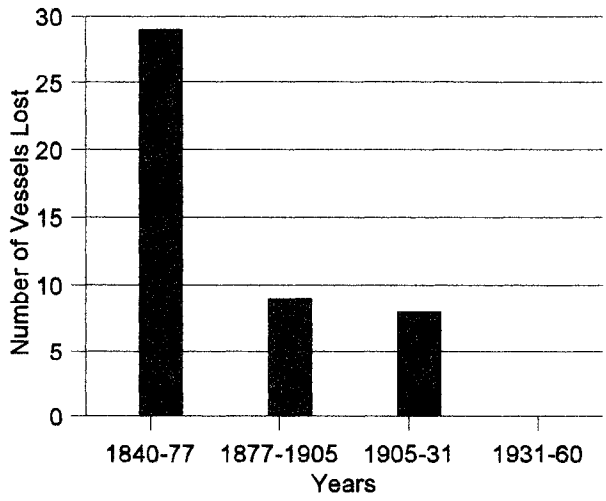
Broeze, "Distance Tamed," 14-15; and Haws, *PSNC*, 19.

23

The Times, 28 January 1880, 2; and NML, MMM, MAL, *Pacific Steam Navigation Company Handbook* (Liverpool, 1885), 5.

class, or steerage, passengers. The needs of upper-class travellers of the period were also taken into account. Special rates were charged for servants making a voyage with their employers. A second-class rate was charged for males, who were berthed in second-class cabins, and a two-thirds first-class rate for female servants, who travelled in the Ladies' Saloon. Before the end of the century all PSNC passenger vessels carried a house surgeon, stewardesses and other personnel for the convenience of passengers. The fare served on board the liners, at least to cabin passengers, was described as being "as good as that of any first class hotel."[24]

Graph 10.1
PSNC Vessel Losses, 1840-1960



Source: George Chandler, *Liverpool Shipping: A Short History* (London, 1960), 147.See also, Great Britain, Board of Trade (BT) 107/108, Liverpool Vessel Registries, various years.

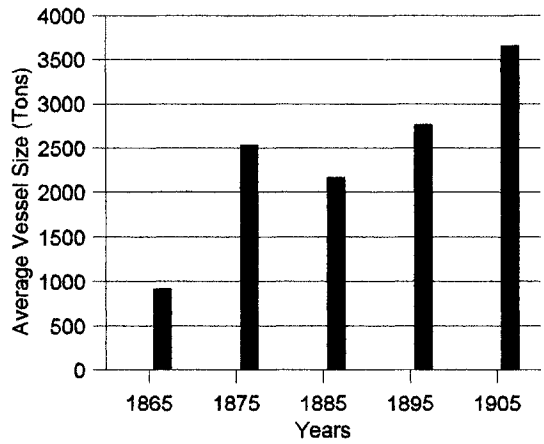
24

"Trade of South America," 69; NML, MMM, MAL, B/PSNC, *Pacific Steam Navigation Company Handbook* (Liverpool: 1885), 10; and Will Lawson, *Pacific Steamers* (Glasgow, 1927), 4.

Such comforts went hand in hand with safety. In its early days (and beyond) the company built its reputation on the modern, first-rate service provided. As an innovator, however, PSNC had to contend with losses. As Graph 10.1 demonstrates, PSNC's vessels losses declined markedly from the 1870s on, and from this period increased safety was almost as important a comparative advantage for PSNC as were their state of the art vessels. George Chandler suggests that an important reason for the increased safety of PSNC vessels during this period was an increase in size. In his opinion, this led not only to a need for fewer ships but also to safer ones. PSNC's largest bottom at the time was 9,239 tons, as compared to 4,671 tons in the era prior to 1877. Graph 10.2 illustrates the average size of the fleet's vessels from the years 1865 through 1905. Certainly the trend toward size is there, although there was a fall off from 1875 to 1885. A partial explanation may be found in the period's freight rates. Knick Harley's data show a marked decline in freights from about the mid-1870s to the mid-1880s (Adam Kirkaldy's freight series showed that mean outward freights from Britain were in decline until 1885, but that inward freights did not recover until about 1888). Combined with competitor incursions in the 1870s, plus the decline in world trade, lower freights may well have contributed to the company's retrenchment in terms of vessel size. Thereafter, the average tonnage of PSNC vessels rose at a fairly steady rate, at least in terms of the sampled years. The real difference came at the turn of the century, when average vessel tonnage stood at 3,651 compared to 2,762 in 1895. Likewise, although Chandler is probably correct to see increased size as a contributory factor in fleet safety, there appears little correlation to a contracting fleet in terms of actual numbers. In the years

1875, 1885 and 1895 the number of vessels operated by PSNC varied only between forty-eight and fifty. The greater change came, once again, after the turn of the century – by 1905 there were only thirty-seven vessels in the fleet, although aggregate tonnage was down just slightly from what it had been ten years earlier.[25]

Graph 10.2
PSNC Average Vessel Size, 1865-1906 (Selected Years)



Source: Arthur C. Wardle, "The West Coast Route (2)," *Sea Breezes*, XXIII (September 1956), 200-205; and BT 108, Liverpool Vessel Registries, various years.

25

Chandler, *Liverpool Shipping*, 144-145; Wardle, "West Coast (1)," 200-205; C. Knick Harley, "Aspects of the Economics of Shipping," in Lewis R. Fischer and Gerald E. Panting (eds.), *Change and Adaptation in Maritime History: The North Atlantic Fleets in the Nineteenth Century* (St. John's, NL, 1985), 170; Kirkaldy, *British Shipping*, Appendix XVI; Great Britain, Board of Trade (BT) 108, Liverpool Vessel Registries, various years; NML, MMM, MAL, B/PSNC, Administration, Directors Reports, various years; and *Pacific Steam Navigation Company Handbooks*, various years. Philip Cottrell basically agrees with Knick Harley's freight rate data for the period 1874-1879, although his assessment of the early 1880s is at odds with Harley's findings. According to Cottrell, "freights rose rapidly at the end of the 1870s with the revival of transatlantic trade." If Cottrell is correct, freights may *not* have been a direct cause of the fall-off in PSNC vessel size in 1885 as compared to 1875. Still, the company had experienced their share of problems in the decade and may have been gun-shy about overinvesting. P.L. Cottrell, "The Steamship on the Mersey, 1815-80. Investment and Ownership," in P.L. Cottrell and D.H. Aldcroft (eds.), *Shipping, Trade and Commerce: Essays in Memory of Ralph Davis* (Leicester, 1981), 144.

Through to the end of the century PSNC's Australian trade was one of the bright lights of their overall operations. On the other hand, the Directors never forgot the company's roots and connections with South America. Nor did they give up on efforts to develop service in their oldest region of trade. Yet their reports reveal a series of difficulties that hindered profitability. These problems serve once again as a reminder that companies such as PSNC cannot be viewed in isolation from their surroundings, as macroeconomic and geopolitical events have a constant and direct impact on operations and profitability. The dangers of western South America were apparent from the outset. PSNC's original steamer *Chile* was armed with a pair of two-pounder cannon for protection (although the small guns were probably better suited to firing salutes), and in 1852 *Lima* was fired upon by Guayaquil's shore batteries while attempting to land the mails.[26]

In 1879, only two years after the start of Pacific Steam's association with the Orient Line, the three nations which included most of their western South American ports of call went to war. The *casus belli* was nitrate production in the Atacama desert, a region disputed by Chile and Bolivia, and more specifically the presence of Chilean entrepreneurs in the area (not to mention severe economic problems in both countries, and Peru, which the region's resources might go a long way toward solving). The Bolivian Government had attempted to tax the Chilean-owned Antofagasta Nitrate and Railway Company but, meeting resistance, cancelled the firm's concession. Chile then occupied the Antofagasta region, declaring war

---

26

Haws, *PSNC*, 29 and 31.

on Peru on 5 April 1879. The latter nation was accused by Chile of egging the Bolivians on to secure more nitrate concessions for itself. This was not to mention the fact that Peru and Bolivia had actually formed an official defensive alliance in 1873. Bolivian armed forces played no real role in the conflict, known to history as The War of the Pacific. The main actions of the war were naval, involving the vessels of Peru and Chile. The Chilean Navy's victory opened the way to its capture of Lima in 1881. The war dragged on as a guerilla conflict until 1883 when a treaty was signed between Peru and Chile. For Chile the war marked its most successful international military foray. Its conquests brought the world's (then) only source of nitrates under Chilean control, and the country enjoyed a veritable monopoly over the product for the next forty years. Bolivia was the conflict's major loser, with all its Pacific coast territory ceded to Chile.[27]

27

P.J. Cain and A.G. Hopkins, *British Imperialism: Innovation and Expansion 1688-1914* (London, 1993), 308; Luis Ortega, "Nitrates, Entrepreneurs and the Origins of the War of the Pacific," *Journal of Latin American Studies*, XVI, No. 2 (November 1984), 377, 379; Duncan, "*Chile* and *Peru*," 252; J.R. Brown, "Nitrate Crises, Combinations and the Chilean Government in the Nitrate Age," *The Hispanic American Historical Review*, XLIII, No. 2 (May 1963), 230; and John Belchem and Richard Price (eds.), *The Penguin Dictionary of Nineteenth-Century History* (London, 1994), 654. This conflict was significant in a larger maritime context as well – it marked the first time two significant fleets of ironclads (Chile's and Peru's) engaged one another in wartime. A formal armistice between Chile and Bolivia was not agreed to until 1904, more than two decades after the shooting war ended. On the war, see Bruce W. Farcau, *The Ten Cents War: Chile, Peru, and Bolivia in the War of the Pacific, 1879-1884* (Westport, CT, 2000); William F. Sater, *Chile and the War of the Pacific* (Lincoln, NE, 1986); and Heraclio Bonilla, "The War of the Pacific and the National and Colonial Problem in Peru," *Past and Present*, LXXXI (1978), 92-118. The War of the Pacific was only one of many international conflicts which impacted on PSNC. On its maiden voyage from Liverpool to Valparaiso in 1862 the *Peru II* carried three cannon plus a Royal Navy gun crew due to the American Civil War. Only three years later *Talca II* under George Cambers was commandeered by Ecuadorian President Moreno for use against rebels. When the vessel arrived flying battle pennants the rebels fled. *Talca II* was returned to PSNC and resumed its voyage as though nothing had happened. In 1882 *Iberia* was requisitioned as a troopship for the Egyptian Arabi Pasha Campaign. Both *Lusitania* and *Britannia* were likewise requisitioned for six months, this time as armed merchant cruisers, following an 1885 threat of war with Russia after their troops invaded Afghanistan. In 1891 PSNC was caught up in the Chilean Revolution as ports suffered blockade, shipping was disrupted and cargoes appropriated. During the Boer War *Orcana* served as a hospital ship while *Orotava, Ortona* and *Orissa* were

This bitter conflict had a direct and negative impact on PSNC as well. As one might expect, local management tended to take sides in the conflict, although the company's official policy was strict neutrality. The economic and infrastructure side-effects were bad enough in themselves, and their was some direct impact on the fleet. *Amazonas*, first built in 1874 and acquired by PSNC in 1877, was purchased by Chilean government decree for use as a troopship during the hostilities. The Directors commented on the war's effects in their 1880 report:

> The prolongation of the war [of the Pacific] on the West Coast, and the blockade during nine months of Callao and neighbouring ports, which occasioned the removal of the company's head-quarters first to Ancon and afterwards to Chimbote, resulted in a serious stoppage of traffic and great extra expense in working the service.[28]

Nonetheless, the company's fortunes were once again on the upswing, and PSNC's

---

employed as troopships, respectively designated Transports No. 91, 12 and 18. The latter carried Lord Kitchener, Sir John French and Sir Ian Hamilton home from Cape Town after the end of hostilities. PSNC took delivery of the *Potosi II* in 1900, but it was soon sold to the Russians, who used it during the Russo-Japanese War as the *Kazan*. One of the company's small coasters, *Taboga*, was impounded by Colombia to use as a warship and only returned after intervention by the Royal Navy. Haws, *PSNC*, 35-36, 48, 56-57, 60 and 62; NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 3 May 1886; and Greenhill, "Latin America's Export Trades and British Shipping," 250. See also, BPP, *Correspondence on the Chilean Revolution* (1892), XCV, 151-411.

28

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 6 May 1881. The ultimate economic effects of the war on British interests in the region was generally less negative. The Chileans agreed to safeguard the interests of British creditors in Peru, while Britain pledged to remain neutral. Chile thus won the support of London bondholders and British companies operating locally. As P.J. Cain and A.G. Hopkins put it:

> British policy paid dividends. When the war ended...Chile's revenues grew rapidly...and her policy of co-operation with foreign interests was confirmed and extended. But Chile had to share her triumph by fulfilling her bargain with Britain. Consequently, the newly conquered Peruvian nitrate fields were returned to private foreign ownership...By 1890 Britain owned 69 per cent of the capital employed in the nitrate industry and took 80 per cent of Chile's exports. Britain's financial and cultural dominance had been consolidated. Cain and Hopkins, *British Imperialism*, 309.

revenue for 1880 stood at £130,439/0/4. The company was able to pay a dividend of £2 per share to their investors, with £12,269/0/4 remaining to be carried over. Despite the surplus tonnage remaining from the 1870s buying sprees, the company continued to invest in new tonnage. From 1887 until the end of their connection to the Australian service in 1905, Pacific Steam actually added another fifty-nine vessels to their already sizeable fleet. To make room for the new additions, older, surplus tonnage was sold off or converted into coal hulks, especially the now outdated paddle-wheelers. Five of these latter craft, the *Pacific*, *Peru*, *Bogota*, *Callao* and *Panama*, joined PSNC's large fleet of coal hulks along the South American coast. The *Chile* and *Payta* were bought by the Chilean government in November of 1880.[29]

The following year another four screw steamers were completed for PSNC by Laird Brothers of Birkenhead, adding another 8,331 tons to the fleet. Scott and Company of Greenock contributed *Osorno* and *Morro III*, while John Elder and Company completed the 2,309-ton iron screw vessel *Chiloe* in December. The *Santiago* and *Supe*, older craft dating from 1871 and 1867, respectively, were sold, with two more craft, *Quito* and *Truxillo* hulked. After the 1881 additions to their fleet Pacific Steam entered what was, for the expansion-minded company, a quiet period with no new tonnage added for three years. In 1885 – about when Harley and Kirkaldy noted a rise in freights, although the latter's findings applied to *outward* freights only – acquisitions resumed when the company acquired the

---

29

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 6 May 1881; and Wardle, "West Coast (1)," 114.

steel-hulled screw steamer *Manavi* from R. Napier and Sons of Glasgow. A year later the 6,077- and 6,057-ton sister ships *Orizaba* and *Oroya II* were built for PSNC by the Barrow Shipbuilding Company. These craft had accommodations for 692 passengers in first through third class and were capable of the impressive speed of 16.5 knots. Intended for the Australian service, the vessels also introduced a call at Italy's port of Brindisi. Mail was landed there, then transported overland to London by railroad, shortening the usual Bay of Biscay service by six days. PSNC's South American service likewise began landing mail at Milford Haven, shaving a day off London mails compared to a Liverpool terminus. At about the same time the *Santiago*, built 1872, was sold, and the *Supe* of 1867 withdrawn from service.[30] The additions to the fleet, along with the sales and retirements, represent a clear and consistent policy by PSNC, followed throughout much of the company's history. The goal was always to maintain the most speedy, comfortable and modern service possible to maintain customer loyalty against rivals such as the CSAV. For the most part these policies were successful, and new tonnage was added throughout the 1880s and 1890s. This was not only for technological reasons, however. The fleet's routes were by this time so extensive that the maintenance of first-class tonnage in sufficient numbers was practically essential.

The British Empire Crew Agreements give some idea of these routes. In 1890-1891,

---

30

Wardle, *Steam Conquers the Pacific*, 142; Wardle, "West Coast (1)," 119; NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 3 May, 1886; Haws, *PSNC*, 18-19; Harley, "Economics of Shipping," 170; and Kirkaldy, *British Shipping*, Appendix XVI. The four-masted *Orizaba* represented yet another milestone in PSNC vessel construction as the first straight-stemmed vessel to enter service for the company. It and its sister ship were the first to bear the "O" nomenclature that became a tradition among the firm's mail steamers.

for example, *Santiago IV*, under Horatio Hooker of Cornwall, was engaged on the South American west coast run. His crew was comprised almost equally of locals and others. The latter group included a number of nationalities, such as Britons, Swedes, Norwegians, Germans, French, Jamaicans, Spaniards and Dutch. For the six-month period starting in December 1890, Hooker cruised between the ports of Valparaiso, Guayaquil, Callao and Panama. In most cases the vessel stayed in port for three days or less, although it was at Callao from 31 May to 9 June 1891. This voyage pattern was typical of the vessel's movements over the next decade or so. As late as 1905 *Santiago IV* made a journey to the same ports of call under Charles Depei.[31]

Despite such busy schedules, the company's fortunes continued to fluctuate. The worst effects of technological shortcomings in the 1840s were long past, and the company had put the serious downturn of the mid-1870s behind it. Nonetheless, matters outside the Directors' hands were still a cause for concern. Their 1885 and 1890 reports give an indication of some of the tribulations that an international steam company like PSNC faced as the nineteenth century drew to a close. In the first of these reports the Board mentioned a year-long depression in the South American business. This commercial downturn was coupled with what was termed "frequent disturbances in Peru."[32] In the 1890 report the Directors noted that competition on the Straits and West Coast Lines likewise troubled the

---

31

BT 100, Agreements and Accounts of Crew, *Santiago IV*, various years.

32

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 3 May 1886.

company, as did a rise in the price of coal. For the first time the Australian service appeared in the report as a source of discontent, noted by the Directors as "serious labour strikes at home and in Australia."[33]

Although this strike occupied only one brief line in the Board of Director's report for the year, it was a central event in Australian labour history. The 1890 maritime strike was then the largest union action taken up to that time in Australia. In 1889 both Australian unions and the colony's middle-class had supported London's Great Dock Strike, although no support was forthcoming from Britain or Australia's own middle classes when their port workers walked off the job in 1890. The first union to go was the Mercantile Marine Officer's Association, after their claims for salary increases were rejected by shipowners. They were soon followed by sailors, dockworkers, coalminers and shearers – the latter two groups having trade union links with maritime labourers. 50,000 men were soon off the job. Colonial trade and finance, so dependant on seaborne linkages, appeared likely to collapse. Even as the walk-out started, however, shipowners such as the Orient Line and P & O allied themselves with merchants, bankers and officialdom to bring down the Unions. Non-union labour was forcibly imported under the protection of constables supplied by the governments of Victoria and New South Wales, both on the quays and at coal mines such as at Wollongong. By October the strikes were effectively broken, although sporadic flare-ups continued until 1893. At a time of recession, maritime employers still possessed sufficient

---

33

Ibid, 16 May 1891. The Chilean revolution of 1891 also created problems, as both the government and rebels believed PSNC was loading arms and war materials.

power to crush the strongest combinations of workers, much to the detriment of the latter.[34]

Troubles such as the Australian strike occasioned serious downturns in profitability. In 1880 PSNC's Pacific Manager had been forced to mothball a large number of steamers intended for the company's west coast lines. PSNC had wide-ranging interests, so a large fleet was a necessity. The price of such a large, modern fleet – as any shipowner knew – had to be paid whenever the market for tonnage was at a nadir and vessels had to be laid-up, as in 1880, or even sold at a loss. However, Pacific Steam were not lavish in the tonnage they ran, and in practice only those vessels associated with the competitive passenger trades were equipped with the most modern conveniences and were of the newest build. As Table 10.1, below, demonstrates, the average age of vessels in PSNC's fleet from 1885 through to the early twentieth century stood at over ten years, comparable to, if not older in aggregate, than Brocklebanks' fleet over the same period. From 1865 to 1895 the average age of the PSNC fleet almost trebled, although this fell significantly by 1905. The Directors learned their lesson from the oversupply of new tonnage bought in the 1870s. Older tonnage from this point on was often simply retained and brought up to date by refits. In 1890, for example, the *Aracania* and *Patagonia*, both 1869 vintage vessels, were fitted with new triple-expansion engines and boilers. Nonetheless, numbers of new, cutting-edge vessels were frequently added to the fleet so that passengers on prestige routes could always expect the

---

34

Broeze, *Island Nation*, 206-207.

finest in service.[35]

Table 10.1
PSNC, Average Age of Vessels, 1865-1905 (Selected Years)

Year	Average Age of Vessels
1865	6
1875	8
1885	11
1895	15
1905	10

Note: Average age of vessels rounded to the nearest whole number.

Source: BT 108, Liverpool Vessel Registries, various years; NML, MMM, MAL, B/PSNC, *Pacific Steam Navigation Company Handbooks*, various years; Arthur C. Wardle, *Steam Conquers the Pacific. A Record of Maritime Achievement 1840-1940* (London, 1940), 189-194; and Wardle, "West Coast Route (2)," 200-206.

Once vessels became too outdated for such work they were transferred to other services, usually more cargo-oriented, and were finally sold or hulked. In 1900, for example, South American trade was again down, and PSNC's Directors decided to sell the newly-built 5,300-gross-ton *Potosi* and to substantially alter the 5,896-gross-ton *Galicia* for use as a general cargo vessel. In actuality, it was the cargo side of PSNC's operations that came to dominate in the closing years of the nineteenth century. Until about 1890 economic wisdom had it that passengers were more important than freight carriage. By this date, however,

---

35

BT 108, Liverpool Vessel Registries, various years; Arthur C. Wardle, "The West Coast Route (2)," *Sea Breezes*, New series, XXXIII (September 1956)," 180 and 200-206; and NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 16 May 1891.

cargo shipping had grown exponentially and replaced passengers as the most important end of the shipping business, except perhaps on the Europe-New York route. In South America specifically, national prosperity was growing. Individual buying power rose, initiating a take off in Liverpool's export trade to the region. Return cargoes to Britain were also on the rise, and it was in this climate that PSNC ordered their earliest vessels specifically for cargo, with *Magellan II* the first to enter service in 1893.[36]

The goods transported from South America (and European ports en route) to Britain by PSNC tonnage over the years were quite varied. In July 1893 *Araucania* arrived at Liverpool under Captain Fletcher carrying a mixed manifest, a portion of which had been sold at Le Havre. The cargo included wool, sacks of metal, cotton, copper ingots, silver ore, rubber, lead ore, sugar, honey, ox tail, horns and antimony. On 8 August 1898 *Oropesa* docked at Liverpool with a cargo that included a number of the same items, such as cotton and wool, along with cottonseed, olives, Peruvian bark, skins, tin, potash, old brass, borax, gum, spermaceti, clover, oranges, orange plants, maize, tulipwood, apples, grapes, lemons, milk, lentils, tomatoes, onions and cheese. The imports were variously loaded at Valparaiso, Rio de Janeiro, Bahia, Lisbon and Corruña.[37]

36

NML, MMM, MAL, B/PSNC, Administration, Directors' Reports, 3 May 1886; 16 May 1891; 1901; and Haws, *PSNC*, 19. The company was at least partially on the right track, and a small dividend was paid to shareholders in both 1885 and 1890. The returns on PSNC shares were £1/17/6 in 1885 and ten shillings in 1890. Still, this represented a clear downward trend, starting from the £2 dividend realized in 1880. Although PSNC continued adding modern vessels to their passenger fleet, overall vessel numbers, through sales, conversions and hulking, remained fairly static in this period.

37

Great Britain, Customs, Bills of Entry, *Araucania*, 1893; and *Oropesa*, 1898.

By this time PSNC's safety record was much improved from their early years of operation (see Graph 10.1 above), and the Directors' reports for 1885 and 1890 both make the statement that "there has been no serious disaster to any of the steamers during the year."[38] Ironically, the year 1889 was marked by a spectacular misfortune, one of several that plagued the company in the *fin de siècle* period. The steamer *Cotopaxi* was involved in a collision with the German-registered *Olympia* under stormy conditions in the Straits of Magellan. The crew under Captain Hayes managed to beach their stricken vessel only to discover a twelve-by-six-foot hole and other smaller punctures the next day. *Cotopaxi*'s crew, assisted by her passengers, shifted cargo to turn the craft on an angle so its hull could be repaired. Fortunately, among the cargo were a large number of boiler plates, and some of the passengers were boiler makers. They and the PSNC engineers were able to use this material to repair the damage, and the vessel resumed its course on 11 April. Only two days later, however, another misfortune struck. The ill-starred vessel, travelling at thirteen knots, hit a rock in the Messier Channel, sinking in under ten minutes. The passengers and crew were more fortunate than the *Cotopaxi*. All 202 souls aboard got safely away in lifeboats,

---

38

NML, MMM, MAL, B/PSNC, Administration, Directors Reports, 3 May 1886; and 16 May 1891. Safety was not simply a concern for individual companies. As the nineteenth century progressed British governments generally took an increased interest in safety at sea, a preoccupation that was represented by numerous pieces of legislation and Royal Commissions; this attitude was presaged by the earlier efforts of voluntary organizations. See David M.Williams, "State Regulation of Merchant Shipping 1839-1914: The Bulk Carrying Trades," In Sarah Palmer and Glyndwr Williams (eds.), *Charted and Uncharted Waters* (London, 1981), 55-80; Williams, "Mid-Victorian Attitudes to Seamen and Maritime Reform: the Society for Improving the Condition of Merchant Seamen, 1867," *International Journal of Maritime History* (June 1991) XXX, No. 1, 101-126; and J.H. Wilde, "The Creation of the Marine Department of the Board of Trade," in David M. Williams, (ed.), *The World Of Shipping*. Aldershot, 1997, 19-32.

landing on Wellington Island. After two days they rowed to the mainland and were rescued by the *Setos*, a German steamer.[39]

Several other losses followed within a few years. In 1895, for example, two vessels were involved in mishaps. The *Oroya* stranded in the Bay of Naples on 4 March, and the *Britannia* stranded in Rio de Janeiro harbour on 5 September. The *Oroya* was subsequently repaired and resumed sailings on the Australian mail run by 1 November. *Britannia* was not as fortunate and was eventually sold where she lay. The pair of incidents created a considerable strain on PSNC's underwriting account for the year. The next few years were more tranquil for PSNC, at least in terms of misfortunes to their vessels. But in 1901 disaster struck again. The company's new 1,018-ton collier *Talca* was wrecked on 12 July on Puchoco Point while carrying a full cargo. A German steamer, the 818-gross-ton *Rupanco*, was purchased as a replacement. The vessel was only six years old, but PSNC adhered to their usual policy of keeping tonnage modernized and had her re-engined by Glasgow's Ross and Duncan. On 2 June of the following year tragedy struck once again when the *Arequipa* sank in a storm off Valparaiso. The passengers and crew were not as lucky as those of the *Cotopaxi*, and the incident resulted in considerable loss of life.[40]

In 1905 PSNC suffered another wreck which, although not as tragic as that of the

---

39

Wardle, *Steam Conquers the Pacific*, 143-14145; Wardle, "West Coast Route (1)," 119; and Chandler, *Liverpool Shipping*, 145.

40

NML, MMM, MAL, B/PSNC, Administration, Directors' Reports, 1895; Wardle, "West Coast (2)," 180; and Chandler, *Liverpool Shipping*, 145.

Arequipa, was to have important spin-offs for the company. The *Orizaba* formed part of Pacific Steam's mail fleet to Australia. On 17 February, bound for Fremantle, the vessel grounded on the Australian coast. Unrepairable, it was sold as scrap for the sum of £3,750. Not long thereafter PSNC sold their interest in the Australian service to Royal Mail Steam Packet Company along with the vessels *Ortona, Oroya, Orotava* and *Oruba*. With their sale, a quarter century's association with the Antipodes ended. PSNC then re-oriented their focus more toward routes to the Americas. Strangely, there is little indication as to why PSNC pulled out of the Australian service at this particular time, either from primary or secondary materials. The Directors noted only that "as from the 1st January, 1906, the Company terminated its agreement with the Orient Co., and transferred its interests, including the four steamers running in the Australian Mail Service, to the Royal Mail Steam Packet Co."[41]

Using these vessels Royal Mail founded the Orient-Royal Mail Line in 1905, giving their tonnage distinctive buff-yellow funnels. Just four years later, however, Royal Mail also withdrew from the Australian trades. *Oroya* was sold for scrap, *Orotava* and *Oruba* were transferred to the West Indies, and *Ortona* was converted into the cruise liner *Arcadian*. Although the PSNC Directors' 1906 statement on the subject provides no direct evidence as to why the service was ended, it is interesting to note that this was the same period in which Brocklebanks experienced difficulties during the post-Boer War slump. In fact, A.W. Kirkaldy and Knick Harley present evidence that freights were then at about the mid-point

---

41

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 1905; Wardle, "West Coast (2)," 180; and Chandler, *Liverpool Shipping*, 145.

of a downturn in their cycle which began around 1900 and which was not reversed until 1910. It is likely that PSNC was simply regrouping during a period of industry downturn and making full use of the comparative advantages they had as the oldest established British steam shipping company in South America.[42]

Despite this retrenchment, the quarter-century between 1885 and 1910 was generally one of growth and change for Pacific Steam. As always, the Board of Directors chose to approach industry challenges in a proactive manner. Tonnage acquisitions and fleet reorganization continued apace until about 1909. At the same time as *Araucania* and *Patagonia* were being refitted (1890), the old steamer *Santa Rosa* was sold, while the *Columbia* was converted into a coal hulk. Gourlay Brothers of Dundee delivered a new steel tug and water boat, *Assistance*, for use in the Valparaiso service in 1891. In 1893 the steel screw vessel *Magellan*, of 3,590 gross tons, was delivered by Harland & Wolff. This was the first Belfast-built craft to enter into PSNC service, starting a connection with the shipbuilders that lasted well into the twentieth century. The yard also produced three sister ships to *Magellan* that year, adding another 10,780 gross tons to the PSNC fleet. Harland &

42

NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 1905; Haws, *PSNC*, 20; Kirkaldy, *British Shipping*, Appendix XVI; and Harley, "Economics of Shipping," 170. It might be noted here – pursuant to the theme that all shipowning entities are unique creatures – that general trade downturns or upswings can impact organizations very differently depending upon their nature. Although the Boer War was a boom time for most shipowners, it did create problems for at least one group. The West Australian Shipping Association, formed in 1884, was reliant on chartered tonnage and "made their best results during the years of shipping depression, when charters were cheap and plentiful, whereas boom times caused acute problems. As changes in freight rates lagged behind fluctuations in the shipping market, 1902 and 1903 yielded record profits, while the Boer War reduced profits to the lowest levels since 1896." Frank Broeze, "Merchants From Sail to Steam: The West Australian Shipping Association and the Evolution of the Conference System, 1884-1910," in Fischer (ed.), *From Wheel House to Counting House*, 287.

Wolff also produced a number of the "O" class vessels – destined to be sold to Royal Mail – over the next three years. Caird & Company delivered a pair of twin-screw steamers, the *Chile* and *Peru*, in 1896 for use in the West Coast Service. C.S. Swan & Hunter Ltd. were contracted for a cargo steamer. This vessel, the 4,568-gross-ton *Covocado* maintained PSNC's commitment to cutting-edge technology. She was the fleet's largest cargo vessel. The craft was fitted with triple-expansion engines and seven watertight bulkheads. She was capable of making almost thirteen knots, fast for a cargo vessel of the day. The small forty-nine-ton tender *Perlita*, built at Birkenhead, rounded out the company's building programme for the year.[43] Nonetheless, PSNC's fleet updates were by no means finished, and a number of new craft were acquired while older tonnage was sold, modernized or hulked around the turn of the century. A constant renewal of the fleet was one of PSNC's distinctive hallmarks in this era (Appendix Sixteen details some of the changes to PSNC's fleet in the years from 1897-1909; see also Appendix Fourteen for more particulars on individual vessels).

At the same time the fleet was undergoing these changes, the company was making other operational shifts. By 1900 PSNC West Coast sailings were extended northward to

---

43

NML, MMM, MAL, B/PSNC, Administration, Directors' Reports, 16 May 1891; 1895; and Wardle, "West Coast (1)," 120-121. The 11,546-ton *Orcoma*, launched in 1908, was another technological marvel. Built by W. Beardmore and Company Ltd., she was known as the "electric ship" because she was equipped with almost every electrical device then available for shipboard use. The vessel was considered a cousin (albeit smaller) of the super liners such as *Olympic*, *Aquitania* and *Imperator* and, like them, was referred to as a "floating hotel." *Orcoma* had accommodation for 1,140 persons, of which about half was in third-class. She had the distinction of carrying the first organized British-American tour group to South America under Thos. W. Cook and Son's auspices at £300 per person. PSNC's coastal liners did differ from their oceanic brethren in terms of profile. Their main decks were largely open for both passengers and cattle; the upper deck had staterooms for overnight, or longer journeys. Wardle, "West Coast (2)," 182; and Haws, *PSNC*, 20 and 71.

ports in Mexico and to the United States through San Francisco. Agreement was also reached with the Panama Rail Road Company for a through service across the Isthmus of Panama. In 1904 head office also made changes, and the Mersey loading berth was moved from Birkenhead to Liverpool's Alexandria Dock. In consequence, PSNC's Birkenhead works, in use since 1870, and their depot at Duke's Dock, Liverpool, were shut down. The Birkenhead works represented one PSNC's many innovations, as the firm was a pioneer in carrying through their own ship works and repairs – a policy which applied to their South American coastal stations at Morro and Callao. In the latter cases self sufficiency was essential since that part of the coast previously lacked its own infrastructure.[44]

The greatest change to PSNC's structure came in 1910 and practically mirrored developments at Brocklebanks about that time. Chapter Eight discussed the influence of J. P. Morgan on the shipping business at the turn of the century, especially the trend toward size and amalgamations. Pacific Steam Navigation was not immune from this development; as a publicly traded company it seems only natural that the composition of ownership should change over time. Since George Brown was made their first Chairman in 1838, the company maintained close ties with the Royal Mail Steam Packet Company to which they later sold their Orient Line interests. Almost from the start PSNC had run through traffic in conjunction with Royal Mail, first by the Panama mule track and later using the Panama Railroad. The two firms were also founder members of the Brazilian Conference of 1896.

