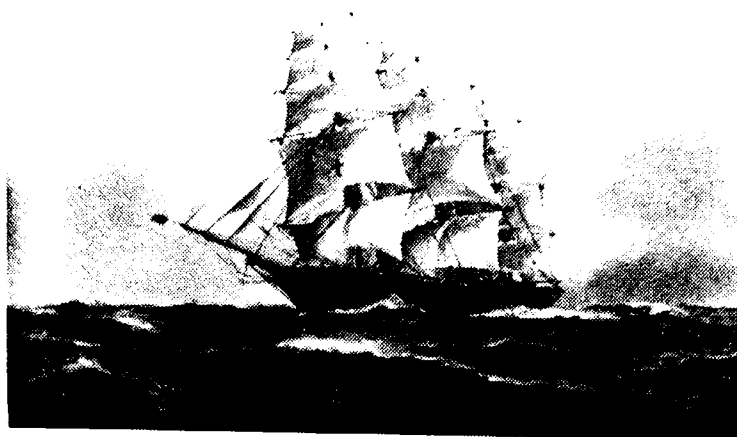


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VOLUME IX

1955-1961



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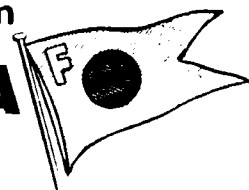
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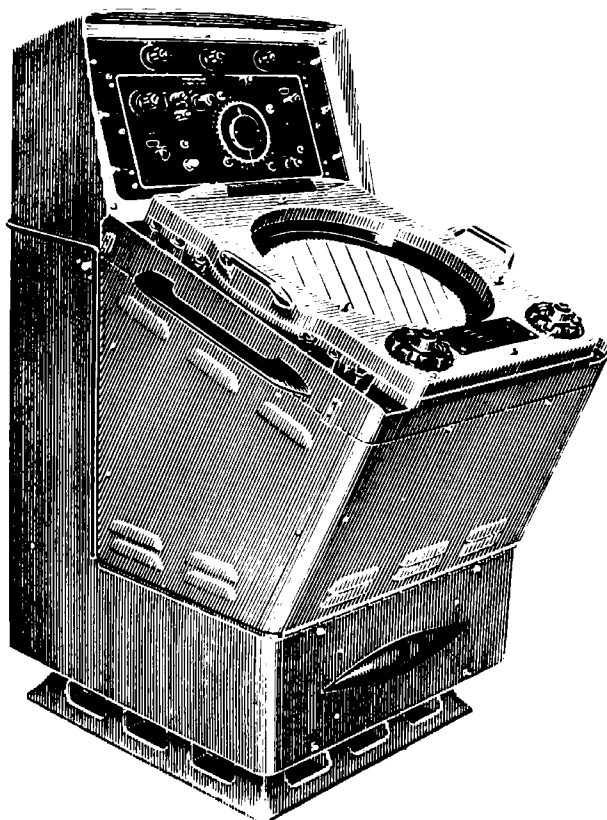
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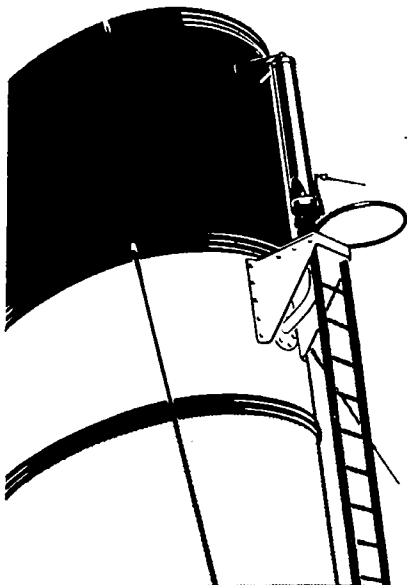


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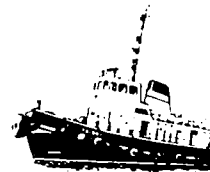
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Vol. IX	TRANSACTIONS	1955-1961
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Issued in April, 1963, the twenty-fifth anniversary of the founding of the Society.

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THE LIVERPOOL NAUTICAL RESEARCH SOCIETY

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The objects of the Society are:—

1. To encourage interest in the history of shipping (particularly local shipping) by collecting and collating material relating thereto;
2. To undertake an historical survey of Liverpool vessels, their builders, owners and masters;
3. To disseminate such information by publications or by any other available means;
4. To co-operate in every suitable way with other organisations in Liverpool or elsewhere having similar or cognate objects;
5. To encourage the making and collection of scale ship models, and their exhibition.

The annual subscription entitles members to attend meetings of the Society, to read papers before it, to take part in any excursions that may be arranged and to receive "Transactions" and "News, Notes and Queries", issued from time to time.

For further particulars apply to the Hon. Treasurer
Liverpool Nautical Research Society
28 Exchange Street East
Liverpool 2

EDITORIAL

This volume of Transactions covers a long period, 1955 to 1961. The reason for such a delay since Volume VIII, published in 1957, has been the cost of printing. Only recently has the Society accumulated enough money to cover production costs. However this volume, number IX, tries to make up for the long wait by its size and contents. Fourteen papers have been selected for publication. Many more have of course been given to the Society, but these have either been off-the-cuff talks or of largely visual appeal. There is no doubt that many more of the Society's meetings these days are addressed extempore and a tape recorder has been suggested as a means of recording. In order that readers may gain a full appreciation of the scope of the Society's meetings, a list of all of these since November, 1955, inclusive, is given in the following pages, together with brief notes about them and references to books and journals where they may be found in print. Of course all meetings have been reported in News, Notes and Queries, but it may be handy for members to have a complete list for the period covered by these Transactions.

THE SOCIETY'S MEETINGS, 1955-61

10th November, 1955: "The Royal Navy and the Defeat of Napoleon". By A. N. Ryan, M.A.

Mr. Ryan spoke of the post-Trafalgar period and explained in some detail how the Royal Navy contributed to the downfall of Napoleon; by the effectiveness of its blockading squadrons and by the mobility it gave to the British Army, making possible the successful prosecution of the Peninsular campaign. A report of this paper is in News, Notes and Queries, for November, 1955, Volume V, No. 4. Serial number of meeting: 99.

7th December, 1955: "Nautical Research". By Frank G. G. Carr, C.B.E., M.A.

This was the Society's one hundredth meeting and appropriately the speaker was the Director of the National Maritime Museum at Greenwich. Mr. Carr outlined the work of the Society for Nautical Research and explained the kind of activities the Liverpool Nautical Research Society could usefully undertake. He emphasized the study of local craft, such as Mersey flats. Finally, he said, research should have three points, like Neptune's trident; Pleasure in the Past, Pride in the Present and Fortitude for the Future. His address is reported in News, Notes and Queries for February, 1956, Volume VI, No. 1. Serial number of meeting: 100.

12th January, 1956: "The Alabama Case". By Rupert C. Jarvis, F.S.A., F.R.HIST.S.

A masterly exposition by the Librarian of the Custom House Library in London of the legal side of the *Alabama* incident. Mr. Jarvis outlined the rise of privateering and the provisions of our Foreign Enlistment Act. He

explained how the *Alabama* left the Mersey quite legally, as she was unarmed; nevertheless the British Government paid 15½ million dollars as reparation for the damage she and her sisters from British yards, had done. In October, 1959, Mr. Jarvis presented a similar paper to the Historic Society of Lancashire and Cheshire. It is printed in the Transactions of the Historic Society of Lancashire and Cheshire, Volume CXI, 1959, and reported in our News, Notes and Queries for February, 1956, Volume VI, No. 1. Serial number of meeting: 101.

9th February, 1956: "Marine Photography". An Exhibition arranged by R. J. Hughes, A.I.B.P., of Stewart Bale Ltd.

Mr. Hughes spoke about the work of the professional ship photographer, how he had to have the "feel" of ships, and get his picture in spite of unfavourable conditions. Mr. Hughes had a fund of anecdotes, of Mr. Molotov at the wheel of the *Queen Elizabeth*, and of being himself locked in the cabin of a Russian ship under repair at Birkenhead. The exhibition was superb, as one would expect from Stewart Bale Ltd. A report is in News, Notes and Queries for March, 1956, Volume VI, No. 2. Serial number of meeting: 102.

8th March, 1956: "Lancaster, West Indian Competitor of Liverpool, 1680-1815". By M. M. Schofield, M.A.

A scholarly presentation which destroyed some popular misconceptions about Lancaster's early history. Mr. Schofield spoke of the diary of William Stout, a Quaker grocer, who gave useful information about early 18th century trade. Lancaster enjoyed opulence before the advent of canals and railways, the feeders on which Liverpool depended for her growth. Mr. Schofield has published this paper, in more extended form, in the "Transactions of the Lancaster Branch of the Historical Association—No. 2" under the title "Outlines of an Economic History of Lancaster". Part I, 1680 to 1800, Part II, 1800 to 1860. Dated 1951. His talk is reported in News, Notes and Queries for April, 1956, Volume VI, No. 3. Serial number of meeting: 103.

12th April, 1956: "The Shipping Galleries of the Science Museum, South Kensington, with particular reference to models of Liverpool ships". By B. W. Bathe.

Printed in this volume of Transactions. Serial number of meeting: 104.

8th November, 1956: "The Office and Jurisdiction of the Lord High Admiral and of the Admiralty". By J. A. Howard-Watson, F.R.G.S., F.R.HIST.S.

An extremely scholarly paper about the growth of maritime law and of the courts and their officers who administer it. Mr. Howard-Watson reached back into Saxon history to show the beginnings of our maritime law, but the Lord High Admiral himself did not appear until the reign of King John. In Stewart times his administrative functions were entrusted to the Board of Admiralty and his judicial functions to the Admiralty Courts. A report on the paper is in News, Notes and Queries for December, 1956, Volume VI, No. 5. Serial number of meeting: 106.

13th December, 1956: "Seacombe Shipyards". By John S. Rees and E. Cuthbert Woods, F.R.HIST.S.

Printed in this volume of Transactions. Serial number of meeting: 107.

10th January, 1957: "Some Minor Mersey Ports, Runcorn and Garston". By T. D. Tozer.

Printed in this volume of Transactions. Serial number of meeting: 108.

14th February, 1957: "Liverpool's Dockland One Hundred Years Ago". By H. A. Taylor, M.A.

Printed in this volume of Transactions. An exhibition of Herdman prints accompanied this paper, illustrating the appearance of the Liverpool dock areas in the mid-nineteenth century. They were from the collection of Liverpool Public Libraries. Serial number of meeting: 109.

14th March, 1957: "The Holt Fleet". By Professor F. E. Hyde, M.A., PH.D.

A history of the Blue Funnel Line from 1865 to 1914, in which Professor Hyde demonstrated how Alfred Holt's early steamers, with their compound engines and reduced coal consumption, were able to compete with sail in the Far East trades. But sail was not the only obstacle to the growing Holt fleet. There were political difficulties in China and, after 1870, fierce competition from rival steamship lines. Holt's survived these problems through technical improvements to their own ships and by the adoption of the conference system. Professor Hyde has published the substance of this paper in the Transactions of the Royal Historical Society, while his book, "Blue Funnel", published by the Liverpool University Press in 1957 at 30s. is well-known and highly regarded. A report on his paper to the Society is in News, Notes and Queries for May-June, 1957, Volume I (New Series), No. 3. Serial number of meeting: 110.

11th April, 1957: "The River and Approaches to the Port of Liverpool". By W. Eric Sutton (illustrated).

Mr. Sutton, at that time Public Relations Officer for the Mersey Docks and Harbour Board, gave a most lucid talk, illustrated by colour slides, of the problems of keeping the Mersey open to shipping. He showed how the entrance channels had changed since 1689 when the first chart was made, and how the Dock Board preserved them to-day, by building training banks and by constant dredging. Mr. Sutton also outlined the work of surveying, buoyage and salvage, the growth of the Pilotage Service, and the development of shore to ship communication from the Bidston Flag Telegraph to V.H.F. and the Port Radar. The talk is reported in News, Notes and Queries for May-June, 1957, Volume I (New Series), No. 3. Serial number of meeting: 111.

11th October, 1957: "The Mercantile Marine Service Association". By Captain George Ayre, President of the M.M.S.A.

Nineteen fifty-seven was the Centenary year of the M.M.S.A. and Captain Ayre outlined its history and purpose. It was founded to protect the interests of ship masters who had to face courts of inquiry, a function which it success-

fully undertakes to-day. But the M.M.S.A. serves a wider field; it supports the *Conway* training school and the Mariners' Home at Egremont. Its central purpose is the maintenance of the high standards of the British Merchant Service. A report of this talk is in *News, Notes and Queries* for September–October, 1957, Volume I (New Series), No. 5. Serial number of meeting: 112.

14th November, 1957: "H.M.S. *Liverpool*, 1741–1952".

By R. B. Summerfield (illustrated).

Printed in this volume of Transactions. Serial number of meeting: 113.

12th December, 1957: "The Work of the Bidston Tidal Institute". By A. T. Doodson, C.B.E., D.Sc., F.R.S., Director of the Liverpool Observatory and Tidal Institute (illustrated).

An absorbing talk, illustrated by slides, about the work of tidal prediction for ports all over the world, carried on at the Bidston Observatory. Dr. Doodson explained the varied types of tide which could be encountered and how prediction was achieved, not by a study of the geography of a port, but by mathematical reasoning, based on the previous behaviour of tides at that place. His slides showed the impressive tidal predicting machines at work; into these the data of previous tides is fed and a prediction eventually achieved. His talk is reported in *News, Notes and Queries* for January–February, 1958, Volume II (New Series), No. 1. Serial number of meeting: 114.

9th January, 1958: "Posted on Board Liverpool Ships". By J. V. Woollam, M.P. (illustrated).

Mr. Woollam spoke first of the importance of mail contracts to the early shipping companies, among them the Cunard and P. & O. Then he described how the practice arose of posting letters at sea, not now done in British ships, save on special occasions such as a maiden voyage. But, he said, it is still possible to post a letter with a British stamp on board a British vessel at a foreign port. Mr. Woollam showed examples of both practices. His talk is reported in *News, Notes and Queries* for January–February, 1958, Volume II (New Series), No. 1. Serial number of meeting: 115.

13th February, 1958: Visit to the Merchant Navy Defence Centre, H.M.S. *Eaglet*, Salthouse Dock, under the guidance of Lieutenant-Commander J. H. Robinson, R.N., Officer-in-Command.

Commander Robinson showed the Society three films. The first described how inattention to safety precautions when a ship was damaged could lead to disaster. In this case a cruiser nearly sank due to the negligence of some of her crew. The second film described the rescue work performed by naval helicopters, while the last was a documentary, "Malta Convoy", a record of the convoy WS 21S whose arrival saved the island. Commander Robinson also showed the Society items of equipment used to train the Merchant Service in defence duties. The visit is reported in *News, Notes and Queries* for March–April, 1958, Volume II (New Series), No. 2. Serial number of meeting: 116.

13th March, 1958: "Birkenhead Built". By J. Harvey (illustrated).

Mr. Harvey was a Director and the Shipbuilding Manager of Cammell Laird and Co., (Shipbuilders and Engineers) Ltd., Birkenhead. He described the history of the yard from 1824, when William Laird bought a small piece of land adjacent to Wallasey Pool, to the present 114-acre site, employing about 12,000 men. Mr. Harvey told how William Laird championed iron hull construction, how an early association was formed with the Admiralty, and how to-day, the yard was able to build any type of war or merchant ship. Two films were shown of launches and trials off Arran, while Mr. Harvey finally produced some manuscript exhibits, including the receipt for the battleship *Prince of Wales*. This talk is reported in News, Notes and Queries for May-June, 1958, Volume II (New Series), No. 3. Serial number of meeting: 117.

10th April, 1958: "The Construction and the Voyage of the *Mayflower II*." By Stuart A. Upham (illustrated).

Very well qualified to talk about the *Mayflower* since his yard at Brixham Devon, built her, Mr. Upham gave the Society an absorbing talk, illustrated by a fine series of colour slides. He described the selection of timber and the stages of construction in some detail, followed by an account of the passage to New York, under the command of Alan Villiers. This took her well south, almost to the Equator. Her best day's run was 170 miles. On arrival at New York the *Mayflower* received a great welcome and Mr. Upham himself experienced a ticker tape parade. This talk is reported in News, Notes and Queries for July-August, 1958, Volume II (New Series), No. 4. Serial number of meeting: 118.

13th November, 1958: "H.M.S. *Eagle*, Thrice a Flagship". By John Smart and Edward Jones (illustrated).

"Life aboard a Wooden Wall". By Edward Jones.

Both printed in this volume of Transactions. Serial number of meeting: 120.

11th December, 1958: Member's Discussion Meeting. Mr. R. B. Summerfield spoke on the breaking up of H.M.S. *Liverpool* at Bo'ness on Forth, while Mr. E. W. Paget-Tomlinson talked about prints of early steamships.

Reported in News, Notes and Queries for November-December, 1958, Volume II (New Series), No. 6. Serial number of meeting: 121.

8th January, 1959: "Inland Waterways". By E. W. Paget-Tomlinson, M.A. (illustrated).

A very wide subject covered by Mr. Paget-Tomlinson with the aid of a fine series of slides. He confined himself to English canals, giving an outline of their history and a more detailed description of their features; locks, tunnels, aqueducts, bridges, boats and boat working. Reported in News, Notes and Queries for January-February, 1959, Volume III (New Series), No. 1. Serial number of meeting: 122.

19th February, 1959: "Clyde Steamers". By Leslie Speller (illustrated).

Another well illustrated paper which told the story of Clyde passenger steamers from 1812 to 1912, or in other words from Bell's *Comet* to MacBrayne's three-funnelled *St. Columba*. Mr. Speller described the intense rivalry of the different steamer companies which was only smoothed out by the grouping and nationalization of the railways. He turned aside to speak of the "puffers" and also of the passenger services on the Crinan and Caledonian canals. His talk is reported in News, Notes and Queries for January-February, 1959, Volume III (New Series), No. 1. Serial number of meeting: 123.

12th March, 1959: "The Intended Ship Canal Between the Rivers Mersey and Dee". By E. Cuthbert Woods, F.R.HIST.S.

Printed in this volume of Transactions. Serial number of meeting 124.

9th April, 1959: Exhibition entitled "Nautical Research" to mark the 21st birthday of the Society. Opened by the Lord Mayor of Liverpool (Alderman Harry Livermore).

This exhibition featured "Nautical Research", to demonstrate the activities of the Society. There was plenty of source material, books, manuscripts, and draughts, followed by examples of research work being undertaken by members, lists of ships, and collections of photographs and drawings. Finally came the end products of research; ship models, books written by past and present members, and contributions to magazines and the journals of learned societies. Reported in News, Notes and Queries for March-April 1959, Volume III (New Series), No. 2. Serial number of meeting: 125.

22nd October, 1959: "Nelson". By A. N. Ryan, M.A. (illustrated).

Printed in this volume of Transactions. Serial number of meeting: 126.

26th November, 1959: "The St. Lawrence Seaway". By George Musk (illustrated).

Mr. Musk of Canadian Pacific Railways gave an interesting talk on this most important project, followed by a coloured film. He explained the formidable legal problems presented by the joint nature of the project, both American and Canadian. The States stood to lose much rail and road freight traffic if the scheme succeeded. However, agreement was reached and construction proceeded, described in some detail by Mr. Musk. Of considerable interest to the Society was his description of the types of vessel able to use the seaway, and of those confined to the Great Lakes. The latter include giant bulk carriers, up to 700 feet long and specialised container ships. The talk is reported in News, Notes and Queries for November-December, 1959, Volume III (New Series), No. 5. Serial number of meeting: 127.

10th December, 1959: "Reformation Afloat, the Story of the *Akbar*". By John Smart and Edward Jones (illustrated).

Printed in this volume of Transactions. Serial number of meeting: 128.

14th January, 1960: "The Liverpool Waterfront". By Edward Jones (illustrated).

Mr. Jones' collection of lantern slides is famous, and on this occasion he presented the Society with a fine series, illustrating the Pierhead area during the last sixty years. He showed the old George's Dock, full of sailing coasters, the Mann Island pubs, Lord Street and its trams in 1905, and Riverside Station. Later came the construction of the Royal Liver Building, and of the present Tower Buildings. From the shore Mr. Jones turned to ships of the 1900s, the Isle of Man packet *Empress Queen*, the *Mauretania* and the *Skirmisher*. His talk is reported in News, Notes and Queries for March–April, 1960, Volume IV (New Series), No. 2. Serial number of meeting: 129.

11th February, 1960: "Lampport and Holt". By T. D. Tozer (illustrated).

Mr. Tozer is engaged in research into the history of the Lampport and Holt Line. In this paper he spoke of his progress to date. He has unearthed much of the family history of both the Holt and the Lampport families. The partnership of Lampport and Holt started in 1845. At first they owned sailing ships; steamers did not appear until the late 1850s, under the influence probably of the engineer Alfred Holt. Mr. Tozer closed his detailed survey in the 1880s, although he gave the Society a brief description of the later history of the Company. His paper is reported in News, Notes and Queries for March–April, 1960, Volume IV (New Series), No. 2. Serial number of meeting: 130.

10th March, 1960: "Fishing Craft". By E. W. Paget-Tomlinson, M.A. (illustrated).

An outline of types of sailing fishing craft of the late nineteenth century. Mr. Paget-Tomlinson explained the principle methods of sea fishing; lining, drift net, trawling and seining. He had brought several models from the Liverpool Museums' collection for members to see. These included a coble, an Aldeburgh sprat boat, a Hastings lugger, a Morecambe shrimper and two boats from Holland, a *schokker* and a *bom*. The talk is reported in News, Notes and Queries for May–June, 1960, Volume IV (New Series), No. 3. Serial number of meeting: 131.

7th April, 1960: Coastal Shipping Exhibition. Opened by M. Arnet Robinson, Managing Director of Coast Lines Ltd., and Chairman of the Mersey Docks and Harbour Board.

Following the successful Nautical Research Exhibition of 1959, the Society decided on a second effort at display, this time with coastal shipping as the theme. From the eighteenth century to the present day the exhibition attempted to portray the story of Liverpool's coasting trade, by using models, paintings, maps and photographs. A number of members contributed examples of their own pictorial work, while coastal shipping companies were extremely generous in the provision of historical material. The exhibition is reported in News, Notes and Queries for May–June, 1960, Volume IV (New Series), No. 3. Serial number of meeting: 132.

28th April, 1960: "H.M. Yachts of the Second World War". By N. R. Pugh (illustrated).

A survey of the private yachts requisitioned by the Admiralty for war service. Mr. Pugh had served on some of these and described his own experiences of them. Many of the yachts were based on Wallasey Dock, to patrol the Irish Sea and Mersey approaches. Mr. Pugh gave details of the Duke of Westminster's *Cutty Sark*, C. R. Fairey's *Evadne*, Lord Inchcape's *Venetia* and T. O. M. Sopwith's *Philante*, now the Norwegian Royal Yacht *Norge*, among other vessels. His talk, illustrated by his own photographs and sketches, is reported in News, Notes and Queries for July–August, 1960, Volume IV (New Series), No. 4. Serial number of meeting: 133.

13th October, 1960: "The Sadness of the Sea". By R. B. Summerfield (illustrated).

Rather than give a formal talk on shipwreck, Mr. Summerfield presented the subject in the form of an exhibition of photographs, books and pamphlets, all of considerable interest. He introduced this by explaining the causes of maritime disaster; weather, failure of the ship, failure of her crew, action by a third party, fire and war. Among his exhibits were a fine series of photographs showing the salvage of the *Empress of Canada* and an original report on the salvage of the steam submarine K13 in January, 1917, illustrated by Norman Wilkinson. In conclusion, Mr. Summerfield presented a series of slides of shipwreck and ship-breaking, the inevitable end for a ship not already claimed by one of the maritime disasters. The talk and display is reported in News, Notes and Queries for November–December, 1960, Volume IV (New Series), No. 6. Serial number of meeting: 134.

10th November, 1960: "The Small Warship of the Period 1830–60". By A. W. H. Pearsall, M.A. (illustrated).

Printed in this volume of Transactions. Serial number of meeting: 135.

8th December, 1960: "The Mersey Estuary". By J. E. Allison (illustrated).

A most comprehensive survey of the development of the Mersey as a river carrying commercial traffic. Mr. Allison, with the aid of some beautiful slides, showed how wind and tide influenced the growth of the Mersey ports. His diagrammatic slides of the sandbanks and channels of the estuary were very clearly presented. Mr. Allison spoke of the achievements of dock construction during the nineteenth century, the development of the Mersey ferries, and the reasons why Wallasey should be residential and Bootle industrial. He has written an excellent book called "The Mersey Estuary" published by the Liverpool University Press in 1949 at 3s. 6d. This talk is reported in News, Notes and Queries for January–February, 1961, Volume V (New Series), No. 1. Serial number of meeting: 136.

12th January, 1961: "Ship-Breaking". By Kenneth Brown (illustrated).

Mr. Brown gave a very knowledgeable talk on this industry, depressing to the ship lover but necessary to the iron and steel works. He started by explaining the structure of the industry to-day, whereby the British Iron and

Steel Corporation buy practically all ships sold for demolition, and allocate them to the ship-breakers. He continued by detailing the main centres of ship-breaking in the United Kingdom, followed by an account of the meteoric rise of Japanese and Hong Kong ship-breakers. His slides showed stages of demolition and scenes in some of the principle yards round our coasts. His talk is reported in *News, Notes and Queries for Mid-summer, 1961*, Volume V (New Series), No. 2. Serial number of meeting: 137.

9th February, 1961: "The Development of Marine Machinery". By Sir Stewart MacTier, C.B.E. and W. H. Falconer (illustrated).

Printed in this volume of Transactions. Serial number of meeting: 138.

9th March, 1961: "The Irish Sea Services of British Railways and their Predecessors". By E. P. McManus (illustrated).

Printed in this volume of Transactions. Serial number of meeting: 139.

12th April, 1961: "The Maritime Museums of Northern Europe". By E. W. Paget-Tomlinson, M.A. (illustrated).

Printed in this volume of Transactions. Serial number of meeting: 140.

Note:—Details of Meetings of the Society from the Inaugural Meeting on the 11th of April, 1938, to meeting number 97 on the 14th April, 1955, were given in *IN RETROSPECT*. Meetings numbered 98, 105 and 119 were formal Annual General Meetings, without a following paper or lecture.

E. W. Paget-Tomlinson.

Copies of *News, Notes and Queries* referred to are available on application to the Hon. Treasurer at 28 Exchange Street East, Liverpool 2, whilst supplies last. *IN RETROSPECT*, written by R. B. Summerfield, is a history of the Society from 1938 to 1955, and was published in 1955.

THE SHIPPING GALLERIES OF THE SCIENCE MUSEUM, LONDON

with special reference to the Models of Liverpool Ships

by B. W. BATHE

Read 12th April, 1956

Navy Board Models

The Ship Model collections at the Science Museum are as a whole intended to illustrate the development of Naval Architecture and the changes and improvements which have taken place in hull form, construction and rigging from the earliest times.

The Museum handbooks relating to these collections deal at some length with all the individual models. In view of this, it is intended to pin-point several models which have association with Liverpool and in particular to enlarge on the history, description and interesting features of the actual ships, as well as the models, with information which has been obtained by further research into some other contemporary sources.

The practice of constructing scale models of ships built for the Royal Navy appears to have been started early in the seventeenth century when the Master Shipwright Phineas Pett built several models. In 1649, a letter from the Navy Board instructs the builders that models should be made before the construction of five vessels in private yards, and in 1716 an official order was issued to construct a model of every ship built or rebuilt. Little is known about these modelmakers who produced such fine models, but recent research in the Deptford Yard letter books, preserved at the Public Record Office, shows that specialists were employed for the various processes. A letter of the 29th of September, 1741, (ADM/106/3357) gives an account of the charges of carving for a model of a 1st Rate ship by a Mr. Joseph Wade.

The list of carvings include elaborate figures, trophies and arms for the stern and quarters, and "a Lyon for the Head with a crown and locks of hair cut through". The total cost of this carving was £68 10s. 0d. with a further £9 8s. 4d. for the carving of the case. Another letter of the 3rd October, 1741, (ADM/106/3305), states that . . . "We have considered of the Demand by Mr. Ephick for his being employed 35 days in japaning the works of a model of a 1st Rate ship amounting to £11 10s. 0d. and we are humbly of opinion it is very reasonable . . . and the 10s. he hath charged for varnish and colours seem to be very moderate".

Often submitted for the approval of the Navy Board, who were able to understand a three dimensional object more readily than a drawing, this type of Admiralty model is represented in the Science Museum collections by a considerable number of excellent examples. One such official model representing a 6th Rate of about 1745, although not identified by name, is of special interest to the Liverpool historian.



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Photo courtesy

Science Museum, London

Admiralty Board meeting of 1677. On the extreme right King Charles II examines a model of a projected 1st rate

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Photo courtesy

Science Museum, London

Liverpool pilot cutter of 1805, the *Isaac* model to a scale of 1:48

In the years following the outbreak of war with Spain in 1741, a number of 5th and 6th Rates were built for the Royal Navy at Liverpool, and the Science Museum model is an excellent example of the class of vessel which the Liverpool shipwrights were producing. The contemporary Museum model shows, to a scale of 1:48, a vessel with a gun deck 113 feet long, a breadth of 32 feet and a depth of hold of 11 feet; these dimensions are in accordance with those laid down for a 20-gun ship on the Establishment of 1745. It is rather curious that, although these 6th Rates were officially classed as twenty gun ships, they were pierced for thirty guns but actually carried twenty-four guns (twenty-two 9 pounders and two 3 pounders). It would appear however that they were usually referred to as twenty-four gun ships. Two gun ports closely spaced, and a ballast port on each side are introduced on the lower deck, and a further distinctive feature is the long quarter deck. The model is a very detailed built-up example; the planking below the waterline has been omitted to show the frames, a rather unusual feature in an official model constructed as late as 1745. Planking is also omitted from the quarter and forecastle decks enabling the bitts, firehearth and officers' quarters below to be clearly seen.

To revert to the vessels built at Liverpool; although local firms—Richard Golightly, John Okill & Co., and Gorell & Parker—were responsible for the actual construction work, it is perhaps worth noting that many of the fittings were supplied from other yards. The previously mentioned Deptford Yard Letter Books for 1746-47 (ADM/106/3359) contain many references to stores and fittings for vessels being built at Liverpool. The following extracts are typical, "23rd March, 1746 . . . Mr. Turner has made and delivered into store here, a suit of sails for a twenty-four gun ship building at Liverpool . . ."; "16th May, 1746 . . . having received your direction of the 14th instant to provide and have in readiness to be sent to Liverpool for four forty-four gun ships and one twenty-four gun ship, all the anchors, masts, yards, sails, blocks ready stroped, and the furniture and sea stores to an eight months proportion . . .". For the 1st September, 1746, there is a note that the sail-makers are to work extra each day on sails for the forty-four gun ship building at Liverpool. The Letter Books also mention voyages from Deptford to Liverpool in 1746-47 by the *Edward and Mary* Storeship, John Littler (Master) with fittings etc., for the Naval vessels building at the latter port.

Clipper Models

The Science Museum possesses models of two vessels of a later date which bore the same name *Fiery Cross* and were both built at Liverpool. The first of these, probably the builder's half model, is of the *Fiery Cross* of 1855: this vessel was designed by William Rennie and built of wood by the Liverpool firm of Rennie, Johnson and Rankin, for the Glasgow shipowner J. Campbell and intended for use in the China tea trade. This half model, to a scale of 1:48, is of block form and does not show any of the fittings or other details, but is of value in recording the rather different hull form of a Liverpool built vessel to those designed and built elsewhere at about the same period; for instance, the stem is straighter and the floors flatter than the famous Aberdeen built clippers. The dimensions of the vessel, as taken from a plate on the baseboard of the model, are:—length between perpendiculars, 173

feet, breadth 31.5 feet, and depth in hold 18.8 feet. The actual vessel was sheathed with yellow metal but this feature is not shown on the model.

This earlier *Fiery Cross* made some very fast passages during her short career, a particularly notable passage was one from Foochow to Dartmouth in ninety-four days; the vessel was wrecked in the China Seas in March, 1860.

The second model is of the much more famous *Fiery Cross* of 1860; this wooden built vessel, also designed by Rennie, was built by Chaloner, Hart & Co., of Liverpool for the China tea trade. Rennie's design was an improvement on his first *Fiery Cross*, and was considered to be superior to that of many of the American clippers and to possess a more graceful appearance. This model, again probably the builder's model, although without deck fittings and with the stumps of the masts only, is a fine piece of work. There is little sheer as both the quarter deck and short forecastle are unusually low. The chainplates are so arranged that the deadeyes take up a position on the capping rail of the bulwark; this would seem to be the intermediate step between the outboard channels and deadeyes of the earlier vessels and the inboard deadeyes of the *Cutty Sark* and her contemporaries.

The appearance of the model is improved by the carved and gilded work at the bows and stern which was rather more profuse than was usual at this period. The vessel was some eight feet longer than the earlier *Fiery Cross* but the other dimensions were approximately the same. Until 1865 the second *Fiery Cross* was the fastest and most successful clipper built, and was the first vessel to dock at London in four of the races from China between 1861 and 1866. Her best passage was 101 days from China.

Pilot Vessels

Of the many models in the Small Craft Section of the Science Museum having direct connection with Liverpool, reference should now be made to the models of the Liverpool Pilot boats, the earliest of which shows a cutter-rigged vessel bearing the name *Isaac* on the square stern.

Our fellow member, Mr. John S. Rees, in his "History of the Liverpool Pilot Service" states that the Pilot Boat *Isaac* No. 5, the second to bear that name, was built at Frodsham Bridge in 1805 and was sold from the service in 1843. The dimensions given for this vessel—length 47.1 feet, breadth 16.8 feet, depth 9 feet, correspond closely with the scale dimensions of the model. Although of rather a rough finish, the model has every appearance of being contemporary and shows a heavily built vessel with a raking stem; there are no bulwarks, but aft there is a small cockpit from which a companion way leads to a cabin lighted by a large decklight. Outboard the sides are painted with the green, black, yellow and white strakes used as distinguishing colours by the Liverpool Pilot Service during the first half of the nineteenth century. The model has an additional interest in that the fishing boats of the Mersey and Dee estuaries were, at the beginning of the nineteenth century, similar to this cutter in both hull form and rig. From the raking stem of these craft was developed the rounded stem, so characteristic of the later West Coast fishing boats; in its final form this rounding of the "forefoot" gave the vessels in use from the Solway Firth to Conway a yacht like appearance quite distinct from any other British fishing vessel.

The year 1852 saw the introduction of the schooner rigged pilot boat at Liverpool, and this type is represented at the Science Museum by a model of the Pilot Schooner *Victoria and Albert* No. 5. This vessel was built of oak by Michael Ratsey at West Cowes in 1856 and remained in the Service until 1888 when on the 13th of May she foundered after a collision. The pilot schooners were larger than the earlier cutters, the dimensions of the *Victoria and Albert* being, length 76 feet, breadth 18.9 feet and depth 9.2 feet. The model shows a strongly built vessel with finer lines than the pilot cutter. Deck fittings include a windlass forward and a large cabin light amidships. No steering wheel is shown but a long tiller could be fitted with blocks and tackles to assist the helmsman. A topmast was not carried on the foremast and the bowsprit could apparently be housed if necessary. These Pilot Schooners remained in general use until the introduction of Steam Pilot Boats on the Mersey in 1896.

In this paper it will be seen that Sailing Ship models only have been described; in the Steam Ship Section of the Science Museum there are many other models with a similar local interest, but from this brief review it will be observed that Liverpool's achievements in the development of naval architecture are well represented in the Science Museum collections.

Finally it should be mentioned that it is only by visiting the Science Museum at South Kensington and studying the models, that one can fully appreciate not only the technical details of development, but also the skill and patience which has been exercised in constructing these miniature replicas of both large and small vessels.

SEACOMBE SHIPBUILDING YARDS

1864 - 1887

by JOHN S. REES and E. CUTHBERT WOODS, F.R.HIST.S.

Read 13th December, 1956

Merseyside Shipbuilding

It is common knowledge that shipbuilding on the Mersey was the foundation upon which the development and prosperity of the Town and Port of Liverpool were laid, and it was on the Lancashire side of the Mersey that this great industry was first established. That being so, before dealing with the Seacombe shipyards of 1864-1887, it may be not out of place to refer briefly to some of the pioneer shipbuilders of the eighteenth century. Until nearly the middle of that century, little useful information is available concerning Mersey shipbuilders and it was only because orders for the Royal Navy were placed on the Mersey that the names of the pioneers are known. In 1739, a contract for a man-of-war was secured by John Okill. She was H.M.S. *Hastings*, 682 tons, and was the first of thirty-five ships for the Royal Navy launched on the Mersey during that century. In all, Okill built eight of these. To mention only a few other pioneers, John Fisher also built eight ships for the Navy, and Richard Golightly, John Gorell and Peter Baker each built one or more. With the exception of John Fisher, who continued his business until 1839 or later, all these shipbuilders had closed their premises before 1800. Although, as already stated, almost nothing is known about the Mersey shipbuilders until 1739, there can be little doubt that these craftsmen had by many years of practical experience established a reputation which had merited recognition by the Navy Board. W. N. Wright, whose yard was operating in 1770, although he had not the honour of building ships for His Majesty, launched many vessels for the mercantile marine, some over 500 tons burthen, and continued in business until the early part of the following century.

It would be an omission not to mention Edward Grayson. The name Grayson is a household word to-day, and the eighth generation is represented in Grayson, Rollo & Clover Docks Limited, members of the family having been interested in building or repairing ships for nearly two hundred years. Edward Grayson is stated to have commenced shipbuilding in 1758, and was associated with John Okill in the building of H.M.S. *Venus* that year. He died in 1785, and was succeeded by his son, also named Edward, who died in 1804. His elder son Charles was a shipbuilder in about 1805. With various partners and mergers Graysons were identified with the shipbuilding trade until 1922, when they turned their attention to the ship-repairing business. At that time, the firm was H. & C. Grayson, Ltd.

But to return to the early part of the nineteenth century. In 1806 the number of vessels built on the Mersey showed a marked falling off. Nevertheless, during the first half of that century a considerable number of firms commenced as shipbuilders and remained in business for longer or shorter periods. Among the better-known on the Liverpool side of the Mersey were Bland and Chaloner, John Wilson, who built a vessel for the Royal Navy in 1811, Mottershead & Heyes, the builders in 1816 of the *Princess Charlotte* for the Liverpool-Eastham ferry service, the first steamboat to be constructed on the Mersey, Clarke & Nickson, and Thomas Royden, the last mentioned holding the record when the firm retired, for both the longest period in the trade, and for the greatest number of vessels launched. Commencing in 1818, Royden's continued shipbuilding until 1893, seventy-five years, and during that period launched 262 vessels, from small wooden sailing vessels to large steel steamers. Incidentally, it may be mentioned that Thomas Royden served five years of his apprenticeship to Charles Grayson. Thomas Wilson, the successor to John Wilson, and Thomas Vernon, both of whom transferred their business from the Lancashire to the Cheshire side of the Mersey, must be mentioned. Thomas Wilson whose shipyard was at Trentham Street, Cornhill, was the first to move to the Cheshire side, and launched his first vessel from Birkenhead in 1851. Shortly afterwards his yard was taken over by Lairds'. John Vernon the successor to Thomas Vernon, an iron shipbuilder at Brunswick Dock, later transferred his business to a yard on the Seacombe site.

Wallasey Pool

The utility of the Pool at Liverpool had in 1709 inspired the Corporation to embark on the building of the First Dock (later known as the Old Dock). Thus the existence of the Wallasey Pool in Wirral prompted certain Cheshire personalities, sometimes described as of speculative tendencies, to investigate the possibilities, with the Pool as a basis, of emulating the action of the Liverpool Corporation, whose dock-building efforts had proved so successful. They proposed to build a system of docks on the Cheshire side of the Mersey that, it was hoped, would successfully compete with the Liverpool docks. With this purpose in view, between 1818 and 1824, the promoters of this scheme, William Laird, Sir John Tobin and others, purchased land on the margin of the Wallasey Pool. The Liverpool Corporation in 1828, fearing the effects of a rival dock system, negotiated for the purchase of land on the shore of the Pool, with the intention of themselves building docks thereon, and acquired over 206 acres. However, nothing was done by either party. In 1843 the Corporation was approached by several private individuals, who were not openly identified with any scheme, to revive the idea of building docks at Birkenhead, but who had clandestinely formed a company with a view to purchasing land from the Corporation on which to build docks. The Corporation, not realizing the ulterior motive which had prompted the action of the would-be purchasers, granted, under lease of seventy-five years, a large tract of land on the margin of the Pool. A Bill was then introduced into Parliament to convert the Pool into docks. On the 19th of July, 1844, the bill received the Royal Assent. The Act provided that Commissioners under the title of the Commissioners of Birkenhead Docks were entrusted with the carrying out of the Act. Among other things they were to: "form, maintain and repair

a sea wall . . . along the eastern limit of Wallasey Pool between Seacombe and Woodside Ferries, and also construct an embankment from Bridge End in Birkenhead to the opposite side of the Pool near the Salt Works in Poulton cum Seacombe . . . for penning up the water of the said Pool". J. M. Rendel, the eminent engineer, prepared plans which were accepted, and he was appointed the Engineer.¹ As soon as the work began it became evident that both the funds and powers were inadequate, as to convert Wallasey Pool into a dock it would have to be deepened and also walled.² However, on the 25th of April, 1847, the first Birkenhead docks, the Morpeth and Egerton were opened. On June 1st, 1847, an election for fresh commissioners took place, as dissatisfaction was felt with the way things were going. After the election it was discovered that the previous commissioners had not left a penny in the town's exchequer.

Liverpool was appealed to for financial help, unsuccessfully, so negotiations were entered into with the Commissioners of Woods and Forests to take the frontage lands, build the river wall and complete the dam (on the line of the present Four Bridges), retaining the Crown Reserves for Government purposes only, for an arsenal, dockyard, etc.³ This is the reason that the land just south of Seacombe Ferry and a similar piece at Woodside were marked on the map as "North and South Crown Reserves". Birkenhead in 1847, was described as "a splendid ruin". Many houses were untenanted; the population, it was estimated, during the year dropped from 40,000 to 20,000, and grass grew in many of the principal streets.⁴ Work on the docks was at a standstill and was not begun until March, 1849, and in July Rendel resigned. No real activity was shown until 1850, when James Abernethy was appointed Engineer.⁵ "Then the temporary dam was speedily built in a temporary manner". But the river wall had been completed by July, 1847.⁶

The piece of land thus reclaimed from the foreshore at Seacombe, is roughly triangular in shape, and is bounded on the east by the river wall between Seacombe Ferry and the entrance to the Alfred Dock, then by the north wall of the dock to the line of the Four Bridges, and from there along the line of Birkenhead Road to Seacombe Ferry. This road marks the line of the high-water mark of the north side of the mouth of Wallasey Pool, before the walls were built. The reclaimed land which constituted Seacombe Crown reserve was thirty acres.⁷ It was only part of this reserve that was ultimately used for shipbuilding, and a small area next to Seacombe Ferry is still known as the North Crown Reserve.

In 1852 Rendel was reinstated as Engineer in Chief, and Thomas Brassey, the great railway engineer and some of his friends, offered to complete the whole of the works in three years, for £1½m and take payment in Dock Bonds. This offer was made in October, but nothing was done until the following summer.⁸ In September, 1853, Brassey began work on the docks. First he obtained from the Commissioners of Woods and Forests £22,000, which had been spent by the Dock Commissioners on the Crown Reserves: this

(1) Sully, p. 165.

(2) Sully, p. 181.

(3) Sully, p. 207.

(4) Sully, p. 206.

(5) Sully, p. 219.

(6) Liverpool & Birkenhead Dock Bills Evidence. By Thos. Webster. Plan of completed work, 1847.

(7) Sully, p. 210.

(8) Sully, p. 231-234.

they had agreed to repay. With this he began on the temporary dam, already referred to. In March, 1854, when almost completed, it collapsed. He then undertook to restore it at his own cost by August, but when that time arrived little or nothing had been done, and he refused to proceed with the work unless fresh funds were coming to repay him! This was quite contrary to his guaranteed contract, in which he and his syndicate were to find the whole funds and take Dock Bonds in payment.

Shipyards on the Cheshire Side

The first mention of vessels being built at Seacombe is in 1801, when T. Baitson built a fishing boat, and later several other small craft there. It is more than probable that these small boats were constructed on the open Seacombe beach above high-water mark of spring tides. The shipyards on the reclaimed land at Seacombe were by no means the first conventional yards at which vessels were built in Cheshire north of Tranmere.

The Seddons, Lairds and the Russells were pioneer shipbuilders at Birkenhead, with their yards situated on the south side of Wallasey Pool. William Seddon & Co., later Seddon & Leadley, launched in July, 1826, the *Nora Creina*, a wooden paddle vessel of 202 tons register, 120 H.P., for the Waterford-Bristol trade, and the firm continued in business for about ten years. In 1829 Lairds' first craft, a barge of fifty tons, was completed. They maintained this shipyard until 1857, when they opened a yard on the Birkenhead river front. Robert Russell & Co., came next, launching in October, 1834, the wooden paddler *Mermaid*, 420 tons register, 180 H.P., also for the Waterford-Bristol trade. This yard turned out vessels of up to 600 tons.