44

NML, MMM, MAL, B/PSNC, Administration, Directors' Reports, 1900; Wardle, "West Coast (2)," 180; and *The Times*, 18 November 1870, 2.

Construction of the Panama Canal was well under way at this stage, and the effect it might have on operations was a concern for PSNC in particular. Accordingly, in 1910 Royal Mail took over Pacific Steam's proprietary holdings, although the two companies remained separate entities and PSNC's Chairman, Liverpool shipowner Thomas Rome, retained his position. Perhaps the greatest symbolic changes accompanying the takeover were the replacement of PSNC's traditional black livery with Royal Mail's buff yellow and the transfer of control from Liverpool to London.[45]

The reasons behind the merger may be as simple as the belief that the larger a company was in the emerging marketplace the better placed they were to survive. The Directors said that "the closer association of this Company with the Royal Mail Steam Packet Company will tend to give both Companies a stronger position in the trade with South America." Earlier, then-company chair Arthur W. Bibby asserted before a Royal Commission that the company had faced problems along the west coast and that PSNC had taken losses on chartered shipping. The additional capital available from a merger with Royal Mail could only have been welcome under the circumstances, especially with the uncertainty about the Panama Canal's impact on traffic.[46]

45

Wardle, *Steam Conquers the Pacific*, 159-160; Wardle, "West Coast (2)," 182; Chandler, *Liverpool Shipping*, 146; Haws, *PSNC*, 20; Broeze, "Distance Tamed," 17; and NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 16 May 1911. For more information on Royal Mail, see T.A. Bushell, *Royal Mail* (London, 1939); and Edwin Green and Michael Moss, *A Business of National Importance. The Royal Mail Shipping Group 1902-1937* (London, 1982).

46

Wardle, "West Coast Route (2)," 181; NML, MMM, MAL, B/PSNC, Administration, Directors' Report,16 May 1911; and *Royal Commission on Shipping Rings*.

Nonetheless, the merger may not have been entirely a friendly proposition. Following a management change in 1903 Royal Mail displayed a more aggressive business strategy toward their old ally PSNC. According to Robert Greenhill, PSNC was only acquired by Royal Mail after it advertized a direct line to the River Plate which would have competed with Royal Mail's services. Royal Mail were at their strongest on South America's east coast and the Caribbean (where they challenged Germany's Hamburg-Amerika Line). The former region, including Brazil and Argentina, was outstripping the west coast economically. In 1910 a rail connection linked Argentina and Chile overland, and Royal Mail benefited from a loss of trade by PSNC, whose fleet was contracting. Although PSNC was unquestionably an innovator in terms of technology and had led the way for Liverpool's publicly traded shipowning companies, over-concentration of trade was certainly their greatest weakness. Their routes had expanded many times, but the company continued their concentration on their first regional niche – the west coast of South America. This concentration was even more marked once PSNC sold their stake in Orient Pacific. After 1876, PSNC rival Harrisons had expanded their South American and Carribean operations to the point that a trade downturn in one area could be made good in the other, giving the firm extra security. The same could not be said of Pacific Steam in 1910. With the merger that same year, Royal Mail brought a number of innovative operating methods to PSNC, including the raising of infrastructure capital through debentures (Although the company had actually been permitted by Royal Charter to issue debentures and debenture stock since 1902). The number of shareholders was reduced, and the group's finances were controlled by a small,

but influential, Board. Certainly, information from the Directors' reports indicates that the immediate post-merger years were a good period for PSNC. After writing off depreciation on the fleet, profits in 1910 and 1913, for example, stood at £108,806/12/0 and £114,309/4/8, respectively.[47]

Much impetus for the merger of Pacific Steam and Royal Mail came from one particular individual. Owen Cosby Philipps K.C.M.G., better known by his later title, Lord Kylsant, was born at Warminster in 1863. After an apprenticeship with Dent and Company, a shipowning/broking firm at Newcastle-upon-Tyne, he moved to Glasgow and founded Philipps, Philipps and Company and the King Line in 1887. By 1897 he had also formed the London Maritime Investment Company and the next year became Chair of London and Thameshaven Oil Wharves Limited. It was in the twentieth century that Philipps made his greatest – some would say most infamous – marks on the shipping world. Royal Mail had been a chartered company and, like PSNC themselves, had no direct links to Liverpool's shipowning dynasties (although, as we have seen, members of these families had served as

---

47

NML, MMM, MAL, B/PSNC, Administration, Directors' Reports, 16 May 1911; 1913; "Humble Petition of the Pacific Steam Navigation Company," 3; Greenhill, "Shipping 1850-1914," 136 and 148; Haws, *PSNC*, 20-21; and Chandler, *Liverpool Shipping*, 111. Even if it was not effected in a spirit of friendship, PSNC's merger with Royal Mail may well have been the company's salvation. The Panama Canal opened on 15 August 1915, greatly impacting the company's business (Ironically, the first British ship to make the canal crossing was one of PSNC's). Now the industrialized northeastern US was as close to Valparaiso by the canal as was Brazil. PSNC's traditional routes from the Straits of Magellan northward became obsolete at a stroke. At the same time competition from America, then neutral in the Great War, was increasing significantly. It was only with the aid of Royal Mail that PSNC was able to negotiate this transition successfully. The only real drawback to the arrangement was the more authoritative Board of Directors. They could now raise and spend money without consulting ordinary investors who assumed most of the risk. This was not a problem before the war, but it did become a factor during the scandals involving Lord Kylsant's group.

PSNC Directors and Chairs). This factor rendered Royal Mail vulnerable to a contest for control starting in 1902. In January 1903 Philipps had become a company Director and then their Chairman within three months. He was very much in tune with the merger trend in Edwardian shipping and in this respect was not unlike Morgan himself. Soon after the death of Alfred Jones in 1909 Philipps, along with Lord Pirrie, bought Elder Dempster, which was re-created as Elder Dempster and Company Limited the following year. This was at about the same time that Royal Mail and PSNC merged. Philipps was one of the leading inspirations behind this move as, in addition to his control of the Royal Mail Group, he was also a substantial shareholder in PSNC. For Phillips the official cementing of the relationship was merely the natural outcome of his expansionist view of the industry. After 1920 Royal Mail, along with six other liner groups, controlled almost half of all Britain's merchant tonnage.[48]

In building terms the years 1909-1913 were fairly static by PSNC standards. Following the addition of *Orcoma* in 1908 the only new member of the fleet for five years was a small tug ordered in 1910 and delivered in 1911. The last year of peace saw an increase in activity by the company, starting with their 1913 purchase of the 15,620-ton steamer *Andes* – their first triple-screw vessel and the first PSNC bottom to exceed 15,000

48

Davies, *The Trade Makers*, 131-135; Davies, "Business Success and the Role of Chance: The Extraordinary Philipps Brothers," *Business History*, XXIII, No. 2 (July 1981), 209, 214 and 216-217; Greenhill, "Shipping 1850-1914," 135-136; and NML, MMM. MAL, B/PSNC, Administration, Directors' Reports, 16 May 1911. In 1911 and 1913 the Royal Mail Group was further enlarged by the acquisition of Lamport & Holt and H & W Nelson, respectively.

tons – built and engined by Harland & Wolff. In 1914 a sister ship *Orduna* (15,507 gross tons) joined the fleet, and two steam launches were purchased. One, the *Cuervo*, was for Valparaiso and the second, *Gironde*, was for La Rochelle-Pallice. A cargo boat to be named *Lobos* was also contracted. Like *Andes* this craft was significant in a technological sense because it was to be propelled by diesel engines. PSNC had also purchased the freehold of their long-time Valparaiso premises and was building a new office at Callao. With the upcoming opening of the Panama Canal, the Directors also decided to enlarge the Straits Mail Line service from Callao to Panama. As with many of their competitors, PSNC in 1914 was looking forward to continued peacetime operations and success. For all of these companies, however, events overtook them in ways most could not have imagined. Nonetheless, their progressive approach to the business of shipowning had served the Board and investors of PSNC well and would continue to do so for another seventy years.[49]

49

NML, MMM. MAL, B/PSNC, Administration, Directors' Reports, 1913; Wardle, "West Coast Route (2)," 182; and Chandler, *Liverpool Shipping*, 146. Although negatively impacted by both World Wars, the Great Depression and troubles associated with Kylsant's Royal Mail Group, PSNC survived, launching their largest ever passenger liner, *Reina del Mar*, in 1956. The Furness Withy Group, already major Royal Mail shareholders, bought out the company in 1965. PSNC survived as a Furness Withy subsidiary for another twenty years, but in 1985 the last vessels carrying its traditional nomenclature were sold, ending more than 140 years of maritime tradition.

Chapter 11

Conclusion

Although this thesis has dealt with a number of themes relative to shipowning, one of its primary foci has been on choices, especially those relating to the process by which a business finds its niche or comparative advantage. The examples of Brocklebanks and PSNC suggest that this is a thread that unifies the history of Liverpool's nineteenth-century shipowners (and possibly all shipowners). Chapters Five and Six discussed certain traits possessed by the "average" investor in Liverpool tonnage. Of course, profiling average investors gives us no more than general characteristics, since all owners were to some degree unique and all developed particular strategies to compete.[1] The goal, naturally enough, was stay in business and, if possible, to make money. Measured by the yardstick of longevity, firms like Brocklebanks, PSNC, Harrisons and Sandbach, Tinne were no mere speculative ventures – all were committed to certain trades and behaved accordingly over the long-term. Still, it does not necessarily follow that success is ensured regardless of the strategy a shipowner employed; indeed, Graeme Milne's work contains numerous examples of

---

1

Naturally, these strategies were seldom unique to any one investor. They might be better thought of in terms of knowing the best response for a particular set of circumstances. For example, many firms, like Brocklebanks, that engaged mainly in mid-to-long distance trades, would have seen the efficacy of investing in large vessels, usually rigged as either ships or barques. As we saw in Chapters Seven and Eight, however, the particular circumstances of their trades sometimes led Brocklebanks to put their own interpretation on exactly what was needed for day-to-day operations. We may recall that patent-reefing topsails were rejected for a pair of the firm's larger vessels because they were judged too expensive for the China trade, and Calcutta's Hoogly River already had steam tugs in 1863, thus rendering the devices unnecessary. See National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), Thomas and John Brocklebank, (B/BROC), Administration, Business Letters, 13 November 1863.

Liverpool shipping investors who made the attempt and failed.[2] Nonetheless, finding, or having, a comparative advantage in one or a number of trades, and sticking to a well thought-out plan, was certainly a reasonable way to decrease the riskiness that was (and is) inherent in shipowning. However, sticking doggedly to one approach was not a panacea, and firms that were in existence for several generations were bound to encounter shifting conditions, not only from economic but also from technological, geopolitical and social standpoints. Perhaps the best that any owner could do to maximize his chances of achieving success was not only to find and exploit a particular specialization but also to display a certain "elasticity" of thought in his approach. In short, the message seems to be to find what you are good at and to know how to stick with it. But equally the lesson is to be sufficiently flexible to know when to shift emphasis in response to evolving trends.

Change was perhaps the most obvious characteristic of the period that stretched from 1820 to 1914. Although change was hardly a new phenomenon, it is clear that the pace of change increased exponentially in the hundred years after the conclusion of the Napoleonic wars. Staking out one's territory and mastering it remained a key component of shipowning. Added to this, however, the investor's ability to adapt to change was likely more of an asset

---

2

Again, my argument concerning comparative advantage and the ability to make informed choices parallels Milne, especially on the latter point. Milne states that "people make choices in response to change, and those choices in turn drive further change...[M]any Liverpool traders were conscious of the hard choices facing them, and of the fact there would be losers as well as winners." Graeme J. Milne, *Trade and Traders in Mid-Victorian Liverpool: Mercantile Business and the Making of a World Port* (Liverpool, 2000), 1-2. Again, the Oliver case is Milne's most striking example of business failure (see Milne, *Trade and Traders*, 156-160).

in the business than ever before.[3] The Liverpool investor was not static over time, and there were a number of significant shifts in the decades after 1820.

Graeme Milne acknowledges the meshing of these two trends, noting that "Liverpool offers useful examples of shipping firms that expanded their tonnage very rapidly in mid-century; even these, however, often retained the management structures of small private firms."[4] One could make the case that firms choosing this strategy were simply reactionary in refusing to change. Nonetheless, assuming that such companies could afford their tonnage expansions, it is reasonable to assume that they were making a profit. This certainly appears to have been the case for Harrisons from 1885-1914. Brocklebanks' record at about the same period (Table 8.1) was more checkered, but they did manage at least a moderate profit in a majority of these years. Given this, it is not unreasonable to allow that their existing "corporate" structures had worked to that point and could be considered a comparative advantage rather than a weakness. Such considerations were by no means lacking, even while the shipping industry became more specialized. Experienced companies tended to operate within trades they knew and where they could establish reputations for "risk-avoidance and creditworthiness." Once a player stepped out of his specialty area those in the

---

3

Graeme Milne, "Information, Reputation and Collaboration in Mercantile Business: Evidence from Mid-Victorian Liverpool," *International Journal of Maritime History*, XIV, No. 1 (June 2002), 3-4.

4

Ibid, 3.

know, such as bank managers, quickly ran up a red flag, signalling the firm's imprudence.[5]

Apart from this tendency to stick within one's specialty area, another important characteristic of the typical investor was stable in the seven decades after 1820: the domicile of Liverpool's vessel shareholders. The Board of Trade 107 and 108 series provides information on the residence of every investor and makes it clear that throughout the period the port's investors mainly lived within the city itself. A decade-by-decade survey (Appendix Five) indicates that the percentage of investors resident in Liverpool never fell below sixty percent of all investors in new vessels at the port, and this peaked at just over seventy percent in the 1840s and 1850s. Apart from the 1870s, when the share of non-English (most notably northern Welsh) investors peaked – largely at the expense of Liverpudlians – the actual numbers were quite stable, ranging from about sixty-eight to seventy-one percent of all investors in the port.[6] Again excepting the 1870s, the majority of the remaining investors always came from other English counties. In most decades, as might be expected, the bulk were from Lancashire, outside of Liverpool itself, or from the adjacent county of Cheshire. Indeed, in most decades, including the 1870s, investors from the two counties generally comprised over ten percent of all investors. Likewise, a fair number of investors were domiciled in Cumberland, just north of Lancashire, with the county most prominent in the

---

5

Ibid, 3-4.

6

Great Britain, Board of Trade (BT) 107/108, Liverpool Vessel Registries, various years. These figures refer to the actual number of individuals who held at least one vessel share in a sample year, not to the actual number of shares held or the tonnage this represented.

1820s, 1830s and again in the 1860s. These numbers are hardly surprising. It is natural that investors in a seaward industry would, in the first instance, be drawn from regions where such activities were prevalent and second, that they were most likely to invest in local areas where their own interpersonal networks and knowledge of community affairs might mean the crucial difference between success and failure. Indicative of this was the fact that no other English counties, even in the Northeast, contributed really significant numbers of investors to Liverpool's shipping. Those British regions that did have some real presence on the Liverpool registry, in terms of investor numbers, were mainly eastern Ireland (primarily Belfast and Dublin), southwestern Scotland and north Wales – all located within the general confines of Liverpool's coastal trade sphere. The only other "significant" source of investors, although its contribution never topped three percent, was British North America, an important timber trading partner for Liverpool. Even in this region it appears that many "Canadian/Newfoundland" investors may have actually been expatriate Liverpudlians like the Gilmours, Jobs and Bowrings. This was an important indicator of the role of comparative advantage at work in the business – first and foremost, people chose to invest in an area where their knowledge of local conditions was likely to come in handy.[7]

Excluding the geographical residence of Liverpool investors, the BT 107/108 owner

---

7

BT 107/108, Liverpool Vessel Registries, various years. Milne's work is some of the best available at exploring these relationships, particularly for the mid-Victorian period. His look at business failures also makes it clear that having a finger on the pulse of local business affairs did not always guarantee success. As we have seen, the Atlantic Canada Shipping Project's findings demonstrate that local shipping investment was a characteristic British North America shared with Liverpool.

data indicate a number of trends, although these tended to vary over time. As part of the emerging nineteenth-century global economy, many industries and occupations were becoming more complex, and the generalists who had dominated businesses like shipowning became much more rare, replaced by specialists who would focus on the one industry or even a particular trade. In time the individual shipowner holding most of a vessel's shares would also fall by the wayside. It was not that these professional owners had dropped out of the industry but that by the late nineteenth century they were more prone to operate as part of an organized corporate structure in whose name vessels shares were held. In the long history of trade and economics there have been a number of "revolutions," starting with the agricultural and moving through the industrial and scientific revolutions. Much less has been written about the "professional revolution." Yet in industries such as shipping (as with most others), professionalization was a central tenet of change in the Victorian era.

As the static nature of residence patterns reflected the trend toward finding and building upon a comparative advantage, so did the professionalization and specialization of shipowning mirror the need for adaptability. Concurrently, this trend was often associated with maintaining ties to established comparative advantages. Within a generation or two families such as the Brocklebanks could remake themselves from shipbuilder/merchants to shipowners without immediately sacrificing their old pursuits. Indeed, Brocklebanks were able to combine their old merchanting function (and shipbuilding until the 1860s) with large-scale shipowning until very late in the nineteenth century. Likewise, pioneers such as William Wheelwright could over three decades successfully establish a shipping service that

at its inception appeared impractical, if not impossible, to contemporaries. PSNC derived much of its inspiration and guidance from established shipowning elites in Liverpool, thus maintaining a continuity with the port's traditional way of conducting business.

The industrial and economic transformations discussed above made this fusion of the old and the new a necessity in nineteenth-century Britain. In many ways the industrial and economic rebirth of the nation in general – and its shipping industry in particular – from the late eighteenth century onward was quite remarkable. In 1820 Britain was less than two decades removed from Trafalgar. Nonetheless, experiments with steam were already being carried out, although few visionaries could see that imminent changes were poised to revolutionize shipping and trade. These shifts would also catch the investor in their net, and the practice of investing in a few vessel shares as an income supplement, or the tendency to own tonnage simply as a complement to merchanting, largely fell by the wayside within a half century. Those, like Brocklebanks, that had found a place in seaward industry well before the change and were successful in making the transition did so by adapting to the new realities of the age. In the case of Brocklebanks, the change was gradual, but some investors, like R. P. Houston, became *de facto* professional investors within a few years. Even in such cases, however, comparative advantages were seldom lost. Houston, we remember, had a technologically advanced fleet, often designed with input from the former engineer himself. His expertise in this area was used to even greater advantage by investing in new technologies, like meat refrigeration units.

Starting out as a marine engineer, Houston had some prior connection to Liverpool's

maritime community. This was true of many, but by no means all, investors before mid-century. Ironically, the decades prior to the onset of specialization were marked by a plethora of occupations among Liverpool's shipping investors. In 1850, for example, persons without any clear connection to the seaward industries made up almost a quarter of all investors in new vessels. In 1870 such persons still accounted for about a fifth of investors. On the other hand, the percentage of total tonnage owned by these persons tended to be much less significant – a gap that widened from 1850 to 1870.[8] Despite such persons' lack of obvious ties to the shipping industry, the need to find a comparative advantage still existed, even if seaward linkages were less visible in some cases than in others. Looking at the Board of Trade Registries we can see that everyone from the gentleman to the spinster could be found among investors in new tonnage. Today, practically anyone with the spare capital might invest in stocks, bonds, securities, or even riskier affairs, such as currency speculation. Liverpool's Georgian residents were little different, but in an age where few commercial ventures carried with them limited liability, investing in shipping was one of the few "safe" options. Shareholders might lose their capital, to be sure, but they did not risk their other assets. In effect, persons with a range of ties to maritime trade (sometimes few at all) sought an additional economic place for themselves in an era devoid of the benefits

---

8

BT 107/108, Liverpool Vessel Registries, 1850 and 1870. See also Appendix Four.

of social welfare and retirement schemes.[9]

Persons with seaward connections, such as sailmakers, shipwrights, ship chandlers and riggers, were naturally to be found among the port's investors.[10] Certainly, marine tradesmen of many stripes were to be found among the port's investor community as late as 1889. Referring to Appendix Four, we note that marine tradespeople generally made up around five percent or more of total investors in newly-registered Liverpool vessels, by occupational groupings, from 1830 through 1889, although they tended to own a smaller proportion of the actual tonnage registered. There are at least two possible reasons for their presence on the Liverpool registry. First, as Simon Ville notes, maritime tradesmen "resorted to related investment in vessels to extend their business patronage."[11] They would frequently invest in small coasters, generally older craft, so investment costs were minimized and

---

9

It is a strange prospect for modern investors to contemplate losing all their material goods to pay off the debts of an insolvent company in which they owned only a few shares. This is not to mention the prospect of confinement in a debtor's prison, like the infamous Marshalsea, which only closed in 1842. This argument for shipping investment is made by Simon Ville, as noted in Chapter Five. This factor also meshes well with the idea of pursuing a comparative advantage. Since the ownership of vessel shares were one of the few limited holdings open to investors in the early nineteenth century, this created an immediate advantage for anyone with money to invest in shipowning. Contemporary shipowning by its very nature created a niche for persons who in today's market might gravitate toward other forms of investment.

10

For current purposes, "marine tradesmen" does not simply include maritime craftspeople like those listed above but also certain trades related more to the port generally, including pilots and stevedores.

11

Simon P. Ville, "The Growth of Specialization in English Shipowning, 1750-1850," *Economic History Review*, 2nd series, XLVI (1993), 706.

frequent visits to the home port created opportunities for additional employment.[12] Second, local residents had a certain information network based on their ties to the city that could only be enhanced through the creation of additional connections to the port's activities. A Liverpool-based sailmaker, for example, had the dual advantage of being physically near the port's seaward activity as well as the information networks that accompanying it.

In short, our sailmaker by living and working on Merseyside in a maritime industry was well placed to hear of vessel shares being offered for sale.[13] In addition, either he or his clients would be in the know on the quality of the vessel and how much of a "bargain" the proffered shares might have represented. Likewise, because the people involved in such dealings would be personally known to the sailmaker – either as friends, acquaintances or customers – the worth of their personal reputations and integrity could also come into play.[14] On the other hand, a gentleman investor from another county was much more likely to be taking a shot in the dark, so to speak, if he chose to buy shares in Liverpool tonnage. This would also presume that the said gentleman would even have heard of the sale before local investors had already bought up the shares. Indeed, it is unlikely that the best deals, offered

---

12

Ibid. Sarah Palmer, "Investors in London Shipping, 1820-50," *Maritime History*, II (1972), 58, also noted this factor as a possible motivation for investing but found evidence that it was not especially important by the 1830s. On the other hand, some marine tradesmen became investors simply because they were granted a share or shares in payment for work. This was also common for master mariners.

13

Or, as Palmer puts it, "often, no doubt, the shareholdings by these people as with others in 'maritime' occupations, were simply the result of personal contacts within the port." Palmer, "Investors in London Shipping," 58,.

14

This type of argument lies at the core of Gordon Boyce's work.

by the most reputable sellers, would have made it past the well-connected investors resident in Liverpool. What the typical outside investor was likely to get was probably far from the pick of any port's registered tonnage, unless he too had connections in that particular locale. Graeme Milne has commented on the comparative advantage this information network gave to Liverpool's business and trading community in a larger sense, and his observations could be specifically applied to the investor community. He feels that:

> it is reasonable to assume that some of the most valuable information to be had in dealing with...uncertainties was acquired through the personal and associational contacts available to traders, whether in daily meetings...or through membership in regional or commodity trade organizations. Liverpool's business culture relied on a complex web of information, rumour and gossip. Larger firms with branches in a number of ports devoted a notable proportion of their correspondence to assessments of the reliability and good standing of local firms with whom business was being contemplated.[15]

Such information networks were no doubt of crucial importance for maritime tradesmen who chose to invest in Liverpool's shipping. In terms of tonnage owned and the actual number of investors, however, the marine craftsmen were dwarfed in the pre-specialist era by the merchants. (Even in an exceptional year like 1870, for instance, marine tradesmen accounted for only 5.7 percent of gross tonnage investment). Merchants comprised the single most important group of investors in the period up to, and slightly beyond, mid-century. The career of the owner-company starting out as essentially a merchant house while turning its attention increasingly toward owning is best reflected by

---

15

Milne, "Information, Reputation and Collaboration," 10.

Brocklebanks. Such firms and individuals need not have been directly concerned with nautical trades (although Brocklebanks were through their shipyard), but owning tonnage was nonetheless an important component of their business. In the years prior to road and rail traffic, moving commodities by sea was the only feasible solution for transporting large quantities of goods. Even today seaborne transport, where it can be employed, remains the best option for transporting very large quantities of bulky, low-value goods. The ownership of tonnage to transport one's own goods also related to information networks in this era, at least in Eric Sager and Gerald Panting's opinion. Making a profit on trading required a good deal of knowledge about commodities, markets and the reliability of distant agents. Perhaps the most important of this latter group to a merchant was the supercargo, who acted as the merchant's main agent overseas. In conditions where the merchant could not readily direct the course of affairs personally, owning tonnage oneself made sense and allowed flexibility in the rapid buying and selling of cargoes according to local market conditions. Thus, in the Georgian through mid-Victorian eras, it was logical that the main tonnage investors in ports like Liverpool came from the merchant community.[16] In this respect the situation was little changed from a century before. As Ralph Davis noted, "in the eighteenth century there was no such thing as the shipping firm; a ship was managed – as a minor part of his general

---

16

BT 108, Liverpool Vessel Registries, 1870. See Eric W. Sager, with Gerald E. Panting, *Maritime Capital: The Shipping Industry in Atlantic Canada 1820-1914* (Montréal, 1990), 85. The connection between merchanting and vessel ownership was especially strong in the timber trade – a tendency that continued after merchant ownership in many trades had given way to the trend toward increased specialization.

activity – by one of the merchants who owned a share in it."[17] At mid-century Liverpool merchants made up about half of all investors and accounted for two-thirds of the port's newly-registered tonnage.[18] Above and beyond any other investors of the time, they had the most to gain by controlling the mode of transport, thus creating a natural comparative advantage for themselves in tonnage ownership.

Merchant predominance did not survive long after the middle of the century, however. After 1850 fewer merchants owned shares; they were replaced increasingly by the specialist shipowner. Although they seem affected most dramatically in terms of numbers, merchants were not the only occupational group to fall by the wayside as investors in shipping. Indeed, from the 1870s there was a definite decline in all types of non-specialist investors. Ownership of shares was no longer the purview of the non-professional or the speculator; instead, it had become the provenance of the few who chose to make it the centre of their affairs. By 1889 professional shipowners accounted for almost half of all investors in new tonnage at Liverpool.[19] If we return to Simon Ville's work for a moment we can infer

---

17

Ralph Davis, "Maritime History: Progress and Problems," in Sheila Marriner (ed.), *Business and Businessmen* (Liverpool, 1978), 171.

18

BT 108, Liverpool Vessel Registries, 1850. Even by 1870 merchants still accounted for a quarter of all investors in new vessels at Liverpool, including companies, though their share of tonnage was then less than twenty percent. (Appendix Four).

19

BT 108, Liverpool Vessel Registries, 1889. This figure does not include companies, which comprised almost a third of all investors in new Liverpool vessels by 1889. In terms of the actual tons of shipping registered, professional shipowners and companies accounted for over eighty percent of all gross investment that year. Company numbers include firms that specialized in commodities such as coal, for example, rather than those that acted specifically as shipowners. Nonetheless, the overwhelming majority of company owners in this era were

a number of cogent reasons for this substantive change. Specialization grew in the wake of the industrial revolution when the exponential growth of British overseas trade encouraged the emergence of shipowning as a separate livelihood, affording ancillary services like brokerage the opportunity to develop into life-long careers. In broad terms, "the shipping industry had become large enough for many processes to be "sufficiently important to be turned over to specialists."[20]

Naturally, the change did not occur at the same pace for all owners. Sandbach, Tinne, for example, appear to have never made the shift fully from commodity producers/merchants to shipowners and actually moved away from shipowning by the late nineteenth century. If we refer again to Appendix Six, it will be noted that Sandbach, Tinne actually purchased their last vessels in 1882, with the rump of their fleet sold off by 1902. Likewise, Brocklebanks were quite late in abandoning merchanting, while PSNC was conceived as a shipowning venture from the outset. Again, however, all these firms found a particular trade, or trades, in which to specialize and continued their involvement by successful adaptation to change over time.

---

essentially shipping lines. This also included companies like Harrisons, whose parent firm was officially a brokerage house. See Graph 1A.

20

Ville, "Growth of Specialization," 712. See also G. J. Stigler, "The Division of Labor is Limited by the Extent of the Market," *Journal of Political Economy*, XXXII (1984), 185-193. Ville argues that an early manifestation of the rise of the shipowner was the decline in "small, fractional investor[s]." As certain managers began the process of fleet consolidation, the proportion of single-owner vessels in Liverpool rose from twenty-five to thirty-six percent in Liverpool between 1786 and 1835. This factor should not be discounted, but in terms of new registrations at the port, the real change came after 1860. Another stimulus to the growth of specialization, discussed in Chapter Five, was the need for wartime transport.

We might take this line of reasoning a step further and argue that the conference system – of which most major Liverpool liner companies were a part at one point or other – was itself an extension of this survival strategy. What we can observe through this process is a number of firms making use of a similar comparative advantage in the industry by what would be deemed, in biological terms, "parallel evolution." Good examples of this are Brocklebanks and Harrisons, who both gravitated toward trade with the subcontinent. Without taking the biological analogy too far, we can say that such rivals then banded together for mutual protection by keeping out *new* rivals. By the time firms like Brocklebanks, Harrisons and their competitors came together in a conference (and theirs was the pioneer, if we discount the Collins-Cunard arrangement) these players usually were too well established for one to oust the other without risking disaster. The Calcutta Conference's own rate war exemplified this; eventually the players were forced to re-establish a *modus vivendi* to preserve their own interests. In the end the best one could do was to attempt to limit competition among members while negating the effect of outsiders. As R.P. Houston's story illustrates, this formula was no guarantor of success. Nonetheless, the conference system did provide, at least in theory, a sound way of allowing companies to maintain and build upon their comparative advantages in a certain trade, while itself constituting an adaptive mechanism to deal with changing conditions.[21]

It was in reality these two factors – comparative advantage supplemented by

---

21

The reader will recall that PSNC was also involved with conference arrangements after having started out under a form of monopoly, protected even from national carriers.

adaptability – that provided a major connecting thread between the business strategies of seemingly disparate firms such as Brocklebanks and PSNC. I do not argue here that these were the *only* points of convergence in the survival strategies of such firms. Milne and Boyce would no doubt point out similarities in their use of information networks and established reputations to facilitate operations. Yet even these formed part of businesses' comparative advantages and reflected numerous instances of adaptation to changing conditions.

Although based for much of their careers on Merseyside, Brocklebanks and PSNC appeared, on the surface, to have had little in common. Brocklebanks began life as a small shipbuilding concern, run until 1910 by successive generations of the same family. From this beginning it evolved into a merchanting and shipowning company which was still not publicly traded until 1898 – and even then only on a very limited scale. Brocklebanks started out in the West Indian trades before gravitating, under the pressure of falling revenue, to Calcutta and other East Asian ports. After decades of experience in operating a large fleet, Brocklebanks first relegated its building arm to a secondary role before abandoning it entirely in the 1860s rather than making the capital investment necessary to switch to metal production. As the trend toward specialization in British shipping gathered steam, Brocklebanks' own comparative advantage gradually evolved from one marine trade to another; maintaining both threatened to disperse the firm's focus and no longer made sense.

Unlike Brocklebanks' own gradual evolution, Pacific Steam Navigation Company's role as a provider of shipping services was planned from its inception. Nonetheless, its

foundation was also built on comparative advantages – in this case those accrued through William Wheelwright's background in Newburyport, his South American trading career and the contacts he had made. Certainly Wheelwright was forward thinking in his choice of a limited company structure, complete with a Board of Directors, long before this became the norm in British business. Wheelwright first attempted to base his operations in the United States, thus drawing on his background and contacts there. On being rebuffed he eventually settled on Liverpool as a major nexus of world trade and shipping. The Directors (and many shareholders), with their experience in Liverpool's shipping and general business circles, created a natural web of information on which PSNC could draw. Such contacts led to the company's close working relationship with Royal Mail and the eventual merger of the two under an umbrella group.

For both Brocklebanks and PSNC a defining element of their comparative advantage, and an indicator of their adaptability, was their fleets. This was true of many shipowners.[22] Vessels were their primary capital investment and in a sense defined the owner's role in the transport industry. The type of vessel an owner chose to operate was itself frequently defined by the trades in which he participated, especially as the nineteenth century progressed. In the beginning, Thos. & Jno. Brocklebanks' fleet was comprised largely of small wooden craft of a variety of rigs, mainly brigs but also schooners, ships and the occasional barque. Up to 1850, in keeping with the times, individual vessels never exceeded 700 tons. Vessel size was

---

22

See especially Chapters Three and Four.

a way for the company to maximize efficiency by matching supply with the demands of what were, in that era, largely middle-distance trades with places like Newfoundland, the West Indies and eastern South America. Once the benefits of metal construction had been established and their shipyard was jettisoned, Brocklebanks in the 1860s abandoned wood as a construction material. Now focussed more on trading to Calcutta and China, the company's vessels routinely exceeded 1,000 tons after 1860, with average tonnages increasing sharply from that point on (Graph 7.2). This was part of the more general trend toward larger tonnage in British shipping. It nonetheless reflected Brocklebanks' own move away from middle and into longer-distance routes. This was particularly so by the time they became involved with Australia. The company's comparative advantage had gradually shifted from the western to the eastern hemisphere, and the firm adapted to keep pace. The same was true of their eventual switch to steam. Although this transition was late in coming, Brocklebanks' long retention of their merchanting function lessened the need to convert earlier to the new technology. Moreover, Calcutta was one of the last ports (outside the Antipodes) in which sail remained competitive. Finally, from the standpoint of capital outlay, it made sense *not* to make the switch too early. Naturally, this particular option was not seen as the best course of action by all companies in the trade, and Harrisons largely converted to steamers from 1860 on.

Like Brocklebanks, PSNC geared its fleet toward its particular comparative advantage – trading with western South America. Besides drawing on his own experience in the region, William Wheelwright was fortunate (and canny) enough to have created a new

comparative advantage for his fledgling company. By its very nature PSNC was essentially a steam operation from 1840 on, and the company continued to be innovative concerning its fleet. After its troubles with coaling in the 1840s and 1850s, the adoption of the Randolph Elder engine created the first great upsurge in the firm's fortunes. This was a lesson its Board of Directors never forgot, and PSNC remained on the cutting edge of technology. Indeed, innovation actually *became* its comparative advantage, allowing the company to remain in operation alongside national carriers such as CSAV. Like Brocklebanks, Pacific Steam Navigation Company's vessels grew in average size over time and were a product of much the same processes: the general increase in British vessel size and the company's own expanding routes and interests over the course of the nineteenth century. From simply connecting western South American ports like Guayaquil and Valparaiso, PSNC eventually expanded into routes serving the western seaboard of the United States, eastern South America and continental European ports. In design terms PSNC's vessels – on its older routes – were often marked by their own particular superstructure, likely a product of carrying cabin passengers on what was essentially a coasting voyage, if an extremely long one. Like the Houston line, they PSNC was an innovator in terms of vessel design, as witnessed by the early introduction of features such as electric lighting in passenger liners.[23]

23

For example, the 2,160-gross-ton *Mendoza*, built in 1879 by Robert Napier & Sons, Glasgow, was the first British vessel fitted with a Gramme generator to produce electricity, although the device had been given trials in HMS *Minotaur*. *Mendoza* was employed on PSNC's Valparaiso-Callao until it was converted into a hulk in 1904. Duncan Haws, *Merchant Fleets: The Pacific Steam Navigation Company* (Burwash, East Sussex, 1984), 53.

These traits certainly differed from Brocklebanks on the surface, but they reflect a similar propensity to focus upon a comparative advantage and display a willingness to adapt when and where needed.

One could certainly argue that in the end such strategies availed Liverpool's traditional shipowners little. All of the old names – Brocklebanks, PSNC, Harrisons, Elder Dempster and their colleagues – have disappeared from world shipping lanes. In a broader sense, we might also say the same of Great Britain's entire merchant marine, for it is not only in a naval context that Britannia no longer "rules the waves." Still, to draw such conclusions is to miss the point. Prior to the container and computer revolutions of the late twentieth century, the shipping industry underwent the greatest change it had ever known in the decades after 1850. Many companies did indeed fall by the wayside, but some (even if the tides of fortune eventually caught them) played the game successfully for a long time. As of 1914 both Brocklebanks and PSNC still plied their traditional blue ocean routes. While it is true that both were by this time integrated into larger shipping groups, like that of Lord Kylsant, this should not be taken as indicative of some kind of failure. In fact, the mergers related more to the prevailing trend toward horizontal integration than to any mismanagement on the part of the Brocklebank family or PSNC's Edwardian Board of Directors. On the contrary, the move toward integration should more properly be seen as an astute business decision that allowed firms to compete against giant conglomerations like Morgan's International Mercantile Marine. Facilitated by the web of business connections discussed by Graeme Milne and Gordon Boyce, this trend was essentially a successful

adaptation to changing economic conditions. Using their business experience, the Brocklebanks and PSNC's Directors were able to create new comparative advantages for their firms without being subsumed within the larger entities of which they became a part. That both companies survived in some form for another seven decades that spanned two world wars, the Depression and countless international business shifts is a testament to their acumen. Many other Liverpool shipowning firms likewise made it through such vicissitudes only to be lost in the late twentieth century. They were not failures, although all have now passed into history. I have made the point previously that no strategy could ensure long-term success. Nonetheless, these shipping companies, by exploiting their various comparative advantages while also being flexible, positioned Liverpool at the forefront of mercantile commerce for more than two centuries. Perhaps that is their greatest legacy.

APPENDICES

Appendix 1: Tonnage Measurement Problems

The issue of tonnage is always a thorny one when performing calculations on the size of the British merchant marine over time. The term tonnage originated at a very early period and related to the English trade in Bordeaux wine. In the thirteenth and fourteenth centuries some of the longest voyages made by English mariners were to the Bay of Biscay for this product. At the time "tonnage" had no relation to a ton in weight, it simply referred to a form of wine barrel known as a "tun." Tunnage just meant the numbers of wine barrels a merchant vessel could carry. In its more modern usage, tonnage generally referred to a measure of the cubic feet of a vessel below deck divided by 100. Net tonnage was the registered tonnage of a vessel minus space that, at least in theory, could not be used for cargo, such as crew accommodations and engines. In the first years of steam this deduction might be considerable. In the early paddle-wheelers the cumbersome machinery and drive shafts could take up a large share of the interior space below decks. G.M. Walton and C.J. French put the tonnage discrepancy at fifty-nine and thirty-four percent, respectively. In the latter years of the BT 108 series the gross tonnage was noted alongside the registered tonnage for sail as well as steam craft. Tonnage measurement for naval vessels was another matter entirely, representing physical displacement of water, *not* carrying capacity. Simon Ville has produced an article that examines the more modern meaning of tonnage, albeit only for the period to 1830. Nevertheless, his observations on the problems of tonnage measurements hold true for the remainder of the nineteenth century as well. Prior to 1786, discrepancies between measured and registered tonnage were quite marked, with the former often exceeding the latter by fifty percent for the same craft. Things improved somewhat during the ensuing years, but registered tonnage was still apt to be measured inaccurately and inconsistently. As Ville points out, the noted marine insurance company, Lloyds, would be considered a likely source of accurate tonnage measurements, but in this era at least this was not the case. Ville sampled a number of vessels registered in the years 1786-1830 and found that the gap between a vessel's registered tonnage and its "Lloyds tonnage" was often fairly wide. For example, the vessel *Cornwall* registered at 368 tons was only recorded as being 320 tons by Lloyds. Another craft, the *Lord Rodney*, measured at 397 tons by register, came in at 344 tons according to Lloyds. In some cases, such as that of the *Polly*, Lloyds tonnage came in at thirty-three tons above the registered tonnage.

One characteristic of the nineteenth century was change and revision in tonnage measurements, as British (and other) authorities attempted to devise more accurate ways of measuring the carrying capacity of its merchant marine. In the three decades following 1820, tonnage on the registries was usually written in without any specific designation about how it was calculated, although this was likely considered gross tonnage, as this was then measured. David Alexander was of the opinion that pre-1854 numbers represented "net burthen" and that the 1854 measurement changeover inflated later schooner and barque tonnage registries in the port of Yarmouth, Nova Scotia by ten and five percent, respectively. To reflect the changes made the year before, in 1855 the registry forms were altered from the old unspecified method of reporting to noting registered tons as the measure (in the case of steamers, gross tonnage still appeared).Unfortunately for the researcher, this changeover in 1855 did not occur until part of the way through the year, resulting in a mix of tonnages. There had also been a changeover in measurement standards in 1833. This is less problematic in this study since 1833 was not included as one of the sampled years. Nonetheless, it is important to acknowledge the shift.

Sources: David Howarth, *British Seapower: How Britain Became Sovereign of the Seas* (London, 2003), 41-42; Simon Ville, "The Problem of Tonnage Measurement in the English Shipping Industry, 1780-1830," *International Journal of Maritime History*, I (1989), 80-81; David Alexander, "The Port of Yarmouth, Nova Scotia, 1840-1889," in Keith Matthews and Gerald Panting (eds.), *Ships and Shipbuilding in the North Atlantic Region* (St. John's, NL, 83; John McCusker, "The Tonnage of Ships Engaged in the British Colonial Trade During the Eighteenth Century," *Research in Economic History*, VI (1981); G.M. Walton, "Colonial Tonnage Measurements: A Comment," *Journal of Economic History*, XXVII (1967), 392-397; and C.J. French, "Eighteenth Century Tonnage Measurements," *Journal of Economic History*, XXXIII (1973), 433-443.

Appendix 2: Liverpool Vessels. Gross Investment by Place of Build (% of New Registrations)

Origin	1820s	*1830s*	*1840s*	*1860s*	*1870s*	*1880s*	***Total***
NW (N)	38.3	42.4	36.0	28.7	29.5	34.1	**33.6**
NE (N)	7.0	10.0	8.4	13.7	14.6	26.9	**14.5**
SW (N)	3.8	6.8	5.1	3.2	1.2	4.3	**3.9**
SE (N)	0.0	4.4	4.2	1.3	2.5	0.7	**2.1**
SC (N)	4.3	4.4	9.3	9.9	21.1	16.6	**11.7**
IR (N)	2.7	2.0	1.5	2.3	4.3	6.7	**3.4**
WS (N)	1.1	0.8	0.3	1.3	1.6	1.7	**1.2**
CN (N)	33.5	24.0	35.4	27.9	18.9	2.6	**22.5**
PR (N)	4.3	1.6	0.3	0.0	0.0	0.0	**0.6**
US (N)	0.0	0.0	0.0	5.7	2.2	1.0	**2.0**
OT (N)	4.3	4.0	0.9	5.7	5.0	3.8	**4.1**

Notes: (N)=number of vessels newly-registered; (T)=tonnage of vessels newly-registered. NW=North West England; NE=North East England; SW=South West England; SE=South East England; SC=Scotland; IR=Ireland; WS=Wales; CN=Canada (British North America, including Newfoundland); PR=Prizes; US=United States; OT=Other points of origin. Figures for each decade are taken from the Board of Trade registry series sample years. (i.e. those years ending in "zero" and "five," with 1826 substituted for 1825, plus 1889). Due to its status as a transitional decade regarding tonnage, the 1850s sample years are omitted. All figures are from sample years only. Totals (for vessel numbers and tonnage) may not equal 100 percent due to rounding.

Source: BT 107/108, Liverpool Vessel Registries, various years.

Appendix 3: Quantities of Timber Imported into Great Britain, 1870-1910

Year	*Country of Origin*	*Loads Imported*	*Value (£)*
1870	Canada	402,490	1,612,498
1870	Sweden	239,092	579,336
1870	Russia	179,763	400,609
1870	Norway	151,438	314,450
1880	Canada	1,479,625	3,380,935
1880	Sweden	1,517,388	3,536,419
1880	Russia	1,395,090	3,285,032
1880	Norway	747,679	1,566,426
1890	Canada	1,362,777	3,780,360
1890	Sweden	1,889,396	3,382,146
1890	Russia	1,516,446	2,916,794
1890	Norway	742,616	1,413,562
1900	Canada	1,799,422	4,941,736
1900	Sweden	2,407,358	4,900,354
1900	Russia	2,317,892	(illegible)
1900	Norway	839,874	1,934,211
1910	Canada	1,130,665	3,435,962
1910	Sweden	1,233,894	3,269,525
1910	Russia	3,159,474	7,982,433
1910	Norway	359,327	1,164,839

Note: Figures include "fir" and all timber listed as "unenumerated," whether, hewn, sawn, split, planned, or dressed. Sweden's 1890 wood products value excludes hewn wood products which were of lesser importance than sawn or split wood. Unfortunately, the value of hewn wood is illegible in the Parliamentary Papers. "Russia" includes wood exported from the Russian-occupied portions of Finland. Although Norway was not a country until 1905, its exports to the UK were entered separately than those from Sweden. The Swedish figures include an unspecified amount of wood transshipped from other sources in the Baltic.

Source: Great Britain, House of Commons, *Parliamentary Papers* (*BPP*), Trade and Navigation Accounts, LXII, part 2, 1871; LXXVII, 1881; LXXXII, 1890-1; LXXVI, 1901; and LXXIX, 1911.

Appendix 4: Investors in Liverpool-Registered Vessels by Occupational Group, 1830-1889 (New registrations only. Select years)

	1830	1850	1870	1889
Shipowners: % of Total Investors	4.2	8.1	24.9	45.9
Shipowners: % of Tonnage Owned	5.2	7.2	32.1	35.8
Merchants: % of Total Investors	60.0	48.1	24.4	8.0
Merchants: % of Tonnage Owned	62.9	67.2	18.7	3.7
Companies: % of Total Investors	0.0	0.4	7.7	30.8
Companies: % of Tonnage Owned	0.0	0.1	30.1	48.7
Mariners: % of Total Investors	13.2	11.4	6.5	1.5
Mariners: % of Tonnage Owned	10.2	7.2	1.8	0.1
Marine Tradesmen: % of Total Investors	4.7	5.8	10.2	6.0
Marine Tradesmen: % of Tonnage Owned	4.1	4.1	5.7	0.6
Shipbrokers: % of Total Investors	1.4	2.0	7.0	0.0
Shipbrokers: % of Tonnage Owned	0.9	1.3	5.8	0.0
Engineers: % of Total Investors	0.0	0.2	0.5	0.0
Engineers: % of Tonnage Owned	0.0	0.2	0.2	0.0
Others/not stated/illegible: % of Total Investors	16.5	24.0	18.8	7.8
Others/not stated/illegible: % of Tonnage Owned	16.7	12.7	5.6	11.1

Notes: For 1870 and 1889, tonnage used was register; for 1830 and 1850, the tonnage measurement in the Registries was unspecified. "Marine Tradesmen" includes shipbuilders, shipwrights, pilots, rope makers, ship chandlers, blockmakers, riggers, master riggers, ship carpenters, sail makers, watermen and stevedores. Aside from those whose occupations were not stated or illegible in the registries "Others" includes (but is not limited to) gentlemen, esquires, yeomen, manufacturers, painters, butchers, brewers, blacksmiths, book keepers, cotton brokers, inn keepers, widows, spinsters, labourers, Clergy, solicitors, surgeons and medical doctors. Totals include only tonnage newly registered in Liverpool for that year. If a vessel had multiple owners, the tonnage ascribed to each occupational group was calculated as Tonnage x shares/64.

Source: BT 107/108, Liverpool Vessel Registries, 1820, 1850, 1870 and 1889.

Appendix 5: Shareholders in Liverpool Vessels by Place of Residence (New registrations only)

	1820s	*1830s*	*1840s*	*1850s*	*1860s*	*1870s*	*1880s*
Liverpool	69.5%	69.0%	71.9%	71.7%	69.2%	61.8%	68.7%
Lancashire	6.6%	4.6%	5.6%	6.2%	6.0%	4.5%	4.4%
Cheshire	4.0%	3.6%	4.7%	4.0%	6.3%	6.9%	11.6%
Cumberland	3.5%	6.9%	2.1%	2.0%	5.0%	1.5%	0.5%
	83.6%	**84.1%**	**84.3%**	**83.9%**	**86.5%**	**74.7%**	**85.2%**
Westmorland	0.7%	1.6%	0.1%	0.0%	0.2%	0.0%	0.0%
Northumberland	0.7%	0.2%	0.5%	0.1%	0.6%	0.7%	0.3%
Durham	0.2%	0.5%	0.3%	0.3%	0.1%	0.2%	0.0%
Yorkshire	0.9%	1.1%	0.8%	1.1%	0.5%	0.5%	0.0%
	2.5%	**3.4%**	**1.7%**	**1.5%**	**1.4%**	**1.4%**	**0.3%**
Other English	2.2%	4.1%	4.8%	5.9%	3.4%	3.0%	2.3%
Scotland	0.7%	1.5%	4.0%	1.7%	1.5%	2.5%	2.6%
Wales	0.4%	2.6%	1.9%	1.1%	3.6%	14.1%	6.7%
Ireland	1.3%	0.8%	1.8%	3.6%	2.0%	3.2%	1.8%
	4.6%	**9.0%**	**12.5%**	**12.3%**	**10.5%**	**22.8%**	**13.4%**
Canada/NL	2.2%	1.6%	1.1%	2.1%	1.2%	0.5%	0.8%
Other/Unknown	5.9%	1.8%	0.4%	0.4%	0.5%	0.5%	0.0%
	8.1%	**3.4%**	**1.5%**	**2.5%**	**1.7%**	**1.0%**	**0.8%**

Notes: Columns may not equal 100% due to rounding. "NL" refers to Newfoundland. "Other/Unknown" refers to overseas registrations, minus Canada, plus all cases where a residence was not stated or was illegible in the registries. Decadal totals are taken from Board of Trade registry series sample years (those ending in "zero" and "five," with 1826 substituted for 1825, plus 1889).

Source: BT 107/108, Liverpool Vessel Registries, various years.

Appendix 6A: Daniel Brocklebank Fleet, 1775-1800

Name	Acquired	Built	Rig	Tons	Notes
Castor		1775	w.brig	220	Wrecked off Jamaica, 1781
Precedent		1780	w.s.	301	Wrecked off Ireland, 1791
Castor II		1782	w.s.	343	Sold, 1789
Cyprus		1786	w.brig	166	Sold, 1797
Zebulon		1787	w.brig	187	Sold, 1795
Dolphin		1788	w.brig	75	Sold, 1796
Perseverance		1788	w.brig	155	
Hero		1788	w.brig	174	Sold 1796
Mackerel		1790	w.c.	12	Broken up, 1794
Castor III		1790	w.brig	197	Sold, 1790
Rockliff		1790	w.brig	127	
Hope	1791	1788	w.brig	151	Sold, 1791
Castor IV		1791	w.brig	247	Wrecked, 1794
Ann		1791	w.brig	65	Sold, 1791
Nestor		1792	w.s.	233	Captured by the French, 1795
Grampus		1792	w.brig	87	Sold, 1792
Irton		1793	w.snow	201	Sold, 1794
Jupiter		1793	w.s.	207	Sold, 1796
Mary Ann		1794	w.brig	155	Sold, 1794
Dispatch		1794	w.brig	102	Sold, 1796
Jane		1795	w.brig	124	Sold, 1796
Jane and Sarah		1795	w.snow	158	Sold, 1795
Cavereene		1796	w.brig	127	
Carrier		1796	w.brig	127	Sold, 1797
Alert		1796	w.brig	85	Sold, 1798
Alfred		1796	w.s.	314	Sold, 1798

Scipio		1797	w.brig	242	Sold, 1799
Duncan		1798	w.s.	239	Sold, 1799
Earl of Lonsdale		1798	w.c.	61	Sold, 1798
Ceres		1798	w.brig	93	Captured by the French, 1799
Montgomery		1799	w.s.	190	Sold, 1799
Ariel		1800	w.s.	238	Sold, 1801
Active		1800	w.brig	134	Sold, 1805
Cumberland		1800	w.s.	340	Sold, 1800

Note: In many cases Daniel Brocklebank's tonnage came from his own shipyard, so the build date normally represents a vessel's date of acquisition as part of his fleet unless otherwise specified. See also Appendix 7. Under rig, "c" denotes cutter.

Source: National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives Liverpool (MAL), Thomas and John Brocklebank (B/BROC), Brocklebank Fleet, 1775-1945; and John Frederick Gibson, "The House of Brocklebank (1)," *Sea Breezes*, XVII (January-June 1954), 50-51.

Appendix 6B: Thos. & Jno. Brocklebank Fleet, 1801-1914

Name	Acquired	Built	Rig	Tons	Notes
General Hunter		1801	w.s.	217b.	Last Brocklebank shares sold, 1811
Matty		1801	w.brig	163b.	Sold, 1801
Dryad	1801	1801	w.s.	256b.	Sold, 21 November 1805.
Experiment		1802	w. sch.	89b.	Sold to Baker & Co., Liverpool, 1807
King George		1803	w.s.	264b.	Sold to Rodie & Co., 1804
Volunteer		1803	w.s.	353b.	Sold, 1803
Queen Charlotte		1804	w.brig	211b.	Sold, 1812
Beaver		1804	w.brig	81b.	Sold, 1809
Hercules		1805	w.s.	301b.	Sunk by collision at sea Nov, 1825
Swallow		1806	w.brig	114b.	Owned by Capt. Wilson Fisher, 1809
Brown		1807	w.brig	220b.	Sold, 1807
Ariel II		1807	w.brig	204b.	Captured by the French, 1809
Dryad II		1808	w.brig	220b.	Wrecked off Newfoundland, August 1810
Maranham		1809	w.brig	154b.	Sold, 1810
Balfour		1809	w.brig	310b.	Sold, 1849
Caroline	1810	1810	w.s.	237b.	Wrecked, Atlin Shoal, Maranham, 1826
Nimble		1810	w.brig	139b.	Sold to a Mr. Thompson, 1816
Watson		1810	w.brig	162b.	Sold, 1810
Bransty		1811	w.brig	104b.	Wrecked, Ireland, 1819
London		1812	w.s.	351b.	Sold to Edward Bates & Son, 1847
Mary		1812	w.brig	208b.	Sold, 1814
William		1812	w.brig	237b.	Sold, 1812
Cossack		1813	w.brig	172b.	Wrecked, 19 March 1824
Westmorland	1813	1813	w.brig	168b.	Seized & sold, Copenhagen, 1813
Margaret and Frances		1813	w.brig	89b.	Sold, 1813

Aimwell		1813	w.brig	257b.	Wrecked in West Indies, 1839
Tobago		1813	w.brig	268b.	Sold to Mr. Hopper, London, 1818
Westmorland II		1814	w.brig	195b.	Sold to Owen & Co., Portmadoc, 1857
Duke of Wellington		1814	w.brig	139b.	Sold, 1814
New Triton		1814	w.sl.	55b.	Sold, 1814
Jamaica		1815	w.brig	215b.	Wrecked, 1 January 1854
Princess Charlotte		1815	w.s.	514g.	Crushed in ice, 14 June 1856
Antigua Packet		1815	w.s.	272	Sold, 1815
Mary II	1816	1781	w.brig	144b.	Lost, River Mersey, 25 November 1825
Prince Leopold		1816	w.brig	111g.	Sold, 1839
Shammon		1816	w.brig	161	Sold, 1816
Dryad III		1816	w.brig	231g.	Abandoned in the Atlantic, 1830
Constellation		1817	w.brig	187g.	Wrecked near Halifax, 1819
Doris		1818	w.brig	133	Sold, 1819
Santon		1819	w.brig	170	Sold, 1819
Perseverance II		1819	w.s.	513g.	Wrecked near Madras, 28 March 1829
West Indian		1819	w.sl.	44b.	Wrecked in the West Indies, 1839
Candidate		1820	w.brig	225g.	Wrecked in River Plate, 13 June 1823
Ariel III		1820	w.brig	154g.	Sold to T. Rigby, Liverpool, 1845
Crown		1821	w.b.	297	Sold, Hatton & Co., Liverpool, 1849
Globe		1822	w.brig	212g.	Lost at Bahia, 1835
Swallow II		1822	w.brig	141g.	Lost off Newfoundland, January 1837
Telegraph		1823	w.sch.	111	Wrecked Havana, 1825
Andes		1823	w.brig	216g.	Wrecked off Netherlands, 1852
Whitehaven		1824	w.brig	214g.	Sold to Simms & Co., Whitehaven, 1834

Bransty II		1824	w.sch.	130g.	Wrecked on Yucatan Peninsula, 1830
Manchester		1824	w.brig	163g.	Sold to Armstrong of Workington, 1852
Affleck		1825	w.brig	237g.	Sold to J. Fell, 1825
Grecian		1825	w.brig	235g.	Wrecked, River Mersey, 1831
Superior		1825	w.brig	240g.	Owned by Gunson & Co., 1835
Gazelle		1826	w.brig	241g.	Sold, 1826
Courier		1826	w.sch.	142g.	Sold to Capt. Curry, London, 1845
Meteor		1826	w.b.	240g.	Wrecked, 1856
Lady Shaw Stewart		1827	w.brig	181g.	Sold, 1827
Countess of Lonsdale		1827	w.stm.	241g.	Broken up, 1854
Oberon		1827	w.brig	150g.	Lost about February, 1846
Herculean		1828	w.b.	317g.	Sold to J. Mondel, Liverpool, 1853
Gleaner		1828	w.sl.	50g.	Blown ashore in gale, February, 1835
Irt		1828	w.b.	215g.	Sold, 1849
Dash		1828	w.sch.	86g.	Sold to Martin, et al, Liverpool, 1845
Buoyant		1828	w.sch.	130g.	Sold, 1838
Esk		1828	w.b.	217g.	Sold for Australian trade, 1855
Maypo		1829	w.b.	173r.	Sold to Tasker & Co., Liverpool, 1838
Mite		1830	w.sl.	54r.	Posted missing, 1833
Avoca		1830	w.b.	256r.	Brocklebank shares sold by 1837
Bonanza		1830	w.sch.	176r.	Sold to J. Mondel, Liverpool, 1855
Tampico		1830	w.brig	129r.	Sold, 1839
Hindoo		1831	w.b.	266r.	Sold to T. Carter, Liverpool, 1864
Mackerel II		1831	w.c.	23r.	Sold to J. A. Ross, Isle of Skye, 1850
Mazeppa		1831	w.brig	134r.	Sold, Tasker, Fairie & Co., LP., 1847
Bransty III		1832	w.sch.	99r.	Sold to J. Wood, Whitehaven, 1847

Patriot King		1832	w.b.	338r.	Sold for scrap, 17 April 1868
Lord Althorp		1832	w.brig	233r.	Missing, 1859
Mary Gordon		1833	w.sl.	55r.	Abandoned, waterlogged, 1840
Jumna		1833	w.s.	364r.	Sold, Tay Whale Fishing Co., 1856
Rimac		1834	w.brig	214r.	Sold to Nuttall & Co., Liverpool, 1864
Earl Grey		1834	w.brig	242r.	Sold to Capt. Potts, 1860
Ituna		1834	w.brig	221r.	Sold, 1834
Earl of Lonsdale		1834	w.stm.	183r.	Broken up, 1855
Tigris		1836	w.s.	422r.	Aground & sold, March, 1865
Globe II		1836	w.brig	252r.	Sold, Lowden, Edgar & Co., 1861
Dryad IV		1837	w.brig	251r.	Sold, Lowden, Edgar & Co., 1860
Fairie		1837	w.sch.	80r.	Missing at sea, December, 1883
Mite II		1837	w.sm.	61r.	Too small. Sold, 1839
Patriot Queen		1838	w.s.	547r.	Sold to Low & Co., Liverpool, 1880
Horsburgh		1838	w.b.	320r.	Wrecked at Valparaiso, 1855
Susanna		1838	w.sch.	65r.	Sold, 1838
Santon II		1839	w.b.	345r.	Driven ashore & wrecked, January, 1843
Aden		1839	w.b.	339r.	Sold to J. Cochran, Liverpool, 1868
Swallow III		1839	w.brig	236r.	Disappeared, January, 1839
Kestrel		1840	w.brig	231r.	Sold, Gregory & Co., Whitehaven, 1863
Industry		1840	w.sch.	63r.	Sold, 1840
Princess Royal		1841	w.s.	579r.	Sold to T. Cookson, Liverpool, 1871
Valparaiso		1841	w.b.	317r.	Sold, A. Sutherland, Valparaiso, 1869
Callao		1842	w.brig	170r.	Sold to Hodgson, Whitehaven, 1860
Lanercost		1842	w.b.	318r.	Sold to E. Eaton, Workington, 1869
Patna		1842	w.b.	362r.	Sold, Roger & Henry Jefferson, 1868

Camana		1842	w.brig	185r.	Sold to Hodgson, Whitehaven, 1846
Robert Pulsford		1844	w.s.	593r.	Sold at Valparaiso, 1869
Rowland Hill		1844	w.sch.	64r.	Sold, 1844
Courier II		1844	w.brig	135r.	Sold, Wm. Robinson, Drogheda, 1856
Sir Henry Pottinger		1845	w.b.	334r.	Wrecked, Carmarthen Bay, 30 December 1859
Crisis		1847	w.s.	426r.	Wrecked on Arklow Bank, Ireland, 1862
Thomas Brocklebank		1847	w.s.	629r.	Wrecked, Rosario Reef, Jamaica, 1878
Harold		1849	w.s.	666r.	Sold to French owners, 1869
Petchelee		1850	w.b.	393r.	Sold to W. Killey & Co., LP, 1871
Arachne		1851	w.s.	654r.	Abandoned at sea, 12 November 1866
Martaban		1852	w.s.	852r.	Sold, 1873
Aracan		1854	w.s.	864r.	Sank after collision, 4 March 1874
Mindanao		1854	w.s.	482g.	Sold, 1874
Florence Nightingale		1855	w.s.	1,362g.	Sold, G. Cairns & Co., Liverpool, 1869
Cormorin		1855	w.s.	803g.	Sold to P. Sutherland, Liverpool, 1875
Herculean II		1865	w.s.	531r.	Wrecked, Gaspar Strait, 30 Nov. 1860
Eskett		1857	w.brig	123	Sold, 1857
Rajmahal		1858	w.s.	1,302g.	Sold, Capt H. Williams, 1883
Sumatra		1858	w.s.	773r.	Sold to J. Karron, Isle of Man, 1858
Juanpore		1859	w.b.	460g.	Sold to T. Davies, London, 1874
Veronica		1860	w.b.	332r.	Sold, Orient Line, London, 1873
Maiden Queen	1860	1860	w.s.	814g.	Sold to E. Burchard, Rostock, 1874
Cambay		1861	w.s.	1,061g.	Sold, O. L. Sorensen, Kragero, 1884
Tenasserim		1861	w.s.	1,002g.	Wrecked 26 December 1865
Burdwan		1862	w.s.	803g.	Wrecked, China Sea, 16 August 1885
Ariel V		1862	w.brig	130g.	Sold, 1862

Everest		1863	w.s.	571g.	Stranded & lost in China Sea, August 1873
Alexandra	1863	1863	i.s.	1,352g.	Sold, Trinder Anderson & Co., 1887
Baroda	1864	1864	i.s.	1,364g.	Sunk by collision in Mersey, 1887
Bowfell		1864	w.s.	1,002g.	Wrecked, Java Sea, May 1886
Mahanda		1865	w.s.	1,003g.	Sold, 1883
Candahar	1866	1866	i.s.	1,418g.	Sold to S. Goldberg, Swansea, 1890
Tenasserim II	1866	1866	i.s.	1,419g.	Lost, Table Bay, Cape Town, May 1902
Chinsura	1868	1868	i.s.	1,336g.	Sold to Hughes & Co., Liverpool, 1883
Belfast	1874	1874	i.s.	1,957g.	Sold, Shaw, Savill & Albion, 1900
Majestic	1875	1875	i.s.	1,974g.	Sold to Government of Chile, 1899
Khyber	1880	1880	i.s.	2,026g.	Total loss, 1905
Bolan	1882	1882	i.s.	2,058g.	Lost off Cape of Good Hope, July 1889
Bactria	1885	1885	i.s.	2,170g.	Sold, D. & J. Sproat & Co., LP, 1898
Zemindar	1885	1885	st.s.	2,053g.	Sold, 1900
Talookar	1885	1885	st.s.	2,053g.	Sunk by collision, 13 December 1890
Sindia	1887	1887	st.b.	3,007g.	Sold, Anglo-American Oil Co., 1900
Holkar	1888	1888	st.b.	3,009g.	Sold to D. H. Watjen, Bremen, 1901
Ameer	1889	1889	st.stm.	4,127g.	Sold, Japan, 1911
Gaekwar	1890	1889	st.stm.	4,220g.	Sold to N. Fredriksen, Sandefjord, 1911
Talavera	1890	1890	st.stm.	3,196g.	Chartered to Dominion Line, 1892
Barrosa	1890	1890	st.stm.	3,185g.	Reverted to African S.S. Co., 1891
Pindari	1891	1891	st.stm.	5,713g.	Sold to Japanese buyers, 1911
Mahratta	1892	1891	st.stm.	5,679g.	Wrecked, Goodwin Sands, April, 1909
Marwarri	1900	1900	st.stm.	5,659g.	Sold foreign, 1920
Bengali	1901	1900	st.stm.	5,665g.	Torpedoed by UC 34, January, 1918

Mahronda	1905	1905	st.stm.	7,630g.	Sold, 1923
Malakand	1905	1905	st.stm.	7,653g.	Torpedoed by U 84, 20 April 1917
Manipur	1906	1906	st.stm.	7,654g.	Acquired by Admiralty, 1915
Matheran	1906	1906	st.stm.	7,654g.	Hit mines and sunk, January, 1917
Mandasor	1911	1902	st.stm.	8,117g.	Sold to Hamburg-Amerika Line, 1912
Maidan	1912		st.stm.	8,205g.	Wrecked, Red Sea, 1923
Anchoria	1912		st.stm.	5,430g.	Trans. from Anchor Line. Sold, 1935
Media	1912		st.stm.	5,437g.	Trans. from Anchor Line. Sold, 1935
Assyria	1912		st.stm	6,370g.	Trans. from Anchor Line; torpedoed, 1917
Bavaria	1912		st.stm.	4,711g.	Trans. from Anchor Line. Sold, 1914
A. B. Hughes	1913		st.stm.	147g.	Steam barge. Sold, 1932
Malakuta	1914		st.stm.	7,205g.	Sold, 1935
Mahanada	1914		st.stm.	7,196g.	Bombed & sunk, 1941

Notes: See Appendices 7, 8, 9 and 10. Under tonnage, "b" indicates tons burthen. Under rig, "sl" denotes sloop. Quite a few vessels acquired after Brocklebanks' shipyard closed in 1865 were built especially for them by Harland & Wolff. *Countess of Lonsdale* and *Earl of Lonsdale* were built for the Whitehaven Steam Navigation Company, controlled by Brocklebanks. *Talavera* and *Barossa* were originally laid down for Brocklebanks but purchased by Alfred Jones for the African Steam Ship Co. As part of the deal, Brocklebank chartered both until replacements could be built.