Sully, in his history of Birkenhead, page 86, states that: "a patent slip on Morton's principle (a cradle on which large ships could be drawn up on a 'slip' above high-water mark) was erected at Bridge End (Birkenhead), used for both building and repairing vessels". The tenants, says Sully, being Messrs. Russell and Seddon. Another shipyard on the Wallasey Pool was that of the Liverpool Steam Tug Co. It has been assumed, for the following reasons, that this yard was also on the south or Birkenhead side of the Pool. The Tug Company launched a vessel, the *Victoria* in 1837, a wooden paddle tug of 188 tons register. In 1839 they built only one vessel, described as a steamer for towing, without any name being given. In 1858 a block of shares in the tug *President* was offered for sale, and she was certainly one of their tugs. The advertisement stated she had been built at Birkenhead in 1839.¹ There can be little doubt that she was the unnamed tug built in 1839. Furthermore, in 1847, the *Wallasey*, a wooden ferryboat was launched from a site at Egremont Ferry, and the press announcement said that she was the *first* vessel built to the *northward* of Wallasey Pool.

Seacombe Shipyards

The site of the Seacombe shipyards extended on the river front from the north entrance of the Alfred Dock almost to Seacombe Ferry stage. Mr. G. F. Campbell, whose grandfather was a member of the staff of Alexander Jack, the shipbuilder, tells us that these shipyards had no separate jetties like the

(1) Mercury, 8th October, 1858.

old slips at Lairds', but had a continuous high quay wall, often taken for an ordinary sea wall, built of large sandstone blocks. We conclude that high-water spring tides came well above the top when these were in position.

Bowdler & Chaffer in 1864 were the first shipbuilders to establish a yard on this site, followed by Andrews & Company, Thomas Vernon & Son, Alexander Jack and, lastly J. F. Waddington & Co. What were the prospects of success of these new shipyards, and with what competition had they to contend? Robert Clarke & Sons (formerly Clarke & Nickson), who had been in business since 1818, had just ceased to build (1863). Their shipyard was at Trentham Street on the west side of Salthouse Dock, and when the Liverpool Corporation in 1844 obtained the Act of Parliament which empowered them to build the Albert Dock, Clarke & Nickson were compelled to give up their yard and moved to Aetna Street, Queen's Dock. They had been moved from their premises on three occasions, which had cost them £3,000. Like some other shipbuilders at Queen's Dock they had no river frontage, a very serious handicap, particularly when the size of vessels being built was gradually increasing. We may wonder why Clarke's retired from the industry? They had built wooden vessels and wooden vessels only, including some paddle ships. Their biggest was a ship of 1,000 tons, and they had made a name for themselves in the trade.

In 1850, owing to the high rents and especially the insecurity of tenure, the Liverpool shipbuilders were frustrated and embittered against the Corporation, which resulted in an inquiry being held to consider their grievances. Robert Clarke, giving evidence, strongly criticized the Corporation for their attitude. Without a long lease capital expenditure was, of course, a grave risk. By 1863, the era of wooden ships was drawing to a close and shipbuilders who were not equipped to produce iron vessels were at a great disadvantage; they had either to reorganize their yards, which involved a complete new set-up or close down. Robert Clarke, senior, had died a few years before. So possibly, with the insecurity of tenure in mind the firm was not prepared to risk further capital and continue in business. On the other hand, Royden's, who for almost thirty years had built only wooden vessels, and R. & J. Evans, who commenced business in 1857 with wooden ships, switched over to iron vessels. Iron vessels had, of course, been built on the Mersey as early as 1833, when Lairds' launched an iron paddle steamer of 148 tons register. The *Ironsides*, a sailing ship of 273 tons register, built by Jackson, Gordon & Co., Liverpool, in 1838, for Cairns & Co., Liverpool, is believed to have been the first iron vessel built on the Liverpool side of the Mersey. But before 1862 many iron vessels of over 1,000 tons were constructed on the river, mainly by Lairds'. The number of iron sailing vessels over that tonnage which left the slipways on the Mersey before that year, was fewer compared with the iron steamers. With Royden's, Lairds', Jones Quiggin, Evans', Clover's and others, all building ships on the Mersey, a very formidable array of rivals confronted Bowdler & Chaffer at Seacombe; moreover Potter's had just opened their yard at Queen's Dock. (According to a plan dated 1866, in the archives of the Mersey Docks & Harbour Board, the combined Seacombe shipyards had a total frontage of 800 feet, extending 600 feet to the rear to East Street.)

Bowdler was formerly manager for Vernon's at Brunswick Dock, so well qualified to start on his own account. Bowdler & Chaffer's yard was at the north portion near to Seacombe Ferry and had a frontage of 250 feet, with a length clear of the necessary buildings, for slipways of about 400 feet. They had at least two slipways and, judging by the number of vessels they were able to launch in a period of twelve months, it is not unlikely, even after allowing for two small vessels being built on one slipway at the same time, that they had three slipways. The next yard, south of Bowdler & Chaffer, was occupied by James Andrews & Co., who, in 1859 were shipwrights on the Liverpool side of the Mersey. It was a small shipyard with only 100 feet river frontage. Thomas Vernon & Son held on lease the remainder of the available land from Andrews' yard to the entrance to the Alfred Dock. They had a river frontage of 450 feet. In 1883 Alexander Jack took over the yard vacated by Vernon's. Finally, J. F. Waddington & Co. opened a yard on the Seacombe site.

Before dealing with the activities of each individual shipyard, it would seem worthwhile, if for only a few moments, to take stock of the outstanding vessels sailing in and out of the Mersey at this period, representing as they did, the most advanced standard of ship construction. As one would expect, the Cunard Line, with one exception, led the way in size. The exception was, of course, the *Great Eastern*, built in 1858, of 18,915 gross tons, a vessel that made her appearance at least twenty years before her time, and before the stresses and strains on large vessels built of iron had, by trial and error in a seaway, been adequately assessed. The Cunard steamers, commencing with the 1850s vintage, included the wooden paddle vessels *Asia* and *Africa* both over 2,000 gross tons, and the *Persia* also a paddler, but built of iron, of over 3,000 gross tons. In 1862, the *China* an iron screw steamer of 2,638 gross tons and the famous *Scotia*, an iron paddle vessel of 3,871 gross tons, the last paddle steamer built for the Cunard Line, were completed. In her first year (1862) the *Scotia* crossed from New York to Queenstown in eight days three hours, the record passage up to that time, and thus gained the coveted Blue Riband of the North Atlantic. Her speed was fourteen knots. Incidentally the last wooden vessel for the Cunard Line had been built in 1852. Unfortunately, none of these vessels were built on the Mersey. They were the big ships of the day. Wooden vessels had had their time, and the demand now was for iron vessels; moreover the paddle wheel was being superseded by the screw.

Bowdler & Chaffer

It was against this background of progressive change that Bowdler & Chaffer (John G. Bowdler & Richard Chaffer) established their shipyard in 1864. In their first year they launched four vessels. The first to leave the slipway was the *Oruro* on the 23rd of July, 1864,¹ an iron barque of 409 gross tons, built for J. B. Walmsley, the well-known Liverpool shipowner; she was towed to the Great Float to be fitted out. Four more vessels were in due course completed for the same client. The *Oruro* was followed by a new Liverpool Landing Stage for the Rock Ferry service. They next launched three

(1) *Mercury*, 25th July, 1864, p. 6.

blockade runners to try their fortune in the American Civil War. They were steel paddlers of nearly 500 gross tons. The shipowners for whom Bowdler & Chaffer built the greatest number of vessels were Strong, Reid & Page, eight steamers being to their order. This shipyard was patronized by many prominent Liverpool shipowners, including Glynn's, Frederick Leyland, T. & J. Harrison, Alfred Holt, John Bacon, Myers and MacAndrew's. One of the vessels they constructed was the world-famous yacht *Sunbeam* for Lord Brassey in 1874, a composite vessel of 354 gross tons, with engines of 70 H.P., built by Lairds'. She was rigged as a three masted schooner with yards on her foremast and an imposing spread of canvas. Apparently, she mainly relied on her sails for propulsion, using her auxiliary engines only when circumstances made it really advantageous to do so, and, wrote Lady Brassey, "when the sails were up the funnel was down".¹ The *Sunbeam* ended her days in 1929 in Ward's ship-breaking yard at Morecambe. Lord Brassey's *Sunbeam* was the first to become famous, but there was another famous *Sunbeam*, in general appearance very similar to Brassey's yacht. In 1929, the year that *Sunbeam* (I) was broken up, *Sunbeam* (II) was launched. Built by Denny of Dumbarton for Sir Walter Runciman, she is of 661 tons, Thames Measurement, and 400 H.P. This yacht has changed hands several times, and in 1955 her latest owners, the Clipper Line, renamed her *Flying Clipper*. Probably she is best recollected as one of the contestants in the International Sail-Training Race from Torbay to Lisbon in July, 1956.²

On the afternoon of the 31st of January, 1872, a fire broke out in Bowdler & Chaffer's yard causing £3,000 damage.³ In 1876 the firm was, owing to a strike of their employees, faced with financial difficulties, and the yard had to be closed. Among other vessels on the stocks at the time, were three for Frederick Leyland, the *Algerian*, 1,757 gross tons, *Alsatian*, 1,765 gross tons, and *Andalusian*, 1,763 gross tons. To complete these vessels Leyland formed a company and, under the supervision of Bowdler & Chaffer the ships were in due course launched. This arrangement seems to have been to Leyland's satisfaction for he then constructed the *Anatolian*, 1,763 gross tons, and she was launched in October, 1877. Three years later she was wrecked in the Crosby Channel. In all, six vessels were launched from this yard for Leyland. Bowdler & Chaffer's yard was not again occupied as a shipyard. Bowdler died at Everton in February, 1899, aged 73 years.

Andrews & Co.

In 1865, twelve months after Bowdler & Chaffer had been established, Andrews & Company rented a yard adjoining them. It was a small yard with a river frontage of only 100 feet. They appear to have completed two vessels only, both wooden sailing ships, the *Riversdale*, 1,490 gross tons in September, 1865, and the *W. A. Dixon*, 424 gross tons in 1866. They closed down that year.

Thomas Vernon & Son

Thomas Vernon & Son were the next to open a shipyard at Seacombe,

(1) "A voyage in the *Sunbeam*." by Lady Brassey.

(2) "Sea Breezes" July, 1956, p. 8/9.

(3) Mercury, 1st February, 1872, p. 3.

being established in 1865, and launched their first vessel in January, 1866. She was the *Achilles*, 1,521 gross tons, an iron sailing ship like most of the other vessels they built. Included in the few steamers that came from this yard was the *Macedonia*, 1,686 gross tons, the largest vessel they constructed, not excluding the vessels they built on their Brunswick Dock site, and she was to the order of Papayanni & Co. Probably, they did not turn out more than eleven vessels from the Seacombe yard. Among their clients the names of Imrie & Tomlinson, T. H. Ismay and the British Shipowners' Company appear. In 1866 they seem to have been financially embarrassed, but, it was not until 1869 that they turned out their last vessel, the *Zoophyte*, a small iron twin-screw yacht, of only forty tons register.

Decline of Seacombe Shipbuilding

From 1878 to 1882 no shipyards operated on the Seacombe sites, but in the latter year Liverpool shipbuilders made enquiries about these yards; yet nothing materialized. In 1883 John Jones & Son, who, when they closed their Brunswick Dock yard in 1899, were the last shipbuilders to operate a yard on the Liverpool side of the Mersey, made an offer for the Seacombe site formerly occupied by Vernon's, but subsequently withdrew the offer. Later in the same year, W. H. Potter also made an offer for the same yard, but nothing came of it.

Alexander Jack

After a lapse of some five years shipbuilding recommenced at Seacombe, and it was on Vernon's old site, which seemed to have been the most attractive, that Alexander Jack established his yard in May, 1883. The total area of the yard was nearly 44,000 square yards. Jack, his manager John Lumsden and another spent £20,000 fitting out the yard. But misfortune soon overtook this concern, and in 1885 they were bankrupt and sold up. Few vessels came from this yard, the largest of which was the *Kathleen Mavourneen*, 988 gross tons, for the Drogheda Steam Packet Company, launched in June, 1885. The last vessel to leave their slipway was the *Samana*, an iron screw steamer of 545 gross tons. She was launched in February, 1886, and was completed by W. H. Potter. A few weeks after the *Samana* was launched Alexander Jack died, on the 7th of March, aged forty years.

J. F. Waddington & Co.

On the 1st of June, 1886, the last shipbuilding company to operate from the Seacombe site commenced business. This was J. F. Waddington & Co., described as Shipbuilders, Marine and Electrical Engineers, who advertised that they were prepared to construct all classes of vessels up to 350 feet in length. They are believed to have rented the yard originally occupied by Andrews & Co., with an area of 7,000 square yards. Mr. Bertram Furniss in "Memorials of Wallasey",¹ states, "I am reminded that at one time the shipbuilding yard at Seacombe was tenanted by Mr. Waddington, who previously had been ship designer for Messrs. Cochran & Crompton (Duke Street), Birkenhead. It was at their yard a submarine called the *Resurgam* was built

(1) Wallasey Times, 17th March, 1934.

in 1879, invented by a clergyman named Garret. Waddington is also credited with having designed and built in 1886 a submarine named the *Porpoise* but where it was built is not known. The most likely place would seem to be Cochran & Crompton's yard. Waddington failed to persuade the naval authorities to take her over. She was, perhaps for two years, anchored on the shore at the Magazines, opposite Marine Terrace, a little below high-water mark, and finally broken up there. At the Seacombe yard Waddington built the ferryboat *Firefly* in 1887, for the New Ferry services. She was a twin-screw iron vessel of 168 gross tons, engined by David Rollo & Sons. Possibly he built other small vessels. In August, 1887, he was bankrupt. Shipbuilding at Seacombe was at an end.

The Seacombe shipyards may, to a few Merseysiders, still be a recollection, but to many not even a name, for some seventy years have passed by since the last vessel was launched from that site. Of the thousands of passengers who daily travel in the ferryboats from Seacombe to Liverpool and vice versa, it may well be that the greater number of them are quite unconscious that they pass within a stone's throw of a site which at one time, in the latter half of the previous century, was the birthplace of well over a hundred vessels, some for well-known shipowners. To-day, this stretch of the river front, which rubs shoulders with one of the outstanding features of the Birkenhead Dock system, the entrance to the Alfred Dock, has the appearance of a deserted and despised piece of land, where nothing can be seen which might indicate that in the past it had been the site of shipbuilding activities, save that the ground is surfaced with sandstone and bricks. The stumps of the posts however which supported the fences separating the respective shipyards are still visible. The level of the ground at the East Street end of the site is higher than at other places, clay and other material having been dumped there, excavated from the Alfred Dock south entrance, when it was reconstructed in 1928. Coarse grass, weeds and shrubs have now completely overgrown this deposit. When the shipyards no longer functioned some of the buildings were converted into dwelling houses and occupied by employees of the Dock Board. The frontage wall which, as already mentioned, was constructed of huge blocks of stone has, to some extent, disintegrated, the stones being out of position and in a general state of disorder. Probably this state of disrepair started after the shipbuilding had ceased, otherwise, it would have constituted a danger to vessels in the act of being launched.

Although the vessels launched in the river Mersey at that period were small compared with the vessels completed by Lairds' to-day, the Seacombe site could hardly have been an ideal one for shipbuilding, but it would appear to have been the best that offered. Its situation at the narrowest part of the river and opposite the Liverpool Landing Stage, and in close proximity to Seacombe Ferry must have been troublesome when launchings took place. The story of the Seacombe shipyards will *not* go down in history as an example of enterprise and endeavour rewarded by maintained success.

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John S. Rees, Founder Member and Vice-President, died on 10th July, 1960, at the age of eighty-two. An obituary notice appeared in News, Notes and Queries, Volume IV (New Series) No. 4.

SOME MINOR MERSEY PORTS

by T. D. TOZER

Read 10th January, 1957

The history of the rise of Merseyside to the status of a great trading and shipbuilding centre must take into account, if it is to be seen in its proper perspective, the growth of some minor ports on the Mersey. For their history is an integral part, though often a neglected part, of the greater story. This is the justification for the paper which I am giving tonight. It deals with the history of two such ports: Runcorn and Garston.

Runcorn

Runcorn lies on the upper reaches of the River Mersey. It is situated in the Hundred of Bucklow in the County of Cheshire, 15 miles north-east of Chester and 14 miles south-east of Liverpool. This position conferred upon it certain natural advantages, including easy access to the Cheshire salt-mines and industrial Lancashire. The great disadvantage of Runcorn is the lack in the Mersey at this point of a free and open channel for ocean-going ships. Runcorn is choked by the sands. They contributed in great measure to its obscurity, except as a military camp and the site of a monastic house, until the closing decades of the 17th century. Even as late as 1656 it could be described with truth as "a very poor village with a fair church, on the banks of the river".

Better times were, however, at hand. The increasing importance in the national economy of the Atlantic trades, and the emergence of the Mersey as the natural outlet for the growing industrial hinterland of Lancashire and the Midlands to the markets beyond the western ocean, caused men to look again at this obscure village and to see the possibilities inherent in its position on the Mersey.

As early as 1662 the attempt was made to pass through Parliament a bill to make the upper Mersey (Runcorn's link with industrial Manchester) and the Weaver (Runcorn's link with south Cheshire and the Midlands) navigable. In 1712 Thomas Steers, engineer-in-chief of the Liverpool docks, pointed out the potential importance of Runcorn. In 1720 an act was passed authorizing work to begin on the Irwell as far as Manchester and on the Weaver to Northwich and Winsford. Both these rivers were deepened. In consequence a flourishing inland navigation began, with Runcorn serving as a link between the Mersey and the centres of industry in Lancashire and Cheshire. The successful work on the Irwell and the Weaver was the prelude to an even more ambitious project, the building of the Duke of Bridgewater's canal. Completed in 1773, it extended from Worsley, the site of the Duke's collieries, via Manchester to Runcorn Gap.

The later eighteenth century was the canal building age. The canal was the answer to the pressing problem of how to transport industrial products and raw materials in bulk, cheaply and efficiently, to and from the expanding areas of manufacture. Some idea of its superiority over older methods of inland transport can be gained from the freight rates quoted for the carriage of goods between Manchester and Liverpool via the Bridgewater canal. In 1773 these were 6/- per ton. Freightage by land carriage was 40/- per ton, by river navigation 12/- per ton. The Duke bought some 42 flats of 50 tons each to run the trade and built his private dock at Liverpool to accommodate them, hence Duke's Dock. His house at Runcorn now contains some of the Manchester Ship Canal Company's administrative offices.

The golden age of the canals, which lasted until the 1830s, was also the golden age of Runcorn. By the end of the eighteenth century, it was the terminus of a canal system which connected Cheshire with Lancashire, Staffordshire, Derbyshire, Nottinghamshire and Leicestershire and which provided a cheap and, by the standards of the time, rapid means of transport from the Heart of England to the estuary of the Mersey. By 1825 the annual tonnage of salt alone, arriving at Runcorn on the network of inland waterways, was one million. In that same year the first steam train ran between Darlington and Stockton.

The coming of the railways materially altered Runcorn's position. Its importance as an *entrepot* between the Mersey and industrial England was naturally reduced as the canals slowly fell into disuse. But its importance was not altogether destroyed. The Weaver Navigation is still busy, whilst the passage through Runcorn of ocean-going steamers up and down the Manchester Ship Canal, which absorbed the Bridgewater canal system in 1886, enables Runcorn to survive to this day as a port, albeit a minor one, sharing in the trade of the Mersey and still providing by means of the Weaver, an outlet for the industries of Cheshire.

Garston

If Runcorn is a port which flourished most during the period when canals were at their peak and which declined when the railways came, the second port to be discussed this evening owed almost everything to the railway. The tidal port of Garston is situated $5\frac{1}{2}$ miles south-east of Liverpool Pierhead on the north bank of the Mersey. Its history until the late 18th century is the history of an unimportant fishing village. The construction of a salt works and a small dock on Garston creek after 1793 altered its character only slightly. True the shift of the salt works there from Liverpool, the result of the need to find a new site for the Salthouse Dock, brought Garston more closely within the orbit of Merseyside developments; but her future did not lie in the growth of the salt trade, in spite of the construction of the small dock for the salt traffic.

The great advantage of Garston was its proximity to the south-west Lancashire coal field. After 1830 it became the ambition of the coal owners to increase their exports, and Garston was seized upon as a convenient water-terminus for a railway running from the coal fields to the Mersey. Incorporated originally in 1830 as the St. Helens and Runcorn Gap Railway, the company changed its name in 1845 to the St. Helens Canal and Railway

Company, and two years later was authorized by Act of Parliament to build a new dock at Garston, down river from the old Salt Dock, on a rocky foundation. The new dock was designed to be 29 feet deep with a wharfage of 2,490 feet, with two entrances and sluices to wash away the sand. Coal tips made of wood were built 30 feet above the wharf, with coal drops on the dock sides for tipping the contents of the railway wagons into the ships' holds. The trucks were shunted to the coal tip, which towered on top of a sandstone bank above the quayside and the dock. Another feature was the lighting by gas of the quays and warehouses to make night work practicable. On Tuesday, the 21st of June, 1853 the locally built river boat *Countess of Ellesmere* steamed into the new dock.

In 1864, under an Act of Parliament, the Docks and Estates were vested in the undertaking of the "London and North Western Railway Company", while a year later the old Salt Dock was closed down. Two years after, on the 15th of July, 1867, Parliament authorised the construction of a new dock. This was to be built on the west side of the other dock, and connected to it by a lock, while each maintained separate entrances from the river. Both this new dock and the other, named the Old Dock, were on the site of a large salt pan. The new dock, North Dock, was made on 8 acres of land, with a berthing space of 2,400 feet. The date of its opening, 1875, may still be seen chiselled on the stone facing of the lock entrance from the river. This dock has a depth on the sill of 27 feet at spring tides, with 18 feet at neap tides. It has 4 fixed high level stone built coal tips, each of 20 tons capacity, together with 11 portable hydraulic cranes of 30/50 cwts. capacity, with a set of sheerlegs on the north-east corner of the dock, capable of lifting 40 tons. The river entrance lock is 55 feet wide.

The new North Dock proved to be a valuable asset, and with increased trade, plans were shortly made to build another dock. This caused some concern at first with regard to its site. After some deliberation it was agreed to greatly enlarge the old Salt Dock, and connect it with the other two docks. Parliament authorized this move on the 31st of July, 1902, and work commenced. The Salt Dock was extended inland, the houses and streets were cleared, and the dock widened and lengthened considerably. The new dock covered an area of $14\frac{1}{2}$ acres, with a wharfage of 3,170 feet. It was connected to the Old Dock by a lock and also had a lock giving direct access to the river. This lock is 276 feet long and 65 feet wide. The lock enables vessels to enter or leave any of the three docks two or three hours before or after high water. The new dock was opened in 1910, and was named Stalbridge Dock after Lord Stalbridge who was Chairman of the London and North Western Railway Company, the dock owners. The White Star tender *Magnetic* broke the tapes at the entrance, which was the signal for many cheers and an enthusiastic welcome. Stalbridge Dock is fitted with 13 portable hydraulic cranes to lift 30/80 cwts., and 4 seven ton electric luffing grab cranes. The latter cranes were made by the Clyde Crane and Engineering Company Ltd. There are also on the west wall 4 hydraulic coal tips of 30 tons capacity, made in 1909. These hydraulic appliances were supplied by the Hydraulic Engineering Co., of Chester. The depth of the dock on sill at high water is 34 feet, with 25 feet at neap tides. Vessels up to 500 feet in length can be accommodated.

With this new dock, the present system of docks is complete, the Stalbridge Dock constituting the main dock for the large general trade using Garston. The main access to and from the docks is by railway, for there are 95 miles of sidings, of which 8 miles are actually alongside the quays. Road access is limited, but the possibility of improving this is under review.

In 1923 the London, Midland and Scottish Railway Company succeeded to the ownership of the port, and after nationalization of the railways, it was transferred to the Docks and Inland Waterways Executive on the 1st December, 1949, who now (1957) operate the port. There is a dredged channel from the entrance into the Mersey, the dredging of this being the responsibility of the D.I.W.E. In common with other docks on the Mersey, regular dredging must be maintained, dredgers and hoppers being in constant use both inside and outside the docks. The dredgers are the *Garstonian*, *Grassendale* and *Queensferry*, while the hoppers are *G* and *H*. The wife of the present Dock Master, Mrs. Whatling launched, on the 2nd of January this year, a new dredger for the port, and named it *Otterspool*.

Of the shipping companies which regularly use Garston Docks, Messrs. Elders and Fyffes are prominent; they have a large warehouse on the south quay of Stalbridge Dock. The building has been fitted with four banana elevators, using conveyor belts for the quick and efficient discharge of bananas. This company was originally at Manchester but moved down to Garston in 1912. Since then there has been a regular trade, although for the past few years bananas have mainly been entering the country at Avonmouth. However, Garston may claim to have been the first to import bananas into this country on a large scale.

Apart from bananas, the trade of the port is general, and figures show that coal, timber and minerals figure high on the import list, while coal is its main export commodity. From an inspection of these lists it may be seen that ships visit Garston from many parts of the world. A large amount of trade is done with Northern Ireland and Eire; also with Canada, the Scandinavian ports and the Cameroons. There exists a small fleet of schooners, such as the *J. T. & S.*, *Windermere* and *De Wadden*, who trade between Eire and Garston, and frequently may be seen motoring their way past the Pier Head, and even occasionally, tacking with all their brown sails taut in the wind. The docks progressed successfully during the inter-war years, while during hostilities they were fortunate in not suffering as great damage as did the other docks on the Mersey. Of the amenities provided, there are 80 acres of storage ground available for pit props, sawn timber and minerals, and there are also three large sheds for the storage of fine timbers. The dock authorities also provide all labour, and control the entire working of the port.

For the immediate future, there is now in hand, after much planning, the building of portable electric cranes of the most modern type, which are being installed in Stalbridge Dock. One of these is now almost complete, while another is well under way. It is planned to install many more such cranes throughout the dock system. Plans for the improvement of the coal tips and the renovation of the railway lines are being studied, while the position regarding the entry of road transport direct to the wharves is under review.

LIVERPOOL'S DOCKLAND 100 YEARS AGO

by HUGH A. TAYLOR, M.A.

Read 14th February, 1957

When people think of the Liverpool waterfront today, the cluster of giant buildings around the Pier Head spring at once to mind. They shape a skyline famous throughout the world, and yet these great blocks of insurance, shipping and dock offices form, as it were, a wedge splitting the dock system in two parts, so that a man may spend his working life near the Pier Head and never set foot on a dock, or see a large vessel unloading. One hundred years ago this would have been inconceivable.

In 1857 the whole skyline was different — significantly different. Then it was warehouses which caught the eye. The Parish Church was there, of course, but the massive ranges of the Goree, Albert Dock, and King's Dock warehouses dominated the waterfront; even John Foster's splendid Customs House, set back some way on the site of the old Dock, was partly screened and had to take second place. The docks too, especially the older ones, were much more closely integrated with the life of the town at a time when trading and provisioning was a so much more individual affair. The classic tall frontage of the Liverpool warehouse took its place amid the chandlers, the ropemakers, the sailmakers and the public houses. Streets abutted onto docks, docks seemed to thrust themselves into the core of the town and the characteristic filigree of masts, spars, ropes and lines was constantly before the eyes of anyone wandering between Regent Road and Wapping. And everywhere there were carts, carts, carts; for the docks were ill provided with rail facilities in contrast with Garston fifty years later. This meant that goods had to be off-loaded on to the quays, cleared from there extremely quickly, and be moved either to the covered sheds on the spot, or to merchants' warehouses, many of which were some way off in the town. The narrowness of the quays was a constant complaint, only partly rectified in the new dock systems to the north and south where Jesse Hartley's great fortresses had a forbidding air about them. As the docks became larger, more specialised, and more self contained, and as restrictions and precautions increased, so they lost that intimate contact with the town so characteristic of an earlier age. By 1857 this process was already under way. The Ladies' Walk had long since disappeared under the coal yards of the canal; Prince's Terrace and the dock wall was rarely used as a promenade on Sunday afternoons. Instead Liverpool society thronged around the landing stage waiting for the ferries. Local men of taste found the Albert Docks an eyesore and the battlements of the Canada Dock rugged but repulsive. For this reason and for others much deeper and more far reaching, a whole society turned its back on the docks. The isolation of Liverpool's dockland was not only physical; it was social as well.

How had this come about? The causes are now fairly familiar to most people. The intensification of trade through Liverpool as a result of revolutionary changes among the inland industries; the endless demands for quick turn rounds and lower costs for breaking bulk; the huge supply of cheap labour from impoverished Ireland; the extinction of many local crafts such as pottery and shipbuilding in the face of demands by commerce; all these factors tended to divide Liverpool into two worlds. The Vauxhall Road was less than half a mile from the Exchange; it might have been on another planet. The popular local maps and guides mark only the principal streets and not the warren of courts that linked them. William Herdman, whose charming water-colours are careful and reasonably accurate, empties the ancient streets of all but "respectable" couples and gentlemen in top-hats. Even the Medical Officer of Health in his report for 1867, when describing the cholera epidemic and conditions to which it gave rise, cannot resist a prosy quotation or two from the classics by way perhaps of defence mechanism. His mildly shocked amazement at the habits of the poor were no more than characteristic of his time.

It is necessary to remember this kind of background when one moves from considering the docks to consider those who worked there, by far the greater number consisting of dock porters and warehouse porters.

Sir James Sexton, in describing the life of the docker in his early days, made the point that the discharge and loading of sailing vessels needed a thorough knowledge of rigging coupled with "the agility and quick-wittedness of a ringtailed monkey". With steam power much of this specialised knowledge became unnecessary, and although the work remained at least semi-skilled, there was little protection for the docker, at the mercy of the unscrupulous master porters, the rotten machinery, the darkness of jigger lofts and the exhausting hours which only increased the risks. The fearful accident which Sir James experienced is recorded by him. Hugh Owen Thomas, the famous local surgeon, gained his experience and reputation amongst countless unrecorded accidents of a similar nature. The trade became one of the most dangerous in the country.

The uncertainty of employment is well known, and the difficulties of the housewife who had to budget for a dock labourer's family were atrocious. The tendency was for the family to have a good "blow out" when the money came in (and who could blame them?), and then hope for something to turn up during the next week or more. A complex system of loans and pledges grew up to tide over the bad periods, but these often made matters worse in the end; the best clothes were constantly in pawn as being the safest place to store them. Families drank heavily, but when the easiest escape from the midden and the court was in the local gin palace, where at least there was light, warmth and colour, this is not in the least surprising. Remember that the Irish, who for over half a century poured into Liverpool, were country people. Habits which would be endurable and relatively harmless in the country produced the most dreadful results in the airless stagnant courts of the town. Living conditions completed the demoralisation of the starving; resistance to disease dropped out of sight; the protracted pain, degradation and misery which ensued makes it a matter of wonder that any families were reared decently at all.

One paper around the mid-century constantly held these facts before the eyes of the public. The *Porcupine* with Hugh Shimmin as editor ran a long series of articles on the life of the poor. About a dozen were written on pawnshops alone, others were concerned with the dance-halls, the “milling cribs”, the “canine fancy”, the police, the prisons and the churches, the building societies and the brothels. The style of all this writing may seem a little heavy but there is no denying the sincerity, the power or the quality of the reportage. *Porcupine* must remain our chief source of information on the life and habits of the dock-labourer in the mid-nineteenth century and indeed of a whole class of society in Liverpool at that time.

Liverpool's greatness as a port was assured—but the cost in human suffering was extremely heavy and should never be forgotten.

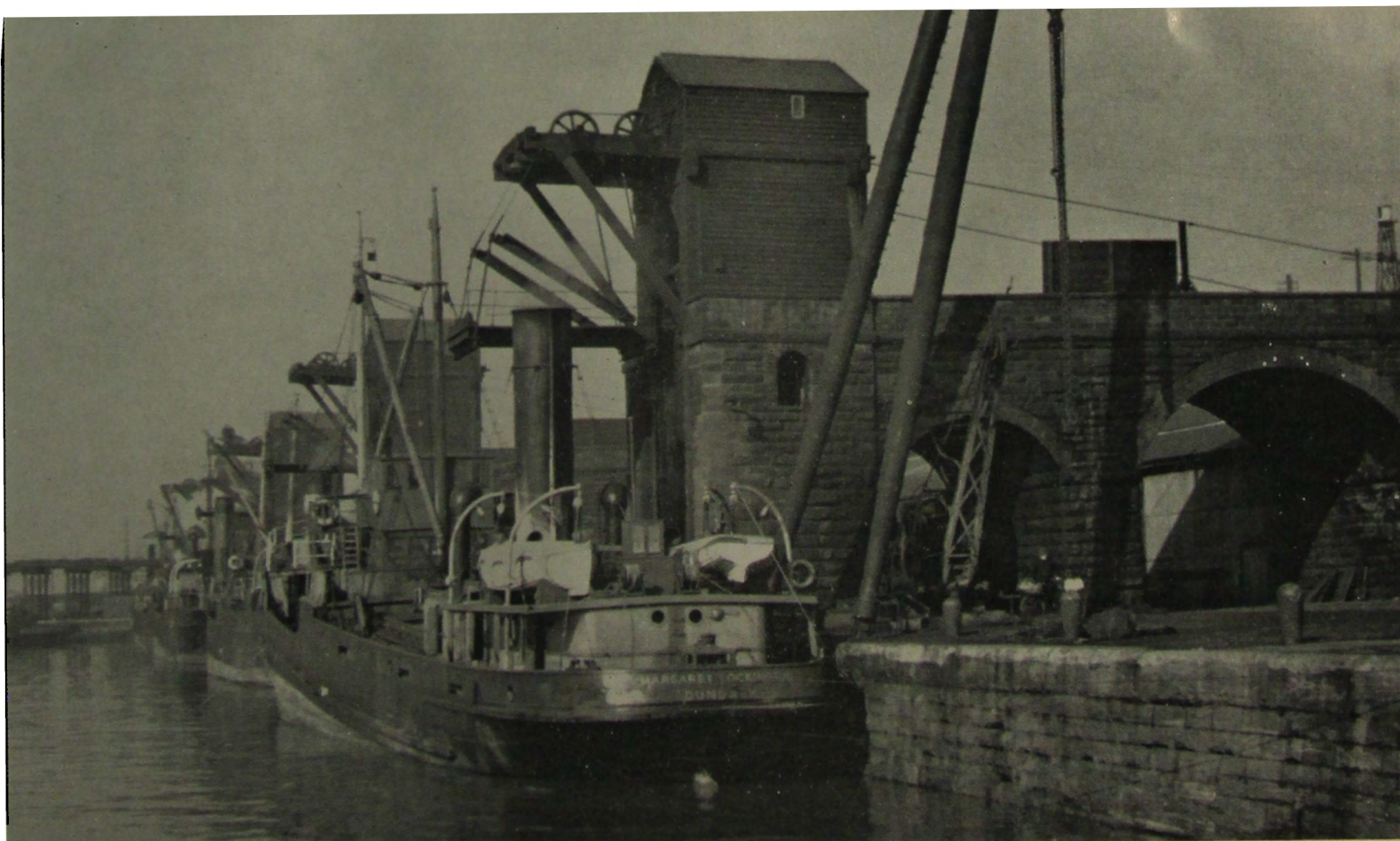


Photo courtesy

T. D. Toz

North Dock coal tips, Garston, a view taken ten years ago (see page 26)

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Burial of the captain of the first H.M.S. *Liverpool* off Cyprus, the 16th of July, 1743,
from a water-colour by E. C. Tufnell, 1960



Another water-colour by E. C. Tufnell of the third H.M.S. *Liverpool*, built in 1814

H.M.S. *LIVERPOOL*

1741-1952

A Short History

by R. B. SUMMERFIELD

Read 14th November, 1957

INTRODUCTION

In 1942, Mr. Arthur Wardle, a Founder member of this Society, entrusted to me some notes and documents and asked me to use them to publish, at some later date, the story of the King's and Queen's ships named *Liverpool*.

A very brief account of seven ships appears in the Transactions of the Historic Society of Lancashire and Cheshire, Vol. 93 (1941), and also in the "Sea Breezes" section of the Journal of Commerce of the 19th of July, 1941, both contributed by Mr. Wardle. This information has been the basis of my enquiry and search.

Although Mr. Wardle noted seven ships of the name in the documents he gave me, there is some disagreement between historians and others concerned with the nomenclature of ships, as to whether the present cruiser is the sixth or the tenth of her line, because it is even doubtful if one of Mr. Wardle's original seven could really be described as a warship named *Liverpool*.

The following story, by including ten ships, does not necessarily support the view that ten is correct. It merely seeks to include all available evidence of ships named *Liverpool* which have carried the prefix H.M.

Various records and authorities consulted do not always agree on dates, tonnages and other details, particularly of the earlier ships. The dates and figures given, therefore, will in some cases be open to question, but can be taken as approximately correct, and based either on a "majority" verdict, or on an actual contemporary document, such as the Admiralty Progress Books or the Ship's Logs.

My records are very incomplete and require more time for research amongst the Captains' and Masters' Log Books at the Public Record Office, and the Admiralty Progress Books, but I feel that Liverpool's 750th Charter Anniversary Year is as appropriate a time as any to fulfil Mr. Wardle's request and to place before you such information as I have been able to gather.

The City's connection with the Royal Navy is not so extensive or of such long standing as is the case with London, or the naval towns of Chatham, Portsmouth and Plymouth.

Although King John granted his Charter to Liverpool in 1207, because he thought the pool or haven on the north bank of the river would form a suitable embarkation point for his expedition to Ireland, this can hardly be

claimed as a connection with the Navy. As a permanent maritime fighting force, with vessels built expressly for the purpose, the Navy only began to take shape from 1485, 278 years after King John's Charter. And an even later date, 1546, is generally taken as the starting point for continuous naval administration.

Liverpool's connection, in fact, covers little more than the last 200 years of the City's history, but we of this generation, who were privileged to be on Merseyside during the last war, saw Liverpool lifted to the pinnacle of naval importance as Headquarters of the Western Approaches. From this famous port, the longest, toughest, and most unrelenting sea war of all time, was directed; the Battle of the Atlantic. No matter how many other campaigns, on land or sea, had been won, failure in this, the most crucial of all, would have brought this country to her knees.

In referring to the Navy's connection with Liverpool, it is not quite correct to ignore the other communities on Merseyside.

Prior to 1939, apart from frequent visits of single ships, and on a few memorable occasions, the visit of a number of ships, the Mersey's chief connection with the Navy during the last 216 years has been through its shipbuilding, first in Liverpool and later in Birkenhead. In fact, since 1840, when Laird built the first iron warship, H.M.S. *Dover*, and up to 1939, it was Birkenhead and not Liverpool that maintained Merseyside's naval connection.

From these Birkenhead shipyards there has been a steady stream of warships of all sorts and sizes, culminating in the famous aircraft carrier *Ark Royal*, the ill-fated battleship *Prince of Wales*, and the present *Ark Royal*, one of the most up-to-date aircraft carriers in the Royal Navy today.

Before I deal with the actual ships named *Liverpool*, it may be interesting to recall a few of the incidents which connect Liverpool either with the Sovereign or the Navy, both during the period 1546 to 1741, when our narrative commences, and during the last 200 years when Liverpool was developing into a world port.

Liverpool and the Royal Navy

Under Elizabeth I, a Bounty System existed to encourage ship building in areas like Liverpool and Bristol, and the following may be noted:

1579 Miles Fell of Liverpool applied for the Bounty of 5/- a ton for building the barque *Fell*, 160 tons.

1590 The *Eagle*, 100 tons, built at Liverpool qualified for the Bounty.

In October 1693, Captain Phineas Pett, Commander of H.M. Yacht *Soesdyke*, 86 tons, 8 guns, was admitted a Burgess Gratis and was sworn a few days later. This would seem to be the first complimentary freedom of the town given to an officer in the Navy.

Mr. Arthur Wardle thought that the evidence was fairly conclusive that the first warship to enter the new dock at Liverpool in June 1715 was H.M.S. *Marlborough*, sometimes spelt *Mulberry*.

Touzeau notes that the Commanding Officers of some of the ships built at Liverpool during the period 1741-1885 were given the freedom of the town, in many cases the grant of the freedom being accompanied by an entertainment.

In 1770 the famous Lieutenant Bligh was serving as an A.B. in H.M.S. *Hunter*, a 10-gun sloop. At this period there was a threat of war with Spain and H.M.S. *Hunter*'s task was to patrol the Irish Sea, for which purpose she was based on Liverpool.

Northcote Parkinson notes in his book "Rise of the Port of Liverpool", that on the occasion of the seamen's riots of August 1775, the Admiral sent some lieutenants of the Navy to enlist sailors for His Majesty's Service.

In the August 1888 manoeuvres, a squadron comprising 19 vessels attacked and captured the town of Liverpool, which had been defended by a second squadron much inferior in point of numbers.

In August 1907, probably the largest fleet ever to visit Liverpool, arrived, lead by H.M.S. *King Edward VII* carrying Admiral the Right Hon. Lord Charles Beresford, supported by 17 other battleships and cruisers.

And I must surely include the participation of the ferry boats *Iris* and *Daffodil* with the Royal Navy, at the blocking of Zeebrugge.

Our story of H.M.S. *Liverpool* commences practically a century before Lairds' built their first warship, and by a fortunate change of intent, starts actually in Liverpool itself.

The First 'Liverpool,' 1741 to 1756

To an appreciable degree, the Admiralty facilitated the eighteenth century growth of Liverpool by placing orders for men-of-war with the more prominent of the shipbuilding firms located in and around the centre and south end of Liverpool. During the period 1741-1785 thirty-five ships were built for the Navy by eleven different shipbuilders, very full details of which are given in Stewart-Brown's book, "Liverpool Ships in the Eighteenth Century".

It is appropriate, therefore, that the first warship of the name should have been built at Liverpool, and only by a few months did she fail to be the first ship ever to be built for the Royal Navy on Merseyside.

In 1687, at Burtonwood, near Warrington, was born John Okill, second son of Peter Okill. Some fifty years later, in 1739, trading as a timber merchant and shipbuilder in Liverpool, his firm, John Okill & Co., whose yard was on the south side of the octagonal basin, between Bridge Street and the shore, obtained the first contract from the Commissioners of the Navy, to be given to a Liverpool firm. This ship, a 5th rate, was to be named the *Hastings*. Shortly afterwards, by Admiralty Order dated the 8th of February, 1739, Okill was given a second contract for a similar 5th rate, to be named the *Enterprize*, both vessels to be launched in February, 1740. In an Order dated the 20th of February, 1741, it is stated that the name of the second ship was to be the *Liverpool*.

It is interesting to learn how this change came about, which gave Liverpool the first warship with her name. In the Admiralty Progress Books, there is an entry relating to the *Enterprize*, a 40-gun ship, building by Mr. Lock of Plymouth in 1709. Against the entry there is this remark: "on 28th April, 1719, by Admiralty Order, ordered to serve as a hulk, another ship to be built."

When, early in 1739, Okill received instructions to build a second vessel similar in all respects to the *Hastings*, already under construction in his yard,

this second vessel was destined to replace the one named *Enterprize* of 1709 mentioned in the Admiralty Progress Books.

She is shown originally as a 40-gun ship, which the 1709 *Enterprize*, building by Mr. Lock, was intended to be, but she was completed as a 44-gun ship, in all respects similar to the *Hastings*, the one draught being used for both ships.

She was launched on the 18th of July, 1741, some four months after the launch of the *Hastings*. Although the contract date had been exceeded by nearly five months, no penalty was inflicted because the difficulties met with had made it impossible to complete the ship in the contract time. In fact, during her construction, "protection" for the builder's workmen against the "Press Gang" was sought and granted by the Admiralty.

The dimensions of this two-deck, three masted ship are given as: length 124 feet 3 inches, length of keel 100 feet 3 inches, breadth 35 feet 9 inches, depth 14 feet 6 inches. Tons burden 681 and complement 250 men. The 44 guns were disposed as follows:—

20 12 pdrs. on the lower deck.
20 6 pdrs. on the upper deck.
4 6 pdrs. on the quarter deck.

The cost of the hull was £6,129, almost £9 per ton. She was designed by Sir Jacob Acworth, Principal Surveyor of the Navy.

Frequently, when private yards built for the Navy, the Royal Dock Yards supplied the masts, rigging and stores. In the case of the *Hastings* and the *Liverpool*, however, rigging and masts were to be supplied locally, also the ships boats, only the stores coming from London. According to contemporary records, Samuel Seel, merchant, supplied the masts.

The ship was completed in August and sailed on the 3rd of September, 1741, Thomas Swanton being appointed as her captain.

Under his command she proceeded to cruise off the coast of Spain, and in the Mediterranean. The Master's log commencing on the 19th of January, 1742, is a beautifully written record by James Treadway, the ship's first Master. The front page is inscribed with considerable flourish "Logg on board His Majestys Ship *Liverpoole*".

The following amusing entry for the 1st of March, 1742, appears:—
At noon condemned by survey 1270 lbs. of cheese, it being rotten stinking and nauseous to the ships company and therefore threw the same overboard.

Whilst on convoy duties in the Mediterranean, the *Liverpool* arrived at St. Helena on the 14th of April, 1742, as the following entry records:—

At 2.00 p.m., sailed round Sugar Loaf Point and found only one ship in the Road; it was the *Tigris*. She saluted us with 15 guns and we returned 13 guns. Then the Fort saluted us with 21 guns and we returned the same number.

About six weeks later, there is an entry:—

May 29th, 1742. At half past five we saw a sail to the North'd and gave chase . . . She proved to be the *Swan*, Snow of Bristol, John Sinclair Master, from Cape Coast with Slaves bound to Jamaica.

The months of September, October and November are covered by one entry:—

Sailing from the Downs on our outward bound passage with merchant ships under our convoy to Plymouth, thence to Gibraltar and up the Straits.

An entry records her return to the South Foreland on the 13th of November, 1742, with a convoy of 9 merchant ships.

She sailed again shortly afterwards with 7 ships in convoy for the Eastern Mediterranean.

In June, whilst at anchor on the south side of Cyprus, Captain Swanton was taken ill and died at 2.00 a.m., on the 16th of July, 1743.

A log entry records:—

At 11.00 a.m. with colours half mast, committed his body to the deep and fired 20 minute guns.