Source: NML, MMM, MAL, B/BROC, Brocklebank Fleet, 1775-1945; BT 107/108, Liverpool Vessel Registries, various years; John Frederick Gibson, "The House of Brocklebank (1)," *Sea Breezes*, XVII (January-June 1954), 50-54; Duncan Haws, *Merchant Fleets: Thos. & Jno. Brocklebank* (Uckfield, East Sussex, 1994); and David E. Stillwell, "Brocklebanks: The Final Century," *Sea Breezes*, LVIII (February 1984), 129-133.

Appendix 7: Vessels Built by Thos. & Jno. Brocklebank, 1807-1865

Name of Vessel	Tonnage	Date Launched
Brown	220	1807
Ariel	204	1807
Dryad	220	3 October 1808
Maranham	150	1809
Balfour	310	17 October 1809
Caroline	237	27 February 1810
Nimble	142	23 March 1810
Watson	160	31 August 1810
Bransty	104	1811
London	351	14 January 1812
Mary	208	1812
William	238	1812
Cossack	172	4 February 1813
Mary and Francis	100	1 May 1813
Tobago	268	4 March 1813
Aimwell	257	21 August 1813
Westmoreland	195	4 March 1814
Duke Wellington	140	19 May 1814
Jamaica	215	11 February 1815
Princess Charlotte	515	6 September 1815
Antigua Packet	272	1 November 1815
Prince Leopold	112	27 April 1816
Shannon	162	24 June 1816
Dryad	231	27 June 1817
Constellation	187	June 1817
Doris	133	20 June 1818
Santon	170	13 July 1819
Perserverance	512	September 1819
West Indian	44	9 November 1819

Candidate	225	26 June 1820
Ariel	156	9 November 1820
Crown	297	15 August 1821
Globe	212	20 August 1822
Swallow	142	1822
Telegraph	114	9 September 1828
Andes	215	21 October 1823
Bolivar	208	3 May 1824
Manchester	160	1824
Bransty	130	1824
Aflick	237	18 February 1825
Grecian	235	22 February 1825
Superior	240	12 December 1825
Gazelle	242	11 March 1826
Courier	142	24 July 1826
Helvellyn	142	15 September 1826
Lady Shaw Stewart	181	16 February 1827
Countess of Lonsdale s.s.	150	12 June 1827
Oberon	150	1827
Herculean	317	29 March 1828
Gleanor	40	30 March 1828
Irt	217	28 May 1828
Dash	86	18 June 1828
Buoyant	130	1828
Esk	217	27 October 1828
Maypo	173	17 June 1829
Mite	54	30 January 1830
Avoca	256	29 January 1830
Bonanza	176	27 March 1830
Tampico	129	1830
Hindoo	226	13 January 1831

Arab	23	July 1831
Mazeppa	134	6 August 1831
Bransty	99	February 1832
Patriot King	338	31 March 1832
Lord Althrop	233	June 1832
Mary Gordon	55	23 March 1833
Jumna	364	22 April 1833
Rimac	214	26 March 1834
Earl Grey	242	22 July 1834
Ituna	221	1834
Earl Lonsdale s.s.	239	1834
Tigris	422	19 January 1836
Globe	252	26 April 1836
Dryad	251	12 January 1837
Fairie	80	4 March 1837
Mite	60	1 July 1837
Patriot Queen	547	24 January 1838
Horsburgh	320	3 September 1838
Susannah	56	2 October 1838
Santon	346	19 February 1839
Aden	313	26 June 1839
Swallow	237	26 July 1839
Kestrel	241	14 April 1840
Industry	69	2 October 1840
Princess Royal	579	8 March 1841
Valparaiso	295	19 June 1841
Lanercost	318	29 January 1842
Callao	170	1842
Patna	379	21 October 1843
Camana	185	9 November 1843
Robert Pulsford	593	4 April 1844

Courier	142	6 March 1844
Rowland Hill	80	16 May 1844
Sir Hy. Pottinger	334	19 August 1845
Thomas Brocklebank	547	29 February 1847
Crisis	395	1847
Harold	666	23 June 1849
Petchelee	393	15 July 1850
Arachne	654	30 August 1851
Martaban	852	15 October 1852
Aracan	788	14 April 1854
Comorin	803	July 1855
Herculean	531	15 June 1856
Eskett	123	May 1857
Rajmahal	1,302	16 April 1858
Sumatra	773	7 October 1858
Juanpore	459	15 May 1859
Veronica	332	16 January 1860
Cambay	1,000	25 February 1861
Tenasserim	1,002	10 August 1861
Burdwan	803	28 August 1862
Ariel	130	1862
Everest	571	14 October 1863
Bowfell	1,002	20 July 1864
Mahanda	1,003	26 April 1865

Source: NML, MMM, MAL, B/BROC, Vessels Built by T. & J. Brocklebank, 1807 to 1865.

Appendix 8: Brocklebank Line: Number of Sailings and Arrivals at Liverpool, 1820-1869

A. *From Liverpool to undermentioned ports.*

Port	**1820-9**	**1830-9**	**1840-9**	**1850-9**	**1860-9**
Bombay	2	14	26	12	—
Singapore and Batavia	1	—	1	4	12
Calcutta	19	54	92	122	166
Alexandria	2	1	—	—	—
Valparaiso	27	23	52	32	3
Maranham	16	5	1	—	—
Canada and Newfoundland	15	41	33	—	—
China	—	—	2	11	8
Hong Kong	—	—	13	21	20
Total Departures	**168**	**338**	**380**	**333**	**209**

B. *Arrivals at Liverpool from various ports*

Bombay	2	10	29	12	—
Singapore and Batavia	—	—	—	1	13
Calcutta	17	53	100	118	172
Alexandria	2	2	—	—	—
Valparaiso	4	10	10	6	3
Maranham	18	4	1	—	—
Canada and Newfoundland	10	10	4	1	—
China	—	—	3	12	16
Hong Kong	—	—	3	2	4
Total Arrivals	**130**	**232**	**308**	**299**	**263**

Notes: China includes Shanghai but excludes Canton; the latter was in fact the earliest Chinese port called on by Brocklebank vessels and at least eight voyages departed Liverpool for Canton prior to 1840. As can be seen from the fact that departures generally outnumber arrivals, the source for the above is likely incomplete, but does give an indication of the relative importance of each port or region as a destination for Brocklebanks shipping. See *Gore's Liverpool Advertiser*, Various issues.

Source: NGL, MMM, MAL, B/BROC, Historical Notes, "Brocklebank Line: Numbers of Sailings and Arrivals at Liverpool During Various Decades & C."

Appendix 9: Brocklebanks Sailings to Bombay, 1833-1855

Vessel Name	Advertized Sailing Date	Actual Sailing/Clearance Date (If known)
Princess Charlotte	May 1833	Sailed 11 July 1833
Balfour	March 1834	Sailed 13 April 1834
Princess Charlotte	May 1834	Sailed 28 June 1834
Crown	December 1834	Sailed 1 January 1835
Princess Charlotte	May 1835	Sailed 31 May 1835
Princess Charlotte	April 1836	Sailed 31 May 1836
Princess Charlotte	April 1837	Sailed 26 May 1837
Balfour	October 1837	
Herculean	April 1838	Cleared 19 May 1838
Balfour	May 1838	Sailed 16 June 1838
Princess Charlotte	June 1838	Sailed 1 August 1838
Crown	February 1839	Sailed 17 March 1839
Princess Charlotte	April 1839	Sailed 18 May 1839
Herculean	April 1839	Sailed 30 June 1839
Balfour	July 1839	Sailed 2 September 1839
Crown	January 1840	Sailed 4 February 1840
Herculean	April 1840	Sailed 6 June 1840
Princess Charlotte	June 1840	Sailed 13 July 1840
Crown	December 1840	Sailed 19 January 1841
Balfour	January 1841	Sailed 9 March 1841
Herculean	March 1841	Cleared 19 April 1841
Princess Charlotte	June 1841	Cleared 31 July 1841
Crown	October 1841	Sailed 16 November 1841
Herculean	January 1842	Sailed 6 February 1842
Princess Charlotte	August 1842	Sailed 1 November 1842
Crown	November 1842	Sailed 6 December 1842
Herculean	March 1843	Sailed 30 April 1843

Crown	October 1843	Sailed 16 November 1843
Princess Charlotte	November 1843	20 December 1843
Herculean	January 1844	Sailed 6 February 1844
Balfour	August 1844	Sailed 19 November 1844
Herculean	May 1845	
Balfour	October 1845	
Crown	November 1845	
Herculean	March 1845	
Balfour	October 1846	
Herculean	January 1847	
Crown	July 1847	
Herculean	December 1847	
Crown	April 1848	
Herculean	October 1848	
Herculean	August 1850	
Herculean	—	Sailed 22 October 1851
Herculean	—	Sailed 3 October 1852
Patriot King	—	Sailed 17 January 1853
Jumna	—	Sailed 17 January 1853
Patriot King	—	Sailed 3 November 1853
Jumna	—	Sailed 3 November 1853
Crisis	—	Sailed 12 March 1854
Aracan	—	Sailed 20 July 1854
Patriot King	—	Sailed 12 August 1854
Jumna	—	Sailed 27 September 1854
Jumna	—	Sailed 5 September 1855

Note: As these were advertised sailings, they do not represent voyages undertaken entirely carrying the company's own goods, which would not have been advertised.

Source: NML, MMM, MAL, B/BROC, Historical Notes.

Appendix 10: Brocklebanks Sailings to Calcutta, 1820-1890

Vessel Name	Advertised Sailing Date	Actual sailing/Clearance Date (If Known)
Perseverance	—	Sailed 12 January 1820
Crown	February 1830	Sailed 26 March 1830
Princess Charlotte	March 1830	Sailed 12 July 1830
Herculean	July 1830	Sailed 2 September 1830
Irt	September 1830	
Tigris	January 1840	Sailed 9 January 1840
Santon	January 1840	Sailed 14 February 1840
Patriot King	March 1840	Sailed 30 March 1840
Patriot Queen	April 1840	Sailed 26 May 1840
London	June 1840	Sailed 19 July 1840
Earl Grey	July 1840	Sailed 23 August 1840
Hindoo	September 1840	Sailed 2 October 1840
Jumna	October 1840	Sailed 19 November 1840
Tigris	November 1840	Sailed 19 November 1840
Santon	December 1840	Sailed 10 December 1840
Patriot Queen	January 1850	
Thomas Brocklebank	January 1850	
Robert Pulsford	February 1850	
Jumna	March 1850	
Harold	May 1850	
Petchelee (new vessel)	July 1850	
Tigris	August 1850	
Patriot King	September 1850	
Princess Royal	October 1850	
Patriot Queen	November 1850	
Sir Henry Pottinger	December 1850	
Princess Royal	January 1860	

Patriot Queen	January 1860	
Robert Pulsford	January 1860	
Florence Nightingale	February 1860	
Rajmahal	March 1860	
Aracan	April 1860	
Arachne	May 1860	
Thomas Brocklebank	May 1860	
Princess Royal	August 1860	
Sumatra	August 1860	
Comorin	September 1860	
Robert Pulsford	November 1860	
Patriot Queen	December 1860	
Florence Nightingale	December 1860	
Comorin	—	Sailed 10 January 1870
Alexandra	—	Sailed 16 February 1870
Tenasserim	—	Sailed February 1870
Sumatra	—	Sailed 17 March 1870
Baroda	—	Sailed 16 May 1870
Mahanda	—	Sailed 4 June 1870
Cambay	—	Sailed 2 July 1870
Maratan	—	Sailed 2 July 1870
Candabar	—	Sailed 4 August 1870
Rajmahal	—	Sailed 24 September 1870
Bowfell	—	Sailed 24 September 1870
Chinsura	—	Sailed 10 November 1870
Alexandra	—	Sailed 21 November 1870
Tenasserim	—	Sailed 24 December 1870
Sumatra	—	Sailed 24 December 1870
Tenasserim	—	Sailed 2 January 1880

Alexandra	—	Sailed 2 March 1880
Rajmahal	—	Sailed 15 March 1880
Cambay	—	Sailed 8 April 1880
Majestic	—	Sailed 22 June 1880
Baroda (from London)	—	Sailed 5 July 1880
Candahar	—	Sailed 24 July 1880
Khyber (new vessel)	—	Sailed 6 October 1880
Belfast	—	Sailed 19 October 1880
Tenasserim	—	Sailed 18 November 1880
Talookdar	—	Sailed 13 January 1890
Holkar	—	Sailed 28 January 1890
S.S. Ameer	—	Sailed 16 February 1890
S.S. Gaekwar	—	Sailed 3 April 1890
Majestic	—	Sailed 8 April 1890
S.S. Ameer	—	Sailed 2 June 1890
S.S. Plassey	—	Sailed 19 July 1890
S.S. Gaekwar	—	Sailed 16 August 1890
Belfast	—	Sailed 21 August 1890
Zemindar	—	Sailed 28 August 1890
Bactria	—	Sailed 17 September 1890
S.S. Ameer	—	Sailed 30 September 1890
Sindia	—	Sailed 1 November 1890
S.S. Plassey	—	Sailed 10 November 1890
S.S. Sabraon	—	Sailed 29 November 1890
S.S. Gaekwar	—	Sailed 31 December 1890

Note: *Plassey*, *Sabaron* and *Assaye* were chartered steamers.

Source: NML, MMM, MAL, B/BROC, historical notes.

Appendix 11: Date Brocklebanks Vessels first Entered the Calcutta Trade

Vessel Name	Tonnage	Rig	Date of First Calcutta Sailing
Princess Charlotte	514	Ship	19 February 1816
Perseverance	513	Ship	12 January 1820
London	351	Brig	8 April 1823
Crown	297	Barque	9 November 1825
Herculean	317	Barque	13 May 1826
Irt	217	Barque	10 November 1829
Hindoo	267	Barque	26 March 1831
Patriot King	338	Barque	10 May 1832
Lord Althrop	233	Brig	22 September 1832
Jumna	360	Ship	21 June 1833
Tigris	422	Ship	1 May 1836
Earl Grey	242	Brig	19 October 1837
Patriot Queen	547	Ship	24 March 1838
Santon	340	Barque	2 April 1839
Princess Royal	584	Ship	4 May 1841
Robert Pulsford	593	Ship	11 August 1845
Sir Henry Pottinger	324	Barque	2 October 1845
Thomas Brocklebank	630	Ship	13 May 1847
Crisis	426	Ship	15 February 1848
Harold	666	Ship	19 August 1849
Petchelee	393	Ship	16 August 1850
Arachne	654	Ship	8 November 1851
Martaban	652	Ship	17 January 1853
Florence Nightingale	1,362	Ship	17 August 1855
Comorin	803	Ship	8 October 1855
Aracan	788	Ship	20 April 1856
Rajmahal	1,300	Ship	2 July 1858

Sumatra	773	Ship	4 January 1859
Cambay	1,000	Ship	9 May 1861
Tenesserim	1,419	Ship	4 November 1861
Burdwan	803	Ship	19 November 1862
Alexandra	1,350	Ship	17 August 1863
Baroda	1,366	Ship	6August 1864
Bowfell	1,001	Ship	14 October 1864
Mahanda	1,003	Ship	8 July 1865
Tenasserim	1,419	Ship	22 November 1866
Candahar	1,416	Ship	6 May 1867
Chinsura	1,336	Ship	21 May 1868
Majestic	1,875	Ship	26 July 1875
Belfast	1,957	Ship	14 June 1877
Khyber	2,026	Ship	6 October 1880
Bolan	2,056	Ship	4 October 1882
Talookdar	2,120	Ship	21 August 1885
Kemindar	2,120	Ship	27 August 1885
Bactria	2,170	Ship	6 November 1885
Sindia	3,067	Ship	1 February 1888
Holkar	3,073	Ship	8 June 1888
Ameer	4,014	Steamer	27 October 1889
Gaekwar	4,202	Steamer	3 April 1890
Pindari	5,674	Steamer	6 January 1892
Mahratta	5,729	Steamer	20 February 1892
Marwarri (from Barry)	5,729	Steamer	11 March 1900
Bengali (from Barry)	5,720	Steamer	6 March 1901
Mahronda	7,629	Steamer	19 August 1905
Malakand	7,653	Steamer	9 March 1906
Manipur	7,654	Steamer	7 April 1906

Matheran	7,653	Steamer	2 June 1906
Mandaser	8,121	Steamer	24 July 1911
Maidan	8,205	Steamer	24 April 1912
Assyria	6,370	Steamer	20 July 1912
Media	5,437	Steamer	8 August 1912
Anchoria	5,429	Steamer	4 September 1912
Bavaria	4,711	Steamer	16 September 1912

Note: *Assyria*, *Media*, *Anchoria* and *Bavaria* were formerly Anchor Line tonnage. Column "Date of First Calcutta Sailing" indicates the actual day each vessel departed on its maiden voyage to Calcutta.

Source: NML, MMM, MAL, B/BROC, historical notes.

Appendix 12: Purchase Price of Selected Brocklebanks Steamers, 1898-1912

Cost of	Deadweight Tons	Date	Cost (£)
Marwarri	8,030	November 1898	88,991/14/05
Bengali	8,005	February 1900	102,556/18/07
Mahronda	11,955	August 1904	78,972/01/04
Malakand	11,955	August 1904	76,815/04/08
Manipur	11,955	August 1904	75,905/12/03
Matheran	11,955	August 1904	76,136/09/02
Maidan	12,366	October 1910	95,500/00/00
Assyria	9,625	—	36,369/17/09
Anchoria	8,575	20 August 1912	73,527/13/09
Bavaria	7,625	—	18,227/18/07
Media	8,575	19 July 1912	74,542/11/10

Source: NML, MMM, MAL, B/BROC, Brocklebanks, Building Prices, Ship Values, Undated typed letter.

Appendix 13: Brocklebanks Sailings to East Asia, 1829-1906

Vessel	Sailing Date	Destination(s)
Superior	16 August 1829	Batavia, Singapore
Hero	15 September 1830	Batavia, Singapore
Grecian	12 February 1832	Batavia, Singapore
Perserverance	12 October 1833	Batavia, Singapore, Manilla
Jumna	13 May 1834	Canton
Esk	3 April 1835	Batavia, Singapore
Irt	6 August 1835	Linton (Canton)
Jumna	25 May 1836	Canton
Earl Grey	23 July 1836	Batavia, Singapore, Linton
Patriot King	16 September 1836	Batavia
Lord Althorp	9 July 1837	Singapore, Manilla
Tigris	21 July 1837	Canton
Bonanza	24 December 1837	Canton
Tigris	26 July 1838	Canton
Dryad	25 August 1838	Singapore
Aden (new vessel)	13 August 1839	Canton
Aden	26 October 1840	Singapore
Aden	23 March 1842	Singapore
Dryad	20 November 1842	Singapore
Patna (new vessel)	12 January 1843	China
Aden	7 February 1843	China
Dryad	9 January 1844	Singapore
Patna	31 March 1844	Hong Kong
Aden	25 April 1844	Hong Kong
Robert Pulsford (new vessel)	20 June 1844	Hong Kong
Dryad	January 1845	Singapore
Patna	January 1845	Hong Kong, Whampoa

Aden	May 1845	Hong Kong, Whampoa
Lord Althrop	July 1845	Hong Kong, Whampoa
Patna	February 1846	Hong Kong, Whampoa
Patriot King	October 1846	Hong Kong, Whampoa
Lanercost	January 1847	Hong Kong, Whampoa
Patna	March 1847	Hong Kong, Whampoa
Aden	June 1847	Whampoa
Earl Grey	August 1847	Singapore
Lanercost	December 1847	Hong Kong, Whampoa
Patna	February 1848	Canton
Aden	December 1848	Hong Kong, Whampoa
Patna	February 1849	Hong Kong, Whampoa
Crisis	February 1849	Shanghai
Aden	December 1849	Hong Kong, Canton
Sir Henry Pottinger	January 1850	Hong Kong, Whampoa
Crisis	April 1850	Hong Kong, Whampoa
Patna	January 1851	Hong Kong, Whampoa
Crisis	March 1851	Shanghai
Patna	December 1851	China
Patna	10 February 1852	China
Aden	18 March 1852	Hong Kong
Crisis	31 March 1852	China
Sir Henry Pottinger	19 January 1853	China
Patna	13 February 1853	Hong Kong
Aden	17 March 1853	China
Crisis	12 April 1853	China
Patna	1 February 1854	Singapore
Aden	21 March 1854	China
Sir Henry Pottinger	31 March 1854	Singapore

Patna	10 January 1855	Hong Kong
Aden	25 February 1855	Shanghai
Aracan	4 May 1855	Shanghai
Crisis	6 June 1855	Hong Kong
Patna	8 December 1855	Hong Kong
Aden	18 March 1856	Hong Kong
Crisis	15 May 1856	Shanghai
Herculean (new vessel)	5 August 1856	Hong Kong
Patna	27 December 1856	Hong Kong
Aden	10 April 1857	Hong Kong
Crisis	9 July 1857	Hong Kong
Herculean	29 August 1857	Hong Kong (from London)
Aden	February 1858	Hong Kong
Crisis	May 1858	Hong Kong
Herculean	July 1858	Hong Kong
Aden	February 1859	Hong Kong, Whampoa
Patna	April 1859	Hong Kong, Whampoa
Juanpore (new clipper ship)	May 1859	Hong Kong, Whampoa
Crisis	July 1859	Batavia, Singapore
Veronica (new clipper barque)	February 1860	Hong Kong
Aden	May 1860	Batavia, Singapore
Crisis	August 1860	Singapore
Petchelee	September 1860	Hong Kong, Whampoa
Tigris	November 1860	Singapore
Maiden Queen (new ship)	January 1861	Hong Kong
Crisis	December 1861	Singapore
Tigris	January 1862	Singapore
Patna	February 1862	Hong Kong, Whampoa

Patriot King	July 1862	Manilla
Veronica	October 1862	Hong Kong, Whampoa
Patna	January 1863	Hong Kong, Whampoa
Tigris	January 1863	Singapore
Juanpore	May 1863	Hong Kong, Whampoa
Everest (new clipper ship)	November 1863	Hong Kong, Whampoa
Tigris	December 1863	Batavia, Singapore
Patna	February 1864	Shanghai
Veronica	February 1864	Hong Kong, Whampoa
Juanpore	April 1864	Hong Kong, Whampoa
Everest	January 1865	Hong Kong, Whampoa
Veronica	February 1865	Hong Kong, Whampoa
Tigris	February 1865	Manilla
Patna	March 1865	Shanghai
Juanpore	30 May 1865	Shanghai (from London)
Petchchelee	9 June 1865	Shanghai
Everest	24 January 1866	Hong Kong
Veronica	7 March 1866	Hong Kong
Patriot King	9 March 1866	Singapore
Juanpore	26 April 1866	Shanghai
Patna	15 May 1866	Hong Kong
Petchelee	26 August 1866	Singapore
Patriot Queen	20 November 1866	Singapore
Maiden Queen	28 November 1866	Shanghai
Burdwan	22 January 1867	Foochow
Everest	26 January 1867	Hong Kong
Veronica	21 March 1867	Hong Kong
Patna	May 1867	Foochow (from London)
Petchelee	25 June 1867	Hong Kong

Patriot Queen	29 November 1867	Singapore
Everest	8 December 1867	Hong Kong
Burdwan	28 December 1867	Shanghai
Maiden Queen	15 February 1868	Hong Kong
Juanpore	29 March 1868	Shanghai
Robert Pulsford	16 April 1868	Manila
Veronica	2 May 1868	Hong Kong
Petchelee	6 August 1868	Singapore
Everest	14 November 1868	Shanghai
Burdwan	December 1868	Shanghai
Juanpore	18 February 1869	Shanghai
Veronica	6 April 1869	Hong Kong
Everest	14 November 1869	Hong Kong
Burdwan	23 December 1869	Shanghai
Maiden Queen	29 January 1870	Hong Kong
Veronica	15 February 1870	Hong Kong
Juanpore	18 February 1870	Shanghai
Aracan	21 April 1870	Shanghai
Petchelee	9 June 1870	Singapore
Maiden Queen	2 March 1871	Anger
Aracan	3 March 1871	Singapore
Veronica	30 March 1871	Shanghai
Everest	1 April 1871	Singapore
Burdwan	7 May 1871	Hong Kong
Sumatra	3 November 1871	Anger
Aracan	18 February 1872	Shanghai
Everest	February 1872	Hong Kong
Maiden Queen	23 February 1872	Hong Kong
Burdwan	22 March 1872	Hong Kong

Veronica	10 April 1872	Hong Kong
Aracan	13 May 1872	Shanghai
Maiden Queen	13 February 1873	Hong Kong
Burdwan	24 February 1873	Shanghai
Everest	25 February 1873	Hong Kong
Aracan	17 March 1873	Anger
Sumatra	16 May 1873	Anger (from London)
Aracan	4 March 1874	Hong Kong (from London)
Burdwan	13 November 1876	Anger
Burdwan	13 September 1877	Anger (from London)
Burdwan	15 March 1879	Anger (from Cardiff)
Bowfell	26 April 1879	Anger (from Cardiff)
Burdwan	11 January 1880	Anger
Mahanda	8 March 1880	Anger
Bowfell	24 March 1880	Anger (via Cardiff)
Burdwan	10 November 1880	Manilla (via Cardiff)
Cambay	21 January 1881	Anger
Mahanda	12 February 1881	Anger (via Cardiff)
Bowfell	19 March 1881	Anger (via Cardiff)
Burdwan	5 December 1881	Singapore (via Cardiff)
Mahanda	27 April 1882	Anger (via Cardiff)
Bowfell	10 May 1882	Anger (via Cardiff)
Chinsura	4 October 1882	Anger (via Cardiff)
Cambay	30 October 1882	Anger (via Cardiff)
Burdwan	28 November 1882	Anger (via Cardiff)
Bowfell	15 May 1883	Anger (via Cardiff)
Burdwan	7 February 1884	Manilla (via Cardiff)
Bowfell	23 July 1884	Anger
Burdwan	23 April 1885	Anger

Zemindar	30 July 1887	Singapore (from Barry)
S.S. Marwarri	9 October 1905	Singapore, Shanghai, Kobe, Yokohama (from Antwerp)
S.S. Bengali	3 January 1905	Cochin, Singapore, Hong Kong, Shanghai, Kobe, Yokohama (from Antwerp and London)
S.S. Ameer	15 February 1906	Cochin, Colombo, Singapore, Shanghai, Kobe, Yokohama (from Antwerp and London)
S.S. Gaekwar	22 March 1906	Cochin, Colombo, Singapore, Shanghai, Hong Kong, Kobe, Yokohama (from London)

Notes: Sometimes only the month was given for sailing date; the actual sailing time was often weeks later. The information above is for advertised sailings only. Voyages on Brocklebanks' own account – and thus not advertised – are excluded. The steamer service was continued on a regular basis until sold to the Royal Mail Line in 1911.

Source: NML, MMM, MAL, B/BROC, Historical Notes.