An entry in the log by Lieutenant John W. Wheelock for the 17th of July reads:—

On the decease of Captain Swanton, Lieut. John Hatch, First Lieutenant, appointed himself Captain, Lieutenant Dennis, First Lieutenant, and myself Second Lieutenant.

The *Liverpool* arrived in Mahon Harbour, Minorca, on the 14th of September, 1743, when a new captain was appointed. The log records:—

We immediately put ourselves under the Orders and Directions of the Honourable William Rowley Esq., Vice-Admiral of the Blue, and Commander in Chief in the Mediterranean who appointed Captain John Bentley (later Vice-Admiral Sir John), Commander of the *Liverpool*.

On Monday, the 4th of February, 1744, the log records:—

Moor'd abreast of Fountain Cove. Came on board Captain George Durell and took command of the *Liverpool* in the room of Captain John Bentley, appointed commander of His Majesty's *Barfleur*.

It is noticeable that quite a number of the captains of the various *Liverpools* succeeded to Flag Rank, John Bentley being the first. He was also a member of the Court which tried Admiral Byng in January 1757.

The *Liverpool* continued on the Mediterranean Station and at the Peace of 1748 returned home and was paid off at Woolwich. She had no further service, and was sold seven years later at Woolwich, on the 14th of September, 1756, the sale realising £494.

During these seven years the fate of the ship was considered on a number of occasions. She was surveyed afloat on the 26th of August, 1749, and found to want extensive repairs, including £4,000 for the hull, involving eight months work. Ten days later, the Admiralty ordered a re-survey "when a dock can be spared". Nothing further appears to have been done until the 15th of November, 1755, when the *Liverpool* was reported "not to be fit for service again".

She was re-surveyed afloat on the 27th of August, 1756. This time, repairs were to cost £5,030 and required nine months, and it was proposed that instead the ship should be taken to pieces. A copy of the survey was sent to the Admiralty with a counter proposal that the ship be sold, and there followed the final Order on the 30th of August, 1756, "to sell her accordingly".

I have not been able to discover what happened to the *Liverpool* after she had been sold out of the Service, but the following very interesting paragraph appeared in the *London Evening Post* dated the 3rd of May, 1757:—

Captains Talbot and Walker (the famous privateers) are shortly to sail in concert against the enemy. The old *Liverpool* man-of-war and *Exeter* (Indiamen) being cut down and preparing for that service; the former is to carry 40 guns and the latter 36 guns on one deck, and Captain Talbot is to act as Commander.

There is a reference in H. S. Vaughan's book "Cruises of Commodore Walker" which states he was appointed to command a ship owned by John Cruickshank, a London Merchant, but was arrested on the 21st of May, 1757, and cast into prison for a debt of £800, being made bankrupt in the process. He apparently remained in prison for 4 years, so probably his captaincy of the *Liverpool* did not materialise.

With the disposal of the first *Liverpool* we must leave John Okill, for although he built six more ships for the Navy, none was named after the town, so they do not feature in our record. Okill died on the 20th of August, 1773, aged 86.

The Second Liverpool, 1758 to 1778

In 1745 another Liverpool shipbuilder was sufficiently established to warrant a Navy contract. He was John Gorell, born about 1700. He had a yard near Tabley Street, known as Gorell's yard and in his partnership, first with John Parke, and later with William Pownall, he built four ships for the Navy, the last one being named the *Liverpool*.

An Admiralty Order dated the 3rd of September, 1756, states that a 28-gun ship, to the draught of the *Lowestoft* and *Tartar* is to be built in a merchant yard. The agreement with Gorell is dated the 15th of September, so no time was lost, the cost to be £8 7s. 6d., per ton, based on $586\frac{3}{4}$ tons. It was stipulated that the launch was to take place in eleven months from commencement.

An Admiralty Order dated the 17th of September, 1756, stated that the ship was to be named the *Liverpool*.

Like her predecessor she was a three masted ship, but classed as a 6th rate, having only 28 guns. These, according to an Admiralty Order dated the 11th of November, 1756, were to be disposed as follows:—

24 9 pdrs. on the upper deck.

4 3 pdrs. on the quarter deck.

12 $\frac{1}{2}$ pdrs. swivel guns. (These are not counted in the rating.)

Begun on the 1st of October, 1756, she was launched on the 10th of February, 1758, taking $16\frac{1}{2}$ months instead of eleven months as in the contract. Contemporary newspaper accounts stated:—

On Thursday, 9th February, His Majesty's ship, the *Liverpool*, now building here by Messrs. Gorell & Pownall, Mr. White Overseer, is intended to be launched. She is esteemed one of the most beautiful and best ships that has hitherto been built in this port.

On Friday last (10th February) there was as fine a launch of the *Liverpool* man-of-war as was ever known here.

The loss of one day was on account of "the blustering weather".

The hull cost £4,910 8s. 0d. Her dimensions were: length on the lower deck 118 feet, 4 inches, length of keel 97 feet 3½ inches, extreme breadth 33 feet 8 inches, depth in hold 10 feet 6 inches. She carried 200 men and was in all respects slightly smaller than her predecessor.

Fitting out took five months, and she was ready for sea towards the end of July, 1758.

I mentioned earlier that she was built to the draught of the *Lowestoft* and *Tartar*. A reference to the Admiralty Progress Books shows that these two vessels were built to the draught of the *Lyme*, which in turn, was built to the draught of a captured French privateer named the *Tiger* or *Tyger*. Our second *Liverpool* therefore, would seem to have been of French descent.

The original draught of this vessel dated the 19th of September, 1756, is in the National Maritime Museum. It gives the name of the ship and the dimensions, and is signed by (Sir) Thomas Slade, a surveyor to the Admiralty.

You will remember she was launched on the 10th of February, 1758, and the following entries are from the Master's Log Books, which are available at the Public Record Office.

Thursday, 16th March, 1758. This day Capt. Richard Knight took possession of the ship and ordered the pendant to be hoisted.

The next three months were occupied in fitting out, stepping the masts, rigging, taking on guns, powder and shot, and stores.

Saturday, 10th June, 1758. William Dawson, Marine, received 12 lashes at the gangway for striking his serjeant.

Friday, 30th June, 1758. At 5.00 a.m., got up topmast yards and unmoored.

Saturday, 1st July, 1758. At 11.00 a.m. weigh'd and fell down to the Black Rock at Liverpool and moored ship. Received 1017 lbs. of fresh beef. Lost one quarter overboard.

Thursday, 6th July, 1758. Employed watering of the ship and getting all things ready for sea. Received 346 lbs. of fresh beef.

Friday, 7th July, 1758. Fired two nine pound shot at a ship and a brig and brought them to. Imprest 5 men from them.

Similar entries appear over the next fortnight, but not always were men available suitable for impressment on the ships so stopped.

Wednesday, 26th July, 1758. 3.00 a.m. weighed and came to sail. 5.00 p.m. came to anchor off Crosby Point.

On Thursday, the 27th of July, 1758, whilst at anchor, a gale sprang up and the ship was in danger of being driven ashore. The Log continues as follows:—

Sea running very high the water poured in at the hawse holes which caused us to have presently six foot water in the hold. Everybody thought the ship could not keep up above a ¼ of an hour at most.

The captain consulted with his other officers and the pilot, and it was decided, "to cut and run for Liverpool, but the ship being water logged she did not veer as fast as she should and at about two she struck on the sand very hard".

A long series of entries over the next seven days shows that the mizzen and main masts were cut away, guns, shot, ballast and rigging was put overboard into tenders or into the shallow water on the shore side and finally, after very considerable effort, the ship was at last got off into deep water at 10.30 a.m. on Thursday, the 3rd of August. After some repairs to the rigging on the spot and removal of much water in the hold, she was towed back to Liverpool and warped into dock on Saturday, the 19th of August.

Although there is nothing in the Log to suggest it, it is stated by a number of authorities that the refloating of the vessel was carried out under the direction of Roger Fisher, a leading shipwright in Liverpool, and author of "Hearts of Oak, the British Bulwark", published in 1762.

The next few months were occupied in refitting, using as much of the original materials as possible.

The Log continues:

Thursday, 12th October, 1758. Again weighed anchor and dropt down to the Black Rock at 11 a.m. and came to in 10 fathoms of water. Sailed Midnight Friday, 13th October, 1758.

It is not recorded in the Log, but according to the *Liverpool Chronicle* and *Williamson's Liverpool Advertiser* of contemporary date, the *Liverpool* was to take under convoy the vessels in Dublin, that were bound up the King's Channel.

Further Log entries confirm this and later record:—

Dublin Bay, 15th October, 1758.

Belfast Lough, 1st November, 1758.

Milford Haven, 19th November, 1758.

Passing Lizard, 9th December, 1758.

At this date, seven sail in convoy are noted as having joined with her.

In the Downs, 12th December, 1758.

Sheerness, 11th January, 1759.

Signed: Ed. Pullibank, Master.

In 1759 the *Liverpool* was employed as one of a squadron of 12 ships under Commodore William Boys engaged in blockading Dunkirk, where a French expedition under Thurot had been assembled for a descent upon Scotland or Ireland. Whilst on this duty she captured and carried into Margate Roads, in May, a French privateer of 8 guns and 52 men belonging to Dunkirk, and a short time later another French privateer, the *Grand Admiral* of 10 guns and 85 men. In October the blockading squadron was driven off by a gale and Thurot slipped out.

The *Liverpool* continued on service in the Channel and North Sea, and on the 13th of September, 1762, Captain Edward Clark succeeded to the command. Two years later this officer committed suicide on board and was succeeded as captain by Mr. J. Oakes, on the 8th of May, 1764, who finally brought the ship into Woolwich and paid her off on the 2nd of November, 1764.

Recommissioned by Captain Richard Braithwaite in 1767, she was ordered to Newfoundland, where she served for two years. She then proceeded to the Mediterranean, and remained there until returning to England and paying off at Chatham, on the 22nd of March, 1772.

For two years she lay in reserve and then spent twelve months refitting, being recommissioned on the 15th of July, 1775, by Captain Henry Bellew, who was destined to be her last Captain. She left Chatham on the 20th of August for service in the Mediterranean.

On her return to Plymouth on the 26th of March, 1777, she grounded, but was hauled off without damage. Ordered to the North American Coast to reinforce the Fleet, which, under Vice Admiral Lord Howe was supporting the English land forces in the struggle with the American Colonies, she sailed on the 24th of April, 1777, on her last assignment.

Nothing untoward happened insofar as the *Liverpool* was concerned and she was first mentioned in a despatch from Lord Howe dated the 25th of October, 1777, when he reported to the Admiralty the loss of two ships.

It seems that the *Augusta* and *Merlin*, in company with the *Liverpool*, *Roebuck* and *Pearl*, were to proceed up the deep water channel between Red Bank and Fort Mifflin on the banks of the Delaware.

The Squadron was attempting to force its way to Philadelphia and in the process the *Augusta* and *Merlin* went aground. Whilst attempts were made by the other vessels to lighten them, prior to towing off, the *Augusta* caught fire and blew up, and the *Merlin* was set on fire to save her from falling into the hands of the Americans.

In a later despatch dated the 15th of November, 1777, Lord Howe records an attack on Fort Island using the channel to the rear of Fort Mifflin. The intense fire of the British ships forced the Americans to evacuate Fort Mifflin. The *Liverpool* took part in this bombardment in company with seven other vessels.

On the 2nd of December, 1777, orders from Lord Howe were given aboard his Flag Ship the *Eagle*, to Captain A. S. Hamond, Commander of the *Roebuck*. These stated that he was, "to take under his Command, the following ships in the Delaware River for the purpose of protecting the town of Philadelphia during the ensuing winter". There followed a list of nine ships including the *Liverpool*. The Orders continue:—

The *Liverpool*, having received damage by grounding on the sunk frames off Billingsport in attempting the removal of them; she is to be hove down for repairing that injury in the course of the ensuing winter months with all the expedition the state of the weather will admit.

Whether this repair was carried out I have not been able to discover, because the Log for the period is missing, and the next news of the *Liverpool* is the message intimating her loss.

In a despatch from Lord Howe dated the 16th of March, 1778, he writes: . . . and I have the concern to be informed by letters from Commander Hotham of the total loss of the *Liverpool* upon Long Island the 11th of last month, on Captain Bellew's passage with Sir William Howe's despatches from the Delaware to New York. But the ship's company were safely landed from the wreck. The misfortune being recent, no particulars could be added with respect to the stores that could be preserved.

At my request, the Peabody Museum, Salem, checked the lists of naval prisoners taken at about this time, but none are listed as being from the *Liverpool*, so it would seem that the crew reached New York safely.

The following newspaper paragraphs appeared shortly after the occurrence:—

Philadelphia Packet, of the 4th of March, 1778, reported that on the 11th of February, 1778, "Six of the enemy's vessels were drove ashore on Long Island by the snowstorm". No vessels' names are given, but the list includes a 32-gun frigate, a 30-gun frigate, and two sloops of war.

The London Chronicle of the 27th of April, 1778, No. 13,587 reported "The *Liverpool* Man-of-War of 28 guns is said to be lost off Long Island, but the crew are saved".

And on the 18th of May, 1778, No. 13,606 "Lord Rawdon, son of the Earl of Moira (in Ireland) who lost his leg in action at German-Town, was on board the *Liverpool* man-of-war when lost, together with several other Gentlemen who had taken their passage in her from Philadelphia to New York".

Notwithstanding the paragraph in the Philadelphia paper, a report from Lord Howe dated the 9th of March, 1778, giving the disposition of the ships under his command, shows the composition of the Force in the Delaware River under Commander Hotham to be the same, with the exception of the *Liverpool*, whose loss I have just recorded. The Philadelphia report would seem to be one of exaggerated comfort for home consumption.

I have examined, in the Public Record Office, the actual letter written by Captain Henry Bellew to Commodore Hotham at New York; it is not dated, but a pencilled date by the recipient shows the 12th of February, 1778.

The letter reads as follows:—

Sir,

I have the misfortune of informing you of the loss of the *Liverpool* near Jamaica Bay in very thick weather, and when we were by our reckoning, from a very good observation the day before we were seven leagues to the South^D. of it.

The ship by the heavy sea which set full upon her stern last night is now at low water intirely out of the water, I hardly see a possibility of saving her, her stern frame being very much shook, the rudder gone and which carried away the Transom Timbers. I shall use all my endeavours (to save) what few stores she has remaining. Twas it the Summer Season when small craft could lay to her, should have no doubt of saving the ship likewise. Will you Sir be pleased to give me your Directions, concerning the men, stores etc., and whither you would wish to send any person skilled in this Bay and ground, tho' it appears evident to me an Easterly wind or a S.W. one will speedily put an end to her from which motive I thought proper not to keep my people or self during the night.

I am Sir your most obt svt.

(Signed) Henry Bellew.

I ought to have acquainted you Sir that my orders for delivering the general dispatches and your letters were most urgent, in order as I was informed to return with the mails which were thought of great moment.

This letter was forwarded to the Secretary of the Admiralty by Lord Howe on the 11th of June, 1778.

Returning to the actual loss, there is a factual eye-witness report in the Minutes of the Court Martial which was held on board His Majesty's Ship *Amazon*, off New York on the 1st of May, 1778, under the presidency of Captain Maximilian Jacobs, to enquire into the cause of the loss.

The following is an extract from the evidence given at the Court Martial by Mr. Bushell, the Master. Mr. Bushell, whose watch had been midnight to 4.00 a.m. was ordered by the Captain to stay on deck when relieved, because the First Lieutenant was sick and he (Mr. Bushell) was being relieved by the Master's Mate.

The ship struck at 5.20 a.m. on the morning of the 11th of February, 1778, in thick weather and rain with a strong wind. Our dead reckoning was faulty owing to the set of a strong current which took us on to the land.

The judgment was given in the following words:—

The Court is of opinion that every possible attention on the part of the Captain and the Officers was given during the navigation of the ship from the Delaware and that the loss of the said ship arose from the irregularity of the soundings and a strong northern current which must at that time have prevailed, that after the ship struck every possible endeavour was used by the Captain, Officers and crew to get her off, which proving ineffectual they continued diligent and attentive in securing the stores of the said ship.

The Court are therefore of opinion that the said Captain Henry Bellew, the Officers and crew belonging to His Majesty's Ship *Liverpool* should be acquitted of being any way accessory to the loss of the said ship and are of opinion that they are to be acquitted, and they are hereby acquitted accordingly.

Signed by:—

Maximilian Jacobs, President (Captain R.N.)
(Capt.) Richard Onslow.
(Capt.) Geo. Curry.
Archibald Dickson.
(The Hon.) Geo. Keith Elphinstone.
Sam. Appleby.
Ths. Mackenzie.

Countersigned by the Judge Advocate J. Wm. Tothill.

The final note is an Admiralty Order dated the 29th of October, 1778, which states:—

To dispense with the want of the Officers books and papers to the 1st May, 1778, the day the Court Martial was held.

Liverpool the Second, had passed into history.

The Third Liverpool, 1814 to 1822

Although a further twenty warships were built in Liverpool, the name was not bestowed on any of them, and in fact the town had to wait almost exactly thirty-six years before the launch of another ship bearing the name. This time the scene moves from the Mersey to the Thames, to a point between

Blackwall and Woolwich, where, on the 21st of February, 1814, a 4th rate 50-gun ship of 1,247 tons burthen was launched. She was one of five ships, the others being named the *Glasgow*, *Severn*, *Liffey*, and *Forth*. Instead of oak, the *Liverpool* and the *Glasgow* were built of fir and the other three of pitch pine; this resulted in rather heavier scantlings than was usual.

Originally to have been a 5th rate of 40 guns, the change to 4th rate, 50 guns, is recorded in the Admiralty Progress Books.

Though still classed as a frigate, she was somewhat larger than her two predecessors; being 159 feet 2 inches long on the gun deck, 132.3 feet on the keel, breadth 42 feet and depth 12.3 feet. Her tonnage was 1,247 tons, almost double that of the original *Liverpool* of 1741. Her armament consisted of twenty-eight 24-pdr. guns on the gun deck, sixteen 32-pdr. carronades on the quarter deck and four on the fo'c'sle, together with two 9-pdr. guns. She carried a crew of 340.

Built by Wigram & Co., she was begun in May, 1813, and launched on the 21st of February, 1814, after only 10 months, a much better performance than the first two *Liverpools* built by Okill and Gorell respectively.

Commissioned on the 4th of May, 1814, by Captain Arthur Farquhar (later Admiral Sir Arthur), the *Liverpool* left Woolwich on the 6th of June, 1814, and sailed gently around the coast to Portsmouth arriving there on the 15th of August.

After a few weeks in the Spithead area, she did a five month working up cruise round Land's End, up towards Ireland, visiting Cork Harbour on the 30th of September, the Scilly Isles on the 5th of December and returning to Spithead on the 14th of December.

On the 28th of January, 1815, the *Liverpool* sailed from Plymouth for the Cape of Good Hope station, arriving at Simons Bay on the 11th of May. Here Mr. Robert Gale, Master, was sent sick to Simonstown hospital and returned to England in His Majesty's Ship *Minden*.

The *Liverpool* spent less than a year on the Cape of Good Hope station and returned to this country, paying off at Deptford on the 3rd of April, 1816.

The ship was recommissioned at Deptford on the 27th of February, 1818, by Captain Francis Augustus Collier (later Admiral Sir Francis), for service on the East Indies station. In 1819 she took part in the expedition sent against the headquarters of the Persian Gulf pirates at Ras-al-Khyma. The operation lasted the best part of a month and resulted in the capture and destruction of the fortifications and all the pirate vessels in the port. The *Liverpool*, besides bombarding the forts, landed two twenty-four pounders for service on shore. Apart from three wounded there were no other casualties in the ship's company. The ship continued on service on the East Indies station until paid off at Bombay in January, 1822.

I would like to give some extracts from the Log covering this last commission of four years.

Friday, 27th February, 1818. Captain Francis Augustus Collier, C.B., came on board and commissioned the ship.

After fitting out and taking on stores etc., progress was as follows:—

Sailed Wednesday, 3rd June, 1818, to Spithead.

Sailed from Spithead, 19th July for East Indies, and almost five months later arrived Trincomalee 12th December, 1818.

Entry for 23rd November, 1819.

3.20 Departed this life Hy. Sword R.M.

5.40 Committed the body of the deceased to the deep.

Arrived off Ras-al-Khyma 26th November, 1819. (This was the headquarters of the Persian Gulf Pirates.)

28th November.

Ships boats attack the enemy, returned with three wounded.

6th December.

Commenced firing at the town.

Two guns had been placed in battery ashore with other guns, and to quote a report, "which was commanded by the indefatigable and gallant First Lieutenant of the *Liverpool*."

20th December.

Sent two more 24-pdr. guns ashore.

Guns re-embarked, 23rd December.

The Imaum of Muscat was evidently present during these operations as there are a number of references to salutes of 13 guns for him.

The *Liverpool* sailed from Ras-al-Khyma on the 17th of January, 1820.

A contemporary report states:—

The *Liverpool* with Sir W. Grant Keir quitted the Persian Gulf destined for Bombay on the 24th March, 1820.

From the Log we note she was at Trincomalee on the 1st of May, 1820.

Leaving Bombay shortly afterwards, she visited China and returned to the Persian Gulf, in August, 1821. It was a period of very great heat and in the space of a few days a number of officers and men died.

The Mate of the *Liverpool* at the time was a Mr. Wheatley, who later became Captain Wheatley, and in a letter to Charles Lowe, who wrote a history of the Indian Navy published in 1877, Captain Wheatley describes the loss of the men in the following terms:—

The 3rd Lieutenant having died late in the day after having had the forenoon watch, orders were left for the officer of the morning watch to bury him as soon as he could see to read. A little before 8.00 a.m., this officer, Lieutenant G. Bell, called me over, I was mate of the watch, and asked me why the cook had not brought the dinner aft, I answered that it was not 8.00 a.m., he replied that it was so hot that he thought it was nearer noon. In about 10 minutes time he called me over again and repeated this question, seeing that he was not well I prevailed upon him to go below. . . . He died in about an hour, as did the 1st Lieut., who had been unwell since the ship left China in the early part of the year. . . .

A day or two after we lost the Surgeon, Assistant Surgeon and 5 men, one of these fell overboard, having apparently been overcome by the heat.

The days of the ship also were numbered and in the *Bombay Courier* of the 19th of January, 1822, is a small paragraph:—

H.M.S. *Liverpool*—Captain F. Collier, left Cochin on 8th January, 1822, arrived at Bombay on 18th January, 1822.

The final entry in the Master's Log reads as follows:—

Friday, 18th January, 1822.

1 p.m. Light breeze and fine, got a Pilot standing into Bombay Harbour. At 3 p.m. shortened sail and came to with small bower chain. Fired a salute of 13 guns. Furled sails. Found lying here H.M. Ships *Ganges* and three cruisers with several merchant ships.

Signed: Wm. Gowdy, Master.

On the 16th of April, 1822, she was sold out of the service at Bombay for £3,780.

“Fired a salute of 13 guns. Furled sails.”

Thus ended the naval service of the third *Liverpool*.

Another Liverpool

Before dealing with the next ship in the original series, I want to tell you of an interesting ship, not included in my ten but which I discovered quite by accident. I had been making some enquiries at the office of the High Commissioner for India about the fate of the third *Liverpool*, and the Naval adviser to the Commissioner mentioned this particular ship about which I shall tell you. She appears in the Navy List for the first time in July, 1836 and an Admiralty Order dated the 9th of March, 1836 reads:—

Imaum—presented to the King by the Imaum of Muscat to be registered on the list of the Navy as a third rate (called *Liverpool* from India).

Because she was a warship and had at one stage in her career been called the *Liverpool* I felt that I ought to include her. She was evidently named after the Earl of Liverpool, and not after the third *Liverpool*, recently broken up in Bombay.

Built of teak by the East India Company at Bombay in 1826 as the *Liverpool* (74 guns), she was presented to William IV by the Imaum of Muscat in 1836 and arrived at Portsmouth in March of that year, when she was re-named the *Imaum* as a compliment to the donor.

The principal dimensions of this *Liverpool* were as follows:—

Length of Gun deck	177 feet.
Length of Keel for Tonnage.....	145 feet 5½ inches.
Extreme Breadth	48 feet 4 inches.
Depth in Hold	21 feet.

Her establishment of guns was at first to be 74, but later was reduced to 37.

Extract from the Times for the 17th of March, 1836.

THE IMAUM OF MUSCAT

The magnificent present made by this Indian Prince to our Sovereign of a ship-of-war, carrying 74 guns, is a circumstance too remarkable not to make all the details relating to it acceptable to the public. This vessel which is to be called the *Imaum* at the King's express desire, was in the first instance named the *Liverpool*, and, according to the description of nautical men, is one of the most splendid sea boats ever constructed. Her burden is 1,852 tons and she was built at Bombay in 1826 by the East India Company's builders, of the best teak, and in all respects on a similar scale as the same class of

vessels in the Royal Navy. She was brought to England with her entire masts and yards by Captain Cogan, six officers, 35 European seamen and 180 lascars. The report of these officers states that she sails remarkably well and possesses every good quality that can be expected of a ship of that class.

His Majesty has expressed himself most gratified by this present. It appears that she entered Portsmouth harbour on the 5th inst., when the moment she anchored, the *Britannia* saluted the Imaum's flag with 21 guns, which the *Liverpool* immediately returned, and at 8 o'clock on Sunday morning the British ensign was hoisted on board the *Liverpool* and the ship delivered over by Captain Cogan to Sir F. Maitland, and by His Majestys Command (in compliment to his Highness of Muscat) she was named the *Imaum*. It may be a circumstance worthy of notice that the *Liverpool* is the first ship-of-war belonging to an Indian Prince that ever rounded the Cape of Good Hope; and it is an event that may be regarded as opening the door to an extensive commercial intercourse with his Highness's dominions in Arabia, Africa and Persia, which, strange to say, is little known or appreciated in this country, but of which the Americans are not ignorant.

Another contemporary report states:

A ship of the line called the *Liverpool*, a present from the Imaum of Muscat to His Majesty, arrived at Spithead on Tuesday from the Cape of Good Hope. She hoisted a red flag and saluted the Port Admiral who returned an equal number of guns on Wednesday morning. The ship is of teak, nearly similar to the *Melville*, although some say built on the lines of the *Ganges* and the *Asia*. She is in charge of Capt. R. Cogan, Indian Marine, and manned with about 30 Europeans and 120 lascars. She has some specimens of natural history on board, a carriage and horses as presents, and about 500 tons of timber. The guns of the old *Liverpool* frigate are in her; she is waiting orders at Spithead.

A later note from the same source says: On the 5th March the *Liverpool* was brought into harbour by a party of officers and men from the *Britannia* and the *Excellent*. Royal salutes were again fired and on that evening she hauled down the Imaum's red flag and substituted a blue ensign. The horses, buffaloes etc., have been landed. The ship is overrun with vermin and ought to be smoked. We hear she is to be registered in the Navy by the name of the *Imaum*. They are warping her alongside the dockyard for the purpose of landing the timber. The lascars have taken up their quarters at the Old Custom House until arrangements are made for their return to India.

Despite all the interest on her arrival the *Liverpool*, now *Imaum*, remained out of commission at Portsmouth for more than six years.

In July, 1842, she became a Receiving Ship at Jamaica, flying the broad pennant of the Commodore-in-Charge at Jamaica, the Hon. H. D. Byng, her captain at that time being Commander John Paget. She remained on the Jamaica Station until May 1862 when she was put out of commission and listed for taking to pieces. She was finally broken up at Jamaica in 1864.

More Naval Liverpools

We now come to four vessels each of which raises a doubt as to whether she should be included in this record. Two only appear in the appropriate

Navy List, and one although listed, was never completed. Three were H.M. Revenue cruisers and did not merit the prefix H.M.S.

For the sake of completeness, however, such information as I have, is given here in chronological order.

The fourth *Liverpool* was to be a fourth rate wooden ship of 52 guns. She was ordered to be built at the Royal Dockyard, Devonport, on the 7th of January, 1826, and she is shown in the Navy List for 1828. There does not appear to be any actual record of the ship ever having been completed, and the contract was cancelled in 1829.

The fifth, sixth and seventh were Revenue cruisers. These vessels varied in size from about 140 tons down to 28. Although the classification varied from time to time, they were classified somewhat as follows:

- 1st class 140 tons upwards.
- 2nd class 100-140 tons.
- 3rd class 100 tons down the scale, to
- 4th, 5th and 6th class at 28 tons.

In my search at H.M. Customs Library in London, I could only trace two and the other, the sixth in my list, must remain unverified for the present, although the late Commander J. A. Rupert-Jones R.N.R., included it, quite possibly for a very good reason, in his valuable list of British warships.

The fifth *Liverpool*, then, was built at Cowes by Thos. White & Son for United Kingdom customs duties and was launched on the 1st of July, 1830.

She was of 28 tons, rated 6th class and carried a crew of 7. In 1832 she was re-christened the *Speedwell* on completion of a new vessel to be named the *Liverpool* (the seventh in my list). As the *Speedwell* she served for 17 years, first as a Revenue cruiser, then as tender to the *Victoria* and later to the *Hamilton*, being stationed at Rottingdean. She was paid off in 1849 on instructions contained in a Treasury letter dated the 24th of May, 1849.

The sixth *Liverpool* I have down as a Revenue cruiser built at Cowes in 1832 of 36 tons. She is open to doubt, as she does not appear in a list of these vessels supplied by White's of Cowes to H.M. Customs & Excise some years ago, when the Librarian was writing a brief history of the Revenue cruisers. It seems probable that this vessel has been confused with the next one, and that there were only two Revenue cruisers, not three.

The seventh *Liverpool* was also built by Thos. White & Son at Cowes for United Kingdom customs duties, being launched on the 10th of August, 1832. She was of 39 tons, rated 6th class at first, but changed to 4th class in 1849.

Being slightly larger, she had a mate in charge with 6 men and 3 boys under him. She appears in the Navy List under H.M. Revenue Vessels for a number of years, disappearing in 1849.

From 1836-1844 she was stationed at Belfast as a tender to the *Kite*. She was paid off as a Revenue cruiser on the 24th of May, 1849, and became quarantine vessel at Motherbank.

On the 9th of June, 1843, the mate was William McGilveny and on the 13th of March, 1846, Archibald McAllister.

In the 1839 list of vessels, both the *Liverpool* and *Speedwell* are shewn as tenders to larger Revenue cruisers.

In one of the typescript books at the Customs Library is a pencilled note dated 1921 by Mr. F. S. Parry, Deputy Chairman of H.M. Customs and Excise at that time, who was responsible for much research on these vessels. The note is as follows:—

I don't think the Revenue Cutters ever had the right to be called H.M.S., (except possibly between 1816-1822 when the Admiralty took them over), until 1856, when they were transferred to the Navy.

The Fourth Liverpool, 1860 to 1875

There is no doubt about the final three ships, each of which has carried the name *Liverpool* around the world. All three earned fame for one exploit or another, both in peace and in war, and as is to be expected, the information available is far more complete, than is the case with the earlier vessels.

The fourth true *Liverpool* (excluding the vessels just mentioned) was a 4th rate screw frigate of 2,656 tons with engines of 600 h.p. supplied by Humphreys & Tennant, who also supplied her boilers. She had one funnel which could be lowered when under sail. She carried 28 guns and a crew of some 540 men made up as follows:—

Officers	44
P.O.'s and Seamen	376
Boys 1st & 2nd Class	55
Marines	68

One of five sisters, the others being the *Shannon*, *Liffey*, *Topaze*, and *Bacchante*, she was laid down on the 14th of November, 1859 at Devonport Dockyard and launched on the 30th of October, 1860. In December 1860 the hull bottom was coppered and the machinery fixed. William P. Hains was appointed Master on the 17th of October, 1862, and she was commissioned on the 30th of April, 1863, by Captain Rowley Lambert for service in the Channel Squadron.

With her sister ships they were described as the finest ships in the Royal Navy, but as we shall see, the days of the wooden ship were fast disappearing.

As a unit of the Channel Squadron she visited Liverpool on the 14th of September, 1863, in company with the two wooden ships *Edgar*, 71 guns, and *Emerald*, 35 guns. Also included were the first ironclads in the Royal Navy, the famous *Warrior*, and her sister the *Black Prince*, together with the *Royal Oak*, *Defence*, *Resistance*, and the *Trinculo*.

The Captain of H.M.S. *Edgar* was G. T. Phipps Hornby who, as a rear-admiral some six years later, used H.M.S. *Liverpool* as his Flag Ship.

The crews of these ships totalled 4,330 officers and men, all of whom were well and truly fêted and entertained whilst in the Mersey.

Altogether, the *Liverpool* stayed a month in the Mersey, leaving on the 18th of October and after calling at Plymouth she left there on the 16th of November for the North America and West Indies station, arriving at Bermuda on the 20th of December, 1863.

On the 7th of June, 1864, when off Monte Christo, in San Domingo, she struck three times on a reef of rocks which was not laid down in any of the Admiralty charts. She was proceeding at nine knots at the time, and when examined by a diver on her return to Port Royal, it was found that she had carried away nearly all her false keel and a portion of her main keel. Through-

out her stay on the station, the American Civil War was in progress. It is interesting to recall that an earlier *Liverpool*—the second, was on the American station during the War of American Independence. On the 11th of October, 1864, the *Liverpool* was relieved by H.M.S. *Phaeton*, and after going to Halifax she returned to England, arriving at Plymouth on the 22nd of November, in a very leaky condition in consequence of having strained herself on the voyage.

On the 13th of February the *Liverpool* came out of dock after repairs to her hull and on the 7th of March, 1865, she proceeded out of harbour and joined the Channel Squadron at Spithead on the 12th of March.

On the 14th of August, 1865, whilst proceeding with the rest of the Channel Squadron to Cherbourg, she collided with H.M.S. *Octavia*. Her upper works were slightly damaged and she was obliged to return to Spithead for repairs. During October and November, 1865, she was stationed at Queenstown, in view of the Fenian disturbances in Ireland. On the 21st of March, 1866, Captain John Seccombe is shewn as in command.

On the 3rd of May, 1866, she ran into and damaged H.M.S. *Minstrel*, in Portsmouth Harbour. During the latter part of 1866 and the first half of 1867 she was again stationed with other units of the Channel Fleet in Irish waters. On the 8th of June, 1867, she returned to Plymouth. After taking part in the great Naval Review which was held at Spithead on the 17th of July in honour of the Sultan of Turkey and the Viceroy of Egypt, she escorted the latter across the Channel and then returned to Plymouth where she was paid off on the 10th of August, 1867.

On the 8th of May, 1869, she was recommissioned by Captain John O. Hopkins as the flagship of Rear-Admiral G. T. Phipps Hornby, commanding a detached squadron which was to sail round the world, having for its object the display of the British Flag in the distant parts of the globe, and to give instruction in seamanship to officers and men. The squadron, known as the Flying Squadron, consisting of H.M. Ships *Liverpool*, *Liffey*, *Bristol*, *Endymion*, *Scylla* and *Barrosa*, sailed from Plymouth on the 19th of June, 1869. They touched at Madeira on the 1st of July and arrived at Bahia Blanca on the 2nd of August. Here H.M.S. *Bristol* parted company and returned to England. At Rio de Janeiro which was reached on the 16th of August, they were visited by the Emperor who lunched in H.M.S. *Liverpool*. After calling at Monte Video the Squadron sailed for the Cape, arriving at Simons Bay on the 3rd of October. The voyage thence to Australia was one of gales and fog. Melbourne was reached on the 26th of November, and here and also at Sydney, the ships were received with great hospitality. After visiting New Zealand where they touched at Wellington, Lyttleton, and Auckland, the Squadron sailed on the 9th of February, 1870, for Yokohama where they stayed for a fortnight and were visited by the Mikado. From Japan the Squadron proceeded to Esquimaux, Vancouver and thence via Honolulu where they remained a week, to Valparaiso which was reached on the 14th of August. After a refit the Squadron left Valparaiso on the 28th of August, and proceeded via Bahia Blanca to England, arriving at Plymouth on the 15th of November, 1870.

Circumnavigating the globe, the Squadron sailed over 53,000 miles of ocean in 381 sea days, out of a total of 514 days since leaving England.

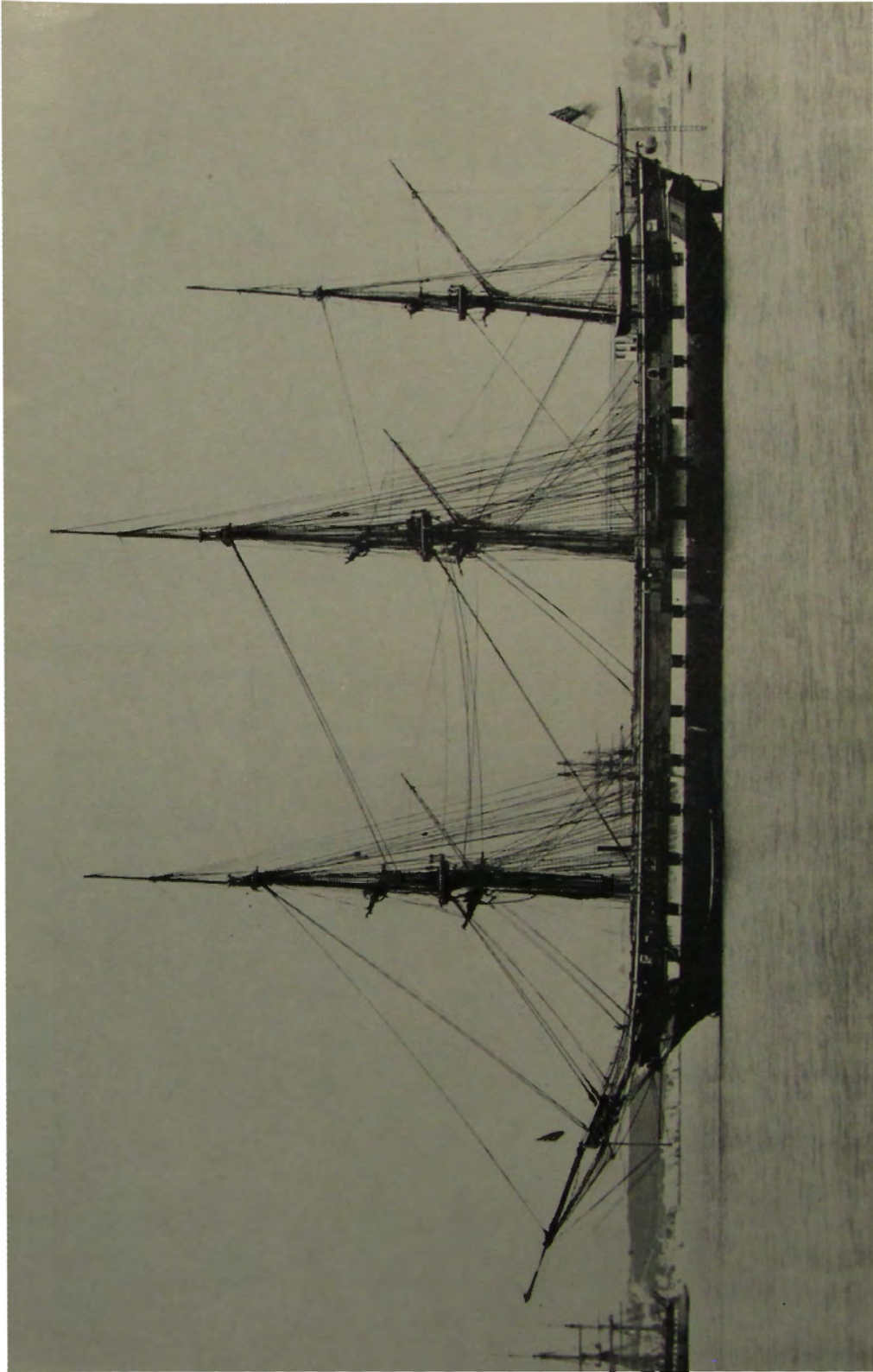


Photo courtesy

H.M.S. *Liverpool* of 1860, a 4th rate wooden screw frigate

Imperial War Museum

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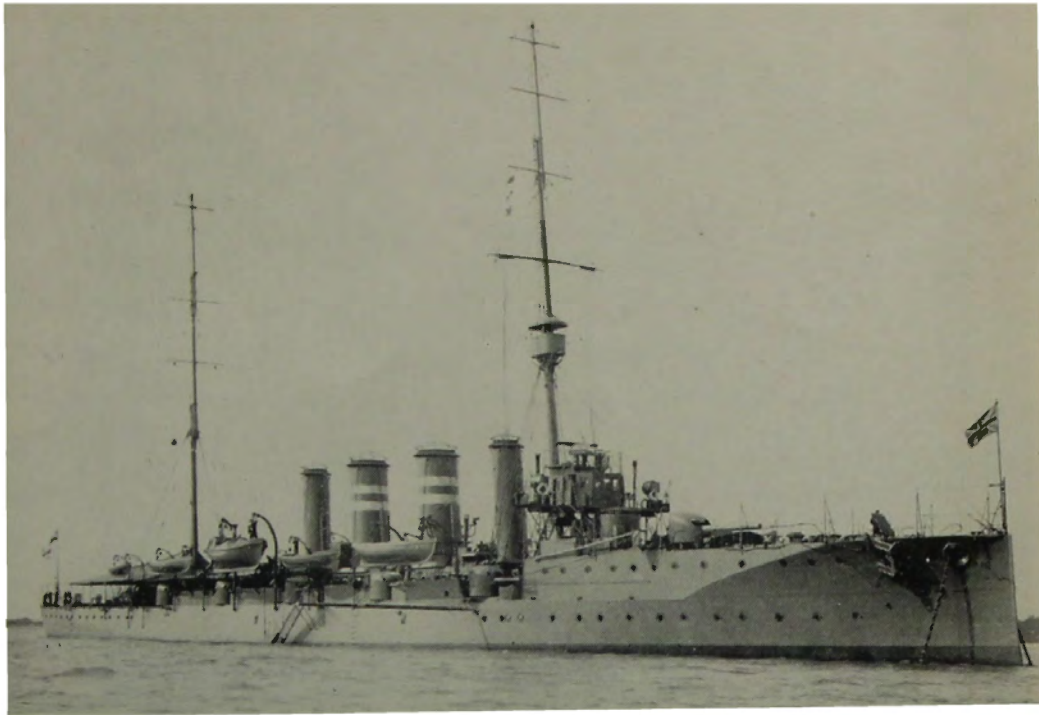
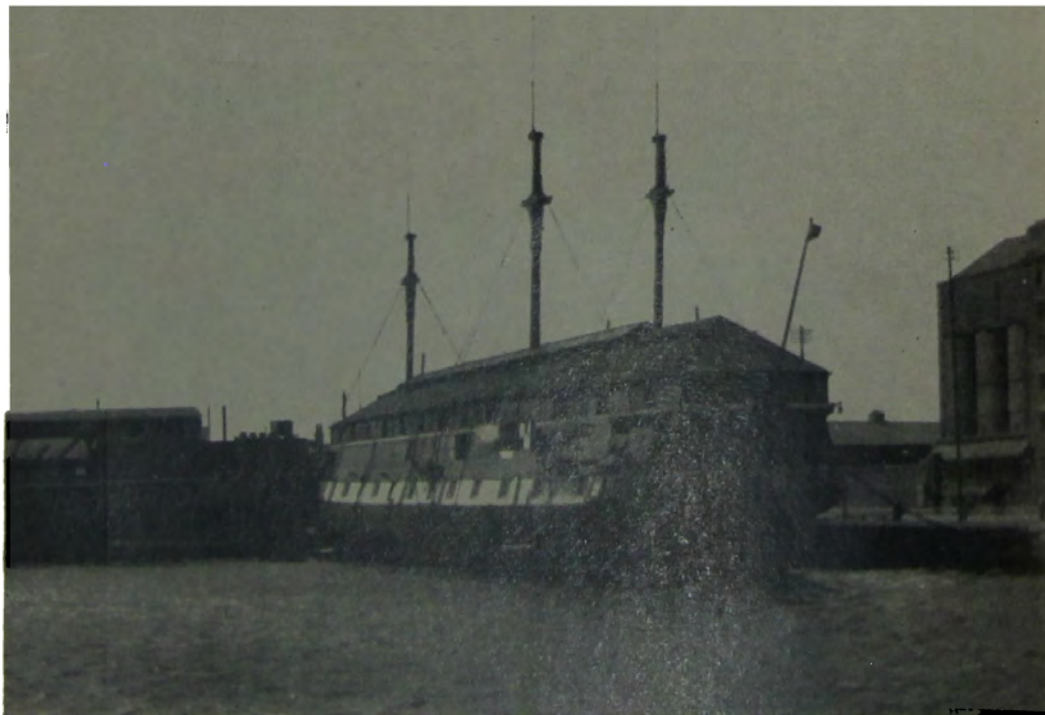


Photo courtesy

Oscar Parkes Society

Fifth in the line of *Liverpool's* was this cruiser built in 1909 at Barrow



H.M.S. *Eagle* in King's Dock, Liverpool during the 1890's (see page 60)

H.M.S. *Liverpool* was paid off into the 4th Division of Reserve at Devonport on the 2nd of December, 1870. In 1872 she was declared obsolete and it was ordered that no repairs were to be carried out on her. She was sold to Messrs. Castle & Son for breaking up on the 26th of June, 1875.

The Fifth Liverpool, 1909 to 1921

From 1875, during the transition from sail to steam and iron to steel, the name *Liverpool* did not figure in the Navy at all. In fact, nearly thirty-three years went by before the name was again selected, this time for what was at first known as a "Bristol Class" Cruiser.

The 1908 Estimates included five Light Cruisers, the *Bristol*, *Glasgow*, *Gloucester*, *Liverpool* and *Newcastle*. The 1909 Estimates included a further four: the *Weymouth*, *Yarmouth*, *Falmouth* and *Dartmouth*; the 1910 Estimates three more: the *Southampton*, *Dublin* and *Chatham*, and the 1911 Estimates a final three: the *Birmingham*, *Lowestoft* and *Nottingham*.