Appendix 14: Pacific Steam Navigation Company Fleet, 1840-1914

Name	Acquired	Built	Rig	Tons	Notes
Chile	1840	1840	w.stm.	682g.	Sold, 1852
Peru	1840	1840	w.stm.	690g.	Lost, 1852
Ecuador	1845	1845	i.stm.	323g.	Sold, 1851
New Granada	1846	1846	i.stm.	649g.	Disposed of, 1851
Bolivia	1849	1849	i.stm.	773g.	Hulked, 1870. Scuttled, 1879
Santiago	1851	1851	i.stm.	961g.	Sold, 1857
Lima	1851	1851	i.stm.	1,461g.	Lost, date unknown
Quito	1852	1851	i.stm.	1,461g.	Wrecked near Huasco, 10 July 1853
Bogota	1852	1851	i.stm.	1,461g.	Hulked after grounding, 1871
La Perlita	1853	1853	i.stm.	140g.	Lost en route for coast
Osprey	1852	1853	i.stm.	109g.	Lost on way out to coast
Valdivia	1853	1853	w.stm.	573g.	Stranded near Valparaiso, Dec 1857
Panama	1856	1856	i.stm.	270g.	Lost on way to coast, 1856
Inca	1856	1856	c.stm.	290g.	Sold, 1876
Valparaiso	1856	1856	c.stm.	1,060g.	Lost on Layerto Island, 1871
Cloda	1857	1857	i.stm.	699g.	Lost off Huacho 25 January 1865
Prince of Wales	1858	1854	i.stm.	700g.	Wrecked 17 March 1859
Callao	1858	1858	i.stm.	1,062g.	Hulked, 1880
Anne	1859	1854	i.stm.	344g.	Sold, 1864
San Carlos	1860	1860	i.stm.	652g.	Sold, 1874
Guayaquil	1860	1860	i.stm.	661g.	Dismantled about 1870
Morro	1860	1860	st.stm.	132g.	Disposed of, 1881
Peruano	1860	1860	w.stm.	639g.	Hulked, 1874
Peru II	1861	1861	i.stm.	1,307g.	Lost near Layerto, 11 July 1863
Talca	1862	1862	i.stm.	708g.	Hulked 1874. Later scuttled
Chile II	1863	1863	i.stm.	1,672g.	Sold, Chilean govt., about 1870
Quito II	1863	1863	i.stm.	1,388g.	Sold, 1864

Ecuador II	1863	?	i.stm.	500g.	Lost, 1870
Payta	1864	1864	i.stm.	1,344g.	Sold, Chilean govt., 1878
Pacific	1865	1865	i.stm.	1,631g.	Hulked about 1870
Santiago II	1865	1865	i.stm.	1,619g.	Wrecked Straits of Magellan, 1869
Limena	1865	1865	i.stm.	1,622g.	Hulked at Callao, 1880
Favorita	1865	1865	w.stm.	837g.	Burned 1871, Callao Bay
Panama II	1866	1866	i.stm.	1,642g.	Hulked about 1870
Colon	1861	1867	i.stm.	1,995g.	Sold at Valparaiso, 1872
Arica	1867	1867	i.stm.	740g.	Lost off Peru, 13 January 1869
Quito III	1867	1867	i.stm.	743g.	Hulked about 1882
Supe	1867	1867	i.stm.	298g.	Sold about 1882
Atlas	1867	1867	i.stm.	56g.	Tug. Grounded, abandoned, 1890
Caldera	1868	1868	i.stm.	1,741g.	Sold to Laird's, Birkenhead, 1876
Magellan	1868	1869	i.stm.	2,856g.	Broken up on Thames, 1893
Patagonia	1869	1869	i.stm.	2,866g.	Lost, Chilean coast, 1894
Araucania	1869	1869	i.stm	2,877g.	Sold for £5,500, 1897
Cordillera	1869	1869	i.stm.	2,860g.	Lost, Straits of Magellan, about 1884
John Elder	1869	1870	i.stm.	4,151g.	Lost, off Chile, 16 January 1877
Atacama	1870	1870	i.stm.	1,821g.	Lost, 1877
Coquimbo	1870	1870	i.stm.	1,821g.	Hulked, 1901
Valdivia II	1870	1870	i.stm.	1,861g.	Wrecked off Huacho, 1884
Arequipa	1870	1870	i.stm.	1,065g.	Hulked, 1883
Huacho	1870	1870	i.stm.	329g.	Sold, Ecuadorian Government, 1882
Chimborazo	1871	1871	i.stm.	3,847g.	Sold, 1895.
Cuzco	1871	1871	i.stm.	3,845g.	Broken up, Preston, March 1905
Garonne	1871	1871	i.stm.	3,871g.	Sold, Nov 1897 for £11,000
Lusitania	1871	1871	i.stm.	3,825g.	Wrecked, Cape Race, June 1901
Eton	1871	1871	i.stm.	1,853g.	Wrecked off Ventura Pt., 1877

Santiago III	1871	1871	i.stm.	1,451g.	Sold about 1882
Iquique	1871	1871	i.stm.	323g.	Lost, 1877
Taboguilla	1871	1871	i.stm.	154g.	Out of fleet, 1893
Aconcagua	1872	1872	i.stm.	4,105g.	Sold, 1895
Sorata	1872	1872	i.stm.	4,014g.	Scrapped, 1895
Corcovado	1872	1872	i.stm.	3,805g.	Sold to Royal Mail, 1875
Santa Rosa	1872	1872	i.stm.	1,817g.	Sold, 1890
Rimac	1872	1872	i.stm.	1,805g.	Sold to Valparaiso SS Co., 1877
Ito	1872	1872	i.stm.	1,794g.	Hulked, 1882
Truxillo	1872	1872	i.stm.	1,449g.	Hulked about 1882
Tacora	1872	1872	i.stm.	3,525g.	Wrecked near Montevideo, 1872
Baja	1872	1872	i.stm.	74g.	Tug at Callao. Final fate unknown
Iberia	1873	1873	i.stm.	4,671g.	Sold to Italy, 1903 (£13,500)
Potosi	1873	1873	i.stm.	4,218g.	Sold, June, 1897
Cotopaxi	1873	1873	i.stm.	4,022g.	Wrecked, Straits of Magellan, 1889
Britannia	1873	1873	i.stm.	4,129g.	Sold after grounding, 1895
Illimani	1873	1873	i.stm.	4,022g.	Stranded, July, 1879
Galicia	1873	1873	i.stm.	3,829g.	Sold, 1898 for £9,250
Puno	1873	1873	i.stm.	3,805g.	Sold to Royal Mail, 1875
Valparaiso II	1873	1873	w.stm.	3,575g.	Lost, 28 February 1887
Ayacucho	1873	1873	i.stm.	1,916g.	Hulked, 1897
Colombia	1873	1873	i.stm.	1,823g.	Sold, 1890
Lima II	1873	1873	i.stm.	1,803g.	Lost on Chilean coast, 1909
Oroya	1873	1873	i.stm.	1,577g.	Final fate unknown
Islay	1873	1873	i.stm.	1,577g.	Later hulked
Tacna	1873	1873	i.stm.	612g.	Capsized, March, 1874
Liguria	1874	1874	i.stm.	4,666g.	Sold, F. Bruzzo for scrap, 1903
Bolivia II	1874	1874	i.stm.	1,925g.	Hulked, 1895
Lobo	1874	1874	i.stm.	106g.	Water tender Callao. Fate unknown

Amazonas	1877	1874	i.stm.	2,019g.	Sold, 1881 to C.S.A.V.
Lontue	1877	1877	i.stm.	1,648g.	Later Hulked
Casma	1878	1878	st.stm.	592g.	Sold, Costa Rican Govt., 1899
Chala	1879	1879	st.stm.	598g.	Hulked, 1897
Arauco	1879	1879	i.stm.	801g.	Sold, 1899
Puchoco	1879	1879	i.stm.	801g.	Later became *Sidora*
Mendoza	1879	1879	st.stm.	2,160g.	Hulked, 1904
Pizarro	1879	1879	st.stm.	2,160g.	Hulked, 1907
Puno II	1881	1881	st.stm.	2,398g.	Hulked, 1904
Serena	1881	1881	st.stm.	2,394g.	Hulked, 1903
Arica II	1881	1881	st.stm.	1,771g.	Later hulked, Bay of Panama
Ecuador III	1881	1881	st.stm.	1,768g.	Stranded, December, 1905
Osorno	1881	1881	st.stm.	532g.	Sold to Nicaragua, 1899
Morro II	1881	1881	st.stm.	170g.	Tender at Panama. Sold, 1902
Chiloe	1881	1882	i.stm.	2,309g.	Lost, 1892
Manavi	1885	1885	st.stm.	1,041g.	Later Panamanian flag
Oroya II	1886	1886	st.stm.	6,057g.	Sold to Royal Mail, 1905
Orizaba	1886	1886	st.stm.	6,077g.	Wrecked, 17 February 1905
Quito IV	1888	1888	st.stm.	1,089g.	Sold to Chile, 1915
Orotava	1889	1889	st.stm.	5,857g.	Sold to Royal Mail, 1905
Oruba	1889	1889	st.stm.	5,852g.	Sold to Royal Mail, 1905
Santiago IV	1889	1889	st.stm.	2,952g.	Lost near Corral, 18 June 1907
Arequipa II	1889	1889	st.stm.	2,953g.	Lost, Valparaiso, 2 June 1903
Assistance	1891	1891	st.stm.	214g.	Tug. Sold, 1926, Chilean Govt.
Magellan II	1893	1893	st.stm.	3,590g.	Torpedoed, July 1918
Inca II	1893	1893	st.stm.	3,593g.	Sold to Chile, 1923
Sarmiento	1893	1893	st.stm.	3,603g.	Sold, 1910
Antisana	1893	1893	st.stm.	3,584g.	Sold to France, 1911
Orellana	1893	1893	st.stm.	4,821g.	Sold in 1905
Orcana	1893	1893	st.stm.	4,803g.	Sold in 1905

Orissa	1895	1895	st.stm.	5,317g.	Torpedoed, 25 June 1918
Oropesa	1895	1895	st.stm.	5,303g.	Transferred to French Navy, 1915
Chiriqui	1896	1896	st.stm.	643g.	Sank after explosion, 1910
Chile III	1896	1896	st.stm.	3,225g.	Sold to Chile, 1923
Peru III	1896	1896	st.stm.	3,225g.	Sold, 1923
Perlita	1896	1896	st.stm.	49g.	Tender, Valparaiso. Fate unknown
Sorata II	1897	1897	st.stm.	4,568g.	Sold to German breakers, 1921
Oravia	1897	1897	st.stm.	5,321g.	Wrecked on Falklands, Nov., 1912
Taboga	1898	1898	st.stm.	649g.	Sold, 1909
Ortona	1899	1899	st.stm.	7,945g.	Sold to Royal Mail, 1905
Colombia II	1899	1899	st.stm.	3,335g.	Lost off Lobos de Tierra, August 1907
Guatemala	1899	1899	st.stm.	3,227g.	Sold to Chile, 1923
Talca II	1900	1900	st.stm.	1,018g.	Lost, Puchoco Pt., 12 July 1901
Potosi II	1900	1900	st.stm.	5,300g.	Sold to Russia, 1900 (£120,000)
Galicia II	1901	1901	st.stm.	5,896g.	Mined off Teignmouth, May, 1917
Perico	1901	1901	st.stm.	268g.	Out of service, 1924
Panama III	1902	1902	st.stm.	5,981g.	Became hosp. Ship *Maine*, 1920
Victoria	1902	1902	st.stm.	5,967g.	Sold to Dutch breakers, 1923
Mexico	1902	1902	st.stm.	5,549g.	Torpedoed, 23 March 1917
California	1902	1902	st.stm.	5,547g.	Sunk by U-Boat, October 1917
Rupanco	1895	1902	st.stm.	818g.	Sank off Valparaiso, 14 October 1914
Gallito	1902	1902	st.stm.	130g.	Tug. Scrapped, 1931
Orita	1903	1903	st.stm.	9,239g.	Laid up, 1927. Scrapped, 1931
Gaelic (Callao II)	1885	1905	i.stm.	4,207g.	Scrapped 1907
Potosi III	1905	1905	st.stm.	4,375g.	Became *Georgios M.* In 1925
Bogota II	1906	1906	st.stm.	4,603g.	Sunk by U-Boat, November 1916
Duendes	1906	1906	st.stm.	4,452g.	Became Greek *Zachariosa* 1927
Esmeraldas	1906	1906	st.stm.	4,491g.	Sunk by *Moewe*, 10 March 1917

Flamenco	1906	1906	st.stm.	4,540g.	Sunk by *Moewe*, 2 February 1916
Ortega	1906	1906	st.stm.	7,970g.	Broken up at Briton Ferry, 1927
Oriana	1906	1906	st.stm.	8,066g.	Broken up, 1927
Oronsa	1906	1906	st.stm.	7,970g.	Torpedoed, 28 April 1918
Huanchaco	1907	1907	st.stm.	4,524g.	Sold, 1925
Junin	1907	1907	st.stm.	4,536g.	Sold, 1925
Kenuta	1907	1907	st.stm.	5,025g.	Sold, 1926
Lima III	1907	1907	st.stm.	4,946g.	Wrecked, February 1910
Quillota	1907	1907	st.stm.	3,674g.	Became *Chile* in 1923
Quilpue	1907	1907	st.stm.	3,669g.	Became *Gascoyne* in 1922
Explorer	1873	1907	i.stm.	2,066g.	Ex-*Crocus*. Hulked
Orcoma	1908	1908	st.stm.	11,546g	Sold for scrap in 1933
Poderoso	1911	1911	st.stm.	285g.	Sold to Chile
Andes	1913	1913	st.stm.	15,620g	Later Royal Mail *Atlantis*
Calbuco	1913	1913	st.stm.	55g.	Tug. Sold, 1925
Orduna	1914	1914	st.stm.	15,507g	Broken up at Dalmuir in 1951

Note: See Appendices 4, 5 and 8A. Fleet list excludes vessels originally purchased as coal hulks.

Source: NML, MMM, MAL, B/PSNC, Administration, Directors' Reports, various years; *Pacific Steam Navigation Company Handbook*, various years; "Pacific Steam Navigation Cos. Steamers on West Coast," n.d.; BT 107/108, Liverpool Vessel Registries, various years; Arthur C. Wardle, "The West Coast Route (2)," *Sea Breezes*, XXII (September 1956), 206; Wardle, *Steam Conquers the Pacific. A Record of Maritime Achievement 1840-1940* (London: 1940), 189-195; Duncan Haws, *Merchant Fleets: The Pacific Steam Navigation Company* (Burwash, East Sussex, 1986); and *Lloyd's Register of British and Foreign Shipping* (London, various years).

Appendix 15: PSNC Routes, 1840-1970 (Also Orient Line Routes, pre-1905)

Years	*Ports of Call*
1843-1923	Valparaiso; Coastal Ports (South America); Callao
1846-1923	Valparaiso; Callao; Guayaquil; Panama
1848-1923	Valparaiso; South Chilean Ports (Terminal, Puerto Montt)
1868-19??	Liverpool; Bordeaux; Lisbon; Cape Verde; Rio de Janeiro; Monte Video; Punta Arenas; Valparaiso (from 1870); Arica; Mollendo; Callao
1877	London; Plymouth; via the Cape of Good Hope (no call); Melbourne; Sydney; Adelaide; Suez Canal; London
1877-1879	Liverpool; Bordeaux; Buenos Aires
1878	Calls at Capetown introduced
1881	Outward sailings to Australia were alternatively via Suez and Cape of Good Hope
1883	Cape voyages discontinued and route became London; Gibraltar; Port Said; Suez; Colombo; Albany; Adelaide; Melbourne; Sydney
1890	Naples added as a port of call
1904-1920	Liverpool; La Pallice; Corunna; Vigo; Lisbon; Recife; Salvador; Rio de Janeiro; Monte Video; Buenos Aires; Port Stanley; Punta Arenas; Coronel; Talcahuano; Valparaiso
1914-1945	Cristobal; Panama Canal; Champerico
1920-1930	New York; Panama Canal; Callao; Valparaiso
1920-1931	New York; Guayaqquil
1920-1959	Liverpool; Bermuda; Bahamas; Havana; Jamaica; Panama Canal; West Coast of South America ports; Valparaiso
1920-1937	Montevideo; Port Stanley
1955-1970	Bermuda; Caribbean ports; Panama
1956-1963	(*Reina Del Mar*) Liverpool; La Pallice; Santander; Corunna (1961 Vigo); Bermuda; Nassau; Havana; Kingston; La Guaria; Curacao; Cartagena; Panama Canal; La Libertad; Callao; Arica; Antofagasta; Valparaiso
1963-	Cargo services to Caribbean and South American Ports

Note: The years 1877, 1878, 1881, 1883 and 1890 are Orient Line routes.

Source: Haws, *Pacific Steam Navigation Company*, 25; and *The Ship List*, http://www.theshiplist.com (compiled by Ted Finch).

Appendix 16: PSNC Fleet Additions, Sales and Losses, 1897-1909

Vessel	Actions
Sorata	Built, 1897 by Swan and Hunter
Oravia	Built, 1897, Harland & Wolff
Taboga	Built, 1898 by Wigham Richardson and Company. Sold, 1909
Ortona	Built, 1899 by Barrow Shipyards. Sold, 1905
Colombia	Built, 1899 by Caird and Company, Greenock
Guatemala	Do.
Potosi	Sold, 1900
Galicia	Refitted for general cargo trade, 1900
Perico	Built & engineered by J. Jones & Sons, Birkenhead, 1900
Talca	Delivered, 1900 and wrecked 1901
Chica	Delivered, 1900
Coqumibo	Hulked, 1900
Rupanco	Bought from Ferdinand Prehn, Kiel, Germany, 1901
Panama	Built, 1902 by Fairfield Co., Ltd, Glasgow
Victoria	Do.
Mexico	Built, 1902 by Caird & Company, Glasgow
California	Do.
Galito	Tug, built 1902 by J. Shearer and Son, Ltd., Glasgow
Orita	Completed March, 1903, Harland & Wolff, Belfast
Arequipa	Lost 2 June 1903
Orizaba	Wrecked and sold 1905
Oroya	Sold, Royal Mail Steam Packet Company, 1905
Orotava	Do.
Oruba	Do.
Potosi	Built, 1905 by W. Pickersgill and Son, Sunderland. Engines G. Clark Ltd.
Bogota	Built, 1906 by Sir James Laing and Son Ltd., Sunderland. Engines G. Clark Ltd.

Duendes	Do.
Esmeraldas	Do.
Flamenco	Do.
Ortega	Completed June 1906, Harland & Wolff, Belfast
Oriana	Completed June 1906, Barclay, Curle and Co., Ltd., Glasgow
Oronsa	Built 1906, Harland & Wolff, Belfast
Gaelic	Bought from Oceanic Steam Navigation Co., Ltd., 1906. Renamed *Callao*
Huanchaco	Built & engined, W. Beardmore and Co., Ltd., Glasgow, 1907
Junin	Do.
Quillota	Do.
Quilpue	Do.
Kenuta	Built by John Brown and Co., Ltd., Glasgow, 1907
Lima	Do.
Explorer	Bought from Charente Steamship Co., Ltd., 1907. Formerly *Crocus*. Hulked
Orcoma	Built & engined by W. Beardmore & Co., Ltd., Glasgow, 1908

Source: Arthur C. Wardle, "The West Coast Route (1)," *Sea Breezes*, XXII (July-December 1956), 121; Wardle, "The West Coast Route (2)," *Sea Breezes*, XXIII (September 1956), 180-182; NML, MMM, MAL, B/PSNC, Sixtieth Report of the Directors, year 1900, 1901, 1; and Sixty-Fifth Report of the Directors, Year 1905, 1906, 1.

Document 1: Texts of the Decrees of Chile, Peru and Bolivia in Favour of PSNC

Department of War and Marine [Chile]

WHEREAS the National Congress has discussed and agreed upon the following project of a law:

Art. 1. An exclusive privilege, for the term of ten years is granted to Mr. William Wheelwright, or his legal representatives for the establishment of steam navigation in our ports and rivers open to the coasting trade, with the exemptions and privileges granted, or that henceforward may be granted, to national merchant vessels.

Art. 2. To secure this privilege, the undertaking must be commenced within the term of two years from the date, hereof, at least by two steam vessels, of three hundred tons each.

Art. 3. If within the period named in the preceding article, the loss of one or both vessels be satisfactorily proved, the Government is authorized to grant a further term, not however exceeding two years.

Art. 4. The term of privilege shall commence from the day on which the aforesaid vessels shall arrive at any of our ports.

Art. 5. If, after four years, from the date of this grant, steam navigation shall not have been established in one or more rivers, the privilege, with respect to these, shall cease.

Art. 6. The respective office shall issue the necessary orders for the immediate despatch of these vessels, in order that by suffering no delay in their departure, the regularity of their voyages may not be interrupted; without prejudice, however, to the public revenue.

Art. 7. The Government will determine the points of our coast at which the projector may form his depots for provisions, materials and everything necessary for the navigation of the said steam vessels.

WHEREFORE, etc.

(*Signed*) PRIETO
(*Signed*) JOSE JAVIER RUSTAMENTE

.....

Decree of the Government of Peru, Granting to Mr. William Wheelwright, or His Representatives an Exclusive Privilege, for Ten Years, to navigate the Coasts and Ports Thereof with Vessels Propelled by Steam or any other Mechanical Power.

The proposal of Mr. William Wheelwright having been considered, it is acceded to on the following conditions:

1. The exclusive privilege is granted, to him or his representatives, to navigate the coasts and ports of the Sates of North and South Peru, with vessels propelled by steam or any other mechanical power, for the term of ten years, with the exemptions and privileges allowed, or that may henceforward be granted to national merchant vessels.

2. The projector, in order to secure this privilege, shall be obliged to establish the packets within the term of two years, which shall commence and be computed on and from the first day of January, one thousand eight hundred and thirty-seven.

3. The privilege shall take effect so soon as there shall have arrived, at any of our ports, at least two of the said vessels of the burden of three hundred tons, or more, each.

4. If, within the term fixed by the second article, the projector prove to the Government the loss of one or more of said vessels, or their detention on account of sea risks, or any other fortuitous events, the necessary time for replacing them, not exceeding two years, shall be granted to him.

5. A privilege is also given to establish the necessary hulks for the depositing of coal, utensils, provisions, etc., free of duty, for the use of said vessels.

6. The vessels in which the coal is imported shall be free from tonnage dues, if they have not on board any other article of traffic or commerce.

7. The vessels of the enterprise aforesaid shall freely enter the ports open to the coasting trade, to receive or leave cargo or passengers; they shall pay at the last port of their arrival the same tonnage dues as national vessels – the amount whereof shall not be calculated upon the entire tonnage of the vessel, but upon the tons of cargo that she may convey.

8. The Government engages to have prompt despatch given to these vessels, in order that they may not suffer any delay in their voyages, taking care that the public revenues be not prejudiced thereby.

Take note hereof in the public offices, communicate it to the Ministry of State, and publish it.

(Signed) Santa Cruz
(Signed) Pio de Tristan

I agree to the preceding articles, and in testimony of my conformity thereto, I sign this in Lima, September 13, 1836.

William Wheelwright

.....

Decree of the Supreme Government, Extending to the Ports of Bolivia the Privileges Granted by North and south Peru.

The privileges granted to Mr. William Wheelwright by a decree of the 12th of September this year, for steam navigation in the Pacific, are hereby extended to the ports of the Republic of Bolivia.

My secretary-general is intrusted with the execution of this decree, and with having it printed, published and circulated.

Given in Lima, the 6th of November, 1836.

Andres Santa Cruz

By order of his Excellency Pio de Tristan.

Sources: Arthur C. Wardle, *Steam Conquers the Pacific. A Record of Maritime Achievement 1840-1940* (London: 1940), 185-187; British Library, Additional Manuscripts, "Copy of a Decree of the Chilian [sic] Government in Favor of the 'Pacific Steam-Navigation-Company,' projected by Mr. William Wheelwright," 25 August 1835; "Copy of the Licence of the Government of the North and South Peruvian States to Mr. W. Wheelwright ... to Navigate the Coasts and Ports Thereof, etc.," 12 September 1836. See also, William Wheelwright, *Statement and Documents Relative to the Establishment of Steam Navigation in the Pacific, with Copies of the Decrees ... Granting Exclusive Privileges to the Undertaking* (London, 1838).

Document 2: Conditions of Share Allotments, PSNC, 1838

The capital of the company to be £250,000 divided into 5,000 shares of £50 each.

1,000 shares to be reserved for South America.

The remaining 4,000 shares to be in the distribution of the Directors,

A Deposit of £5 per share to be paid on subscribing, at such time and place as the Directors shall announce,

A further installment of £5 per share will be paid at the expiration of three months, from the date of allotment of the shares.

The remaining capital to be paid up as, and when, required by the Directors, or in such manner, in all respects, as the charter shall provide.

All calls made before the charter comes into operation to be announced in two London daily newspapers, fourteen days previously to the payment thereof; no such call to be for above £5 per share, and an interval of at least three months to elapse between each call.

The shares and all monies previously paid upon them to be forfeited to the Company, in default of payment of any call for the space of three months after the same shall be payable.

The present Directors to have the power of filling up all vacancies which may occur in the Board of Direction previously to the Charter coming into operation, and to increase the number of Directors, and to increase the number of Directors as may be found necessary.

All details, including all regulations for the government of the company, to be arranged by the Directors, under legal advice, and according to the regulations which may be made by Her Majesty's Government; the Subscribers binding themselves to accept the Shares subject to all such regulations and to the terms of this Charter.

Source: NML, MMM, MAL, Pacific Steam Navigation Company (B/PSNC),Pacific Steam Navigation Company Incorporated by Royal Charter, with Limited Responsibility, 5 November 1838, 4.

Document 3: PSNC, Balance Sheet and Profit-and-Loss Account to 1843

Balance Sheet

DR.	£/s/d	CR.	£/s/d
Cash in hand and at Bankers	2,001/02/08	Capital	90,390/00/00
Bills Receivable	102/10/00	Loan	20,000/00/00
Balance at debit of Financial Agency in the Pacific	4,557/19/08	Insurance due in 1844	1,836/04/06
Cost & outfit of steamers *Chile & Peru*	60,931/16/05	Bills payable	971/16/03
Cost & outfit of two Coal Hulks & a schooner	6,738/10/08	Freights payable on coal	761/17/10
Coals (value of stock)	3,271/04/04	Sundry debts due by Company	426/19/08
Talcahuano Mines, capital invested	2,194/03/08		
Store & workshops in Callao, capital invested	413/11/01		
Cost of spare machinery	6,061/00/07		
Cost of fixtures & furniture in London office	174/03/00		
Debts due the company	461/01/03		
Insurance on steamers, chargeable on receipts for year 1843	3,148/14/00		
Sundry payment for wages, chargeable as above on year 1843	995/02/04		
Preliminary expenses	9,640/09/09		
Profits and loss	13,695/08/10		
	114,386/18/03		**114,386/18/03**

.....

Profit and Loss

DR.	£/S/D	CR.	£/S/D
Commission on shares sold in the Pacific, and on freights received	160/02/01	Gain on sundry small accounts	[Illegible]
Paid for damage to cargo on board the steamers	142/16/00	Exchange account	[Illegible]
Paid for damage done by schooner *Lord Abinger* to two other vessels	102/11/03	Gain on voyages of steamer *Peru* to 31 December 1842	2,957/[Illegible]
Balance of account irrecoverable	15/13/08	Gain on voyages of steamer *Chile* to 31 December 1842	3,553/[Illegible]
London charges from Nov. 1838 to 30 June 1843	2,398/03/10	Balance	13,695/[Illegible]
Interest on loans, renewed bills and cash advanced...to 30 June 1843	4,724/05/10		
Value in shares allotted to Mr. Wheelwright	3,500/00/00		
General charges in the Pacific from October 1840-31 December 1842	1,248/13/08		
Loss on policies opened for insurance on freight shipments per steamers	947/19//01		
Preliminary expenses, portion written off	2,410/02/05		
Salaries: namely: To Mr. Wheelwright from 5 November 1839-31 December 1842	3,150/00/00		
To Mr. Nugent, from 15 April 1842-31 December 1842	600/00/00		
To Captain G. Peacock from 15 October 1840-31 December 1842	441/13/04		
[Particulars not given]	4,191/13/04		
	20,373/10/01		**20,373/10/01**

Source: NML, MMM, MAL, B/PSNC, Administration, Directors' Report, 18 August 1843, 12-13.

Document 4: Pacific Steam Navigation Company, Supplementary Charter No. 2

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith; To all whom these Presents shall come, greeting:

WHEREAS, BY OUR Royal Letters Patent under the Great Seal, bearing date at Westminster the seventeenth day of February, in the Third year of our reign, me were graciously pleased to grant, ordain, and declare that the several persons therein named or described should be one body politic and corporate in deed and in name for the period of Twenty-one years, by the name of the PACIFIC STEAM NAVIGATION COMPANY. And we did declare that the said corporation should be established for the purpose of providing vessels to be impelled by steam, or any other motive power, together with all engines, machinery, articles, matters, and things necessary for the same, and of employing the same, and sailing vessels, if need should be, upon such stations as might appear to be expedient along the shores of North and South America, in the Pacific Ocean; and likewise from or between those shores and the coasts of China and New Holland, both or either of them, inclusive of all intermediate islands; and also from or between the ports of New Granada, Central America, and Mexico, in the Atlantic Ocean, all or either of them, and those of the West Indies, in the event of there being a default, or cessation of, or intermission in, regular monthly British Government Mail Conveyances between those ports, or any of them; and with power to build, construct, manufacture, and make, or to purchase or contract for, hire, and provide, such vessels, steam-engines, apparatus, boats, articles, and materials, as might appear to them necessary for the purposes of the said Corporation, and to build, fit, contract for, hire, and provide such sailing vessels as might be necessary for carrying on the business of said Corporation. ***Provided Always,*** that it should not be lawful for the said Corporation to employ such vessels for the conveyance of passengers, specie, and other merchandise, except within the limits aforesaid. And we did thereby declare that the capital or joint-stock of the said Corporation should consist of the sum of Two hundred and fifty thousand pounds, to be subscribed in Five thousand shares of Fifty pounds each, with powers to extend and increase the capital of the said Corporation, so that the total amount of such new or increased capital should not exceed the sum of Seven hundred and fifty thousand pounds. ***And Whereas***, by our further Letters Patent, under the Great Seal, bearing date the Fourth day of November in the Nineth year of our reign, We were graciously pleased to grant, declare, and ordain that certain alterations should be made in the constitution and mode of management of the affairs of the said Corporation. ***And Whereas,*** by our further Letters Patent, under the Great Seal, bearing date the Twenty-third day of December in the Twenty-third year of our reign, we were graciously pleased to grant and declare that the said Corporation should continue incorporated during the period of Twenty-one years, to commence from the Seventeenth day of February, One thousand eight hundred and sixty-one, and should continue so incorporated for all the purposes in the said first recited Charter mentioned, or such of them as they should think fit to carry on, and in all respects as if they had been for such period incorporated by the said first recited Charter. ***And Whereas,*** by our further Letters patent, under the Great Seal, bearing date the Sixteenth day of June, in the twenty-eighth year of our reign, we were graciously pleased to grant, declare, and ordain that in addition to the purposes specified in the said previous Charters of the said Pacific Steam Navigation Company, it should be lawful for the said Company, during the continuance of their existing Charter, to establish lines of communication, by steam or otherwise, for the conveyance of mails, passengers, specie, and merchandise between the West Coast of South America and any ports and places within the River Plate, including the Falkland Islands, and any intermediate ports or places, and such other ports or places in North and South America and other Foreign parts as to the said Company should seem expedient, so as such lines of communication should be connected with and be in the nature of auxiliary branches to the several lines of communication which the said Company had already established, or were by their existing Charter authorized to establish; and that the said previous Charters should be read and construed to all intents and purposes as if the limits in the said first recited Charter mentioned had extended to and included all such additional ports and places aforesaid. ***And Whereas,*** a humble petition had been presented to us in council by the Directors of the said Company, whereby, after stating that in pursuance of the powers conferred upon them by their said first recited Charter, the Capital of the Company had been increased to the extent of Seven hundred and fifty thousand pounds, which, with the two hundred and fifty thousand pounds subscribed for, made up a total capital of One million pounds. That the Chilean Government had for some time been, and then were, desirous of having a mail service established between the West Coast and the United Kingdom, and were disposed to intrust the same throughout to one Company. That the said Company were most desirous of being in a position to meet

the views of the Chilean Government by undertaking the entire service, and otherwise to extend the accommodation to the public, but that for these purposes it would be necessary that the limits of the Company's existing Charters should be extended, so as to permit their steam-ships to run to and from the United Kingdom, calling at such Ports and places in South America, the Cape de Verde Islands, the Madeiras, and the Continent of Europe, as the said Company might deem expedient. And that they might be empowered to increase their capital to a total sum of Two million pounds. That such an extension would very greatly promote the interests of the said Company, and be of great advantage to this country, and to Europe generally, in a political and commercial point of view. That the operations of the said Company in the Pacific were then so extensive as to employ upwards of Twenty steam-ships, two or three of which must be sent to this country for overhaul and refit, and returned to their stations every year; and that, by the extension now sought for, these vessels could be employed in the conveyance of mails, passengers, and merchandise on the voyage to and from the United Kingdom. That the additional commercial and postal route thus proposed would render the public less dependent on the Isthmus of Panama, the means of transit over which were barely sufficient for the present traffic, besides being liable to be interrupted by local revolution, or other political commotion. That the Directors of the said Company have by their said Petition most humbly prayed that we would be graciously pleased to extend the limits of the Company's existing Charter so as to enable them to meet the views of the Chilean Government, and also to extend the accommodation of the public in other respects, by empowering them to establish lines of communication for the conveyance of mails, passengers, specie, and other merchandise, between the various ports and places to which their existing powers extend and the United Kingdom, and such intermediate Ports and places in South America, the Cape de Verde Islands, the Madeiras, and the Continent of Europe, as to the Directors of the Company shall seem expedient. ***And*** for the purposes aforesaid to increase the capital of the Company to Two million pounds instead of One million pounds, the amount of their existing capital, with such other powers and privileges as might be necessary to carry the above purposes into effect. ***And know ye*** that as well upon the prayer of the said Directors as also of our own especial grace, certain knowledge, and mere motion, we do by these presents, for ourselves, our heirs, and successors, grant, declare, and ordain that in addition to the purposes specified in the said Charters of the pacific Steam Navigation Company, it shall be lawful for the said Company during the continuance of their said existing Charter, to establish lines of communication for the conveyance of mails, passengers, specie, and other merchandise, between the various ports and places to which their existing powers extend, and the United Kingdom, and such intermediate ports and places in South America, Cape de Verde Islands, the Madeiras, and the Continent of Europe, as to the Directors of the said Company shall seem expedient; and for the purposes aforesaid to increase the capital of the Company to Two million pounds, instead of One million pounds, the amount of their existing capital, and that the said previous Charters shall be read and construed to all intents and purposes as extending to and including all such additional services, and power to increase the capital as aforesaid. ***And we*** do for ourselves, our heirs, and successors, grant and declare that this our Royal Charter, or the enrolment thereof, shall be in all things valid and effectual in the law, according to the true intent and meaning of the same, and shall be so recognised by all our Courts and Judges in Great Britain and Ireland, or elsewhere, and by the Governors, Consuls, and all other officers and persons, and bodies politic or corporate whom it may concern, and that the same may be taken, constructed, and adjudged in the most favourable and beneficial sense, and for the best advantage of the said Company, as well in our several Courts of Record in Great Britain and Ireland as elsewhere, notwithstanding any non-recital, mis-recital, uncertainty, or imperfection in this our Royal Charter. ***In witness whereof,*** we have caused these our Letters to be made patent.

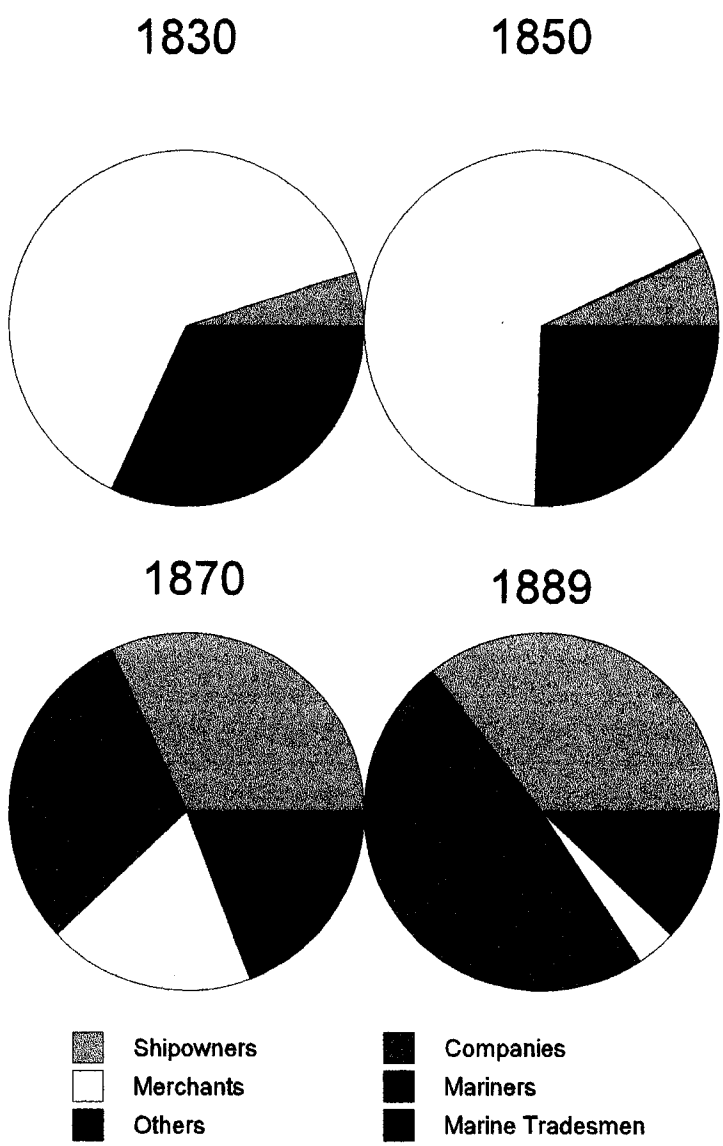
Witness ourself, at our Palace of Westminster, this Third day of December, in the Thirty-first year of our reign.