These, collectively, became known as the "Town Class", (in some quarters the "City Class"), and were generally very similar in size and appearance, with four funnels, the centre two being slightly wider, and two tall masts.

The funnels of the first five, including the *Liverpool*, were all lengthened after trials. As originators of the Class, they were much more lightly armed, having only two 6-inch guns and ten 4-inch, as against the remainder of the class which mounted eight 6-inch. As a result, the displacement of H.M.S. *Liverpool* was only 4,800 tons, but that of the heavier gunned ships 5,250-5,400 tons.

Originally, the fifth true *Liverpool* was described as a 2nd class protected cruiser. She was laid down on the 17th of February, 1909, at Vickers Sons and Maxim's Yard at Barrow, Yard No. 389, and launched on the 30th of October, 1909, the naming ceremony being performed by the Countess of Liverpool. Her engines of 22,000 designed horse power developed 24,600 on trials, giving a speed of 26.09 knots. She was commissioned on the 8th of September, 1910, by Captain Charles H. Morgan for service in the Home Fleet, and attached to the 1st Battle Squadron.

The *Liverpool* took part in the Coronation Review of June, 1911, and was present at the official visit of both Houses of Parliament to the Fleet at Spithead on the 9th of July, 1912, in which year she paid her first visit to Liverpool. On the 9th of July, 1913, Captain Edward Reeves was appointed in command.

On the occasion of the opening of the Gladstone Graving Dock by H.M. King George V in July, 1913, H.M.S. *Liverpool* in company with H.M.S. *Lancaster*, headed a long line of merchant ships anchored in the river in honour of the Royal visit.

When Admiral Jellicoe took over command of the Grand Fleet on the 4th of August, 1914, H.M.S. *Liverpool* formed part of the Second Fleet under the command of Vice-Admiral Sir Cecil Burney, K.C.B., K.C.M.G.

This Fleet was composed of sixteen battleships, seven cruisers, including the *Liverpool*, seven minelayers, together with attendant destroyers and other craft.

The two cruiser squadrons were broken up immediately and the *Liverpool* was attached to the First Light Cruiser Squadron, which was attendant on the First Battle Cruiser Squadron under Sir David Beatty, K.C.B. You will

remember, no doubt, the names of this famous squadron: the *Lion* (flagship), *Princess Royal*, *Queen Mary* and *New Zealand*.

The light cruisers were: the *Southampton*, *Birmingham*, *Lowestoft*, *Nottingham*, *Falmouth* and *Liverpool*, all under the command of Commodore W. S. Goodenough in the *Southampton*. The *Liverpool* was at Rosyth when ordered to sea to rendezvous with the other units of the Grand Fleet on the 4th of August, 1914, Admiral Jellicoe having received instructions to put to sea immediately on his appointment. Six days later the *Liverpool* was at Scapa with the *Iron Duke* which had returned to base. From the 12th to the 14th of August, the *Liverpool* with the *Bellona* patrolled to the South-East of the Pentland Firth, accompanied by a destroyer screen, so as to guard against any attack on the units of the Grand Fleet which were then coaling. The two light cruisers were relieved by the *Albemarle* on the evening of the 13th of August, so that they also could refuel.

Thereafter, the *Liverpool* rejoined the First Light Cruiser Squadron which arrived at the scene of the Heligoland Bight action on the 28th of August, and was in time to assist in sinking the German light cruiser *Mainz* and in rescuing some of her crew. The *Liverpool* was the oldest cruiser to take part in this battle, in which two other German light cruisers were attacked and sunk, the *Köln* and the *Ariadne*. Damage to our forces, including the *Liverpool* was only slight.

Commander Stephen King Hall, in his naval autobiography, gives an eye witness account of the sinking of the *Mainz* when he was in H.M.S. *Southampton*.

She was a mass of yellow flame and smoke . . . her two after funnels melted away and collapsed. Red glows, indicating internal fires, showed through gaping wounds in her sides . . . in ten minutes she was silenced and lay a smoking battered wreck, her anchor flush with the water. Ant-like figures could be seen jumping into the water as we approached. The sun dispersed the mist, and we steamed slowly to within 300 yards of her, flying as we did so the signal "Do you surrender?" in International Code. As we stopped, the mainmast slowly leant forward, and like a falling great tree gradually lay down along the deck. As the mast reached the deck a man got out of the main-top and walked aft—it was Lieutenant von Tirpitz, son of the admiral—As we watched a flag fluttered down from the foretop masthead; it had been lowered by the boatswain . . . The hundred or so survivors in the water were wearing lifebelts and raising their hands shouted for help. . . . There was a sudden outbreak of firing to the north . . . the *Liverpool* was detailed to rescue survivors as we got under way for the new action.

Lieutenant von Tirpitz, who with other German officers and men, was taken on board the *Liverpool*, speaks warmly of the courteous treatment which the captives received. The following is an extract from a report he made:—

They offered us clothes while our own were drying in the Engine Room. We were given port wine and allowed to use the wardroom, only the sentries before the door reminded us we were prisoners. Shortly after I came on board the Captain sent for me and read me a wireless signal from his Admiral, "I am proud to be able to welcome such gallant officers on board my squadron", I repeated this message to my comrades, it

cheered us up, for it showed that *Mainz* had made an honourable end.

On the 29th of August, the *Liverpool* was detached to proceed to Rosyth to land the German prisoners captured the previous day.

Numerous patrols in the North Sea as far as Norway, filled the next few weeks. On the 10th of October, 1914, the *Liverpool* was sent, with half a flotilla, to the Norwegian coast to ascertain whether the Germans had any submarine bases in the vicinity. Following a submarine scare at Scapa, the Grand Fleet moved to Lough Swilly, Northern Ireland, and Loch-na-Keal, Island of Mull, on the 22nd of October.

On the 26th of October, the second Battle Squadron, which included the new battleship *Audacious*, left Loch-na-Keal for target practice; the necessary targets, in tow of two tugs and escorted by the *Liverpool*, left Lough Swilly at the same time. At 9.00 a.m. on the 27th of October, the *Audacious* struck a mine. All types of small craft were sent to assist the *Audacious* and the *Liverpool* was directed to stand by her, but to keep moving at high speed.

Attempts to tow the *Audacious* both by the liner *Olympic* and the collier *Thornhill* had to be abandoned by 7.15 p.m., and the *Liverpool* continued on her station. At 9.00 p.m. the *Audacious* blew up and sank. A great deal of debris fell on the deck of the *Liverpool*, killing one petty officer. This was the only casualty due to the loss of the *Audacious*, all her crew having previously been taken off.

On the 22nd of November, 1914, the *Liverpool*, now part of the Second Cruiser Squadron, left Harwich to support an aerial operation off Heligoland. Nothing happened however, the enemy was not to be drawn, and on the 24th the squadron turned to the northward. Just after 12.35 p.m., an aeroplane dropped five bombs near to the *Liverpool* without causing any damage. At the end of November, 1914, the *Liverpool*, again attached to the First Light Cruiser Squadron, underwent a short refit, but on the 12th of December, serious defects in the boilers became apparent and speed had to be reduced from 25 to 17 knots. The defect was not confined to the *Liverpool*, however, and it meant that one or other of the squadron had to be paid off for the purpose of repairs.

In January, 1915, the light cruiser squadrons were again sweeping into the North Sea from Rosyth, but the *Liverpool* was absent, on refit, and thus missed the Dogger Bank action.

A reorganisation during February, 1915, resulted in the formation of the Third Light Cruiser Squadron with the *Falmouth* (flagship), *Yarmouth*, *Gloucester* and *Liverpool*.

At the end of February, 1915, the *Liverpool* was detached from the Grand Fleet to sweep down the African coast in search of the German armed merchant cruiser *Kronprinz Wilhelm*.

On the 26th of June, 1915, the *Liverpool* had again to go in for repairs to her boilers. In September, 1915, the captain was Captain Gerald W. Vivian, and she recommissioned in October, being based at Scapa, where in company with the *Birkenhead* she did searches and sweeps in the Northern portion of the North Sea.

In November, 1915, the *Liverpool* was attached to the Seventh Cruiser Squadron and proceeded to the Mediterranean, joining the Fleet in the Adriatic, where she remained until the end of the war.

On one occasion, whilst working with the Italian Navy, based on Brindisi, she was fired on by an Italian destroyer in error. Fortunately, no damage or casualties occurred. Captain George W. Tomlin, M.V.O. was in command in September 1917. On the 26th of October, 1918, the *Liverpool* brought to Mudros the accredited Turkish envoys sent to negotiate armistice conditions.

On the 12th of November, 1918, she passed through the Dardanelles to the Black Sea where she served during the winter of 1918-19. She returned to Devonport in June, 1919, being placed in reserve. She was placed on the sale list in December, 1920. The cruiser was bought by the Stanlee Ship Breaking Co., of Dover, but they were apparently unable to cope with all the ships they bought, and she was resold to the Slough Trading Co., on the 8th of November, 1921, being towed to Wilhemshaven in January, 1922.

The enemy which failed to sink her, at the last became her master and proceeded to break up the fifth *Liverpool*.

The Sixth Liverpool, 1937 to 1952.

The sixth and present true *Liverpool*, built as part of the 1935 programme, is a *Southampton* class cruiser and by a strange coincidence she was laid down, not only in the same month as her immediate predecessor, but, if the records are correct, on precisely the same day of the month, the 17th of February in the year 1936, exactly twenty-seven years later.

Built by Fairfield at Govan, Glasgow, she was launched on the 24th of March, 1937, by Mrs. Montague C. Norman, to whom was given a rope of fine jade beads in a silver casket as a memento of the ceremony.

The vessel was completed on the 25th of October, 1938, and handed over on the 2nd of November.

Almost 600 feet long, she has a standard displacement of 9,400 tons, and a designed 82,500 horse power through four shafts, giving her a speed of more than 33 knots.

Fitted with twelve 6-inch guns, in triple mountings, she was built to carry eight 4-inch A.A. guns, twenty-four 2-pounder pom poms, four 2-pounder guns, twelve 20-mm. Oerlikons, in twin power mountings and seven 20-mm. single-mounted Oerlikons; she also carries six 21-inch torpedo tubes in triple mountings and depth charge armament.

The *Liverpool* was one of eight sisters, the others being the *Southampton*, *Newcastle*, *Sheffield*, *Birmingham*, *Glasgow*, *Gloucester* and *Manchester*.

Commissioned on the 2nd of November, 1938, by Captain A. D. Read, she completed to her full complement of 765 officers and men on the 8th of November.

General Sir Charles Harrington, G.C.B., C.B.E., D.S.O., D.C.L., Colonel of the King's Liverpool Regiment, visited the ship at this time and established a link between the Regiment and the ship which has been renewed on many subsequent occasions. He granted permission to the ship to use the Regimental March.

Before taking up her commission on the East Indies Station. H.M.S. *Liverpool* paid a visit to the Port and City of Liverpool, and on the 7th of January, 1939 was presented by the Corporation with three pairs of silver candlesticks, a silver cup and two bugles, all suitably inscribed.

The ship, which was berthed in Gladstone Dock, already had the silver bell and silver plate presented to her predecessor H.M.S. *Liverpool* in 1912. These had passed into the custody of H.M.S. *Rodney*, the Mersey-built battleship, after the sale of the cruiser in 1921, and were later transferred from the *Rodney* to the present H.M.S. *Liverpool*.

A silk White Ensign and a Union Flag, the gift of the Liverpool Women's Service Bureau, were also presented to the new ship.

The following is condensed from a number of Press reports:—

Captain A. D. Read paid a visit to the Town Hall, where he was received by the Lord Mayor, Sir Sidney Jones, who afterwards went aboard the ship for the presentations of the gifts, which took place on the quarterdeck. Among those present were Lady Sefton, the Town Clerk, Mr. W. H. Baines, and the Vice-Chancellor of Liverpool University, Dr. McNair.

"It was a great privilege", the Lord Mayor said, "for a city like Liverpool, with its long and historic connection with the sea, to be associated with so distinguished a cruiser. Liverpool was proud the ship bore the city's name". He added: "As you go out on your great mission of peace throughout the world, of keeping order on the ocean, and enabling all to travel on it without fear or favour, we hope you will not be unmindful of the association between your great Service and that of the merchant seamen of England and of Liverpool in particular".

Lady Sefton presented the Ensign and Union Flag.

Captain Read, in returning thanks for the gifts, said: "For some reason the Lords Commissioners of the Admiralty had decided that H.M.S. *Liverpool* should not be built on the Mersey but in Scotland. They then decided that the *Liverpool* should be stationed about 7,000 miles from the city after which she was named. After a little pressure they had allowed the ship to spend three days at Liverpool. Here is a ship which is absolutely up-to-date, and a long way ahead of any ship that was employed on the same duty in the last war. Anything in the next war that corresponded to the *Emden* would not last long".

H.M.S. *Liverpool* sailed on the 10th of January, 1939, for Gibraltar and Malta. A summer cruise took her through the Suez Canal to Aden and Colombo for a tour of the East Indies Station.

With the imminence of war her complement was increased from 765 to 945.

The outbreak of war sent her steaming to the protection of British shipping in the Indian Ocean as part of the 4th Cruiser Squadron. In mid-November, 1939, the *Liverpool* left Colombo for Singapore and sailed to Hong Kong a month later, wearing the flag of the Commander-in-Chief, China, Admiral Sir Percy Noble, so soon to be called to organise the Headquarters of Western Approaches in Liverpool itself. Patrols were carried out off Japan, before the cruiser was docked in Hong Kong for repairs.

Whilst on patrol on the 21st of January, 1940, she intercepted the Japanese liner *Asama Maru*, 35 miles from the coast of Japan, and removed 21 German officers and men, survivors of the German s.s. *Columbus*.

In April, 1940, the *Liverpool* left for Singapore and proceeded to Colombo where she was ordered to continue to Aden, to become Flagship of the Red Sea Force, under Rear-Admiral A. J. L. Murray.

She was transferred to the Mediterranean Command on the 20th of May and became part of the 7th Cruiser Squadron based at Alexandria, temporarily wearing the broad pendant of the Commodore Commanding. On the 12th of June the *Liverpool* and *Gloucester* engaged small craft off Tobruk, and the Italians next day admitted the loss of a minesweeper. Later that month, on the 28th, the 7th Cruiser Squadron (the *Orion*, *Neptune*, *Sydney*, *Gloucester* and *Liverpool*) sighted 3 Italian destroyers south-west of Cape Matapan, Greece. An action ensued at long range, the enemy destroyer *Espero* being sunk. Thereafter, she helped escort reinforcements from Alexandria to Malta.

In October, 1940, the *Liverpool* was part of the covering force, supporting a Fleet Air Arm attack on Leros, and on the 14th of October whilst returning from this operation, she was attacked by Italian aircraft, being hit by a torpedo and sustaining severe damage to her bow. The bow broke off up to "A" turret, and some casualties were caused, but the ship was taken in tow by the cruiser *Orion* and safely brought to Alexandria on the 16th.

Temporary repairs, occupying some months, were carried out at Alexandria, and in May, 1941, the *Liverpool* sailed to Singapore to proceed by way of Manila to San Francisco, where she was taken in hand in mid-June for repairs at Mare Island, California. This work was completed at the end of October, and she sailed down the West Coast through the Panama Canal to Bermuda and returned to the Clyde on the 5th of December, 1941.

In March, 1942, the *Liverpool* joined the 18th Cruiser Squadron of the Home Fleet and two months later on the 25th of May, 1942, was steaming north in convoy with the *Nigeria*, *Norfolk*, *Kent* and three destroyers, under Rear-Admiral H. M. Burrough, as escort to convoy P.Q.16. This convoy, consisting of thirty-five ships sailing from Iceland to Russia, reached the Kola Inlet on the 30th of May, 1942, after a very eventful passage.

Immediately this duty was completed, the *Liverpool* sailed South to take part in Operation "Harpoon", which was a determined attempt to revictual Malta from the West, in June, 1942.

The main escort comprised the *Malaya*, *Eagle*, *Argus*, *Kenya* (Vice-Admiral A. T. B. Curteis), *Liverpool*, *Charybdis*, and eight destroyers, which sailed from Britain on the 5th of June and was to escort the convoy as far as the "Narrows" between Sicily and Tunisia. A smaller escort would then take over for the run to Malta.

The convoy consisted of six ships with a combined capacity of forty-three thousand tons; they were the *Troilus*, *Burdwan* and *Orari* (British), *Tanimbar* (Dutch), *Chant* and *Kentucky* (American).

By the 12th of June the convoy was well inside the Mediterranean, and when about 70 miles north east of Philippeville, the first air attack by Italian aircraft commenced at 10.30 a.m. on the 14th of June.

It appears that the *Liverpool* was singled out for special attack by the enemy and she was hit almost at once in the after engine room, several compartments being flooded. The Dutch *Tanimbar* was also sunk in this first onslaught.

The *Liverpool* was taken in tow by the destroyer *Antelope*. Down by the stern, listing badly, she was subjected to continuous attack for nearly three days during which time she is credited with 5 enemy aircraft. She reached Gibraltar safely, however, on the 17th of June, 1942.

Air attack followed air attack on the remainder of the convoy, which reached Malta late on the 15th of June. Two out of six merchant ships arrived and we lost two destroyers, whilst the cruiser *Liverpool*, three destroyers and a minesweeper were seriously damaged.

The *Liverpool's* own shipwrights worked hard for several weeks to complete action damage repairs, which enabled the ship to return to Rosyth on the 12th of August, where she entered dock yard hands.

For three years the cruiser remained at Rosyth, being reduced to Care and Maintenance in May, 1944. In June, 1945, her reduced complement was increased to three-fifths of the total and on the 10th of October, repairs completed, she sailed for Portsmouth and Gibraltar to join the 15th Cruiser Squadron of the Mediterranean Fleet, arriving at Malta on the 17th.

On the 16th of January, 1946, she left Malta, carrying the Commander-in-Chief Mediterranean, Admiral Sir John H. D. Cunningham, on a visit to Naples, Algiers, Tangier and Casablanca.

Two years later, as a unit of the Mediterranean Fleet, the *Liverpool* left Malta on the 17th of July, 1947, on the first post-war summer cruise, visiting Turkey, Russia, Greece and the Eastern Mediterranean. Admiral Sir Algernon Hugh Willis, G.C.B., K.B.E., D.S.O., used the *Liverpool* as his Flag Ship, twenty-four other vessels making up the Fleet.

She left Malta for the United Kingdom on her return from this cruise, and arrived at Chatham, on the 27th of October, 1947. She was recommissioned in the First Cruiser Squadron but her active career was nearly over. On the 18th of October, 1951, she left Malta for Egypt during the Suez Canal trouble, and on the 24th of October moved the Grenadier Guards from Tripoli to Tobruk. The *Liverpool* returned to Malta from the Canal area on the 12th of February, 1952. She returned to the United Kingdom on the 24th of April, 1952, from service with the Mediterranean Fleet, and was reduced to Reserve Fleet at Portsmouth in May, 1952. She was used as an accommodation ship for a time and was finally placed in extended reserve, and now (1957) lies in the Outer Basin.

Battle Honours

In July 1954, Their Lordships issued a Fleet Order, establishing for the first time, Battle Honours for ships and shore stations of the Royal Navy and Royal Naval Air Service. Unlike the Army, with a long tradition of Regimental standards, displaying the names of the various battles in which the regiment has figured, H.M. Warships have not officially had this privilege.

Unofficially, for many years, Captains of Ships have assembled their own Honour Boards or Scrolls, and photographs of these have frequently appeared in the press. Choice of an honour has been largely that of the Captain

or Commander, and some chosen have not always been appropriate. The Fleet Order however, lays down the four types of action or incident which entitles a ship to an honour, and further describes all the approved occasions in some detail. In fact, reading through the list is a good lesson in Naval History.

H.M.S. *Liverpool* figures in the Fleet Order, but her record does not go back further than 1914. Only the last two ships, whose history I have related, appear to have done anything worthy of a mention. The *Liverpool* of 1758 achieved, not fame, but disaster in the War of American Independence and although the *Liverpool* of 1860 showed the Flag right round the world, with the famous Flying Squadron, this was a peace time exploit and did not qualify as an honour. The Battle Honours of H.M.S. *Liverpool* are:—

HELIGOLAND, 1914. 28th August.

3 German cruisers and one destroyer were sunk in the first general action of the 1914-18 war.

CALABRIA, 1940. 9th July.

In the first capital ship action with the Italian Fleet, Admiral Cunningham damaged one battleship at long range and secured the safe passage of vital convoys.

MEDITERRANEAN, 1940.

The Area Battle Honour awarded to all ships and submarines which took part in successful actions not covered by specifically named Honours.

ARCTIC, 1942.

The Area Battle Honour awarded to all ships, including covering forces, which were employed as escorts to or in support of, the convoys running to and from North Russia, and those ships and submarines which operated in the area and took part in a successful action.

MALTA CONVOYS, 1942.

An Area Battle Honour awarded to all ships and submarines, mentioned in the published Despatches as having taken part in Operations "Excess", "Substance", "Halberd", "Harpoon" and "Pedestal"; also those which took part in Operations M.F.3, M.F.C, M.G.1, and the supply of aircraft and stores to Malta.

ACKNOWLEDGMENTS

I would like to record my grateful thanks to My Lords Commissioners of the Admiralty, for special permission to examine documents, log books, and other papers in connection with the history of H.M.S. *Liverpool*. My particular thanks are also due to Lieutenant Commander P. K. Kemp, R.N., the Admiralty Archivist, to W. P. Trotter, Esq., M.C., and to Captain T. D. Manning, C.B.E., R.N.V.R., both of the Naval Photograph Club, to the Keeper of Public Records of the Public Record Office, London, to the

Director of the Science Museum, South Kensington, to the Director of the National Maritime Museum, Greenwich and to M. S. Robinson, Esq., M.B.E., and Lieutenant Commander A. H. Waite, R.D., R.N.R., of the Museum staff, also to the Director of the Imperial War Museum, London, and A. J. Charge, Esq., of the Museum staff, and to the Director of the City of Liverpool Museums, and E. W. Paget-Tomlinson, Esq., of the Museum staff.

Finally I must thank the very many officers and men of the sixth *Liverpool*, 1937 to 1952, who have given me such ready help and advice.

This history of the *Liverpool* would have been impossible to write, if it had not been for the facilities and assistance afforded by all these institutions and individuals, and by others whose names have been omitted, not from discourtesy, but lack of space.

R. B. SUMMERFIELD

The End of H.M.S. Liverpool

Since the foregoing paper was read to the Society on the 14th of November, 1957, the *Liverpool* has ceased to exist. After being reduced to reserve in May, 1952, she lay at Portsmouth for more than six years, first being used as base ship for the Senior Naval Officer Reserve Fleet; then as an accommodation ship for a time, and later she was placed in extended reserve. In April, 1957, came the decision to scrap her, and *Liverpool* was transferred to the Outer Basin at Portsmouth, in unmaintained reserve, a deserted ship, waiting for the inevitable end.

She left Portsmouth on the 27th of June, 1958, in tow of the tug *Welshman* and arrived at Bo'ness on Forth on the 2nd of July. She was broken up over the next eighteen months at Messrs. Maclellans' Yard.

The dolphin shaped bracket supporting the quarter deck bell and the name-plate were secured for the Liverpool Museums whilst the ship lay at Bo'ness, a gift from the Council of the Society. Much of the silver and trophies have been placed, on loan from the Admiralty, in the Liverpool Town Hall and the Liverpool Museums.

H.M.S. *EAGLE* 74

Thrice a Flagship

by JOHN SMART and EDWARD JONES

Read 13th November, 1958

INTRODUCTION

Thirteen days ago, on the 1st of November, 1958, the Royal Naval Reserve and the Royal Naval Volunteer Reserve were amalgamated into one organisation to be known as the Royal Naval Reserve. It is therefore not inappropriate that the subject of our contribution this evening is the old wooden 74-gun ship *Eagle*, which for 64 years was the home of both Reserves on Merseyside.

It is now some thirty years since a boy with a deep and abiding interest in ships and the sea spent an occasional Saturday afternoon hard by the Custom House in Liverpool. He stood and gazed at the stern of the old *Eaglet* in Salthouse Dock, but a healthy respect for the helmeted guardian of the dock estate at that particular point prevented any further venturing. To his subsequent regret, the boy never saw any more of his favourite veteran ship than her wide solid stern with its innumerable windows. Her taffrail was surmounted by a staff which bore a somewhat grimy and listless White Ensign and the heavy cables which secured her to the quay crossed a small expanse of dirty water, whereon for ever floated greasy pieces of wood and other odds and ends of flotsam.

In an endeavour to preserve at least some part of the memory of a ship which to him was a visible reminder of a fleet and an age which has gone for ever, he who once gazed offers this modest tribute.

Tonight therefore in the short time at our disposal, we intend rapidly to span the 123 years which lay between her launching in 1804 and her destruction by fire in 1927. To do this has necessarily entailed the omission of many interesting events in which she took part. During her long service afloat the *Eagle* had the honour of wearing an admiral's flag on three occasions. She was flagship off the Texel in 1804, again on the South East Coast of America Station in 1844 and yet again seventy years later when she became flagship in Liverpool between 1914 and 1919. Throughout her long service she was not at any time destined to take part in any of the better known actions. Not for her the point-blank slogging actions which were such a feature of sea warfare 150 years ago but, like so many other ships in this and other wars, hers was the undistinguished but arduous service which maintained Great Britain's command of the world's oceans.

Until the middle years of the 19th century the ships of the Royal Navy were classified by Rate. This system had originally been based upon the rates

of pay to which captains of warships had been entitled according to the sizes of the vessels which they commanded. In course of time this system came to refer to the number of guns which these vessels carried. Thus the First Rate mounted between 100 and 120 guns, the Rate decreasing with the lesser number of guns mounted, until the lowest Rated ships were the Sixth Rate frigates of twenty to twenty-eight guns. The smaller fry, gun-brigs and so on, were not defined by a Rating. By far the most numerous vessels were those of the Third Rate, seventy-four gun ships which were considered excellent for convoy work, patrolling and so on; and, for their size, were relatively easy to handle. We might perhaps consider them as the battle-cruisers of their day—a compromise between the mighty ninety and 100 gun ships-of-the-line and the cruising frigates.

H.M.S. Eagle

In February, 1800, the contract for the construction of a seventy-four gun ship was awarded to Thomas Pitcher, a shipbuilder at Northfleet in Kent. The Thames neighbourhood had long been the cradle of warships and building against the new contract commenced in August. Four years and three days after the placing of the order His Majesty's seventy-four gun ship *Eagle* was launched into the Thames on the 27th of February, 1804. It is not proposed to burden our listeners with statistics, suffice it to say that her main dimensions were—length of gun-deck 174' 1", breadth extreme 47' 9" and depth of hold 20' 0". In accordance with the method of calculation then in vogue this resulted in a measurement of 1,723 tons burthen. A photostat of her original draught is preserved aboard the present drill-ship *Eaglet*, and by way of rough comparison the Mersey ferry steamers are about 150 feet in length and 40 feet beam.

The armament of a seventy-four consisted of carriage guns firing solid round shot. These guns, smooth bore muzzle loaders, were not particularly reliable by later standards, but when well served they were tried and trusted weapons. Actions, of course, were fought at very close range, indeed upon occasion, muzzle to muzzle. She mounted her guns upon two continuous decks, clear of impediment fore and aft and her heaviest weapons, 28—32 pounders, fired through ports in her gun-deck. Above these, on the upper-deck she mounted guns of lesser power, 28—18 pounders, fourteen aside were located here, with 4—12's on the quarter-deck and 2—12's on the fore-castle. For close action she carried 10—32 pounder carronades on the quarter-deck and two on the fore-castle. These were shorter pieces of ordnance and, as we have noted, fired heavier shot. First manufactured at the Carron Works in Scotland they caused considerable damage when discharged at close range.

At the November meeting three years ago Mr. Ryan told us how these ships were manned—of the volunteers, the pressed men, the quota-men, etc., and, as with her armament, so the number of men in a ship's company was fixed by Establishment. As Mr. Ryan explained, establishment and actual complement was not necessarily the same thing, sometimes far from it, but the *Eagle's* complement was in the region of 600 men. Her officers were the captain and five lieutenants, a master and his mate and a lieutenant of marines. His detachment consisted of about ninety scarlet-coated rank and file. The non-

military officers were the surgeon and his assistant, the chaplain and the purser—these gentlemen carried no rank.

Her seamen ratings numbered some 556 men and thirty boys exclusive of officers' servants and "widows' men". These latter were non-existent and in theory amounted to one percent. of the actual crew. The books of the *Eagle* carried about six as her share of these mythical sailors, whose pay and allowances, by very old naval custom, provided a fund from which was paid pensions to the widows of officers. These fictitious "widows' men" continued to be borne on the books of H.M. Ships until about 1830 and their rate of pay was that of an able seaman.

Eagle's Career

The first captain of H.M.S. *Eagle* was David Colby. He had been first lieutenant to Captain Edward Thornborough in the *Robust* at the time of Warren's action off Ireland in 1798. During this action he lost an arm and received a pension for his disability, and for his services upon that occasion was promoted to commander. He subsequently received post rank and, as we shall see, David Colby was later to serve again under his old commander. He was an officer who, contrary to prevailing custom, enjoyed little or no patronage to further his career. He never achieved flag rank, held but two further commands at sea and died in about 1835.

The opening entry in the log of the *Eagle* is dated the 16th of March, 1804, and on the 4th of May she cast off her moorings and made sail for the first time. Indicative of how deeply laden was a seventy-four in full seagoing trim is the entry in her log at noon—Draught forward 21' 2", aft 22' 7" and the sills of her gun deck ports amidships were only 5' 0" above her waterline. She dropped down to the Nore and on the 15th was lying at single anchor off the Texel. At 12 minutes past 10.00 a.m. on the 16th of March, 1804, and with the ceremony due to such a solemn occasion, she hoisted to her mizzen mast-head the white flag of Rear-Admiral Edward Thornborough commanding at the Texel who, to quote the contemporary news item "came aboard with his retinue". Colby was once again under his old captain.

Life in a blockading squadron is much the same in any century, especially in winter time. A letter from an officer serving in the *Glatton* in the Texel Squadron most graphically describes the damp, cold misery of life afloat. "Here we are", he wrote, "peeping at a dastardly cowardly enemy, superior to us in force. We have been now three weeks at anchor, the greater part of that time riding bower under, with three cables ahead, sometimes cannot see masts nor yards of Line of Battle Ships not half a mile distant from us. . . . We in general lie about 14 miles distant from the Texel. This is the most turbulent, inhospitable climate I have ever experienced, as we are seldom four hours without a gale". As if to emphasise the grim and dreary life which he describes, in November H.M.S. *Romney* of the squadron drove ashore off the New Deep and became a total loss.

In the early months of 1805 the *Eagle* again had the dreary task of maintaining an apparently endless watch in hostile waters, this time off the Spanish coast. This duty came to an abrupt end when the French made their dash for the West Indies and the *Eagle* took part in the general chase. She played no very

great part in the activities aroused by the arrival and departure from the West Indies of the enemy ships, but was detached for service there and in Halifax. About this time Colby's tenure of command expired.

Events subsequent to the October battle off Trafalgar led to her commissioning under Captain Charles Rowley for the Mediterranean in November. Here, but this time as a private ship, she later came again under the command of Edward Thornborough, now a vice-admiral. Thornborough was a remarkable example of the seaman of his day. A Devon man, he served almost continuously from 1761 to 1818, a period of 60 years. He died in 1834 at the age of 80, and of him it was said that as a practical seaman he had few rivals and certainly no superior.

Wars were then much more leisurely affairs than they have since become and traditional military courtesy was maintained. When the *Eagle* lay off Capri as part of the squadron under Sir Sydney Smith, the commander of the French garrison of Capri was summoned to surrender. He declined and ended his reply with these words: "You are, Sir, too good and brave a soldier to blame me if I do not accept your polite invitation". The British attacked and took the island and Articles of Capitulation were signed jointly by Charles Rowley, captain of H.M.S. *Eagle* and the senior surviving officer of the defeated garrison.

During the ill-starred and indecisive expedition against Walcheren in 1809, the *Eagle*, together with a number of other ships, landed her lower-deck guns and acted as a troop-ship conveying horses, men and guns across the North Sea. By 1810 she was experiencing her third spell of blockade work, this time off Cadiz, but events livened up during the following year. Charles Rowley was then senior officer in the Adriatic and during the three years which followed, the *Eagle* and her consorts were engaged in a number of events in that long and narrow sea. Attacks upon defended shore positions, a running action with French frigates, boat actions, landing parties; her crew had their share of the danger and excitement which is war and, it may be added, their share of the compensating head money and prize money.

In 1814 she came home and paid off at Chatham, after having served for ten years and Captain Rowley received the blue flag of a junior rear-admiral. By way of contrast to the career of David Colby her first captain, that of Charles Rowley may interest you. Upon reaching flag rank Charles joined an illustrious company of admirals. His grand-father, his father, father-in-law, Charles himself, his brother, his brother-in-law, a cousin and at least two of his nephews all obtained their flags. Charles Rowley became Admiral Commanding-in-Chief, Portsmouth, in 1842 and died in 1845 aged seventy-four years, in receipt of a Good Service Pension of £330 per annum.

In contrast to the rewards which certain officers obtained as a result of their services, it is interesting to note how the seamen fared in those days. With the conclusion of the war hundreds of ships, including the *Eagle*, were paid off and the crews dispersed to find their way to their respective homes as best they might. Their service under the crown was completed and the country thereupon lost all further interest in them. Campaign medals were not generally issued in those days. It was not until the award of the Naval General Service Medal in 1848, that the sailor received any visible distinction to

commemorate his service. In that year was awarded a medal to cover certain naval events between 1793 and 1840. It could only be claimed by those still living who had participated in events so long ago, and among the many awards was one to each member of the boats' crews of H.M.S. *Eagle*, in respect of an expedition which had taken place in September, 1812, thirty-six years earlier. One wonders how many of her crew survived to make good their claims and to receive their country's belated award. Among our exhibits this evening you will see one of these General Service Medals and, although this particular one was issued for the Syrian campaign in 1840, except for the difference in the bar, it is identical with that issued for the Napoleonic campaigns. As one might perhaps expect, the captain fared better than his crew and was awarded the insignia of a Knight of the Austrian Order of Maria Theresa for which, incidentally, he did not have to wait thirty-odd years.

The many disasters incurred by our ships at the hands of the large American fifty gun frigates had emphasised the necessity of having vessels large enough to engage them on equal terms. The seventy-fours could, of course, do this, but they required a relatively large crew and seamen, as always, were hard to come by. In any case, they were rather larger than was really necessary. The ghosts of the large American fifties haunted naval designers for years thereafter and at the time there was a rush to build fifties and to reduce existing seventy-fours. This reduction involved a most interesting exercise in ship-surgery and in 1830 the *Eagle*, then lying in ordinary at her home port of Chatham, was one of the vessels selected for reduction. Briefly, it consisted of the complete removal of the forecastle and the quarterdeck down to the clamps. This meant that instead of having the distinctive raised forecastle and quarterdeck with a deep waist amidships she now had a flush upper deck. The result was a curious state of affairs whereby she still had two decks of guns yet was classed as a frigate. The true frigate, incidentally, was a single decked vessel.

Another feature which was introduced during this refit was the complete alteration of her stern. Sir Robert Seppings, who had succeeded Sir William Rule as Surveyor, had introduced the new elliptical stern to replace the traditional square stern of the man-of-war. This new feature was designed to strengthen a ship at a point which had been found to be extremely vulnerable. By rounding the quarters it was possible to work in at least one additional gun on each quarter and thus provide a greater arc of all-round fire astern. It also meant the abolition of the old picturesque stern walk with its quarter-galleries, which had been found to offer considerable resistance to the wind under certain conditions. In place of these features came the lantern-like projections which were a feature of the Seppings design, and the *Eagle* was the last ship so fitted.

During all this time, of course, she had been lying in what we would today refer to as reserve, and it was not until 1844 that she was again brought forward for sea service. After lying up for thirty years, she was commissioned in 1844 by Captain George B. Martin for service as flag-ship to Rear-Admiral S. H. Inglefield, C.-in-C. South East coast of America Station, and so became a flag-ship for the second time. We have not so far uncovered very much information about this period in her story but, as one might perhaps expect,

she became involved in one of the periodic political upheavals to which that part of the world was accustomed. Since the overthrow of Spanish domination some two decades earlier there had been frequent discord, and in 1844 Brazil and Argentine were at loggerheads regarding the future of Uruguay. The British and French squadrons in the Plate became involved and matters became even more complicated. As usual, however, the trouble eventually fizzled out and the *Eagle* departed for northern waters and later for the Mediterranean. By March 1848 she was home again and her overseas voyaging was over.

Although she was now almost fifty years old, not a great age for such stoutly built vessels—she was still to serve for a further eighty years in the western waters of the United Kingdom. The advent of steam propulsion had made it extremely unlikely that she would ever again serve overseas and the outbreak of the Russian War in 1854 did not involve her in any way. In 1856 a number of old vessels were commissioned for service as District Ships to the eleven Coast Guard Districts. The vessels chosen were all rather elderly and the *Eagle* was selected to act as District Ship for the Falmouth District, which extended from Plymouth Sound around the west of England and terminated at Gloucester. Two years later she moved north to the Milford District, which covered the seaboard from Gloucester to Caernarvon, which was the southern limit of the Liverpool District. After two years as Milford District Ship she returned to Portsmouth and again paid off.

The famous *Boscawen* training establishment for boy seamen had its origin in the conversion of the *Eagle* for training duties in 1860. In this service she was first stationed in Southampton Water and remained there until relieved by H.M.S. *Boscawen* in 1862. *Boscawen* was subsequently removed to Portland, and although the establishment eventually moved ashore it survived until 1906.

It was at this period that the *Eagle* commenced her long association with the Naval Reserves and with the port of Liverpool. A brief explanation of how this association came about will not be out of place at this juncture.

Naval Reserves

It may perhaps be traced by devious paths to the wars with Napoleonic France between 1793 and 1815. Under Pitt's Militia Act the Sea Fencible Corps was raised and the first unsteady foundations laid of voluntary service in association with the Royal Navy. After the Invasion scares of the time had subsided, the Sea Fencibles were disbanded and it was not until a short time before the Crimean War that a similar force was again raised. In 1853 the Royal Naval Coast Volunteers came into existence and, like the Sea Fencibles before them, recruiting was confined to fishermen, coastal seamen and so on. This force was not very successful and received little or no official encouragement. Some very limited training was available in the Coast Guard District Ships and no doubt from time to time the *Eagle* had her share of not very enthusiastic volunteers. The number of enlistments steadily declined and in 1873 the force was disbanded.

The Royal Naval Reserve had a more stable existence and still survives, although in somewhat altered form from that which prevailed until a year or so ago. It was founded in 1860 as a result of the failure, despite the offer of

bounties, to attract sufficient deep-water seamen into the Royal Navy during the Russian War in 1854 and 1855. It was in fact a repetition of a similar failure during the great wars of half a century earlier. Compulsory service had been placed into what we have since discovered was merely a deep freeze, and had been replaced by voluntary service at the end of the war which defeated the French. Although the Fleet Reserve was instituted in 1852 and continuous service in the following year, it was realised that there would be a dearth of trained seamen in the Navy for some years, and particularly in time of war.

Recruitment of merchant seamen into the Royal Naval Reserve commenced in 1861 and officers in the merchant service were first offered commissions in the following year. Times change and there are now no merchant seaman ratings although the officers remain. To train the newcomers in the ways of the Navy three drill-ships were established, in London, North Shields and in Liverpool. So commenced the long association of Her Majesty's Ship *Eagle*, the Naval Volunteers and the port. The first Liverpool drill-ship was the old warship *Hastings* which had been District Ship of the Liverpool Coast Guard District, but she did not remain here long and departed for Queenstown upon the arrival of her successor.

Eagle as a Drill Ship

The drill-ship *Eagle* arrived from Spithead in tow of H.M. paddle sloop *Geyser* at 4.40 a.m. on Sunday, June 29th, 1862. In the excitement of reporting the fratricidal conflict between Confederates and Federals, Monday's paper overlooked any mention of her arrival, but a few days later she took up her berth in the north-east corner of the old Queen's Dock. In those days the layout of the docks in that area differed considerably from that which now prevails. Entrance was by way of Queen's Basin leading into Queen's Dock. King's Dock, much smaller than the present dock, was entered by a short passage on the north side of the Basin. Despite her having been in Liverpool for over sixty years, very little information is available with regard to the ship or her berths. One supposes that being such a familiar feature of the dockland of her day she was taken very much for granted.

The R.N.R. continued to drill aboard her until 1911, although her captain was a commander, R.N. Between 1862 and 1908 this appointment was held in succession by nineteen officers, and she had the honour of claiming that, of all the R.N.R. centres in operation in 1898, those of Liverpool and Stornoway had trained a number of men far in excess of any others in the country.

R.N.V.R.

The Royal Naval Volunteer Reserve may be said to be descended from the Royal Naval Artillery Volunteers. Hitherto such volunteers as had been available were professional seamen, but the R.N.A.V. opened enlistment to young civilians who were interested in matters naval. The Liverpool Corps of the R.N.A.V. was formed in 1873 with headquarters in H.M.S. *Eagle*. Each Corps was composed of two or three batteries, each consisting of a sub-lieutenant, a chief petty officer, 1st and 2nd class petty officers and from fifty to seventy gunners. The combined Liverpool and Southport Corps

united to form the Liverpool Brigade in 1876. A brigade comprised of from four to six batteries with an establishment of from 460 to 480 men.

The volunteer gunners were intensely enthusiastic and at its zenith the Brigade had units in Liverpool, Southport, Bangor, Caernarvon and Birkenhead. By this time the *Eagle* had changed berth from Queen's to King's Dock and in the 1880s lay at what is now the berth of the Booth Steam Ship Company at North 2 King's Dock. Unfortunately, as had happened with the Sea Fencibles and again with the Royal Naval Coast Volunteers, official encouragement was lacking. The guns were vintage pieces, the gear scanty and there was little or no provision for sea training. In effect the gunners were soldiers dressed as seamen. An interesting feature of the uniform was that the blue jean collars had waved tapes, the officers' silver stripes were waved and both these features were revived in later years upon the formation of the R.N.V.R. The waved lace, in gold instead of silver, continued to distinguish R.N.V.R. officers until recently replaced by the regular pattern, but can still be seen upon the sleeves of officers of the Sea Cadet Corps.

In 1892 the Admiralty who, truth to tell, had never cared for anything less than the genuine article, saw fit to disband these eager young men and today an In Memoriam notice preserved aboard H.M.S. *Eaglet* proclaims that the R.N.A.V. "Died of Neglect".

In view of the volunteer spirit so evident in the latter half of the last century, it is indeed strange that the Board of Admiralty were not as ready as the War Office to direct it into useful channels. Even the formation of the R.N.V.R. in June 1903 was accepted somewhat sceptically by authority and not with the enthusiasm which its sponsors had expected. Be that as it may, tradition has it that the first enrolment into the Mersey Division of the R.N.V.R. took place on board H.M.S. *Eagle* in King's Dock on New Year's Day 1904. The target of 300 men was very soon reached and the first drills were held on board the old ship on the 8th of March. It was then a few days over 100 years since she had been launched, and her appearance was such that neither Colby nor Rowley would have recognised this Noah's Ark-like structure as a once proud seventy-four gun sailing ship of the line.

The Royal Naval Reserve had continued to use the *Eagle* as a drill-ship for forty-one years, but forsook her in 1903. In that year was introduced a more realistic scheme of training in seagoing cruisers, but this only lasted for two years and in 1905 the R.N.R. returned to the *Eagle*. In the meantime, owing to the proposed rebuilding of King's and Queen's Docks, she had been moved to the north side of Salthouse Dock in 1904. When the R.N.R. re-occupied the ship in 1905 the Volunteers moved across to the Custom House in Canning Place and, although that grim pile lacked the naval atmosphere, it had at least one advantage. The drill hall was in the north-east corner of the building and was large enough to accommodate the whole of the Division when mustered for drill and inspection.

Eagle to Eaglet

On the 31st of March, 1911, the R.N.R. vacated the *Eagle* and she was turned over to the Volunteers for their sole use. They were not however to enjoy possession for very long. International events were slowly moving to a gigantic climax which, among its lesser results was to embroil even the cen-

tenarian *Eagle*. Shortly after the outbreak of war she was once again on active service, although in a stationary capacity. Captain H. H. Stileman was appointed to her as Senior Officer, Liverpool, and upon the 2nd of November, 1914, he received his flag. Thus once again, and for the third time in her long and somewhat chequered career, she became a flagship. This duty she performed for the duration of the war, and of her service then and of life aboard you will hear later.

Among the vessels building at the outbreak of hostilities was the battleship *Almirante Cochran* which had been designed and laid down by Messrs. Armstrong, Whitworth & Co. Ltd., in February, 1913, for the Chilean Navy. Work on her ceased in August, 1914, and she lay idle on her slip until 1917, when she was purchased by the British Government. A complete recasting of the design resulted in her completion as an aircraft carrier, to be named the *Eagle*, and in accordance with Naval tradition it was therefore necessary to rename the existing vessel. Most appropriately the name *Eaglet* was chosen for the older vessel and the re-naming was carried into effect on the 8th of June, 1918, upon which day the aircraft carrier was launched.

The *Eaglet* continued to act as base ship in Liverpool for the remainder of the war, as accommodation ship for ratings in transit and for the many duties which are undertaken by base ships in time of war. During this period there was little or no connection with the R.N.V.R. as such.

Upon the outbreak of war in August, 1914, some R.N.V.R. officers and ratings were drafted for sea service, but by far the majority were mustered into Naval Brigades and, by some curious process of official reasoning, were turned into soldiers. The Brigades were sent into Antwerp in an attempt to stem the German invasion and those who were not captured or interned were later reorganised into the Royal Naval Division, which served at Gallipoli and on the Western Front until disbanded after the armistice.

By the time the *Eaglet* paid off in 1919 she was looking rather the worse for wear, outboard at any rate. Gone was the familiar white streak broken by the line of her gun-ports, her black hull had been repainted in the standard navy grey. What remained of her lower masts had at some time been cut down to the level of the roof ridge over the upper deck, and she now looked more like Mr. Noah's famous craft than ever.

With the return of peace the *Eaglet* was once again paid off and in 1921 the Mersey Division, R.N.V.R. was re-formed with a strength of 400 men under the command of Commander Wm. Maples, R.N.V.R. The composition of the Division was by companies, each 100 strong, of which numbers one, two, three and seven paraded in the ship at Salthouse Dock. Number four company was located at Southport, number five mustered in Caernarvon and number six in Birkenhead. In 1922 the Southport company was disbanded but in September, 1923, a new Sub-Division came into being in Manchester. For its accommodation the war-time sloop *Sir Bevis*, now re-named *Irwell*, was berthed at Fairbrother Street Wharf, Salford. We may perhaps be forgiven for disclosing that the local wits referred to her as H.M.S. *Neverbudge*.

The End

By 1926 the old *Eaglet*, which had now been afloat for almost a century and a quarter, was deemed to be unfit for further service and was ordered to

be paid off for disposal. It was originally intended to replace her by H.M.S. *Goole*, a war-time minesweeper, but the *Goole* was too small for this duty and was transferred to Manchester. In August, 1926, for a short time, all three drill-ships, the *Irwell* on the west side and the *Eaglet* with the *Goole* alongside, lay in Salthouse Dock together, an unique occasion. Without going into too much detail regarding the change-over, the *Irwell* from Manchester became the present *Eaglet* and the *Eaglet*-designate, late the *Goole*, became the *Irwell* which we know today, and both ships now lie side by side on the west side of Salthouse Dock.

A farewell banquet had been held aboard the old veteran on the 2nd of June and upon the evening of Thursday, the 2nd of September, 1926, the Division was mustered on board for the last time. The ship's company mustered aft and at eight bells, as the notes of the Last Post echoed across the quiet dock, her ensign was slowly lowered for the last time and her service as one of the King's ships was ended. She had served under a queen and five kings in the 126 years which had elapsed since Sir Wm. Rule designed her. Her ship's company marched away to the new ship and she was left, silent and deserted as she had been left so frequently before. Again the bugles rang out across the still waters, signalmen aboard the new *Eaglet* hoisted her ensign and the change-over was completed.

There had been a movement afoot to preserve the old ship as a floating maritime museum but, as with so many projects for the preservation of surviving links with our historic past, it was doomed to failure and the old ship was sold for demolition. The work commenced with the removal of her upper works as she lay in dock, and her guns were removed by the Mersey Docks and Harbour Board floating crane *Samson*. Work continued during the ensuing months and on the 16th of February, 1927, she was towed away to be broken up. Few saw her leave on that misty morning. Some workmen on the quay raised their caps in silent salute, the ship-keepers on board her successor watched her slowly move past and she left as she had arrived sixty years before, slowly and quietly. Guided by tugs and almost un-noticed she disappeared into the morning mist and Liverpool saw her not again.

She was towed to a ship-breaking wharf at Mostyn where she was beached preparatory to the difficult task of taking apart her aged timbers. On the 19th of April she caught fire as she lay and was burnt out. Her epitaph is contained in a few pages of verse preserved aboard the present *Eaglet*:—

“Now not a vestige of her remains—the old ship has gone for good,

To some special Valhalla for seventy-fours and the ships which were
built of wood.”

Fortunately this is not quite the case. Aboard the present ship there are preserved the old ship's magnificent figurehead, a bearded and helmeted warrior, her wheel and an original door and door-frame giving on to the wardroom. If we look at the top of the shed doors on the north side of Salthouse Dock where she lay for twenty-two years, there beneath the gathering dust of passing years may still be discerned the faded words:

H.M.S. *EAGLET*

LIFE ABOARD A WOODEN WALL

A few recollections of service aboard H.M.S.

Eagle, Base Ship at Liverpool, 1914-1919

by EDWARD JONES

Read 13th November, 1958

It is many years now since my father took me by the hand to see the ships in Liverpool docks, and I can well recall seeing a vessel which I was told was one of Nelson's ships. Her name was *Eagle* and I can remember saying "That's not a ship, that's a house. It has square windows and all ships have round ones". My child's mind could not understand this, but some twelve years later it proved to be true when, after a visit to a workshop near Queen's Dock where the dying craft of carving figureheads was still carried on, I had another opportunity for a closer look at my ship with the square windows.

With her great beam and tumble-home seen from forward, she appeared to be very bluff and hardly likely to do any fast sailing. She was built for strength and seaworthiness and even then, at ninety-six years of age, she looked good for many more years of service. As I stood and looked at her I had no idea that seventeen years later I should be on board her and know her much better.

I have many memories of the old *Eagle*. As one of the crew of a motor launch which was found unsuitable for the duties required of her, in the fast running and oft-times stormy waters of the Mersey and its approaches, we were told to report to H.M.S. *Eagle* in Salthouse Dock. On arrival we were admitted by the sentry who reported us to the office ashore. Having no papers and being in civilian clothes, no one knew anything about us and quite a long delay occurred. At last we were told to go on board and to our surprise, at the top of the gangway, was a door with a knocker on it—the first ship we had ever seen with a knocker. We knocked, a whistle sounded and we were admitted. Again it was, "Who are you? What do you want? What do you do? What is your rating?" etc., etc. This ended with, "Stand over there".

After about half-an-hour's wait we were told to fall-in on the quarter-deck. Here we stood before the Commander, who again asked all the questions we had answered before. After he had studied a paper in his hand he said; "I don't know you men, who you are, what you are, what you do. In fact, you can tell me to go to Hell if you like, but in the meantime I will put you in the hands of a C.P.O., who will take care of you until we find out more about you".

Next morning, after prayers, requests and defaulters, etc., we heard: "Motor boat's crew, Fall in". This we did. The Commander took a look at us and said, "Today I know all about you men, who you are, what you are, and what you do. You are borne on the books of H.M.S. *Eagle* and today you cannot tell me to go to Hell. Carry on". That was my introduction to H.M.S. *Eagle*.

While awaiting a new boat we did many jobs in the old ship from painting the Commander's galley to blowing up his geyser. While painting the Commander's galley we asked if we could have overalls to keep the splashes of paint off our clothes. Our wants were supplied and we looked very well in white duck overalls with the word CELLS stencilled in black all over them. I am sure that someone had a good laugh at our expense. We scrubbed decks, seamed deck-cloths, mended hoses, cleaned rifles and did a little semaphore and morse. To use the morse lamp we had to go to the bottom of the ship, into what appeared to have been the Volunteers' rifle-range. It was here that I began to take an interest in the construction of such ships as this. When one saw the thickness of the frames and beams, one began to wonder where her builders found the trees for the various parts. The keelson was made up of sections, each over twenty feet long by two feet square and scarfed together for five feet, then bolted through with two-inch copper bolts. Her stern post was two feet square at the top and tapered down fore and aft, the riding bitts were so large that three men could just reach round them and the stem and stern knees on the gun deck were about twenty feet long.

On the bottom a number of chain cables were laid athwartships for ballast with the tiller lying on top. This was about fourteen feet long by eight inches square and made of iron. Her capstan lay there, but this had at some time been dismantled. The fore-mast step was about five feet long by three feet wide and deep, the lightning conductor was eight inches wide by one quarter-of-an-inch thick at the step. It then tapered to two inches up the mast, with branches from it at each deck head to the bolts or rivets in the side planking.

Near the step of the main-mast was the well, where the bilge water collected and was pumped from there overboard. She did not appear to leak much, as on one occasion I was sent to clean out the well and it only contained two bucketsful of water. I have seen the pump manned but it only seemed to lift the water which had been used to prime the pump. This pump, which was on the gun-deck forward of the main-mast, had a crank handle which would accommodate six men. The forward magazine—which I helped to dismantle—was lined with soft copper sheets a quarter-of-an-inch thick, fixed with brass screws without points and with copper nails of square section, each being stamped with the broad arrow. The hook in the tackle was also of soft copper, two light boxes were lined with copper, and lamp holders of the same metal were fitted behind bars, to enable the magazine men to see to hand out the powder for the guns.

On the lower deck, in the orlop, were the cells, very dark and small and not at all inviting. In the early hours of a cold February morning the alarm was raised. A prisoner had escaped from his cell. The guards were called out and stationed at all exits, but upon examination it was found that he had gone out by removing the bars from the port in the cell and dropped into the dock with the aid of his blanket. On further search it was found that he was still clinging to the blanket and dare not let go. The water was perishing cold and it was freezing hard. He was told to come on board but with chattering teeth he answered, "I c-c-c-can't, there's no foothold. I can't hold on much longer". He was unable to obtain a foothold owing to the turn of the bilge and a rope was lowered to him, but he was so cold that he dare not let go of the

blanket to tie the rope around his waist. He shouted, "I can't come up" then a vast voice from out of the darkness shouted, "Come up, or I shoot". He tremblingly replied, "I can't move, it's too cold", and, after telling him to hang on, the order was given to lower the dinghy and he was picked up more dead than alive, a very sorry man.

One day when clearing out the lower gun flats we discovered some very interesting carving, but as it had been painted over so many times the finer points had become filled in. We also found a pair of leg-irons. These were very rusty but were cleaned and later galvanised. Of course we could not wander all over the ship as each section was locked up and the keys hung in the office. On one occasion I was told by the messenger, "You're wanted on top". When I went up an officer said, "Come with me, I want a machine fixing". He got the key and said, "Follow me". Away we went, down to the lower deck, along a dark alley-way, down a darker companion-way at the bottom of which he opened a door, saying, "Mind your head". He switched on a light, I saw a sewing machine about six feet away. He looked at me and said, "I want you to see what is wrong with that machine". I looked it over, filled the shuttle, threaded the needle, tried it out on a piece of cloth and said, "It's all right, Sir". "Good", he replied, "Now you get busy". He went to a cupboard and took out a number of flags, some with holes in them, others half blown away, also some rolls of bunting, red, white, blue and yellow, saying, "Make a good job of them, there are plenty more. Now, here is the key, lock the door when I go out and let no one in". "Very good, Sir." I then realised that I should have known nothing about a sewing machine. But it was another part of the old ship to be explored. Along the midship section was what appeared to be cupboards, but upon examination they proved to be two-tier bunks with lockers in front for seating accommodation. The bunks had panelled sliding doors, but were now used as stores for various items of ship's equipment.

In one of the breast-hooks or stringers on the port side was cut:—
**BUILT BY SIR WM. RULE AT NORTHFLEET IN 1804, 74 GUNS,
1723 TONS**

This particular beam was fifteen inches square and it was amazing how the frames and diagonals were fitted together in the forepeak. Above the quarter-deck was the figurehead but unfortunately it was in a dark place and could easily be missed. I believe, too, that the ship's wheel was aboard somewhere but I never saw this. The handrails of the companion-way leading down to the wardroom were covered with coachwhipping complete with turk's head and stopper knots, a beautiful piece of work. The old boatswain was always pleased to get someone interested and to give them a few lessons in passing the ball to and fro. Very interesting, but very tedious. He was quite a character, that old bosun. When he piped, "Everybody aft", he would stand at the top of the midship companion and say: "Come on, my dears, come along, my dears. Come along, gentlemen, come on, you scallywags. Come on, you lazy louts", and many other terms of endearment followed if we were slow enough to hear them.

In the wardroom on the sideboard stood a beautiful model of a seventy-four in bronze, complete with guns, anchors, cables, masts, yards, and all the details. It stood on a four-wheeled carriage and I admired it many times

as opportunities came to see it from time to time. I wonder what became of it?

After we had been in the old ship for about two months a launch arrived alongside and we were put into it until our new launch *Eaglet* was ready. We were quite busy then carrying ratings, goods, despatches and orders to and from ships in the river. On occasions, too, we conveyed Admiral Stileman on his official rounds and in fair weather and foul we experienced all that the river and its approaches could offer. Conditions in wintertime were so bad that on one occasion we applied for oilskins, for in a small boat with just a canvas awning, in wind and rain we used to get very wet. Nothing was done about our application until one day, when we had taken an Engineer Lieutenant to a vessel anchored in the Crosby Channel. There was a stiff nor-westerly breeze with a big sea running and showers of spray with some green stuff coming aboard. Anyhow, we got him aboard the vessel and were told to wait. We were lying off for about half an hour, then took him off and turned for the Stage. By this time the ebb was running strong, and with the wind against the tide, we all got well and truly soaked. He asked, "Haven't you fellows got any oilskins?" We replied that we had applied for them but had not received any. He said, "When I get back I will try and hurry them up, and show them that I am soaked myself". What he said we do not know, but a week later we received sea boots and oilskins, but it was just two years later when the official order came through, that the crew of the motor launch be supplied with oilskins and seaboots.

Life was seldom tedious aboard *Eagle*. A young boy was acting as messenger and was told to strike six bells. He did. Six in continuous succession. The effect was magical. Everything seemed to stop. Everybody looked at one another. What had happened? Then a voice roared out, "WHO STRUCK THAT BELL? NITWIT!"

Three months after our new launch had arrived, we were told that as the aircraft carrier *Eagle* was being launched, the old ship would become *Eaglet* and the new launch *Golden Eagle*, and that we were to bring her from the builders, which we did. She was a Thornycroft design, 43 feet by 8 feet by 3.5 feet, twin screws, and did very good work for Shipping Intelligence until the end of the war.

I was only on board the old ship twice after this, once when we returned the launch and stores, and again to be paid off on the 13th of March, 1919.

THE INTENDED SHIP CANAL

Between the Rivers Mersey and Dee

by E. CUTHBERT WOODS, F.R.HIST.S.

Read 12th March, 1959

FOREWORD

Very little about this Canal scheme is to be found in the books dealing with the history of the Liverpool district, with one exception, which is entitled, "A Report of Proceedings of a Court of Enquiry into the existing state of the Corporation of Liverpool".

Two Commissioners visited Liverpool in November, 1833, and sat almost continuously for twenty-four days.

As for the reason for this Enquiry, I cannot do better than quote from Ramsey Muir's "History of Municipal Government in Liverpool".

"No sooner had the advocates of Political Reform won their first triumph in the passing of the Parliamentary Reform Act, of 1832, than they set to work to deal with local government in its turn, and in particular with the Municipal Corporations which almost everywhere in England had become a byword for corruption."

The Intended Ship Canal

The first recorded allusion of using Wallasey Pool as a harbour was, I believe, in 1599, when the Earl of Essex, visiting the various Creeks and Ports of Lancashire, in search of a suitable haven for his ships to lie in, before his expedition to Ireland, commented very favourably on the advantages of Wallasey Pool.¹ In 1807, a Mr. Duncan Gibb realised the peculiar advantages that the mouth of Wallasey Pool had for the timber trade, stretching as it did from Woodside Ferry to a short way north of the present Seacombe Ferry.²

He was in fact in treaty for the purchase of the whole estate for that purpose in 1824, when the Liverpool Corporation stepped in and bought a large portion of land on the south bank of the Pool, extending from near Woodside Ferry to Bridge End. As soon as steam ferry boats made it possible, some Liverpool merchants, who lived over their counting houses, moved over to the Birkenhead side.

Mr. William Laird, who had come from Glasgow to Liverpool in 1810, moved over in 1824. He bought a large amount of land on the south bank of Wallasey Pool on part of which he started a Boiler Works, and shortly after added a Shipbuilding Yard.

(1) Cheshire Sheaf, 1899. p.17.

(2) Liverpool and Birkenhead Docks Evidence, T. Webster. M.A., F.R.S. Vol. I p.81.

The idea of the Canal and Dock scheme was generally attributed to him, but that is not correct.

A Mr. Jordan, giving evidence at the Municipal Enquiry in November 1833, said that he had his counting house in Henry Street off Duke Street,¹ right opposite the mouth of Wallasey Pool, and it had occurred to him how very suitable the site was for a Ship Canal. This was in 1824, so he went to see Mr. Bourne the Mayor and suggested to him that a canal, large enough for ships, would obviate the dangers, and delays, of entering or leaving the Mersey by the Rock Channel. He also said that if the Corporation would form a Joint Stock Company for this purpose he would subscribe £1,000 to it, but the Mayor was not interested! A few days later Mr. Jordan called on Sir John Tobin, and laid the idea before him, in the same way as he had to the Mayor. Sir John showed no interest in it at all, *but* he specially asked him not to mention the idea to anyone else. In 1826, William Laird easily persuaded Sir John Tobin to join him in buying still more land from Mr. Price, Lord of the Manor, until they held jointly 112 out of the 206 acres of land on the banks of the Pool. Mention should also be made of John Askew, Harbour Master of Liverpool, who was associated with Sir John Tobin in the founding of Egremont Ferry. His holding was on the north bank of the Pool at Seacombe.

These three gentlemen, we are told, were so impressed with the magnitude and possibilities of the scheme, that they engaged three of the best known engineers of that time—Thomas Telford, Robert Stevenson and Alex. Nimmo, to make surveys and report.²

The engineers went to work with great enthusiasm and J. M. Rendel some years afterwards said he remembered hearing Mr. Telford say after his return from the survey, "Why, they have placed Liverpool on the wrong side of the Mersey!"

Their Report was ready on July 14th, 1828.

It is divided into three parts.

1. The Estuaries of the Dee and Mersey.
2. Outline and Details of the Plan.
3. Estimate.

The Estuaries of the Dee and Mersey

This gives an account of the estuaries from Roman times to 1828. The later information is drawn from comparisons of charts of various dates, beginning with Grenville Collins. Mention is made of the Corporation getting powers to build the lighthouses at Leasowe and Hoylake, to direct ships not into the Mersey but into the Hyle Lake, which was soon discovered to be silting up. The loss of this anchorage to Liverpool was a very serious one, for ships could lie at anchor there until the wind, tide etc., were suitable to run down the Rock Channel into the Mersey. This had to be done during daylight as, although the channel was buoyed, it was not beacons and there were shoals in it.

(1) Municipal Inquiry, p.458.

(2) Port and Docks of Birkenhead, T. Webster M.A., F.R.S. p.20.

Even in the Mersey itself the conditions were not too good in bad weather.

The anchorages were:¹

1. Abreast the town.
2. Off the Magazines.
3. Up the river in Sloyne Roads, or Bromborough Pool which is confined to vessels under quarantine.

In the first two "A great sea comes tumbling in with North-West gales".

Opposite the town the tide was rapid, and the holding ground bad, and vessels could drift with two anchors down. For example:

Captain Denham, giving evidence for the Birkenhead Docks Bill,² May 25th, 1852, said, "Ships lie here if they can, to be opposite the dock that they intend to enter at high water. In the deeper part here the bottom is bare rock. From Seacombe Point, I have observed a large American vessel, drifting regularly as the tide changed, a mile and a half each way, dragging her anchor; the danger is increased by the number of ships which anchor about this part".

The Report continues:—

Upriver anchorages are too far from the docks. It is, therefore, necessary for Merchant Vessels, as soon as the tide serves, to proceed into dock, and remain there till a favourable opportunity occurs of putting to sea, so as to get through the Rock and Horse Channels with daylight. For this reason, there is always a large number of vessels in the docks, especially when Northerly and Westerly winds have prevailed for some time. These conditions have made it necessary for additional accommodation on the opposite shore of the river in Wallasey Pool.

Outline of the Plan

The engineers noticed in all the charts that they had examined, every one showed deep water and good anchorage at Point of Hilbre. The Sea Locks there giving entrance to the proposed canal would be sheltered from Westerly gales by the Island itself and against Northerly ones by the East Hoyle Bank. A pond of sixty four acres would be enclosed by embankments and filled at spring tides, and the water used to scour the Harbour and entrance and as a reservoir for the Ship Canal itself. This being seven miles long and 163 feet wide at the surface, most of its length would be a harbour in itself, and could have Docks branching out of it in various directions.

Looking at the direction that the Pool takes inland, it would be an easy matter to make an entrance to the sea near Leasowe Lighthouse but the objections are that the Channel at that point affords no safe anchorage, and the entrance would be exposed to the full force of the sea. If protected by piers, they would cost a great deal and might alter the course of the Rock Channel.

As the land continues westward to below the Hill of Grange at a low level and only a narrow belt of sandhills intervenes at this point, to separate it from the sea; it would be easy to make a tideway at this place, where Hilbre

(1) Municipal Inquiry. Appendix cxxiv.

(2) Birkenhead Docks Bill, T. Webster, 25th May, 1852, p.337.

Swash has a deep Channel, sheltered by banks at both sides, and only five miles in a direct line to the Floating Light.

This light was placed opposite Hilbre Swash and the Horse Channel, outside all the Banks, and was a great help to vessels coming in from sea.¹

Ships may sail, continues the Report, from Hilbre in almost every wind, and if it is necessary to beat out, a vessel from Hilbre, with the first of the ebb down the Swash, will be at the Floating Light and clear of the banks before another from Liverpool can get round the Rock Perch. An important advantage gained by this plan was that the proposed entrance was to be at Hilbre and within the jurisdiction of the Port of Chester. Thus business being done there and upon the waters even as far as Wallasey Pool, being within the Port of Chester, would have to pay the duties of that Port and unless ships and goods lock into the Mersey, they would be exempted from the dues of Liverpool.

The facility of construction was so great that a moderate charge for dues would be a sufficient remuneration for the capital required.

I will remind you of that sentence when we come to consider the estimated cost.

Details of the Plan

Commencing at the River Mersey, we propose to dredge out and widen Wallasey Creek at least to the depth of three feet under low water of spring tides, and this for 200 feet, in width up as far as the entrances into the Basins. The side of Wallasey Creek will be quayed for 400 yards below the entrance of the Dock to facilitate transporting vessels in and out of the Basins.² The Tide Basin is 1,000 feet long and 100 feet wide, curving on the North side to the locks at each end, the South side receding 100 feet so as to give berthage to timber vessels, and in front of them a sloping wharf and Bonding Yards for timber; a line of Barge Canal between these yards and the warehouses on the main Dock will facilitate the removal of timber without interfering with the shipping.

The Entrance Lock into this Basin from the tideway will be fifty feet wide, the entrance walls widening gradually to 100 feet to afford easy access to the shipping when both gates are open. The upper lock between this basin and the Canal to be double; one large lock forty-five feet wide and 160 feet long for great ships, and another twenty-five feet wide for smaller vessels with gates at each end pointing both to land and seawards. These locks to have twenty-two feet of water in the Canal on the level of an eighteen foot tide, which we propose to make the level of the Canal.

The Ship Dock, parallel, will be 400 yards long and 100 yards wide with warehouses on each side supported on iron pillars so as to form a covered wharf; behind these warehouses a parallel barge canal, forty feet wide, fit for river flats, will be found convenient. These canals communicate with a dock and basin for flats only, whence the barges may be let down into the Creek during the ebb, and as they navigate at the lowest water, they will be ready to pass up the Mersey, with the first flood; and in the like manner,

(2) Preamble to Canal Scheme, Municipal Inquiry, p.cxxiv.

(1) Municipal Inquiry. Appendix cxxv.

coming down with the last of the ebb, will get into the Pool, and enter the dock without losing a tide. Ships from the Mersey, in like manner, may enter the basin with half flood, and be ready to proceed down the Swash with the first of the ebb.

As the land beyond the Boiler Yards is high for some distance, we propose the Canal to be only 124 feet wide at the water surface for 1,000 yards from the locks, and to be lined with a stone wall on each side so it will in fact be a dock also. After this the Marsh widens and from this point the Canal will continue with sloping banks and 163 feet wide at the surface of the water, which will be twenty-two feet in depth.

The Canal first proceeds in the direction of Leasowe Lighthouse to within half a mile of the shore, and about the same distance north of Moreton Village, and then turns to the westward keeping half a mile inland from the villages of Great and Little Meols, through Newton Car, where it turns off to Hilbre Island.

A large breadth is allowed for the sea side of the embankment with a facing of stone, from the rocky point near the Red Stones to within 600 feet of the Point of Hilbre.

The Head of the pier is to be of rough stone rounded off, and paved. A Pierhead of 300 feet is to be built in Hilbre, leaving an opening of 300 feet wide, into the Tide Harbour, fifty acres in extent, to be deepened to low water mark of a spring tide and kept at this depth by scouring. There will be a Quay wall of hewn stone along Hilbre Island, from the Pier Head, 600 yards to the Tide Lock, which is to be fifty feet wide as at Wallasey and another lock of the same dimensions on the North side of the Harbour.

The North Pier will be of rough stone but a short covering Pier will be made to protect that lock and facilitate the entry of ships. Above these locks the Canal will be a Tide Basin, 500 yards long with the level kept at that of the tide of the day, and at the upper end, two canal locks as at Wallasey with doors pointing to the sea and land at each end as the tide will occasionally rise higher than the level of the water in the Canal.

From Hilbre Island to Middle Hilbre, thence to the Eye, and from that to the shore at (West) Kirby Church, a water-tight embankment will be built with a road along the top. Between this and the Canal a pond of 640 acres will be formed which will fill to a depth of nine feet at spring tides. This will hold 3,000,000 cubic yards, and may be used for scouring the Outer Harbour, but it will be advisable to fill it again as a reservoir for lockage water, for which purpose it may be drawn down three feet to the level of the Canal and will hold 1,200 locks full. This would be used for ship lockage at each end and, if necessary, 1,000 more locks full could be drawn off without any serious inconvenience to the navigation.

We now append an estimate of what we consider will be the cost of completing these works, which include Warehouses on each side of the Dock at Wallasey Pool and Enclosed Timber yards along the Tide Basin. For all these items we have made liberal provision.

Estimate

	£
Excavations at Wallasey Creek and Hilbre Harbour, also in Locks, Basins and Canal to Hilbre and Canals and Basins	436,107
Quay walls on Creek, Basins, Locks and Canal at Wallasey Pool, Bridges and Tunnels	230,890
Bridges and Tunnels	38,000
Piers, Quays, and Walls, Hilbre Harbour	111,000
Locks, Dams and Culverts, Hilbre Harbour	183,000
Purchase of land	125,000
For Survey, Acts of Parliament, Law Expenses, Superinten- dence, Lock Keepers and other offices etc., and contingencies on Works, Fifteen per cent.	182,731
	<hr/> £1,306,728 <hr/>

For the above sum a Floating Harbour will be obtained, seven miles in length, capable of indefinite enlargement with extensive accommodation and with a seaport at either end on the two separate estuaries.

London, 16th May, 1828.

Thos. Telford
Robert Stevenson
Alexander Nimmo

Although the promoters were very pleased with the plans, yet possibly after what had been said about "the facilities of construction being so great etc.", they received rather a shock when they saw the cost. So the engineers were asked to revise their plans, which they did, retaining all the main features of the original scheme. But the cost, as one commentator said, "With that marvellous elasticity to be observed in dealing with big figures", was reduced to just over one half!

The Revised Plans

Further Report respecting the two new Ports, etc., in the Rivers Dee and Mersey, adjacent to Liverpool

In the previous Report the Estimate had been for an extensive and perfect plan, so a considerable portion can be deferred till increased demands of trade shall make them necessary. In the meantime, the essential features can be accomplished at less cost, and yet retain the essential features. We propose to make the Canal wide enough for three large ships so as to use it as a floating harbour, leaving room for navigation, but for this alone a width of 120 feet will be sufficient. The double Locks at the Wallasey end can be deferred, and the Basins be smaller. Part of the Canal can be used as the Ship Dock and quayed on one side only. The Half Tide Dock can be deleted by enlarging the Barge Tide Lock, so that ships can use it. The walling of the Pool and the first mile of the Canal can be left over. The Warehouses also may be left for a time, but sufficient land should be acquired, for these im-

provements can be added at some future date. We do not advise deferring the enlargement and deepening of the entrance to Wallasey Pool, as much of the success of the Canal will depend on vessels being able to enter it at low tide; and for a similar reason, we should retain all the works proposed for the Harbour at Hilbre Island.

Upon this modified Plan the expense will be £734,163.

Chester, 14th July, 1828

Thomas Telford
Robert Stevenson
Alexander Nimmo.

This modified plan was heartily approved by the promoters.

Telford accepted the post of Engineer in Chief and a London House undertook to find all the money for the scheme. It was decided not to offer any shares to the public, but for the promoters to keep the business in their own hands, that is, Sir John Tobin and William Laird and one or two others. Lord Clive who had come to see the district was "very favourably impressed". Everything was arranged to proceed with the work when in stepped the Corporation of Liverpool!!!

The Corporation of Liverpool

The silting up the Hyle Lake* and the changes in the Rock Channel were causing grave anxiety to the Corporation.¹ Stevenson, from borings he had made on Wallasey Marsh, was quite convinced that at one time this was the original mouth of the Mersey and even suggested that if necessary a new way to the sea at Leasowe could be made. The encroachments, made on the Mersey, by various owners of property, were considered by numerous Engineers, to be detrimental to the flow, and scour, of the tide.² The Corporation, who claimed to be the Conservators of the Mersey, thereupon took the matter to Court. This cost them between £13,000 and £14,000 and at the last trial, in August 1826, it was decided that the Corporation were *not* the Conservators. To prevent further encroachments they tried to get the landowners, on both sides of the river, to agree to submit to the control of a permanent authority, fixed by Parliament, but without success. Among other suggestions, was that the Corporation should purchase all the frontage lands on the river!³ Whether their acquisition of a large tract of land on the south bank of the

* *Derivation of Hoylake.*

Mr. Robert Gladstone⁴ said, "Hoylake is a comparatively modern form, an older form is "Highlake", which is itself a corruption of "Isle Lake" "Eye Lake", for "Eye" means "Isle" which, of course, refers to Hilbre Island."

(1) Port and Docks of Birkenhead, p.xxiii.

(2) Municipal Inquiry, p.214.

(3) Municipal Inquiry, p.215.

(4) Mr. Robert Gladstone at Meeting of Liverpool Litt and Phil. November 15th, 1937.

Pool on August 3rd, 1827 was part of the scheme is not clear. The first that the Corporation heard of the Canal Scheme was at their Meeting on August 16th, 1828, when the Mayor announced that he had had a communication that an application was to be made to the next session of Parliament by certain landholders in Wirral, and others, for a Bill to authorise the construction of docks in Wallasey Pool, and to make a Ship Canal, from thence to communicate with the River Dee near Hilbre.

The Mayor was instructed to obtain a copy of the plan of the intended works and the Engineers' report on it. The whole Council was appointed as a committee to act as seemed most advisable. Mr. Laird's reply as one of the landholders, was that the detailed plan was not in his possession but he enclosed a copy of the Engineer's report giving the "leading features".

Before the next Council Meeting, nearly a month later on September 15th, 1828, the Mayor, and the Chairman of the Finance Committee, Mr. George Case,¹

"On their own responsibility got together to ascertain with the utmost precision and caution the situation in the various interests in the frontage lands, and the practicability of purchasing the same upon such terms as might be advantageous not only to the Corporation Estate but to the Trustees of the Estate of the Docks, and the Town at large and with this idea had, through various channels,² and agencies, been able to . . . negotiate for the whole of the frontage land on the south side of the Pool, as appeared to them to be important to possess, as well as some on the north side of the Pool, which will enable the Corporation to command any objects which may be desirable."

But Sir John Tobin had not been approached, so when he was invited to attend a Finance Committee, where the report of one small lot after another being purchased was read, he advised that if the Council wanted to buy land on the Pool, to buy it direct from Mr. Price, not second-hand, in small lots. Concerning the sale of the land owned by Mr. Laird and himself, that would be simple if the Corporation would bind themselves not to let the project of The Canal drop but carry it forward,³ employing Mr. Telford and the other engineers who had made the report. But the Council were not willing to agree to these conditions!

Sir John Tobin, addressing Mr. Case said, "On all occasions my wish is to oblige and serve you, and you would not wish me to be guilty of any dishonourable action". Mr. Case replied, "Certainly not". Sir John continued, "I wrote to Mr. Laird, as he was out of town, to tell him of the proposals made by the Finance Committee, and that I could not sell my property to them, situated as we were with the others". Sir John was unable to be present at the next Finance Committee Meeting as he was out of town. The next morning, though, after the transaction took place, Mr. Laird called to tell him that he had negotiated a sale with some members of the Corporation and that the price was so and so. Sir John continues, "I saw then that it would not avail

(1) Municipal Records of Liverpool. Picton, p.343.

(1) Municipal Inquiry, p.215

(15) Municipal Inquiry, p.217.

me to stand alone, as the beauty of the scheme was destroyed. It was not for me to stand against him and the Corporation, therefore I must assent to the sale”.

Sir John was very annoyed, and disgusted, with Mr. Laird's conduct, as there was a written agreement between them that “neither of them was to sell a yard of land without the consent of the other”. The Town Clerk in his evidence at the Municipal Inquiry stated that Sir John had sold his land to the Corporation, whereupon Sir John had immediately said, “They did not purchase it from *me!*” When Mr. Okill was asked (he was Secretary to the Committee of the Common Council), he said “he believed that it was Mr. Laird that negotiated the sale, but it was done with such privacy that although he knew that something was going on, he could give no particulars”. It was said that Sir John never spoke to Mr. Laird again, and it was known that Sir John had a deed of Arbitration made to separate himself from Mr. Laird in matters in which they were jointly interested. It was also said by Sir John that one of his principal reasons for supporting the canal scheme was the great shortage of dock accommodation at Liverpool, which he as a shipowner suffered as much as others. During the Enquiry he was asked would he prefer to have the land back or stick to the cash? His reply was, “Had the scheme gone on, I should probably have received £100,000 in a short time, now I have got one third of that, but if the Corporation would get an Act of Parliament and make the Pool into an additional harbour I should say, give me back the land and I will return the money”.

Sir John's professed disappointment was not regarded as very real at the time . . . possibly the truth was that the holders of the land were quite pleased to make a profit of 300% and more at once, rather than run the risk of the success or failure of the canal scheme. The Municipal Corporation Commissioners were not very flattering to the Corporation in their Report. They investigated the matter at great length; here are a few extracts:—

“The purchase at a cost of nearly £155,000 for 192 acres of land not yielding more than £1 per cent., the money being borrowed for the purpose at $4\frac{1}{2}\%$,¹ and at a time when the balance due from the Corporation to their bankers was £113,000, created much surprise.” The Report concludes with these words:—

“The Common Council might have been put on their guard by Mr. Laird's abandonment of his cherished scheme, the cause of which remains unexplained to this day (1833), therefore it is not uncharitable to represent the character of the Corporation as dupes throughout this transaction. It is proper to state that no charge of collusion or corrupt practice was openly made against the Corporation.”

John Askew

Although at the time no reason could be found for Mr. Laird's “abandonment of his cherished scheme”, perhaps some of the other evidence given at the Municipal Enquiry may supply a clue. The persistent unwillingness of Mr. Askew, the Harbour Master,² to survey a new channel, which

(1) Port and Docks of Birkenhead, p.xxi.

(2) Municipal inquiry, p.308 et seq.

at this time had already been in use by captains and pilots for some years, made it necessary to appoint a Sub-Committee of the Dock Committee to try to get something done. What follows is from the evidence:—

“Repeated meetings were held, when the Harbour Master stated many objections as to depth of water, risk of inducing vessels to enter the channel, inexpediency of removing the Formby Beacon, etc., and urged the postponement of the whole till next year.”

As the Chairman of the Pilot’s Committee, Mr. Porter, was in favour of getting on with things, and the Sub-Committee “thought it right to resist these objections”:—

“They determined to invite Lieut. Evans R.N., who had made repeated surveys, and published a chart, to come at once and lend his assistance, which he did. His visit seemed to give much offence to the Harbour Master, and after the Surveys, which were made together,¹ the contradictions, which were given by the latter to the former; and the manner of doing so at the Meetings were so disagreeable and harrassing to Lieut. Evans, that it became necessary for two of the Sub-Committee to ask that Mr. Porter would accompany them, with the Harbour Master, and Mr. Evans on the Surveys to bring their labours to a close, and produce some satisfactory result.”

But even these precautions were not quite satisfactory, for further on we read:—²

“Recently he (the Harbour Master) absented himself from Liverpool for four days, without giving any intimation of his intention to do so. . . . Mr. Evans expressed himself so dissatisfied with the manner and conduct of Mr. Askew that he wished to leave Liverpool. . . .”

However, he was persuaded to proceed with the Surveys and:—

“We discovered that a channel, which ought to have been buoyed off some years ago, was practicable for vessels at low water.”

In conclusion, it may be stated that J. M. Rendel, in his evidence before the Liverpool Dock Bill, 1847, is reported to have said;³ “the reason that the Ship Canal from the Mersey to the Dee was not carried out was because of the discovery of a new channel by which a ship drawing ten feet of water could enter the Mersey at low water”. Thus it would appear that John Askew had supported William Laird over the canal scheme, since the Harbour Master had objected so strongly to the surveying of a new channel into the Mersey. When, however, the new channel was found to be practicable, Laird had seen the canal scheme would have no future, and had abandoned it.

(1) Municipal Inquiry, p.193.

(2) Municipal Inquiry, p.194.

(3) Bertram Furness. Recollections.

NELSON

by A. N. RYAN, M.A.

Read 22nd October, 1959

Horatio Nelson was, like several other famous eighteenth century naval officers, the son of a Church of England clergyman. He was born at Burnham Thorpe in the county of Norfolk in 1758. That his father was a clergyman had much less influence upon his future career than that his maternal uncle Maurice Suckling was a naval officer. In the eighteenth century, admission to the naval profession was most easily obtained by boys who possessed a family or social connection with a serving officer. The advantage to a boy of such a connection was that he could be placed aboard a ship-of-war under the patronage of its captain to learn seamanship, navigation and the traditions of naval discipline. More important still, a boy who entered the service in this fashion had the privilege of walking the quarter deck. Though rated a volunteer first-class, he was regarded from the beginning as a potential commissioned officer. There was, of course, no guarantee that he would ever be commissioned. But he certainly belonged to the circle from which most commissioned officers came. Nelson first went to sea in 1770 on the *Raisonable*, a sixty-four gun ship commanded by Maurice Suckling. He was away to a good start. Suckling was a man of some importance. His grandmother was sister to Sir Robert Walpole. From 1775 until his death in 1778, he was Comptroller of the Navy. During the last few months of his life he was Member of Parliament for Portsmouth. The connection with Suckling conferred upon the young Nelson the inestimable advantage of influential backing.

Early Career

To say that Nelson began his career in favourable circumstances is not the same as saying that he owed everything to influence. The Navy of his day was a great fighting machine because it did provide a career for the talented. It sought its talent from a minority of the population: the sons and nephews of naval officers, professional men and aristocrats. That is why Nelson and the Navy owed so much to the Suckling connection. It meant that he was given an early opportunity to demonstrate his abilities. In 1777 he was commissioned. In 1780 he was posted captain. Since promotion from captain to rear-admiral depended upon seniority, the significance of the rapid rise to post-captain can hardly be overestimated. It carried with it the possibility that Nelson, provided he survived the risks of war and the hazards of sea life, would obtain an independent command in early middle age.

There was nothing exceptional about Nelson's career so far. Other well-connected and promising young men rose in the same way. Many of them

were very competent and they enjoyed successful careers. The difference between Nelson and his successful contemporaries is the difference between distinction and competence. His qualities began to impress those who had dealings with him. He attracted a good deal of attention whilst stationed in the West Indies in the 1780s, by his resolute determination to prevent United States merchantmen from trading with the British West Indian islands, a practice forbidden by the Navigation Acts. His conduct in this matter was in accordance with official instructions. It was contrary to the wishes and interests of influential people in West Indian society, who profited from the trade. The commander-in-chief, not wishing to offend them, was prepared to condone the trade. He was irritated by Nelson's behaviour. So were many other people. The irritation was accompanied by a growing interest in him:

"We have at last seen the little captain of the *Boreas* of whom so much has been said. He came up just before dinner, much heated and was very silent: yet seemed, according to the old adage, to think the more. He declined drinking any wine: but after dinner, when the president, as usual, gave the three following toasts, the King, the Queen and Royal Family and Lord Hood, this strange man filled his glass, and observed, that those were always bumper toasts with him; which having drank, he relapsed into his former taciturnity. It was impossible during this visit for any of us to make out his real character; there was such a reserve and sternness in his behaviour, with occasional sallies, though very transient, of a superior mind. Being placed by him, I endeavoured to rouse his attention by showing him all the civilities in my power; but I drew out little more than yes and no. If you, Fanny, had been there, we think you would have made something of him; for you have been in the habit of attending these odd sort of people."

During his service on the West Indian station Nelson showed the personal and professional qualities which were to raise him to the heights of his profession, particularly the determination to carry out duties at the cost of unpopularity and the willingness to accept responsibility and loneliness: virtues which are perhaps necessary qualifications for the exercise of command. But, though he had made an impression upon those associated with him, he had by no means emerged as a master of the art of maritime war. He was thirty-four years old when the war with revolutionary France began in 1793. Still a captain, he was given command of the *Agamemnon* of sixty-four guns. Relatively unknown, he sailed to the Mediterranean in the fleet of Lord Hood. Within a few years he was a famous man.

Fame

Next to a punctilious sense of duty the desire for fame was the most powerful driving force in Nelson's life. It sustained him in times of danger, loneliness and disappointment; it helped him carry the burden of the knowledge that a mistaken decision on his part might lose the war. He was prone to outbursts of petulance when he felt that his talents, of which he was very aware, were not publicly recognized. One such outburst occurred after the siege of Corsica in 1794:

“One hundred and ten days I have actually been engaged, at sea and on shore against the enemy. I do not know that anyone has done more. I have had the comfort always to be applauded by commander in chief, but never to be rewarded: and what is more mortifying, for services in which I have been wounded others have been praised who, at the same time, were actually in bed far from the scene. They have not done me justice. But, never mind, I’ll have a *Gazette* of my own”.

Within four years the prophecy was fulfilled. In the autumn of 1798, the names of Nelson and the Nile rang across Europe. This was in many respects a turning point in his life. Nelson at the age of forty had passed successfully through the tests of responsibility, of battle and of command. He had now to face the test of fame.

It could hardly have come at a worse time. In the weeks before the battle of the Nile, Nelson was subject to immense strain. During the fight he received a head wound. The reaction was a condition of feverish excitement in which the deep-rooted desire for fame and admiration became a hungry craving for adulation. This craving could not be satisfied by the prosaic congratulations of Lady Nelson and the formal approval of his professional seniors. It fed upon popular and unrestrained acclamation. The tumultuous reception given Nelson in Naples accorded with this mood. The fêtes organized there by Lady Hamilton, the description of which was the chief theme of his letters home in the closing months of 1798, provided the stage on which to play the rôle of public hero—a rôle which he sustained for the rest of his life. The tragedy was that Lady Nelson was temperamentally unfitted to play the heroine. Nelson’s estrangement from his wife and his attachment to Lady Hamilton—a woman as fitted for the part of heroine as Lady Nelson was not—dated from this time.

The rest of his career was played out in public. The theatrical poses necessary to sustain the rôle often distressed and sometimes disgusted his friends. “Poor man,” wrote that great officer the Earl St. Vincent in 1801, “he is devoured with vanity, weakness and folly: was stuck with ribbons, medals, etc. and yet pretended that he wished to avoid the honour and ceremony that he everywhere met with upon the road”. The distress of his friends and the laughter of his enemies are understandable. Nelson’s conduct often appeared ridiculous especially to men who, like St. Vincent, were accustomed to responsibility and command in places remote from the public eye and were indifferent to popular acclaim. And yet there is a sense in which Nelson was instinctively right in providing the nation with the spectacle, for such it was, of a public hero. The wars which began in 1793 contained a strong ideological element. Unlike earlier eighteenth century wars they demanded that the spirit and passions of the people be identified with the conduct of the struggle. Nelson, by parading himself, was able to arouse enthusiasms and breed confidence in the public mind. A retiring man could not have done this. In the same way, a more aloof commander than Nelson could never have instilled into his subordinates the certainty felt by Nelson’s officers and crews that victory was their birthright.

Nelson's Tactics

Though Nelson sometimes struck poses, he was never a *poseur*. The trust that was placed in him ashore and afloat rested ultimately upon the recognition of his outstanding professional qualities. They were not denied even by those who regarded his personal conduct as the height of folly. They were undimmed by the extravagances of the last seven years of his life. Between 1797 and 1805, Nelson fought in four major engagements. In three of them, the Nile, the first battle of Copenhagen and Trafalgar, he planned and led the attack. At Cape St. Vincent he distinguished himself by wearing his ship out of the line at a critical moment—an unconventional action, which a “safe”, competent man would never have done—and by doing so changed the course of the battle. To take the initiative, as Nelson did at St. Vincent, was an appallingly risky thing for a junior officer to do. It violated eighteenth century naval conventions and might have spelt professional ruin. Fortunately the commander-in-chief, John Jervis, the Earl St. Vincent as he was to become, was a man of insight who recognized Nelson’s distinction. More fortunately still, the manoeuvre succeeded brilliantly. But it must be realized that in making the manoeuvre Nelson took a carefully calculated risk.

This was characteristic of him. Nelson often took risks. He always calculated them carefully. The ability to make dangerous decisions after weighing all the possible consequences was part of his greatness. The element of calculation needs perhaps to be emphasized more than his courage. Nothing could be further from the truth than to think of Nelson as a man who rushed recklessly at the enemy. There is, of course, a legend that he did. It was perpetuated by the Earl of Dundonald in his *Autobiography of a Seaman* where it is put on record that one of Nelson’s repeated aphorisms was, “Never mind manoeuvres; always go at them”. True, once the fleets were locked in close battle he was content to leave things to the fighting qualities and skill of his subordinates. The preliminary moves calculated to bring on a close engagement, and to force the enemy to fight at a disadvantage, were on the other hand thought out and executed with the utmost deliberation. Writing of the Nile campaign, Sir Edward Berry has recorded:

“The admiral had, and it appeared most justly, the highest opinion of, and placed the firmest reliance on, the valour and conduct of every captain in the squadron. It had been his practice during the whole of the cruise, whenever the weather and circumstances would permit, to have his captains on board the *Vanguard*, where he would fully develop to them his own ideas of the best mode of attack, and such plans as he proposed to execute upon falling in with the enemy, whatever their position or situation might be, by day or by night. There was no possible position in which they could be found, that he did not take into his calculation, and for the most advantageous attack of which he had not digested and arranged the best possible disposition of the force which he commanded”.