By Her Majesty's Command,

CARDW.

Source: NML, MMM, MAL, B/PSNC, Pacific Steam Navigation Company. Supplementary Charter No. 2, 1868.

Graph A1: Proportions of Newly-Registered Tonnage Held by Various Occupational Groupings in Liverpool, 1830, 1850, 1870, 1889



Notes: In 1820 neither shipowners, companies (apart from simple partnerships), nor shipbrokers appeared in the registries as investors. The exact tonnage for merchants and mariners could not be determined as individual proportions of any sixty four shares in a vessel were not then noted. Tonnage measurements for 1850 are unspecified, while those for 1870 and 1889 are gross.

Source: BT 107/108, Liverpool Vessel Registries, various years.

Bibliography

Unpublished Sources

British Library. Additional Manuscripts. "Copy of a Decree of the Chilian [sic] Government in Favor of the 'Pacific Steam-Navigation-Company," projected by Mr. William Wheelwright," 25 August 1835.

_____. _____. "Copy of the Licence of the Government of the North and South Peruvian States to Mr. W. Wheelwright ... to Navigate the Coasts and Ports Thereof, etc.," 12 September 1836.

Great Britain. *Bills of Entry.* 1880

_____. *Bills of Entry.* 1884.

_____. *Bills of Entry.* 1887.

_____. *Bills of Entry.* 1890.

_____. *Bills of Entry.* 1893.

_____. *Bills of Entry.* 1898.

Great Britain. British Empire Agreements and Accounts of Crew. *Gaekwar.* November 1891-March 1892, June-October 1892, September-December 1896, November 1899-December 1900, November 1905-February 1906, March-September 1906, October 1908-April 1909.

_____. *Khyber.* October 1880-June 1881, December 1883- October 1884, September 1886-July 1887, December 1898-April 1900, October 1901-March 1903.

_____. *Majestic.* July-October 1898, April 1890-March 1891, April 1891-December 1891, ? 1892-May 1893.

_____. *Quito IV.* July 1894-January 1895; June 1899-June 1900.

_____. *Santiago IV.* December 1890-June 1891, July 1895-July 1896, July 1905-November 1906.

Great Britain. House of Commons. *Parliamentary Papers.* XIII 1806.

_____. House of Commons. *Parliamentary Papers*. XVIII 1826-1827.

_____. House of Commons. *Parliamentary Papers*. LIII 1871.

_____. LXLLL 1872.

_____. XXXII 1916.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. LXII pt. 2, 1871.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1872, LVI.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1876, LXXX.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*.1881, LXXXVII.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1890-1, LXXXII..

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1881, LXXVII.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*.1882, LXVIII.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1890-1, LXXXII.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1892, LXXVII.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1901, LXXV.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*.1902, C.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1911, LXXIX.

_____. House of Commons. Parliamentary Papers. *Annual Statements of Navigation and Shipping*. 1914, LXXXII

_____. House of Commons. Parliamentary Papers. *Correspondence on the Chilean Revolution*. 1892, XCV, pp. 151-411.

_____. House of Commons. Parliamentary Papers. *First Report of the Royal Commission on Loss of Life at Sea*. 1884-1885, c-4577.

_____. House of Commons. Parliamentary Papers. *Report from the Select Committee on Timber Duties*, 1835, XIX, Q.11.

_____. House of Commons. Parliamentary Papers. *Royal Commission on Shipping Rings*. London, 1909.

_____. House of Commons. Parliamentary Papers. *Royal Commission on Unseaworthy Ships: Digest of Evidence*. London, 1873.

_____. House of Commons. Parliamentary Papers. Select Committee on Employment of British Shipping 1844, VIII.

Great Britain. Liverpool Vessel Registries. *Board of Trade 107 Series*. 1820-BT 107.

_____. 1826-BT 107.

_____.1830-BT 107.

_____.1835-BT 107.

_____.1840-BT 107.

_____.1845-BT 107.

_____. *Board of Trade 108 Series*. 1850-BT 108.

_____. 1855-BT 108.

_____.1860-BT 108.

_____.1865-BT 108.

_____.1870-BT 108.

_____.1875-BT 108.

_____.1880-BT 108.

_____.1885-BT 108.

_____. 1889-BT 108.

Great Britain. Maryport Vessel Registries. *Board of Trade 108 Series*, Various years.

Great Britain. *Select Committee on Manufactures, Commerce and Shipping* (1833), VI.

National Museums Liverpool (NML), Merseyside Maritime Museum (MMM), Maritime Archives and Library (MAL), Thomas and John Brocklebank (B/BROC). Administration. Business Letters. 20 August 1861.

_____. B/BROC. Administration. Business Letters. 3 March 1863.

_____. B/BROC. Administration. Business Letters. 14 August 1863.

_____. B/BROC. Administration. Business Letters. 13 November, 1863.

_____. B/BROC. Administration. Minutes of Directors' Meetings. 22 July 1898.

_____. B/BROC. Administration. Minutes of Directors' Meetings. 28 September 1898.

_____. B/BROC. Administration. Minutes of Directors' Meetings. 22 March 1904.

_____. B/BROC. Administration. Minutes of Directors' Meetings. 31 May 1907.

_____. B/BROC. Administration. Minutes of Directors' Meetings. 28 June 1911.

_____. B/BROC. Administration. Minutes of Directors' Meetings. 4 July 1911.

_____. B/BROC. Administration. Percy S. Bates Notebook.

_____. B/BROC. Brocklebank Family. Epitome of the Will of Thomas Brocklebank, 1843.

_____. B/BROC. Brocklebank Family. Licence for Thomas Fisher to Take the Name "Brocklebank." 1845.

_____. B/BROC. Brocklebanks. "Building Prices. Ship Values," letter, n.d.

_____. B/BROC. Historical Notes. "Brocklebank Fleet."

_____. B/BROC. Historical Notes."Liverpool – Calcutta Trade. 1814-1933."

_____. B/BROC. Legal. "Contract per Bernice." 23 October 1863.

_____. B/BROC. Legal. Heads of Agreement Between T. & J. Brocklebank and Anchor Line, 1912.

_____. B/BROC. Operational. Letter of Marque to Daniel Brocklebank for Privateering against Spain in Ship *Castor*. 1779.

_____. B/BROC. "Register of Shareholders & c. Thos. & Jno. Brocklebank Limited." 1898.

_____. B/BROC. "Register of Shareholders & c. Thos. & Jno. Brocklebank Limited." 20 March 1900.

_____. B/BROC. "Thos. & Jno. Brocklebank Limited. Summary showing receipts and disbursements of the company from its formation down to the 31st December 1910." Liverpool: Hill Dickerson & Co., n.d.

_____. B/BROC. Brocklebank, Thomas. "Note book." 1827.

_____. B.BROC. Brown, David. "Private Correspondence." 12 May 1879.

_____. B/BROC. "Correspondence, Sir Denis Bates to John Frederick Gibson." 24 March 1950.

_____. B/BROC. "Correspondence, R. Todd." 24 March 1925.

NML, MMM, MAL. Mersey Docks and Harbour Board (MD & HB), Antecedents A 212.

NML, MMM, MAL. Pacific Steam Navigation Company (B/PSNC). Administration. Business Letters. 1845.

_____. B/PSNC. Administration. Business Letters. 14 January 1846.

_____. B/PSNC. Administration. Business Letters. 9 August 1847.

_____. B/PSNC. Administration. Directors' Reports. 18 August 1843.

_____. B/PSNC. Administration. Directors' Reports. December, 1845

_____. B/PSNC. Administration. Directors' Reports. 1876.

_____. B/PSNC. Administration. Directors' Reports. 6 May 1881.

_____. B/PSNC. Administration. Directors' Reports. 2 May 1886.

_____. B/PSNC. Administration. Directors' Reports. 16 May 1891.

_____. B/PSNC. Administration. Directors' Reports. 1896.

_____. B/PSNC. Administration. Directors' Reports. 1901.

_____. B/PSNC. Administration. Directors' Reports. 1906.

_____. B/PSNC. Administration. Directors' Reports. 1911.

_____. B/PSNC. Administration. Directors' Reports. 1914.

_____. B/PSNC. Administration. "Pacific Steam Navigation Company Incorporated by Royal Charter, with Limited Responsibility." 5 November 1838.

_____. B/PSNC. *"The Humble Petition of the Pacific Steam Navigation Company."* n.d.

_____. B/PSNC. "Instructions for Masters." Various years.

_____. B/PSNC. *Pacific Steam Navigation Company Handbook.* Liverpool: various years.

_____. B/PSNC. "Pacific Steam Navigation Company, Supplemental Charter No. 1." 1865.

_____. B/PSNC. "Pacific Steam Navigation Company. Supplementary Charter No. 2." 1868.

_____. B/PSNC. "Pacific Steam Navigation Cos. Steamers on West Coast." n.d.

_____. B/PSNC. A.C. Wardle, "Notes," n.d.

NML, MMM, MAL. Sandbach, Tinne and Company. "Correspondence, Sandbach, Tinne & Co." 2 December 1869.

_____. Sandbach, Tinne and Company. "Correspondence, Captain T.B. Harrison, London, to Sandbach, Tinne and Co." 19 April 1870.

____. Sandbach, Tinne and Company."Correspondence." McInroy, Sandbach & Company, Demerara, to Sandbach, Tinne & Company. 31 August 1833.

_____. Sandbach, Tinne and Company."Correspondence." Sandbach, Parker and Co., Demerara, to Hon. W.F.H. Smith, Attorney General. 16 August 1876.

_____. Sandbach, Tinne and Company. "Correspondence." Sandbach, Parker and Co., Demerara, to Hon. W.F.H. Smith, Attorney General. 23 August 1876.

_____. Sandbach, Tinne and Company. "Correspondence." Sandbach, Parker and Co., Demerara, to Sandbach, Tinne and Co. Liverpool, 2 December 1869.

_____. Sandbach, Tinne and Company."Correspondence," Sandbach, Parker and Co., Demerara, to Sandbach, Tinne and Co., Liverpool, 4 December 1869.

_____. Sandbach, Tinne and Company. "Correspondence." Sandbach, Parker and Co., Demerara, to Sandbach, Tinne and Co., Liverpool. 21 February 1876.

_____. Sandbach, Tinne and Company. "Correspondence." Sandbach, Parker and Co., Demerara, to Sandbach, Tinne and Co., Liverpool. 25 August 1876.

_____. Sandbach, Tinne and Company. "Correspondence." Sandbach, Parker and Co., Demerara, to Sandbach, Tinne and Co., Liverpool. 4 September 1876.

_____. Sandbach, Tinne and Company. "Correspondence." Sandbach, Parker and Co., Demerara, to Sandbach, Tinne and Co., Liverpool. 5 October 1876.

_____. Sandbach, Tinne and Company. "Memorandum of Agreement Between Sandbach, Tinne & Co. And Quinton Hogg. 25 February 1876.

Woods, E.A. "Liverpool Fleet Lists" (2 vols., unpublished mss., Liverpool Record Office, 1939).

Published Primary Sources

Clapp, Edwin Jones. *The Port of Hamburg*. New Haven , CT, 1911.

Cumberland Pacquet, 1775.

Fairplay, 1910.

Gore's General Advertiser,1820.

Gore's Liverpool Advertiser, 1825-1869.

Graham, Maria (Dundas). *Journal of a Residence in Chile during the Year 1822*. London, 1824.

Huskisson, William. *Navigation Laws. Speech of the Right Hon. W. Huskisson in the House of Commons, Friday, the 12th of May, 1826, on the Present State of the Shipping Interest. With an Appendix, Containing the Several Accounts Referred to*. Baltimore, 1826.

Lloyd's Register of British and Foreign Shipping. London, 1870-1916.

Mayhew, Henry. *London Labour and the London Poor*. 4 Vols., London, 1851-1862.

McCulloch, J.R. *A Dictionary, Practical, Theoretical and Historical of Commerce and Commercial Navigation*. London, 1853.

Orchard, B. Guiness. *Liverpool's Legion of Honour*. Birkenhead,1893.

Peacock, George. *A Treatise on Ships' Cables with the History of Chains, Their Use and Abuse, from the Earliest Period Down to the Present Day*. London, 1873.

_____. *Official Correspondence, Certificates of Service, and Testimonials*. Exeter, 1859.

Plimsoll, Samuel. *Our Seamen: An Appeal*. London, 1873.

Scarlett, Peter Campbell. *South America and the Pacific, Comprising a Journey across the Pampas and the Andes, from Buenos Ayres to Valparaiso, Lima, and Panama, with Remarks upon the Isthmus, to Which are Annexed Plans and Statements for Establishing Steam Navigation on the Pacific*. 2 vols., London, 1838.

The Shipping Gazette and Lloyd's List Weekly Summary, 1884.

Shipping World, 1883.

"Shipping World" Yearbook: A Desk Manual in Trade, Commerce and Navigation. London, 1887.

Smithers, Henry. *Liverpool, Its Commerce, Statistics, and Institutions, with a History of the Cotton Trade.* Liverpool, 1825.

Thearle, Samuel J.P. *The Modern Practice of Shipbuilding in Iron and Steel.* London, 1891.

The Times, 1838-1880.

"Trade of South America. How Developed and Conducted by the Pacific Steam Navigation Company." *American-European News Letter*, II (May-June 1895), pp. 68-69.

Wheelwright, William. *Statement and Documents Relative to the Establishment of Steam Navigation in the Pacific, with Copies of the Decrees ... Granting Exclusive Privileges to the Undertaking.* London, 1838.

_____. *Mr. Wheelwright's Report on Steam Navigation in the Pacific, with an Account of the Coal Mines of Chile and Panama, together with Some Remarks Addressed to the Directors of the Pacific Steam Navigation Company.* London, 1843.

Williams, Richard W. *The Liverpool Docks Problem.* Liverpool, 1912.

Willox, John. *The Steam Fleet of Liverpool: A Series of Historic, Statistical, and Descriptive Sketches, Tracing their Origin, and Showing the Progress and Present Condition of the Leading Branches.* Liverpool, 1865.

Published Secondary Sources

Abbott, Peter. *Union Castle: The Forgotten Navy.* Harbour Bebington, 2001.

Aeschbacher, Frederick. "The North River Steamboat of Clermont: An Investigation into the History of Robert Fulton's First Steamboat And Her Development." *Nautical Research Journal*, XXXIII, No. 2 (1988), pp. 26-35.

Ahvenainen, Jorma. "The Role of the Telegraph in the 19th Century Revolution of Communications." In Michael North (ed.). *Kommunikationsrevolutionen. Die neuen*

Medien des 16. Und 19. Jahrhunderts. Köln, 1995, pp. 73-80.

Akveld, L.M. and Brujin, J.R. (eds.). *Shipping Companies and Authorities in the 19th and 20th Centuries: Their Common Interest in the Development of Port Facilities.* Rotterdam, 1989.

Alberdi, Juan Bautista. *Life and Industrial Labors of William Wheelwright in South America.* Boston, 1877.

Albion, Robert G. *Forests and Sea Power: The Timber Problems of the Royal Navy, 1652-1862.* Cambridge, MA, 1926.

_____. *The Rise of New York Port, 1815-1860.* New York, 1939.

Aldcroft, Derek H. "The Depression in British Shipping, 1901-11." In David M. Williams (ed.). *The World of Shipping.* Aldershot, 1997, pp. 105-114.

Alderman, Geoffrey. "Joseph Chamberlain's Attempted Reform of the British Merchant Marine." *Journal of Transport History*, III (1972), pp. 169-184.

_____. "Samuel Plimsoll and the Shipping Interest." *Maritime History*, I (1971), pp. 73-95.

Alexander, David. "The Port of Yarmouth, Nova Scotia 1840-1889." In Keith Matthews and Gerald Panting (eds.). *Ships and Shipbuilding in the North Atlantic Region.* St. John's, NL, 1978, pp. 77-103.

Allin, Lawrence C. "The Civil War and the Period of Decline: 1861-1913." In Robert A. Kilmarx (ed.). *America's Maritime Legacy: A History of the U.S. Merchant Marine and Shipbuilding Industry since Colonial Times.* Boulder, CO, 1979, pp. 65-110.

Allington, Gerald Peter. "Sailing Rigs and Their Use on Ocean-going Merchant Steamships, 1820-1910." *International Journal of Maritime History*, XVI, No. 1 (June 2004), pp. 125-152.

Anderson, Ernest B. *Sailing Ships of Ireland.* Dublin, 1951; reprint, Coleraine, 1984.

Argyle, E.W. "The 'Sandbach' of Liverpool." *Sea Breezes*, New series, IX. (January-June 1950), pp. 141-143.

Armitage, Andrew. "Shipbuilding at Belfast: Workman, Clark and Company, 1880-1935." in Lewis R. Fischer (ed.). *From Wheel House to Counting House: Essays in*

Maritime Business History in Honour of Professor Peter Neville Davies. St. John's, NL, 1992, pp. 97-124.

Armstrong, John (ed.). *Coastal and Short Sea Shipping.* Aldershot, 1996.

_____ and Andreas Kunz (eds.). *Coastal Shipping and the European Economy, 1750-1980.* Mainz, 2002.

_____. "Conferences in British Nineteenth-Century Coastal Shipping." *Mariner's Mirror.* (February 1991), pp. 55-65.

Armstrong, W.G., *et al.* (eds.). *The Industrial Resources of the District of the Three Northern Rivers, the Tyne, Wear, and Tees, Including the Reports on the Local Manufactures, Read before the British Association, in 1863.* Newcastle upon Tyne, 1864.

Arnold, A. J. "Riches Beyond the Dreams of Avarice? Commercial Returns on British Warship Construction, 1889-1914." *Economic History Review* LIV, No. 2 (2001), pp. 267-289.

Arora, G.S. *Indian Emigration.* New Delhi, 1991.

Ashcroft, Neil. "British Trade with the Confederacy and the Effectiveness of Union Maritime Strategy during the Civil War." *International Journal of Maritime History,* X, No. 2 (December 1998), pp. 155-176.

Bailyn, Bernard. *The Ideological Origins of the American Revolution.* 1967; rev. ed., Cambridge, MA, 1992.

_____ and Lotte Bailyn. *Massachusetts Shipping, 1697-1714: A Statistical Study.* Cambridge, MA, 1959.

Baines, Thomas. *History of the Commerce and Town of Liverpool.* Liverpool, 1852.

Balachandran, G. "Recruitment and Control of Indian Seamen: Calcutta, 1880-1935." *International Journal of Maritime History,* IX, No. 1 (June 1997), pp. 1-18.

Banbury, Philip. *Shipbuilders of the Thames and Medway.* Newton Abbot, 1971.

Barker, T.C. and J.R. Harris, *A Merseyside Town in the Industrial Revolution: St. Helens, 1750-1900.* London, 1959.

Bassett, John M. *The Canadians: Samuel Cunard.* Don Mills, ON, 1976.

Bates, Denis H. "Liverpool Shipping Company's 167 Years of Progress." *The Liverpolitan* (September 1937), 29-30.

Bauer, K. Jack. ""The Golden Age." In Robert A. Kilmarx (ed.). *America's Maritime Legacy: A History of the U.S. Merchant Marine and Shipbuilding Industry since Colonial Times.* Boulder, CO, 1979, pp. 27-63.

Beaver, Patrick. *The Big Ship. Brunel's Great Eastern, A Pictorial History.* London, 1969.

Beckett, J.V. *Coal and Tobacco: The Lowthers and the Economic Development of West Cumberland, 1660-1760.* Cambridge, 1981.

Beeler, John F. *British Naval Policy in the Gladstone-Disraeli Era, 1866-1880.* Stanford, Calif, 1997.

Behrendt, Stephen D. "The Annual Volume and Regional Distribution of the British Slave Trade, 1780-1807." *Journal of African History*, XXXVIII, No. 2 (1997), pp. 187-211.

____. "Markets, Transaction Cycles, and Profits: Merchant Decision Making in the British Slave Trade." *William and Mary Quarterly*, 3rd series, LVIII, No. 1 (2001), pp. 171-204.

Belchem, John and Richard Price (eds.). *The Penguin Dictionary of Nineteenth-Century History.* London, 1994.

Beresford, Lord Charles and W. H. Wilson. *Nelson and His Times.* London, 1897.

Bess, David and Martin T. Farris. *US Maritime Policy : History and Prospects.* New York, 1981.

Blake, George. *British Ships and Shipbuilders.* London, 1946.

Block, Leo. *To Harness the Wind: A Short History of the Development of Sails.* Annapolis, MD, 2003.

Blumenthal, Michael, *et. al. The Frigates.* Alexandria, VA, 1979.

Boaz, Thomas. *Guns for Cotton: England Arms the Confederacy.* Shippensburg, PA, 1996.

Bonilla, Heraclio. "The War of the Pacific and the National and Colonial Problem in Peru." *Past and Present*, LXXXI (1978), pp. 92-118.

Bosscher, Philip, *et. al. Conway's History of the Ship. The Heyday of Sail: The Merchant Sailing Ship 1650-1830*. London, 1995.

Bouquet, Michael. *Southeastern Sail from the Medway to the Solent 1840-1940*. Newton Abbot, 1972.

Bowen, H.V.; Lincoln, Margarette; and Nigel Rigby (eds.). *The Worlds of the East India Company*. Suffolk, 2002.

Boyce, Gordon. *Information, Mediation and Institutional Development. The Rise of Large-Scale Enterprise in British Shipping, 1870-1919*. Manchester, 1995.

_____ and Richard Gorski (eds.). *Resources and Infrastructures in the Maritime Economy, 1500-2000*. St. John's, NL, 2002.

Bradford, James C. "John Paul Jones and *Guerre de Razzia*." *The Northern Mariner/Le Marin du nord*, XIII, No. 4 (October 2003), pp. 1-15.

Brady, Alexander. *William Huskisson and Liberal Reform; an Essay on the Changes in Economic Policy in the Twenties of the Nineteenth Century*. New York, 1967.

Brennan, Lance; McDonald, John and Ralph Shlomowitz. "The Geographic and Social Origins of Indian Indentured Labourers in Mauritius, Natal, Fiji, Guyana and Jamaica," *South Asia*, XI (1998), 39-71.

Briggs, Asa. *A Social History of England*. London, 1983.

_____. *Victorian Cities*. Harmondsworth, 1963.

"Britain's Oldest Shipping Company Sailors, Shipbuilders and Shipowners." *Sea Breezes*, XI (1928), pp. 73-74.

Brock, P.W. and Basil Greenhill. *Steam and Sail: In Britain and North America*. Princeton, 1973.

Broeze, Frank. *Island Nation: A History of Australians and the Sea*. St. Leonards, NSW, 1998.

_____ (ed.). *Brides of the Sea. Port Cities of Asia from the 16th-20th Centuries.* Sydney, 1989.

_____ (ed.). *Gateways of Asia: Port Cities of Asia in the 13th-20th Centuries.* New York, 1996.

_____. "Albert Ballin, the Hamburg-Bremen Rivalry and the Dynamics of the Conference System", *International Journal of Maritime History*, Vol. III, No. 1 (June 1991), pp. 1-32.

_____. "Distance Tamed: Steam Navigation to Australia and New Zealand from Its Beginnings to the Outbreak of The Great War." *Journal of Transport History*, New series, X, No. 1 (1989), pp. 1-21.

_____. "Dubai: From Creek to Global Port City." In Lewis R. Fischer and Adrian Jarvis (eds.). *Harbours and Havens: Essays in Port History in Honour of Gordon Jackson.* St. John's, NL, 1999, pp. 159-190.

_____. "Merchants From Sail to Steam: The West Australian Shipping Association and the Evolution of the Conference System, 1884-1910." In Lewis R. Fischer (ed). *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies*, St. John's, NL, 1992, pp. 273-302.

_____. "Private Enterprise and the Peopling of Australasia, 1831-1850." *Economic History Review*, 2nd series, XXXV (1982), pp. 235-253.

Brooke, Richard. *Liverpool as It Was during the Last Quarter of the Eighteenth Century 1775-1800.* Liverpool, 1853.

Brown, J.R. "Nitrate Crises, Combinations and the Chilean Government in the Nitrate Age." *The Hispanic American Historical Review*, XLIII, No. 2 (May 1963), pp. 230-246.

Bruce, J. Graeme. "The Contribution of Cross-Channel and Coastal Vessel to Developments in Marine Practice." *Journal of Transport History*, IV (1959), pp. 65-80.

Buck, Alan. *The Little Giant. A Life of I.K. Brunel.* Newton Abbot, 1986.

Builders of Great Ships. Cammell Laird & Company. Birkenhead, 1959.

Burton, Valerie. "Apprenticeship Regulation and Maritime Labour in the Nineteenth Century British Merchant Marine." *International Journal of Maritime History*, I, No.

1 (June 1989), pp. 29-50.

_____. "Liverpool's Mid-Nineteenth Century Coasting Trade." In Valerie Burton (ed.).*Liverpool Shipping, Trade and Industry: Essays on the Maritime History of Merseyside 1780-1860.* Liverpool, 1989, pp. 26-67.

_____. "The Making of a Nineteenth-century Profession: Shipmasters and the British Shipping Industry." *Journal of the Canadian Historical Association* (1990), pp. 97-118.

Bushell, *T.A. Royal Mail.* London, 1939.

Butler, Lindley S. *Pirates, Privateers, and Rebel Raiders of the Carolina Coast.* London, 2000.

Cain, P.J. and A.G. Hopkins. *British Imperialism: Innovation and Expansion 1688-1914.* London, 1993.

Callow, Alexander B., Jr. *The Tweed Ring.* New York, 1966.

Cameron, Alan and Roy Farndon. *Scenes from Sea and City: Lloyd's List, 1734-1984.* Colchester, 1984.

Campbell, Persia Crawford., *Chinese Coolie Emigration to Countries within the British Empire.* New York, 1969.

Capie, Forrest. "Britain and Empire Trade in the Second Half of the Nineteenth Century." in David Alexander and Rosemary Ommer, (eds.), *Volumes Not Values: Canadian Sailing Ships and World Trade.* St. John's, NL, 1979, pp. 3-25.

Carlos, Ann M.; Moyen, Nathalie; and Jonathan Hill. "Royal African Company Share Prices during the South Sea Bubble." *Explorations in Economic History*, XXXIX, No. 1 (2002), pp. 61-87.

Carswell, John. *The South Sea Bubble.* London, 1960; reprint, Stroud, 1993.

Cecil, Lamar. *Albert Ballin : Business and Politics in Imperial Germany, 1888-1918.* Princeton, N.J., 1967.

Chandler, George. *Liverpool Shipping: A Short History.* London, 1960.

Charlton, K. "Liverpool and The East India Trade." *Northern History*, VII (1972), pp. 54-72.

Chartres, John. "Trade and Shipping in the Port of London: Wiggins Key in the Later Seventeenth-Century." in *Coastal and Short Sea Shipping*. John Armstrong ed. Ipswich, 1996, pp. 1-19.

Clark, Edward O. "Pioneer Steamboat *John Stevens*." *Steamboat Bill*, XLV (Fall 1988), pp. 173-185.

Clark, John J. and Margaret T. Clark. "The International Mercantile Marine Company: A Financial Analysis." *American Neptune*, LVII, No. 2 (1997), pp. 137-154.

Clarke, J.F. *Building Ships on the North East Coast. A Labour of Love, Risk and Pain.* Whitley Bay, 1997.

_____. *The Changeover from Wood to Iron Steamships*. Newcastle-Upon-Tyne, 1986.

Clarkson, John. *Ellerman Lines*. Preston, 1993.

_____ and Roy Fenton. *Ships in Focus: Anchor and Brocklebank Lines*. Preston, 1994.

Clegg, W. Paul. *Docks and Ports 2: London*. Shepperton, 1987.

Clemens, Paul G.E. "The Rise of Liverpool, 1665-1750." *Economic History Review*, XXIX, No. 2 (May 1976), pp. 211-224.

Cohn, Raymond L. "Transatlantic U.S. Passenger Travel at the Dawn of the Steamship Era." *International Journal of Maritime History*, IV, No. 1 (June 1992), pp. 42-64.

Collingwood, A.G. "From Brigs to Containers." *Sea Breezes*, New series, LI (1977), pp. 297-322.

Conte-Helm, M. *Japan and the North East of England*. London, 1989.

Cotterell, Arthur. *China: A History*. London, 1995.

Cottrell, P.L. "Liverpool Shipowners, the Mediterranean, and the Transition from Sail to Steam During the Mid-Nineteenth Century."in Lewis R. Fischer (ed..). *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies*. St. John's, NL, 1992, pp. 153-202.

_____. "The Steamship on the Mersey, 1815-80. Investment and Ownership." in P.L. Cottrell and D.H. Aldcroft (eds.). *Shipping, Trade and Commerce: Essays in Memory of Ralph Davis.* Leicester, 1981.

Cowan, Helen I. *British Emigration to British North America: The First Hundred Years.* Toronto, 1961.

Coward, Edward. *Steam-Ship Lines of the Mersey and Export Trade Register.* Liverpool, 1880.

Cowden, James E. and John O.C. Duffy. *The Elder Dempster Fleet History, 1852-1982.* Norwich, 1986.

Craig, Robin. *British Tramp Shipping, 1750-1914.* St. John's, NL, 2003.

_____. *The Ship: Steam Tramps and Cargo Liners, 1850-1950.* London, 1980.

_____. "William Gray & Company: A West Hartlepool Shipbuilding Enterprise, 1864-1913." in Cottrell and Aldcroft, eds. *Shipping, Trade and Commerce*, pp. 165-191.

Credland, Arthur G. *Iron and Steel Shipbuilding on the Humber. Earles of Hull.* Kingston upon Hull, 1982.

Creighton, Margaret S. *Rites and Passages: The Experience of American Whaling, 1830-1870.* Cambridge, 1995.

_____ and Lisa Norling (eds.). *Iron Men, Wooden Women: Gender and Seafaring in the Atlantic World, 1700-1920.* Baltimore, 1996.

_____. "'Women' and Men in American Whaling, 1830-1870." *International Journal of Maritime History*, IV, No. 1 (June 1992), pp. 195-218

Cridland, Claudia E. Skerry (ed.). *The Journey of Mary Ann Eliza Daley, Wife of Amos Switzer of Limerick, Ireland and Some of Her Descendants: Her Emigration from Liverpool, England to Australia in the Year 1868 on the Clipper Ship White Star.* Salem, MA, 2003.

Daunton, Martin J. *Royal Mail: The Post Office since 1840.* London, 1985.

Davies, David. *Fighting Ships.* London, 1996.

Davies, Peter Neville. *Henry Tyrer: A Liverpool Shipping Agent and His Enterprises, 1879-1979*. London, 1979.

_____. *The Trade Makers: Elder Dempster in West Africa, 1852-1972*. 1973; rev. ed., St. John's, NL, 2000.

_____. "Aspinall, Cornes and Company and the Early Development of the Port of Yokohama." In Lewis R. Fischer and Adrian Jarvis (eds.). *Harbours and Havens: Essays in Port History in Honour of Gordon Jackson*. St. John's, NL, 1999, pp. 139-158.

_____. "Business Success and the Role of Chance: The Extraordinary Philipps Brothers." *Business History*, XXIII, No. 2 (1981), pp. 208-232.

_____. "Commentary: On the Methodology and Results of the Atlantic Canada Shipping Project." In Lewis R. Fischer and Eric W. Sager (eds.). *Merchant Shipping and Economic Development in Atlantic Canada*. St. John's, NL, 1982, pp. 55-59.

_____ and A.M. Bourn. "Lord Kylsant and the Royal Mail." *Business History*; XIV, No. 2 (1972), 103-123.

Davis, Lance E. and Robert A. Huttenback. *Mammon and the Pursuit of Empire. The Political Economy of British Imperialism, 1860-1912*. Cambridge, 1986.

_____, Huttenback, Robert A. and Jon Sumida, "British Naval Operational Logistics, 1914-1918." *Journal of Military History* LVII, No. 3 (July 1993), pp. 447-480.

Davis, Ralph. *The Industrial Revolution and British Overseas Trade*. Leicester, 1979.

_____. *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries*. London, 1962.

_____. "Maritime History: Progress and Problems." in Sheila Marriner (ed.). *Business and Businessmen*. Liverpool, 1978, pp. 169-197.

Deakin, B.M. in collaboration with T. Seward. *Shipping Conferences. A Study of Their Origins, Development and Economic Practices*. Cambridge, 1973.

De Jong, Nicolas J. and Marven E. Moore. *Shipbuilding on Prince Edward Island: Enterprise in a Maritime Setting, 1787-1920*. Hull, QC, 1994.

De la Pedraja, René. *Latin American Merchant Shipping in the Age of Global Competition.* Westport, CT, 1999.

_____. *Oil and Coffee: Latin American Merchant Shipping from the Imperial Era to the 1950s.* Westport, CT, 1998.

The Development of Shipbuilding on the Upper Reaches of the Clyde: Messrs Barklay Curle & Co. Ltd. NP, 1911.

DeSecada, C. Alexander G. "Arms, Guano, and Shipping: The W. R. Grace Interests in Peru, 1865-1885." *Business History Review*, LIX, No. 4 (1985), pp. 597-621.

Dintenfass, Michael. *The Decline of Industrial Britain 1870-1980.* London, 1992.

Dixon, Conrad. "Lascars: The Forgotten Seamen." In Rosemary Ommer and Gerald Panting (eds.). *Working Men Who Got Wet.* St. John's, NL, 1980, pp. 263-282.

Dohan, Mary Helen. *Mr. Roosevelt's Steamboat.* New York, 1981.

Dougan, David. *The History of North East Shipbuilding.* London, 1968.

Drake, B.K. "Continuity and Flexibility in Liverpoo's Trade with Africa and the Caribbean." *Business History*, XVIII, No. 1 (1976), pp. 85-97.

Duffy, Michael, *et al.* (eds.). *The New Maritime History of Devon.* 2 vols., London, 1992-1994.

Dugaw, Dianne. "'Rambling Female Sailors:' The Rise and Fall of the Seafaring Heroine." *International Journal of Maritime History*, IV, No. 1 (June 1992), pp. 179-194.

Duncan, Roland E. "Captain George Peacock: The Pioneer Commander of Pacific Steamers." *The Mariner's Mirror*, LXVI, No. 1 (February 1980), pp. 17-29.

_____. "Chilean Coal and British Steamers: The Origin of a South American Industry." *Mariner's Mirror*, LXI, No. 3 (1975), pp. 271-281.

_____. "*Chile* and *Peru*: The First Successful Steamers in the Pacific." *The American Neptune*, XXXV, No. 4 (October 1975), pp. 248-274.

_____. "The New England Heritage of William Wheelwright of Newburyport, Massachusetts." *Essex Institute Historical Collections*, CIII, No. 3 (July 1974), pp.

239-248.

Eaglesham, Nancy. *Whitehaven and the Tobacco Trade*. Whitehaven, 1979.

Eames, Aled. *Ships and Seamen of Anglesey*. London, 1981.

_____. *Ventures in Sail: Aspects of the Maritime History of Gwynedd 1840-1914 and the Liverpool Connection*. Gwynedd, 1987.

_____. "Liverpool and North Wales: Seafarers and Shipping Entrepreneurs." In Valerie Burton (ed.). *Liverpool Shipping, Trade and Industry*. Liverpool: 1989, pp. 68-77.

Elis-Williams, M. *Bangor Port of Beaumaris*. Caernarfon, 1988.

Ellis, Geoffrey. *The Napoleonic Empire*. 2nd ed., New York, 2003.

Eltis, David. *Economic Growth and the Ending of the Transatlantic Slave Trade*. New York, 1987.

Evans, G.N.D (ed.). *Allegiance in America: The Case of the Loyalists*. Reading, MA, 1969.

Fairlie, J.A. "The Economic Effects of Ship Canals." *Annals of the American Academy of Political and Social Science*, XI (1898).

Falconer, Kieran. *Peru*. New York, 1995.

Falkus, Malcolm. *The Blue Funnel Legend. A History of the Ocean Steam Ship Company, 1865-1973*. London, 1990.

Farcau, Bruce W. *The Ten Cents War: Chile, Peru, and Bolivia in the War of the Pacific, 1879-1884*. Westport, CT, 2000.

Farnie, D.A. *East and West of Suez. The Suez Canal in History, 1854-1956*. Oxford, 1969.

Fay, Charles R. *Huskisson and His Age*. London, 1951.

Ferguson, Niall. *Empire. How Britain Made the Modern World*. London, 2003.

Fifer, J. Valerie. *William Wheelwright (1798-1873), Steamship and Railroad Pioneer: Early Yankee Enterprise in the Development of South America*. Newburyport, MA, 1998.

Findlay, Ronald. *The "Triangular Trade" and the Atlantic Economy of the Eighteenth Century: A Simple General-Equilibrium Model.* Princeton, 1990.

Fingard, Judith. *The Dark Side of Life in Victorian Halifax.* Porter's Lake, NS, 1989.

_____. *Jack in Port: Sailortowns of Eastern Canada.* Toronto, 1982.

_____. "'Those Crimps of Hell and Goblins Damned:' The Image and Reality of Quebec's Sailortown Bosses." In Rosemary Ommer and Gerald Panting (eds.). *Working Men Who Got Wet.* St. John's, NL, 1980, pp. 321-33.

Finley, A. Gregg. "The Morans of St. Martins, NB, 1850-1880: Toward an Understanding of Family Participation in Maritime Enterprise." In Lewis R. Fischer and Eric W. Sager (eds.). *The Enterprising Canadians: Entrepreneurs and Economic Development in Eastern Canada, 1820-1914.* St. John's, 1979, pp. 35-54.

Fischer, Lewis R. (ed.). *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies.* St. John's, NL, 1992.

_____ And Adrian Jarvis. *Harbours and Havens: Essays in Port History in Honour of Gordon Jackson.* St. John's, NL, 1999.

_____ and Walter Minchinton (eds.). *People of the Northern Seas.* St. John's, NL, 1992.

_____ and Helge W. Nordvik (eds.). *Shipping and Trade, 1750-1950: Essays in International Maritime Economic History, 1750-1950.* Pontefract, 1990.

____ and Gerald E. Panting (eds.). *Change and Adaptation in Maritime History: The North Atlantic Fleets in the Nineteenth Century.* St. John's, NL, 1985.

____ and Eric W. Sager (eds.). *The Enterprising Canadians: Entrepreneurs and Economic Development in Eastern Canada, 1820-1914.* St. John's, NL, 1979.

_____ and _____ (eds.). *Merchant Shipping and Economic Development in Atlantic Canada.* St. John's, NL, 1982.

_____. "A Bridge Across the Water: Liverpool Shipbrokers and the Transfer of Eastern Canadian Sailing Vessels, 1855-1880." *The Northern Mariner/Le Marin du Nord,* III (1993), pp. 49-59.

_____. "The Great Mudhole Fleet: The Voyages and Productivity of the Sailing Vessels of

Saint John, 1863-1912." In David Alexander and Rosemary Ommr (eds.). *Volumes Not Values: Canadian Sailing Ships and World Trades.* St. John's, NL, 1979, pp. 117-156.

_____. "International Maritime Labour, 1863-1900: World Wages and Trends." *The Great Circle*, X, No. 1 (Spring 1988), pp. 1-21.

_____."The Port of Prince Edward Island, 1840-1889: A Preliminary Analysis." In Keith Matthews and Gerald Panting (eds.). *Ships and Shipbuilding in the North Atlantic Region.* St. John's, NL, 1977, pp. 19-40.

_____. "Profits and Stagnation: Fearnley and Eger and the Interwar Crises, 1919-1939." *Northern Seas Yearbook 1994* (Esbjerg, 1994), pp. 45-66.

_____. "Seamen in a Space Economy: International Regional Patterns of Maritime Wages on Sailing Vessels, 1863-1900." In Stephen Fisher (ed.). *Lisbon as a Port Town, the British Seaman and Other Maritime Themes.* Exeter, 1988, pp. 57-92.

____ and Anders M. Fon. "The Making of a Maritime Firm: The Rise of Fearnley and Eger, 1869-1917." In Lewis R. Fischer (ed.). *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies.* St. John's, NL, 1992, pp. 303-322.

_____ and Helge W. Nordvik. "Economic Theory, Information and Management in Shipbroking: Fearnley and Eger as a Case Study, 1869-1972." In Simon P. Ville and David M. Williams (eds.). *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and Business History* (St. John's, NL, 1994), pp. 1-29.

_____ and _____. "From Namsos to Halden: Myths and Realities in the History of Norwegian Seamen's Wages, 1850-1914." *Scandinavian Economic History Review*, XXXV, No. 1 (1987), pp. 41-65.

_____ and _____. "The Growth of Norwegian Shipbroking: The Practices of Fearnley and Eger as a Case Study, 1869-1914." In Lewis R. Fischer and Walter Minchinton (eds.). *People of the Northern Seas.* St. John's, NL, 1992, pp. 135-155.

_____ and _____. "Maritime Transport and the Integration of the North Atlantic Economy, 1850-1914." In Wolfram Fischer, *et al.* (eds.). *The Emergence of a World Economy 1500-1914.* 2 vols., Wiesbaden, 1986, II, pp. 519-544.

_____ and _____. "Salaries of the Sea: Maritime Wages in Stavanger, 1892-1914." *Stavanger Historisk Årbok 1987* (Stavanger, 1988), pp. 103-132.

— and Gerald E. Panting. "Indian Ports and British Intercontinental Sailing Ships: The Subcontinent as an Alternative Source of Cargo, 1870-1900." In K.S. Mathew (ed.). *Mariners, Merchants and Oceans: Studies in Maritime History.* New Delhi, 1995, pp. 371-383.

_____ and Eric W. Sager. "An Approach to the Quantitative Analysis of British Shipping Records." *Business History*, XXII, No. 2 (July 1980), pp. 135-151.

_____, _____ and Rosemary E. Ommer. "The Shipping Industry and Regional Economic Development in Atlantic Canada, 1871-1891: Saint John as a Case Study." in Lewis R. Fischer and Eric W. Sager (eds.). *Merchant Shipping and Economic Development in Atlantic Canada.* St. John's, NL, 1982, pp.7-53.

Fischer, Wolfram, *et al.* (eds.). *The Emergence of a World Economy 1500-1914.* 2 vols., Wiesbaden, 1986.

Fisher, H.E.S. *Ports and Shipping in the South-West.* Exeter, 1971.

Fisher, Stephen (ed.). *Lisbon as a Port Town, the British Seaman and Other Maritime Themes.* Exeter, 1988.

Flexner, James T. *Steamboats Come True.* New York, 1944.

Frazer, Allan D. "The *Clermont* Revisited." *Steamboat Bill*, LIV (Spring 1997), pp. 26-31.

French, C.J. "Eighteenth Century Tonnage Measurements." *Journal of Economic History*, XXXIII. (1973), pp. 433-443.

"Fully Armed." *Post and Mercury*, 22 February 1934.

Gallman, J. Matthew. *Receiving Erin's Children: Philadelphia, Liverpool, and the Irish Famine Migration, 1845-1855.* Chapel Hill, NC, 2000.

Gardiner, Robin. *The History of the White Star Line.* Hersham, 2001.

_____. and Basil Greenhill (eds). *The Advent of Steam: The Merchant Steamship before 1900.* London, 1993.

Gelderblom, Oscar. "Coping with the Perils of the Sea: The Last Voyage of the *Vrouw Maria* in 1771." *International Journal of Maritime History*, XV, No. 2 (December 2003), pp. 95-115.

Gerr, Stanley. "The Suitability of the Big Wooden Schooner for Long-Distance Deep-sea Trading." *The Mariner's Mirror*, LXI, No. 4 (November 1975), pp. 399-403.

Gibson, Andrew and Arthur Donovan, *The Abandoned Ocean : a History of United States Maritime Policy*. Columbia, SC, 2001.

Gibson, John Frederick. *Brocklebanks: 1770-1950*. 2 vols., Liverpool, 1953.

_____. "The House of Brocklebank (1)." *Sea Breezes*, New series, XVII (1954), pp. 30-54.

_____. "The House of Brocklebank (2)." *Sea Breezes*, New series, XVII (1954), pp. 110-132.

Gjølberg, Ole. "The Substitution of Steam For Sail in Norwegian Ocean Shipping, 1866-1914: A Study in The Economics of Diffusion." *Scandinavian Economic History Review*, XXVIII, No. 2 (1980), pp. 133-146.

Goldenberg, Joseph A. *Shipbuilding in Colonial America*. Charlottesville, VA, 1976.

Gordon, Malcolm. *From Chusan to Sea Princess: The Australian Services of the P&O and Orient Lines*. North Sydney, NSW, 1985.

Gorton, Lars, Rolf Ihre and Arne Sanderson. *Shipbroking and Chartering Practice*. London, 1990.

Graham, Gerald S. (ed.). *The Walker Expedition to Quebec, 1711*. Toronto, 1953.

_____. "The Ascendancy of the Sailing Ship 1850-85." *Economic History Review*. 2nd ser., IX (1956), pp. 74-88.

Gray, Leonard. *The Doxford Turret Ships*. Kendal, 1975.

Green, Edwin and Michael Moss. *A Business of National Importance. The Royal Mail Shipping Group 1902-1937*. London, 1982.

Greenhill, Basil. *The Ship: The Life and Death of the Merchant Sailing Ship 1815-1965*. London, 1980.

_____. and Ann Giffard. *Steam, Politics and Patronage: The Transformation of the Royal Navy 1815-54*. London, 1994.

_____. and _____. *Westcountrymen in Prince Edward's Isle: A Fragment of the Great Migration*. Toronto, 1967.

Greenhill, Robert G. "Bureaucrats, Businessmen and Bananas: The Colonial Office and Shipping Services in the West Indies, 1895-1925." In Lewis R. Fischer (ed.). *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies*. St. John's, NL, 1992, pp. 73-96.

_____. "Latin America's Export Trades and British Shipping, 1850-1914." In David Alexander and Rosemary Ommer (eds.). *Volumes not Values: Canadian Sailing Ships and World Trades*. St. John's, NL, 1979, pp. 246-274.

_____. "Merchants and the Latin American Trades: An Introduction," in D.C.M. Platt (ed.). *Business Imperialism 1840-1930. An Inquiry Based on British Experience in Latin America*. Oxford, 1977, pp. 159-197.

_____. "The Royal Mail Steam Packet Company and the Development of Steamship Links with Latin America, 1875-1900." *Maritime History*, III, No. 1 (1973), 67-91.

_____. "Shipping 1850-1914." in D.C.M. Platt (ed.). *Business Imperialism 1840-1930. An Inquiry Based on British Experience in Latin America*. Oxford, 1977, pp. 119-155.

_____. "Shipping and the Refrigerated Meat Trade from the River Plate, 1900-1930." *International Journal of Maritime History*, IV, No. 1 (June 1992), pp. 65-82.

_____. "Sir Robert Paterson Houston." In David J. Jeremy (ed.). *Dictionary of Business Biography* (6 vols., London, 1984-1986), III, pp. 369-370.

_____. "The State under Pressure: The West Indian Mail Contract 1905." *Business History*, XI, No. 2 (1969), pp. 120-127.

_____ and Rory Miller. "The Peruvian Government and the Nitrate Trade." *Journal of Latin American Studies*, V, No. 1 (1973), pp. 107-131.

Grey, Charles. *Pirates of the Eastern Seas (1618-1723). A Lurid Page of History*. London, 1933; reprint, Port Washington, NY, 1971.

Griffiths, Denis. *Steam at Sea: Two Centuries of Steam-Powered Ships*. London, 1997.

Hall, James., *The West: Its Commerce and Navigation.* New York, 1970.

Hall, Nigel. "The Emergence of the Liverpool Raw Cotton Market, 1800-1850." *Northern History*, XXXVIII, No. 1 (2001), pp. 65-81.

Hamre, Harald. *Skipsfarten i Stavanger i 1870-åra: en nææringsøkonomisk undersøkelse.* Stavanger, 1985.

Handcock, W. Gordon." "English Migration to Newfoundland." In John J. Mannion (ed.). *The Peopling of Newfoundland: Essays in Historical Geography.* St. John's, NL, 1977, pp. 15-48.

Harcourt, Freda. "Black Gold: P & O and the Opium Trade, 1847-1914." *International Journal of Maritime History*, VI (June 1994), pp. 1-83.

_____. "British Oceanic Mail Contracts in the Age of Steam, 1838-1914." *Journal of Transport History*, IX (March 1988), pp. 1-18.

Harlaftis, Gelina. *Greek Shipowners and Greece 1945 – 1975: From Separate Development to Mutual Interdependence.* London, 1993.

_____. *A History of Greek-Owned Shipping: The Making of an International Tramp Fleet, 1830 to the Present* Day. London: Routledge, 1996.

Harley, C. Knick. "Aspects of the Economics of Shipping." In Lewis R. Fischer and Gerald E. Panting (eds.). *Change and Adaptation in Maritime History: The North Atlantic Fleets in the Nineteenth Century.* St. John's, NL, 1985, pp. 167-188.

_____. "Coal Exports and British Shipping, 1850-1913." *Explorations in Economic History*, XXVI (1989), pp. 311-338.

_____. "Issues on the Demand for Shipping Services, 1870-1913: Derived Demand and Problems of Joint Production." In Lewis R. Fischer and Eric W. Sager (eds.). *Merchant Shipping and Economic Development in Atlantic Canada.* St. John's, NL, 1982, pp. 65-86.

_____."Ocean Freight Rates and Productivity, 1740-1913: The Primacy of Mechanical Invention Reaffirmed." *Journal of Economic History*, XLVIII (1988), pp. 851-76.

_____. "The Shift from Sailing Ships to Steamships, 1850-1890: A Study in Technological change and Its Diffusion." In D. N. McCloskey (ed.). *Essays on a Mature Economy:*

Britain After 1840. London, 1979, pp. 215-237.

Harris, C.J. and Brian D. Inkpen. *Mailships of the Union-Castle Line*. Sparkford, 1994.

Harris, Graham. *Treasure and Intrigue: The Legacy of Captain Kidd* . Toronto, 2002.

Harris, J.R. (ed.). *Liverpool and Merseyside: Essays in the Economic and Social History of the Port and its Hinterland*. London, 1969.

_____. "Thomas Harrison and James Harrison." In David J. Jeremy (ed.), *Dictionary of Business Biography* (6 vols., London, 1984-1986), III.

"Harrison Line's 100 Years." *Sea Breezes*, New series, XVII (1954), pp. 276-286.

Hassam, Andrew (ed.). *Sailing to Australia. Shipboard Diaries by Nineteenth Century British Emigrants*. Manchester, 1994.

Haws, Duncan. *Merchant Fleets: Anchor Line*. Haversfordwest, 1986.

_____. *Merchant Fleets: Blue Funnel Line*. Burwash, East Sussex, 1984.

_____. *Merchant Fleets: Lamport & Holt and Booth*. Uckfield, East Sussex, 1998.

_____. *Merchant Fleets: The Pacific Steam Navigation Company*. Burwash, East Sussex, 1984.

_____. *Merchant Fleets: Thos. & Jas. Harrison*. Newport, Gwent, 1988.

_____. *Merchant Fleets: Thos. & Jno. Brocklebank*. Uckfield, East Sussex, 1994.

_____.*Merchant Fleets: White Star Line*. Hereford, 1990.

Heaton, P.M. *Booth Line*. Pontypool, 1987.

_____. *Lamport & Holt*. Newport, 1986.

Heffer, Jean. *Le port de New York et le commerce extérieur américain. 1860-1900* Paris, 1986.

Henderson, Anthony R. and Sarah Palmer. "The Early Nineteenth Century Port of London: Management and Labour in Three Dock Companies, 1800-1825." In Simon P. Ville

and David M. Williams (eds.). *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and Business History.* St. John's, NL, 1994, pp. 31-50.

Hikins, H.R. "The Liverpool General Transport Strike, 1911." *Transactions of the Historic Society of Lancashire and Cheshire*, CXIII (1962), pp. 169-195.

Hill, John E. *Revolutionary Values for a New Millennium: John Adams, Adam Smith, and Social Virtue.* Lanham, MD, 2000.

Hobsbaum, E.J. *Industry and Empire. An Economic History of Britain Since 1750.* London, 1989.

Hodgson, Godfrey. *Lloyd's of London: A Reputation at Risk.* Harmondsworth, 1986.

Hodson, Norman. *The Race to the Cape. A Story of the Union-Castle Line, 1857-1977.* Ringwood, 1995.

Hollett, D. *From Cumberland to Cape Horn: The Complete History of the Sailing Fleet of Thomas & John Brocklebank of Whitehaven and Liverpool – The World's Oldest Shipping Company.* Norwich, 1984.

Holste, Susanne. *Liner Shipping in a Quality-Oriented World Economy.* Bremen, 1993.

Hope, Ronald. *A New History of British Shipping.* London, 1990.

Horwood, Harold and Ed Butts. *Bandits and Privateers: Canada in the Age of Gunpowder.* Halifax, NS, 1987.

"The House of Brocklebank (1770-1927): A Century-and-a-Half's Unbroken Record." *Liverpool Daily Post* (1927), supplement.

Howarth, David. *British Seapower: How Britain Became Sovereign of the Seas.* London, 2003.

_____. and Stephen Howarth. *The Story of P & O, the Peninsular and Oriental Steam Navigation Company.* London, 1986.

Hu-Dehart, Evelyn. "Chinese Coolie Labour in Cuba in the Nineteenth Century: Free Labour or Neo-slavery?" *Slavery and Abolition*, XIV, No. 1 (1993), pp. 67-86.

Hugill, Stan. *Sailortown*. London, 1967.

Hunter, G.B. and E.W. DeRusett. "Sixty Years of Merchant Shipbuilding on the North-East Coast." *Transactions of the Institute of Engineers and Shipbuilders in Scotland*, LII (1909), pp. 323-346.

Hussey, David. *Coastal and River Trade in Pre-Industrial England: Bristol and its Region 1680-1730*. Exeter, 2000.

Hyde, Francis. *Cunard and the North Atlantic, 1840-1973: A History of Shipping and Financial Management*. London, 1975.

_____. *Liverpool and the Mersey: The Development of a Port 1700-1970*. Newton Abbot, 1971.

_____. *Shipping Enterprise and Management 1830-1939: Harrisons of Liverpool*. Liverpool, 1967.

_____, with J. R. Harris. *Blue Funnel. A History of Alfred Holt and Company of Liverpool from 1865 to 1914*. Liverpool, 1956.

_____. "The Expansion of Liverpool's Carrying Trade with the Far East and Australia 1860-1914." *Transactions of the Royal Historical Society*, VI (1956), pp. 139-160.

Imlah, Albert H. *Economic Elements in the Pax Britannica; studies in British Foreign Trade in the Nineteenth Century*. Cambridge, 1958.

Irick, Robert L. *Ch'ing Policy toward the Coolie Trade 1847-1878*. Taipei, 1982.

Isserlis, L. "Tramp Shipping Cargoes and Freights." *Journal of the Royal Statistical Society* (1938).

Jackson, Gordon. *Grimsby and the Haven Company, 1796-1846*. Grimsby, 1971.

_____. *The History and Archaeology of Ports*. Kingswood, 1983.

_____. *Hull in the Eighteenth Century*. London, 1972.

_____ with Kate Kinnear. *The Trade and Shipping of Dundee, 1780-1850*. Dundee, 1991.

_____. "Do Docks Make Trade? The Case of the Port of Great Grimsby." in Lewis R.

Fischer (ed.). *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies.* St.John's, NL, 1992, pp. 17-41.

James, Lawrence. *The Rise and Fall of the British Empire.* New York, 1994.

Jamieson, Alan G. "'Not More Ports, but Better Ports:' The Development of British Ports Since 1945." *The Northern Mariner/Le Marin du Nord,* VI, No. 1 (January 1996), pp. 29-34.

Jansson, J.O. and D. Shneerson. *Liner Shipping Economics.* London, 1987.

Jarvis, Adrian. *Liverpool Central Docks 1799-1905: An Illustrated History.* Stroud, 1991.

_____. *The Liverpool Dock Engineers.* Stroud, 1997.

_____. *In Troubled Times: The Port of Liverpool, 1905-1938.* St. John's, NL, 2003.

_____. "Alfred Jones: Integration and Adversity in Liverpool." in Lewis R. Fischer (ed.). *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies.* St. John's, NL, 1992, pp. 245-266.

_____. "Land Policies in the Port of Liverpool, 1857-1930." *International Journal of Maritime History,* XIV, No. 1 (June 2002), pp. 115-133.

_____, "Managing Change: The Organization of Port Authorities at the Turn of the Twentieth Century." *The Northern Mariner/Le Marin du Nord,* VI (April 1996), pp. 1-12.

_____. "Port History: Some Thoughts on Where it Came from and Where it Might be Going," in Lewis R. Fischer and Adrian Jarvis (eds.). *Harbours and Havens: Essays in Port History in Honour of Gordon Jackson.* St. John's, NL, 1999, pp.13-34.

_____. "The Port of Liverpool and the Shipowners in the Late Nineteenth Century." *Great Circle,* XVI, No. 1 (1994), pp. 1-22.

_____. "The Port of Liverpool and the Shipowners, c. 1910-38" *The Northern Mariner/Le Marin du Nord,* XII (2002), pp. 23-40.

Jarvis, R.C. "British Ship Registry: The Quantification of Source Material." in H.E.S. Fisher (ed.), *Ports and Shipping in the South West* (Exeter, 1971), pp. 149-171.

_____. "Liverpool Statutory Register of British Merchant Ships." *Transactions of the Historic Society of Lancashire and Cheshire*, CV (1963), pp. 107-122.

_____. "Ship Registry – to 1707." *Maritime History*, I (1971), pp, 29-45.

_____. "Ship Registry – 1707-86." *Maritime History*, II (1972), pp. 151-167.

_____. "Ship Registry – 1786." *Maritime History*, IV (1974), pp. 12-30.

Jenkins, Edward. *The Coolie, His Rights and Wrongs. Notes of a Journey to British Guiana, with a Review of the System and of the Recent Commission of Inquiry*. London, 1871.

Jeremy, David J. (ed.). *Dictionary of Business Biography: A Dictionary of Business Leaders Active in Britain in the Period 1860-1980*. 6 vols., London, 1984-1986.

John Readhead & Sons Ltd., South Shields, 1865-1965. South Shields, 1965.

Johnman, Lewis and Hugh Murphy. *British Shipbuilding and the State since 1918*. Exeter, 2002.

Johnston, Ian. *Beardmore Built: The Rise and Fall of a Clydeside Shipyard*. Clydebank, 1993.

Jones, Clement Wakefield. *Pioneer Shipowners*. 2 vols., Liverpool, 1935-1938.

_____. "Shipowners Who Have Made History. Origin and Development of the House of Brocklebank, the Oldest Shipping Firm in the Kingdom." *Journal of Commerce*, 25 November 1933.

Kaufman, William W. *British Policy and the Independence of Latin America, 1804-1828*. New Haven, CT, 1951.

Kaukiainen, Yrjö. *Sailing into Twilight: Finnish Shipping in an Age of Transport Revolution, 1860-1914*. Helsinki, 1991.

Keir, David. *The Bowring Story*. London, 1962.

Kennedy, John. *The History of Steam Navigation*. Liverpool, 1903.

Kennedy, Liam and P. Ollerenshaw. *An Economic History of Ulster 1820-1939*. Manchester, 1985.

Kennerley, Alston. "Merchant Marine Education in Liverpool and the Nautical College of 1892." *International Journal of Maritime History*, V, No. 2 (December 1993), pp. 103-134.

Kenwood, A.G. and A.L. Lougheed. *The Growth of the International Economy 1820-2000: an Introductory Text*. 3rd ed., London, 1999.

Kenyon, J.P. ed. *The Wordsworth Dictionary of British History*. Ware, Hertfordshire, 1996.

Kenwood, A.G. and A.L. Lougheed. *The Growth of the International Economy, 1820-1990*. London, 1992.

Kert, Faye Margaret. *Prize and Prejudice: Privateering and Naval Prize in the War of 1812*. St. John's, NL, 1997.

_____. "The Fortunes of War: Commercial Warfare and Maritime Risk in the War of 1812." *The Northern Mariner/Le Marin du Nord*, VIII, No. 4 (October 1998), pp. 1-16.

Killick, J.R. "An Early Nineteenth-Century Shipping Line: The Cope Line of Philadelphia and Liverpool Packets, 1822-1872," *International Journal of Maritime History*, XII, No. 1 (June 2000), pp. 61-87.

_____. "Liverpool Merchants and American Shipping: William Brown and the Cope Line of Philadelphia-Liverpool Packets, 1822-1880." *Northern History*, XXXVII (2000), pp. 179-192.

Kilmarx, Robert A. (ed.). *America's Maritime Legacy: A History of the U.S. Merchant Marine and Shipbuilding Industry since Colonial Times*. Boulder, CO, 1979.

Kirkaldy, Adam W. *British Shipping. Its History, Organization and Importance*. London, 1914.

Klein, Herbert S. "The English Slave Trade to Jamaica, 1782-1808." *Economic History Review*, XXXI, No. 1 (1978), pp. 25-45.

Kohen Winter, Jane. *Chile*. New York, 1991.

Kurlansky, Mark. *Cod. A Biography of the Fish that Changed the World*. Toronto, 1997.

Lambert, Andrew. *Battleships in Transition : the Creation of the Steam Battlefleet, 1815-1860*. London, 1985.

_____. *The Last Sailing Battlefleet: Maintaining Naval Mastery 1815-1850.* London, 1991.

_____. *Nelson : Britannia's God of War.* London, 2004.

Lane, Tony. *Grey Dawn Breaking: British Merchant Seafarers in the Late Twentieth Century.* Manchester, 1986.

_____. *Liverpool: Gateway of Empire.* London, 1987.

"The Late Mr. Henry Fernie An Appreciation." *Mersey: The Magazine of the Mersey Dock Board's Staff Guild,* VI (April 1933), p. 301.

Lawson, Will. *Pacific Steamers.* Glasgow, 1927.

Leach, Douglas Edward. *Arms for Empire. A Military History of the British Colonies in North America, 1607-1763.* New York, 1973.

Lewis, Michael Arthur *The History of the British Navy,* London, 1959.

Lewis, Miles. *Melbourne: The City's History and Development.* 2nd ed., Melbourne, 1995.

Lewis-Simpson, Shannon (ed.). *Vinland Revisited. The Norse World at the Turn of the First Millennium. Selected Papers from the Viking Millennium International Symposium, 15-24 September 2000.* St. John's, NL, 2003.

Lin, Man-Houng."World Recession, Indian Opium, and China's Opium War." in Mathew, ed. *Mariners, Merchants and Oceans,* pp. 385-417.

Lingwood, John. "William Wheelwright: The Man." *Bulletin of the Liverpool Nautical Research Society,* XLIV, No. 1 (June 2000), pp. 10-16.

Liverpool and Slavery: An Historical Account of the Liverpool-African Slave Trade. Was it the Cause of the Prosperity of the Town? Liverpool, 1884.

Lloyd, Christopher. *The Navy and the Slave Trade: the Suppression of the African Slave Trade in the Nineteenth Century.* London, 1968.

Lorenz, Edward. *Economic Decline in Britain: The Shipbuilding Industry, 1890-1970.* Oxford, 1991.

Lower, Arthur R.M. *Great Britain's Woodyard: British America and the Timber Trade,*

1763-1867. Montréal, 1973.

Lubbock, Basil. *Coolie Ships and Oil Sailers*. Glasgow, 1935.

_____. *The Last of the Windjammers*. Glasgow, 1975.

Lucassen, Jan. *Migrant Labour in Europe, 1600-1900: The Drift to the North Sea*. London, 1987.

Lyon, John. *The History of the Town and Port of Dover and of Dover Castle, with a Short Account of the Cinque Ports*. 2 vols., Dover, 1813-1814.

Lythe, S.G.E. *Gourlays of Dundee. The Rise and Fall of a Scottish Shipbuilding Firm*. Dundee, 1964.

Macdonald, Ronan. "Schumpeter and Max Weber: Central Visions and Social Theories." *Quarterly Journal of Economics*, LXXIX, No. 3 (1965), pp. 373-396.

MacGregor, D. *The Tea Clippers*. London, 1952.

Maddocks, Melvin *et al. The Great Liners*. Alexandria, Virginia, 1982.

Maenpää, Sari. "From Pea Soup to Hors D'oeuvres: The Status of the Cook on British Merchant Ships." *The Northern Mariner/Le Marin du nord*, XI, No. 2 (April 2001), 39-55.

_____. "Galley News: Catering Personnel on British Passenger Liners, 1860-1938." *International Journal of Maritime History*, XII, No. 1 (June 2000), 243-260.

Magnusson, Magnus (ed.). *Chambers Biographical Dictionary*. Edinburgh, 1990.

Major, Kevin. *As Near to Heaven by Sea : A History of Newfoundland and Labrador*. Toronto, 2001.

Malcomson, Robert. *Lords of the Lake: The Naval War on Lake Ontario, 1812-1814*. Toronto, 1998.