The same careful provision for a number of different possibilities marked the planning of Trafalgar. It is clearly evident too in the preliminaries of his most hazardous undertaking, the slogging match with the Danish batteries at Copenhagen on the 2nd of April, 1801.

Concentration of Force

The pains taken by Nelson over the problem of the approach upon the enemy and the urgency with which he treated this question, were the result of his tactical ideas. The essence of these was that the way to defeat an enemy fleet was to achieve a concentration of force against part of it, in such fashion that the part assailed would be battered by superior numbers before the remainder could come to its aid. "By attacking the enemy's van and centre, the wind blowing directly along their line, I was enabled to throw what force I pleased on a few ships." In these words addressed to Lord Howe, Nelson summed up the tactics employed at the Nile. He did not live to explain the principles according to which the battle of Trafalgar was fought. But all the available evidence supports the view that the Franco-Spanish fleet was overwhelmed by the achievement of a concentration against part of it, in a manner deliberately devised by Nelson. The Plan of Attack issued in May, 1805 and the famous pre-Trafalgar Memorandum of the 9th of October, 1805, though they are by no means identical, are built around the idea of concentration:

"The whole impression of the British fleet must be to overpower from two or three ships a-head of their commander-in-chief, supposed to be in the centre, to the rear of the fleet. I will suppose twenty sail of the Enemy's Line to be untouched, it must be some time before they could perform a manoeuvre to bring their force compact to attack any part of the British fleet engaged, or to succour their own ships, which indeed would be impossible without mixing with the ships engaged."

The simplicity of the general idea is such that one is prompted to ask why it was left to Nelson to discover it. The answer is that he did not. The idea was inherited from the thought of the great sea officers, British and French, of the seventeenth and eighteenth centuries. Nelson's genius did not lie in discovering the tactical advantages of concentration, but in devising ways whereby the whole of his force could be flung against part of the enemy and in explaining those ways to his subordinates. The conferences held on board the flagship had as their purpose the exchange of ideas about the great problem of sailing ship warfare: how to overwhelm an enemy fleet commanded by a man of high professional skill who was determined to thwart the aims of his opponent. Without detracting from the individual genius of Nelson, it must be recognized that he owed a great debt to his predecessors. The tactical problem was on the verge of solution at the moment when his emergence began. He brought to ideas which were relatively commonplace a host of insights and variations which he himself dubbed, characteristically enough, the "Nelson touch". Therein lay a great measure of his originality.

Annihilation

This does not exhaust the explanation of his greatness as a sea officer. Indeed the great difference between him and other distinguished fleet commanders has not so far been mentioned. His predecessors, the men of the eighteenth century, brought to sea warfare a detached professional approach. Their object was to outmanoeuvre and outfight the enemy in order to secure certain clear strategic advantages, to win prizes and to increase their professional reputation. Victory for them usually meant the capture or destruction

of a few enemy ships and the retreat of the rest. This attitude is epitomized in the phrase: "We have done well enough". It was used by Rodney in 1782, by Howe in 1794 and by Hotham in 1795. It is reflected in the half-hearted pursuit by Tourville of the retreating Anglo-Dutch fleet after the battle of Beachy Head in 1692. It was the traditional attitude. It was not that of Nelson. Nelson was obsessed by the idea of annihilation. The advantages which satisfied his precursors and (if the truth be told) most of his contemporaries were not enough for him. He saw victory in terms, not of an enemy put to flight but of an enemy destroyed. He relishes the word "annihilation", uses it time and time again when expounding his tactical thought and regards it as the only valid aim of a sea battle. Let a retreating enemy squadron escape and, looking beyond the immediate advantages, he holds it an opportunity missed:

"Sure I am, had I commanded our fleet on the 14th, that either the whole French fleet would have graced my triumph, or I should have been in a confounded scrape. I went on board Admiral Hotham as soon as our firing grew slack in the Van, and the *Ça Ira* and *Censeur* had struck, to propose to him leaving our two crippled ships, the two prizes and four frigates, to themselves, and to pursue the enemy; but he, much cooler than myself, said, 'We must be contented we have done very well'. Now had we taken ten sail, and had allowed the eleventh to escape, when it had been possible to have got at her, I could never have called it well done."

This was not the disgruntled criticism of a fretful subordinate uttered in a moment of stress and immediately repented. The idea that nothing less than the complete destruction of the enemy forces could be regarded as adequate was central to Nelson's way of thinking about war. Here was the great line of division between Nelson and Rodney, Howe, Keppel and the rest. Turning his back on the eighteenth century with its conception of war as a business of limited objectives, he pursued total and unlimited conquest. He was the first of his generation to recognize that the character of war itself had changed since 1793, that it had become a clash between rival ideologies the end of which was not territorial advantage but political survival or political destruction. His tactical insights were profound. But the real nature of his genius was that he emancipated maritime war from the restraints and inhibitions imposed upon it by the political conventions of the eighteenth century.

REFORMATION AFLOAT

The Story of the “Akbar”

by JOHN SMART

Read 10th December, 1959

INTRODUCTION

For very many years the passenger services provided by the steamers which plied between Liverpool, Rock Ferry, New Ferry and Eastham were extremely well patronised. Some fifty or so years ago Rock Ferry and New Ferry still offered quick and easy access to the Wirral countryside. Eastham with its hotel, tea-gardens, dance hall and other delights attracted many visitors. To the passengers sailing up-river in those days the little group of old sailing warships moored to the southward of Rock Ferry Pier was a very familiar feature. Slightly aloof from the activities of the busier reaches of the river, they formed a small floating community which appeared to have little connection with the busy world around them.

Today the ferry services are closed, the piers dismantled. Rock Ferry and New Ferry have become absorbed within larger communities and a dank and tangled wilderness hiding the ruins of a dance hall serves as a melancholy reminder of the former glories of Eastham. The old training ships have gone, the last in 1941, when the *Conway* was removed to Menai Straits. Although they were a well known feature for so many years, such was their lack of appeal to those interested in local maritime affairs that, with the exception of the *Conway*, very little has been recorded about them.

It is our purpose this evening to offer a few details about the reformatory ship *Akbar* of that little community, which consisted of four vessels lying off-shore between Rock Ferry and New Ferry. Except in their ultimate aim in training boys for the sea they had no administrative connection one with the other. *Conway*, the officers' training ship, lay a little south of Rock Ferry Pier, *Akbar*, a Protestant reformatory ship, lay approximately mid-way between the two piers. The third vessel was *Indefatigable*, an old sailing frigate which housed orphaned sons of seamen and other boys in poor circumstances. She lay off New Ferry Pier and the southernmost berth was occupied by the Roman Catholic reformatory ship *Clarence*.

The impact of the Industrial Revolution and the severe depression which followed the Napoleonic Wars had serious effects on both town and country, during the second, third and fourth decades of the nineteenth century. Then in 1846 came the Irish potato famine and a flood of Irish immigrants to Britain. Towns were overcrowded and poverty stricken. The poor were sickly, underfed and illiterate, living in alleys, cellars and squalid courts, subject to

epidemics, particularly during the summer. Robbery, violence and drunkenness were rife and it is not surprising that many of the children of the slums conformed to prevailing customs. Such were the conditions which produced unwilling recruits for the reformatory ships.

A noteworthy feature of Victorian Britain was the foundation of many charitable organisations. With varying degrees of success they did what little they could to improve the desperate condition of those stricken with abject poverty. Typical products of an age of charity were the reformatory ships, which were founded with the dual purpose of suppressing juvenile crime and of providing discipline and training for those boys who had transgressed against the law as it then stood. The first organisation to undertake this duty on behalf of such boys was the Liverpool Juvenile Reformatory Association.

The two Akbars

During the period 1855 to 1907, when the establishment moved on shore and became known as Heswall Nautical Training School, there were two vessels which bore the name *Akbar*. The first was originally an East Indiaman built of teak in Bombay in 1800. She was bought into the Royal Navy in the following year as His Majesty's frigate *Cornwallis*. Renamed the *Akbar* in 1810 she came to Liverpool in 1829 and served as a quarantine hulk in the Sloyne until acquired in 1855 by the newly formed Liverpool Juvenile Reformatory Association. Between that year and 1862, when she was broken up, she did duty as a reformatory ship, the first vessel to be so used. During subsequent years a number of similar ventures were undertaken elsewhere and by the 1870s there were no less than fourteen vessels classified as industrial ships, reformatory ships and charity schools.

The second *Akbar* had had a very uninteresting history. A product of the Royal shipyard at Deptford she was laid down as H.M.S. *Hero* of seventy-four guns. During building her name was changed to the *Wellington* and she was launched in 1816. Like so many other vessels built at that time, she never served at sea and for the first thirty-two years after her completion she lay undisturbed in the dockyard. In 1848 she commissioned as Depot Ship, Sheerness, for a time; then she had a short period as Coast Guard District Ship and finally became Flagship and Guardship at Devonport in 1861. During her forty-five years in the Royal Navy she served four years in commission and forty-one in reserve. In 1862 Captain Saulez of the old *Akbar* took fifty boys to Plymouth to assist in bringing her around the coast to Liverpool. She arrived in the Mersey on the 5th of May in tow of the Liverpool Steam Tug Company's iron paddler *Blazer*.

Detention in the *Akbar* was not intended as a punishment. Those boys who were committed had served short prison sentences for a variety of crimes. The period served on board was intended to inculcate discipline and to provide training in a variety of ways, which would be of advantage in later years. The ages of the boys upon entry varied between twelve and sixteen years. They arrived in many cases ragged, barefooted, underfed little scarecrows and usually spent three years on board. The possibility of committal to the *Akbar* rather than to a shore school rested not necessarily upon the gravity of the new entry's crime. It depended upon his physical condition and ability to undergo the rigours of life at sea. Despite the protests of successive

captains-superintendent, from time to time a number of boys were entered whose poor health was a constant source of anxiety. All too often the neglect and semi-starvation which they had suffered since birth, left them with insufficient strength to resist the ravages of pneumonia and consumption.

Life on board

By present day standards existence in this grim old ship was extremely hard. There was little or no comfort on board. The work was hard and the discipline strict, but life was nevertheless far superior to the vagrant existence which many boys had previously experienced. Food was far from plentiful for growing boys living an active open air life. In accordance with the prevailing system as operated in ships of the day, messing was on a "pound and pint" basis. For breakfast at 7.30 a.m. the boys received a pint of porridge and four ounces of biscuit. Dinner consisted of four ounces of beef, one pint of soup, three ounces of biscuit and twelve ounces of potatoes or four ounces of rice. For supper, dished out at 5.45 p.m. there was a pint of porridge or, on Thursdays and Sundays, a pint of coffee. Tuesday's menu offered pea soup and pork and on Thursdays and Saturdays pudding was substituted for potatoes.

This uninspiring diet was criticised by H.M. Inspector in 1873 when he reported that, "Salt beef, soup and biscuits comprise too large a part of the dietary. I recommend two or three solid fresh cooked meat diets in the week, and more bread instead of biscuits and a regular supply of potatoes and vegetables". In later years the food was reported to have been abundant and nourishing.

Seamanship instruction occupied a considerable portion of their daily life and in summer-time "Turn out, lash up and stow" was at 5.00 a.m. In winter-time it was two hours later, and all hands turned in at 7.45 p.m. in winter and 8.30 p.m. in summer. When one watch was at school, the other was undergoing instruction in knots, splices, bending and unbending topsails and so on; and the procedure was reversed during the afternoon period. With the exception of the uniform caps, all items of clothing were made on board and clothing was washed on Tuesdays and Fridays, in the afternoon in winter and before breakfast in summer. Every Thursday evening all hands were mustered for a bath in tepid water. At 8 o'clock in the forenoon during summer-time one deck was washed daily, except on Sundays, but in the winter each deck was scrubbed only once a week. One wonders if the ship was ever really dry and whether these damp conditions were, at least in part, the cause of so much sickness and the relatively high number of deaths which occurred in all similar vessels in the early days.

It is not to be expected that life on board a reformatory ship would of necessity conform to the customs of schools elsewhere. The seamen in the making were not there from choice and there were, naturally, the absconders. The lazy, the born rebels and the resentful ones were to be found, but in the belief that exercise and hard work was the basis of reformation, the indolent habits of newcomers were swiftly eradicated. Many a boy, who upon entry had been reported upon as idle and shiftless was later considered as a really useful member of the crew. In general the attitude of the boys committed to the ship seems to have been one of making the best of the situation and of

taking their discharge in due time. It was usual for the captain to report on those who had obtained their discharge and quite a number of ex-*Akbars* received their Mate's Certificates in after life. The ship's band opened entry into regimental bands for the more musically inclined, and very many boys shipped away to sea. To go to sea was a more difficult task than one might perhaps imagine. In the sixties, for instance, it was difficult to obtain berths in British ships. This was in part due to a slump but also due to a lack of interest on the part of British ship-owners, possibly on account of the history of the candidates. The boys preferred to ship in Scandinavian or German ships as the rates of pay were better, but the Association preferred to find them berths in British ships if at all possible. Service in the Royal Navy was barred to boys from reformatory ships, although in later years a few were accepted as stoker ratings.

When first opened in 1855 the original *Akbar* was moored in the Great Float, Birkenhead. But dock works there led to her removal to a berth off Rock Ferry. The other training ships were later arrivals. The *Conway* arrived in 1859, the *Clarence* in August 1864 and the *Indefatigable* in 1865. The situation of these ships, although well up river, was exposed, but it enabled the boys to obtain their full share of practical boat handling in all states of the weather. There are a number of instances upon record of prompt and efficient boat handling being responsible for some very dramatic rescues from the cold waters of the Mersey. For individual acts of rescue the Liverpool Shipwreck and Humane Society medal was awarded on various occasions to *Akbar* boys.

Life both within and without the ship was not altogether devoid of excitement from time to time. There was the ever present prospect of one or the other of the training ships breaking adrift from her moorings. The *Akbar* herself was in trouble a time or two from this cause, and during a wild January night in 1877 she dragged and ran ashore between Rock Ferry and New Ferry. The duty run to New Ferry could be very hazardous at times and on one occasion a boat on the Rock Ferry run met with disaster. Having left the ship at 4.00 p.m. one afternoon, the boat was blown off course and carried up river until she eventually grounded on Frodsham marsh eighteen miles away. Her occupants spent a miserable night without any shelter and the episode ended in the death of a boy who had been visiting his brother on board. On more than one occasion various ships on the moorings were run-down by careless merchantmen.

Fire

Destruction by fire was always to be feared and more than one similar school suffered such a fate. The *Akbar* records mention but one attempt at setting fire to the ship, and that a very poor effort indeed. The danger was amply proved by some of the nearby *Clarence's* bad bargains in 1884. In the hope of disappearing during the resultant chaos they enlivened the dull winter routine by setting fire to their ship. She was completely burnt out, much to their joy, but in 1885 the second *Clarence* arrived. She had been in service for fourteen years when the fiery experiment was repeated, with equal success, since when the *Clarence* has been a shore establishment.

Should opportunity arise there were always certain elements who were not averse to defying authority. Usually the drastic results did not encourage further experiments in that direction. If not young and hardened criminals the boys were, at the very least, "hard cases" and on one occasion caused considerable trouble. A handful of vicious and depraved youths gained the upper hand for a time and mutiny was in the air. The stores were broken into and finally seventeen of the ringleaders lowered a boat and absconded. They were eventually recaptured and ten were tried before Mr. Justice Day at the Liverpool Winter Assizes in 1887. He declined to punish them further on the grounds that the discipline in the ship was defective. Considering the type of boy with which the officers had to deal, it is remarkable that there were not more outbreaks of a similar character.

As far as possible the boys were taught trades, and the carpenter and his crew built boats, made spare spars and so on and were responsible for the maintenance of the ship. The ferry undertakings which in the early days were private ventures had always been interested in the *Akbars*. Messrs. Hetherington & Thwaites of the Rock Ferry Steam Packet Company gave the use of their vessels without charge on many occasions. Reciprocally, when in 1866 the seamen of the Rock Ferry paddlers went out on strike, the *Akbar* boys manned the steamers. The annual excursions to Eastham Gardens were always memorable events in an otherwise rather drab existence, and Rock Ferry, New Ferry and New Brighton were popular venues which provided simple pleasures from time to time, through the generosity of various friends of the ship.

Friends were invited to visit the ship on any day except Saturday, and the ship's boat met the New Ferry steamer if her master sounded his whistle when passing. In the early days of 1855 the boys had landed from the first *Akbar* in the Great Float to attend Sunday service in the Mariners' Church, Birkenhead. In later years a resident chaplain was appointed and part of his duties strikes a very modern note, that of attending to the voluminous and increasing correspondence. For the convenience of visitors who wished to attend Divine Service on board, boats left Rock Ferry slip at 10.45 a.m. and 6.15 p.m. on Sundays.

The post of captain-superintendent of the *Akbar* was a civilian appointment although successive captains were naval officers. Originally the position was held during an officer's period of half pay and they were liable to recall by the Admiralty on appointment to a seagoing post. In later years it was customary to appoint retired officers to the post. Thus, instead of a change of command every four or five years, continuity was assured. Between 1872 and 1902 the captains held command for sixteen and fourteen years respectively. The success of the ship primarily depended upon the personality of the captain. Without understanding and tolerance of boys and their ways, the experiment would have failed in a very short time. The measure of their success is the century which elapsed between 1856 and 1956.

At his discretion the captain could discharge a boy of satisfactory behaviour upon licence, before his term had expired. The boy could go to sea or to friends ashore but this latter course had its dangers. There was always the possibility of boys returning to the evil associations of former years with the constant temptation of reverting to old habits. All too often they returned

to the most pernicious of all influences, the bad example of their own parents. Should that happen, wrote Captain Fenwick, one of her commanders, "the half rescued brand will again fall into the furnace and the reformatory instead of doing its work, will only have sharpened talent and ingenuity for mischief, and the last state of the criminal will be worse than the first."

To discipline and train 200 boys was no easy task and the provision of spare time amusement was quite a big problem. Originally there had been nothing to do after hours and the boys were left to find their own amusement. This state of affairs invariably led to a fairly large defaulters' list and by the 1880s efforts were made to organise sporting events. A rather humorous note creeps into a report about this time, when it was decided to raise the pumps from the orlop to the lower deck, so that the pumping parties would be under the eyes of an officer. Evidently sky-larking had been the order of the day. Cricket and football were played in season and a certain amount of amusement was provided on board during the winter months. When first introduced the results were not too promising. With typical good humour Captain Hicks commented that the majority of his lads were quite ignorant of games and preferred to do nothing, for which they evinced much talent.

The End

Towards the end of the last century, owing to repeated illness on board, all hands were drafted to the Isolation Hospital in New Ferry for a fortnight. During this time the ship, now eighty-four years old, was thoroughly fumigated, dried out, cleaned and rested.

The ravages of time and the effects of long service were becoming increasingly apparent and for years repairs and maintenance had been a constant drain on the resources of the Association. By 1907 it was considered totally unsafe to risk another winter in her and on the 30th of October the majority of officers and boys left her. She was then over ninety years of age, had figured in the Navy List for forty-five years and since had served a further forty-five years in the Mersey. She was towed into the West Float in December, 1907, sold to Messrs. Thos. W. Ward Ltd., and towed away to Morecambe, where she was beached and taken to pieces.

The boys moved to new premises in Heswall where they remained until the school was closed by order of the Home Office in February 1956. Perhaps the only relics of the *Akbar* which remained were her mizzen topmast, stepped in the school grounds, and the decayed jaws of her mizzen boom. Since 1856 over 3,000 boys had been borne on her books and during the 100 year existence of the Association almost 8,000 boys have been passed through the two ships and the shore school.

With the demolition of the *Akbar* there passed yet another of that fleet of wooden warships which for so long remained as interesting survivals of the craft of the shipwright and of an outmoded system of juvenile education and training.

THE SMALLER WARSHIPS OF THE ROYAL NAVY, 1830-60

by A. W. H. PEARSALL, M.A.

Read 10th November, 1960

Having been asked to speak on a naval subject, I chose this topic because practically nothing exists in print giving any idea of warship design in this little known but interesting period. The ships in which we are interested, those of the sloop type and below, were the main instruments in enforcing the "Pax Britannica", and the new demands made by this duty mingled with those made by the introduction of steam power. At the same time, the conservatism of seamen brought up in sail, and imbued with the idea of a deep water navy, had to be overcome, before types suitable to the needs of the time were evolved.

After the Napoleonic Wars came a period of great industrial and commercial expansion. British and foreign trade spread to all parts of the world, often causing social or political repercussions. Warships were therefore increasingly required in the distant stations to protect British interests. On the other hand, the policy of the Government enforced a rigid economy, so that, to enable sufficient ships to be deployed, the emphasis had to be on small ones.

The subject falls naturally into three divisions—(1) sailing ships, (2) paddle steamers, (3) screw steamers. Other factors to notice are the use of broadside or pivot guns, the draught of water, and the proportion of beam to length, all of which indicate the introduction of new ideas.

The sloop was the smallest of the regular sailing warships, and in 1830 there were two main classes. The *Cruiser* of 1797 was the pioneer of a very numerous group of eighteen gun sloops, some rigged as brigs, others as ships. They were generally highly spoken of, and gave good service during the Wars and afterwards. They were armed, like most sailing sloops, with two long chase guns, and the remainder carronades of heavier calibre but short range, all mounted on the open upper deck. The second class of sloop was less satisfactory, being the ten gun brigs often referred to as the "coffin brigs". Their defects arose partly from overloading, but they were not fast sailers. Some were barque rigged, of which the most famous was the *Beagle*. Others were used as packets.

In 1832 Sir William Symonds was appointed Surveyor of the Navy. He had very fixed ideas on hull design, which he had embodied in certain ships built as yachts, and which he now proceeded to incorporate in his warship designs. His ships were very beamy and had marked V-bottoms. They were also large for their type. Much controversy surrounds their merits, but, on

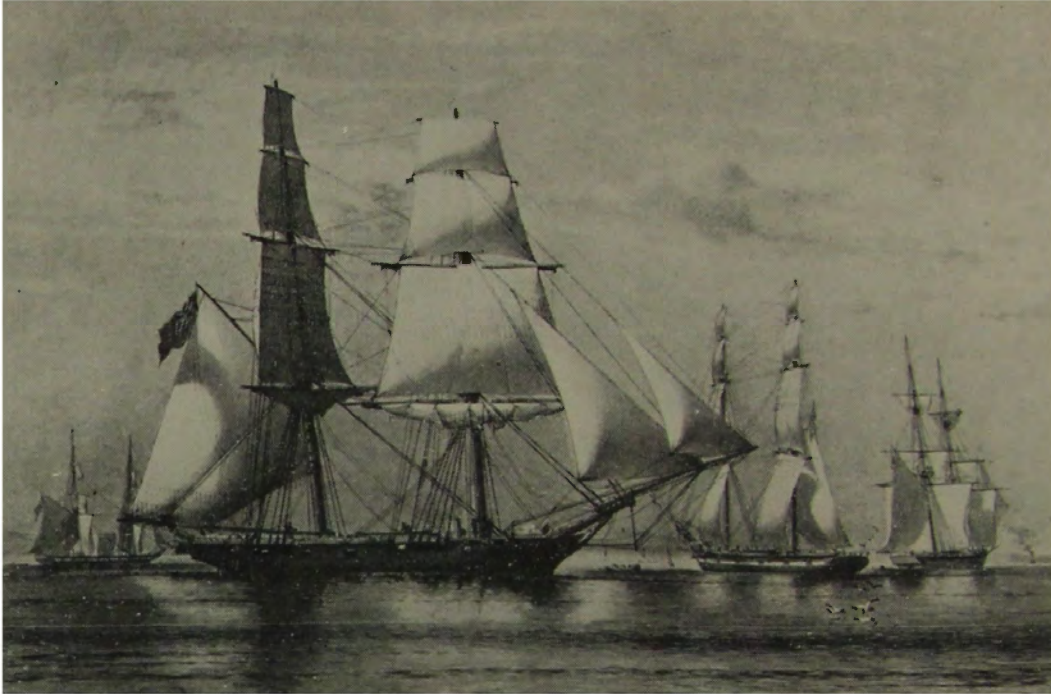


Photo courtesy

National Maritime Museum, Greenwich

Small warships of the 1840's, the brig *Flying Fish* and her sisters of the Experimental Squadron, all built in 1844



Photo courtesy

National Maritime Museum, Greenwich

Magnet, a wooden screw gunboat of 1856, developed during the Crimean War



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Photo courtesy

Liverpool Daily Post

Farewell to the *Eaglet*, the 16th of February, 1927, as she is towed to the shipbreakers (see page 60)

the whole they were an improvement. They were fast, with more stowage for stores, carried their guns better because of their greater size, and could hold on to their canvas for the same reason. On the debit side, they were not good gun platforms, as they rolled quickly and jerkily.

Anti-Slavery Patrol

About this time appeared the first of the particular demands of the "Pax Britannica". Hitherto, special types of warship had not been encouraged, because their special features often impaired their general qualities (e.g. shallow draft). But for the whole of our period and after, the British Government struggled to suppress the slave trade. By 1830, the inadequacies of the ten gun brigs for this task were plain, and most of the successes were achieved by captured slavers, whose lofty spars suited the light breezes of the West African coast, and whose single pivot gun saved weight without loss of effective force. Consequently some of the ten gun brigs were converted or completed similarly armed and loftily rigged as brigantines; later some Symondite brigantines appeared too. Though successful for its purpose, this type was not perpetuated, as steamers showed themselves even more effective. Even so, in the 1840s sailing ships were still the subject of development. A series of experimental brigs was tried in 1844, and in 1847 an iron brig, the *Recruit*, was built. The Symondites represent, however, the last general type, and they put in much useful service against slavers, Chinese and Bornean pirates and others. It should be added that in 1838 and 1846 the established armament of sloops was reduced—sixteen guns to twelve, and twelve to eight.

Paddle Warships

Paddle steamers entered naval service in the 1820s, chiefly as tugs. In the early '30s, the first steam warships took the form of large paddle sloops of a general type which continued to be built until the late '40s. (*Driver* and *Bulldog* classes.) In these ships the pivot gun first came to the fore, as the paddle boxes ruled out broadside guns. Their six guns included a large pivot fore and aft, and four other guns, two on each beam. The value of the pivot was thus exemplified, as it gave larger calibre and wider radius of fire for the weight of two broadside guns. Their large guns, their steam power and their spacious decks made these paddle sloops very useful for towing and troop-carrying as well as bombarding, but they were much larger and more expensive than the sailing sloops and so were not a true replacement.

The evolution of such a replacement was a slow process. In the early '40s, some miscellaneous small steamers were tried against slavers with great success. Soon afterwards, some small iron steamers (Laird-built) belonging to the East India Company proved most useful in China and Borneo. As a result, a very few small iron steamers (such as the *Harpy*) were built for the Navy, and introduced shallow draft and the narrow hull.

Screw Warships

The paddle steamer was however, so vulnerable that by the mid-'40s efforts were being directed towards producing a small screw steamer to replace the sailing sloop. The famous *Rattler* had been the first screw warship, a sloop similar in size to the paddlers, but with a reversion to broadside guns. She

was followed by the first of what became known as "gunvessels". The *Rifleman* and the *Sharpshooter* were intended for home service, and the *Reynard* and *Plumper* for foreign service. These were wooden ships of the old hull form and a predominantly broadside armament. Caution and conservatism led to slow results from these experiments. Not until the early '50s did any number of screw sloops appear (the *Cruiser* class) and for gunvessels it was not until 1853-4 that the *Ariel* type appeared. The considerable pressure both from naval and other interested circles for small handy steamers was virtually ignored.

The Crimean War brought the triumph of the screw steamer. In the five years before the war only about six steamers a year were added and sailing ships were still being built. The foreign stations (which formed the bulk of the active Navy) were still manned predominantly by sailing sloops. By the end of the war very few sailing ships remained in service, and the last paid off in 1860. The war demonstrated unmistakably the general superiority of the steamer. It also involved much inshore work and operations against forts—a pattern which was repeated again in the next few years. The small warship had stabilised into three seagoing types and a number for inshore work. Of the seagoing there was a larger (seventeen gun) and a smaller (nine or eleven gun) type of sloop, both based on pre-war designs, but both growing larger with successive classes. Their guns, except for a single pivot forward, were disposed on the broadside. The third type of seagoing ship was the "despatch vessel" later termed gunvessel. They were more like mercantile practice, long, narrow and fast, armed with two pivots amidships and four smaller guns.

For inshore work, and particularly to take heavy guns inshore, large numbers of gunboats were built, of several varieties, the 60 h.p. class being the most numerous. Many were not finished in time for the war, but afterwards, they fulfilled the need for a small handy steamer, and by 1860, this type too had been developed. Their basic armament was one large pivot gun.

The "Crimean" type of gunboat was sailed out to China, and was there the main instrument for the suppression of Chinese piracy, besides taking a prominent part in the protection of British trade. For the slave trade, their seagoing endurance was insufficient, and one of the larger post-war developments, the *Ranger* class, was used to give the "coup de grace" to that nefarious traffic.

By 1860, therefore, the screw Navy was established with the types of smaller ship that were to last until the disappearance of masts and yards and the development of engine and gun design caused a further revolution during the '80s. Although, in the course of time, it was found that the British Navy was not very well fitted to fight an oceanic war owing to the emphasis on rather static protective duties, these ships met the needs of a world where political disturbance was rife. Today, their memory lingers in the phrase "gunboat diplomacy", but suppression of the slave trade and of piracy were achievements that are conveniently, but undeservedly, forgotten, and by which these ships should be remembered.

NOTE : It is not possible to quote any worthwhile works of reference on this subject. Sir Alan Moore's "Sailing Ships of War, 1800-1860" is useful, and details of ships can be obtained from the catalogue

of the old Royal Naval Museum. Most of the information in this paper has been gathered from very scattered sources, both printed and manuscript. The Parliamentary Papers are perhaps the largest single source.

Table of Particulars of vessels mentioned

<i>Name/Type</i>	<i>Place and Date of Building</i>	<i>Displacement Tonnage</i>	<i>Length</i>	<i>Breadth</i>	<i>Depth</i>
Sailing					
18 gun brig (Cruiser type)		384	100	31	12½
10 gun brig		231	90	24½	11
Symonds 16 gun brig (<i>Acorn</i>)		484	105	33½	15
Symonds 14 gun brig (<i>Serpent</i>)		430	100½	32½	15
Symonds 10 gun brig (<i>Rapid</i>)		319	90	29½	13½
Paddle Steamers					
<i>Salamander</i>	Sheerness 1832	818	175	32	17
<i>Driver</i> class	Portsmouth 1840	1056	180	36	21
<i>Harpy</i>	Blackwall 1845	342	141	22½	13½
<i>Barracouta</i>	Pembroke 1851	1048	190	35	20½
Screw Sloops					
<i>Rattler</i>	Sheerness 1843	888	176½	32½	18½
<i>Cruiser</i>	Deptford 1852	748	160	32	17½
<i>Ariel</i>	Pembroke 1853	486	139	28	13½
<i>Rosario</i>	Deptford 1860	673	160	30½	--
<i>Rinaldo</i>	Portsmouth 1860	951	185	33	17½
Screw Gunvessels					
<i>Rifleman</i>	Portsmouth 1846	486	150	26½	--
<i>Reynard</i>	Deptford 1848	516	147	27½	14½
<i>Lynx</i>	C. J. Mare 1854	477	160	25½	13½
<i>Flying Fish</i>	Pembroke 1855	872	200	30½	14½
Screw Gunboats					
60 h.p.	1855-6	232	106	22	8
80 h.p.	1857	301	125	23	9½
<i>Ranger</i>	Deptford 1860	425	145	25½	13

THE DEVELOPMENT OF MARINE MACHINERY

by SIR STEWART MACTIER, C.B.E.

and W. H. FALCONER

Read 9th February, 1961

INTRODUCTION

This paper has been given a rather grandiose title—I cannot complain about that because I suggested it myself, but I should warn you that it is neither a comprehensive technical survey of the development of marine machinery nor a piece of real research.

We shall not attempt to trace the early history of the marine steam engine. Our point of departure will be the middle of the last century when the full powered steamer became a real practical proposition for the unsubsidised cargo liner owner. And what we have tried to do is to reconstruct the sort of problems in relation to marine propulsion which a typical Liverpool owner of cargo liners has had to resolve over the past hundred years or so. We may well be wrong in some of our facts—we shall certainly be wrong in some of our theories, but we know that we can crave your indulgence, since our main job is to keep ships trading profitably today rather than trying to discover how our predecessors managed to do it in the past.

Now, so as to minimise the degree of “fiction”, we have drawn largely on the experience of our own Company, with the inevitable result that this paper has come to be something of a history of Alfred Holt & Company. However, I think it is not unreasonable to assume that the problems that confronted Alfred Holt and his successors were much the same as most other owners of similar ships had to tackle, and so the history we have tried to present is typical of Liverpool cargo liner owners generally.

The Period 1850 to 1890

Alfred Holt served his time as a Railway Engineer and set up as a Consulting Marine Engineer in India Buildings in 1852 at the age of twenty-three. At that time the machinery of such screw steamers as existed operated mostly at fifteen to twenty lbs/sq. in. with a coal consumption of between 4 to $5\frac{1}{2}$ lbs/I.H.P./hr.—a consumption so high as to make long deep sea voyages uneconomic for steamers.

During the next twelve years—while Alfred and his brother Philip were gaining experience of shipping with several steamers in the West Indian Trade—Messrs. Randolph & Elder developed the first effective version of the two-cylinder compound engine which reduced coal consumption to $2\frac{1}{2}$ lbs/I.H.P./hr.

In compounding Alfred saw the means of building a steamer which could compete with sailing ships in the Far Eastern trade. In 1864 the Holts

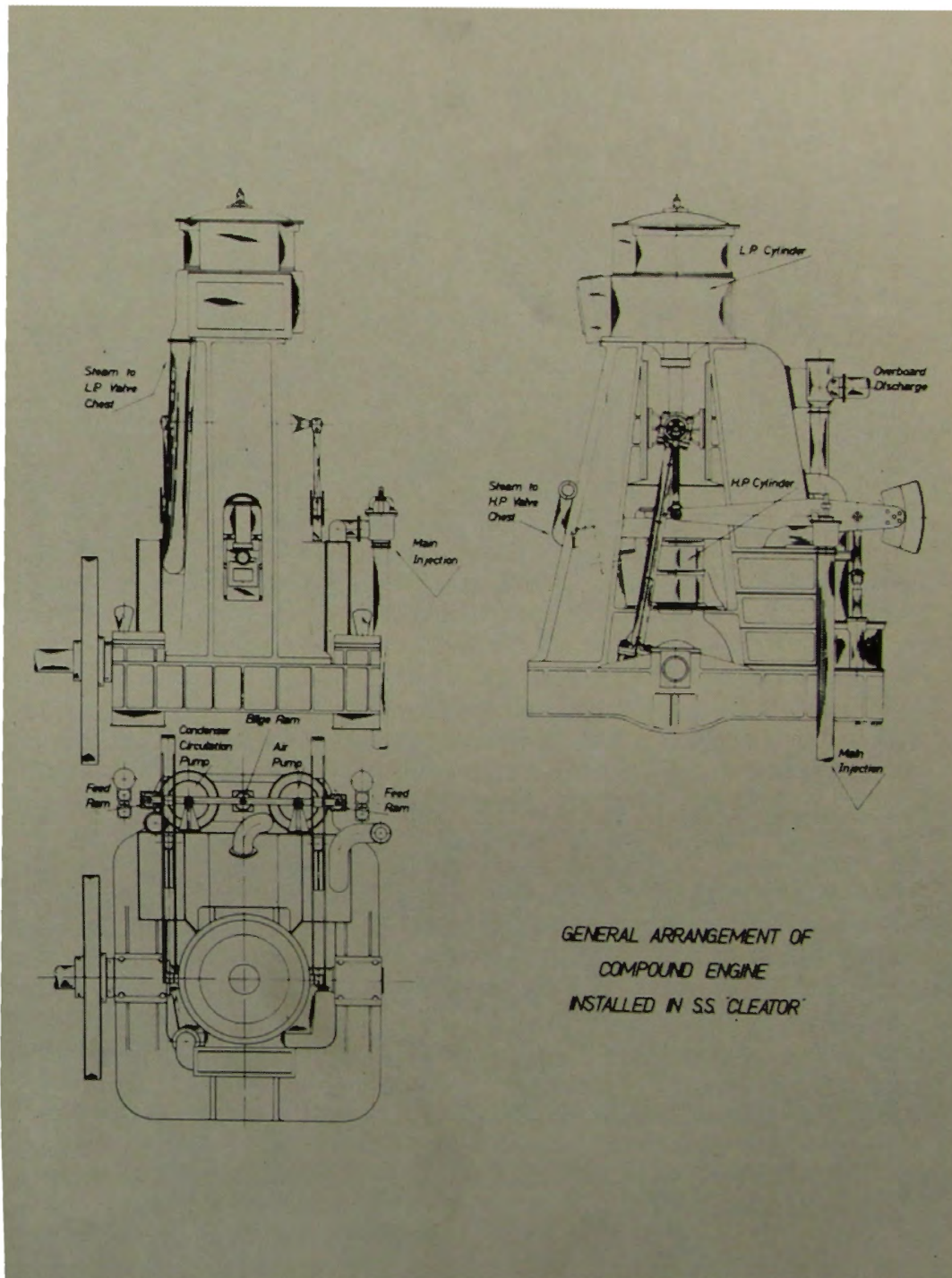


Photo courtesy

Alfred Holt and Co.

S.S. *Cleator* was the first ship to be fitted with Alfred Holt's compound engine in 1862

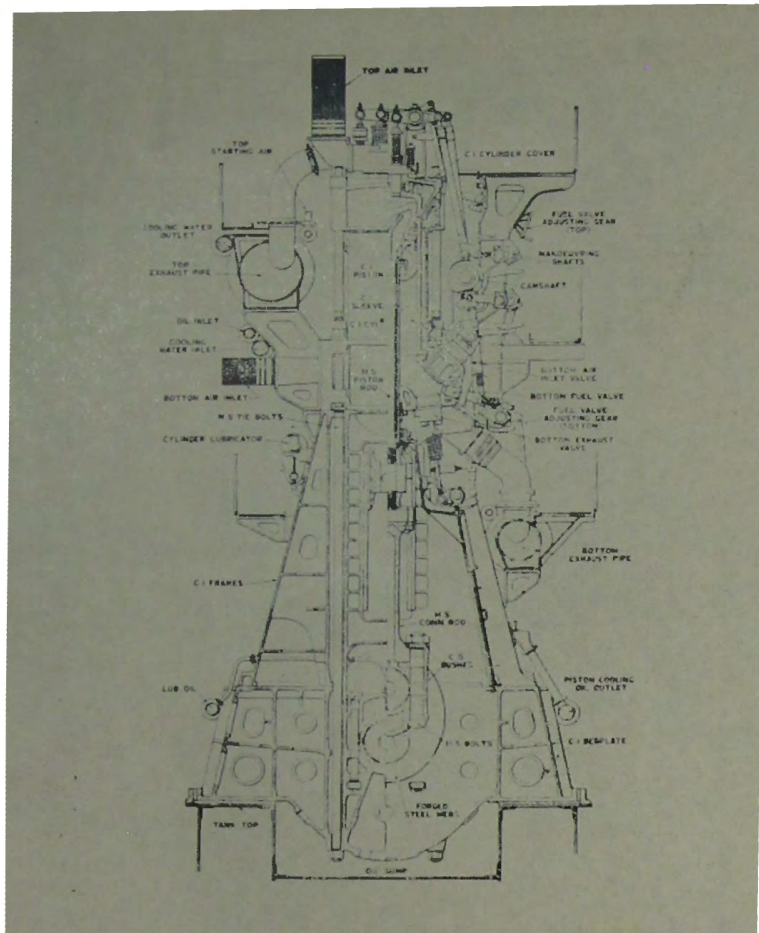


Photo courtesy *Alfred Holt and Co.*
 Four-stroke double-acting diesel engine of the type fitted
 to the White Star liners *Britannic* and *Georgic*

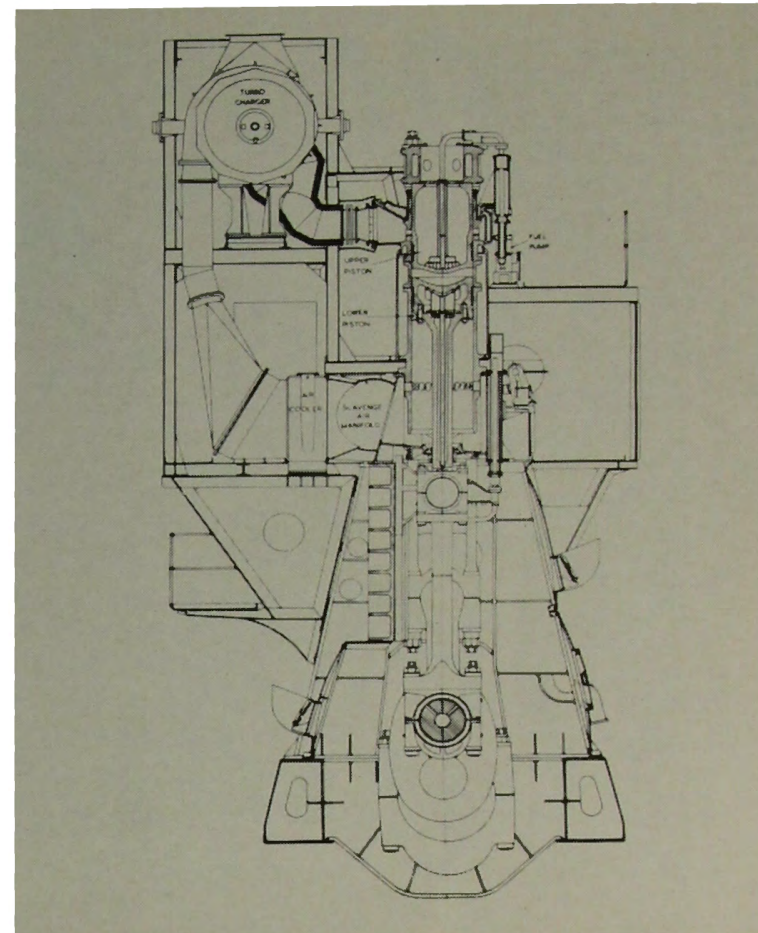


Photo courtesy *Alfred Holt and Co.*
 Two-stroke opposed piston single-acting diesel engine
 with a turbo-charger, a type developed over the last
 ten years

sold their West India trade ships except the *Cleator* which, two years earlier, Alfred had re-engined experimentally with his own design of tandem compound engine.

The outcome of the *Cleator* experiment confirmed Alfred's belief that he could build a ship which could be operated successfully in the China trade which, before the opening of the Suez Canal, involved the 8,500 miles non-stop passage from Liverpool to Mauritius. In 1864 the Holts ordered three ships, *Agamemnon*, *Ajax*, and *Achilles*, of 2,280 tons gross, engined with "Holt's" compound engine operating at sixty lbs/sq. in. and with an output of 964 I.H.P. The ships achieved ten knots with a fuel consumption of $2\frac{1}{4}$ lbs/I.H.P./hr., i.e. about $22\frac{3}{4}$ tons per day. The *Agamemnon* sailed for the Far East on the 19th of April, 1866.

Between 1866 and 1886 the Holts built thirty-two steamers—the largest was 2,397 tons gross, none was designed for more than eleven knots, and all were fitted with the "Holt" compound engine. Now the triple-expansion marine engine with an improved specific consumption was developed in the early '80s, and it is interesting to speculate as to why Alfred did not turn over to this type of engine. I think the answer is that in spite of great pressure to build faster and, in consequence, larger ships, he concluded that a steamer of ten knots and rather over 2,000 gross tons was the right size for the China trade. For such a ship; Holt's compound, light, cheap and giving a very short engine-room, he felt, was fully a match for the more elaborate triple.

That he was probably right is indicated by the fact that Skinners' *Edinburgh Castle*, of $15\frac{1}{2}$ knots and burning probably about thirty-four tons of coal a day, built in 1882, was withdrawn after a single tea season and McGregors' equally spectacular *Glenogle*, built the same year, was eventually re-engined and her speed reduced.

Be that as it may, in the late '80s the Holts evidently decided two things—firstly that for competitive reasons they must increase the speed of their ships, and secondly that if they did, they must consider triple-expansion engines. The *Ulysses*, built in 1888, seems to have been an experimental ship. Her triple-expansion engines developed 1,604 I.H.P., but she was only 2,140 tons gross and would appear, therefore, to be very much over-powered for her size.

While gaining experience with the *Ulysses* in 1890, the Holts built a class of four ships of 2,868 tons gross and installed compound engines developing 1,560 I.H.P., which probably gave them a speed of thirteen knots. But it was not until 1892 that Alfred finally committed himself to triple-expansion engines in the four ships of the *Ixion* class; the first typical Holt 3-island ships, 3,600 tons gross and 1,850 I.H.P., burning $1\frac{3}{4}$ lbs. of coal/I.H.P./hr.—i.e., about forty-five tons per day.

The Period 1890 to 1914

The period between the early '90s and the outbreak of the First World War is interesting to the practical shipowner, principally because it witnessed the development of the cargo liner from steamships which, in carrying capacity, were comparable with the last of the sailing ships, to ships which, in terms of cargo carrying space and deadweight, would still be competitive today.