Mannion, John J. (ed.), *The Peopling of Newfoundland: Essays in Historical Geography*. St. John's, NL, 1977.

Manny, Louise. *Ships of Miramichi: A History of Shipbuilding on the Miramichi River, New*

Brunswick, Canada, 1773-1919. Saint John, NB, 1960.

Marcil, Eileen Reid. *The Charley-Man: A History of Wooden Shipbuilding at Quebec 1763-1893.* Montréal, 1995.

Marriner, Sheila. *Rathbones of Liverpool, 1845-73.* Liverpool, 1961.

_____. and F. E. Hyde. *The Senior: John Samuel Swire, 1825-98.* Liverpool, 1967.

Marshall, J.D. and John K. Walton. *The Lake Counties from 1830 to the Mid-Twentieth Century.* Manchester, 1981.

Marston, Daniel. *The American Revolution 1774-1783.* New York, 2003.

Mathew, W.M. "Peru And The British Guano Market, 1840-1870." *Economic History Review*, XXIII, No. 1 (1970), pp. 112-128.

Mathias, Peter. *The First Industrial Nation. An Economic History of Britain, 1700-1914.* London, 1969.

Mathew, K.S. (ed.). *Mariners, Merchants and Oceans: Studies in Maritime History.* New Delhi, 1995.

Matthews, Keith and Gerald Panting (eds.). *Ships and Shipbuilding in the North Atlantic Region.* St. John's, NL, 1978.

_____. "The Shipping Industry of Atlantic Canada: Themes and Problems." in Keith Matthews and Gerald Panting (eds.). *Ships and Shipbuilding in the North Atlantic Region.* St. John's, NL, 1978, pp. 1-18.

Mayo, John. "The Development of British Interests in Chile's Norte Chico in the Early Nineteenth Century." *Americas: A Quarterly Review of Inter-American Cultural History*, LVII, No. 3 (2001), pp. 363-394.

McCusker, John J. *European Bills of Entry and Marine Lists: Early Commercial Publications and the Origins of the Business Press.* Cambridge, MA, 1985.

_____. "The Early History of 'Lloyd's List.'" *Historical Research*, LXIV (1991), pp. 427-431.

_____. "The Rise of the Shipping Industry in Colonial America," In Robert A. Kilmarx

(ed.). *America's Maritime Legacy: A History of the U.S. Merchant Marine and Shipbuilding Industry since Colonial Times*. Boulder, CO, 1979, pp. 1-23.

_____. "The Tonnage of Ships Engaged in the British Colonial Trade During the Eighteenth Century." *Research in Economic History*, VI (1981), pp. 73-105.

McDonald, John and Ralph Shlomowitz. "Fares Charged for Transporting Indian Indentured Labour to Mauritius and the West Indies, 1850-1873." *International Journal of Maritime History*, III, No. 1 (June 1991), pp. 81-99.

_____ and _____. "Mortality on Chinese And Indian Voyages to The West Indies and South America, 1847-1874." *Social and Economic Studies*, XLI, No. 2 (1992), 203-240.

_____ and _____. "Mortality on Immigrant Voyages to Australia in the Nineteenth Century." *Explorations in Economic History*, XXVII (1990), pp. 84-113.

McFall, Robert J. *Railway Monopoly and Rate Regulation*. New York, 1968.

McGowen, Randall. "Credit and Culture in Early Modern England." *Journal of British Studies*, XLI, No. 1 (2002), pp. 120-131.

McMurray, H.C. "Technology and Social Change at Sea: The Status and Position on Board of the Ship's Engineer, *circa* 1830-60." In Rosemary Ommer and Gerald Panting (eds.). *Working Men Who Got Wet* (St. John's, NL, 1980), pp. 35-50.

McPherson, Kenneth. *The Indian Ocean: A History of People and the Sea*. Delhi, 1993.

McRoberts, John. "The Houston Story (1)." *Sea Breezes*, New series, XLIV (May 1970), p. 307.

_____. "The Houston Story (2)." *Sea Breezes*, New series, XLIV (June 1970), pp. 361-367.

_____. "The Houston Story (3)." *Sea Breezes*, New series, XLIV (July 1970), pp. 435-438.

Melvin, Frank Edgar. *Napoleon's Navigation System: A Study of Trade Control during the Continental Blockade*. New York, 1970.

Miller, Michael B. "Ship Agents in the Twentieth Century." in Gordon Boyce and Richard Gorski (eds.). *Resources and Infrastructures in the Maritime Economy, 1500-2000*. St. John's, NL, 2002, pp. 5-22.

Miller, Nathan. *Broadsides. The Age of Fighting Sail, 1775-1815.* Edison, NJ, 2005.

Milne, Graeme J. *Trade and Traders in Mid-Victorian Liverpool: Mercantile Business and the Making of a World Port.* Liverpool, 2000.

_____. "Information, Reputation and Collaboration in Mercantile Business: Evidence from Mid-Victorian Liverpool," *International Journal of Maritime History*, XIV. No. 1 (June 2002), pp. 1-20.

_____. "Port Politics: Interest, Faction and Port Management in Mid-Victorian Liverpool." in Lewis R, Fischer and Adrian Jarvis (eds.). *Harbours and Havens: Essays in Port History in Honour of Gordon Jackson.* St. John's, NL, 1999, pp. 35-62.

Milner, Marc. *Canada's Navy: The First Century.* Toronto, 1999.

Mitchell, B.R. *Economic Development of the British Coal Industry 1800-1914.* Cambridge, 1984.

_____, with Phyllis Deane, *Abstract of British Historical Statistics.* Cambridge, 1962.

Mohammed, Saif I. Shah and Jeffrey G. Williamson. *Freight Rates and Productivity Gains in British Tramp Shipping, 1869-1950.* Cambridge, MA, 2003.

Monteóón, Michael. "John T. North, the Nitrate King, and Chile's Lost Future." *Latin American Perspectives*, XXX, No. 6 (2003), 69-90.

Morison, Samuel Eliot. *John Paul Jones: A Sailor's Biography.* Boston, 1959; reprint, Annapolis, MD, 1989.

Moss, Michael S. and John R. Hume. *Shipbuilders to the World – 125 Years of Harland and Wolf, Belfast, 1861-1986.* Belfast, 1986.

_____. "Shipbuilding in Ireland in the Nineteenth Century," in Simon Ville (ed.). *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach.* St. John's, NL, 1993, pp. 177-195.

Mulhearn, Rachael. "Dockside Dwellings: The Provision of Housing by the Liverpool Dock Authorities during the 19th Century" in *The Northern Mariner/Le marin du nord*, XIII, No. 3 (July 2003), pp. 21-32.

Munro, J. Forbes. *Maritime Enterprise and Empire: Sir William Mackinnon and His*

Business Network, 1823-93. Woodbridge, 2003.

Murray, Dian H. *Pirates of the South China Coast, 1790-1810.* Stanford, 1987.

Mueller, Edward. "Revisiting the *Great Eastern.*" *Steamboat Bill*, LII (Fall 1995), pp. 202-213.

Mueller, Edward A. "The Recessed Steamboat *Osceola.*" *Steamboat Bill*, XLVII (Fall 1990), pp. 205-213.

Munro, J. Forbes. "Suez and the Shipowner: The Response of the MacKinnon Shipping Group to the Opening of the Canal, 1869-84." In Lewis R. Fischer and Helge W. Nordvik (eds.). *Shipping and Trade, 1750-1950: Essays in International Maritime Economic History, 1750-1950.* Pontefract, England, 1990, pp. 97-123.

_____ and Tony Slaven. "Networks and Markets in Clyde Shipping: The Donaldsons and the Hogarths, 1870-1939." *Business History*, XLIII, No. 2 (2001), pp. 19-50.

Navin, Thomas R. and Marian V. Sears. "A Study in Merger: Formation of the International Mercantile Marine Company." *Business History Review*, XXVIII, No. 4 (1954), pp. 291-328.

Navy Losses and Merchant Shipping Losses. London, 1919.

Neal, Frank. "Shipbuilding in the Northwest of England in the Nineteenth Century." In Simon Ville (ed.). *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach.* St. John's, NL, 1993, pp. 111-152.

Neal, Larry. "The Money Pitt: Lord Londonderry and the South Sea Bubble; Or, How to Manage Risk in an Emerging Market." *Enterprise and Society*, I, No. 4 (2000), pp. 659-674.

Nelson, James L. *Reign of Iron: The Story of the First Battling Ironclads, the Monitor and the Merrimack.* New York, 2004.

Noa, Frederick M. "William Wheelwright, the Yankee Pioneer of Modern Industry in South America." *The Arena*, XXXVI, No. 205 (December 1906).

Nordvik, Helge. "Entrepreneurship and Risk Taking in the Norwegian Shipping Industry in the Early Part of the Twentieth Century: The Case of Lauritz Kloster, Stavanger." In Lewis R. Fischer (ed.). *From Wheel House to Counting House: Essays in Maritime*

Business History in Honour of Professor Peter Neville Davies. St. John's, NL, 1992, pp. 323-348.

Norling, Lisa. *Captain Ahab had a Wife: New England Women and the Whale Fishery, 1720-1870.* Chapel Hill, NC, 2000.

North, Douglass C. "Ocean Freight Rates and Economic Development 1750-1913." *Journal of Economic History*, XVIII (1958), pp. 537-555.

_____. "Sources of Productivity Change in Ocean Shipping, 1600-1850." *Journal of Political Economy*, LXXVI (1968,) pp. 953-970.

North, Michael (ed.). *Kommunikationsrevolutionen. Die neuen Medien des 16. Und 19. Jahrhunderts.* Köln, 1995.

O'Flaherty, Patrick. *Lost Country : the Rise and Fall of Newfoundland, 1843-1933.* St. John's, NL, 2005.

_____. *Old Newfoundland: A History to 1843.* St. John's, NL, 1999.

Oldham, Wilton J. *The Ismay Line. The White Star Line and the Ismay Family Story.* London, 1961.

"Oldest British Shipping Firm." *Journal of Commerce*, (16 May 1935).

O'Leary, Wayne M. *The Tancook Schooners: An Island and Its Boats.* Montréal, 1994.

Ommer, Rosemary E. and Gerald Panting (eds.). *Working Men Who Got Wet.* St. John's, NL, 1980.

_____, Fischer, Lewis R. and Eric W. Sager. "The Data Base of the Atlantic Canada Shipping Project." In Lewis R. Fischer and Eric W. Sager (eds.). *Merchant Shipping and Economic Development in Atlantic Canada.* St. John's, NL, 1982, pp. 1-6.

Oppenheim, M. (ed.). *The Naval Works of Sir William Monson.* 2 vols., London, 1902.

"Origin and Development of the House of Brocklebank: The Oldest Shipping Firm in the Kingdom." *Journal of Commerce*, 25 November 1938.

"The Origin of the Pacific Steam Navigation Co." *Mersey: The Magazine of the Mersey Dock Board's Staff Guild*, III (July 1923), p. 15.

Ortega, Luis. "Nitrates, Entrepreneurs and the Origins of the War of the Pacific." *Journal of Latin American Studies*, XVI, No. 2 (November 1984), pp. 337-380.

Osbourne, Brian D., Quinn, Iain and Donald Robertson. *Glasgow's River*. Glasgow, 1996.

Owens, Harry P. *Steamboats and the Cotton Economy: River Trade in the Yazoo-Mississippi Delta*. Jackson. MS, 1990.

Palmer, Charles M. "On the Construction of Iron Ships, and the Progress of Iron Shipbuilding, on the Tyne, the Wear, and the Tees." In W.G. Armstrong, *et al.* (eds.). *The Industrial Resources of the District of the Three Northern Rivers, the Tyne, Wear, and Tees, Including the Reports on the Local Manufactures, Read before the British Association, in 1863*. Newcastle upon Tyne, 1864.

Palmer, Sarah. *Politics, Shipping and the Repeal of the Navigation Laws*. Manchester, 1990.

_____ and Glyndwr Williams (eds.). *Charted and Uncharted Waters*. London, 1981.

_____. "Investors in London Shipping, 1820-50." *Maritime History*, II (1972), pp. 46-68.

_____. "Shipbuilding in Southeast England, 1800-1913," in Simon Ville (ed.), *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach*. St. John's, NL, 1993, pp. 45-74.

Parker, John P. *Cape Breton Ships and Men*. Aylesbury, 1967.

_____. *Ships and Men: The Golden Age of Wooden Ships in Cape Breton Island*. Wreck Cove, NS, 2003.

Pateman, Robert. *Bolivia*. New York, 1995.

Pedler, Frederick, with a chapter by Burns, Alan. *The Lion and the Unicorn in Africa. A History of the Origins of the United Africa Company 1787-1931*. London, 1974.

Philip, Cynthia Owen. *Robert Fulton: A Biography*. New York, 1985.

Phillips, Kevin. *The Cousins Wars: Religion, Politics & The Triumph of Anglo-America*. New York, 1999.

Platt, D.C.M. *Latin America and British Trade 1806-1914*. London, 1972.

_____. (ed.), *Business Imperialism 1840-1930. An Inquiry Based on British Experience in Latin America.* Oxford, 1977.

Pocock, Tom. *Horatio Nelson.* London, 1987.

Pollard, Sidney. *Britain's Prime and Britain's Decline. The British Economy 1870-1914.* London, 1989.

_____ and Paul Robertson. *The British Shipbuilding Industry, 1870-1914.* Cambridge, MA, 1979.

Pope, Peter E. *The Many Landfalls of John Cabot.* Toronto, 1997.

Porter, Andrew. *Victorian Shipping and Imperial Policy. Donald Currie, the Castle Line and Southern Africa.* Woodbridge, 1986.

Prange, C. "The Development of the Port of Hamburg in the 19th and 20th Centuries." In L.M. Akveld and J.R. Brujin (eds.). *Shipping Companies and Authorities in the 19th and 20th Centuries: Their Common Interest in the Development of Port Facilities.* Rotterdam, 1989, pp. 9-26.

Preston, Diana. *Lusitania: An Epic Tragedy.* New York, 2002.

Prowse, D.W. *A History of Newfoundland,* London, 1895.

Rance, Adrian B. *Shipbuilding in Victorian Southampton.* Southampton, 1981.

Rankin, John. *A History of Our Firm: Being Some Account of the Firm of Pollock, Gilmour and Co. and Its Offshoots and Connections.* Liverpool, 1908.

Rediker, Marcus. *Villains of all Nations: Atlantic Pirates in the Golden Age.* Boston, 2004.

Rees, W. Stewart. "Brocklebanks." *The Liverpool Nautical Research Society Transactions,* III. (1946-1947), pp. 30-38.

Reeves, Dudley. "From Sail to Steam: Brocklebank's Part in Maritime History." *Town and Country News,* (15 August 1930).

Rice, Richard. "Measuring British Dominance of Shipbuilding in the Maritimes, 1787-1890." In Keith Matthews and Gerald Panting (eds.). *Ships and Shipbuilding in the North Atlantic Region.* St. John's, NL, 1978, pp. 109-155.

Riordon, William L. (ed.). *Plunkitt of Tammany Hall: A Series of Very Plain Talks on Very Practical Politics, Delivered by ex-Senator George Washington Plunkitt, the Tammany Philosopher, from His Rostrum – The New York County Court House Bootblack Stand.* New York, 1963.

Ritcheson, Charles R. *Aftermath of Revolution: British Policy toward the United States, 1783-1795.* Dallas, 1969.

Roberts, William H. *Now for the Contest: Coastal and Oceanic Naval Operations in the Civil War.* Lincoln, 2004.

Robinson, Robb. *History of the Yorkshire Coast Fishing Industry 1780-1914.* Hull, 1987.

_____. *Trawling: The Rise and Fall of the British Trawl Fishery.* Exeter, 1996.

_____. "The Development of the British North Sea Steam Trawling Fleet 1877-1900," in John Edwards, *et. al.* (eds.). *The North Sea.* Aberdeen, 1995.

Rodger, N.A.M. *The Safeguard of the Sea: A Naval History of Britain. Vol. I: 660-1649.* London, 1997.

Rostow, W.W. *The Stages of Economic Growth: A Non-Communist Manifesto.* 3rd ed., Cambridge, 1991.

Rothstein, Morton. "Centralizing Firms and Spreading Markets: The World of International Grain Traders, 1846-1914." *Business and Economic History*, XVII (1988), pp. 103-113.

Rowland, K.T. *Steam at Sea. A History of Steam Navigation.* Newton Abbot, 1970.

Royden, Ernest. *Thomas Royden & Sons. Shipbuilders, Liverpool 1818-1893.* Liverpool, 1953.

Ryan, Shannon. *Fish Out of Water. The Newfoundland Saltfish Trade, 1814-1914.* St. John's, NL, 1986.

_____. *The Ice Hunters: A History of Newfoundland Sealing to 1914.* St. John's, NL, 1994.

_____. "The Industrial Revolution and the Newfoundland Seal Fishery." *International Journal of Maritime History*, IV, No. 2 (1992), pp. 1-43.

Sager, Eric W., with Gerald E. Panting. *Maritime Capital: The Shipping Industry in Atlantic Canada 1820-1914*. Montréal, 1990.

_____. and Lewis R. Fischer. *Shipping and Shipbuilding in Atlantic Canada, 1820-1914*. Ottawa, 1986.

_____. "The Port of St. John's, Newfoundland, 1840-1889; A Preliminary Analysis," In Keith Matthews and Gerald Panting (eds.). *Ships and Shipbuilding in the North Atlantic Region*. St. John's, NL, 1978, pp. 19-39.

_____. and Gerald E. Panting. "Staple Economies and the Rise and Decline of the Shipping Industry in Atlantic Canada, 1820-1914." In Lewis R. Fischer and Gerald E. Panting (eds.). *Change and Adaptation in Maritime History. The North Atlantic Fleets in the Nineteenth Century*. St. John's, NL, 1985, pp. 1-45.

"Sandbach, Tinne and Co." *Sea Breezes*, XXXIII (1939), p. 395.

Saphire, William. "The Ineffective Cartel: The Growth and Decline of the International Mercantile Maritime [sic] Company." *Steamboat Bill*, XLVII, No. 1 (1990), pp. 13-20.

Sater, William F. *Chile and the War of the Pacific*. Lincoln, NE, 1986.

Schultz, Charles R. *Forty-niners 'Round the Horn*. Columbia, SC, 1999.

_____. "Gold Rush Voyage of the Ship Sweden." *International Journal of Maritime History*, XV, No. 1 (June 2003), pp. 91-127.

Shepherd, James F. and Gary M. Walton. *Shipping, Maritime Trade, and the Economic Development of Colonial North America*. Cambridge, 1972.

Shirley, James H. "Temporal Patterns in Historic Major Earthquakes in Chile." *West Georgia College Studies in the Social Sciences*, XXV (1986), pp. 31-62.

Shlomowitz, Ralph. "Mortality and Voyages of Liberated Africans to the West Indies, 1841-1867." *Slavery and Abolition*, XI, No. 1 (1990), pp. 30-41.

Shoebottom, Bradley T. "The Shipbuilding Career of Gaius S. Turner of Harvey Bank, NB, 1874-1892." *The Northern Mariner/Le Marin du nord*, X, No. 3 (July 2000), pp. 15-48.

Simons, Gerald et al. *The Blockade: Runners and Raiders*. Morristown, NJ, 1983.

Skaggs, Jimmy M. *The Great Guano Rush: Entrepreneurs and American Overseas Expansion*. New York, 1994.

Slaven, Anthony. "Shipbuilding in Nineteenth-Century Scotland." In Simon Ville (ed.). *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach*. St. John's, NL, 1993, pp. 153-176.

Sloan, Edward W. "The First (and Very Secret) International Steamship Cartel, 1850-1856." In David J. Starkey and Gelina Harlaftis (eds.). *Global Markets: The Internationalization of the Sea Transport Industries Since 1850*. St. John's, NL, 1998, pp. 29-52.

Sloman, Guy R. "Some Lesser-Known Liverpool Shipping Companies." *Liverpool Nautical Research Society Transactions*, VII (1952-1953), pp. 22-24.

Smellie, John. *Shipbuilding and Repairing in Dublin. A Record of Work Carried out by the Dublin Dockyard Co. 1901-1923*. Glasgow, 1923.

Souza, G.B. "Convergence before Divergence: Global Maritime Economic History and Material Culture," *International Journal of Maritime History*, XVII, No. 2 (December 2005), forthcoming.

Speed, William. "A Note on Sandbach, Tinne and Co." *Mersey: The Magazine of the Mersey Dock Board Staff Guild*, I (December 1921), p. 100.

Spicer, Stanley T. *Masters of Sail: The Era of Square-rigged Vessels in the Maritime Provinces*. 2nd ed., Halifax, 1981.

_____. *Sails of Fundy: The Schooners and Square-riggers of the Parrsboro Shore*. Hantsport, NS, 1984.

Stammers, Michael K. *Mersey Flats and Flatmen*. Lavenham, Suffolk, 1993.

____. *The Passage Makers. The History of the Black Ball Line of Australian Packets 1852-1871*. Brighton, 1978.

____. "Brocklebank, Ralph (1803-1892) Shipowner." In David J. Jeremy (ed.). *Dictionary of Business Biography* (6 vols., London, 1984-1986), I, p. 460.

_____. "The Mersey Boatmen and Their Gigs." *Mariner's Mirror*, LXI (1975), pp. 283-288.

Stanley, Jo. "The Company of Women." *The Northern Mariner/Le Marin du nord*, IX, No. 2 (April 1999), pp. 69-86.

Staples, A.C. "Memoirs of William Prinsep: Calcutta Years, 1817-1842." *Indian Economic and Social History Review*, XXVI, No. 1 (1989), pp. 61-79.

Starkey, David J. *British Privateering Enterprise in the Eighteenth Century*. Exeter, 1990.

_____, *et al.* (eds.). *Shipping Movements of the United Kingdom, 1871-1913; A Statistical Profile*. Exeter, 1999.

_____ and Gelina Harlaftis (eds.). *Global Markets: The Internationalization of the Sea Transport Industries Since 1850*. St. John's, NL, 1998.

_____, Reid, Chris and Neil Ashcroft (eds.), *England's Sea Fisheries: The Commercial Sea Fisheries of England and Wales since 1300*. London, 2000.

_____, van Eyck van Heslinga, E.S. and J.A. de Moor (eds.), *Pirates and Privateers : New Perspectives on the War on Trade in the Eighteenth and Nineteenth Centuries*. Exeter, 1997.

_____. "Devon's Shipbuilding Industry, 1786-1970." In Michael Duffy, *et al.* (eds.). *The New Maritime History of Devon*. 2 vols., London, 1992-1994.

____. "The Shipbuilding Industry of Southwest England, 1790-1913." In Simon Ville (ed.). *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach*. St. John's, NL, 1993, pp. 75-110.

Stigler, G. J. "The Division of Labor is Limited by the Extent of the Market." *Journal of Political Economy*, XXXII (1984), pp. 185-193.

Still, William N., Jr. *Iron Afloat: The Story of the Confederate Armorclads*. Nashville, TN, 1971; rev. ed., Columbia, SC, 1985.

_____.. *Monitor Builders: A Historical Study of the Principal Firms and Individuals Involved in the Construction of USS Monitor*. Washington, DC, 1988.

Stillwell, David E. "Brocklebanks: The Final Century." *Sea Breezes*, New series, LVIII (1984), pp. 115-133.

Storey, Richard. "The Royal Mail Steam Packet Company Crisis: A Footnote." *Journal of Transport History*, VII, No. 2 (1986), 93-96.

"The Story of the Brocklebank Line." *Sea Breezes*, XX (1935), pp. 13-16.

The Stranger in Liverpool; or, an Historical and Descriptive View of the Town of Liverpool and Its Environs. 1807; 7th ed., Liverpool, 1823.

Surdam, David G. *Northern Naval Superiority and the Economics of the American Civil War.* Columbia, SC, 2001.

Sutherland, Edward. "Recollections of Fernie's "Omenes"." *Sea Breezes*, XIII (February 1930), pp. 82-83.

Taplin, E.L. *The Dockers' Union : A Study of the National Union of Dock Labourers, 1889-1922.* Leicester, 1985.

_____. *Near to Revolution: The Liverpool General Transport Strike of 1911.* Liverpool, 1994.

_____. "Dock Labour in Liverpool: Occupational Structure and Working Conditions in the late Nineteenth Century." *Transactions of the Historic Society of Lancashire and Cheshire*, CXXVII (1977), pp. 133-154.

Taylor, James. *Ellerman's: a Wealth of Shipping.* London, 1976.

Touzeau, James. *The Rise and Progress of Liverpool from 1551 to 1835.* 2 vols., Liverpool, 1910.

Trifilo, S. Samuel. "Early Nineteenth-century British Travellers in Chile: Impressions of Santiago and Valparaiso." *Journal of Inter-American Studies*, XI, No. 3 (1969), pp. 391-424.

Tsokhas, Kosmas. *Markets, Money, and Empire: The Political Economy of the Australian Wool Industry.* Carlton, VIC, 1990.

Two Centuries of Shipbuilding by the Scotts at Greenock. 1906; 3rd rev. ed., Manchester, 1906.

Unger, Richard W. et. al. *Conway's History of the Ship. Cogs, Caravels and Galleons: The Sailing Ship 1000-1650.* London, 1994.

Vale, Vivian. *The American Peril: Challenge to Britain on the North Atlantic 1901-04.* Dover, NH, 1985.

Valenzuela, Luis. "The Chilean Copper Smelting Industry in the Mid-nineteenth Century: Phases of Expansion and Stagnation, 1834-58." *Journal of Latin American Studies*, XXIV, No. 3 (1992), pp. 507-550.

Van Royen, Paul C.; Bruijn, Jaap R.; and Jan Lucassen (eds.). *"Those Emblems of Hell"? European Sailors and the Maritime Labour Market, 1570-1870.* St. John's, NL, 1997.

Ville, Simon. *English Shipowning during the Industrial Revolution: Michael Henley and Son, London Shipowners, 1770-1830.* Manchester, 1987.

_____. *The Rural Entrepreneurs: A History of the Stock and Station Agent Industry in Australia and New Zealand.* Oakleigh, VIC, 2000.

_____. *Transport and the Development of the European Economy, 1750-1918.* London, 1990.

_____ (ed.). *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach.* St. John's, NL, 1993.

_____ and David M. Williams (eds.). *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and Business History.* St. John's, NL, 1994.

____. "The Growth of Foreign Trade and Shipping at New Zealand's Major Seaports during the Nineteenth Century." *Australian Economic History Review*, XXXII, No. 2 (1992), pp. 60-89.

_____. "The Growth of Specialization in English Shipowning, 1750-1850." *Economic History Review*, 2nd series, XLVI (1993), pp. 702-722.

_____. "Patterns of Shipping Investment in the Port of Newcastle on Tyne, 1750-1850." *Northern History*, XXV (1989), pp. 205-221.

_____. "The Problem of Tonnage Measurement in the English Shipping Industry, 1780-1830." *International Journal of Maritime History*, I (1989), pp. 80-81.

_____. "Shipbuilding in the Northeast of England in the Nineteenth Century." In Simon

Ville (ed.). *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach.* St. John's, NL, 1993, pp. 1-44.

_____. "Shipping in the Port of Sunderland 1815-45: A Counter-cyclical Trend." *Business History*, XXXII, No. 1 (1990), pp. 32-51.

Wallace, Frederick William. *Wooden Ships and Iron Men: The Story of the Square-rigged Merchant Marine of British North America, the Ships, their Builders and Owners, and the Men Who Sailed Them.* Boston, 1937.

Wallace, James. *A General and Descriptive History of the Ancient and Present State of the Town of Liverpool.* Liverpool, 1797.

Wallerstein, Immanuel. *The Politics of the World Economy: The States, the Movements, and the Civilizations.* Cambridge, 1984.

Walton, G.M. "Colonial Tonnage Measurements: A Comment." *Journal of Economic History*, XXVII (1967), pp. 392-397.

Ward, William E.F. *The Royal Navy and the Slavers: the Suppression of the Atlantic Slave Trade.* New York, 1970.

Wardle, Arthur C. *Benjamin Bowring and His Descendants. A Record of Mercantile Achievement.* London, 1938.

____. *Steam Conquers the Pacific. A Record of Maritime Achievement 1840-1940.* London, 1940.

_____. "The West Coast Route (1)." *Sea Breezes*, New series, XXII (July-December 1956), pp. 106-121.

_____. "The West Coast Route (2)." *Sea Breezes*, New series, XXXIII (September 1956), pp. 180-206.

Waters, S.D. *Clipper Ship to Motor Liner. The Story of the New Zealand Shipping Company, 1873-1939.* London, 1939.

Weatherside, Richard. *The Ancient Port of Whitby and its Shipping.* Whitby, 1908.

Weiner, Martin J. *English Culture and the Decline of the Industrial Spirit, 1850-1980.* Cambridge, 1981.

Wells, Charles. *A Short History of the Port of Bristol.* Bristol, 1909.

White, John H., Jr. "Robert Fulton's Dream." *American Heritage of Invention & Technology*, XVIII, No. 1 (2002), pp. 38-46.

Wilde, J.H. "The Creation of the Marine Department of the Board of Trade." in David M. Williams, (ed.). *The World Of Shipping.* Aldershot, 1997, pp. 19-32.

Wilkinson, H.C. *Bermuda from Sail to Steam: A History of the Island from 1784 to 1901.* 2 vols., London, 1973.

Willan, T.S. *The English Coasting Trade 1600-1750.* Manchester, 1967.

_____. *The Inland Trade. Studies in English Internal Trade in the Sixteenth and Seventeenth Centuries.* Manchester, 1976.

Williams, David M. (ed.). *The World Of Shipping.* Aldershot, 1997.

_____. "Bulk Trades and the Development of the Port of Liverpool in the First Half of the Nineteenth Century." In Valerie Burton (ed.). *Liverpool, Shipping Trade and Industry.* Liverpool, 1989, pp. 8-23.

_____. "Merchanting in the First Half of the Nineteenth Century: The Liverpool Timber Trade." *Business History*, VIII (1966), pp. 103-121.

_____. "Mid-Victorian Attitudes to Seamen and Maritime Reform: the Society for Improving the Condition of Merchant Seamen, 1867." *International Journal of Maritime History* (June 1991) XXX, No. 1, pp. 101-126.

_____. "State Regulation of Merchant Shipping 1839-1914: The Bulk Carrying Trades." In Sarah Palmer and Glyndwr Williams (eds.). *Charted and Uncharted Waters.* London, 1981, pp. 55-80.

Williamson, James. *The Clyde Passenger Steamer. Its Rise and Progress during the Nineteenth Century, from the Comet of 1812 to the King Edward of 1901.* Stevenage, 1987.

Winton, John. *An Illustrated History of the Royal Navy.* London, 2000.

Witthöft, Hans Jürgen. *HAPAG : Hamburg-Amerika Line.* Herford, 1973.

Woods, E.A. "Sandbach, Tinne & Co's Fleet." *Sea Breezes*, XII (August 1929), pp. 243-244.

Workman and Clark (1928) Ltd. *Shipbuilding at Belfast*. Belfast, 1934.

Wray, William D. *Mitsubishi and the N.Y.K., 1870-1914. Business strategy in the Japanese Shipping Industry*. Cambridge, Massachusetts, 1984.

Wright, Esther Clark. *Saint John Ships and Their Builders*. Wolfville, NS, 1976.

Wynn, Graeme. *Timber Colony: A Historical Geography of Early Nineteenth Century New Brunswick*. Toronto, 1981.

Yates, P. Lamartine. *Forty Years of Foreign Trade*. London, 1959.

Yun, Lisa and Ricardo René Laremont. "Chinese Coolies and African Slaves in Cuba, 1847-74." *Journal of Asian American Studies*, IV, No. 2 (2001), pp. 99-122.

Theses and Dissertations

Baird, Christina Jane. "The Liverpool China Trade 1834-1880." PhD thesis, 2 vols., London, 1997.

Chafe, Edward Vincent. "A New Life on 'Uncle Sam's Farm:' Newfoundlanders in Massachusetts, 1846-1859." MA thesis, Memorial University of Newfoundland, 1982.

Clarke, David. "Coastwise from Cumberland: The Maryport Coasting Trade, 1850-1889." MA thesis, Memorial University of Newfoundland, 1998.

_____. "'The "Sailor's Friend:' A New Perspective on Samuel Plimsoll and Maritime Reform." Honours Diss., Memorial University of Newfoundland, 1995.

Coe, W.E. "The Economic History of the Engineering in the North of Ireland to 1914." PhD thesis, University of Belfast, 1964.

Hall, Nigel. "The Cotton Brokers and the Development of the Liverpool Cotton Market, c. 1800 to 1914." DPhil thesis, Oxford University, 1999.

Jones, Stephanie K. "A Maritime History of the Port of Whitby, 1700-1914." PhD thesis, University of London, 1982.

Rice, Richard. "Shipbuilding in British America, 1787-1890: An Introductory Study." PhD thesis, University of Liverpool, 1977.

Williams, David M. "The Function of the Merchant in Specific Liverpool Import Trades. 1820-50." MA Thesis, University of Liverpool, 1963.

Internet Sources

The Ship List, http://www.theshiplist.com

Department for Transport (United Kingdom), http://www.dft.gov.uk.