In 1890, 2,900 tons gross seemed the right economic norm for a ship in the China trade. In 1900 the *Agamemnon II*—the first of a class of four ships—was 7,010 tons gross. In 1913/14 the *Lycaon* class of seven ships had a gross tonnage of 7,550 and 4,814 I.H.P. Holt's post-Second World War 'A' class, consisting of twenty-seven ships, have an average gross tonnage of 7,700.

As far as machinery was concerned there was no fundamental change in this period. Improved steam consumption was achieved by higher boiler pressures—in 1914 the *Lycaon* class operated at 180 lbs/sq. in. on saturated steam and achieved a consumption of 1.63 lbs. of coal/I.H.P./hr. When these vessels were subsequently fitted with superheaters the consumption was reduced to 1.34 lbs. of coal/I.H.P./hr., an improvement of about 11%. For larger powers the quadruple-expansion and 4-cylinder triple-expansion engines were developed, but essentially the cargo liner owner got what he required by way of power, simplicity and efficiency from the 3-cylinder triple-expansion engine.

Obviously all marine engineers during this period must have been keenly interested in the phenomenal development of the steam turbine. It is a remarkable reflection that, from the appearance of the *Turbinia* at the Spithead Review in 1897 until the maiden voyage of the 74,000 S.H.P. turbine driven liner *Mauretania* in 1907, a period of only ten years elapsed. Direct coupled turbines reached the highest state of their development by 1913. The engines of the *Mauretania*, comprising four sets of turbines, weighed 1,640 tons.

To the cargo liner owner, however, it must have been evident that even although the direct-drive steam turbine had great attraction in naval vessels and high speed passenger liners, it would be quite unsuitable for contemporary speeds, and hull forms, and for the variable draft of a ship suitable for his business; since turbine blade speeds were too slow and propeller speeds far too high for reasonable efficiency in a cargo liner.

Enterprising owners of cargo liners were probably much more interested in the activities of Dr. Diesel and in the development of the internal combustion engine.

This is not the occasion to trace the early history of the diesel engine in detail. The appearance of the East Asiatic Company's motor ship *Selandia* in 1912 fitted with two Burmeister & Wain single-acting four-stroke cycle diesel engines each developing 1,250 I.H.P. must have been of considerable interest to all cargo ship owners.

The First World War

I think I am right in saying that the Danish lead was not followed by any Liverpool shipowner at this early date, but it is interesting to note that one of the British pioneers of diesel propulsion was also in the Far Eastern trade, namely the Glen Line of London, whose first motor-ship the *Glengyle* was built by Harland and Wolff, Govan, and delivered in 1915. This ship was fitted with two Burmeister & Wain 6-cylinder single-acting four-stroke cycle engines developing a total of 1,500 S.H.P. and giving the ship a speed of 10½ knots. The *Glengyle* was followed over the next two years by three further motor-ships of slightly greater power from the same builders—*Glenartney*, *Glenamoy* and *Glenavy*.

The Situation in 1918

In spite of the war, progress was made in the development of the diesel engine and the geared turbine, and in 1918 the cargo liner owner had the choice of three main alternative forms of propulsion:—

- (a) Triple- or quadruple-expansion engines with Scotch boilers working at 220 lbs/sq. in. using saturated steam or steam with about 150°F. of superheat, giving a consumption between 1.6 and 1.4 lbs. of coal/S.H.P./hr.
- (b) Single or double reduction geared turbines with Scotch boilers and similar steam conditions. Double reduction turbines under these conditions could achieve a coal consumption of 1.2 lbs./S.H.P./hr.
- (c) Four-stroke cycle single-acting diesel engines using air injection with a fuel consumption of perhaps 0.45 lbs. of diesel oil/S.H.P./hr.

The more conservative owners, who continued to favour the triple-expansion engine with its great reliability and low maintenance cost, but high fuel rate, reaped the advantages of the very low cost of coal in the late twenties and thirties to a particularly great extent.

Although the effects of superheated steam on the performance of an engine had been known in 1860, the invention of the triple-expansion engine and the resulting use of higher boiler pressures pushed the claims of superheating into the background. By 1920 superheated steam was beginning to be used generally, in both reciprocating engines and steam turbines. Its adoption led to a 10% to 14% improvement in fuel consumption. Many vessels built before this date were subsequently fitted with superheaters.

The owners of early double reduction geared turbines ran into considerable gearing troubles due basically to the fact that precision gear cutting machinery had not yet been fully developed. The principal troubles were associated with excessive pinion wear.

The early turbines suffered from extremely rapid and serious erosion of their blading, due partly to short-comings in the design of the turbine and to the variable quality of the steam supplied by the Scotch boilers of the day. It was not practicable to construct Scotch boilers for pressures in excess of, say, 225 lbs/sq. in. The associated degree of superheat rarely exceeded 200°F. Many of these problems were, however, cleared up as oil firing was introduced. The alternative type of steam generator, namely the water tube boiler, was regarded, not without reason, as unreliable.

Many of the troubles encountered with the early water tube boilers were aggravated by the use of coal instead of fuel oil. The usual difficulties were internal corrosion, poor circulation and poor accessibility for cleaning and repair.

A typical example of an early Liverpool geared turbine cargo liner was the *Achilles*, built in 1920. She was a twin-screw ship of 11,500 tons gross with double reduction gears and Brown Curtiss turbines developing a total of 6,100 S.H.P., and three double ended Scotch boilers operating at 200 lbs/sq. in. and 200°F. superheat. This ship, I may say, ran into a very decent proportion of the troubles just mentioned.

May we now turn to the motor-ship of forty years ago, whose owners also had their share of trouble? Looked at in retrospect these troubles were mainly the result of three factors:—

Firstly, the diesel engine operated at temperatures well beyond the experience of most of the builders of marine steam engines, and also I suspect, of the metallurgists who advised them.

Secondly, many naval architects failed to provide a structure sufficiently rigid to ensure that the long multi-cylinder diesel engine was not subject to undue bending stresses.

The third major source of trouble was the blast air fuel injection system, and this is such an important aspect of the development of the marine diesel that I propose to devote a few minutes to discussing it in detail.

In the blast injection system, the fuel is blown into the cylinder with high pressure air. The fuel is delivered in metered quantities by the fuel pump, at a pressure of 800/900 lbs/sq. in. to the fuel valve. Air from a three stage air compressor, driven from one end of the engine, is delivered to the fuel valve at the same pressure. The oil and air mix on the atomizer plates and are admitted to the cylinder when the valve is opened by the timing cam. The principal disadvantages of this system were, the loss of some 7%-10% of the total power, which was required to drive the compressors; and the risk of the failure of a compressor component which might result in the loss of air pressure. This in turn affected the complete engine. As the combustion was centred around the fuel valve, local overheating of piston crown centres and cylinder covers frequently occurred. It is not difficult to visualise the considerable improvement in performance that was brought about by the introduction of what is known as the "solid injection" system.

In this system, the fuel is atomized by spraying through fine holes at high pressures of the order of 5,000/6,000 lbs/sq. in. The three principal disadvantages were thus eliminated in one step. The solid injection system had the disadvantage of requiring higher pressure than had hitherto been used. By selecting the correct materials and suitably treating the oil in a centrifuge the system has proved to be completely reliable. As the oil was now injected through a number of holes it was possible to distribute it more evenly in the combustion chamber than hitherto. This led directly to an increase in power without increasing the size of the engine.

Progress between the Wars

The shipbuilding boom which followed the First World War came to an end in 1923, and for the next ten years or more, both shipbuilding and shipping were up against a slump unparalleled in the history of both industries. This did not prevent considerable progress being made in the design and development of marine machinery, particularly in the field of diesel engines.

The development of the steam turbine for cargo ships over this period was limited principally by the fact that higher steam conditions could not be achieved with Scotch boilers, and few owners would risk turning over to water tube boilers. As far as turbines were concerned, early failures of double reduction gearing frightened owners into single reduction rather than the former, and hence to accepting a slightly less efficient steam cycle. Typical single reduction turbine cargo liners of the mid-twenties achieved at their best a specific fuel consumption of 1.25 lbs. coal/S.H.P./hr. An example of this class of single reduction turbine ship was the *Glaucus*, 7,700 tons gross, a single-screw ship of 6,000 S.H.P. and 14½ knots.

One variant of steam propulsion which emerged during the period between the wars was the triple-expansion engine which exhausted through a low pressure turbine. The latter transmitted its power through an hydraulic coupling or friction clutch and single reduction gearing to a single shaft. The L.P. turbine was capable of utilising low pressure steam more efficiently than a reciprocating engine. Within its limitations it was an excellent system of propulsion.

The story of the diesel engine between the wars is more complicated. The single-acting four-stroke diesel engines built in the 1920s were all very successful. Many engines built with blast injection and subsequently converted to solid injection are still running today. However, the object of all designers was to achieve a greater output per cylinder and so shorten and lighten the engine and reduce the number of moving parts. In principle this could be done either by producing a double-acting engine or using a two-stroke instead of a four-stroke cycle.

Burmeister & Wain and Werkspoor were the only firms which during this period manufactured double-acting four-stroke cycle diesels in significant numbers. In design they were excessively complicated machines. Although these engines could not be considered to be an unqualified success, some notable vessels were propelled by them. Perhaps the *Britannic* and *Georgic* were the best known of the British owned vessels. The cylinder covers, particularly the bottoms, were troublesome and failures were not uncommon, and the blast air fuel injection system described earlier contributed to these. As an example of the application of the double-acting four-stroke cycle to cargo liners, I would mention the *Stentor*, of 6,626 tons gross, built in 1926 and engined with a six-cylinder Werkspoor double-acting four-stroke 820 mm. bore engine developing 5,600 I.H.P. This engine was one of Holt's less successful ventures. A series of misfortunes culminated in a serious engine room explosion, following which the ship was withdrawn and re-engined with a B. & W. two-stroke double-acting engine developing 6,500 I.H.P. This was the forerunner of these builders' opposed piston type of engine.

The alternative two-stroke port scavenged engine was developed more or less simultaneously by a number of builders—notably Sulzer, M.A.N., Doxford, B. & W. and Fiat, whose basic designs have remained unchanged to the present time. These engines were not without their troubles—cracked pistons and covers, difficulties over cylinder and bearing lubrication, and piston cooling. However, these defects were progressively overcome, and by the late 1930s diesel engines, developing up to 1,000 S.H.P./cylinder, were installed in a wide range of cargo liners and tramps, and could be regarded as thoroughly reliable propulsion units.

As an indication of the progress made in diesel development, it is perhaps worth making special mention of the B. & W. so-called "coverless" engines—a development of the *Stentor* type—which were installed in the Glen Line's *Glenearn* class, the first of which was delivered in 1938. Ten ships were built, and at the time were probably the fastest freighters in the world, their twin screws developing 12,500 S.H.P., which gave them a full speed of eighteen knots.

Before we leave the period between the wars, I would like to mention one more type of marine propulsion machinery, namely the Scott-Still engine. This engine was a combined diesel and steam engine. It represented a very skilful but costly attempt to recover and utilise the waste heat in the cylinder jackets and pistons by generating steam, used on the undersides of the oil engine pistons in the case of the *Dolius* engines, and in separate steam cylinders in the case of the *Eurybates* engines. The fuel consumption of these engines has scarcely been bettered today, but equally for complexity they have remained unbeaten.

Scotts' of Greenock built the only large engines of this type for Holt's account; the first engines were installed in the *Dolius* in 1924 and developed 2,500 S.H.P., and the second engines in the *Eurybates* in 1928 which developed 5,000 S.H.P. We have no time this evening to describe this ingenious cycle in detail. Even although it had a high efficiency, the engine was expensive to build and the Still engine did not prove itself competitive with the straight diesel.

The Second World War

The Second World War resulted in all engine builders having to concentrate on producing standard types of machinery, but two notable developments emerged in the course of it—firstly, it became evident that the American turbine builders had drawn well ahead of the British marine engine industry, and secondly, that water tube boilers of moderate output and much more advanced steam conditions could be built and safely operated in normal conditions on merchant ships.

The Situation in 1945

Now when we come to the post-war period, obviously it would be quite impossible to describe in any detail the many types of marine machinery which have been developed over the past fifteen years. All we can attempt to do is to describe general tendencies in design—the economic reasons which have prompted them—and to mention a few types of machinery to illustrate these tendencies.

In 1946 the majority of cargo liner owners required main propelling machinery of between 5,500 and 8,500 S.H.P., although in certain trades fast cargo liners were planned with up to 12,500 S.H.P. The cargo liner owner's choice of machinery was—and still is—determined by certain basic factors:—

Firstly—in most cases first cost, simplicity in operation and maintenance costs require single rather than twin screws.

Secondly—in a given hull the shorter the engine room the larger the cargo carrying capacity. In this connection, it should be noted that in the case of a motor-ship the length of the engine room is normally determined by the length of the main engines.

Thirdly—the smaller the aggregate weight of machinery plus fuel required for the longest voyage between bunkering ports, the larger the ship's deadweight cargo carrying capacity.

Fourthly—daily fuel cost.

In 1946 (although a few cargo liner owners still favoured straight triples or the combination of a triple and an L.P. turbine) basically the owner's choice was limited to two types of machinery, and in describing typical examples I would remind you of the four basic factors which, as I have just mentioned, guide the owner's choice—

- (a) Double reduction geared turbine and water tube boilers operating at 450 lbs/sq. in. and 750°F. Such machinery would achieve a specific fuel consumption of about 0.64 lbs/S.H.P./hr. of furnace oil costing at that time say £5 9s. 0d. per ton. Taking as an example a steam plant of 6,800 S.H.P., the ship would burn forty-six tons per day at a cost of £250. The plant might weigh 700 tons, plus fuel for 7,500 miles, 965 tons, a total of 1,665 tons. Length of engine-room, say 58 feet.
- (b) A double-acting diesel engine which could achieve a specific fuel consumption of about 0.385 lbs/B.H.P./hr. of diesel oil costing say £8 8s. 0d. per ton. Taking then a diesel plant of 6,800 B.H.P., the ship would burn twenty-eight tons per day at a cost of £235. The plant might weigh 1,070 tons, plus fuel again for 7,500 miles, 548 tons, a total of 1,618 tons. Length of engine-room, say 63 feet.

STEAM VERSUS DIESEL
Typical 6,800 S.H.P. Single-Screw Cargo Liner
of 1946

	Fuel Cost per day	Weight of Machinery plus Fuel (2,500 miles) tons	Weight of Machinery plus Fuel (5,000 miles) tons	Weight of Machinery plus Fuel (7,500 miles) tons	Length of Engine Room
Turbine	£250	1,022	1,344	1,665	58½ ft.
Diesel	£235	1,255	1,435	1,618	63 ft.

Modern Diesel Development.

In the early days after the War the diesel engine tended to be favoured for lower powers but, as the output per cylinder of most types was only in the vicinity of 800 S.H.P., higher powers called for multiple cylinders and so for a long and complicated engine. Its competitor the turbine, on the other hand, could be installed in a short compact engine room and the higher the power the greater its efficiency. The diesel suffered from the further general disadvantage of being less reliable and more expensive to maintain. In these conditions, the diesel designers set themselves firstly to achieve greater output per cylinder, and secondly, to eliminate the advantage inherent at that time in the steamer of being able to burn much cheaper oil.

There were two obvious methods of increasing output per cylinder, and the first was to have another try at a double-acting engine—this time of course a double-acting two-stroke. Perhaps the most successful example of this type of engine was the Harland B. & W. opposed piston engine which was brought into service in 1946. This has proved a perfectly successful

engine, but chiefly I think because of its complication, it has never been widely popular. The original design was 550 mm. bore, and a large version has never been built.

The alternative basic method of increasing output/cylinder was to increase the bore and stroke of the various types of two-stroke single-acting engine.

TYPES OF TWO-STROKE SINGLE-ACTING DIESEL ENGINES

Maker	B. & W.	H. & W.	Sulzer	M.A.N.	Doxford
Year	1948	1949	1951	1952	1949
Bore/ Stroke, mm.	740/1600	750/1500+ 500	760/1550	780/1400	750/2500
Output/ Cylinder, B.H.P.	920	1000	900	900	1200

The next stage in development was turbo-charging. That is, to give the cylinder a degree of supercharge, the blower being driven by an exhaust gas-turbine. All the major builders introduced turbo-charging to their existing engines in about 1955, and taking the Harland B. & W. 750 mm. opposed-piston engine, this resulted in output being increased from 1,000 to 1,425 B.H.P. per cylinder. In the last few years the incentive provided by the machinery requirements of the super-tanker—that is 16,000 to 24,000 S.H.P.—has caused the diesel engine builders further to increase cylinder capacity, and all the major builders have produced or are producing engines of 2,000 S.H.P. per cylinder.

The other development in diesel machinery since the War, which revolutionised its competitive position, has been the success achieved in burning furnace oils having high viscosity and high sulphur content. We have no time this evening to go into this in detail, but the fact is that today all modern diesel engines can burn furnace oil of at least 1,500 secs. Redwood (theoretically up to 3,500 secs. Redwood), and the effect on the daily fuel bill for say an 8,000 S.H.P. engine burning thirty tons of oil a day is:—

Diesel Oil at £10 15s. 0d. per ton—£322 a day
Furnace Oil at £6 11s. 0d. per ton—£197 a day

Modern Steam Turbine Development

The development of steam turbines of moderate size over the past fifteen years has been less spectacular. Technically it has been possible—at a cost—to achieve considerably lower specific fuel consumption and lighter machinery by increasing steam pressure and temperature and by more heavily loaded gearing, but for comparatively low powers the advantages have not proved decisive in competition with the diesel engine.

A good example of a small high-efficiency steam turbine plant is fitted to the Blue Funnel *Nestor* class. These three ships are partly refrigerated steamers for the Australian trade and were delivered in 1950/51. Their turbines develop 7,500 S.H.P., with steam at 625 lbs/sq. in. and 950°F., giving



Photo courtesy

Turbine cargo liner *Nestor* built in 1952 for the Blue Funnel line

Alfred Holt and Co.

To face page 109



Photo courtesy *British Railways, London Midland Region*
Rosstrevor, on the Holyhead–Greenore service from 1895 to 1926 (see page 110)

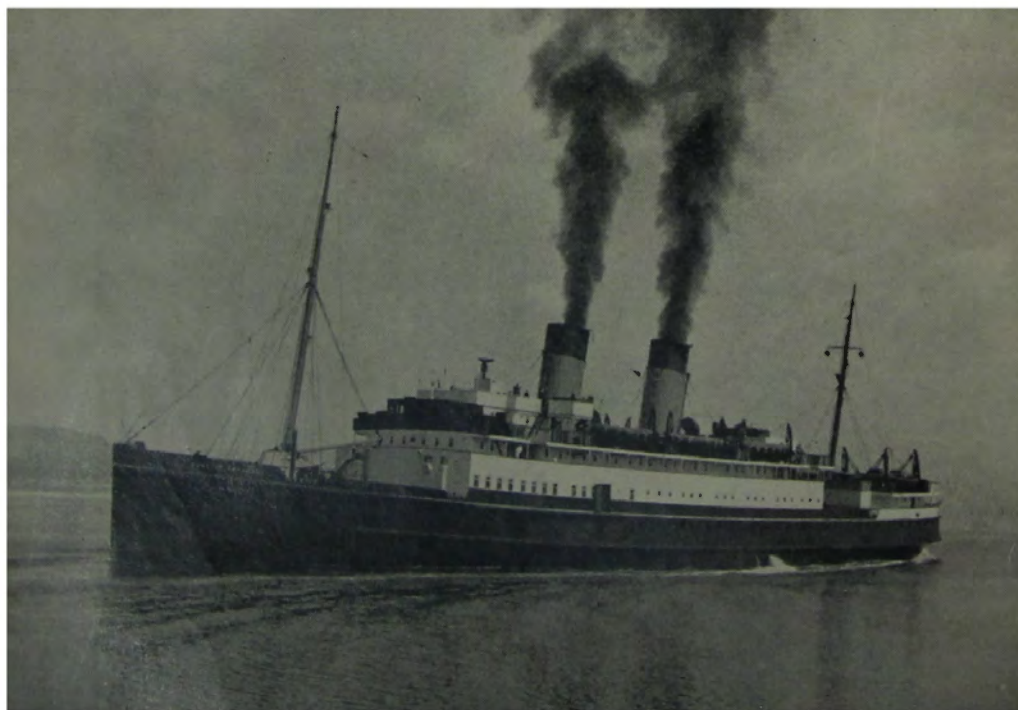


Photo courtesy *H. M. Rea*
One of three new ships built for the Heysham–Belfast service in 1928, the *Duke of Rothesay* (see page 110)

a specific fuel consumption of 0.55 lbs/S.H.P./hr. The fuel cost works out at say £279 a day as compared with £295 a day in the case of what today is regarded as conventional steam conditions for this power—that is 600 lbs/sq. in. and 850°F. Another feature of the *Nestor* class is the very highly rated, and hence very light, gearing. The gears have a K factor of 120 as compared with 70, as usually recommended by the Classification Societies.

Conclusion

That brings us to the end of this very brief review of the development of marine machinery as seen from the point of view of the cargo liner operator, and to conclude it is perhaps just worth a glance at the future.

- (a) I cannot see much prospect of any great improvement in specific fuel consumption either in the marine steam turbine or the diesel engine in the sort of horse power we are interested in, although I hope for greater simplicity and so lower maintenance costs.
- (b) Nuclear propulsion has no prospects in the foreseeable future—there is no known type of reactor at present, which has any prospects of being incorporated in a marine plant which would be commercially viable in a cargo liner.
- (c) The free-piston gasifier combined with a gas turbine, in my personal view, is a thoroughly unattractive conception, combining as it does the basic disadvantage of a reciprocating engine and the manoeuvring complications inherent in all marine turbines.
- (d) The straight gas turbine, I believe, has long-term prospects. To date it has proved impracticable to burn normal fuel oil, on account of its vanadium content and its effect on the nozzle plates and blading. But in principle the gas turbine is a sound conception, in spite of the difficulties involved in producing astern power, and I believe that over a long term this type of machinery will prove a winner.

And so, with those highly controversial suggestions—which I should say are purely my own ideas—I will conclude this paper.

GLOSSARY

B.H.P.	Brake Horse Power.
I.H.P.	Indicated Horse Power.
S.H.P.	Shaft Horse Power.
Centrifuge	A machine, working like a milk separator, used to separate sludge, water and solid particles from diesel and furnace oils.
K Factor	A non-dimensional factor used to measure the unit load on a gear wheel tooth.
Redwood	
Viscometer	An instrument used to measure the viscosity of oil fuel.
Vanadium	Vanadium pentoxide, which, when combined with other elements in oil fuel, attacks the blades and other parts of turbines if elevated to temperatures of over 950°F.

THE IRISH SEA SERVICES OF BRITISH RAILWAYS AND THEIR PREDECESSORS

by E. P. McMANUS

Read 9th March, 1961

INTRODUCTION

At the present time, all the passenger traffic, and most of the cargo trade between the ports on both sides of the Irish Sea, is carried by two great concerns, Coast Lines Limited and British Railways. Both have developed from a number of individual companies—the first by amalgamations and the second by reorganisations through Acts of Parliament in 1921 and 1947. This paper is a tale of the railway services, with some account of their development from the Admiralty and postal “packet” services. (Except for a brief reference, time does not permit me to include the cargo vessels.)

In medieval times, trading vessels usually carried their own documents and there was little or no need for a postal system. With the rise of the great bankers and merchant houses from about the sixteenth century onwards, trade increased and better transport facilities became necessary. It is said that the first Government mail-packet service was established between Holyhead and Dublin (or Howth) during the reign of Queen Elizabeth I, but transport was difficult, irregular and very subject to the vagaries of the weather. These packet services developed considerably, but their operations led to certain corruptions particularly about the time of the Napoleonic Wars; and during the early decades of the last century, the carrying of mails by Government packets gradually declined, and Governments began to enter into mail contracts with bona-fide shipping companies.

The introduction of steam as a means of propulsion, and the construction of railways, brought a reliability to transport which had been impossible hitherto. Railway promoters had to overcome, at first, great opposition from vested interests, and all railway building and operation was controlled by Parliamentary sanction. The first railway to carry passengers was the Liverpool and Manchester in 1830, and during the next few decades, many famous lines came into being, despite two periods of what was called “railway mania”, one about 1845 and the other about 1865/66.

Originally, railway companies were given no powers to operate steamship services and those which wished to do so had to form subsidiary “private” companies for the purpose. Eventually by the successful promotion of individual Parliamentary bills as required, the necessary authority was given and many fine railway-owned, cross-channel services were established.

Then in 1923, nearly all the railway companies in Great Britain were reorganised into four great groups, of which our concern this evening is the London, Midland and Scottish Railway Company, always popularly known as the “L.M.S.”.

I propose to outline the histories of these Irish Sea railway services up to the time of the formation of the L.M.S., and then to include the subsequent developments. The Transport Act of 1947 nationalised these four groups into British Railways, from the 1st of January, 1948.

Holyhead

The opening of a suspension bridge across Menai Straits in 1826 simplified the stage-coach journey between London and Holyhead by removing the dangerous necessity of ferrying passengers and mails across the straits. By 1838, the London and Birmingham Railway had been opened and, by its later connection through the Grand Junction Railway (Birmingham-Chester) to the Liverpool and Manchester Railway, made possible travel by rail between London and Liverpool. At that time, the mail traffic was operating between Liverpool and Ireland, and was shared between the Post Office packets and the ships of the City of Dublin Steam Packet Company.

Another railway link was forged in 1840 by the opening of a line from Crewe to Chester and then some of the mails went through Holyhead, (coach between Chester and Holyhead). In 1846 the London and North Western Railway (L.N.W.R.) came into being, and two years later the Chester and Holyhead Railway (C. & H.). The through journey by rail to Holyhead, however, could not be made until 1850, when the Britannia Tubular Bridge was opened.

In 1847-48, through its necessary subsidiary company, the "C. & H." commissioned four paddle steamers for the Holyhead-Kingstown service (*Hibernia*, *Scotia*, *Anglia* and *Cambria*), but hardly had it done so, when it obtained Parliamentary authority to operate its own steamships. Forthwith, it carried mails through Holyhead, instead of Liverpool, and on the 1st of August, 1848, the first "Irish Mail" train left Euston. At Chester, the mail was taken over by the Chester and Holyhead Railway and was handed over at Holyhead to the Admiralty packet. But the Admiralty was already considering withdrawal from mail carrying on this route and by 1851, it had finally done so.

In a most interesting paper presented to this Society in February, 1952, ("Some Notes on the Port of Holyhead"), Mr. Keith P. Lewis included a description of the mail service. However, he failed to bring out what is to my mind, one of the outstanding features of the story—the tremendous and sometimes bitter rivalry between the London and North Western Railway Company and the City of Dublin Steam Packet Company over the seventy years from 1850 to 1920, for the carriage of the mails.

Much of the story is given in Kennedy's "History of Steam Navigation" and it all happened something like this. In 1849 the Admiralty invited tenders for carrying the mails. The City of Dublin Company submitted one which was accepted, but the Chester and Holyhead Railway Company did not, (probably supposing that they would have no competitors). Before acceptance of the tender was ratified, the "C. & H." discovered what was afoot, and brought pressure to bear successfully on the Government, so that new tenders were invited.

The amount of the City of Dublin Company's previous tender was made public (unfairly) so the Chester and Holyhead Railway undercut it, and

tendered at £30,000 per year. However, in anticipation of such a move, the City of Dublin Company considerably reduced its former tender, to a figure of £25,000 per year—and got the important contract! Efforts were still made to deprive them of the contract and it was not until a select Parliamentary Committee had investigated the arrangements and reported in favour, that the matter rested. But feelings ran so high in the early days, that the railway company refused to book passengers by the mail steamers or to advertise mail steamer sailings in its time-tables. By about 1855, however, relations were less strained and an improved London-Holyhead-Kingstown mail service was brought about by negotiations between the two Companies.

Enter the London and North Western Railway Company! In 1856, when but ten years old, it took over the working of the Chester and Holyhead Railway Company, two years later absorbed it, and in 1859 by Act of Parliament, obtained ownership of the Chester and Holyhead Railway Co.'s fleet. About the same time, the Postmaster-General arranged a revised mail contract with the L.N.W.R. and City of Dublin S. P. Co., for at least fourteen years at £50,000 per annum for the railway service (which called for a forty-two m.p.h. average speed between London and Holyhead) and £85,900 per annum for the steamship service. The partners agreed privately that the City of Dublin Co. would be responsible for the sea transport including the steamers for it; (in fact four fine paddle steamers were built, three of them at Birkenhead).

Accurate information is difficult to obtain, but it would appear that there was a lull in the competition for a good number of years, particularly after 1861, when the railway company changed its Irish terminal from Kingstown to Dublin (North Wall). About 1863, the railway company also began to take an interest in a proposed service to Greenore, which was eventually inaugurated in 1873 and which will be mentioned later. During the 'sixties the L.N.W.R. gradually added to its fleet by the construction of paddle steamers of about 700-800 tons, and in 1876 commissioned its first steamers to exceed 1,000 tons—*Rose* (1876-1894) and *Shamrock* (1876-1898).

The two important events of 1880 were the opening of the Inner Harbour at Holyhead by the Prince of Wales (later King Edward VII) and the introduction of a night service between Holyhead and Dublin. The former event meant that the railway steamers were now able to berth literally "in the railway station", and the strange state of affairs occurred whereby passengers by the railway service could join their ships in comfort, whilst those travelling by the City of Dublin Co.'s packets, and the mails, had to be taken on a further three-quarter mile trip along the exposed Admiralty Pier, to *their* steamer berth.

The two sister ships *Lily* (1880-1900) and *Violet* (1880-1902) were specially built at Birkenhead by Laird Bros., for this night service, and were soon joined by a very similar vessel from the same yard, *Banshee* (1884-1906). The last-named was almost certainly the first L.N.W.R. steamer to be fitted with electric light, and the three ships each served the Company for about twenty years.

Meanwhile by 1876 the L.N.W.R. had established railway connections through Dublin (and probably Greenore) with several Irish railway companies, and it again came into opposition to the City of Dublin Company's mail

service. It appears that the railway company had the power of fixing the fares by the mail route so, determined to bring all passenger traffic to its Holyhead-Dublin service, the L.N.W.R. charged low fares by railway steamer and high fares by mail steamer. Competition became so intense, that about 1881 the City of Dublin S. P. Co. was compelled to bring an action before the Railway Commissioners—who ordered a reduction in the mail fares. Almost immediately, the Post Office called for fresh tenders for the mail contract. Both companies tendered, and as before, the City of Dublin S. P. Co.'s. was the lower. When it was discovered, however, that the Government had arranged a "through mail" contract with the L.N.W.R. for £106,000 per annum, a storm of indignation arose. It was said in Parliament that:—"The Government is giving an opulent railway company not only the monopoly of passenger traffic, but a large subsidy as well, merely for carrying the mail on their established line of passenger steamers". The Government bowed to the storm, called for fresh tenders, and gave the contract to the City of Dublin Co., for twelve years at £84,000 per annum. (The railway company did not tender.)

At the end of this period, the City of Dublin S. P. Co. was again successful in renewing the mail contract for a further twenty years from 1897. The railway company, however, still keen on capturing the passenger traffic, added four new sister-ships to its Holyhead-Dublin fleet. They were *Cambria* (1897), *Hibernia* (1900), *Anglia* (1900) and *Scotia* (1902) all of 1,700 tons with triple expansion engines, twin screws and a speed of twenty-one knots. They sailed to Dublin until 1908 when the L.N.W.R. transferred them to Kingstown, (the City of Dublin S. P. Co. protested unsuccessfully about the move). When war came in 1914, the four ships were requisitioned. *Hibernia* (as the armed merchant cruiser H.M.S. *Tara*), and *Anglia* (as a hospital ship) were both lost by torpedo in November, 1915, but *Cambria* and *Scotia* survived to pass eventually, under other names, into the London, Midland and Scottish Railway Company fleet.

Then in November, 1920, the L.N.W.R. secured the mail contract, for a twenty year period. Victory was complete, for the City of Dublin Steam Packet Company went into liquidation. The railway company commissioned from Denny's of Dumbarton, four magnificent 3,400-ton turbine steamers of twenty-four knots, bearing the familiar names *Anglia*, *Hibernia*, *Cambria* and *Scotia*. Within three years, the four of them had passed into the L.M.S. fleet.

Greenore

Just over 100 years ago, various Irish interests were investigating the development of Greenore as a port, chiefly because of its sheltered position. About 1861 the Dundalk and Enniskillen Railway Company visualised a Greenore-Holyhead steamer service, which, in co-operation with the London and North Western Railway Company could link London and other southern English towns with the north-west of Ireland and so promote tourist and other traffic. It approached the L.N.W.R. and changed its own title (by Act of Parliament of 1862) to the Irish North Western Railway Company. The English railway company sent a delegation to Greenore, promised support, and early in 1863, reported to its own shareholders:—"At present, because of no steam-communication between Holyhead and any Irish port north of Dublin,

traffic between the north-west of Ireland and England is conducted by circuitous routes to the avoidance, in a great degree of the lines of this Company. The Directors are making arrangements with existing Steam Packet Companies for running of their vessels daily, between Holyhead and Dundalk, but as access to the latter is . . . dependent on tide, the advantages of Holyhead . . . are to a great extent neutralised. The Directors, therefore, have concurred with the Irish North Western Company in arrangements by which, *without any outlay of capital by this Company*, an extension of line (twelve miles) will be secured from Dundalk to Greenore Point, Carlingford Bay, where there is deep water at all times. . . . When this is effected the route via Holyhead and Carlingford will be, beyond all question, the best between England and the North of Ireland".

The delays which followed—largely due to difficulties in raising the necessary capital—are admirably recounted in the "Dundalk, Newry and Greenore Railway" by D. S. M. Barrie. It will suffice here to note that by 1868 it was clear that the London and North Western Railway Company was to be responsible for the proposed steamer service, and events were also to prove that the Dundalk and Greenore Railway was to become virtually, a rather costly extension in Ireland, of the L.N.W.R. (So much for the forecast of 1863!)

On the 30th of April, 1873, the Lord Lieutenant of Ireland (Earl Spencer) performed the opening ceremony of the port of Greenore and the railway to Dundalk. It was a grand affair, in the presence of 800 official guests, and followed by a banquet (in the decorated goods shed) reported to contain nearly thirty courses and with some twenty toasts and speeches. The steamer service to Holyhead began the following day, (sailings were 7.15 p.m. from Greenore and 1.30 a.m. from Holyhead each weekday thereafter). For the first few months, it was operated by two steamers transferred from the Dublin route, but three virtual sister ships were built specially for the service, *Eleanor* (1873-1881), *Earl Spencer* (1874-1896) and *Isabella* (1877-1898). *Eleanor* was wrecked in 1881 and was replaced by a similar ship of the same name (1881-1902).

The railway line between Newry and Greenore was not opened until a year or two later. The Newry and Greenore Railway Company had been formed in 1862, but its collapse through financial difficulties, five years later, was one of the reasons why the L.N.W.R. had to become so involved in the project.

The service did not come up to expectations, the tourist trade did not develop and as other cross-channel services got into their stride, the journey say from Londonderry to London via Greenore and Holyhead was slow compared to other routes.

In most years, both the service, and the Irish railway company made financial losses. By 1893, a new General Manager of the L.N.W.R. (Frederick Harrison) ordered a complete examination of all aspects of the Greenore service, and this disclosed that his Company was losing on it, £28,000 a year. Abandonment was probably considered, but possibly because this would result in traffic going by other routes, in which it had no part, the L.N.W.R. decided not only upon expensive modernisation, but on the development of Greenore as a holiday resort. It improved the Irish trains and

the track, and replaced the steamer fleet by three new vessels of about 1,100 tons, with twin screws, and a speed of about eighteen knots. From about this time, until the outbreak of the First World War, the steamer service and the Irish railway enjoyed their palmiest days, though any profits were never more than slender.

Of these new ships *Rosstrevor* (1895-1926) and *Galtee More* (1898-1926) eventually entered the L.M.S. fleet, but *Connemara* met a tragic end. On the evening of the 3rd of November, 1916, she left Greenore in a severe gale, and less than thirty minutes later was struck amidships by the collier *Retriever* (inward-bound from Garston to Newry and at the time reported to be travelling without navigation lights), and both ships sank almost at once. All fifty-one passengers and thirty-one crew of the railway vessel lost their lives as did eight of the collier's crew of nine (one sailor, who swam ashore, was the only survivor of the disaster.)

Another fine steamer, *Rathmore* (1,750 tons: twin screw) was added to the service in 1908. She could make the crossing between Holyhead and Greenore in about four hours. She survived a serious collision during the First World War and in 1923 passed into the London, Midland and Scottish fleet.

Greenore of 1912 had the distinction of being the first L.N.W.R. turbine steamer. Of 1,500 tons, she had triple screws, with direct-drive turbines, and was reputed to have sufficient astern power, to be able to stop, from full speed, in $3\frac{1}{2}$ lengths. She appears to have remained in the Holyhead-Greenore service during most of the First World War, passing eventually into L.M.S. service, but was an early victim of "redundancy". She was broken-up at Barrow in 1926 after a career of a mere fourteen years.

In 1919, *Curraghmore* (2,217 tons) came into service, but for the first two years had to be used in the Holyhead-Kingstown service. Events were to deprive her of a long or settled career. The war had brought to an end the efforts of the L.N.W.R. to develop traffic through Greenore, and the Irish troubles of the 1920s killed any hope of a post-war improvement.

During the Civil War, Dundalk (one of the key-points on the railway line) fell to the Free State Forces. Irregulars attacked the railway at intervals, damage was caused to railway workings; viaducts and bridges were put out of action—sometimes for weeks or months at a time—and on several occasions trains were ambushed. Partition, which came to Ireland in 1923, meant that most of the railway lay in the Irish Free State, but some in Northern Ireland. Such was the unhappy state of affairs when the Greenore-Holyhead steamer service became part of the London, Midland and Scottish Railway system.

Liverpool

From about 1825 trade between Drogheda and Liverpool was maintained by ships of the Drogheda Steam Packet Company, and at the turn of the century, this concern had four paddle steamers: *Tredagh* (1876-1904); *Nora Creina* (1878-1912); *Kathleen Mavourneen* (1885-1903, one of the last vessels built at the Seacombe shipyard of A. Jack & Co.); and *Iverna* (1895-1912). In 1902, by Act of Parliament, the Lancashire and Yorkshire Railway Company (L.&Y.R.) was able to purchase the Drogheda Company and its fleet, for £80,000. As two of the vessels were nearing the end of their useful

careers, the railway company ordered two new ships from Vickers, Sons and Maxim, which came out in 1903 as *Colleen Bawn* and *Mellifont*, and had remarkably similar careers. They went into the L.N.W.R. fleet in 1922 when that company amalgamated with the L.&Y.R., and to the L.M.S. in 1923.

In 1928, the L.M.S. transferred the Drogheda-Liverpool service to the British and Irish Steam Packet Company; these two ships served other L.M.S. routes from Holyhead for a few more years, and then went to shipbreakers in 1930 and 1932 respectively. So Liverpool's part in this story is slight!

Morecambe Bay Ports

Dotted along the shores and creeks of Morecambe Bay are places such as Ulverston, Greenodd, Sunderland, Lancaster and Glasson which were of considerable importance as ports, in the days of sail; and others, such as Barrow, Morecambe and Fleetwood which belong to the days of steam and the railways. As the one group declined, the other grew and prospered, but all have now given way to Heysham.

Fleetwood was founded in 1836 by Peter Hesketh (later knighted) and from 1843 was the first northern port to have regular steamship communication with Ulster—by means of the North Lancashire Steam Navigation Company (a subsidiary of F. Kemp & Co.). This steamship company soon obtained a contract for the carriage of mails, and *Her Majesty* was a typical member of the early fleet, a wooden paddle steamer built in 1844.

In 1870 Parliament passed the Lancashire and Yorkshire/London and North Western Steam Vessels Act whereby the two railways named obtained powers to operate a joint service from Fleetwood to Belfast and Londonderry and to take over the North Lancashire Steam Navigation Company. Several paddle steamers were built during the next decade to make a worthwhile fleet, but from 1891 the joint railway companies began to replace them by a series of screw steamers—all bearing famous "ducal" names, which were to become so traditional for steamers serving Belfast. Eight of them followed one another at short intervals from 1891 to 1909.

Duke of Clarence of 1892, set the pattern, and had a long career. From 1906 she was transferred entirely to the L.&Y.R. for North Sea service, passed to the L.M.S. in 1923, and in 1930 was broken-up.

Duke of York (1894-1911) and her sister, *Duke of Lancaster* (1895-1911) followed. About 1912 they both joined the Isle of Man Steam Packet Company's fleet as *Peel Castle* and *The Ramsey* respectively. The former had a long career (until 1939) but the latter was a First World War loss. Strangely enough, the next vessel, *Duke of Cornwall* (1898-1928) also went, after railway service, to the Isle of Man Steam Packet Company. But in her case, this did not happen until 1928, when she became *Rushen Castle*.

Duke of Connaught (1902-1934) and *Duke of Albany* (1907-1917) followed. The first had a long career, but *Duke of Albany* was sunk by torpedo after a short career of ten years.

Finally in 1909 came the last of the Fleetwood "Dukes". They were the 2,200 ton sister-ships *Duke of Cumberland* and *Duke of Argyll*. They were triple-screw vessels, with direct-drive turbines, and both passed into the L.M.S. fleet in 1923.

The history of steamship services from Morecambe is rather involved. By about 1846 the town was connected (via Lancaster) to a new railway line between Lancaster and Skipton, but because of financial difficulties, this line was taken over during the 1850s by the Midland Railway Co. Meanwhile, Barrow-in-Furness in 1843 was little more than a fishing village, when John Abel Smith put forward a plan to connect Roa Island by a causeway to "Great Britain". This was done, and by 1846 the Furness Railway was opened. It prospered, and traffic in slate and iron ore in particular grew to large proportions.

By 1867, the Furness and Midland Railway companies were linked by a joint line between Carnforth and Wennington, and it was decided to promote a passenger, cargo and mail service between Barrow and Belfast (and a summer service between Barrow and Douglas). As the railway companies had no power to operate steamships, the difficulty was overcome by the formation—in association with Messrs. James Little & Co., who had been shipowners since about 1818—of the Barrow Steam Navigation Company (joint partners Midland Railway; Furness Railway; James Little & Co.; the last named company being the managers).

Messrs. Little transferred their paddle steamer *Herald* to the Barrow-Douglas service and she served thereon until 1890. The Belfast service began in the summer of 1867 from Morecambe, but by September of that year had been transferred to Barrow (Piel Pier). The first three ships to operate it were all second-hand paddlers—*Roe* (from Messrs. G. & J. Burns), *Talbot* and *Shelburne*, all of about 600 tons.

Shelburne (built 1860) was renamed *Tyrone*, and *Talbot* (built 1860) was renamed *Armagh*. The latter vessel lasted till 1898.

In 1870 *Antrim* (797 tons) was built for the service: after some years she was transferred to the I.O.M. route and renamed *Manxman*: in 1902 she was broken up at Preston.

Later steamers (1881) were *Londonderry* (ex-*Camel*, built 1866; broken up 1904) and *Donegal* (ex-*Buffalo*, built 1865; withdrawn 1897).

The Company prospered, and one of the partners, the Furness Railway, constructed the docks at Barrow. The route was known as the "Barrow route", and for many years, the Midland Railway was famous for its Leeds-Barrow boat expresses.

City of Belfast (1,055 tons) built at Birkenhead in 1893 was the Company's first (twin) screw steamer. She served in succession the Barrow Company, the Midland Railway, the L.M.S. Railway, and in 1925 went to Greek owners as *Nicolaos Togias*. Finally, as *Kephallinia* of the Hellenic Coast Lines, she was lost off Alexandria in 1941.

Possibly *Duchess of Devonshire* (1,265 tons, built 1897 by Vickers) was the Barrow Company's most famous vessel. For the first part of her career she was in the Belfast service. The Midland Railway Company employed her between Heysham and Douglas (she resumed that service after the First World War), and when she became redundant in 1928 she was sold to H.M. Bland of Gibraltar. Under the name of *Gibel Dersa* she lasted another twenty years (and included in it good work at Dunkirk in 1940).

The Barrow Company's last acquisition was *Rouen* (built 1888) of the London Brighton & South Coast Railway Company. On purchase in 1903, she was renamed *Duchess of Buccleuch*, and sailed mostly to the Isle of Man; she was resold in 1909, this time for demolition.

In 1907 these last three remaining Barrow Steam Navigation Co's. ships became part of the Midland Railway fleet (they carried Midland colours, but were still registered as belonging to the Barrow S. N. Co.). From this time to the First World War, reduced sailings operated between Barrow and Belfast, but (as far as I can ascertain) they were not resumed afterwards. Even had they so been, it is likely that the formation of the L.M.S. Railway in 1923 would have brought them again to an end.

Historically, the port of Heysham is of little interest: nevertheless the story of the Heysham-Belfast steamship service demonstrates the success of a determined railway company.

Up to the turn of the century, the otherwise progressive Midland Railway Company was one of the few which did not own and operate cross-channel ships, yet it was very anxious to obtain its own share in the Irish Sea traffic. In 1896 it made an unsuccessful attempt to acquire the Furness Railway Company, but about the same time it received Parliamentary authority to construct a new harbour at Heysham and to operate services therefrom to Ireland and the Isle of Man.

The work was formidable, took seven years to complete, and included not only the new harbour itself, but a new railway station, cargo and livestock accommodation, a radio station, and the construction of about $3\frac{1}{2}$ miles of railway from Morecambe.

As the tide rises and falls some thirty feet, the quay walls were built fifty-three feet high and into them went a range of cattle-landing galleries. The water area was about thirty-six acres, and to scour the harbour a wooden jetty, one thousand feet in length, was also built.

To the design of Sir John Biles (professor of Naval Architecture at Glasgow University) four 2,000-ton vessels were built for the Company—each by a different shipbuilder. On the recommendation of Mr. T. J. Scott, the Superintendent Marine Engineer of the Midland Railway, two of the vessels (*Antrim* and *Donegal*) were given triple-expansion engines driving twin screws, and the other pair (*Londonderry* and *Manxman*) each had three direct-drive turbines. In service, the turbine steamers settled down after some early “teething troubles” and not only averaged half-a-knot extra speed more than the reciprocating-engined ships, but also showed a saving in efficiency of some ten per cent, justifying the advice of Mr. Scott.

These four elegant ships were far in advance of any former Irish Sea tonnage—they were the first to be fitted with forced ventilation, and with radio-telegraphy. The charge for their single berth cabins was a mere half-crown!

Manxman, as her name indicated, operated the Heysham-Douglas service (in fact, she was the first turbine steamer to visit the Isle of Man). The Admiralty purchased her during the First World War, employed her as a seaplane carrier, and in 1920 resold her to the Isle of Man Steam Packet Company, with whom she remained until withdrawn in 1949.

Antrim, Donegal and *Londonderry* began the Heysham-Belfast service in September, 1904, and provided keen competition for the Fleetwood "Dukes"; but they virtually sounded the death-knell of the Barrow Steam Navigation Company.

Events were to show, however, that these four, were to be the *only* passenger steamers ever built for the Midland Railway Company! *Donegal* was a war loss, but *Antrim* and *Londonderry* were to pass eventually into the London Midland and Scottish fleet in 1923.

Stranraer

Because it became an integral part of the L.M.S. system, the Stranraer-Larne service—the shortest route between Great Britain and Ireland—must be included in this paper. From about 1662 a packet service was operated by a private company (probably weekly) between Portpatrick and Donaghadee, and the maintenance of it was taken over by the Post Office in about 1790. In the 1820s the Government built harbours at these two ports, but Portpatrick in particular proved too exposed in bad weather, breakwater repairs became too costly, and the service was withdrawn in 1861.

In 1862 a railway was built to Stranraer and Portpatrick, and soon afterwards one between Larne and Carrickfergus. Several attempts were then made to revive services across the North Channel, but it was not until the formation of the Larne and Stranraer Steamboat Company in 1872 that a service became regular and permanent.

Princess Louise (iron paddle steamer, 500 tons, 1872) began the line of "Princesses". She served the new Company for eighteen years, was sold to David MacBrayne & Co. in 1890, and eventually wrecked in 1902.

Princess Beatrice (1875-1904) was a very similar ship, but had only one funnel. Like the original ship, she was an iron paddle steamer.

Princess Victoria (1890-1910) was the first vessel in the fleet to be built of steel, the first to exceed 1,000 tons, and she gave the Company twenty years' service. A few days before her launch, the Larne and Stranraer Steamboat Company was taken over by a joint committee of the Portpatrick and Wigtownshire Railway (4/5th of the shares) and the Belfast and Northern Counties Railway Company (1/5th). This latter share passed to the Midland Railway Company in 1903.

The last paddle steamer *Princess May*, served the Company from 1892 to 1912. During the First World War she was used by the Admiralty on special duties, but soon afterwards (1921) was sold and broken up at Garston.

Princess Maud (1,650 tons) of 1904 was the first turbine steamer to serve the Larne-Stranraer route, spent her whole career on it (including the 1914-1918 period), and became a firm favourite. In 1923 she became an L.M.S. vessel and then, eight years later (just after a replacement vessel had been commissioned), she grounded on rocks near Larne. Although successfully refloated she was not deemed worthy of repair and was broken up at Preston.

A very similar ship was the second *Princess Victoria*, built in 1912. She gained fame as a "leave-boat" between Boulogne and Folkestone, for many thousands of troops during the First World War years. Otherwise, she served the Stranraer-Larne service for the whole of her career, until sold in 1934 to Norwegian shipbreakers.

LONDON, MIDLAND & SCOTTISH

By the Railway Act of 1921, practically all the individual railway companies of Great Britain were reorganised (from the 1st of January, 1923) into four groups, of which the London Midland and Scottish Railway Company was the largest. It had some 6,940 miles of track of such famous railways as the London and North Western (including the former Lancashire & Yorkshire), Midland, North Staffordshire, Furness, Glasgow and South Western, Caledonian and Highland. It inherited not only many of the Clyde steamer services, but also seven Irish Sea routes—Holyhead-Dun Laoghaire (Kingstown); Holyhead-Greenore; Liverpool-Drogheda; Fleetwood-Belfast; Heysham-Belfast; Heysham-Douglas and Stranraer-Larne.

For economy in operation, some reduction in the number of routes was essential. The failing Greenore service was no longer a suitable alternative route to Belfast and north-west Ireland, and Fleetwood's days as a railway cross-channel port were to be numbered, for the L.M.S. decided to concentrate on the Heysham-Belfast service. It appeared to have little interest in the Heysham-Douglas and Liverpool-Drogheda services, and by 1929 these had gone to other operators. So within six years, the L.M.S. routes had been reduced to three (Holyhead-Dun Laoghaire; Heysham-Belfast and Stranraer-Larne) and these remain to the present day.

Ships, which had served rival Companies, were now under the one ownership, but the changes just described made several of them redundant during the next few years and they were disposed of or transferred to other routes. For example, *Menevia* (the former *Scotia* of 1902) was transferred to the Heysham-Douglas service (1923-27), until the L.M.S. ceased to operate it, and the ship was then sold for demolition. Her other surviving sister of pre-war Holyhead days (the former *Cambria* of 1897, now renamed *Arvonian*) did miscellaneous duties in the 1923 to 1927 period, and then she too was broken up.

The original L.M.S. funnel colours were buff, with a red band and black top. It is said that the Scots objected to this colour scheme for the Clyde steamers: be that as it may, the red band was removed in 1925 and thereafter funnels were buff with black tops. The L.M.S. house flag was based on that of the L.N.W.R.

Holyhead

The Holyhead based, Irish mail ships were still comparatively new. Nevertheless, the new company must have been concerned at the extravagance of using four vessels in the mail service, for *Anglia* was soon afterwards withdrawn and laid-up at Barrow. In 1935 (when only fifteen years old) she was sold for a mere £8,000 for demolition. She had probably done less than two years' work as a railway cross-channel vessel!

Her three remaining sisters maintained the mail service adequately and well. To meet the increasing competition from the motor vessels of the Dublin-Liverpool service of the British and Irish Steam Packet Co., they were extensively reconditioned and modernised during the 1930s. In 1939, orders were placed for two replacement vessels, but outbreak of war caused cancellation.



Photo courtesy

H. M. Reid

Princess Margaret, 1931, on the Stranraer–Larne service of British Railways until 1962



Photo courtesy

Turbine steamer *Duke of Argyll*, 1956, on the Heysham-Belfast service

H. M. Rea

Scotia was lost at Dunkirk in 1940 (a bomb went down a funnel), but *Cambria* and *Hibernia* lasted until 1949 when they were broken up at Milford Haven and Barrow respectively.

By that time, British Railways had come into being, and the two old ships were replaced in 1949 by the present motor vessels *Hibernia* and *Cambria*. For much of the year the service is now a night one, and one vessel would suffice. British Railways use both, however, not only as a means of transport, but as "floating hotels" for night accommodation at Holyhead.

Greenore

Some of the troubles associated with the partition of Ireland and their effects on the Greenore-Holyhead route have been described already. In addition, the Dundalk, Newry and Greenore Railway Company was losing some £25,000 yearly. The General Strike of 1926 brought the passenger service between Greenore and Holyhead to an end, and it was never resumed, (although the actual decision was not taken until nearly a year later—the 5th of April, 1927).

Three of the five passenger ships (including the fourteen-year-old *Greenore*) went to the breakers. *Rathmore* was transferred under the name *Lorrian* to the Tilbury-Dunkirk service of Angleterre-Lorraine-Alsace Société Anonyme de Navigation and in 1932 she too, was broken up.

Curraghmore, the largest, finest and last of the ships built for the Greenore service, was used by the L.M.S. for relief sailings on other routes (particularly weekend sailings between Heysham and Douglas). In 1930 she was extensively refitted, renamed *Duke of Abercorn* and served the Heysham Belfast route until 1935, when she was broken up.

To complete the Greenore story, it should be mentioned that cargo and cattle services continued thrice weekly. Trade had become very poor by 1946, but the L.M.S. decided to keep both the cargo service and the Irish railway in operation until post-war prospects became clearer. The formation of British Railways in 1948 led to a decision to close, but because this thirty-mile-long railway now lay in two "countries", complex legal processes for closure needed nine years to become effective. Meanwhile, permission had been given for the last train to run on 31st December, 1951, and two days before that, *Slieve League* had made the last railway sailing from Greenore to Holyhead.

Cargo and Cattle Ships

Brief mention should be made of the cargo and cattle ships. From as long ago as 1853, when the Chester and Holyhead Railway Company purchased two second-hand vessels (*Ocean* and *Hercules*) from the Cork Steamship Company, there have always been railway-owned cargo and cattle steamers operating from Holyhead. Information about all of them is given in the notable book "Railway and Other Steamers" by Duckworth and Langmuir.

Slieve Donard of 1922 deserves a place in history because she was the very last ship built for the old L.N.W.R. In a career of thirty-one years (which ended in 1953 when she was sold for breaking up) she served not only that Company, but its successors, the L.M.S. and British Railways. She has been replaced since, by a motor-vessel of the same name.

Slieve Bearnagh (built 1935) was the first cargo and cattle steamer built for the Heysham route, and since that time, has been assisted as required by ships transferred from Holyhead. But a year or two ago the Heysham cargo service was strengthened by the building of two "container" ships.

Fleetwood

After the formation of the L.M.S., the three remaining "Dukes" continued to operate the Fleetwood-Belfast night service. By 1926, however, it was clear that the Fleetwood service was to cease. It did so in April 1928, and the ships became redundant.

Duke of Connaught went to the Heysham-Belfast service for about three years, then finished her career in the Hull-Zeebrugge service (of the former L.&Y.R.) and in 1934 was withdrawn and broken-up.

Duke of Argyll was transferred to the new Tilbury-Dunkirk service of A.L.A. and was renamed *Alsacien*. Her end came in 1936 at the hands of German shipbreakers.

As already noted, *Duke of Cornwall* was sold to the Isle of Man Steam Packet Company (as *Rushen Castle*) and was, in fact, the last of her class to go to shipbreakers.

Finally, *Duke of Cumberland*, one of the 1909 pair, was renamed *Picard* in 1929 and went to the A.L.A. service. Resold in 1936 to Greek owners and renamed *Heliopolis*, she sailed for a further three years and went to Greek shipbreakers in 1939.

So ended Fleetwood's days as a railway cross-channel port.

Heysham

The two remaining 1904 sister ships of the former Midland Railway Co.—*Antrim* and *Londonderry*,—kept the Heysham service going until new tonnage was built for it. *Antrim* was then sold to the Isle of Man Steam Packet Company and renamed *Ramsey Town*. *Londonderry* went to the Tilbury-Dunkirk service of A.L.A., was renamed *Flamand* and served until 1936, when she was sold for breaking up.

A.L.A. was the Angleterre-Lorraine-Alsace Société Anonyme de Navigation, a company formed in 1927 by the L.M.S. Railway and the French Railways (the former Nord). The Heysham steamer *Londonderry*, the Greenore vessel *Rathmore*, and the two 1909 Fleetwood "Dukes" formed the nucleus, and they may be considered as the forerunners of the present Southern Region train ferries based on Dover.

In 1928, three new ships entered the Heysham-Belfast service, and carried the "ducal" system of nomenclature so long associated with the Fleetwood route. They were *Duke of Lancaster*, *Duke of Argyll* and *Duke of Rothesay*, 3,600 tons. Their passenger accommodation was of a high order, and they stood one deck higher out of the water than any other L.M.S. vessel of the period. (Incidentally, they were too large to reach Lancaster, their port of registry). They were coal burners, and were driven by single reduction geared turbines. They had cargo space for about 400 tons and could carry some 200 cattle. They brought prestige to the route, and were able to take the traffic which had formerly passed through Fleetwood.

The careers of these three ships were remarkably similar, except that *Duke of Lancaster* endured, but survived, a series of mishaps; viz:—1928—stranded at Heysham: 1929—slight collision with *Duke of Rothesay*: 1931—on fire for twenty-four hours at Heysham and sank at her berth: 1932—ashore on Copeland Islands: 1934—in collision in Morecambe Bay with drifter *Tritonia*: 1937—aground at Point of Ayre, Isle of Man: 1940—collided with and sank the coaster *Fire King*.

Traffic grew to large proportions, and *Curraghmore* (as *Duke of Abercorn*) went to Heysham to assist. She was replaced in 1935 by the new Harland and Wolff-built *Duke of York*, a vessel which introduced “tourist class” accommodation to the cross-channel trade. Her equipment included mechanically-stoked coal-fired boilers, electric bridge telegraphs and cranes, roller hatches and automatic sprinklers for fire control. Her passenger accommodation was excellent, yet curiously enough for her first few years she was largely used for cargo work, and generally carried passengers only at busy periods!

During the war she served first as a troop ship and then (under the name *Duke of Wellington*) as an assault ship. After the war, she was a “leave boat” for a time (Hook of Holland and Harwich). In 1950 she was extensively modernised by her builders, converted to oil fuel and reappeared with only one funnel. She spent a short time as a car ferry between Southampton and Cherbourg, and then in the Irish Mail service from Holyhead in 1951. She was then transferred permanently to the Harwich-Hook of Holland night service.

To return to the 1928 “Dukes”. They spent much of their war service as hospital ships, but in due course returned to their work between Heysham and Belfast.

As in 1928, so in 1956, three new “Dukes” were built—turbine steamers of some 5,000 tons. With what many people regard as lack of imagination they were given the same names as the former ships—*Duke of Lancaster*, *Duke of Argyll* and *Duke of Rothesay*. As they came into service, the 1928 ships were withdrawn and sold for breaking up. (During one week in 1956, however, both the old and the new *Duke of Argyll* were sailing opposite one another!)

Stranraer

Our last ports of call are Stranraer and Larne again. *Princess Maud* and *Princess Victoria* continued to maintain this service, and it was not until 1931 that new tonnage was required. In that year the present *Princess Margaret* (2,500 tons) came into service. She was a coal-burning turbine steamer, and her deck machinery was electrically driven; she was the first British ship to be fitted with a Grinnell automatic sprinkler system and her passenger accommodation was excellent, including sleeping berths.

In 1934 the second *Princess Maud* was built, and had rather more sleeping accommodation than her sister. Her boilers were fitted with automatic Babcock-Erith stokers. During the war, she served in succession as an English Channel troopship (1939-40), as “leave boat” on her old station (1940-43) and finally as an infantry landing ship. About 1946 she was converted to burn oil fuel, and since that time has been employed almost exclusively in the Holyhead-Dun Laoghaire service (each January she takes over her old route, whilst *Princess Margaret* has her annual overhaul).

The third *Princess Victoria* of 1939 (2,200 tons) made history. She was the first railway owned, cross-channel motor vessel, and was also a handsome "floating garage" (about eighty vehicles). She had hinged stern doors, passenger accommodation in two classes for about 1,500 people, and could be adapted to carry cattle. Within a few months of coming into service, she was requisitioned by the Admiralty and converted into a mine-layer. In twelve operations she laid some 2,755 mines, but in May 1940 she herself struck one off the Humber, and foundered with the loss of thirty-three lives.

In 1947 a new *Princess Victoria* was built, the fourth of the name, and almost a replica of the 1939 ship. She maintained the service with the 1931 *Princess Margaret* and in 1948, both ships passed to British Railways (Scottish Region).

The great gale of the 31st of January, 1953, which caused so much havoc around the coasts of Britain and the Netherlands, brought disaster to the *Princess Victoria*. She left Stranraer as usual that morning, and encountered very heavy seas off the mouth of Loch Ryan, which broached her stern doors, flooded her car deck and engine room and put her engines out of action. The disabled ship drifted across the North Channel, and in the early afternoon foundered near the Irish coast. There were only forty-four survivors: the 128 persons who lost their lives included Captain Ferguson and all his deck officers.

Each summer since that time, *Hampton Ferry*, one of the three train ferries operating the Dover-Dunkirk service of British Railways (Southern Region), has assisted *Princess Margaret*.

Princess Margaret herself was refitted at Glasgow about the end of 1951 and converted to burn oil fuel. Now, for most of the year she operates the service alone, leaving Stranraer at 7.00 a.m. and Larne at 6.50 p.m. each day. Probably she arrived at Stranraer a little while ago: some of her passengers will leave to continue their journey by rail, but the others will eventually settle down aboard for the night. Other travellers for Ireland early tomorrow morning will join her also, for a night's accommodation—for, like the Holyhead ships she is both a means of transport and a "floating hotel" for "supper, bed and breakfast".

NOTE: Since the presentation of the above paper, another ship, *Caledonian Princess* has been built for the Stranraer-Larne service (to replace *Princess Margaret* which has been sold to Hong Kong buyers for further trading in Far Eastern waters), and British Railways have also ordered a large steamer for the Harwich-Hook of Holland service (to replace *Duke of York*).

MARITIME MUSEUMS OF NORTHERN EUROPE

by E. W. PAGET-TOMLINSON, M.A.

Read April 13th, 1961

I have made two tours of Maritime Museums on the Continent, one in 1955 and the other in 1960. My first tour embraced Denmark and Sweden, my second, Western Germany, Holland and Belgium.

My object was to study the Maritime Museums in these countries to aid our plans for a Maritime Museum in Liverpool. I was anxious to see their display methods, to see the extent of their collections, how they labelled their exhibits, how they stored their models and pictures, how wide was the scope of their subject matter. In addition it was valuable for me to learn how these Museums were administered and financed.

Elsinore

In 1955 I went first to Denmark, a country with one big and several small Maritime Museums. I visited the big Trade and Shipping Museum at Elsinore, north of Copenhagen. The others in Denmark are small collections relating to the maritime history of the town or district in which they are situated.

Kronborg Castle, overlooking the Sound between Denmark and Sweden, is the home of the Trade and Shipping Museum, a fine situation and an impressive fortress, although rather ill suited to Museum display, because of its many small and dark rooms.

Nevertheless the Museum well covers the whole history of Danish merchant shipping. The Danish Navy has no place. There are, however, plans for a Naval Museum at the Royal Dockyard in Copenhagen. The earliest galleries at Elsinore contain models of the remarkable Hjörtspring boat, which dates from circa 200 B.C. and is itself preserved, and of the Oseberg ship, the original of which was found in a woman's burial mound in Southern Norway in 1904, and is now to be seen at Oslo. This vessel was a lady's pleasure barge, not a fighting craft; it dates from about 830 A.D. More typical of the Viking ship is a model of the Gokstad ship, the original of which is also to be seen at Oslo, having been excavated from another burial mound in Southern Norway in 1880. She was a warship of about 900 A.D., clinker built and very fine lined with considerable sheer at bow and stern to ride northern seas.

Mediaeval Danish shipping is represented at Elsinore by several models, including one of a fifteenth century merchantman with three masts, a tall central or main mast, and two auxiliary masts. She is extremely beamy, with deck erections at bow and stern, both to protect the waist from heavy seas and to afford vantage points for soldiers and archers in war. Such ships were used by the Hansa merchants of the Baltic for peaceful trading, but they

could be commandeered for war service. With the model are displayed some curious carvings, or scratchings, on brick which were found in the walls of a Carmelite monastery near to Elsinore. These are remarkably accurate late mediaeval ship portraits.

The Museum has a great deal to say about the Danish colonies in the 18th century and particularly about the Danish East India Company. Denmark had trading stations in India, West Africa, and the West Indies. Now, of course, she has only Greenland and the Faroes. There are a number of oil portraits of Danish East Indian men and of the trading stations.

19th century Danish shipping is well covered by the Museum. There are numbers of ship portraits painted on glass, views of brigs and barques, snows and galleasses. These are augmented by many models of both coastal and ocean-going sailing ships and by models illustrating the early development of Danish steamships.

Modern shipping has a long gallery in which to spread itself, with representations of funnels and house-flags on the walls. All the famous companies are featured; the United Steamship Company, A. P. Möller, the East Asiatic Company, and the Lauritzen Line. One of the latter's 'Reefer' fruit ships is shown in model form. She is the *Argentinian Reefer*, built in 1945, a motor ship of 2,821 tons. Lauritzen's, by the way own the famous *Magga Dan* of Antarctic fame. Fishing is represented at Elsinore by models of modern trawlers and items of equipment. One model shows a small wooden trawler from Esbjerg, diesel propelled and built in 1947. She and her sisters are strong competitors to our own trawlers from Yarmouth and Lowestoft in the North Sea fishing.

Denmark faces the perennial problem of ice in her Baltic ports. The Government maintain a number of ice-breakers, one of which is the *Store Björn* or *Great Bear*, a steamer of 1,393 gross tons, built in 1931. There is a model of her in the Museum, with her specially shaped bow to ride up on the ice, and her bow propeller, to suck water away from under the ice, and so weaken it.

Stockholm

There is neither time nor space to detail more of the treasures at Elsinore, because I have nine more Museums to visit. Next on the list in October, 1955, was Stockholm, the Statens Sjöhistoriska Museum, opened in 1938 in a specially designed building by the famous architect Ragnar Östberg, who is principally remembered for the Stockholm Town Hall. This Museum is one of the best laid out in the world, although it has not so much to show as Greenwich, or the Science Museum, South Kensington. But it shows everything so well.

The building is a crescent with two floors and a basement. The basement is devoted to shipbuilding, the ground floor to the Navy and the first floor to the Merchant Service. In the centre, on the ground floor and reaching the full height of the building, is the Hall of Remembrance, which celebrates Sweden's naval victories over Russia in the 1790s. Here is the re-assembled stern of Gustaf III's yacht *Amphion*, from the cabin of which he directed the



Photo courtesy Statens Sjöhistoriska Museum, Stockholm

Model of Swedish Baltic trader, 1768, built from the drawings of F. H. af Chapman

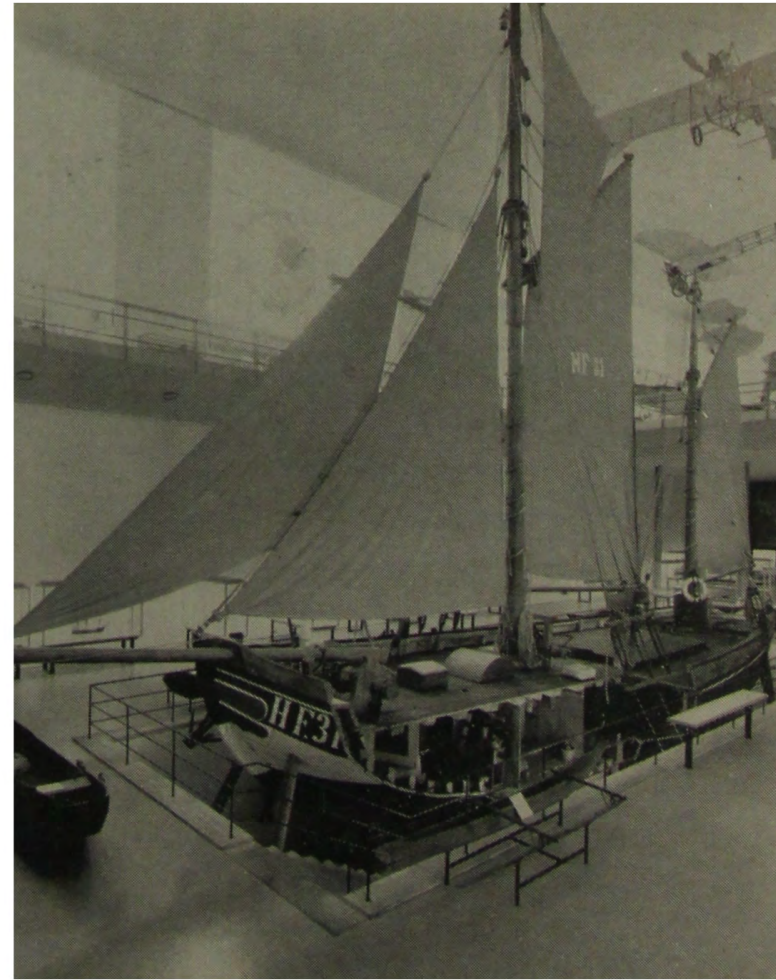


Photo courtesy Deutsches Museum, Munich

Hamburg trawler in the shipping hall at Munich

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Photo courtesy

National Maritime Museum, Antwerp

The Scheldt Room at Antwerp



Photo courtesy

Zuiderzeemuseum, Enkhuizen

Hektjalk *De Vier Gebroeders* in the harbour at Enkhuizen

Swedish victory of Svensksund in 1790. From the walls of the Hall hang captured Russian ensigns and in each corner stand captured Russian cannon, the cross of St. Andrew adorning their tompions.

The Naval Section of the Museum starts in the 16th century and continues to the present day. There are all sorts of remarkable models and displays; for example, a reconstruction of part of the gun deck of an early 19th century warship, with the gunner standing by his piece. Above the gun is stowed his hammock, while a mess table hangs from the deck beams. Alongside is the match tub, and the canvas bucket with water for sponging out the bore.

Nearby, two huge model warships of the 1850s appear to float on a wooden sea. They are viewed from what might appear to be the deck of another vessel, because it carries a representation of a mast and fife rail. Both models are about 5 ft. high.

The Merchant Navy Section starts with a special little room in which a series of waterline models, all to a scale of 1:200, tell the story of merchant ship development from the Hjörtspring boat to the *Kungsholm*. Each model is a real work of art, and it is fascinating to compare one with the other. From this introductory room the story of Sweden's Mercantile Marine is taken forward, through the Hanseatic League to the eighteenth century and the Swedish East India Company. Much is said about the work of Frederik Hendrik af Chapman, regarded as the world's first professional naval architect, and of Scottish descent. His *Architectura Navalis Mercatoria* was first published in 1768. It covers all types of ships then in service and is a mine of information for modelmakers and historians today.

At Stockholm the method of presentation is designed to show every facet of the period under review. This is very apparent in the East India Company Section, where a ship model, a jar for carrying oil, a navigating instrument (actually a Davis backstaff) a portrait of an East India Company captain, together with his sword and speaking trumpet, are all seen together, to give the flavour of the period.

Other methods of presentation include the use of much original material salvaged from ships. The stern of the royal yacht *Amphion* has been mentioned, but in addition one small room is taken up by the deckhouse from a small trading barkentine of 1878, called the *Hope*, from the Baltic port of Länna. She was broken up in 1932. Her salvaged deckhouse contains the quarters for cook and carpenter, complete with a swinging oil lamp, and the galley, with an old iron range and suitably greasy pots and pans.

Next door to this deckhouse is the Mast Room, so called because it contains a section of the mizen mast of the Swedish four-masted barque *Beatrice*, once the British *Routenburn*, together with her wheel and binnacle. Round the walls are figureheads, including that from the *Beatrice*, blocks, cleats, marlin spikes etc.

Navigation has a room to itself, as is its due. This possesses a domed ceiling, on which are painted the heavens as seen from the latitude of Stockholm, and the signs of the Zodiac which form a frieze round the base of the dome. In the centre stands a model lighthouse, while examples of instruments are ranged round the walls, quadrants and sextants, binnacles, a traverse board and the patent log.

From navigation, the Museum leads on to describe modern shipping in a fine sweeping gallery, where each major Swedish shipping company has a division to itself; here its trade is described and illustrated by samples of imports and exports, Ericsson telephones and Bolinder diesels outwards, cotton, cocoa beans and sugar inwards.

Since my visit in 1955 a new section has been opened in the Museum's basement. This covers shipbuilding from the Vikings to the present day. I have seen some wonderful colour slides of this display which I would like to see in reality. There are parts of ships which have been salvaged from wrecks in the Stockholm Archipelago, such as the 16th century *Elephant*. Many relics from the *Vasa* are on show at this Museum, although the ship herself is preserved elsewhere in Stockholm.

Gothenburg

I have talked at some length about Stockholm, because it is so good. Gothenburg was the other Swedish Maritime Museum I saw, devoted to Swedish merchant shipping and the history of the port. The Museum at Gothenburg is finely situated, overlooking the docks and shipyards of Sweden's major port. It was opened in 1933 and has been financed principally by the shipping companies.

These have had a big hand in the display technique of the Museum, because each company has been given a room to furnish as it thinks best. Thus there is a Swedish-America Line room, a Johnson Line room, a Swedish Lloyd room. All look very different, as the whim of the occupying company has dictated, so that there is no cohesion or continuity. Little can be learnt by the visitor. Shipyards have likewise been given *carte blanche* to produce their own displays, so there is a Götaverken Room and an Eriksberg Room. Gothenburg Museum also has an aquarium, in the basement, which I think is a curious addition to a Shipping Museum and hardly relevant. Nevertheless it does draw the people.

Altona

Now I come to my 1960 tour of West Germany, Belgium and Holland. This is considerably fresher in my mind. I started in Hamburg, where there are two Museums with maritime collections, one in the district of Altona, concerned with farming, fishing and wooden shipbuilding, and the other in the centre of the city, where the whole history of Hamburg is covered.

Altona Museum was founded in 1890 to portray the fishing and farming of North Germany. Appropriately it is near the fish quays and packing sheds of Altona. The layout is excellent and tells a complete story of the fishing industry in one long gallery, with deep water fishing on one side and inshore on the other. Apart from describing the fishing boats themselves, of which there are some fine models, the Museum shows how the fish were and are caught, by long line, seine net, drift net and trawl; and in addition, by more curious methods, such as spears and purse nets. Maps show the fishing grounds and the variety of fish on them. There is a small whaling section with a full-size harpoon gun, but the whaling theme is not very strongly developed.

At right angles to the fishing gallery is the section devoted to wooden shipbuilding. Here are masses of models of early and mid-nineteenth century Altona ships; brigs, snows, barques, galleasses, schooners and brigantines. All are built of wood and many fly the Danish flag, for until 1866 Altona was in Danish Schleswig-Holstein. In that year, Schleswig-Holstein was absorbed by Prussia. At the far end of this gallery are tiers of half block models which introduce the shipbuilding section itself. Here are shipwrights' tools, block-making machines, lathes, a scribing board for marking off ship's timbers, a ropewalk, and a sailmaker's bench. One diorama is of particular interest, because it shows three stages in the construction of a modern motor fishing vessel on the shores of the Baltic. The hull is planked before the frames are inserted; this was the old Viking method which relied on the strength of the planking. It should here be explained that 'diorama' is a Museum term to describe a display in which a three dimensional foreground is bounded by a two dimensional backboard, curved to give an illusion of space and distance. In this case the three hulls of the fishing boat and the boatyard are three dimensional, with a painted background of trees and low hills.

Hamburg

Not very far from Altona is the Hamburg Historical Museum in the centre of the city. This of course covers every aspect of Hamburg life and thought, with the port and its shipping in a prominent position. The display work is very conventional, but there is some really fine material to be seen. At the entrance to the shipping galleries is a model of the merchant ship *Wapen von Hamburg* (Arms of Hamburg), built in 1740. This could be one of the largest ship models in the world, the scale is 1:10. Not so long ago this model was on show at our own Royal United Service Institution Museum in the Banqueting Hall of Whitehall Palace. The first gallery, like that at Stockholm, contains a wonderful series of small scale models of 17th and 18th century merchantmen. They are all 1/100 full size. Then come a series of rooms devoted to nineteenth century sail, culminating in the multi-masters of the Laiesz Line, the 'P' ships, in the Chilean nitrate trade, *Pamir*, *Potosi*, *Preussen* and the rest.

Before the 1914-18 War *Hapag* was a well-known word, constructed from the initials of the full title of the Hamburg-America Line. The Museum has a whole gallery given to the history of this concern, once the largest shipping company in the world. Its great leader was Albert Ballin, who tried so hard to avert the 1914-18 War, which temporarily ruined his company.

Other galleries bring the story of Hamburg shipping up to date, while there is one large room to cover the history of the port, containing some beautiful architectural models of Hamburg at different periods. There are models here of a floating dock, which rises and falls, of dredgers, lightships, pilot tenders and floating cranes. Shipbuilding of course is given plenty of scope, with pictures of the famous yards of past and present, Blohm and Voss, Stülcken, Howaldtswerke and Schlieker.

The Hamburg Historical Museum was founded in 1839, although the present building was not opened until 1919. The 1939-45 War brought heavy bomb damage, now all repaired.

Munich

Munich, many hundreds of miles from the sea, and a good ten hours rail journey from Hamburg, possesses a fine maritime collection, part of the vast German Science and Technology Museum, sited on an island in the middle of the Isar, a tributary of the Danube. This Museum was founded in 1903 with the present building dating from 1925. Like Hamburg it received serious damage in the 1939-45 War, but most of this has now been made good.

Almost every aspect of science and technology is covered here. Astronomy, mining, aeronautics, tool-making, electricity, musical instruments, glass-blowing are some of the subjects. To see everything a visitor has to walk ten kilometres. Before the war it was fifteen kilometres, but the post-war re-building has not been quite so extensive.

Shipping occupies part of two floors in the Museum. The main shipping hall contains a magnificent central feature, a full-size Hamburg sailing trawler, called in German an *ewer*, built in 1880 and salvaged for the Museum in 1957. The masts and sails of this ketch-rigged vessel reach up to the roof of the building. The port side planking is removed from the bow to midships to show the construction and layout of the trawler's interior. Around her are full-size examples of primitive craft, including an Irish curragh. The rest of the hall covers the development of ships by means of models, leading up to the diverse types of present day German merchant ships.

Below this hall is a network of corridors and small rooms devoted to various maritime subjects. There are full size mock-ups of cabins, past and present, a modern radio room, the engine room of an E-boat, and a freighter's wheelhouse. This last is a most impressive affair. In front of the windows is a painted panorama of the Elbe at Hamburg. This can be replaced by a night scene of the Elbe at Brunsbuttelkoog, (where the Kiel Canal is entered), projected by a small lantern, with a 2 x 2 slide. Another lantern projects a cross, representing the bow of the ship. The first lantern is linked to the wheel and since the cross remains stationary, moving the wheel will appear to alter the ship's course. The effect of a ship's pitching and rolling is achieved by means of eccentrics under the projector. Furthermore, this mechanism is able to simulate the centering of a ship's helm to check her swing. How this is done is rather a mystery, but it involves a train of weighted wheels.

Quite near the wheelhouse is the warship section, containing the first German submarine U-1, of 1906. She is the real thing, rather a large exhibit, with her conning tower poking through a hatch into the floor above. Her side is cut away to show her interior, which does not look particularly antique, although very cramped. Alongside her are torpedoes and shells, with some fine models of ships like the *Admiral Scheer* and *Scharnhorst*.

Munich is famous for her working displays. Besides the wheelhouse, there are; a testing tank, an echo sounder, a ship's speed indicator of the most modern type, a demonstration of a small sailing boat in any sort of wind, a full size set of oscillating paddle engines slowly turning over, and much else.

The Munich Museum has approached shipping from the technological angle. There is no history of trade or warfare, or of seamen and shipowners.

But the technical side is certainly well done and plenty may be learnt about ships, from coracles and balsa rafts to 8,000 ton Hansa Line freighters with their Stülcken heavy lift derricks.

Antwerp

Antwerp Maritime Museum is more truly historical, since it follows the story of the port, its trade, and its ships. The Museum is housed in a largely sixteenth century castle, the *Steen*, on the waterfront, with a good view across the Scheldt. It has only been open since 1958 on a full scale, and is run by the Corporation of Antwerp with help from the Government. It is in fact called the National Maritime Museum, because its scope embraces all Belgian shipping, with Antwerp as the central theme.

A Renaissance castle is hardly a suitable venue for modern museum display techniques, but the Curator and his staff have done a remarkable job in the creation of an harmonious and pleasing display against a harsh uncompromising background of narrow stairs, low ceilings and awkward corners.

On the ground floor, near the entrance, is a small room introducing the Port of Antwerp by means of a map, a scenic model of the sixteenth century Antwerp waterfront including the *Steen*, and a number of photographic transparencies illustrating port scenes of various dates. Other succeeding rooms, (they are too small to be called galleries) illustrate fishing, yachting, inland navigation, charts and pilotage. Right up in the rafters is a long, narrow room containing a table map of the Scheldt. All the buoys and beacons light up and flash at their correct frequencies. It is a fine display which we could usefully copy in Liverpool, with a similar map of the Mersey.

In fact Antwerp's Museum is in a very similar position to Liverpool's proposed one. Both have the same theme, the history of the port, its ships and trade, and both have a waterfront site. But whereas Antwerp has had to put up with a castle, Liverpool will have a specially designed building.

To some extent the castle has been modified to allow the construction of two modern galleries. The first of these covers the history of Belgian Merchant Shipping from the Middle Ages to the present day, with models of a carrack, an eighteenth century East Indiaman, a Dover/Ostend paddle mail packet and a modern cargo liner, to quote a few examples. The idea has been to re-create a period by the use of a ship model, a chart, a navigation instrument, and a uniform, all together in the one display. Enough, in fact, to give a picture of the maritime activity of an age.

The second new gallery is concerned with war. Belgium herself did not have a Navy until the nineteenth century, but of course Spain and Austria, who were her masters from the sixteenth to the late eighteenth centuries, were naval powers. So this gallery tells the story of their exploits in the Scheldt Estuary and North Sea. In one corner lies a 1/5 full size model of Napoleon's State Barge, used for a ceremonial journey up the river. This model, and others in the gallery, are quite unprotected by glass, yet they remain intact. This would be a miracle in Liverpool. However the Curator at Antwerp admitted that the guns were sometimes stolen.

Amsterdam

Holland is rich in Maritime Museums. I visited three, at Amsterdam, Rotterdam and Enkhuizen, on the Zuiderzee; but there are also some small ones, at Groningen, and Sneek in Friesland.

That at Amsterdam is very cramped, but it contains some wonderful material. It is in a small building, rather far from the city centre, opened first in 1922. Plans are afoot for a much larger Museum in the Naval Arsenal, where the collection could be shown to much greater advantage.

Owing to lack of space the exhibits are desperately crowded. Most of them relate to the seventeenth and eighteenth centuries and the bias is towards the Navy. There is a fair amount of nineteenth century material, but nothing later than 1920.

Navy Board models are prominent in the seventeenth century collection, while there is a good one of a *flute* ship, a small merchantman of about 1670. These Dutch *flutes* carried the cargoes of half the countries in Europe at that time. They were simple to build and had a good cargo capacity. In rig they were three masted, with square sails on each, and in addition a lateen on the mizen.

This Museum also possesses a fine series of coastal and fishing craft models. One of these is an eighteenth century *hektjalk* (*hek* being the raised bulwark at the stern). A *tjalk* was a very common type of sailing canal and river craft, also venturing out into the Scheldt Estuary and the Zuiderzee. Today the word is applied to a motor propelled steel barge, although there are one or two *tjalks* which set steady sails.

Rotterdam

It is not far by train from Amsterdam to Rotterdam, the largest port of Europe. Here is a Maritime Museum established in 1948 in a specially designed building, which tells the story of the Dutch Merchant Service from as early as possible to 1900. I say as early as possible because the more ancient part of the story is bound up with the history of shipping as a whole, from Egypt and Phoenicia onwards. Thus the first room shows a large wall chart tracing the diverse origins of ships, the influence of the Nile, the Aegean, the Baltic, the Atlantic seaboard, and the Mediterranean. Among the models here, pride of place is given to the oldest contemporary ship model of European origin, a carrack from Catalonia dating from about 1450. This model is about 3 ft. 6 ins. long and rather out of scale, being too deep, with the keel too rounded. The impression is that the model has been crammed into a small showcase, in the same way that the ships on the mediaeval seals of the Cinque Ports have been forced into the circular confines of the seal, regardless of their true proportions. Only one mast and its yard remain, with some ponderous shrouds, but there were originally two, it is thought.

Although this is primarily a Mercantile Museum, warships do have a place, particularly in the nineteenth century. One model shows a frigate in an early type of floating dock dating from 1803. This comprises two pontoons which are manoeuvred alongside the hull and sunk. Cables are passed under the keel and made fast to the pontoons, while stout beams are likewise passed through the gunports and secured to the decks of the pontoons. Additional

timbers lean as struts against the vessel's wales. The water is pumped out of the pontoons and the whole assembly rises, the ship coming clear of the water. The Dutch called these pontoons *kamelen*, a term which survives today.

Rotterdam is fortunate in having a most skilled modelmaker on the staff, whose work may also be seen at the Museum in Antwerp. He specializes in coastal, canal and river craft, and works chiefly in metal, because he likes its clean, sharp finish. Moreover, since the latter part of the nineteenth century, metal has been the building material for all sizes of vessel in Holland; yachts, rowing prams, fishing craft and canal barges, so the models are by no means out of character. One of them represents a *klipper* of the 1900s. A *klipper* is a canal cargo vessel with a large gaff mainsail and possibly a gaff mizen like a ketch. She is called a *klipper* because she has a clipper bow. Today there are no sailing *klippers* but a good many are under power.

Rotterdam ends her story in the 1900s, with models of Holland-America liners and Rotterdam Lloyd cargo ships. There is also an impressive model of the Wilton shipbuilding and dry dock establishment at Rotterdam in about 1910.

Enkhuizen

My last port of call was Enkhuizen, a little port on the Zuiderzee, now a freshwater lake and renamed the IJsselmeer. Enkhuizen has a wonderful Museum, opened in 1950, which tells the story of the people of the Zuiderzee, their work and their way of life. The Museum at first occupied two seventeenth century warehouses, used when Enkhuizen was a port for ocean-going ships. Recently, however, modern buildings have been added, in seventeenth century style.

The fisheries section was my object. This is housed on two floors in one of the modern buildings. The ground floor room explains how the fish are caught, by means of models of the boats floating on a glass sea. Beneath is the sea bed, and suspended from the glass are trawls and drift nets, oyster dredges and stake nets. Round the walls are full size pieces of equipment, nets, seaboots, mussel rakes and eel spears.

Directly above is another room with a fine view over the IJsselmeer. This contains models and a few paintings. The models are of different types of fishing boats and of typical Enkhuizen merchantmen of the period 1650 to 1850. In one corner is a real ice yacht, in another a beautiful sailing dinghy called a *tjotter*, with lee boards and a much decorated rudder head. This also is the real thing.

Enkhuizen is very proud of its collection of full-size fishing boats and yachts, afloat in the harbour behind the Museum. There are about fifteen of these, ranging from a large *tjalk* down to a shrimping *hengst*. Unfortunately visitors are not allowed on board. But the boats are moored bow on to the quay, so that the deck details are plainly visible. Maintenance is the problem for these vessels. The fishing boats have to be continually tarred and the yachts varnished. Three men are fully occupied with this work. Plans are afoot to house the collection in a shed, where they could be more readily inspected by visitors, and much more easily cared for.

We have come a long way round from Denmark, via Sweden, West Germany and Belgium. There are of course many more Maritime Museums to see in Europe, but these ten visited in 1955 and 1960 gave me many ideas to put to work for our own Maritime Museum in Liverpool.

DETAILS OF TEN MARITIME MUSEUMS IN NORTHERN EUROPE

- DENMARK** **Helsingör (Elsinore)**
 Handels-og Søfartsmuseet (Trade and Shipping Museum).
 Kronborg Castle, Helsingör.
Director: Knud Klem.
 No catalogues available, but a wide range of postcards.
- SWEDEN** **Stockholm**
 Statens Sjöhistoriska Museum (National Sea History Museum) Stockholm 5.
Director: Dr. Hans Hanssen.
 Guides in Swedish and English available, also many postcards and a set of colour transparencies (2 × 2).
Gothenburg
 Sjöfartsmuseet (Seafaring Museum) Gothenburg 5.
Director: S. Notini.
 Short guide in English available, and a few postcards.
- WEST GERMANY** **Hamburg**
 Altonaer Museum für Volkstum, Landschaft und Seefischerei. (Folk, Agriculture and Fisheries Museum.)
 Museumstrasse 21, Hamburg—Altona.
Director: Dr. Wittek.
 Guide in German to the Fisheries Section, and a few postcards available.
Hamburg
 Museum für Hamburgische Geschichte (Hamburg Historical Museum). Holstenwall 24, Hamburg.
Director: Professor Dr. Walter Hävernich.
Shipping Curator: Dr. G. Albrecht.
 No catalogue or postcards available, but photographs can be provided of some of the Museum displays.
Munich
 Deutsches Museum von Meisterwerken der Naturwissenschaft und Technik. (German Museum of Masterpieces of Natural Science and Technology.)

Museumsinsel 1, Munich.

Directors: Dr. Otto Meyer; Dr. Robert Poeverlein.

Shipping Curator: F. Vollmar.

Guide in English and a large selection of postcards available.

BELGIUM

Antwerp

Musée National de la Marine (National Maritime Museum).

Steenplein 1, Antwerp.

Shipping Curator: J. van Beylen.

Guides in Flemish and English and a set of postcards available.

NETHERLANDS

Amsterdam

Nederlandsch Historisch Scheepvaart Museum. (Dutch Historical Shipping Museum.) Cornelius Schuytstraat 57, Amsterdam.

Director: G. A. Cox.

Souvenir albums to the collections in two volumes, exceptionally well produced and beautifully illustrated.

Vol. I Maritime History, Cartography and Navigation.

Vol II Ship Models and Draughts. Both are printed in Dutch and English. Also a selection of postcards available.

Rotterdam

Maritiem Museum Prins Hendrik. Burg. S' Jacobplein 8, Rotterdam.

Director: Miss J. B. Van Overeem.

Shipping Curator: E. W. Petrejus.

No guide, but a set of postcards available.

Enkhuizen

Rijksmuseum Zuiderzeemuseum, Wierdijk 13, Enkhuizen.

Director: G. R. Kruissink.

Curator: K. Boonenburg.

Short guides in Dutch and English and a set of postcards available.

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